

2016 ANNUAL GROUNDWATER REPORT

**Standard Oil Com #1
NMOCD Case#: 3RP-238-0
Meter Code: 70445
T29N, R9W, Sec36, Unit N**

SITE DETAILS

Site Location: Latitude: 36.678617 N, Longitude: -107.736788
Land Type: State
Operator: Burlington Resources

SITE BACKGROUND

- **Site Assessment:** 5/94
- **Excavation:** 5/94 (60 cy)

Environmental Remediation activities at the Standard Oil Com #1 (Site) are managed pursuant to the procedures set forth in the document entitled, “Remediation Plan for Groundwater Encountered during Pit Closure Activities” (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company (EPCGP’s) program methods. Currently, the Site is operated by Burlington Resources Oil & Gas Company LP and is active.

The Site is located on State/Fee land. Various site investigations have occurred from 1994 through 2012. Monitoring wells were installed in 1994 (MW-1), 1995 (MW-2 through MW-4), 1997 (PZ-01 through PZ-07), 2006 (MW-5), 2013 (MW-6 through MW-11), and 2015 (MW-12 through MW-16, abandon MW-5). Free product was observed in MW-1 in 1996, but has not been detected since. Currently, groundwater sampling is conducted on a semi-annual basis.

SUMMARY OF 2016 ACTIVITIES

Groundwater monitoring and sampling was completed on April 16 and October 11, 2016. During the April 2016 event, monitoring wells MW-1 through MW-4 and MW-6 through MW-16 (ALL) were gauged and sampled. During the October 2016 event, water level data was collected from each monitoring well, and groundwater samples were collected from monitoring wells MW-1, MW-2, MW-7, MW-9, MW-15, and MW-16.

Groundwater samples were collected from selected monitoring wells using HydraSleeve™ (HydraSleeve) no-purge passive groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval.

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Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica-Pensacola where they were analyzed for BTEX. Additional field parameters were collected from the excess sample water recovered by the HydraSleeve. Excess sample water was poured into a YSI multi-parameter instrument sample cup and analyzed. Field parameters include dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential (ORP). 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.

SITE MAPS

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

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

GROUNDWATER RESULTS

- The groundwater flow direction at the Site is generally to the west-northwest (see Figures 2 and 4).

- Groundwater samples were collected from the site monitoring wells during the April 2016 sample event. Based on significantly elevated concentration in down-gradient monitoring wells MW-3 and MW-11, and EPCGP's belief that these concentrations are not associated with the former El Paso pit addressed by NMMOCD Case #3RP-238-0, the sample group was reduced for the October 2016 sample event. Monitoring wells MW-3, MW-4, and wells MW-10 through MW-14 were omitted from the sample group, so as to only include wells which EPCGP believes are representative of impacts associated with the former El Paso pit.

- Groundwater samples collected in 2016 from MW-1, MW-2, MW-3, MW-6, MW-9, MW-10, MW-11, and MW-12 exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard (10 micrograms per liter [$\mu\text{g}/\text{L}$]) for benzene in groundwater. The remaining groundwater samples collected in 2016 were either below the NMWQCC standard for benzene or not detected.

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- Concentrations of toluene were either below the NMWQCC standard (750 µg/L) or not detected in the Site monitoring wells sampled in 2016.
- Concentrations of ethylbenzene were either below the NMWQCC standard (750 µg/L) or not detected in the Site monitoring wells sampled in 2016.
- Groundwater samples collected in 2016 from MW-7, and MW-11 exceeded the NMWQCC standard (620 µg/L) for total xylenes in groundwater. The remaining groundwater samples collected in 2016 were either below the NMWQCC standard for total xylenes or not detected.

PLANNED FUTURE ACTIVITIES

Groundwater monitoring events will be conducted on a semi-annual basis. 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 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	09/12/95	482	629	188	1980
MW-1	11/07/96	277	121	161	1590
MW-1	02/07/97	119	20.2	139	1490
MW-1	05/09/97	105	14.2	145	1480
MW-1	08/08/97	82.6	15.6	140	1400
MW-1	11/04/97	91.4	32.4	141	1320
MW-1	02/03/98	109	31	163	1680
MW-1	05/07/98	107	24.2	161	1640
MW-1	08/04/98	113	48.7	167	1580
MW-1	11/03/98	122	61.3	190	1930
MW-1	02/02/99	157	75.8	204	2100
MW-1	05/19/99	178	55.2	184	1730
MW-1	08/04/99	252	136	203	1890
MW-1	11/09/99	240	98	180	1500
MW-1	02/25/00	1300	1000	260	1700
MW-1	05/24/00	56	120	220	1500
MW-1	08/08/00	12	11	66	470
MW-1	11/06/00	390	110	180	1100
MW-1	02/15/01	280	88	160	1200
MW-1	06/04/01	340	170	170	430
MW-1	08/07/01	510	340	250	1500
MW-1	12/04/01	330	98	150	1200
MW-1	02/25/02	310	170	170	1200
MW-1	05/14/02	250	150	190	1400
MW-1	08/06/02	551	398	214	1041
MW-1	11/04/02	464	207	235	1085
MW-1	02/27/03	600	330	225	993
MW-1	05/19/03	230	206	172	977
MW-1	08/18/03	NS	NS	NS	NS
MW-1	11/15/03	NS	NS	NS	NS
MW-1	02/17/04	NS	NS	NS	NS
MW-1	06/02/04	416	534	287	1330
MW-1	06/24/05	234	310	305	1530
MW-1	06/07/06	66	71.9	165	804
MW-1	06/12/07	29.8	38.2	116	477
MW-1	06/16/08	45.4	37.7	164	598
MW-1	06/10/09	33.7	16.4	156	484
MW-1	06/02/10	23.1	5.4	152	421
MW-1	05/09/11	<50	<50	137	394
MW-1	05/15/12	16.4	2.4	150	510
MW-1	06/05/13	23	3.5	190	54
MW-1	09/11/13	13	0.68 J	220	13
MW-1	12/12/13	12	17	150	8.7
MW-1	04/04/14	21	17	180	<0.65
MW-1	10/24/14	11	<0.70	120	<1.6
MW-1	05/31/15	16	13	130	3.8 J
MW-1	11/24/15	51	29	160	52
MW-1	04/16/16	22	<5.0	110	16
MW-1	10/15/16	36	33	180	72

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1					
Location	Date	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
NMWQCC Standards:		10	750	750	620
MW-2	12/13/01	940	74	360	2900
MW-2	08/06/02	NS	NS	NS	NS
MW-2	11/04/02	NS	NS	NS	NS
MW-2	05/19/03	673	167	228	1010
MW-2	08/18/03	NS	NS	NS	NS
MW-2	11/15/03	NS	NS	NS	NS
MW-2	02/17/04	NS	NS	NS	NS
MW-2	06/02/04	943	120	309	1130
MW-2	06/24/05	1090	120	418	1510
MW-2	06/07/06	592	37.7	216	692
MW-2	06/12/07	781	<25	286	733
MW-2	06/16/08	480	5.6 J	299	614
MW-2	06/10/09	532	<1	356	836
MW-2	06/02/10	421	3	348	670
MW-2	05/09/11	354	1.5 J	275	461
MW-2	05/15/12	630	12.2	358	892
MW-2	06/05/13	440	94	520	1700
MW-2	09/11/13	390	11	680	2100
MW-2	12/12/13	150	8.6	300	640
MW-2	04/04/14	140	10	240	400
MW-2	10/24/14	59	<0.70	62	1.6 J
MW-2	05/31/15	3.4	2.0 J	8.9	<5.0
MW-2	11/24/15	31	<1.0	19	<3.0
MW-2	04/16/16	11	<5.0	5.1	<5.0
MW-2	10/15/16	140	<5.0	110	<5.0
MW-3	12/13/01	1800	1600	570	5600
MW-3	08/06/02	NS	NS	NS	NS
MW-3	11/04/02	NS	NS	NS	NS
MW-3	05/19/03	NS	NS	NS	NS
MW-3	08/18/03	NS	NS	NS	NS
MW-3	11/15/03	NS	NS	NS	NS
MW-3	02/17/04	NS	NS	NS	NS
MW-3	06/02/04	NS	NS	NS	NS
MW-3	06/24/05	NS	NS	NS	NS
MW-3	06/07/06	NS	NS	NS	NS
MW-3	06/12/07	NS	NS	NS	NS
MW-3	06/16/08	NS	NS	NS	NS
MW-3	06/10/09	NS	NS	NS	NS
MW-3	06/02/10	NS	NS	NS	NS
MW-3	05/09/11	2370	15.2	429	836
MW-3	05/15/12	2240	10.3	405	807
MW-3	06/05/13	2500	24	400	970
MW-3	09/11/13	2200	<0.6	550	1300
MW-3	12/12/13	1300	<3	390	700
MW-3	04/04/14	1600	<7.5	440	990
MW-3	10/24/14	1300	<3.5	340	490
MW-3	05/31/15	870	6.9 J	240	430
MW-3	11/24/15	2500	<1.0	510	760
MW-3	04/16/16	1400	<50	350	400
MW-3	10/15/16	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1					
Location	Date	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
NMWQCC Standards:		10	750	750	620
MW-4	12/13/01	380	340	780	7300
MW-4	08/06/02	NS	NS	NS	NS
MW-4	11/04/02	NS	NS	NS	NS
MW-4	05/19/03	NS	NS	NS	NS
MW-4	08/18/03	NS	NS	NS	NS
MW-4	11/15/03	NS	NS	NS	NS
MW-4	02/17/04	NS	NS	NS	NS
MW-4	06/02/04	NS	NS	NS	NS
MW-4	06/24/05	NS	NS	NS	NS
MW-4	06/07/06	NS	NS	NS	NS
MW-4	06/12/07	NS	NS	NS	NS
MW-4	06/16/08	NS	NS	NS	NS
MW-4	06/10/09	NS	NS	NS	NS
MW-4	06/02/10	NS	NS	NS	NS
MW-4	05/09/11	1.6	5.2	227	700
MW-4	05/15/12	59	5	187	545
MW-4	06/05/13	0.16 J	0.56 J	82	71
MW-4	09/11/13	<0.14	0.73 J	140	75
MW-4	12/12/13	0.21 J	13	37	1.1 J
MW-4	04/04/14	<0.20	18	130	48
MW-4	10/24/14	<0.38	<0.70	100	12
MW-4	05/31/15	<1.0	16	84	8.4
MW-4	11/24/15	5.1	1.2	65	3.2
MW-4	04/16/16	3.5	<5.0	59	6.9
MW-4	10/15/16	NS	NS	NS	NS
MW-5	11/09/06	NS	NS	NS	NS
MW-5	06/12/07	<1	<1	<1	15.6
MW-5	06/16/08	<1	<1	0.39 J	0.68 J
MW-5	06/10/09	<1	<1	1.7	4.2
MW-5	06/02/10	<2	<2	<2	<6
MW-5	05/09/11	NS	NS	NS	NS
MW-5	05/15/12	NS	NS	NS	NS
MW-5	06/05/13	<0.14	<0.30	<0.20	<0.23
MW-5	09/11/13	<0.14	<0.30	<0.20	<0.23
MW-5	12/12/13	<0.20	<0.38	<0.20	<0.65
MW-5	04/04/14	0.74 J H	<0.38 H	<0.20 H	2 H
MW-5	10/24/14	NS	NS	NS	NS
MW-5	05/31/15	<1.0	<5.0	<1.0	<5.0
MW-5 plugged and abandoned on 11-13-15					
MW-6	12/12/13	60	35	73	220
MW-6	04/04/14	29	9.4	25	38
MW-6	10/24/14	43	<0.70	20	2.5 J
MW-6	05/31/15	23	3.8 J	8.7	<5.0
MW-6	11/24/15	53	<1.0	21	4.6
MW-6	04/16/16	41	<5.0	8.1	<5.0
MW-6	10/15/16	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-7	12/12/13	<1.0	110	200	2200
MW-7	04/04/14	<2.0	91	200	2200
MW-7	10/24/14	<3.8	53	380	3400
MW-7	05/31/15	<5.0	28	280	1900
MW-7	11/24/15	90	11	400	1300
MW-7	04/16/16	5.6	12	410	1500
MW-7	10/15/16	8.6	<10	360	450
MW-8	12/12/13	350	53	480	780
MW-8	04/04/14	150	<0.38	470	260
MW-8	10/24/14	180	<1.4	460	70
MW-8	05/31/15	44	3.6 J	180	<5.0
MW-8	11/24/15	32	<1.0	29	3.8
MW-8	04/16/16	<1.0	<5.0	1.1	<5.0
MW-8	10/15/16	NS	NS	NS	NS
MW-9	12/12/13	250	110	250	310
MW-9	04/04/14	130	57	110	100
MW-9	10/24/14	120	2.5	100	29
MW-9	05/31/15	72	<25	77	16 J
MW-9	11/24/15	130	<25	120	<25
MW-9	04/16/16	120	<5.0	130	6
MW-9	10/15/16	120	<5.0	120	8.2
MW-10	12/12/13	1600	460	130	1100
MW-10	04/04/14	340	5.6 J	62	42
MW-10	10/24/14	430	<1.4	63	12 J
MW-10	05/31/15	130	5.9	20	<5.0
MW-10	11/24/15	1300	<1.0	48	<15
MW-10	04/16/16	45	<5.0	2	<5.0
MW-10	10/15/16	NS	NS	NS	NS
MW-11	12/12/13	1800	270	410	3000
MW-11	04/04/14	970 H	580	590	3500
MW-11	10/24/14	1800	210	380	2400
MW-11	05/31/15	1300	23 J	270	1200
MW-11	11/24/15	3600	3.8	580	3500
MW-11	04/16/16	3400	<100	660	3400
MW-11	10/15/16	NS	NS	NS	NS
MW-12	11/24/15	260	8.9	320	2000
MW-12	04/16/16	210	<5.0	210	46
MW-12	10/15/16	NS	NS	NS	NS
MW-13	11/24/15	<1.0	<1.0	<1.0	<3.0
MW-13	04/16/16	<1.0	<5.0	<1.0	<5.0
MW-13	10/15/16	NS	NS	NS	NS
MW-14	11/24/15	2.4	<1.0	<1.0	<3.0
MW-14	04/16/16	1.4	<5.0	<1.0	<5.0
MW-14	10/15/16	NS	NS	NS	NS
MW-15	11/24/15	<1.0	<1.0	<1.0	3.1
MW-15	04/16/16	<1.0	<5.0	<1.0	<5.0
MW-15	10/15/16	<1.0	<5.0	1.7	<5.0
MW-16	11/24/15	120	57	190	1500
MW-16	04/16/16	<1.0	<5.0	<1.0	<5.0

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1					
Location	Date	Benzene ($\mu\text{g}/\text{L}$)	Toluene ($\mu\text{g}/\text{L}$)	Ethylbenzene ($\mu\text{g}/\text{L}$)	Total Xylenes ($\mu\text{g}/\text{L}$)
NMWQCC Standards:		10	750	750	620
MW-16	10/15/16	<1.0	<5.0	1.7	<5.0
PZ-1	07/31/97	4,770	7080	925	8810
PZ-2	07/31/97	<10	2120	560	6130
PZ-3	07/31/97	<10	6060	681	7870
PZ-4	07/31/97	3.39	6.61	41.4	320
PZ-5	07/31/97	10400	<50	746	5500
PZ-6	07/31/97	1420	1740	579	4320
PZ-7	07/31/97	126	4590	1150	11600

Notes:

" $\mu\text{g}/\text{L}$ " = micrograms per liter

"NMWQCC" - New Mexico Water Quality Control Commission

Results highlighted yellow exceed their respective NMWQCC standards.

B = Compound was found in the blank and sample.

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

H = Sample was prepped or analyzed beyond the specified holding time.

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

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	09/12/95	5681.65	21.03	NR		5660.62
MW-1	11/07/96	5681.65	21.30	21.24	0.06	5660.39
MW-1	02/07/97	5681.65	20.96	NR		5660.69
MW-1	05/09/97	5681.65	20.78	NR		5660.87
MW-1	08/08/97	5681.65	21.13	NR		5660.52
MW-1	11/04/97	5681.65	20.86	NR		5660.79
MW-1	02/03/98	5681.65	20.61	NR		5661.04
MW-1	05/07/98	5681.65	20.47	NR		5661.18
MW-1	08/04/98	5681.65	20.85	NR		5660.80
MW-1	11/03/98	5681.65	20.62	NR		5661.03
MW-1	02/02/99	5681.65	20.02	NR		5661.63
MW-1	05/19/99	5681.65	19.86	NR		5661.79
MW-1	08/04/99	5681.65	19.98	NR		5661.67
MW-1	11/09/99	5681.65	19.91	NR		5661.74
MW-1	02/25/00	5681.65	19.69	NR		5661.96
MW-1	05/24/00	5681.65	NR	NR		NA
MW-1	08/08/00	5681.65	NR	NR		NA
MW-1	11/06/00	5681.65	20.29	NR		5661.36
MW-1	02/15/01	5681.65	20.18	NR		5661.47
MW-1	06/04/01	5681.65	20.05	NR		5661.60
MW-1	08/07/01	5681.65	20.41	NR		5661.24
MW-1	12/04/01	5681.65	20.26	NR		5661.39
MW-1	02/25/02	5681.65	20.06	NR		5661.59
MW-1	05/14/02	5681.65	20.17	NR		5661.48
MW-1	08/06/02	5681.65	20.69	NR		5660.96
MW-1	11/04/02	5681.65	20.61	NR		5661.04
MW-1	02/27/03	5681.65	20.24	ND		5661.41
MW-1	05/19/03	5681.65	20.31	ND		5661.34
MW-1	08/18/03	5681.65	21.00	ND		5660.65
MW-1	11/15/03	5681.65	20.41	ND		5661.24
MW-1	02/17/04	5681.65	19.89	ND		5661.76
MW-1	06/02/04	5681.65	19.99	ND		5661.66
MW-1	06/24/05	5681.65	19.98	ND		5661.67
MW-1	06/07/06	5681.65	20.18	ND		5661.47
MW-1	06/12/07	5681.65	19.85	ND		5661.80
MW-1	06/16/08	5681.65	20.24	ND		5661.41
MW-1	06/10/09	5681.65	20.52	ND		5661.13
MW-1	06/02/10	5681.65	20.63	ND		5661.02
MW-1	05/09/11	5681.65	20.60	ND		5661.05
MW-1	05/15/12	5681.65	20.61	ND		5661.04
MW-1	06/05/13	5681.65	20.79	ND		5660.86
MW-1	09/11/13	5681.65	21.21	ND		5660.44
MW-1	12/12/13	5681.65	20.52	ND		5661.13
MW-1	04/04/14	5681.65	20.10	ND		5661.55
MW-1	10/24/14	5681.65	20.68	ND		5660.97
MW-1	05/31/15	5681.65	19.95	ND		5661.70
MW-1	11/24/15	5681.65	20.44	ND		5661.21
MW-1	04/16/16	5681.65	19.95	ND		5661.70
MW-1	10/15/16	5681.65	20.75	ND		5660.90

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	12/13/01	5688.83	27.15	NR		5661.68
MW-2	08/06/02	5688.83	27.65	NR		5661.18
MW-2	11/04/02	5688.83	27.59	NR		5661.24
MW-2	05/19/03	5688.83	27.29	ND		5661.54
MW-2	08/18/03	5688.83	29.96	ND		5658.87
MW-2	11/15/03	5688.83	27.33	ND		5661.50
MW-2	02/17/04	5688.83	26.86	ND		5661.97
MW-2	06/02/04	5688.83	26.94	ND		5661.89
MW-2	06/24/05	5688.83	26.92	ND		5661.91
MW-2	06/07/06	5688.83	27.12	ND		5661.71
MW-2	06/12/07	5688.83	26.96	ND		5661.87
MW-2	06/16/08	5688.83	27.17	ND		5661.66
MW-2	06/10/09	5688.83	27.45	ND		5661.38
MW-2	06/02/10	5688.83	27.50	ND		5661.33
MW-2	05/09/11	5688.83	27.56	ND		5661.27
MW-2	05/15/12	5688.83	27.53	ND		5661.30
MW-2	06/05/13	5688.83	27.59	ND		5661.24
MW-2	09/11/13	5688.83	28.14	ND		5660.69
MW-2	12/12/13	5688.83	27.43	ND		5661.40
MW-2	04/04/14	5688.83	27.00	ND		5661.83
MW-2	10/24/14	5688.83	27.54	ND		5661.29
MW-2	05/31/15	5688.83	26.83	ND		5662.00
MW-2	11/24/15	5688.83	27.32	ND		5661.51
MW-2	04/16/16	5688.83	26.82	ND		5662.01
MW-2	10/15/16	5688.83	27.66	ND		5661.17

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	12/13/01	5681.69	27.15	NR		5654.54
MW-3	08/06/02	5681.69	27.65	NR		5654.04
MW-3	11/04/02	5681.69	27.59	NR		5654.10
MW-3	05/19/03	5681.69	27.29	ND		5654.40
MW-3	08/18/03	5681.69	29.96	ND		5651.73
MW-3	11/15/03	5681.69	27.33	ND		5654.36
MW-3	02/17/04	5681.69	26.86	ND		5654.83
MW-3	06/02/04	5681.69	26.94	ND		5654.75
MW-3	06/24/05	5681.69	26.92	ND		5654.77
MW-3	06/07/06	5681.69	27.12	ND		5654.57
MW-3	06/12/07	5681.69	26.96	ND		5654.73
MW-3	06/16/08	5681.69	27.17	ND		5654.52
MW-3	06/10/09	5681.69	27.45	ND		5654.24
MW-3	06/02/10	5681.69	27.50	ND		5654.19
MW-3	05/09/11	5681.69	27.56	ND		5654.13
MW-3	05/15/12	5681.69	27.53	ND		5654.16
MW-3	06/05/13	5681.69	21.57	ND		5660.12
MW-3	09/11/13	5681.69	22.02	ND		5659.67
MW-3	12/12/13	5681.69	21.33	ND		5660.36
MW-3	04/04/14	5681.69	20.89	ND		5660.80
MW-3	10/24/14	5681.69	21.49	ND		5660.20
MW-3	05/31/15	5681.69	20.73	ND		5660.96
MW-3	11/24/15	5681.69	21.24	ND		5660.45
MW-3	04/16/16	5681.69	20.73	ND		5660.96
MW-3	10/15/16	5681.69	21.55	ND		5660.14

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-4	12/13/01	5677.86	21.10	NR		5656.76
MW-4	08/06/02	5677.86	21.53	NR		5656.32
MW-4	11/04/02	5677.86	21.40	NR		5656.46
MW-4	05/19/03	5677.86	21.07	ND		5656.79
MW-4	08/18/03	5677.86	21.78	ND		5656.08
MW-4	11/15/03	5677.86	21.22	ND		5656.64
MW-4	02/17/04	5677.86	20.74	ND		5657.12
MW-4	06/02/04	5677.86	20.74	ND		5657.12
MW-4	06/24/05	5677.86	20.75	ND		5657.11
MW-4	06/07/06	5677.86	20.96	ND		5656.90
MW-4	06/12/07	5677.86	20.58	ND		5657.28
MW-4	06/16/08	5677.86	20.95	ND		5656.91
MW-4	06/10/09	5677.86	21.23	ND		5656.63
MW-4	06/02/10	5677.86	21.25	ND		5656.61
MW-4	05/09/11	5677.86	21.33	ND		5656.53
MW-4	05/15/12	5677.86	17.60	ND		5660.26
MW-4	06/05/13	5677.86	17.79	ND		5660.07
MW-4	09/11/13	5677.86	18.21	ND		5659.65
MW-4	12/12/13	5677.86	17.56	ND		5660.30
MW-4	04/04/14	5677.86	17.11	ND		5660.75
MW-4	10/24/14	5677.86	17.70	ND		5660.16
MW-4	05/31/15	5677.86	16.95	ND		5660.91
MW-4	11/24/15	5677.86	17.46	ND		5660.40
MW-4	04/16/16	5677.86	16.93	ND		5660.93
MW-4	10/15/16	5677.86	17.76	ND		5660.10
MW-5	11/09/06	5679.49	17.63	ND		5661.86
MW-5	06/12/07	5679.49	17.85	ND		5661.64
MW-5	06/16/08	5679.49	18.20	ND		5661.29
MW-5	06/10/09	5679.49	18.58	ND		5660.91
MW-5	06/02/10	5679.49	18.65	ND		5660.84
MW-5	05/09/11	5679.49	18.74	ND		5660.75
MW-5	05/15/12	5679.49	18.67	ND		5660.82
MW-5	06/05/13	5679.49	18.88	ND		5660.61
MW-5	09/11/13	5679.49	19.41	ND		5660.08
MW-5	12/12/13	5679.49	18.69	ND		5660.80
MW-5	04/04/14	5679.49	18.18	ND		5661.31
MW-5	10/24/14	5679.49	DRY	ND		DRY
MW-5	10/24/14	5679.49	DRY	ND		DRY
MW-5	05/31/15	5679.49	17.99	ND		5661.50
MW-5	05/31/15	5679.49	17.99	ND		5661.50

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-6	12/12/13	5689.93	27.63	ND		5662.30
MW-6	04/04/14	5689.93	27.20	ND		5662.73
MW-6	10/24/14	5689.93	27.69	ND		5662.24
MW-6	05/31/15	5689.93	27.01	ND		5662.92
MW-6	11/24/15	5689.93	27.49	ND		5662.44
MW-6	04/16/16	5689.93	27.07	ND		5662.86
MW-6	10/15/16	5689.93	27.77	ND		5662.16
MW-7	12/12/13	5682.68	21.40	ND		5661.28
MW-7	04/04/14	5682.68	21.00	ND		5661.68
MW-7	10/24/14	5682.68	21.52	ND		5661.16
MW-7	05/31/15	5682.68	20.82	ND		5661.86
MW-7	11/24/15	5682.68	21.30	ND		5661.38
MW-7	04/16/16	5682.68	20.80	ND		5661.88
MW-7	10/15/16	5682.68	21.60	ND		5661.08
MW-8	12/12/13	5688.59	27.95	ND		5660.64
MW-8	04/04/14	5688.59	27.49	ND		5661.10
MW-8	10/24/14	5688.59	28.09	ND		5660.50
MW-8	05/31/15	5688.59	27.33	ND		5661.26
MW-8	11/24/15	5688.59	27.85	ND		5660.74
MW-8	04/16/16	5688.59	27.32	ND		5661.27
MW-8	10/15/16	5688.59	28.18	ND		5660.41
MW-9	12/12/13	5682.09	21.61	ND		5660.48
MW-9	04/04/14	5682.09	21.11	ND		5660.98
MW-9	10/24/14	5682.09	21.66	ND		5660.43
MW-9	05/31/15	5682.09	20.94	ND		5661.15
MW-9	11/24/15	5682.09	21.41	ND		5660.68
MW-9	04/16/16	5682.09	20.92	ND		5661.17
MW-9	10/15/16	5682.09	21.72	ND		5660.37
MW-10	12/12/13	5688.16	27.74	ND		5660.42
MW-10	04/04/14	5688.16	27.30	ND		5660.86
MW-10	10/24/14	5688.16	27.91	ND		5660.25
MW-10	05/31/15	5688.16	27.14	ND		5661.02
MW-10	11/24/15	5688.16	27.67	ND		5660.49
MW-10	04/16/16	5688.16	27.13	ND		5661.03
MW-10	10/15/16	5688.16	27.99	ND		5660.17
MW-11	12/12/13	5680.33	20.16	ND		5660.17
MW-11	04/04/14	5680.33	19.72	ND		5660.61
MW-11	10/24/14	5680.33	20.32	ND		5660.01
MW-11	05/31/15	5680.33	19.56	ND		5660.77
MW-11	11/24/15	5680.33	20.07	ND		5660.26
MW-11	04/16/16	5680.33	19.55	ND		5660.78
MW-11	10/15/16	5680.33	20.37	ND		5659.96

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Standard Oil Com #1						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-12	11/24/15	5676.34	16.35	ND		5659.99
MW-12	04/16/16	5676.34	15.84	ND		5660.50
MW-12	10/15/16	5676.34	16.65	ND		5659.69
MW-13	11/24/15	5681.64	21.58	ND		5660.06
MW-13	04/16/16	5681.64	22.58	ND		5660.57
MW-13	10/15/16	5681.64	23.58	ND		5659.76
MW-14	11/24/15	5685.68	36.33	ND		5649.35
MW-14	4/16/16	5685.68	24.41	ND		5661.27
MW-14	10/15/16	5685.68	25.04	ND		5660.64
MW-15	11/24/15	5683.73	22.10	ND		5661.63
MW-15	4/16/16	5683.73	21.61	ND		5662.12
MW-15	10/15/16	5683.73	22.43	ND		5661.30
MW-16	11/24/15	5679.67	18.81	ND		5660.86
MW-16	4/16/16	5679.67	18.30	ND		5661.37
MW-16	10/15/16	5679.67	19.13	ND		5660.54
PZ-1	7/31/97	NS	19	NR		NS
PZ-2	7/31/97	NS	19	NR		NS
PZ-3	7/31/97	NS	18.9	NR		NS
PZ-4	7/31/97	NS	16.4	NR		NS
PZ-5	7/31/97	NS	28.4	NR		NS
PZ-6	7/31/97	NS	19.5	NR		NS
PZ-7	7/31/97	NS	16.0	NR		NS

Notes:

"ft" = feet

"TOC" = Top of casing

"LNAPL" - Light non-aqueous phase liquid

"ND" = LNAPL not detected

"NR" = LNAPL not recorded

"NS" = No Survey Data

FIGURES

FIGURE 1: APRIL 16, 2016 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: APRIL 16, 2016 GROUNDWATER ELEVATION MAP

FIGURE 3: OCTOBER 15, 2016 GROUNDWATER ANALYTICAL RESULTS MAP

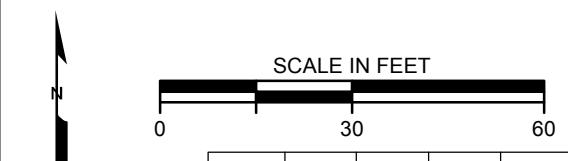
FIGURE 4: OCTOBER 15, 2016 GROUNDWATER ELEVATION MAP

**LEGEND:**

- 5795** APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- - - FENCE
- - - FORMER PIT
- - - NATURAL GAS PIPELINE
- - - UNDERGROUND ELECTRIC LINE
- △ BENCHMARK
- ☒ GAS VALVE
- MONITORING WELL
- OTHER MONITORING WELL
- ☒ RIG ANCHOR

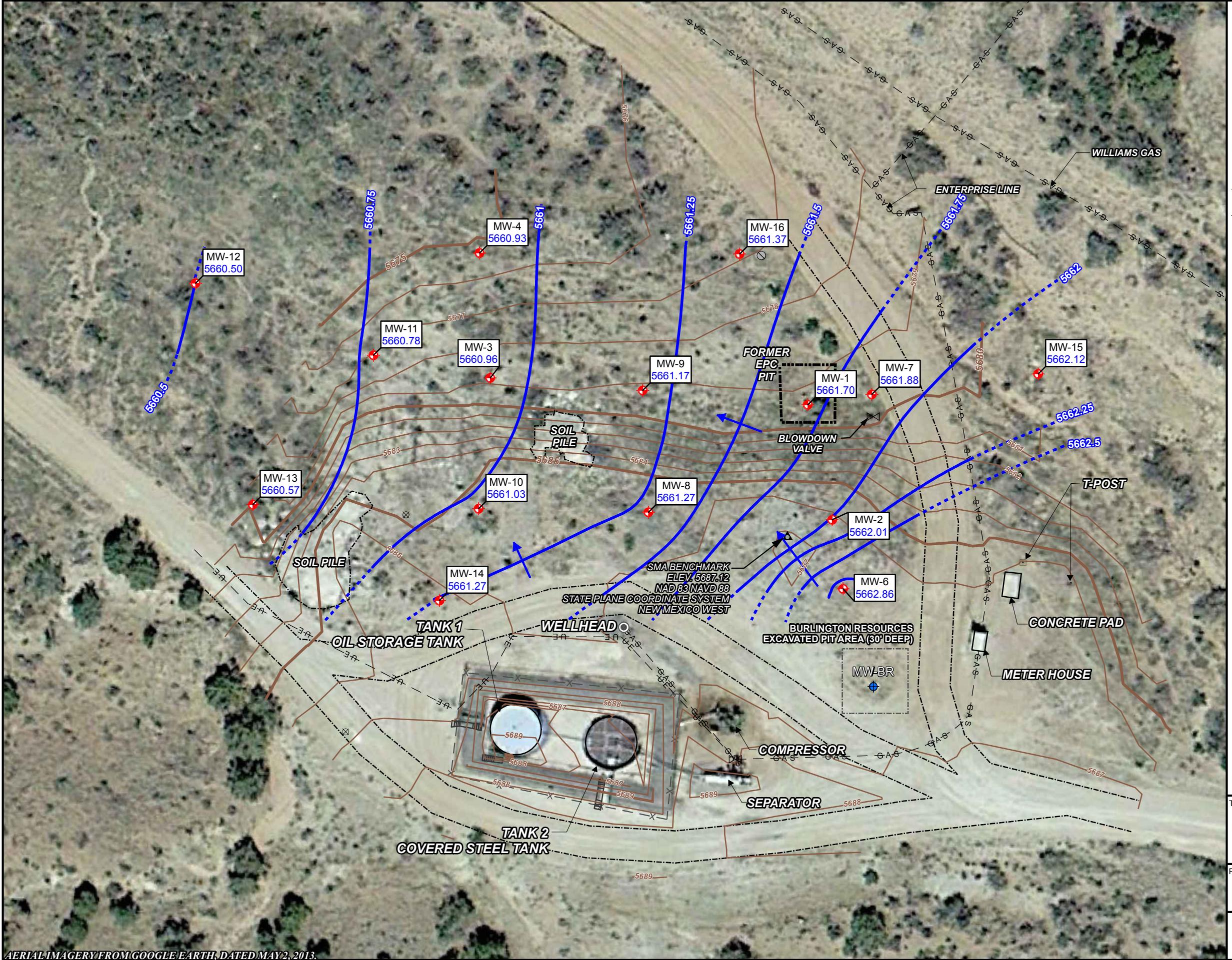
EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:
RESULTS IN BOLDFACE TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
µg/L = MICROGRAMS PER LITER
<1.0 = BELOW REPORTING LIMIT

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
	107/2016	SLG	SLG	SRV

TITLE: GROUNDWATER ANALYTICAL RESULTS APRIL 16, 2016	
PROJECT: STANDARD OIL COM #1 SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	
Figure No.: 1	



LEGEND:

- 5795 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- - - FENCE
- - - FORMER PIT
- - - NATURAL GAS PIPELINE
- - - UNDERGROUND ELECTRIC LINE
- △ BENCHMARK
- ◊ GAS VALVE
- ◆ MONITORING WELL
- OTHER MONITORING WELL
- ⊗ RIG ANCHOR

NOTES:

- 5662.44 GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL
- 5661.5 GROUNDWATER LEVEL ELEVATION (DASHED WHERE INFERRED FEET ABOVE MEAN SEA LEVEL, 0.25 FOOT CONTOUR INTERVAL)
- DIRECTION OF APPARENT GROUNDWATER FLOW
- NO MEASUREABLE FREE PRODUCT WAS DETECTED.
- GROUNDWATER ELEVATION DATA FROM MW-14 WAS ANOMALOUS AND NOT USED IN DEVELOPING THE GROUNDWATER LEVEL CONTOURS.



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	10/13/2016	SLG	SLG	SRV

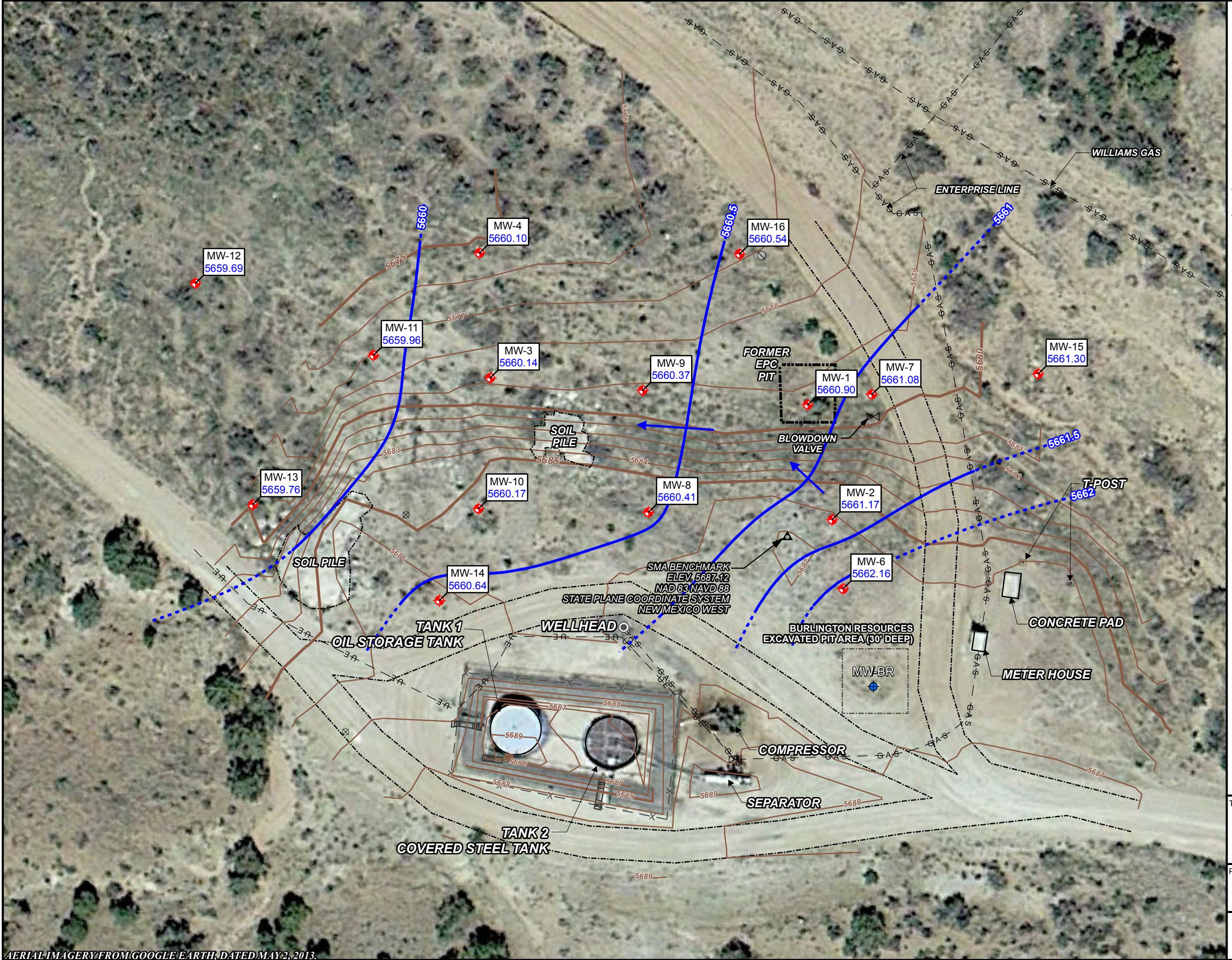
TITLE:

GROUNDWATER ELEVATION MAP
APRIL 16, 2016

PROJECT: **STANDARD OIL COM #1**
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Figure No.: **MWH** **2**





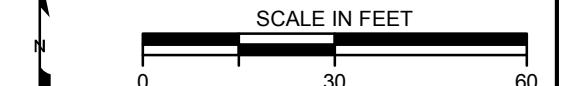
LEGEND:

- 5795 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- x- FENCE
- - FORMER PIT
- GAS — NATURAL GAS PIPELINE
- UE — UNDERGROUND ELECTRIC LINE
- △ BENCHMARK
- ▷ GAS VALVE
- ◆ MONITORING WELL
- OTHER MONITORING WELL
- ⊗ RIG ANCHOR

NOTES:

- 5662.44 GROUNDWATER ELEVATION FEET ABOVE MEAN SEA LEVEL
- 5661.5 GROUNDWATER LEVEL ELEVATION (DASHED WHERE INFERRED FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)
- DIRECTION OF APPARENT GROUNDWATER FLOW

NO MEASUREABLE FREE PRODUCT WAS DETECTED.



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	11/30/2016	SLG	SLG	SRV

TITLE:

**GROUNDWATER ELEVATION MAP
OCTOBER 15, 2016**

PROJECT: **STANDARD OIL COM #1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**



APPENDIX A

MAY 5, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT

OCTOBER 27, 2016 GROUNDWATER SAMPLING ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-120433-1

Client Project/Site: Standard Oil Com #1

For:

MWH Americas Inc

11153 Aurora Avenue

Des Moines, Iowa 50322-7904

Attn: Steve Varsa



Authorized for release by:

5/3/2016 5:11:02 PM

Marty Edwards, Manager of Project Management

(850)474-1001

marty.edwards@testamericainc.com

LINKS

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Expert

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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: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	1
%R	Listed under the "D" column to designate that the result is reported on a dry weight basis	2
CFL	Contains Free Liquid	3
CNF	Contains no Free Liquid	4
DER	Duplicate error ratio (normalized absolute difference)	5
Dil Fac	Dilution Factor	6
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	7
DLC	Decision level concentration	8
MDA	Minimum detectable activity	9
EDL	Estimated Detection Limit	10
MDC	Minimum detectable concentration	11
MDL	Method Detection Limit	12
ML	Minimum Level (Dioxin)	13
NC	Not Calculated	14
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: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Job ID: 400-120433-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-120433-1

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 1.0° 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: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-120433-1

No Detections.

Client Sample ID: MW-1

Lab Sample ID: 400-120433-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	22		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	110		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	16		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 400-120433-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	5.1		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-3

Lab Sample ID: 400-120433-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		10	ug/L	10		8021B	Total/NA
Ethylbenzene	350		10	ug/L	10		8021B	Total/NA
Xylenes, Total	400		50	ug/L	10		8021B	Total/NA

Client Sample ID: MW-4

Lab Sample ID: 400-120433-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.5		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	59		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	6.9		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 400-120433-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	41		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	8.1		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-7

Lab Sample ID: 400-120433-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.6		2.0	ug/L	2		8021B	Total/NA
Ethylbenzene	410		2.0	ug/L	2		8021B	Total/NA
Toluene	12		10	ug/L	2		8021B	Total/NA
Xylenes, Total	1500		10	ug/L	2		8021B	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 400-120433-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1.1		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 400-120433-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120		1.0	ug/L	1		8021B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-9 (Continued)

Lab Sample ID: 400-120433-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	130		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	6.0		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-10

Lab Sample ID: 400-120433-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	45		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	2.0		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-11

Lab Sample ID: 400-120433-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3400		20	ug/L	20		8021B	Total/NA
Ethylbenzene	660		20	ug/L	20		8021B	Total/NA
Xylenes, Total	3400		100	ug/L	20		8021B	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 400-120433-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	210		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	210		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	46		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-13

Lab Sample ID: 400-120433-13

No Detections.

Client Sample ID: MW-14

Lab Sample ID: 400-120433-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 400-120433-15

No Detections.

Client Sample ID: MW-16

Lab Sample ID: 400-120433-16

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-120433-1	TRIP BLANK	Water	04/16/16 06:00	04/19/16 09:43
400-120433-2	MW-1	Water	04/16/16 14:05	04/19/16 09:43
400-120433-3	MW-2	Water	04/16/16 14:10	04/19/16 09:43
400-120433-4	MW-3	Water	04/16/16 14:20	04/19/16 09:43
400-120433-5	MW-4	Water	04/16/16 14:25	04/19/16 09:43
400-120433-6	MW-6	Water	04/16/16 14:30	04/19/16 09:43
400-120433-7	MW-7	Water	04/16/16 14:35	04/19/16 09:43
400-120433-8	MW-8	Water	04/16/16 14:40	04/19/16 09:43
400-120433-9	MW-9	Water	04/16/16 14:45	04/19/16 09:43
400-120433-10	MW-10	Water	04/16/16 14:50	04/19/16 09:43
400-120433-11	MW-11	Water	04/16/16 14:55	04/19/16 09:43
400-120433-12	MW-12	Water	04/16/16 15:00	04/19/16 09:43
400-120433-13	MW-13	Water	04/16/16 15:05	04/19/16 09:43
400-120433-14	MW-14	Water	04/16/16 15:10	04/19/16 09:43
400-120433-15	MW-15	Water	04/16/16 15:15	04/19/16 09:43
400-120433-16	MW-16	Water	04/16/16 15:20	04/19/16 09:43

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: TRIP BLANK

Date Collected: 04/16/16 06:00

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L		04/28/16 04:51		1
Ethylbenzene	<1.0		1.0	ug/L		04/28/16 04:51		1
Toluene	<5.0		5.0	ug/L		04/28/16 04:51		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 04:51		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	101		78 - 124			04/28/16 04:51		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-1

Date Collected: 04/16/16 14:05

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	22		1.0	ug/L		04/28/16 14:23		1
Ethylbenzene	110		1.0	ug/L		04/28/16 14:23		1
Toluene	<5.0		5.0	ug/L		04/28/16 14:23		1
Xylenes, Total	16		5.0	ug/L		04/28/16 14:23		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	107		78 - 124			04/28/16 14:23		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-2

Date Collected: 04/16/16 14:10
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	11		1.0	ug/L		04/28/16 14:50		1
Ethylbenzene	5.1		1.0	ug/L		04/28/16 14:50		1
Toluene	<5.0		5.0	ug/L		04/28/16 14:50		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 14:50		1
Surrogate		%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)		102		78 - 124			04/28/16 14:50	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-3

Date Collected: 04/16/16 14:20

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-4

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1400		10	ug/L		04/28/16 15:17		10
Ethylbenzene	350		10	ug/L		04/28/16 15:17		10
Toluene	<50		50	ug/L		04/28/16 15:17		10
Xylenes, Total	400		50	ug/L		04/28/16 15:17		10
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	97		78 - 124			04/28/16 15:17		10

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-4

Date Collected: 04/16/16 14:25

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-5

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.5		1.0	ug/L		04/28/16 15:45		1
Ethylbenzene	59		1.0	ug/L		04/28/16 15:45		1
Toluene	<5.0		5.0	ug/L		04/28/16 15:45		1
Xylenes, Total	6.9		5.0	ug/L		04/28/16 15:45		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	109		78 - 124			04/28/16 15:45		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-6

Date Collected: 04/16/16 14:30

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-6

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	41		1.0	ug/L		04/28/16 16:12		1
Ethylbenzene	8.1		1.0	ug/L		04/28/16 16:12		1
Toluene	<5.0		5.0	ug/L		04/28/16 16:12		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 16:12		1
Surrogate		%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)		101		78 - 124			04/28/16 16:12	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-7

Date Collected: 04/16/16 14:35

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-7

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.6		2.0	ug/L		04/28/16 16:39		2
Ethylbenzene	410		2.0	ug/L		04/28/16 16:39		2
Toluene	12		10	ug/L		04/28/16 16:39		2
Xylenes, Total	1500		10	ug/L		04/28/16 16:39		2
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	108		78 - 124			04/28/16 16:39		2

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-8

Date Collected: 04/16/16 14:40

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-8

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		04/22/16 18:44		1
Ethylbenzene	1.1		1.0	ug/L		04/22/16 18:44		1
Toluene	<5.0		5.0	ug/L		04/22/16 18:44		1
Xylenes, Total	<5.0		5.0	ug/L		04/22/16 18:44		1
Surrogate		%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)		102		78 - 124			04/22/16 18:44	1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-9

Date Collected: 04/16/16 14:45

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-9

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	120		1.0	ug/L		04/28/16 17:07		1
Ethylbenzene	130		1.0	ug/L		04/28/16 17:07		1
Toluene	<5.0		5.0	ug/L		04/28/16 17:07		1
Xylenes, Total	6.0		5.0	ug/L		04/28/16 17:07		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	97		78 - 124			04/28/16 17:07		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-10

Date Collected: 04/16/16 14:50

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-10

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	45		1.0	ug/L		04/28/16 17:36		1
Ethylbenzene	2.0		1.0	ug/L		04/28/16 17:36		1
Toluene	<5.0		5.0	ug/L		04/28/16 17:36		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 17:36		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	104		78 - 124			04/28/16 17:36		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-11

Date Collected: 04/16/16 14:55

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-11

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3400		20	ug/L		04/28/16 18:04		20
Ethylbenzene	660		20	ug/L		04/28/16 18:04		20
Toluene	<100		100	ug/L		04/28/16 18:04		20
Xylenes, Total	3400		100	ug/L		04/28/16 18:04		20
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	100		78 - 124			04/28/16 18:04		20

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-12

Date Collected: 04/16/16 15:00

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-12

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	210		1.0	ug/L		04/28/16 19:26		1
Ethylbenzene	210		1.0	ug/L		04/28/16 19:26		1
Toluene	<5.0		5.0	ug/L		04/28/16 19:26		1
Xylenes, Total	46		5.0	ug/L		04/28/16 19:26		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	108		78 - 124			04/28/16 19:26		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-13

Date Collected: 04/16/16 15:05

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-13

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L		04/28/16 07:07		1
Ethylbenzene	<1.0		1.0	ug/L		04/28/16 07:07		1
Toluene	<5.0		5.0	ug/L		04/28/16 07:07		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 07:07		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	102		78 - 124			04/28/16 07:07		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-14

Date Collected: 04/16/16 15:10

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-14

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.4		1.0	ug/L		04/28/16 06:40		1
Ethylbenzene	<1.0		1.0	ug/L		04/28/16 06:40		1
Toluene	<5.0		5.0	ug/L		04/28/16 06:40		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 06:40		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	100		78 - 124			04/28/16 06:40		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-15

Date Collected: 04/16/16 15:15

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-15

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L		04/28/16 05:18		1
Ethylbenzene	<1.0		1.0	ug/L		04/28/16 05:18		1
Toluene	<5.0		5.0	ug/L		04/28/16 05:18		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 05:18		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	102		78 - 124			04/28/16 05:18		1

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-16

Date Collected: 04/16/16 15:20

Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-16

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L		04/28/16 18:31		1
Ethylbenzene	<1.0		1.0	ug/L		04/28/16 18:31		1
Toluene	<5.0		5.0	ug/L		04/28/16 18:31		1
Xylenes, Total	<5.0		5.0	ug/L		04/28/16 18:31		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	100		78 - 124			04/28/16 18:31		1

QC Association Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

GC VOA

Analysis Batch: 302984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-120363-A-2 MS	Matrix Spike	Total/NA	Water	8021B	
400-120363-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	
400-120433-8	MW-8	Total/NA	Water	8021B	
LCS 400-302984/1002	Lab Control Sample	Total/NA	Water	8021B	
MB 400-302984/3	Method Blank	Total/NA	Water	8021B	

Analysis Batch: 303815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-120433-1	TRIP BLANK	Total/NA	Water	8021B	
400-120433-2	MW-1	Total/NA	Water	8021B	
400-120433-3	MW-2	Total/NA	Water	8021B	
400-120433-4	MW-3	Total/NA	Water	8021B	
400-120433-5	MW-4	Total/NA	Water	8021B	
400-120433-6	MW-6	Total/NA	Water	8021B	
400-120433-7	MW-7	Total/NA	Water	8021B	
400-120433-9	MW-9	Total/NA	Water	8021B	
400-120433-10	MW-10	Total/NA	Water	8021B	
400-120433-11	MW-11	Total/NA	Water	8021B	
400-120433-12	MW-12	Total/NA	Water	8021B	
400-120433-13	MW-13	Total/NA	Water	8021B	
400-120433-14	MW-14	Total/NA	Water	8021B	
400-120433-15	MW-15	Total/NA	Water	8021B	
400-120433-15 MS	MW-15	Total/NA	Water	8021B	
400-120433-15 MSD	MW-15	Total/NA	Water	8021B	
400-120433-16	MW-16	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: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-302984/3

Matrix: Water

Analysis Batch: 302984

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Benzene	<1.0		1.0	ug/L			04/22/16 13:48	1
Ethylbenzene	<1.0		1.0	ug/L			04/22/16 13:48	1
Toluene	<5.0		5.0	ug/L			04/22/16 13:48	1
Xylenes, Total	<5.0		5.0	ug/L			04/22/16 13:48	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	102		78 - 124		04/22/16 13:48	1

Lab Sample ID: LCS 400-302984/1002

Matrix: Water

Analysis Batch: 302984

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

Analyte	MB	MB	Limits	%Rec.	Unit	D	Result	Qualifier
	Added	Spike						
Benzene	50.0	49.8	ug/L	100	85 - 115			
Ethylbenzene	50.0	49.9	ug/L	100	85 - 115			
Toluene	50.0	49.6	ug/L	99	85 - 115			
Xylenes, Total	150	151	ug/L	101	85 - 115			

Surrogate	MB	MB	Limits	%Rec.	Unit	D	Result	Qualifier
	%Recovery	Spike						
a,a,a-Trifluorotoluene (pid)	100		78 - 124					

Lab Sample ID: 400-120363-A-2 MS

Matrix: Water

Analysis Batch: 302984

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

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.	Limits
	Result	Qualifier		Result	Qualifier				
Benzene	<1.0		50.0	42.4		ug/L		85	44 - 150
Ethylbenzene	<1.0		50.0	41.3		ug/L		83	70 - 142
Toluene	<5.0		50.0	41.9		ug/L		84	69 - 136
Xylenes, Total	<5.0		150	125		ug/L		84	68 - 142

Surrogate	MS	MS	Limits	%Rec.	Unit	D	Result	Qualifier
	%Recovery	Spike						
a,a,a-Trifluorotoluene (pid)	100		78 - 124					

Lab Sample ID: 400-120363-A-2 MSD

Matrix: Water

Analysis Batch: 302984

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

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<1.0		50.0	37.8		ug/L		76	44 - 150	11	16
Ethylbenzene	<1.0		50.0	37.4		ug/L		75	70 - 142	10	16
Toluene	<5.0		50.0	37.5		ug/L		75	69 - 136	11	16
Xylenes, Total	<5.0		150	113		ug/L		76	68 - 142	10	15

Surrogate	MSD	MSD	Limits	%Rec.	Unit	D	Result	Qualifier
	%Recovery	Spike						
a,a,a-Trifluorotoluene (pid)	100		78 - 124					

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

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

Lab Sample ID: MB 400-303815/2

Matrix: Water

Analysis Batch: 303815

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

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
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		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
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		LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
	Added	Result						
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		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	101		78 - 124		04/28/16 04:24	1

Lab Sample ID: 400-120433-15 MS

Matrix: Water

Analysis Batch: 303815

Client Sample ID: MW-15
Prep Type: Total/NA

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
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		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	103		78 - 124		04/28/16 04:24	1

Lab Sample ID: 400-120433-15 MSD

Matrix: Water

Analysis Batch: 303815

Client Sample ID: MW-15
Prep Type: Total/NA

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
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		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	101		78 - 124		04/28/16 04:24	1

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: TRIP BLANK

Date Collected: 04/16/16 06:00
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-1

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 04:51	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-1

Date Collected: 04/16/16 14:05
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-2

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 14:23	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-2

Date Collected: 04/16/16 14:10
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-3

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 14:50	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-3

Date Collected: 04/16/16 14:20
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-4

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		10	5 mL	5 mL	303815	04/28/16 15:17	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-4

Date Collected: 04/16/16 14:25
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-5

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	303815	04/28/16 15:45	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-6

Date Collected: 04/16/16 14:30
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-6

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	303815	04/28/16 16:12	GRK	TAL PEN

Instrument ID: CH_RITA

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-7

Date Collected: 04/16/16 14:35
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-7

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		2	5 mL	5 mL	303815	04/28/16 16:39	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-8

Date Collected: 04/16/16 14:40
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-8

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	302984	04/22/16 18:44	MKA	TAL PEN

Instrument ID: ETHYL

Client Sample ID: MW-9

Date Collected: 04/16/16 14:45
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-9

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 17:07	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-10

Date Collected: 04/16/16 14:50
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-10

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 17:36	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-11

Date Collected: 04/16/16 14:55
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-11

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		20	5 mL	5 mL	303815	04/28/16 18:04	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-12

Date Collected: 04/16/16 15:00
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-12

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 19:26	GRK	TAL PEN

Instrument ID: CH_RITA

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

Client Sample ID: MW-13

Date Collected: 04/16/16 15:05
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-13

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 07:07	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-14

Date Collected: 04/16/16 15:10
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-14

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 06:40	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-15

Date Collected: 04/16/16 15:15
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-15

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 05:18	GRK	TAL PEN

Instrument ID: CH_RITA

Client Sample ID: MW-16

Date Collected: 04/16/16 15:20
Date Received: 04/19/16 09:43

Lab Sample ID: 400-120433-16

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 18:31	GRK	TAL PEN

Instrument ID: CH_RITA

Laboratory References:

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

TestAmerica Pensacola

Certification Summary

Client: MWH Americas Inc
 Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

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: Standard Oil Com #1

TestAmerica Job ID: 400-120433-1

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab P.M.: <u>Brad B.L. Chait</u> Lab No.: <u>13</u>		Lab P.M.: <u>Edwards, Marty P.</u>																									
Client Contact:	Ms. Sarah Gardner	E-Mail:	marty.edwards@testamericainc.com																										
Company:	MWH Americas Inc	Address:	1560 Broadway Suite 1800																										
City:	Denver	PO#:	303-291-2239 (Tel)																										
State, Zip:	CO, 80202	Purchase Order Requested																											
Phone:		PO#:	SLG-MWH-03-30-15-Che-01																										
Email:	sarah.gardner@mwhglobal.com	Project #:	40005479																										
Project Name:	Standard Oil Com #1	ISSW#:																											
Site:	<u>Standard Oil Can #1</u>																												
Analysis Requested <i>For ACF</i>																													
Preservation Codes: <i>A - HCl M - Hexane B - NaOH N - Nitric C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2OAS E - NaHSO4 Q - Na2SCN F - MeOH R - Na2CO3 G - Ammonium S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MeCA K - EDTA W - pH 4.5 L - EDA Z - other (specify) Other:</i>																													
Special Instructions/Note: <i>0021B - BETX 8021</i>																													
Sample Identification <table border="1"> <thead> <tr> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=cone, G=grate)</th> <th>Matrix (Water, Sewage, Concentration, lot# Tissue, Aqueous)</th> </tr> </thead> <tbody> <tr> <td>06/12</td> <td>4/16/16 1300</td> <td>G</td> <td>Water</td> </tr> <tr> <td>06/13</td> <td>4/16/16 1305</td> <td>G</td> <td>Water</td> </tr> <tr> <td>06/14</td> <td>4/16/16 1310</td> <td>G</td> <td>Water</td> </tr> <tr> <td>06/15</td> <td>4/16/16 1315</td> <td>G</td> <td>Water</td> </tr> <tr> <td>06/16</td> <td>4/16/16 1320</td> <td>G</td> <td>Water</td> </tr> </tbody> </table>						Sample Date	Sample Time	Sample Type (C=cone, G=grate)	Matrix (Water, Sewage, Concentration, lot# Tissue, Aqueous)	06/12	4/16/16 1300	G	Water	06/13	4/16/16 1305	G	Water	06/14	4/16/16 1310	G	Water	06/15	4/16/16 1315	G	Water	06/16	4/16/16 1320	G	Water
Sample Date	Sample Time	Sample Type (C=cone, G=grate)	Matrix (Water, Sewage, Concentration, lot# Tissue, Aqueous)																										
06/12	4/16/16 1300	G	Water																										
06/13	4/16/16 1305	G	Water																										
06/14	4/16/16 1310	G	Water																										
06/15	4/16/16 1315	G	Water																										
06/16	4/16/16 1320	G	Water																										
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify) <i>For ACF</i>																													
Empty Kit Relinquished by: <i>Relinquished by: <u>Brad B.L. Chait</u> Date/Time: <u>4/18/16 1530</u> Received by: <u>Company</u></i>																													
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposed By Lab <input type="checkbox"/> Archive For Months Special Instructions/QC Requirements: <i>For ACF</i>																													
Method of Shipment: <i>Date/Time: <u>4/19/16 1415</u> Company: <u>Test/Ex</u> Received by: <u>Company</u></i>																													
Custody Seal intact: <i>Custody Seal No.: <u>100</u> A Yes B No</i>																													

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-120433-1

Login Number: 120433

List Source: TestAmerica Pensacola

List Number: 1

Creator: Crawford, Lauren E

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A		1
The cooler's custody seal, if present, is intact.	True		2
Sample custody seals, if present, are intact.	N/A		3
The cooler or samples do not appear to have been compromised or tampered with.	True		4
Samples were received on ice.	True		5
Cooler Temperature is acceptable.	True		6
Cooler Temperature is recorded.	True	1.0°C IR-6	7
COC is present.	True		8
COC is filled out in ink and legible.	True		9
COC is filled out with all pertinent information.	True		10
Is the Field Sampler's name present on COC?	True		11
There are no discrepancies between the containers received and the COC.	True		12
Samples are received within Holding Time (excluding tests with immediate HTs)	True		13
Sample containers have legible labels.	True		14
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive
Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-128860-1

Client Project/Site: Standard Oil Com #1

For:

MWH Americas Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Authorized for release by:

10/27/2016 10:08:37 AM

Carol Webb, Project Manager II

(850)471-6250

carol.webb@testamericainc.com

LINKS

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results through

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The
Expert

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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: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Glossary

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

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

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Case Narrative

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Job ID: 400-128860-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128860-1

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: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-1

Lab Sample ID: 400-128860-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	36		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	180		1.0	ug/L	1		8021B	Total/NA
Toluene	33		5.0	ug/L	1		8021B	Total/NA
Xylenes, Total	72		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 400-128860-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	110		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-7

Lab Sample ID: 400-128860-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8.6		2.0	ug/L	2		8021B	Total/NA
Ethylbenzene	360		2.0	ug/L	2		8021B	Total/NA
Xylenes, Total	450		10	ug/L	2		8021B	Total/NA

Client Sample ID: MW-9

Lab Sample ID: 400-128860-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120		1.0	ug/L	1		8021B	Total/NA
Ethylbenzene	120		1.0	ug/L	1		8021B	Total/NA
Xylenes, Total	8.2		5.0	ug/L	1		8021B	Total/NA

Client Sample ID: MW-15

Lab Sample ID: 400-128860-5

No Detections.

Client Sample ID: MW-16

Lab Sample ID: 400-128860-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1.7		1.0	ug/L	1		8021B	Total/NA

Client Sample ID: TB

Lab Sample ID: 400-128860-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128860-1	MW-1	Water	10/15/16 12:59	10/18/16 09:11
400-128860-2	MW-2	Water	10/15/16 13:03	10/18/16 09:11
400-128860-3	MW-7	Water	10/15/16 13:07	10/18/16 09:11
400-128860-4	MW-9	Water	10/15/16 13:12	10/18/16 09:11
400-128860-5	MW-15	Water	10/15/16 13:17	10/18/16 09:11
400-128860-6	MW-16	Water	10/15/16 13:21	10/18/16 09:11
400-128860-7	TB	Water	10/15/16 00:00	10/18/16 09:11

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-1

Date Collected: 10/15/16 12:59

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	36		1.0	ug/L			10/26/16 03:02	1
Ethylbenzene	180		1.0	ug/L			10/26/16 03:02	1
Toluene	33		5.0	ug/L			10/26/16 03:02	1
Xylenes, Total	72		5.0	ug/L			10/26/16 03:02	1
Surrogate		%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)		96		78 - 124			10/26/16 03:02	1

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-2

Date Collected: 10/15/16 13:03

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	140		1.0	ug/L			10/26/16 03:37	1
Ethylbenzene	110		1.0	ug/L			10/26/16 03:37	1
Toluene	<5.0		5.0	ug/L			10/26/16 03:37	1
Xylenes, Total	<5.0		5.0	ug/L			10/26/16 03:37	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	99		78 - 124			10/26/16 03:37	1	

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-7

Date Collected: 10/15/16 13:07

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	8.6		2.0	ug/L			10/26/16 12:57	2
Ethylbenzene	360		2.0	ug/L			10/26/16 12:57	2
Toluene	<10		10	ug/L			10/26/16 12:57	2
Xylenes, Total	450		10	ug/L			10/26/16 12:57	2
Surrogate		%Recovery		Qualifier		Limits		
		100				78 - 124		
							Prepared	Analyzed
							10/26/16 12:57	2

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-9

Lab Sample ID: 400-128860-4

Matrix: Water

Date Collected: 10/15/16 13:12
Date Received: 10/18/16 09:11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	120		1.0	ug/L			10/26/16 04:49	1
Ethylbenzene	120		1.0	ug/L			10/26/16 04:49	1
Toluene	<5.0		5.0	ug/L			10/26/16 04:49	1
Xylenes, Total	8.2		5.0	ug/L			10/26/16 04:49	1
Surrogate		%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)		102		78 - 124			10/26/16 04:49	1

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-15

Lab Sample ID: 400-128860-5

Date Collected: 10/15/16 13:17

Matrix: Water

Date Received: 10/18/16 09:11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L			10/26/16 05:24	1
Ethylbenzene	<1.0		1.0	ug/L			10/26/16 05:24	1
Toluene	<5.0		5.0	ug/L			10/26/16 05:24	1
Xylenes, Total	<5.0		5.0	ug/L			10/26/16 05:24	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	94		78 - 124			10/26/16 05:24	1	

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-16

Lab Sample ID: 400-128860-6

Date Collected: 10/15/16 13:21

Matrix: Water

Date Received: 10/18/16 09:11

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L			10/26/16 08:21	1
Ethylbenzene	1.7		1.0	ug/L			10/26/16 08:21	1
Toluene	<5.0		5.0	ug/L			10/26/16 08:21	1
Xylenes, Total	<5.0		5.0	ug/L			10/26/16 08:21	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	102		78 - 124			10/26/16 08:21	1	

TestAmerica Pensacola

Client Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: TB

Date Collected: 10/15/16 00:00

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-7

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0	ug/L			10/26/16 01:50	1
Ethylbenzene	<1.0		1.0	ug/L			10/26/16 01:50	1
Toluene	<5.0		5.0	ug/L			10/26/16 01:50	1
Xylenes, Total	<5.0		5.0	ug/L			10/26/16 01:50	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
a,a,a-Trifluorotoluene (pid)	96		78 - 124			10/26/16 01:50	1	

TestAmerica Pensacola

QC Association Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

GC VOA

Analysis Batch: 328221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-128860-1	MW-1	Total/NA	Water	8021B	5
400-128860-2	MW-2	Total/NA	Water	8021B	6
400-128860-3	MW-7	Total/NA	Water	8021B	7
400-128860-4	MW-9	Total/NA	Water	8021B	8
400-128860-5	MW-15	Total/NA	Water	8021B	9
400-128860-6	MW-16	Total/NA	Water	8021B	10
400-128860-7	TB	Total/NA	Water	8021B	11
MB 400-328221/2	Method Blank	Total/NA	Water	8021B	12
LCS 400-328221/1001	Lab Control Sample	Total/NA	Water	8021B	13
400-128860-1 MS	MW-1	Total/NA	Water	8021B	14
400-128860-1 MSD	MW-1	Total/NA	Water	8021B	

TestAmerica Pensacola

QC Sample Results

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-328221/2

Matrix: Water

Analysis Batch: 328221

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

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

Lab Sample ID: LCS 400-328221/1001

Matrix: Water

Analysis Batch: 328221

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				
Benzene	50.0	45.8		ug/L		92	85 - 115
Ethylbenzene	50.0	46.8		ug/L		94	85 - 115
Toluene	50.0	46.8		ug/L		94	85 - 115
Xylenes, Total	150	137		ug/L		91	85 - 115

Surrogate	LCs	LCs	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	98		78 - 124			

Lab Sample ID: 400-128860-1 MS

Matrix: Water

Analysis Batch: 328221

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Benzene	36		50.0	93.5		ug/L		115	44 - 150
Ethylbenzene	180		50.0	225		ug/L		94	70 - 142
Toluene	33		50.0	90.6		ug/L		116	69 - 136
Xylenes, Total	72		150	233		ug/L		108	68 - 142

Surrogate	MS	MS	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	94		78 - 124			

Lab Sample ID: 400-128860-1 MSD

Matrix: Water

Analysis Batch: 328221

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Benzene	36		50.0	92.2		ug/L		113	44 - 150
Ethylbenzene	180		50.0	245		ug/L		134	70 - 142
Toluene	33		50.0	92.3		ug/L		119	69 - 136
Xylenes, Total	72		150	240		ug/L		112	68 - 142

Surrogate	MSD	MSD	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
a,a,a-Trifluorotoluene (pid)	86		78 - 124			

Client Sample ID: MW-1
Prep Type: Total/NA

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: MW-1

Date Collected: 10/15/16 12:59

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	328221	10/26/16 03:02	SAB	TAL PEN

Client Sample ID: MW-2

Date Collected: 10/15/16 13:03

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	328221	10/26/16 03:37	SAB	TAL PEN

Client Sample ID: MW-7

Date Collected: 10/15/16 13:07

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-3

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		2	5 mL	5 mL	328221	10/26/16 12:57	SAB	TAL PEN

Client Sample ID: MW-9

Date Collected: 10/15/16 13:12

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	328221	10/26/16 04:49	SAB	TAL PEN

Client Sample ID: MW-15

Date Collected: 10/15/16 13:17

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	328221	10/26/16 05:24	SAB	TAL PEN

Client Sample ID: MW-16

Date Collected: 10/15/16 13:21

Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	328221	10/26/16 08:21	SAB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

Client Sample ID: TB

Date Collected: 10/15/16 00:00
Date Received: 10/18/16 09:11

Lab Sample ID: 400-128860-7

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	328221	10/26/16 01:50	SAB	TAL PEN

Laboratory References:

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

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TestAmerica Pensacola

Certification Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

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: Standard Oil Com #1

TestAmerica Job ID: 400-128860-1

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

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TestAmerica Pensacola

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 400-128860-1

Login Number: 128860

List Source: TestAmerica Pensacola

List Number: 1

Creator: Chambers, Cheryle A

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C IR6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	