

2016 ANNUAL GROUNDWATER REPORT

K-27 Line Drip
NMOCD Case#: 3RP-204-0
Meter Code: LD072
T25N, R6W, Sec4, Unit E

SITE DETAILS

Site Location: Latitude: 36.430553 N, Longitude: -107.480164 W
Land Type: Federal
Operator: Enterprise

SITE BACKGROUND

- **Site Assessment:** 7/94
- **Excavation:** 8/94

Environmental Remediation activities at the K-27 Line Drip (Site) are being managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company, LLC's (EPCGP's) program methods. Currently, the Site is operated by Enterprise and is not active.

The Site is located on Federal land. Various site investigations have occurred from 1995 through 2016. Monitoring wells were installed in 1995 (MW-1), 2000 (MW-2 and MW-3), 2006 (MW-4), and 2016 (MW-2R, MW-3R, MW-5, MW-6, MW-7, and MW-8). Free product has been periodically encountered and recovered at the Site. In 2016, free product was observed in monitoring well MW-2R and 0.06 gallon was removed. Currently, groundwater sampling is conducted on a semi-annual basis.

MONITORING WELL INSTALLATION ACTIVITIES

In September 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 September 7, 2016.

Six new wells (MW-2R, MW-3R, MW-5, MW-6, MW-7, and MW-8) were drilled in September 2016, to further characterize the extent of the dissolved-phase hydrocarbons at the Site. Soil boring SB-1 was advanced in the vicinity of the former pit to evaluate soil concentrations at this location. Additionally, 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 October 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

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installed from 25 feet below ground surface (bgs) to 50 feet bgs and bisects the observed water table located at depths ranging from 29-36 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-6 was installed upgradient of the former pit location. Monitoring well MW-7 was installed to the west of well MW-1. Monitoring well MW-5 was installed east of the former pit. Monitoring well MW-8 was installed to the northwest and down gradient of MW-1 and MW-2. Wells MW-2R and MW-3R were installed near former monitoring wells MW-2 and MW-3, respectively. Soil boring SB-1 was completed near MW-1 to evaluate remaining soil impacts in the vicinity of the former pit. Pertinent site features and soil boring/monitoring well locations are shown on maps in Figures 1 through 5.

During drilling of the soil borings completed in September 2016, the soil sample interval exhibiting the highest photoionization detector (PID) reading was collected and placed in a 4-ounce jar for laboratory analysis. Additional soil samples were retained from SB-1 to quantify petroleum hydrocarbon concentrations at additional intervals. 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 downhole 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 September 30, 2016, Sierra Oilfield Services, Inc. removed 14 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 and October 15, 2016, water levels were gauged at MW-1, MW-3, and MW-4. New monitoring wells MW-2R, MW-3R, MW-5, MW-6, MW-7, and MW-8 were also gauged during the October 15, 2016 sampling event. Groundwater samples were collected from each well that did not contain free product using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling devices. The HydraSleeves were set

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during the previous sampling event or after new well installation. HydraSleeves were suspended approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica 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 groundwater analytical results and well gauging data are summarized in Tables 1 and 2, respectively. Soil analytical results are summarized in Table 3.

SITE MAPS

Groundwater analytical maps (Figures 1 and 3) and groundwater elevation maps (Figures 2 and 4) summarize results of the 2016 groundwater sampling and gauging events. Soil analytical results are shown on Figure 5.

ANALYTICAL LAB REPORTS

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

GROUNDWATER RESULTS

- The groundwater flow direction at the Site is generally to the northeast (see Figures 2 and 4).
- Free product was observed in MW-2R in 2016. No groundwater samples were collected from this monitoring well.
- Concentrations of benzene were either below the New Mexico Water Quality Control Commission (NMWQCC) standard (10 µg/L) or not detected in any of the Site monitoring wells sampled in 2016.
- Concentrations of toluene were either below the NMWQCC standard (750 µg/L) or not detected in any of the Site monitoring wells sampled in 2016.

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- 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-2R, MW-3R, MW-5 through MW-8, and soil boring SB-1. Sample locations were based on elevated soil screening results. For benzene, concentrations ranged from non-detect to 25 milligrams per kilogram (mg/kg) (SB-1 28.5-29.5). Two samples collected from SB-1 (24.5-25.5 and 28.5-29.5) exceeded the New Mexico Oil Conservation Division (NMOCD) 2013 Pit Rule Guidance for benzene (10 mg/kg). Total BTEX concentrations exceeded the applicable limit in the NMOCD Guidance (50 mg/kg) at SB-1 (24.5-25.5 and 28.5-29.5).
- TPH ranged from non-detect (MW-3R) to 7,144 mg/kg in SB-1 (24.5-25.5). TPH concentrations exceeded the 2013 Pit Rule Guidance (100 mg/kg) at MW-2R, MW-6, MW-7, and SB-1 (24.5-25.5 and 28.5-29.5).
- Chloride was not detected in any of the soil samples collected.

PLANNED FUTURE ACTIVITIES

Groundwater monitoring events will be conducted on a semi-annual basis. Free product recovery activities will also be conducted in 2017. For any additional site activities, a Work Plan will be submitted to the NMOCD prior to implementation. The 2017 Annual Report will be submitted in early 2018.

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TABLES

TABLE 1 – GROUNDWATER ANALYTICAL RESULTS

TABLE 2 – GROUNDWATER ELEVATION RESULTS

TABLE 3 – SOIL ANALYTICAL RESULTS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	11/04/96	996	2170	204	1520
MW-1	02/05/97	207	613	168	1010
MW-1	05/07/97	41.8	114	97.8	500
MW-1	08/08/97	1690	2980	298	1930
MW-1	11/07/97	533	1210	267	1720
MW-1	02/26/98	NS	NS	NS	NS
MW-1	02/24/99	NS	NS	NS	NS
MW-1	08/19/99	179	379	79.1	777
MW-1	11/10/99	39	95	56	390
MW-1	09/05/00	NS	NS	NS	NS
MW-1	10/06/00	NS	NS	NS	NS
MW-1	07/03/01	NS	NS	NS	NS
MW-1	09/04/01	NS	NS	NS	NS
MW-1	09/24/01	NS	NS	NS	NS
MW-1	04/01/02	NS	NS	NS	NS
MW-1	07/15/02	NS	NS	NS	NS
MW-1	10/08/02	NS	NS	NS	NS
MW-1	01/27/03	NS	NS	NS	NS
MW-1	04/26/03	NS	NS	NS	NS
MW-1	07/17/03	NS	NS	NS	NS
MW-1	10/13/03	NS	NS	NS	NS
MW-1	01/19/04	NS	NS	NS	NS
MW-1	04/20/04	NS	NS	NS	NS
MW-1	07/27/04	NS	NS	NS	NS
MW-1	10/20/04	NS	NS	NS	NS
MW-1	01/25/05	NS	NS	NS	NS
MW-1	04/14/05	NS	NS	NS	NS
MW-1	07/19/05	NS	NS	NS	NS
MW-1	10/12/05	NS	NS	NS	NS
MW-1	10/21/05	NS	NS	NS	NS
MW-1	01/23/06	NS	NS	NS	NS
MW-1	04/28/06	NS	NS	NS	NS
MW-1	07/26/06	NS	NS	NS	NS
MW-1	11/07/06	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	01/17/07	NS	NS	NS	NS
MW-1	04/24/07	NS	NS	NS	NS
MW-1	07/31/07	NS	NS	NS	NS
MW-1	10/25/07	NS	NS	NS	NS
MW-1	01/25/08	NS	NS	NS	NS
MW-1	04/18/08	NS	NS	NS	NS
MW-1	07/23/08	NS	NS	NS	NS
MW-1	10/08/08	7.3	3.9	20.2	68.7
MW-1	10/13/08	NS	NS	NS	NS
MW-1	01/16/09	NS	NS	NS	NS
MW-1	04/06/09	NS	NS	NS	NS
MW-1	08/25/09	NS	NS	NS	NS
MW-1	11/03/09	355	69.3	45.8	259
MW-1	02/16/10	NS	NS	NS	NS
MW-1	05/24/10	NS	NS	NS	NS
MW-1	09/27/10	NS	NS	NS	NS
MW-1	11/08/10	138	29.4	43.9	183
MW-1	02/01/11	NS	NS	NS	NS
MW-1	05/02/11	NS	NS	NS	NS
MW-1	09/23/11	NS	NS	NS	NS
MW-1	11/10/11	71.8	57.5	5	62.2
MW-1	02/22/12	NS	NS	NS	NS
MW-1	05/15/12	NS	NS	NS	NS
MW-1	06/05/13	350	61	15	220
MW-1	09/10/13	150	32	7	83
MW-1	12/11/13	150	100	13	120
MW-1	04/04/14	220	51	20	150
MW-1	10/22/14	140	53	5.2	73
MW-1	05/28/15	110	75	13	97
MW-1	11/21/15	65	17	2.1	28
MW-1	04/17/16	6.1	5.9	<1.0	10
MW-1	10/15/16	2	<5.0	<1.0	6.9

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-2	08/31/00	5500	14000	670	5800
MW-2	09/05/00	NS	NS	NS	NS
MW-2	10/06/00	NS	NS	NS	NS
MW-2	07/03/01	NS	NS	NS	NS
MW-2	09/04/01	NS	NS	NS	NS
MW-2	09/24/01	NS	NS	NS	NS
MW-2	01/02/02	NS	NS	NS	NS
MW-2	04/01/02	NS	NS	NS	NS
MW-2	07/15/02	NS	NS	NS	NS
MW-2	10/08/02	NS	NS	NS	NS
MW-2	01/27/03	NS	NS	NS	NS
MW-2	04/26/03	NS	NS	NS	NS
MW-2	07/17/03	NS	NS	NS	NS
MW-2	10/13/03	NS	NS	NS	NS
MW-2	01/19/04	NS	NS	NS	NS
MW-2	04/20/04	NS	NS	NS	NS
MW-2	07/27/04	NS	NS	NS	NS
MW-2	10/20/04	NS	NS	NS	NS
MW-2	01/25/05	NS	NS	NS	NS
MW-2	04/14/05	NS	NS	NS	NS
MW-2	07/19/05	NS	NS	NS	NS
MW-2	10/21/05	NS	NS	NS	NS
MW-2	01/23/06	NS	NS	NS	NS
MW-2	04/28/06	NS	NS	NS	NS
MW-2	07/26/06	NS	NS	NS	NS
MW-2	11/07/06	NS	NS	NS	NS
MW-2	01/17/07	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-2	04/24/07	NS	NS	NS	NS
MW-2	07/31/07	NS	NS	NS	NS
MW-2	10/25/07	NS	NS	NS	NS
MW-2	01/25/08	NS	NS	NS	NS
MW-2	04/18/08	NS	NS	NS	NS
MW-2	07/23/08	NS	NS	NS	NS
MW-2	10/13/08	NS	NS	NS	NS
MW-2	01/16/09	NS	NS	NS	NS
MW-2	04/06/09	NS	NS	NS	NS
MW-2	08/25/09	NS	NS	NS	NS
MW-2	11/03/09	223	1070	532	2590
MW-2	02/16/10	NS	NS	NS	NS
MW-2	05/24/10	NS	NS	NS	NS
MW-2	09/27/10	NS	NS	NS	NS
MW-2	11/08/10	152	547	471	2190
MW-2	02/01/11	NS	NS	NS	NS
MW-2	05/02/11	NS	NS	NS	NS
MW-2	09/23/11	NS	NS	NS	NS
MW-2	11/10/11	31.9	101	156	446
MW-2	02/22/12	NS	NS	NS	NS
MW-2	05/15/12	NS	NS	NS	NS
MW-2	06/05/13	NS	NS	NS	NS
MW-2	09/10/13	NS	NS	NS	NS
MW-2	12/11/13	NS	NS	NS	NS
MW-2	04/04/14	NS	NS	NS	NS
MW-2 abandoned and replaced with MW-2R on September 26, 2016					
MW-2R	10/15/16	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-3	09/05/00	<0.5	<0.5	<0.5	<0.5
MW-3	07/03/01	<0.5	<0.5	<0.5	<0.5
MW-3	09/04/01	NS	NS	NS	NS
MW-3	09/24/01	NS	NS	NS	NS
MW-3	04/01/02	NS	NS	NS	NS
MW-3	07/15/02	NS	NS	NS	NS
MW-3	10/08/02	NS	NS	NS	NS
MW-3	07/17/03	NS	NS	NS	NS
MW-3	10/13/03	NS	NS	NS	NS
MW-3	01/19/04	NS	NS	NS	NS
MW-3	04/20/04	NS	NS	NS	NS
MW-3	07/27/04	NS	NS	NS	NS
MW-3	10/20/04	NS	NS	NS	NS
MW-3	01/25/05	NS	NS	NS	NS
MW-3	04/14/05	NS	NS	NS	NS
MW-3	07/19/05	NS	NS	NS	NS
MW-3	10/21/05	<1	<1	<1	<2
MW-3	01/23/06	NS	NS	NS	NS
MW-3	04/28/06	NS	NS	NS	NS
MW-3	07/26/06	NS	NS	NS	NS
MW-3	11/07/06	1.1	1.6	0.42 J	2.3
MW-3	01/17/07	NS	NS	NS	NS
MW-3	04/24/07	NS	NS	NS	NS
MW-3	07/31/07	NS	NS	NS	NS
MW-3	10/25/07	<1	<1	<1	<2
MW-3	01/25/08	NS	NS	NS	NS
MW-3	04/18/08	NS	NS	NS	NS
MW-3	07/23/08	NS	NS	NS	NS
MW-3	10/08/08	<2	<2	<2	<6

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-3	10/13/08	NS	NS	NS	NS
MW-3	01/16/09	NS	NS	NS	NS
MW-3	04/06/09	NS	NS	NS	NS
MW-3	08/25/09	NS	NS	NS	NS
MW-3	11/03/09	<1	<1	<1	<2
MW-3	02/16/10	NS	NS	NS	NS
MW-3	05/24/10	NS	NS	NS	NS
MW-3	09/27/10	NS	NS	NS	NS
MW-3	11/08/10	<2	<2	<2	<6
MW-3	02/01/11	NS	NS	NS	NS
MW-3	05/02/11	NS	NS	NS	NS
MW-3	09/23/11	NS	NS	NS	NS
MW-3	11/10/11	<1	<1	<1	<3
MW-3	02/22/12	NS	NS	NS	NS
MW-3	05/15/12	NS	NS	NS	NS
MW-3	06/05/13	<0.14	<0.30	<0.20	<0.23
MW-3	09/10/13	NS	NS	NS	NS
MW-3	12/11/13	NS	NS	NS	NS
MW-3	04/04/14	NS	NS	NS	NS
MW-3	10/22/14	NS	NS	NS	NS
MW-3	05/28/15	NS	NS	NS	NS
MW-3	11/21/15	NS	NS	NS	NS
MW-3	04/17/16	NS	NS	NS	NS
MW-3 abandoned and replaced with MW-3R on September 26, 2016					
MW-3R	10/15/16	<1.0	<5.0	<1.0	<5.0

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-4	11/08/06	<1	<1	<1	<2
MW-4	01/17/07	NS	NS	NS	NS
MW-4	04/24/07	NS	NS	NS	NS
MW-4	07/31/07	NS	NS	NS	NS
MW-4	10/25/07	<1	<1	<1	<2
MW-4	01/25/08	NS	NS	NS	NS
MW-4	04/18/08	NS	NS	NS	NS
MW-4	07/23/08	NS	NS	NS	NS
MW-4	10/08/08	<2	<2	<2	<6
MW-4	10/13/08	NS	NS	NS	NS
MW-4	01/16/09	NS	NS	NS	NS
MW-4	04/06/09	NS	NS	NS	NS
MW-4	08/25/09	NS	NS	NS	NS
MW-4	11/03/09	<1	<1	<1	<2
MW-4	02/16/10	NS	NS	NS	NS
MW-4	05/24/10	NS	NS	NS	NS
MW-4	09/27/10	NS	NS	NS	NS
MW-4	11/08/10	<2	<2	<2	<6
MW-4	02/01/11	NS	NS	NS	NS
MW-4	05/02/11	NS	NS	NS	NS
MW-4	09/23/11	NS	NS	NS	NS
MW-4	11/10/11	<1	<1	<1	<3
MW-4	02/22/12	NS	NS	NS	NS
MW-4	05/15/12	NS	NS	NS	NS
MW-4	06/05/13	<0.14	<0.30	<0.20	<0.23
MW-4	09/10/13	<0.14	<0.30	<0.20	<0.23
MW-4	12/11/13	<0.20	<0.38	<0.20	<0.65
MW-4	04/14/14	<0.20	<0.38	<0.20	<0.65
MW-4	10/22/14	<0.38	<0.70	<0.50	<1.6
MW-4	05/28/15	<1.0	<5.0	<1.0	<5.0
MW-4	11/21/15	<1.0	<1.0	<1.0	<3.0
MW-4	04/17/16	<1.0	<5.0	<1.0	<5.0
MW-4	10/15/16	<1.0	<5.0	<1.0	<5.0

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

K-27 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-5	10/15/16	<1.0	<5.0	<1.0	<5.0
MW-6	10/15/16	4.5	<5.0	4.5	59
MW-7	10/15/16	2.2	<5.0	<1.0	<5.0
MW-8	10/15/16	4.8	42	23	230

Notes:

"µg/L" = micrograms per liter

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 is 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

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	11/04/96	6261.93	37.44	NR		6224.49
MW-1	02/05/97	6261.93	36.89	NR		6225.04
MW-1	05/07/97	6261.93	36.73	NR		6225.20
MW-1	08/08/97	6261.93	37.61	NR		6224.32
MW-1	11/07/97	6261.93	37.33	37.21	0.12	6224.69
MW-1	02/26/98	6261.93	36.89	36.71	0.18	6225.18
MW-1	02/24/99	6261.93	36.39	36.27	0.12	6225.63
MW-1	08/19/99	6261.93	36.48	NR		6225.45
MW-1	11/10/99	6261.93	36.17	36.10	0.07	6225.81
MW-1	09/05/00	6261.93	37.22	NR		6224.71
MW-1	10/06/00	6261.93	37.42	NR		6224.51
MW-1	07/03/01	6261.93	36.64	36.49	0.15	6225.40
MW-1	09/04/01	6261.93	37.43	37.39	0.04	6224.53
MW-1	09/24/01	6261.93	37.45	37.40	0.05	6224.52
MW-1	04/01/02	6261.93	37.01	NR		6224.92
MW-1	07/15/02	6261.93	38.02	37.85	0.17	6224.04
MW-1	10/08/02	6261.93	38.01	38.00	0.01	6223.93
MW-1	01/27/03	6261.93	37.42	ND		6224.51
MW-1	04/26/03	6261.93	37.15	ND		6224.78
MW-1	07/17/03	6261.93	38.36	38.18	0.18	6223.71
MW-1	10/13/03	6261.93	38.29	ND		6223.64
MW-1	01/19/04	6261.93	37.69	37.68	0.01	6224.25
MW-1	04/20/04	6261.93	37.29	ND		6224.64
MW-1	07/27/04	6261.93	38.45	38.28	0.17	6223.61
MW-1	10/20/04	6261.93	38.71	38.68	0.03	6223.24
MW-1	01/25/05	6261.93	38.18	38.16	0.02	6223.77
MW-1	04/14/05	6261.93	37.84	37.75	0.09	6224.16
MW-1	07/19/05	6261.93	38.84	ND		6223.09
MW-1	10/12/05	6261.93	38.46	ND		6223.47
MW-1	10/21/05	6261.93	38.46	ND		6223.47
MW-1	01/23/06	6261.93	37.89	ND		6224.04
MW-1	04/28/06	6261.93	37.57	ND		6224.36

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	07/26/06	6261.93	38.61	ND		6223.32
MW-1	11/07/06	6261.93	36.37	36.31	0.06	6225.61
MW-1	01/17/07	6261.93	35.91	ND		6226.02
MW-1	04/24/07	6261.93	35.53	ND		6226.40
MW-1	07/31/07	6261.93	36.57	ND		6225.36
MW-1	10/25/07	6261.93	36.04	ND		6225.89
MW-1	01/25/08	6261.93	35.90	ND		6226.03
MW-1	04/18/08	6261.93	35.47	ND		6226.46
MW-1	07/23/08	6261.93	36.43	ND		6225.50
MW-1	10/08/08	6261.93	36.95	ND		6224.98
MW-1	10/13/08	6261.93	36.93	ND		6225.00
MW-1	01/16/09	6261.93	36.77	ND		6225.16
MW-1	04/06/09	6261.93	36.30	ND		6225.63
MW-1	08/25/09	6261.93	37.53	ND		6224.40
MW-1	11/03/09	6261.93	37.58	ND		6224.35
MW-1	02/16/10	6261.93	37.32	ND		6224.61
MW-1	05/24/10	6261.93	36.97	ND		6224.96
MW-1	09/27/10	6261.93	37.98	ND		6223.95
MW-1	11/08/10	6261.93	37.70	ND		6224.23
MW-1	02/01/11	6261.93	37.35	ND		6224.58
MW-1	05/02/11	6261.93	37.26	ND		6224.67
MW-1	09/23/11	6261.93	38.45	ND		6223.48
MW-1	11/10/11	6261.93	38.30	ND		6223.63
MW-1	02/22/12	6261.93	37.82	ND		6224.11
MW-1	05/15/12	6261.93	37.81	ND		6224.12
MW-1	06/05/13	6261.93	38.16	ND		6223.77
MW-1	09/10/13	6261.93	38.85	ND		6223.08
MW-1	12/11/13	6261.93	38.05	ND		6223.88
MW-1	04/04/14	6261.93	37.54	ND		6224.39
MW-1	10/22/14	6261.93	38.36	ND		6223.57
MW-1	05/28/15	6261.93	37.30	ND		6224.63
MW-1	11/21/15	6261.93	37.72	ND		6224.21
MW-1	04/17/16	6261.93	37.29	ND		6224.64
MW-1	10/15/16	6261.93	40.48	ND		6221.45

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	08/31/00	6261.39	35.81	NR		6225.58
MW-2	09/05/00	6261.39	37.28	36.11	1.17	6224.99
MW-2	10/06/00	6261.39	37.31	36.04	1.27	6225.03
MW-2	07/03/01	6261.39	37.37	36.12	1.25	6224.96
MW-2	09/04/01	6261.39	36.52	36.25	0.27	6225.07
MW-2	09/24/01	6261.39	36.46	36.27	0.19	6225.07
MW-2	01/02/02	6261.39	36.97	35.87	1.10	6225.24
MW-2	04/01/02	6261.39	36.61	35.67	0.94	6225.48
MW-2	07/15/02	6261.39	38.00	NR		6223.39
MW-2	10/08/02	6261.39	37.01	36.94	0.07	6224.43
MW-2	01/27/03	6261.39	36.47	36.31	0.16	6225.04
MW-2	04/26/03	6261.39	36.88	35.85	1.03	6225.28
MW-2	07/17/03	6261.39	38.20	36.75	1.45	6224.28
MW-2	10/13/03	6261.39	37.64	37.07	0.57	6224.18
MW-2	01/19/04	6261.39	36.72	36.51	0.21	6224.83
MW-2	04/20/04	6261.39	36.93	35.91	1.02	6225.22
MW-2	07/27/04	6261.39	38.30	36.88	1.42	6224.15
MW-2	10/20/04	6261.39	38.23	37.37	0.86	6223.80
MW-2	01/25/05	6261.39	42.87	36.77	6.10	6223.09
MW-2	04/14/05	6261.39	36.55	36.55	0.00	6224.84
MW-2	07/19/05	6261.39	38.16	37.55	0.61	6223.69
MW-2	10/21/05	6261.39	38.31	37.06	1.25	6224.02
MW-2	01/23/06	6261.39	37.31	36.69	0.62	6224.54
MW-2	04/28/06	6261.39	37.01	36.33	0.68	6224.89
MW-2	07/26/06	6261.39	38.37	37.42	0.95	6223.73
MW-2	11/07/06	6261.39	35.28	35.21	0.07	6226.16

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	01/17/07	6261.39	35.35	ND		6226.04
MW-2	04/24/07	6261.39	35.08	ND		6226.31
MW-2	07/31/07	6261.39	36.03	36.01	0.02	6225.37
MW-2	10/25/07	6261.39	35.53	ND		6225.86
MW-2	01/25/08	6261.39	35.37	35.34	0.03	6226.04
MW-2	04/18/08	6261.39	34.90	ND		6226.49
MW-2	07/23/08	6261.39	35.95	ND		6225.44
MW-2	10/13/08	6261.39	36.39	ND		6225.00
MW-2	01/16/09	6261.39	36.39	36.14	0.25	6225.19
MW-2	04/06/09	6261.39	35.98	35.94	0.04	6225.44
MW-2	08/25/09	6261.39	37.03	36.97	0.06	6224.40
MW-2	11/03/09	6261.39	37.00	36.96	0.04	6224.42
MW-2	02/16/10	6261.39	36.96	ND		6224.43
MW-2	05/24/10	6261.39	36.55	36.48	0.07	6224.89
MW-2	09/27/10	6261.39	37.58	37.57	0.01	6223.82
MW-2	11/08/10	6261.39	37.72	ND		6223.67
MW-2	02/01/11	6261.39	36.92	ND		6224.47
MW-2	05/02/11	6261.39	36.71	ND		6224.68
MW-2	09/23/11	6261.39	38.01	ND		6223.38
MW-2	11/10/11	6261.39	37.70	37.69	0.01	6223.70
MW-2	02/22/12	6261.39	37.54	37.39	0.15	6223.96
MW-2	05/15/12	6261.39	37.48	37.37	0.11	6223.99
MW-2	06/05/13	6261.39	NA	ND		NA
MW-2	09/10/13	6261.39	NA	ND		NA
MW-2	12/11/13	6261.39	NA	ND		NA
MW-2	04/04/14	6261.39	NA	ND		NA
MW-2 abandoned and replaced with MW-2R on September 26, 2016						
MW-2R	10/15/16	6260.93	37.97	37.62	0.35	6223.22

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	09/05/00	6261.71	37.40	NR		6224.31
MW-3	07/03/01	6261.71	37.69	NR		6224.02
MW-3	09/04/01	6261.71	37.50	NR		6224.21
MW-3	09/24/01	6261.71	37.51	NR		6224.20
MW-3	04/01/02	6261.71	37.08	NR		6224.63
MW-3	07/15/02	6261.71	37.13	NR		6224.58
MW-3	10/08/02	6261.71	38.09	NR		6223.63
MW-3	07/17/03	6261.71	38.28	ND		6223.43
MW-3	10/13/03	6261.71	38.34	ND		6223.37
MW-3	01/19/04	6261.71	37.69	ND		6224.02
MW-3	04/20/04	6261.71	37.26	ND		6224.45
MW-3	07/27/04	6261.71	38.36	ND		6223.35
MW-3	10/20/04	6261.71	38.72	ND		6222.99
MW-3	01/25/05	6261.71	38.13	ND		6223.58
MW-3	04/14/05	6261.71	37.74	ND		6223.97
MW-3	07/19/05	6261.71	38.74	ND		6222.97
MW-3	10/21/05	6261.71	38.48	ND		6223.23
MW-3	01/23/06	6261.71	37.89	ND		6223.82
MW-3	04/28/06	6261.71	37.61	ND		6224.10
MW-3	07/26/06	6261.71	38.34	ND		6223.37
MW-3	11/07/06	6261.71	36.50	ND		6225.21
MW-3	01/17/07	6261.71	35.98	ND		6225.73
MW-3	04/24/07	6261.71	35.64	ND		6226.07
MW-3	07/31/07	6261.71	36.59	ND		6225.12
MW-3	10/25/07	6261.71	36.20	ND		6225.51
MW-3	01/25/08	6261.71	36.00	ND		6225.71

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	04/18/08	6261.71	35.56	ND		6226.15
MW-3	07/23/08	6261.71	36.60	ND		6225.11
MW-3	10/08/08	6261.71	37.09	ND		6224.62
MW-3	10/13/08	6261.71	37.09	ND		6224.62
MW-3	01/16/09	6261.71	36.83	ND		6224.88
MW-3	04/06/09	6261.71	36.43	ND		6225.28
MW-3	08/25/09	6261.71	37.62	ND		6224.09
MW-3	11/03/09	6261.71	37.67	ND		6224.04
MW-3	02/16/10	6261.71	37.16	ND		6224.55
MW-3	05/24/10	6261.71	37.02	ND		6224.69
MW-3	09/27/10	6261.71	38.07	ND		6223.64
MW-3	11/08/10	6261.71	37.82	ND		6223.89
MW-3	02/01/11	6261.71	37.39	ND		6224.32
MW-3	05/02/11	6261.71	37.28	ND		6224.43
MW-3	09/23/11	6261.71	38.15	ND		6223.56
MW-3	11/10/11	6261.71	38.13	ND		6223.58
MW-3	02/22/12	6261.71	37.85	ND		6223.86
MW-3	05/15/12	6261.71	37.87	ND		6223.84
MW-3	06/05/13	6261.71	38.26	ND		6223.45
MW-3	09/10/13	6261.71	38.95	ND		6222.76
MW-3	12/11/13	6261.71	DRY	ND		DRY
MW-3	04/04/14	6261.71	DRY	ND		DRY
MW-3	10/22/14	6261.71	DRY	ND		DRY
MW-3	05/28/15	6261.71	DRY	ND		DRY
MW-3	11/21/15	6261.71	DRY	ND		DRY
MW-3	04/17/16	6261.71	DRY	ND		DRY
MW-3 abandoned and replaced with MW-3R on September 26, 2016						
MW-3R	10/15/16	6261.09	37.92	ND		6223.17

TABLE 2 - GROUNDWATER ELEVATION RESULTS

K-27 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-4	11/08/06	6258.51	32.95	ND		6225.56
MW-4	01/17/07	6258.51	32.63	ND		6225.88
MW-4	04/24/07	6258.51	32.30	ND		6226.21
MW-4	07/31/07	6258.51	33.33	ND		6225.18
MW-4	10/25/07	6258.51	32.90	ND		6225.61
MW-4	01/25/08	6258.51	32.64	ND		6225.87
MW-4	04/18/08	6258.51	32.20	ND		6226.31
MW-4	07/23/08	6258.51	33.30	ND		6225.21
MW-4	10/08/08	6258.51	33.79	ND		6224.72
MW-4	10/13/08	6258.51	33.80	ND		6224.71
MW-4	01/16/09	6258.51	33.53	ND		6224.98
MW-4	04/06/09	6258.51	33.18	ND		6225.33
MW-4	08/25/09	6258.51	34.35	ND		6224.16
MW-4	11/03/09	6258.51	34.35	ND		6224.16
MW-4	02/16/10	6258.51	34.05	ND		6224.46
MW-4	05/24/10	6258.51	33.65	ND		6224.86
MW-4	09/27/10	6258.51	34.81	ND		6223.70
MW-4	11/08/10	6258.51	34.55	ND		6223.96
MW-4	02/01/11	6258.51	34.12	ND		6224.39
MW-4	05/02/11	6258.51	33.93	ND		6224.58
MW-4	09/23/11	6258.51	35.22	ND		6223.29
MW-4	11/10/11	6258.51	35.02	ND		6223.49
MW-4	02/22/12	6258.51	34.66	ND		6223.85
MW-4	05/15/12	6258.51	34.61	ND		6223.90
MW-4	06/05/13	6258.51	34.96	ND		6223.55
MW-4	09/10/13	6258.51	35.61	ND		6222.90
MW-4	12/11/13	6258.51	34.73	ND		6223.78
MW-4	04/14/14	6258.51	34.21	ND		6224.30
MW-4	10/22/14	6258.51	35.10	ND		6223.41
MW-4	05/28/15	6258.51	34.08	ND		6224.43
MW-4	11/21/15	6258.51	34.33	ND		6224.18
MW-4	04/17/16	6258.51	33.92	ND		6224.59
MW-4	10/15/16	6258.51	35.27	ND		6223.24
MW-5	10/15/16	6264.51	41.24	ND		6223.27
MW-6	10/15/16	6263.51	40.14	ND		6223.37
MW-7	10/15/16	6262.84	39.32	ND		6223.52
MW-8	10/15/16	6260.37	37.10	ND		6223.27

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

K27 Line Drip											
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-2R (32.5-33.5)	09/24/16	0.55	4.2	4.3	23	32.1	1100	190	BRL	1290	BRL
MW-3R (31-32)	09/24/16	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-5 (36-37)	09/22/16	BRL	BRL	BRL	BRL	BRL	38	9.4	BRL	47	BRL
MW-6 (36.5-37.5)	09/23/16	0.91	2.2	3.1	21	27.2	640	150	BRL	790	BRL
MW-7 (34.5-35.5)	09/23/16	4.0	4.9	7.7	25	41.6	2000	110	BRL	2110	BRL
MW-8 (33-34)	09/25/16	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SB-1 (22.5-23.5)	09/25/16	BRL	BRL	0.07	0.37	0.44	21	36	BRL	57	BRL
SB-1 (24.5-25.5)	09/25/16	20	120	30	150	320	6900	220	24	7144	BRL
SB-1 (28.5-29.5)	09/25/16	25	120	24	120	289	6400	120	BRL	6520	BRL
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 Results bolded and highlighted yellow exceed their respective NMOCD Standards											

FIGURES

FIGURE 1: APRIL 17, 2016 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: APRIL 17, 2016 GROUNDWATER ELEVATION MAP

FIGURE 3: OCTOBER 15, 2016 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: OCTOBER 15, 2016 GROUNDWATER ELEVATION MAP

FIGURE 5: SOIL ANALYTICAL RESULTS MAP



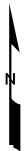
AERIAL IMAGERY FROM GOOGLE EARTH, DATED 5/2/2013.

LEGEND:

- 6257 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- X FENCE
- GAS NATURAL GAS LINE
- DAMAGED MONITORING WELL
- MONITORING WELL
- 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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	11/1/2016	SLG	SLG	SRV

TITLE:
**GROUNDWATER ANALYTICAL RESULTS
APRIL 17, 2016**

PROJECT: **K27 LD072
SAN JUAN RIVER BASIN
RIO ARriba COUNTY, NEW MEXICO**



Figure No.:
1



LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- DAMAGED MONITORING WELL
- MONITORING WELL
- SMA BENCHMARK

NOTES:

GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL).

6224.18



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	11/1/2016	SLG	SLG	SRV

TITLE:

GROUNDWATER ELEVATION MAP
APRIL 17, 2016

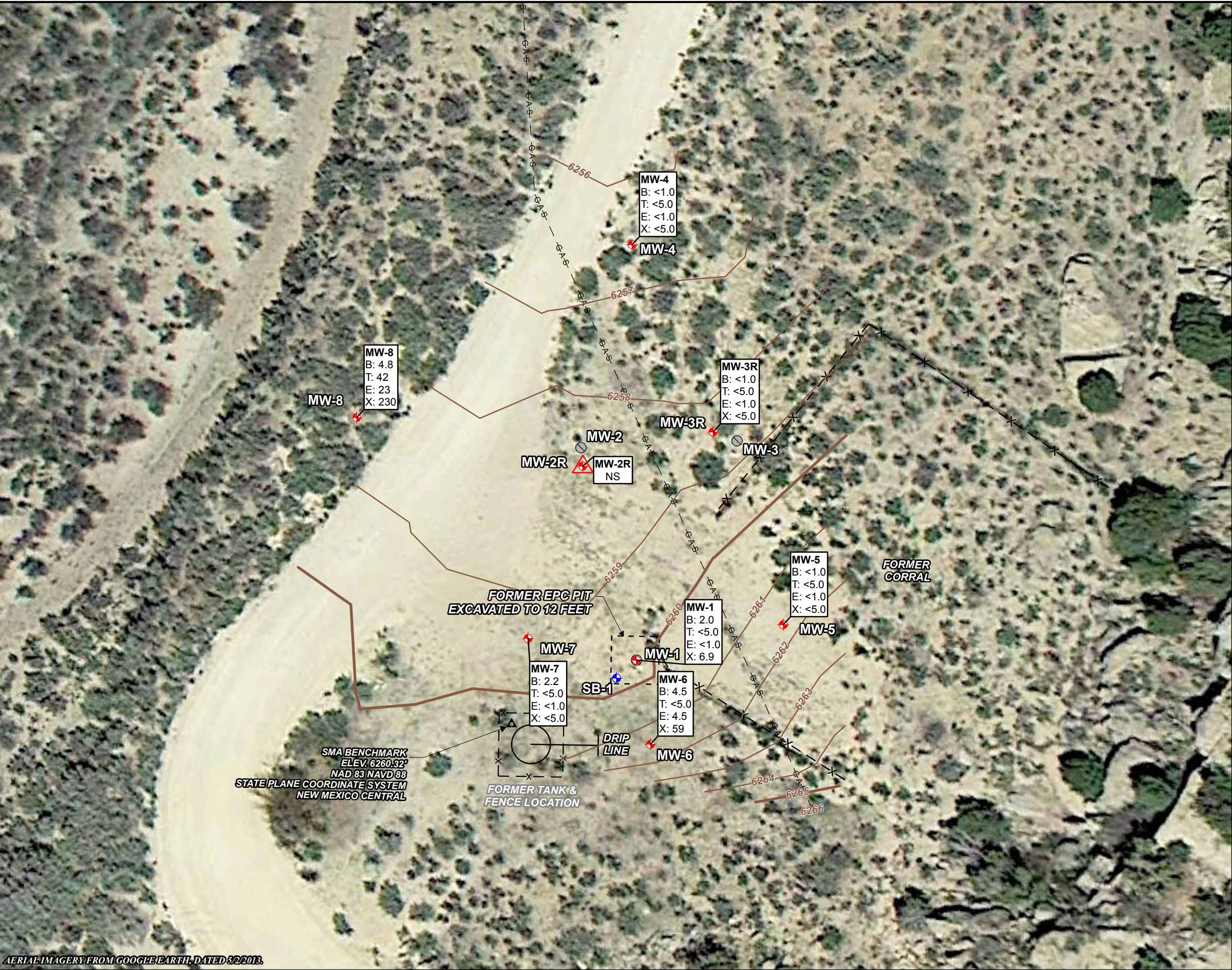
PROJECT:

K27 LD072
SAN JUAN RIVER BASIN
RIO ARriba COUNTY, NEW MEXICO



Figure No.:

2

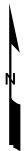


LEGEND:

- 6257 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- X FENCE
- GAS NATURAL GAS LINE
- ABANDONED MONITORING WELL
- MONITORING WELL
- MONITORING WELL WITH MEASUREABLE FREE PRODUCT
- SOIL BORING
- SMA BENCHMARK

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:
RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<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



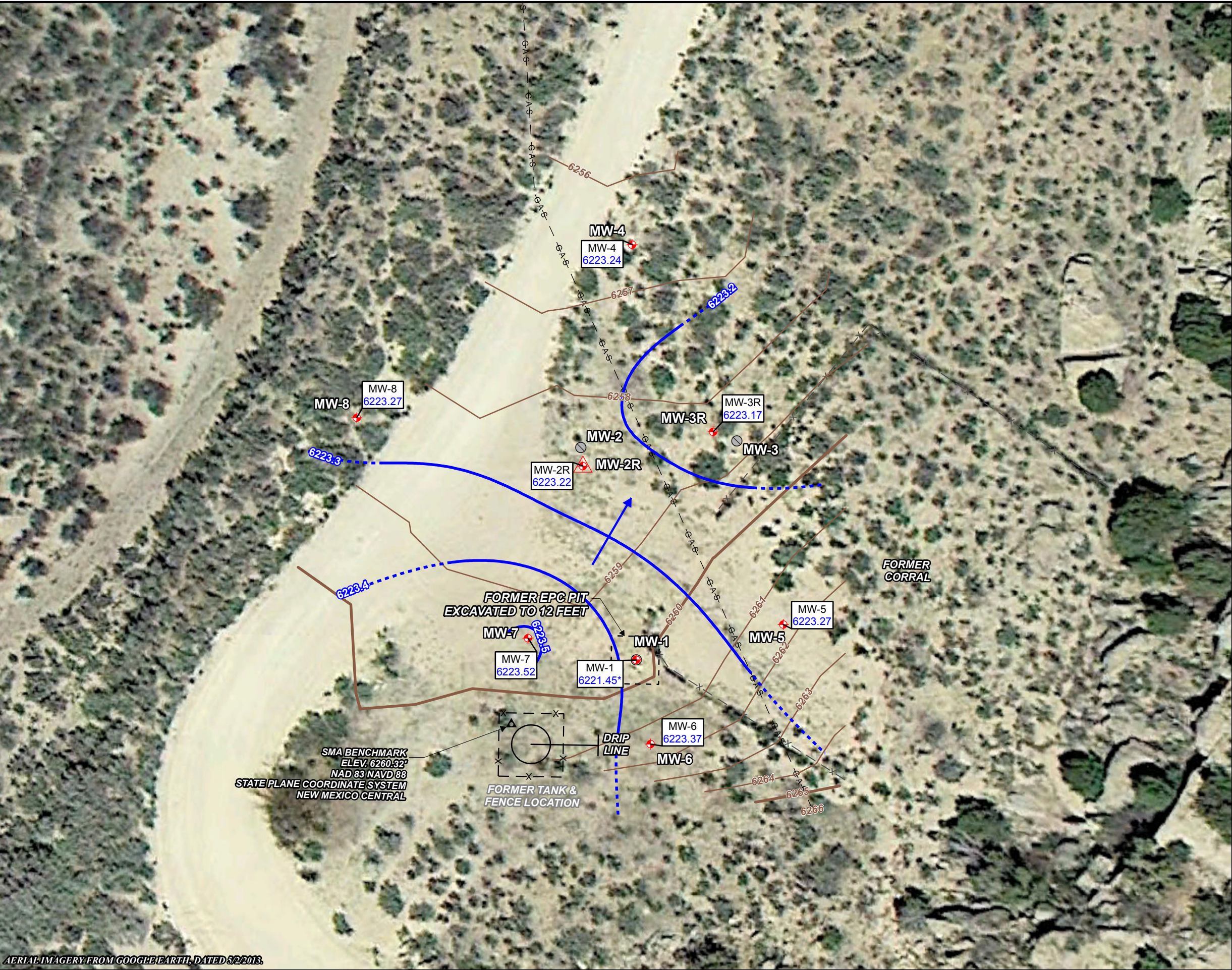
REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	1/23/2017	SLG	SLG	SRV

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

PROJECT: **K27 LD072
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO**



Figure No.:
3

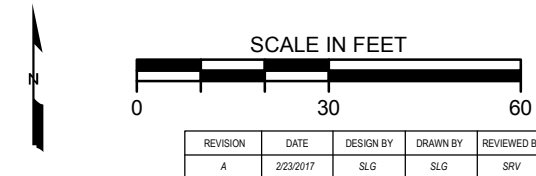


LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- ABANDONED MONITORING WELL
- MONITORING WELL
- MONITORING WELL WITH MEASUREABLE FREE PRODUCT
- SMA BENCHMARK

NOTES:

- GROUNDWATER ELEVATION (CORRECTED FOR PRODUCT THICKNESS WHEN PRESENT) FEET ABOVE MEAN SEA LEVEL
- CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)
- DIRECTION OF APPARENT GROUNDWATER FLOW
- GROUNDWATER ELEVATION APPEARS ANOMALOUS FOR MW-1 AND WAS NOT INCLUDED IN THE GROUNDWATER ELEVATION CONTOURS.



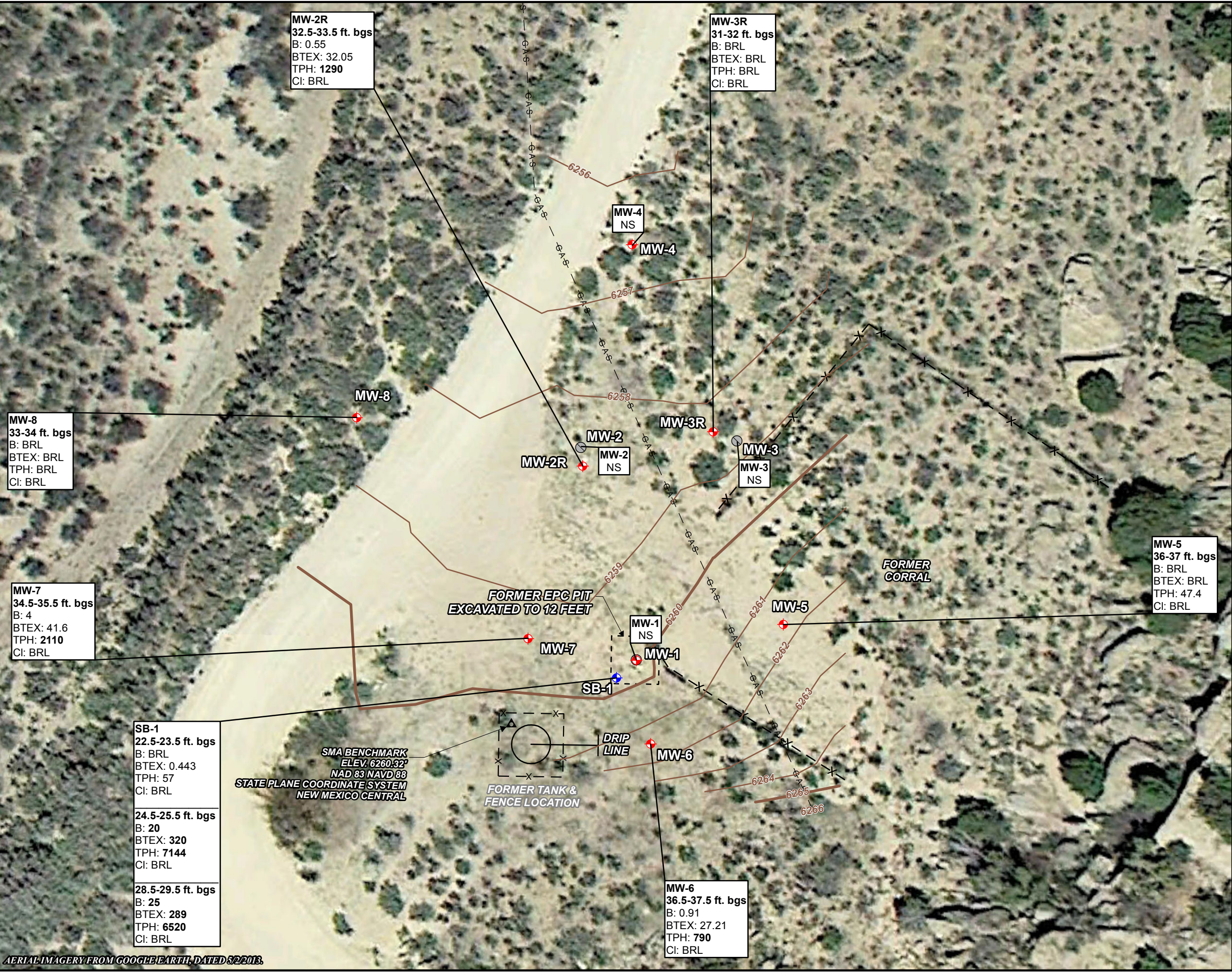
TITLE: **GROUNDWATER ELEVATION MAP**
OCTOBER 15, 2016

PROJECT: **K27 LD072**
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO



Figure No.:

4



AERIAL IMAGERY FROM GOOGLE EARTH, DATED 6/2/2013.

LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- FENCE
- NATURAL GAS LINE
- ABANDONED MONITORING WELL
- MONITORING WELL
- SOIL BORING
- SMA BENCHMARK

NOTES:

MW-5 SAMPLES COLLECTED 9/22/2016; MW-6 AND MW-7 9/23/2016; MW-2R AND MW-3R 9/24/2016; MW-8 AND SB-1 9/25/2016.

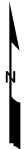
UTILITY LOCATIONS ARE APPROXIMATE.

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	NMOC D 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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/27/2017	SLG	SLG	SRV

TITLE:

SOIL ANALYTICAL RESULTS

PROJECT:

**K27 LD072
SAN JUAN RIVER BASIN
RIO ARriba COUNTY, NEW MEXICO**



Figure No.:

5

APPENDICES

APPENDIX A – BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B – SOIL SAMPLING ANALYTICAL REPORTS

APPENDIX C – WASTE DISPOSAL DOCUMENTATION

APPENDIX D – MAY 3, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT
OCTOBER 27, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT

APPENDIX A



MWH

Drilling Log

Monitoring Well

MW-2R

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6258.52 ft North 1978388.811 East 1278595.086
 Top of Casing 6260.93 ft Water Level Initial 6224.52 09/23/16 00:00 Static 6223.21
 Hole Depth 50.0 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/23/2016 Completion Date 9/26/2016 Checked By S. Varsa

COMMENTS
 Surface is dirt with minor vegetation.

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	100%				Sand, silty, very fine-grained, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.	
5	0.0	100%					
10	0.0	40%				Less than full recovery due to compaction (no sample loss).	
15	1.4	40%			SM		
20	0.5	46%					
25	0.7	70%					
30	46.2	100%				At 29' a slight to medium hydrocarbon odor is present.	

Continued Next Page



MWH

Drilling Log

Monitoring Well

MW-2R

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

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
30						<i>Continued</i>	
34.1							
29.0		100%					
111.2							
2834		MW-2R 32.5-33.5'					
2067					SM	At 33' color changes to light gray to black, hydrocarbon odor and staining are present. At 34' sand becomes fine to medium-grained, silt content decreases, color is light to dark gray, soil is saturated, hydrocarbon odor and staining are present.	
35							
1992		44%					
1961							
1541							
1953							
40						Sand to sandstone, fine-grained, clayey, brown, saturated, slight hydrocarbon odor.	
454.8		100%					
274.9							
198.5							
62.7					SP		
2.9							
45						At 44.5' none to very slight hydrocarbon odor.	
1.9							
0.9		84%					
0.7							
0.7							
0.7							
50		100%			CH	Clay, minor fine and medium-grained sand, brown, wet, medium stiff to stiff, no hydrocarbon odor, high plasticity.	
1.4							
2.1							
						End of boring = 50'.	
55							
60							
65							
70							



MWH

Drilling Log

Monitoring Well

MW-3R

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6258.58 ft North 1978399.4 East 1278635.469
 Top of Casing 6261.09 ft Water Level Initial 6224.58 09/23/16 00:00 Static 6223.14
 Hole Depth 50.0 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/23/2016 Completion Date 9/26/2016 Checked By S. Varsa

COMMENTS
 Surface is dirt with minor vegetation.

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						Sand, silty, very fine-grained, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.	
5							
10							
15					SM	Less than full recovery due to compaction (no sample loss).	
20							
25							
30						At 28.5' minor clay content.	

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16

Continued Next Page



MWH

Drilling Log

Monitoring Well

MW-3R

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

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
30	1.2					<i>Continued</i>	
	0.9				SM		
	2.1	76% MW-3R 31- 32'					
	0.1						
	0.0					Sand, fine to medium-grained, clayey, brown, wet, no hydrocarbon odor.	
35	0.0						
	0.0	52%					
	0.0						
	0.0						
	0.0					At 38.5' color changes to dark brown, minor calcareous cement noted.	
40	0.0				SC		
	0.0	60%					
	0.0						
	0.0						
	0.0					At 43.5' sand is saturated.	
45	0.0						
	0.0	100%					
	0.0						
	0.0						
	0.0						
	0.0						
	0.0	100%			CH	Clay, brown to dark brown, wet, medium stiff, no hydrocarbon odor, high plasticity.	
50	0.0						
						End of boring = 50'.	
55							
60							
65							
70							



MWH

Drilling Log

Monitoring Well

MW-5

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6261.60 ft North 1978339.668 East 1278657.165
 Top of Casing 6264.50 ft Water Level Initial 6225.6 09/22/16 00:00 Static 6222.71
 Hole Depth 50.0 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/22/2016 Completion Date 9/26/2016 Checked By S. Varsa

COMMENTS

18' from Enterprise line. Surface is dirt with minor vegetation.

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						Sand, very fine-grained, silty, minor clay, trace gravel, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.	
5							
10							
15					SM	Less than full recovery due to compaction (no sample loss).	
20							
25						At 23.5' some calcareous deposits. At 24.5' becomes slightly moist.	
30						At 28.5' color becomes dark brown, rounded cobbles are present.	

Continued Next Page

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16



MWH

Drilling Log

Monitoring Well

MW-5

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

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
30						<i>Continued</i>	
7.6		70%			SP	Sand, very fine-grained, well-sorted, very light brown, loose, slightly moist.	
3.8							
2.8					SC	Sand, fine-grained, clayey, light brown, moist, no hydrocarbon odor.	
7.4							
6.4							
35		72%			SP	Sand, well-sorted, brown, moist to very moist, slight to moderate hydrocarbon odor, minor cementation noted in sand, dark gray to black hydrocarbon staining.	
25.8							
53.0							
321.1							
290.9						Sand to sandstone, well-sorted, light olive-brown to brown, very moist, slight hydrocarbon odor decreases below 42'.	
11.3							
40		60%			SP		
75.7							
27.0							
13.4							
2.0							
1.1							
45		40%					
2.2							
15.7							
2.8						Shale, dark gray, dry, hard, no hydrocarbon odor.	
0.0							
0.0		100%					
50						End of boring = 50'.	
55							
60							
65							
70							



MWH

Drilling Log

Monitoring Well

MW-6

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6261.15 ft North 1978302.634 East 1278616.103
 Top of Casing 6263.51 ft Water Level Initial 6223.15 09/22/16 00:00 Static 6222.99
 Hole Depth 50.0 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/22/2016 Completion Date 9/26/2016 Checked By S. Varsa

COMMENTS
 Surface is dirt with minor vegetation.

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						Sand, silty, very fine to fine-grained, brown, loose, dry, no hydrocarbon odor, subrounded sand grains. Soil from 0-8' removed with a hydro-vacuum.	
5							
10							
15					SM	Less than full recovery due to compaction (no sample loss).	
20						At 20.5' color grades to light brown.	
25						At 24' color grades to light olive-brown and sand becomes slightly moist. Driller reports hard drilling at 25'.	
30					SP	Sand, to weathered weakly-cemented sandstone, fine-grained, well-sorted, very light brown, dry, no hydrocarbon odor.	

Continued Next Page

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16



MWH

Drilling Log

Monitoring Well

MW-6

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

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
30	9.9	80%				<i>Continued</i>	
	10.5					At 30' driller reports very hard drilling, gravels present, some calcareous deposits/staining present.	
	29.5						
	14.3						
35	565.5	50%			SP	At 33.5' cuttings begin to appear black (lasts until 38.5'), moderate hydrocarbon odor present at 34', black staining and a strong hydrocarbon odor present at 36'.	
	1246						
	2484						
	3091						
	50.3	54%				At 39' sand is brown and moist, moderate hydrocarbon odor but no staining is present.	
40	153.6						
	456.4						
	308.7						
	284.8	60%				Shale, dark olive-gray, hard, dry to slightly moist, none to very slight hydrocarbon odor.	
45	24.8						
	54.5						
	67.0						
	54.7	100%					
	47.4						
	0.6						
50	7.4					At 49' color grades to light olive-brown, material is dry, no hydrocarbon odor.	
	10.4						
						End of boring = 50'.	
55							
60							
65							
70							



MWH

Drilling Log

Monitoring Well

MW-7

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6259.24 ft North 1978335.44 East 1278578.132
 Top of Casing 6262.84 ft Water Level Initial 6223.24 09/22/16 00:00 Static 6224.38
 Hole Depth 50.0 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/22/2016 Completion Date 9/28/2016 Checked By S. Varsa

COMMENTS
 Surface is dirt with minor vegetation.

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						Sand, silty, very fine-grained, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.	
0.0		100%					
5							
0.0		100%					
10							
0.0		36%					
0.0						Less than full recovery due to compaction (no sample loss).	
0.0							
0.0					SM		
0.0		60%					
0.0							
0.0							
3.0							
6.9		70%				At 20.5' minor clay content noted, density increases.	
7.9							
18.0						At 22.5' color changes to light brown.	
56.7							
12.0						At 24' becomes slightly moist, some calcareous deposits/cementation noted.	
7.9		100%					
25.9							
34.7							
23.6							
4.9		90%			CH	Clay, dark brown, slightly moist to moist, soft to medium stiff, none to slight hydrocarbon odor, high plasticity.	
30							

Continued Next Page

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16



MWH

Drilling Log

Monitoring Well

MW-7

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

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
30						<i>Continued</i>	
9.6					CH		
32.1		90%					
44.6							
80.9							
953.6							
35							
2774							
2690		80%			SC		
974.5							
92.8							
1.1							
1.0		70%					
4.9							
1.2							
2.9							
45					CH		
0.7							
0.8		80%					
25.1					SP		
2.5							
15.0							
0.0		100%					
50							
						End of boring = 50'.	
55							
60							
65							
70							



MWH

Drilling Log

Monitoring Well

MW-8

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6257.83 ft North 1978403.826 East 1278525.087
 Top of Casing 6260.36 ft Water Level Initial 6223.83 09/23/16 00:00 Static 6223.3
 Hole Depth 51.5 ft Screen: Diameter 2 in Length 25.0 ft Type/Size PVC/0.01 in
 Hole Diameter 8.25 in Casing: Diameter 2 in Length 24.7 ft Type PVC
 Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack 10/20 Silica
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/23/2016 Completion Date 9/28/2016 Checked By S. Varsa

COMMENTS
 Surface is dirt with heavy vegetation.

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	100%			SM	Sand, very fine-grained, silty, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.	
5	0.0	100%					
10	0.0	63%				Sand, well-sorted, light brown, loose, dry, no hydrocarbon odor.	
15	0.0	46%			SP	Less than full recovery due to compaction (no sample loss).	
20	0.0	40%					
25	0.0	42%			SP SM	Sand, silty, loose, dry, no hydrocarbon odor.	
30	0.0	56%					

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16

Continued Next Page

**MW-8**

Page: 2 of 2

Project Number 10509761

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16



MWH

Drilling Log

Soil Boring **SB-1**

Page: 1 of 2

Project K-27 Line Drip Owner El Paso CGP Company, LLC
 Location Rio Arriba County, New Mexico Project Number 10509761
 Surface Elev. 6259.77 ft North 1978323.14 East 1278605.535
 Top of Casing NA Water Level Initial 38.0ft 09/22/16 00:00 Static NA
 Hole Depth 40.0 ft Screen: Diameter NA Length NA Type/Size NA
 Hole Diameter 8.25 in Casing: Diameter NA Length NA Type NA
 Drill Co. National EWP Drilling Method Hollow-Stem Auger Sand Pack NA
 Driller Gary Driller Reg. # 1210 Log By Brad Barton
 Start Date 9/22/2016 Completion Date 9/22/2016 Checked By S. Varsa

COMMENTS

7.5' from MW-1. Surface is dirt with minor vegetation.

☒ 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.
0						Sand, silty, minor clay at 20', very fine grained, brown, loose, dry, no hydrocarbon odor. Soil from 0-8' removed with a hydro-vacuum.
5						
10						
15						
20						
25						

Drilling Log 2016 K27 LOGS.GPJ MWH IA.GDT 12/19/16

Continued Next Page



MWH

Drilling Log

Soil Boring

SB-1

Page: 2 of 2

Project K-27 Line Drip

Owner El Paso CGP Company, LLC

Location Rio Arriba County, New Mexico

Project Number 10509761

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.
25	1943					<i>Continued</i>
1845		100%			SM	
1567						
1673						
1727						Sand, fine-grained, clayey, dark gray to black with hydrocarbon staining, slightly moist, moderate to strong hydrocarbon odor.
30	1628	84%			SC	
1629						
1614						
1638						
35	1016					
1564		60%				
1586						
1445						
1497					SP	Sand to sandstone, medium-grained, well-sorted, dark gray to black with hydrocarbon staining grading to olive-brown at 38.5, weakly to moderately cemented, wet, strong hydrocarbon odor.
40	60.9 28.8	100%				
						End of boring = 40'.
45						
50						
55						

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: 400-127781-1

Client Project/Site: K27 LD072

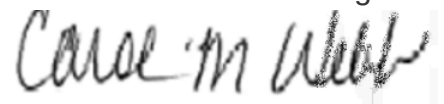
For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Clint Oberbroeckling



Authorized for release by:

10/11/2016 1:15:11 PM

Carol Webb, Project Manager II

(850)471-6250

carol.webb@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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

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



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Definitions/Glossary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: K27 LD072

TestAmerica Job ID: 400-127781-1

Job ID: 400-127781-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-127781-1

Comments

No additional comments.

Receipt

The samples were received on 9/27/2016 10:11 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0° C.

HPLC/IC

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-324440 and analytical batch 400-325111 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The following samples were diluted due to organic/ gas odor in soil samples: MW-5 (36-37) (400-127781-1), MW-6 (36.5-37.5) (400-127781-2), MW-7 (34.5-35.5) (400-127781-3), MW-2R (32.5-33.5) (400-127781-4), MW-3R (31-32) (400-127781-5), MW-8 (33-34) (400-127781-6), SB-1 (22.5-23.5) (400-127781-7), SB-1 (24.5-25.5) (400-127781-8), SB-1 (28.5-29.5) (400-127781-9), (400-127781-A-1-D MS) and (400-127781-A-1-E MSD). Elevated reporting limits (RL) are provided.

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

GC VOA

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

GC Semi VOA

Method 8015B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-324494 and analytical batch 400-324712 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-5 (36-37)

Lab Sample ID: 400-127781-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	38		5.3	mg/Kg	50	☼	8015B	Total/NA
Ethylbenzene	0.28		0.053	mg/Kg	50	☼	8021B	Total/NA
C10-C28	9.4		5.7	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: MW-6 (36.5-37.5)

Lab Sample ID: 400-127781-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	640		51	mg/Kg	500	☼	8015B	Total/NA
Benzene	0.91		0.10	mg/Kg	100	☼	8021B	Total/NA
Ethylbenzene	3.1		0.10	mg/Kg	100	☼	8021B	Total/NA
Toluene	2.2		0.51	mg/Kg	100	☼	8021B	Total/NA
Xylenes, Total	21		0.51	mg/Kg	100	☼	8021B	Total/NA
C10-C28	150		5.5	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: MW-7 (34.5-35.5)

Lab Sample ID: 400-127781-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	2000		120	mg/Kg	1000	☼	8015B	Total/NA
Benzene	4.0		0.12	mg/Kg	100	☼	8021B	Total/NA
Ethylbenzene	7.7		0.12	mg/Kg	100	☼	8021B	Total/NA
Toluene	4.9		0.58	mg/Kg	100	☼	8021B	Total/NA
Xylenes, Total	25		0.58	mg/Kg	100	☼	8021B	Total/NA
C10-C28	110		5.9	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: MW-2R (32.5-33.5)

Lab Sample ID: 400-127781-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	1100		55	mg/Kg	500	☼	8015B	Total/NA
Benzene	0.55		0.11	mg/Kg	100	☼	8021B	Total/NA
Ethylbenzene	4.3		0.11	mg/Kg	100	☼	8021B	Total/NA
Toluene	4.2		0.55	mg/Kg	100	☼	8021B	Total/NA
Xylenes, Total	23		0.55	mg/Kg	100	☼	8021B	Total/NA
C10-C28	190		5.5	mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: MW-3R (31-32)

Lab Sample ID: 400-127781-5

No Detections.

Client Sample ID: MW-8 (33-34)

Lab Sample ID: 400-127781-6

No Detections.

Client Sample ID: SB-1 (22.5-23.5)

Lab Sample ID: 400-127781-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	21		5.2	mg/Kg	50	☼	8015B	Total/NA
Ethylbenzene	0.073		0.052	mg/Kg	50	☼	8021B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (22.5-23.5) (Continued)

Lab Sample ID: 400-127781-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.37		0.26	mg/Kg	50	✱	8021B	Total/NA
C10-C28	36		5.3	mg/Kg	1	✱	8015B	Total/NA

Client Sample ID: SB-1 (24.5-25.5)

Lab Sample ID: 400-127781-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	6900		520	mg/Kg	5000	✱	8015B	Total/NA
Benzene	20		0.52	mg/Kg	500	✱	8021B	Total/NA
Ethylbenzene	30		0.52	mg/Kg	500	✱	8021B	Total/NA
Toluene	120		2.6	mg/Kg	500	✱	8021B	Total/NA
Xylenes, Total	150		2.6	mg/Kg	500	✱	8021B	Total/NA
C10-C28	220		5.5	mg/Kg	1	✱	8015B	Total/NA
C28-C35	24		5.5	mg/Kg	1	✱	8015B	Total/NA

Client Sample ID: SB-1 (28.5-29.5)

Lab Sample ID: 400-127781-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) C6-C10	6400		520	mg/Kg	5000	✱	8015B	Total/NA
Benzene	25		0.52	mg/Kg	500	✱	8021B	Total/NA
Ethylbenzene	24		0.52	mg/Kg	500	✱	8021B	Total/NA
Toluene	120		2.6	mg/Kg	500	✱	8021B	Total/NA
Xylenes, Total	120		2.6	mg/Kg	500	✱	8021B	Total/NA
C10-C28	120	F1	5.5	mg/Kg	1	✱	8015B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-127781-1	MW-5 (36-37)	Solid	09/22/16 16:30	09/27/16 10:11
400-127781-2	MW-6 (36.5-37.5)	Solid	09/23/16 10:05	09/27/16 10:11
400-127781-3	MW-7 (34.5-35.5)	Solid	09/23/16 13:35	09/27/16 10:11
400-127781-4	MW-2R (32.5-33.5)	Solid	09/24/16 08:45	09/27/16 10:11
400-127781-5	MW-3R (31-32)	Solid	09/24/16 12:05	09/27/16 10:11
400-127781-6	MW-8 (33-34)	Solid	09/25/16 09:00	09/27/16 10:11
400-127781-7	SB-1 (22.5-23.5)	Solid	09/25/16 12:40	09/27/16 10:11
400-127781-8	SB-1 (24.5-25.5)	Solid	09/25/16 12:50	09/27/16 10:11
400-127781-9	SB-1 (28.5-29.5)	Solid	09/25/16 13:00	09/27/16 10:11

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-5 (36-37)

Date Collected: 09/22/16 16:30

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-1

Matrix: Solid

Percent Solids: 89.7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	38		5.3	mg/Kg	☼	09/28/16 16:20	09/30/16 14:16	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	96		65 - 125			09/28/16 16:20	09/30/16 14:16	50

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.053		0.053	mg/Kg	☼	09/28/16 16:20	10/03/16 10:53	50
Ethylbenzene	0.28		0.053	mg/Kg	☼	09/28/16 16:20	10/03/16 10:53	50
Toluene	<0.27		0.27	mg/Kg	☼	09/28/16 16:20	10/03/16 10:53	50
Xylenes, Total	<0.27		0.27	mg/Kg	☼	09/28/16 16:20	10/03/16 10:53	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	93		40 - 150			09/28/16 16:20	10/03/16 10:53	50

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	9.4		5.7	mg/Kg	☼	09/28/16 14:14	09/29/16 18:47	1
C28-C35	<5.7		5.7	mg/Kg	☼	09/28/16 14:14	09/29/16 18:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	83		27 - 151			09/28/16 14:14	09/29/16 18:47	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220	F1 F2	220	mg/Kg	☼		09/30/16 16:22	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-6 (36.5-37.5)

Date Collected: 09/23/16 10:05

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-2

Matrix: Solid

Percent Solids: 90.6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	640		51	mg/Kg	☼	09/28/16 16:20	09/30/16 18:25	500
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	91		65 - 125			09/28/16 16:20	09/30/16 18:25	500

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.91		0.10	mg/Kg	☼	09/28/16 16:20	10/03/16 11:20	100
Ethylbenzene	3.1		0.10	mg/Kg	☼	09/28/16 16:20	10/03/16 11:20	100
Toluene	2.2		0.51	mg/Kg	☼	09/28/16 16:20	10/03/16 11:20	100
Xylenes, Total	21		0.51	mg/Kg	☼	09/28/16 16:20	10/03/16 11:20	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	93		40 - 150			09/28/16 16:20	10/03/16 11:20	100

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	150		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 18:58	1
C28-C35	<5.5		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 18:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	84		27 - 151			09/28/16 14:14	09/29/16 18:58	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220		220	mg/Kg	☼		09/30/16 18:16	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-7 (34.5-35.5)

Date Collected: 09/23/16 13:35

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-3

Matrix: Solid

Percent Solids: 83.4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	2000		120	mg/Kg	☼	09/28/16 16:20	09/30/16 17:28	1000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	85		65 - 125			09/28/16 16:20	09/30/16 17:28	1000

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.0		0.12	mg/Kg	☼	09/28/16 16:20	10/03/16 11:48	100
Ethylbenzene	7.7		0.12	mg/Kg	☼	09/28/16 16:20	10/03/16 11:48	100
Toluene	4.9		0.58	mg/Kg	☼	09/28/16 16:20	10/03/16 11:48	100
Xylenes, Total	25		0.58	mg/Kg	☼	09/28/16 16:20	10/03/16 11:48	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	66		40 - 150			09/28/16 16:20	10/03/16 11:48	100

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	110		5.9	mg/Kg	☼	09/28/16 14:14	09/29/16 19:09	1
C28-C35	<5.9		5.9	mg/Kg	☼	09/28/16 14:14	09/29/16 19:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	89		27 - 151			09/28/16 14:14	09/29/16 19:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<240		240	mg/Kg	☼		09/30/16 18:38	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-2R (32.5-33.5)

Lab Sample ID: 400-127781-4

Date Collected: 09/24/16 08:45

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 90.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	1100		55	mg/Kg	☼	09/28/16 16:20	09/30/16 18:52	500
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	91		65 - 125			09/28/16 16:20	09/30/16 18:52	500

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.55		0.11	mg/Kg	☼	09/28/16 16:20	10/03/16 12:15	100
Ethylbenzene	4.3		0.11	mg/Kg	☼	09/28/16 16:20	10/03/16 12:15	100
Toluene	4.2		0.55	mg/Kg	☼	09/28/16 16:20	10/03/16 12:15	100
Xylenes, Total	23		0.55	mg/Kg	☼	09/28/16 16:20	10/03/16 12:15	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	78		40 - 150			09/28/16 16:20	10/03/16 12:15	100

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	190		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 19:20	1
C28-C35	<5.5		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 19:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	89		27 - 151			09/28/16 14:14	09/29/16 19:20	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220		220	mg/Kg	☼		09/30/16 19:01	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-3R (31-32)

Date Collected: 09/24/16 12:05

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-5

Matrix: Solid

Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6-C10	<0.11		0.11	mg/Kg	☼	09/28/16 16:20	09/29/16 07:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	90		65 - 125			09/28/16 16:20	09/29/16 07:37	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011		0.0011	mg/Kg	☼	09/28/16 16:20	09/29/16 07:37	1
Ethylbenzene	<0.0011		0.0011	mg/Kg	☼	09/28/16 16:20	09/29/16 07:37	1
Toluene	<0.0054		0.0054	mg/Kg	☼	09/28/16 16:20	09/29/16 07:37	1
Xylenes, Total	<0.0054		0.0054	mg/Kg	☼	09/28/16 16:20	09/29/16 07:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	92		40 - 150			09/28/16 16:20	09/29/16 07:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.7		5.7	mg/Kg	☼	09/28/16 14:14	09/29/16 19:31	1
C28-C35	<5.7		5.7	mg/Kg	☼	09/28/16 14:14	09/29/16 19:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	82		27 - 151			09/28/16 14:14	09/29/16 19:31	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<230		230	mg/Kg	☼		09/30/16 19:24	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-8 (33-34)

Date Collected: 09/25/16 09:00

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-6

Matrix: Solid

Percent Solids: 95.2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6-C10	<0.099		0.099	mg/Kg	☼	09/28/16 16:20	09/29/16 08:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	90		65 - 125			09/28/16 16:20	09/29/16 08:12	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00099		0.00099	mg/Kg	☼	09/28/16 16:20	09/29/16 08:12	1
Ethylbenzene	<0.00099		0.00099	mg/Kg	☼	09/28/16 16:20	09/29/16 08:12	1
Toluene	<0.0050		0.0050	mg/Kg	☼	09/28/16 16:20	09/29/16 08:12	1
Xylenes, Total	<0.0050		0.0050	mg/Kg	☼	09/28/16 16:20	09/29/16 08:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	92		40 - 150			09/28/16 16:20	09/29/16 08:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.3		5.3	mg/Kg	☼	09/28/16 14:14	09/29/16 19:53	1
C28-C35	<5.3		5.3	mg/Kg	☼	09/28/16 14:14	09/29/16 19:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	86		27 - 151			09/28/16 14:14	09/29/16 19:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<210		210	mg/Kg	☼		09/30/16 19:47	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (22.5-23.5)

Date Collected: 09/25/16 12:40

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-7

Matrix: Solid

Percent Solids: 91.7

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	21		5.2	mg/Kg	☼	09/28/16 16:20	09/30/16 16:06	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	98		65 - 125			09/28/16 16:20	09/30/16 16:06	50

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.052		0.052	mg/Kg	☼	09/28/16 16:20	10/03/16 10:26	50
Ethylbenzene	0.073		0.052	mg/Kg	☼	09/28/16 16:20	10/03/16 10:26	50
Toluene	<0.26		0.26	mg/Kg	☼	09/28/16 16:20	10/03/16 10:26	50
Xylenes, Total	0.37		0.26	mg/Kg	☼	09/28/16 16:20	10/03/16 10:26	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	93		40 - 150			09/28/16 16:20	10/03/16 10:26	50

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	36		5.3	mg/Kg	☼	09/28/16 14:14	09/29/16 20:04	1
C28-C35	<5.3		5.3	mg/Kg	☼	09/28/16 14:14	09/29/16 20:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	65		27 - 151			09/28/16 14:14	09/29/16 20:04	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220		220	mg/Kg	☼		09/30/16 20:10	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (24.5-25.5)

Date Collected: 09/25/16 12:50

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-8

Matrix: Solid

Percent Solids: 88.4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	6900		520	mg/Kg	☼	09/28/16 16:20	09/30/16 19:19	5000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	99		65 - 125			09/28/16 16:20	09/30/16 19:19	5000

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	20		0.52	mg/Kg	☼	09/28/16 16:20	10/03/16 12:43	500
Ethylbenzene	30		0.52	mg/Kg	☼	09/28/16 16:20	10/03/16 12:43	500
Toluene	120		2.6	mg/Kg	☼	09/28/16 16:20	10/03/16 12:43	500
Xylenes, Total	150		2.6	mg/Kg	☼	09/28/16 16:20	10/03/16 12:43	500
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	86		40 - 150			09/28/16 16:20	10/03/16 12:43	500

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	220		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 20:15	1
C28-C35	24		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 20:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	110		27 - 151			09/28/16 14:14	09/29/16 20:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220		220	mg/Kg	☼		09/30/16 20:33	10

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (28.5-29.5)

Date Collected: 09/25/16 13:00

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-9

Matrix: Solid

Percent Solids: 92.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6--C10	6400		520	mg/Kg	☼	09/28/16 16:20	09/30/16 19:47	5000
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	97		65 - 125			09/28/16 16:20	09/30/16 19:47	5000

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	25		0.52	mg/Kg	☼	09/28/16 16:20	10/03/16 13:10	500
Ethylbenzene	24		0.52	mg/Kg	☼	09/28/16 16:20	10/03/16 13:10	500
Toluene	120		2.6	mg/Kg	☼	09/28/16 16:20	10/03/16 13:10	500
Xylenes, Total	120		2.6	mg/Kg	☼	09/28/16 16:20	10/03/16 13:10	500
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	85		40 - 150			09/28/16 16:20	10/03/16 13:10	500

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	120	F1	5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 18:36	1
C28-C35	<5.5		5.5	mg/Kg	☼	09/28/16 14:14	09/29/16 18:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	90		27 - 151			09/28/16 14:14	09/29/16 18:36	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<220		220	mg/Kg	☼		09/30/16 20:55	10

TestAmerica Pensacola

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

GC VOA

Prep Batch: 324511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	5035	
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	5035	
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	5035	
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	5035	
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	5035	
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	5035	
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	5035	
MB 400-324511/9-A	Method Blank	Total/NA	Solid	5035	
LCS 400-324511/14-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 400-324511/8-A	Lab Control Sample	Total/NA	Solid	5035	
400-127781-A-7-C MS	400-127781-A-7-C MS	Total/NA	Solid	5035	
400-127781-A-7-D MSD	400-127781-A-7-D MSD	Total/NA	Solid	5035	
400-127816-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
400-127816-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 324513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-5	MW-3R (31-32)	Total/NA	Solid	5035	
400-127781-6	MW-8 (33-34)	Total/NA	Solid	5035	
MB 400-324513/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-324513/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 400-324513/3-A	Lab Control Sample	Total/NA	Solid	5035	
400-127781-5 MS	MW-3R (31-32)	Total/NA	Solid	5035	
400-127781-5 MS	MW-3R (31-32)	Total/NA	Solid	5035	
400-127781-5 MSD	MW-3R (31-32)	Total/NA	Solid	5035	
400-127781-5 MSD	MW-3R (31-32)	Total/NA	Solid	5035	

Analysis Batch: 324519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	8015B	324511
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	8015B	324511
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	8015B	324511
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	8015B	324511
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	8015B	324511
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	8015B	324511
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	8015B	324511
MB 400-324511/9-A	Method Blank	Total/NA	Solid	8015B	324511
LCS 400-324511/8-A	Lab Control Sample	Total/NA	Solid	8015B	324511
400-127816-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B	324511
400-127816-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	324511

Analysis Batch: 324528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-5	MW-3R (31-32)	Total/NA	Solid	8015B	324513
400-127781-6	MW-8 (33-34)	Total/NA	Solid	8015B	324513
MB 400-324513/1-A	Method Blank	Total/NA	Solid	8015B	324513
LCS 400-324513/3-A	Lab Control Sample	Total/NA	Solid	8015B	324513
400-127781-5 MS	MW-3R (31-32)	Total/NA	Solid	8015B	324513
400-127781-5 MSD	MW-3R (31-32)	Total/NA	Solid	8015B	324513

TestAmerica Pensacola

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

GC VOA (Continued)

Analysis Batch: 324530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-5	MW-3R (31-32)	Total/NA	Solid	8021B	324513
400-127781-6	MW-8 (33-34)	Total/NA	Solid	8021B	324513
MB 400-324513/1-A	Method Blank	Total/NA	Solid	8021B	324513
LCS 400-324513/2-A	Lab Control Sample	Total/NA	Solid	8021B	324513
400-127781-5 MS	MW-3R (31-32)	Total/NA	Solid	8021B	324513
400-127781-5 MSD	MW-3R (31-32)	Total/NA	Solid	8021B	324513

Analysis Batch: 324839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	8021B	324511
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	8021B	324511
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	8021B	324511
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	8021B	324511
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	8021B	324511
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	8021B	324511
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	8021B	324511
LCS 400-324511/14-A	Lab Control Sample	Total/NA	Solid	8021B	324511
400-127781-A-7-C MS	400-127781-A-7-C MS	Total/NA	Solid	8021B	324511
400-127781-A-7-D MSD	400-127781-A-7-D MSD	Total/NA	Solid	8021B	324511

Analysis Batch: 325411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-324511/9-A	Method Blank	Total/NA	Solid	8021B	324511

GC Semi VOA

Prep Batch: 324494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	3546	
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	3546	
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	3546	
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	3546	
400-127781-5	MW-3R (31-32)	Total/NA	Solid	3546	
400-127781-6	MW-8 (33-34)	Total/NA	Solid	3546	
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	3546	
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	3546	
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	3546	
MB 400-324494/13-A	Method Blank	Total/NA	Solid	3546	
LCS 400-324494/12-A	Lab Control Sample	Total/NA	Solid	3546	
400-127781-9 MS	SB-1 (28.5-29.5)	Total/NA	Solid	3546	
400-127781-9 MSD	SB-1 (28.5-29.5)	Total/NA	Solid	3546	

Analysis Batch: 324712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	8015B	324494
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	8015B	324494
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	8015B	324494
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	8015B	324494
400-127781-5	MW-3R (31-32)	Total/NA	Solid	8015B	324494
400-127781-6	MW-8 (33-34)	Total/NA	Solid	8015B	324494

TestAmerica Pensacola

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

GC Semi VOA (Continued)

Analysis Batch: 324712 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	8015B	324494
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	8015B	324494
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	8015B	324494
MB 400-324494/13-A	Method Blank	Total/NA	Solid	8015B	324494
LCS 400-324494/12-A	Lab Control Sample	Total/NA	Solid	8015B	324494
400-127781-9 MS	SB-1 (28.5-29.5)	Total/NA	Solid	8015B	324494
400-127781-9 MSD	SB-1 (28.5-29.5)	Total/NA	Solid	8015B	324494

HPLC/IC

Leach Batch: 324440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Soluble	Solid	DI Leach	
400-127781-2	MW-6 (36.5-37.5)	Soluble	Solid	DI Leach	
400-127781-3	MW-7 (34.5-35.5)	Soluble	Solid	DI Leach	
400-127781-4	MW-2R (32.5-33.5)	Soluble	Solid	DI Leach	
400-127781-5	MW-3R (31-32)	Soluble	Solid	DI Leach	
400-127781-6	MW-8 (33-34)	Soluble	Solid	DI Leach	
400-127781-7	SB-1 (22.5-23.5)	Soluble	Solid	DI Leach	
400-127781-8	SB-1 (24.5-25.5)	Soluble	Solid	DI Leach	
400-127781-9	SB-1 (28.5-29.5)	Soluble	Solid	DI Leach	
MB 400-324440/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 400-324440/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 400-324440/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
400-127781-1 MS	MW-5 (36-37)	Soluble	Solid	DI Leach	
400-127781-1 MSD	MW-5 (36-37)	Soluble	Solid	DI Leach	

Analysis Batch: 324618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-324440/1-A	Method Blank	Soluble	Solid	300.0	324440
LCS 400-324440/2-A	Lab Control Sample	Soluble	Solid	300.0	324440
LCSD 400-324440/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	324440

Analysis Batch: 325111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Soluble	Solid	300.0	324440
400-127781-2	MW-6 (36.5-37.5)	Soluble	Solid	300.0	324440
400-127781-3	MW-7 (34.5-35.5)	Soluble	Solid	300.0	324440
400-127781-4	MW-2R (32.5-33.5)	Soluble	Solid	300.0	324440
400-127781-5	MW-3R (31-32)	Soluble	Solid	300.0	324440
400-127781-6	MW-8 (33-34)	Soluble	Solid	300.0	324440
400-127781-7	SB-1 (22.5-23.5)	Soluble	Solid	300.0	324440
400-127781-8	SB-1 (24.5-25.5)	Soluble	Solid	300.0	324440
400-127781-9	SB-1 (28.5-29.5)	Soluble	Solid	300.0	324440
400-127781-1 MS	MW-5 (36-37)	Soluble	Solid	300.0	324440
400-127781-1 MSD	MW-5 (36-37)	Soluble	Solid	300.0	324440

TestAmerica Pensacola

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

General Chemistry

Analysis Batch: 324681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-127781-1	MW-5 (36-37)	Total/NA	Solid	Moisture	
400-127781-2	MW-6 (36.5-37.5)	Total/NA	Solid	Moisture	
400-127781-3	MW-7 (34.5-35.5)	Total/NA	Solid	Moisture	
400-127781-4	MW-2R (32.5-33.5)	Total/NA	Solid	Moisture	
400-127781-5	MW-3R (31-32)	Total/NA	Solid	Moisture	
400-127781-6	MW-8 (33-34)	Total/NA	Solid	Moisture	
400-127781-7	SB-1 (22.5-23.5)	Total/NA	Solid	Moisture	
400-127781-8	SB-1 (24.5-25.5)	Total/NA	Solid	Moisture	
400-127781-9	SB-1 (28.5-29.5)	Total/NA	Solid	Moisture	
400-127781-9 DU	SB-1 (28.5-29.5)	Total/NA	Solid	Moisture	

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Lab Sample ID: MB 400-324511/9-A

Matrix: Solid

Analysis Batch: 324519

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324511

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6-C10	<5.0		5.0	mg/Kg		09/28/16 10:34	09/28/16 22:35	50
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	102		65 - 125			09/28/16 10:34	09/28/16 22:35	50

Lab Sample ID: LCS 400-324511/8-A

Matrix: Solid

Analysis Batch: 324519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO) C6-C10	50.0	36.8		mg/Kg		74	62 - 141	
Surrogate	%Recovery	LCS Qualifier	Limits					
a,a,a-Trifluorotoluene (fid)	99		65 - 125					

Lab Sample ID: 400-127816-A-1-C MS

Matrix: Solid

Analysis Batch: 324519

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO) C6-C10	64		57.6	128		mg/Kg	☼	110	10 - 150	
Surrogate	%Recovery	MS Qualifier	Limits							
a,a,a-Trifluorotoluene (fid)	91		65 - 125							

Lab Sample ID: 400-127816-A-1-D MSD

Matrix: Solid

Analysis Batch: 324519

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO) C6-C10	64		57.6	129		mg/Kg	☼	112	10 - 150	1	32
Surrogate	%Recovery	MSD Qualifier	Limits								
a,a,a-Trifluorotoluene (fid)	92		65 - 125								

Lab Sample ID: MB 400-324513/1-A

Matrix: Solid

Analysis Batch: 324528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324513

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) C6-C10	<0.10		0.10	mg/Kg		09/28/16 16:20	09/29/16 07:02	1

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Lab Sample ID: MB 400-324513/1-A

Matrix: Solid

Analysis Batch: 324528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324513

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (fid)	89		65 - 125	09/28/16 16:20	09/29/16 07:02	1

Lab Sample ID: LCS 400-324513/3-A

Matrix: Solid

Analysis Batch: 324528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 324513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) C6--C10	1.00	1.05		mg/Kg		105	62 - 141
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene (fid)	91		65 - 125				

Lab Sample ID: 400-127781-5 MS

Matrix: Solid

Analysis Batch: 324528

Client Sample ID: MW-3R (31-32)

Prep Type: Total/NA

Prep Batch: 324513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) C6--C10	<0.11		1.14	1.22		mg/Kg	☼	107	10 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
a,a,a-Trifluorotoluene (fid)	93		65 - 125						

Lab Sample ID: 400-127781-5 MSD

Matrix: Solid

Analysis Batch: 324528

Client Sample ID: MW-3R (31-32)

Prep Type: Total/NA

Prep Batch: 324513

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		1.15	1.02		mg/Kg	☼	88	10 - 150	18	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
a,a,a-Trifluorotoluene (fid)	92		65 - 125								

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-324511/9-A

Matrix: Solid

Analysis Batch: 325411

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324511

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.050		0.050	mg/Kg		09/28/16 10:34	10/04/16 19:35	50
Ethylbenzene	<0.050		0.050	mg/Kg		09/28/16 10:34	10/04/16 19:35	50
Toluene	<0.25		0.25	mg/Kg		09/28/16 10:34	10/04/16 19:35	50
Xylenes, Total	<0.25		0.25	mg/Kg		09/28/16 10:34	10/04/16 19:35	50

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Lab Sample ID: MB 400-324511/9-A

Matrix: Solid

Analysis Batch: 325411

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324511

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	90		40 - 150	09/28/16 10:34	10/04/16 19:35	50

Lab Sample ID: LCS 400-324511/14-A

Matrix: Solid

Analysis Batch: 324839

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	2.45		mg/Kg		98	74 - 127
Ethylbenzene	2.50	2.47		mg/Kg		99	79 - 131
Toluene	2.50	2.53		mg/Kg		101	76 - 127
Xylenes, Total	7.50	7.46		mg/Kg		99	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	94		40 - 150

Lab Sample ID: 400-127781-A-7-C MS

Matrix: Solid

Analysis Batch: 324839

Client Sample ID: 400-127781-A-7-C MS

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.052		2.62	2.50		mg/Kg	☼	95	10 - 150
Ethylbenzene	<0.052		2.62	2.58		mg/Kg	☼	97	10 - 150
Toluene	<0.26		2.62	2.69		mg/Kg	☼	100	10 - 150
Xylenes, Total	0.37		7.86	7.89		mg/Kg	☼	96	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	92		40 - 150

Lab Sample ID: 400-127781-A-7-D MSD

Matrix: Solid

Analysis Batch: 324839

Client Sample ID: 400-127781-A-7-D MSD

Prep Type: Total/NA

Prep Batch: 324511

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.052		2.62	2.58		mg/Kg	☼	98	10 - 150	3	34
Ethylbenzene	<0.052		2.62	2.63		mg/Kg	☼	99	10 - 150	2	66
Toluene	<0.26		2.62	2.74		mg/Kg	☼	102	10 - 150	2	44
Xylenes, Total	0.37		7.86	7.96		mg/Kg	☼	97	50 - 150	1	46

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	94		40 - 150

Lab Sample ID: MB 400-324513/1-A

Matrix: Solid

Analysis Batch: 324530

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324513

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010	mg/Kg		09/28/16 16:20	09/29/16 07:02	1

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Lab Sample ID: MB 400-324513/1-A

Matrix: Solid

Analysis Batch: 324530

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324513

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.0010		0.0010	mg/Kg		09/28/16 16:20	09/29/16 07:02	1
Toluene	<0.0050		0.0050	mg/Kg		09/28/16 16:20	09/29/16 07:02	1
Xylenes, Total	<0.0050		0.0050	mg/Kg		09/28/16 16:20	09/29/16 07:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	91		40 - 150	09/28/16 16:20	09/29/16 07:02	1

Lab Sample ID: LCS 400-324513/2-A

Matrix: Solid

Analysis Batch: 324530

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 324513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzene	0.0500	0.0446		mg/Kg		89	74 - 127
Ethylbenzene	0.0500	0.0482		mg/Kg		96	79 - 131
Toluene	0.0500	0.0477		mg/Kg		95	76 - 127
Xylenes, Total	0.150	0.141		mg/Kg		94	80 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	93		40 - 150

Lab Sample ID: 400-127781-5 MS

Matrix: Solid

Analysis Batch: 324530

Client Sample ID: MW-3R (31-32)

Prep Type: Total/NA

Prep Batch: 324513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Benzene	<0.0011		0.0575	0.0539		mg/Kg	☼	94	10 - 150
Ethylbenzene	<0.0011		0.0575	0.0572		mg/Kg	☼	99	10 - 150
Toluene	<0.0054		0.0575	0.0563		mg/Kg	☼	98	10 - 150
Xylenes, Total	<0.0054		0.173	0.166		mg/Kg	☼	96	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	94		40 - 150

Lab Sample ID: 400-127781-5 MSD

Matrix: Solid

Analysis Batch: 324530

Client Sample ID: MW-3R (31-32)

Prep Type: Total/NA

Prep Batch: 324513

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.0011		0.0567	0.0534		mg/Kg	☼	94	10 - 150	1	34
Ethylbenzene	<0.0011		0.0567	0.0544		mg/Kg	☼	96	10 - 150	5	66
Toluene	<0.0054		0.0567	0.0537		mg/Kg	☼	95	10 - 150	5	44
Xylenes, Total	<0.0054		0.170	0.158		mg/Kg	☼	93	50 - 150	5	46

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	94		40 - 150

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Lab Sample ID: MB 400-324494/13-A

Matrix: Solid

Analysis Batch: 324712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 324494

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.0		5.0	mg/Kg		09/28/16 14:14	09/29/16 17:53	1
C28-C35	<5.0		5.0	mg/Kg		09/28/16 14:14	09/29/16 17:53	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
o-Terphenyl	92		27 - 151			09/28/16 14:14	09/29/16 17:53	1

Lab Sample ID: LCS 400-324494/12-A

Matrix: Solid

Analysis Batch: 324712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 324494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
C10-C28	333	249		mg/Kg		75	63 - 153	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
o-Terphenyl	102		27 - 151					

Lab Sample ID: 400-127781-9 MS

Matrix: Solid

Analysis Batch: 324712

Client Sample ID: SB-1 (28.5-29.5)

Prep Type: Total/NA

Prep Batch: 324494

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	
C10-C28	120	F1	353	307	F1	mg/Kg	☼	53	62 - 204	
Surrogate	MS %Recovery	MS Qualifier	Limits							
o-Terphenyl	97		27 - 151							

Lab Sample ID: 400-127781-9 MSD

Matrix: Solid

Analysis Batch: 324712

Client Sample ID: SB-1 (28.5-29.5)

Prep Type: Total/NA

Prep Batch: 324494

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C10-C28	120	F1	357	293	F1	mg/Kg	☼	49	62 - 204	5	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
o-Terphenyl	93		27 - 151								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-324440/1-A

Matrix: Solid

Analysis Batch: 324618

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<20		20	mg/Kg			09/28/16 12:37	1

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-324440/2-A

Matrix: Solid

Analysis Batch: 324618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	90.8		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 400-324440/3-A

Matrix: Solid

Analysis Batch: 324618

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.4		mg/Kg		98	80 - 120	8	15

Lab Sample ID: 400-127781-1 MS

Matrix: Solid

Analysis Batch: 325111

Client Sample ID: MW-5 (36-37)

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<220	F1 F2	111	<220	F1	mg/Kg	☼	143	80 - 120

Lab Sample ID: 400-127781-1 MSD

Matrix: Solid

Analysis Batch: 325111

Client Sample ID: MW-5 (36-37)

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<220	F1 F2	112	<220	F2	mg/Kg	☼	94	80 - 120	41	15

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-5 (36-37)

Date Collected: 09/22/16 16:30

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: MW-5 (36-37)

Date Collected: 09/22/16 16:30

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-1

Matrix: Solid

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.22 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		50	5 mL	5 mL	324519	09/30/16 14:16	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	5035			5.22 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		50	5 mL	5 mL	324839	10/03/16 10:53	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	3546			14.60 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 18:47	TJB	TAL PEN
Instrument ID: Eva										
Soluble	Leach	DI Leach			2.50 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 16:22	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: MW-6 (36.5-37.5)

Date Collected: 09/23/16 10:05

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: MW-6 (36.5-37.5)

Date Collected: 09/23/16 10:05

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-2

Matrix: Solid

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.44 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		500	5 mL	5 mL	324519	09/30/16 18:25	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	5035			5.44 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		100	5 mL	5 mL	324839	10/03/16 11:20	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	3546			14.93 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 18:58	TJB	TAL PEN
Instrument ID: Eva										

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-6 (36.5-37.5)

Date Collected: 09/23/16 10:05

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-2

Matrix: Solid

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.48 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 18:16	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: MW-7 (34.5-35.5)

Date Collected: 09/23/16 13:35

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: MW-7 (34.5-35.5)

Date Collected: 09/23/16 13:35

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-3

Matrix: Solid

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.13 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		1000	5 mL	5 mL	324519	09/30/16 17:28	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	5035			5.13 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		100	5 mL	5 mL	324839	10/03/16 11:48	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	3546			15.13 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 19:09	TJB	TAL PEN
Instrument ID: Eva										
Soluble	Leach	DI Leach			2.51 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 18:38	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: MW-2R (32.5-33.5)

Date Collected: 09/24/16 08:45

Date Received: 09/27/16 10:11

Lab Sample ID: 400-127781-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-2R (32.5-33.5)

Lab Sample ID: 400-127781-4

Date Collected: 09/24/16 08:45

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		500	5 mL	5 mL	324519	09/30/16 18:52	SAB	TAL PEN
		Instrument ID: CH_RITA								
Total/NA	Prep	5035			5.05 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		100	5 mL	5 mL	324839	10/03/16 12:15	SAB	TAL PEN
		Instrument ID: CH_RITA								
Total/NA	Prep	3546			15.08 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 19:20	TJB	TAL PEN
		Instrument ID: Eva								
Soluble	Leach	DI Leach			2.49 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 19:01	TAJ	TAL PEN
		Instrument ID: IC2								

Client Sample ID: MW-3R (31-32)

Lab Sample ID: 400-127781-5

Date Collected: 09/24/16 12:05

Matrix: Solid

Date Received: 09/27/16 10:11

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			324681	09/29/16 15:09	SVW	TAL PEN
		Instrument ID: NOEQUIP								

Client Sample ID: MW-3R (31-32)

Lab Sample ID: 400-127781-5

Date Collected: 09/24/16 12:05

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.39 g	5.00 g	324513	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	324528	09/29/16 07:37	SAB	TAL PEN
		Instrument ID: CH_JOAN								
Total/NA	Prep	5035			5.39 g	5.00 g	324513	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	324530	09/29/16 07:37	SAB	TAL PEN
		Instrument ID: CH_JOAN								
Total/NA	Prep	3546			15.16 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 19:31	TJB	TAL PEN
		Instrument ID: Eva								
Soluble	Leach	DI Leach			2.51 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 19:24	TAJ	TAL PEN
		Instrument ID: IC2								

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: MW-8 (33-34)

Lab Sample ID: 400-127781-6

Date Collected: 09/25/16 09:00

Matrix: Solid

Date Received: 09/27/16 10:11

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			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: MW-8 (33-34)

Lab Sample ID: 400-127781-6

Date Collected: 09/25/16 09:00

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.28 g	5.00 g	324513	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	324528	09/29/16 08:12	SAB	TAL PEN
Instrument ID: CH_JOAN										
Total/NA	Prep	5035			5.28 g	5.00 g	324513	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	324530	09/29/16 08:12	SAB	TAL PEN
Instrument ID: CH_JOAN										
Total/NA	Prep	3546			14.90 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 19:53	TJB	TAL PEN
Instrument ID: Eva										
Soluble	Leach	DI Leach			2.48 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 19:47	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: SB-1 (22.5-23.5)

Lab Sample ID: 400-127781-7

Date Collected: 09/25/16 12:40

Matrix: Solid

Date Received: 09/27/16 10:11

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			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: SB-1 (22.5-23.5)

Lab Sample ID: 400-127781-7

Date Collected: 09/25/16 12:40

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.20 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		50	5 mL	5 mL	324519	09/30/16 16:06	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	5035			5.20 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		50	5 mL	5 mL	324839	10/03/16 10:26	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	3546			15.49 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 20:04	TJB	TAL PEN
Instrument ID: Eva										
Soluble	Leach	DI Leach			2.53 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (22.5-23.5)

Lab Sample ID: 400-127781-7

Date Collected: 09/25/16 12:40

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Analysis	300.0		10			325111	09/30/16 20:10	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: SB-1 (24.5-25.5)

Lab Sample ID: 400-127781-8

Date Collected: 09/25/16 12:50

Matrix: Solid

Date Received: 09/27/16 10:11

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			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: SB-1 (24.5-25.5)

Lab Sample ID: 400-127781-8

Date Collected: 09/25/16 12:50

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.48 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8015B		5000	5 mL	5 mL	324519	09/30/16 19:19	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	5035			5.48 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		500	5 mL	5 mL	324839	10/03/16 12:43	SAB	TAL PEN
Instrument ID: CH_RITA										
Total/NA	Prep	3546			15.38 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 20:15	TJB	TAL PEN
Instrument ID: Eva										
Soluble	Leach	DI Leach			2.52 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 20:33	TAJ	TAL PEN
Instrument ID: IC2										

Client Sample ID: SB-1 (28.5-29.5)

Lab Sample ID: 400-127781-9

Date Collected: 09/25/16 13:00

Matrix: Solid

Date Received: 09/27/16 10:11

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			324681	09/29/16 15:09	SVW	TAL PEN
Instrument ID: NOEQUIP										

Client Sample ID: SB-1 (28.5-29.5)

Lab Sample ID: 400-127781-9

Date Collected: 09/25/16 13:00

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.23 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

Client Sample ID: SB-1 (28.5-29.5)

Lab Sample ID: 400-127781-9

Date Collected: 09/25/16 13:00

Matrix: Solid

Date Received: 09/27/16 10:11

Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		5000	5 mL	5 mL	324519	09/30/16 19:47	SAB	TAL PEN
		Instrument ID: CH_RITA								
Total/NA	Prep	5035			5.23 g	5.00 g	324511	09/28/16 16:20	SAB	TAL PEN
Total/NA	Analysis	8021B		500	5 mL	5 mL	324839	10/03/16 13:10	SAB	TAL PEN
		Instrument ID: CH_RITA								
Total/NA	Prep	3546			14.80 g	1.0 mL	324494	09/28/16 14:14	RDT	TAL PEN
Total/NA	Analysis	8015B		1			324712	09/29/16 18:36	TJB	TAL PEN
		Instrument ID: Eva								
Soluble	Leach	DI Leach			2.49 g	50 mL	324440	09/28/16 10:00	KH1	TAL PEN
Soluble	Analysis	300.0		10			325111	09/30/16 20:55	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: K27 LD072

TestAmerica Job ID: 400-127781-1

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	07-31-16 *
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.

TestAmerica Pensacola

Method Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-127781-1

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

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-127781-1

Login Number: 127781

List Source: TestAmerica Pensacola

List Number: 1

Creator: Hughes, Nicholas T

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C

BASIN DISPOSAL

30 Years of Environmental Health and Safety Excellence

200 Montana, Bloomfield, NM 87413

505-632-8936 or 505-334-3013

OPEN 24 Hours per Day

671851

NO.

NMOC D PERMIT: NM-001-0005

Oil Field Waste Document, Form C138

INVOICE:

DEL. TKT#.

BILL TO:

DRIVER:

(Print Full Name)

CODES:

DATE

GENERATOR:

HAULING CO.

ORDERED BY:

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	SP8	Atreco L 40	4	750			750	2:30 PM
2								
3	1	Lindrieth	1	750			750	
4								
5								

I, John Bryan representative 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: 400-120429-1

Client Project/Site: K27 LD072

For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Steve Varsa



Authorized for release by:

5/3/2016 5:01:24 PM

Marty Edwards, Manager of Project Management

(850)474-1001

marty.edwards@testamericainc.com

LINKS

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results through

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www.testamericainc.com

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

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

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

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Definitions/Glossary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Glossary

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

Case Narrative

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Job ID: 400-120429-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-120429-1

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 2.9° 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: K27 LD072

TestAmerica Job ID: 400-120429-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-120429-1

No Detections.

Client Sample ID: MW-1

Lab Sample ID: 400-120429-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.1		1.0	ug/L	1		8021B	Total/NA
Toluene	5.9		5.0	ug/L	1		8021B	Total/NA
Xylenes, Total	10		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-4

Lab Sample ID: 400-120429-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-120429-1	TRIP BLANK	Water	04/17/16 08:00	04/19/16 09:43
400-120429-2	MW-1	Water	04/17/16 15:10	04/19/16 09:43
400-120429-3	MW-4	Water	04/17/16 15:20	04/19/16 09:43

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-120429-1

Date Collected: 04/17/16 08:00

Matrix: Water

Date Received: 04/19/16 09:43

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 19:53	1
Ethylbenzene	<1.0		1.0	ug/L			04/28/16 19:53	1
Toluene	<5.0		5.0	ug/L			04/28/16 19:53	1
Xylenes, Total	<5.0		5.0	ug/L			04/28/16 19:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	99		78 - 124				04/28/16 19:53	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Client Sample ID: MW-1

Lab Sample ID: 400-120429-2

Date Collected: 04/17/16 15:10

Matrix: Water

Date Received: 04/19/16 09:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.1		1.0	ug/L			04/28/16 20:20	1
Ethylbenzene	<1.0		1.0	ug/L			04/28/16 20:20	1
Toluene	5.9		5.0	ug/L			04/28/16 20:20	1
Xylenes, Total	10		5.0	ug/L			04/28/16 20:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	99		78 - 124				04/28/16 20:20	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Client Sample ID: MW-4

Lab Sample ID: 400-120429-3

Date Collected: 04/17/16 15:20

Matrix: Water

Date Received: 04/19/16 09:43

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 20:48	1
Ethylbenzene	<1.0		1.0	ug/L			04/28/16 20:48	1
Toluene	<5.0		5.0	ug/L			04/28/16 20:48	1
Xylenes, Total	<5.0		5.0	ug/L			04/28/16 20:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	100		78 - 124				04/28/16 20:48	1

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

GC VOA

Analysis Batch: 303815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-120429-1	TRIP BLANK	Total/NA	Water	8021B	
400-120429-2	MW-1	Total/NA	Water	8021B	
400-120429-3	MW-4	Total/NA	Water	8021B	
400-120433-B-15 MS	Matrix Spike	Total/NA	Water	8021B	
400-120433-B-15 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	
LCS 400-303815/1001	Lab Control Sample	Total/NA	Water	8021B	
MB 400-303815/2	Method Blank	Total/NA	Water	8021B	

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-303815/2

Matrix: Water

Analysis Batch: 303815

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 04:24	1
Ethylbenzene	<1.0		1.0	ug/L			04/28/16 04:24	1
Toluene	<5.0		5.0	ug/L			04/28/16 04:24	1
Xylenes, Total	<5.0		5.0	ug/L			04/28/16 04:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	103		78 - 124		04/28/16 04:24	1

Lab Sample ID: LCS 400-303815/1001

Matrix: Water

Analysis Batch: 303815

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.8		ug/L		104	85 - 115
Ethylbenzene	50.0	50.6		ug/L		101	85 - 115
Toluene	50.0	51.5		ug/L		103	85 - 115
Xylenes, Total	150	150		ug/L		100	85 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	101		78 - 124

Lab Sample ID: 400-120433-B-15 MS

Matrix: Water

Analysis Batch: 303815

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<1.0		50.0	59.0		ug/L		118	44 - 150
Ethylbenzene	<1.0		50.0	52.3		ug/L		105	70 - 142
Toluene	<5.0		50.0	56.1		ug/L		112	69 - 136
Xylenes, Total	<5.0		150	156		ug/L		104	68 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	103		78 - 124

Lab Sample ID: 400-120433-B-15 MSD

Matrix: Water

Analysis Batch: 303815

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	58.8		ug/L		118	44 - 150	0	16
Ethylbenzene	<1.0		50.0	57.4		ug/L		115	70 - 142	9	16
Toluene	<5.0		50.0	58.2		ug/L		116	69 - 136	4	16
Xylenes, Total	<5.0		150	172		ug/L		115	68 - 142	9	15

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

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

Client Sample ID: TRIP BLANK

Date Collected: 04/17/16 08:00

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120429-1

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	303815	04/28/16 19:53	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-1

Date Collected: 04/17/16 15:10

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120429-2

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	303815	04/28/16 20:20	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-4

Date Collected: 04/17/16 15:20

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120429-3

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	303815	04/28/16 20:48	GRK	TAL PEN
Instrument ID: CH_RITA										

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

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.

TestAmerica Pensacola

Method Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-120429-1

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

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-120429-1

Login Number: 120429

List Source: TestAmerica Pensacola

List Number: 1

Creator: Crawford, Lauren E

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	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	2.9°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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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: 400-128855-1

Client Project/Site: K27 LD072

For:

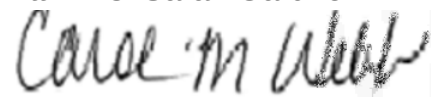
MWH Americas Inc

1560 Broadway

Suite 1800

Denver, Colorado 80202

Attn: Ms. Sarah Gardner



Authorized for release by:

10/27/2016 1:18:49 PM

Carol Webb, Project Manager II

(850)471-6250

carol.webb@testamericainc.com

LINKS

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www.testamericainc.com

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

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

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



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Definitions/Glossary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Glossary

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

Case Narrative

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Job ID: 400-128855-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-128855-1

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: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-1

Lab Sample ID: 400-128855-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.0		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	6.9		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-3R

Lab Sample ID: 400-128855-2

No Detections.

Client Sample ID: MW-4

Lab Sample ID: 400-128855-3

No Detections.

Client Sample ID: MW-5

Lab Sample ID: 400-128855-4

No Detections.

Client Sample ID: MW-6

Lab Sample ID: 400-128855-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.5		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	4.5		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	59		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-7

Lab Sample ID: 400-128855-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.2		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 400-128855-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4.8		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	23		1.0	ug/L	1		8021B	Total/NA
Toluene	42		5.0	ug/L	1		8021B	Total/NA
Xylenes, Total	230		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: TB

Lab Sample ID: 400-128855-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128855-1	MW-1	Water	10/15/16 09:32	10/18/16 09:11
400-128855-2	MW-3R	Water	10/15/16 09:37	10/18/16 09:11
400-128855-3	MW-4	Water	10/15/16 09:42	10/18/16 09:11
400-128855-4	MW-5	Water	10/15/16 09:47	10/18/16 09:11
400-128855-5	MW-6	Water	10/15/16 09:52	10/18/16 09:11
400-128855-6	MW-7	Water	10/15/16 09:56	10/18/16 09:11
400-128855-7	MW-8	Water	10/15/16 10:00	10/18/16 09:11
400-128855-8	TB	Water	10/15/16 00:00	10/18/16 09:11

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-1

Date Collected: 10/15/16 09:32

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-1

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			10/25/16 19:39	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 19:39	1
Toluene	<5.0		5.0	ug/L			10/25/16 19:39	1
Xylenes, Total	6.9		5.0	ug/L			10/25/16 19:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	106		78 - 124				10/25/16 19:39	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-3R

Date Collected: 10/15/16 09:37

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-2

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			10/25/16 20:07	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 20:07	1
Toluene	<5.0		5.0	ug/L			10/25/16 20:07	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 20:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	100		78 - 124				10/25/16 20:07	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-4
Date Collected: 10/15/16 09:42
Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-3
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			10/25/16 20:36	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 20:36	1
Toluene	<5.0		5.0	ug/L			10/25/16 20:36	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 20:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	101		78 - 124				10/25/16 20:36	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-5
Date Collected: 10/15/16 09:47
Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-4
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			10/25/16 21:03	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 21:03	1
Toluene	<5.0		5.0	ug/L			10/25/16 21:03	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 21:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	92		78 - 124				10/25/16 21:03	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-6

Date Collected: 10/15/16 09:52

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-5

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.5		1.0	ug/L			10/25/16 21:31	1
Ethylbenzene	4.5		1.0	ug/L			10/25/16 21:31	1
Toluene	<5.0		5.0	ug/L			10/25/16 21:31	1
Xylenes, Total	59		5.0	ug/L			10/25/16 21:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	90		78 - 124				10/25/16 21:31	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-7
Date Collected: 10/15/16 09:56
Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-6
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.2		1.0	ug/L			10/25/16 21:58	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 21:58	1
Toluene	<5.0		5.0	ug/L			10/25/16 21:58	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 21:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	100		78 - 124				10/25/16 21:58	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-8
Date Collected: 10/15/16 10:00
Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-7
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.8		1.0	ug/L			10/25/16 22:25	1
Ethylbenzene	23		1.0	ug/L			10/25/16 22:25	1
Toluene	42		5.0	ug/L			10/25/16 22:25	1
Xylenes, Total	230		5.0	ug/L			10/25/16 22:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	98		78 - 124				10/25/16 22:25	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: TB

Date Collected: 10/15/16 00:00

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-8

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			10/25/16 23:48	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 23:48	1
Toluene	<5.0		5.0	ug/L			10/25/16 23:48	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 23:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	100		78 - 124				10/25/16 23:48	1

QC Association Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

GC VOA

Analysis Batch: 328165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-128855-1	MW-1	Total/NA	Water	8021B	
400-128855-2	MW-3R	Total/NA	Water	8021B	
400-128855-3	MW-4	Total/NA	Water	8021B	
400-128855-4	MW-5	Total/NA	Water	8021B	
400-128855-5	MW-6	Total/NA	Water	8021B	
400-128855-6	MW-7	Total/NA	Water	8021B	
400-128855-7	MW-8	Total/NA	Water	8021B	
400-128855-8	TB	Total/NA	Water	8021B	
MB 400-328165/5	Method Blank	Total/NA	Water	8021B	
LCS 400-328165/1004	Lab Control Sample	Total/NA	Water	8021B	
400-128742-A-2 MS	Matrix Spike	Total/NA	Water	8021B	
400-128742-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

QC Sample Results

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-328165/5

Matrix: Water

Analysis Batch: 328165

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			10/25/16 13:15	1
Ethylbenzene	<1.0		1.0	ug/L			10/25/16 13:15	1
Toluene	<5.0		5.0	ug/L			10/25/16 13:15	1
Xylenes, Total	<5.0		5.0	ug/L			10/25/16 13:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	101		78 - 124		10/25/16 13:15	1

Lab Sample ID: LCS 400-328165/1004

Matrix: Water

Analysis Batch: 328165

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.0		ug/L		98	85 - 115
Ethylbenzene	50.0	48.4		ug/L		97	85 - 115
Toluene	50.0	49.5		ug/L		99	85 - 115
Xylenes, Total	150	145		ug/L		97	85 - 115

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

Lab Sample ID: 400-128742-A-2 MS

Matrix: Water

Analysis Batch: 328165

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<1.0		50.0	56.6		ug/L		113	44 - 150
Ethylbenzene	<1.0		50.0	53.6		ug/L		107	70 - 142
Toluene	<5.0		50.0	55.3		ug/L		111	69 - 136
Xylenes, Total	<5.0		150	160		ug/L		106	68 - 142

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

Lab Sample ID: 400-128742-A-2 MSD

Matrix: Water

Analysis Batch: 328165

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	54.4		ug/L		109	44 - 150	4	16
Ethylbenzene	<1.0		50.0	51.3		ug/L		103	70 - 142	4	16
Toluene	<5.0		50.0	53.1		ug/L		106	69 - 136	4	16
Xylenes, Total	<5.0		150	153		ug/L		102	68 - 142	4	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	105		78 - 124

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-1

Date Collected: 10/15/16 09:32

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-1

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	328165	10/25/16 19:39	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-3R

Date Collected: 10/15/16 09:37

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-2

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	328165	10/25/16 20:07	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-4

Date Collected: 10/15/16 09:42

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-3

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	328165	10/25/16 20:36	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-5

Date Collected: 10/15/16 09:47

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-4

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	328165	10/25/16 21:03	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-6

Date Collected: 10/15/16 09:52

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-5

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	328165	10/25/16 21:31	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: MW-7

Date Collected: 10/15/16 09:56

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-6

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	328165	10/25/16 21:58	GRK	TAL PEN
Instrument ID: CH_RITA										

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

Client Sample ID: MW-8

Date Collected: 10/15/16 10:00

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-7

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	328165	10/25/16 22:25	GRK	TAL PEN
Instrument ID: CH_RITA										

Client Sample ID: TB

Date Collected: 10/15/16 00:00

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128855-8

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	328165	10/25/16 23:48	GRK	TAL PEN
Instrument ID: CH_RITA										

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

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.

TestAmerica Pensacola

Method Summary

Client: MWH Americas Inc
Project/Site: K27 LD072

TestAmerica Job ID: 400-128855-1

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: 80877

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		SERIAL NUMBER: 80877	
CLIENT	ADDRESS	PROJECT NO.	PROJECT LOC. (STATE)	REQUESTED ANALYSIS	PAGE	OF	
EPCGP		11508834	NM		1	1	
SAMPLED BY	CONTRACT/PO NO.	CLIENT PROJECT MANAGER	MATRIX	 400-128855 COC	POSSIBLE HAZARD IDENTIFICATION ☒ NON-HAZARD ☐ FLAMMABLE ☐ RADIOACTIVE ☐ POISON B ☐ UNKNOWN ☐ OTHER:		
CWD	ERG-144H-09-23-16-CWD-01	Clint Oberbroeckling	PRESERVATIVE HCL - Hydrochloric Acid HNO3 - Nitric Acid H2SO4 - Sulfuric Acid or H3PO4 NaOH - Sodium Hydroxide CH3OH - Methanol NAHSO4 - Sodium Bisulfate NA2S2O3 - Sodium Thiosulfate Other:				
CLIENT PHONE	CLIENT E-MAIL OR FAX		Drinking Water		NO. OF COOLERS PER SHIPMENT:		
			Aqueous GW, SW, WW				
LAB 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		NUMBER OF CONTAINERS SUBMITTED		SPECIAL INSTRUCTIONS/ CONDITIONS OF RECEIPT	
☐ SEE CONTRACT ☐ OTHER:		No Preservative					
DATE	TIME	SAMPLE IDENTIFICATION			LAB USE ONLY - SAMPLE NUMBER		
10/15/16	932	MW-1					
	937	MW-3R			RECEIVED FOR LABORATORY BY:		
	942	MW-4					
	947	MW-5			RECEIVED BY: (SIGNATURE) DATE: 10/18/16		
	952	MW-6					
	956	MW-7			RECEIVED BY: (SIGNATURE) DATE: 10/18/16		
	1000	MW-8					
		TB			RECEIVED FOR LABORATORY BY:		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	REMARKS: 2.10C 705 106 coc 10/18/16	
EMPTY CONTAINERS							
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY:	
EMPTY CONTAINERS							
LABORATORY USE ONLY		CUSTODY SEAL NO.		RECEIVED FOR LABORATORY BY:			
CUSTODY INTACT?		CUSTODY SEAL NO.		RECEIVED FOR LABORATORY BY:			
A YES A NO		CUSTODY SEAL NO.		RECEIVED FOR LABORATORY BY:			

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-128855-1

Login Number: 128855

List Source: TestAmerica Pensacola

List Number: 1

Creator: Chambers, Cheryle A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	745580
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	