2014 ANNUAL GROUNDWATER REPORT

Standard Oil Com #1
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 Oil and Gas Company, LP

SITE BACKGROUND

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

Standard Oil Com #1 (Site) is 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 Burlington Resources Oil and Gas Company, LP (Burlington) 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), and 2013 (MW-6 through MW-11). Free product was observed in MW-1 in 1996, but was not recovered. Currently, groundwater sampling is conducted on a semi-annual basis and free product is not observed.

SUMMARY OF 2014 ACTIVITIES

On April 4 and October 24, 2014, groundwater levels were gauged at MW-1 through MW-11 and groundwater samples were collected from MW-1 through MW-11, using HydraSleeve™ (HydraSleeve) no-purge passive groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless steel weights to collect a sample from the screened interval. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Corpus Christi, Texas where they were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential (ORP) using a YSI multi-parameter instrument. The water remaining in the HydraSleeves was combined in a waste container and taken to Basin Disposal, Inc. for disposal.

SUMMARY TABLES

The historic analytical and water level data are summarized in Table 1.

2014 ANNUAL GROUNDWATER REPORT

Standard Oil Com #1
Meter Code: 70445
T29N, R9W, Sec36, Unit N

SITE MAPS

Groundwater analytical results and groundwater elevation contour maps from the 2014 quarterly sampling events are included as Figures 1 through 4.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

RESULTS

- Based on 2014 quarterly water level gauging events, the groundwater flow direction is generally to the west-northwest at the Site (see Figures 2 and 4).

- Concentrations of benzene in groundwater collected from MW-1 were above the New Mexico Water Quality Control Commission (NMWQCC) standard during both 2014 sampling events. Concentrations of toluene were detected below their respective NMWQCC standards in April and not detected in the October 2014 sampling event. Total xylenes were not detected for both 2014 sampling events.

- Concentrations of benzene in groundwater collected from MW-2 were above the NMWQCC standards for both 2014 sampling events. Concentrations of toluene were detected below the NMWQCC standards in April and not detected in the October 2014 sampling event. Concentrations of ethylbenzene were detected below the NMWQCC standards for both 2014 sampling events and total xylenes were either detected below the NMWQCC standards or reported values were below the laboratory quantitative limit (J-flagged) in ~~the three quarterly~~ both sampling events.

- Concentrations of benzene in groundwater collected from MW-3 were above the NMWQCC standards during both 2014 sampling events. Concentrations of toluene were not detected and ethylbenzene was detected below the NMWQCC standard in both sampling events. Total xylene concentrations were above the NMWQCC standard in April and below the standard in October 2014.

- BTEX constituents were not detected above NMWQCC standards in groundwater collected from MW-4 for both 2014 sampling events.

- BTEX constituents were not detected above NMWQCC standards in groundwater collected from MW-5 during the April 2014 sampling events. Samples were analyzed out of the specific hold time due to the sample pH being above 2. When sample pH is above 2, the holding time is seven days, not the standard 14 days (H-flagged). The well was dry during the October 2014 sampling event and was not sampled.

- Benzene concentrations were above the NMWQCC standard in groundwater collected from MW-6 during both the 2014 sampling events. Toluene, ethylbenzene, and total xylenes were detected below their respective NMWQCC

standards during the April 2014 sampling event. October 2014 toluene, ethylbenzene, and total xylene concentrations were not detected, not detected below the NMWQCC standard, and the reported value was below the laboratory quantitative limit (J-flagged), respectively.

- Total xylene concentrations were above the NMWQCC standard in groundwater collected from MW-7 during both 2014 sampling events. Benzene was not detected; toluene and ethylbenzene were detected below NMWQCC standards for both 2014 sampling events.

- Benzene concentrations were above their respective NMWQCC standards in groundwater collected from MW-8 during both 2014 sampling events. Toluene was not detected; ethylbenzene and total xylenes were detected below NMWQCC standards for both 2014 sampling events.

- Benzene concentrations were above the NMWQCC standard in groundwater collected from MW-9 for both 2014 sampling events. Toluene, ethylbenzene, and total xylenes were detected below their respective NMWQCC standards for both 2014 sampling events.

- Benzene concentrations were above their respective NMWQCC standards in groundwater collected from MW-10 for both 2014 sampling events. Concentrations of toluene during the April and October 2014 sampling events were reported below the laboratory quantitative limit (J-flagged), and not detected, respectively. Concentrations of ethylbenzene were detected below NMWQCC standards. Concentrations of total xylenes were below NMWQCC standards and reported below the laboratory quantitative limit (J-flagged), respectively.

- Benzene and total xylene concentrations were above their respective NMWQCC standards in groundwater collected from MW-11 for both 2014 sampling events. Concentrations of toluene and ethylbenzene were detected below NMWQCC standards.

- It appears that elevated BTEX concentrations observed in monitoring wells located west, southwest, and south of the former EPCGP pit may be due to impacts from a release from a former Burlington pit located approximately 80 to 100 feet south of the EPCGP pit, or possibly from a release from current operations by Burlington. Based on the distribution of BTEX compounds in groundwater samples collected from these wells, documented groundwater flow direction, and an understanding of dissolved hydrocarbon fate and transport, it is unlikely that impacts in these wells could be associated with the EPCGP pit release.

PLANNED FUTURE ACTIVITIES

Monitoring wells MW-1 through MW-11 will be gauged and sampled on a semi-annual basis in 2015. Groundwater elevation and analytical data collected during 2015 will be evaluated and presented in the 2015 Annual Groundwater Report issued in early 2016.

TABLES

TABLE 1 – GROUNDWATER ANALYTICAL AND WATER LEVEL 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)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-1	09/12/95	482	629	188	1980	21.03	-	-
MW-1	11/07/96	277	121	161	1590	21.30	21.24	0.06
MW-1	02/07/97	119	20.2	139	1490	20.96	-	-
MW-1	05/09/97	105	14.2	145	1480	20.78	-	-
MW-1	08/08/97	82.6	15.6	140	1400	21.13	-	-
MW-1	11/04/97	91.4	32.4	141	1320	20.86	-	-
MW-1	02/03/98	109	31	163	1680	20.61	-	-
MW-1	05/07/98	107	24.2	161	1640	20.47	-	-
MW-1	08/04/98	113	48.7	167	1580	20.85	-	-
MW-1	11/03/98	122	61.3	190	1930	20.62	-	-
MW-1	02/02/99	157	75.8	204	2100	20.02	-	-
MW-1	05/19/99	178	55.2	184	1730	19.86	-	-
MW-1	08/04/99	252	136	203	1890	19.98	-	-
MW-1	11/09/99	240	98	180	1500	19.91	-	-
MW-1	02/25/00	1300	1000	260	1700	19.69	-	-
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	20.29	-	-
MW-1	02/15/01	280	88	160	1200	20.18	-	-
MW-1	06/04/01	340	170	170	430	20.05	-	-
MW-1	08/07/01	510	340	250	1500	20.41	-	-
MW-1	12/04/01	330	98	150	1200	20.26	-	-
MW-1	02/25/02	310	170	170	1200	20.06	-	-
MW-1	05/14/02	250	150	190	1400	20.17	-	-
MW-1	08/06/02	551	398	214	1041	20.69	-	-
MW-1	11/04/02	464	207	235	1085	20.61	-	-
MW-1	02/27/03	600	330	225	993	20.24	-	-
MW-1	05/19/03	230	206	172	977	20.31	-	-
MW-1	08/18/03					21.00	-	-
MW-1	11/15/03					20.41	-	-
MW-1	02/17/04					19.89	-	-
MW-1	06/02/04	416	534	287	1330	19.99	-	-
MW-1	06/24/05	234	310	305	1530	19.98	-	-
MW-1	06/07/06	66	71.9	165	804	20.18	-	-
MW-1	06/12/07	29.8	38.2	116	477	19.85	-	-
MW-1	06/16/08	45.4	37.7	164	598	20.24	-	-
MW-1	06/10/09	33.7	16.4	156	484	20.52	-	-
MW-1	06/02/10	23.1	5.4	152	421	20.63	-	-
MW-1	05/09/11	<50	<50	137	394	20.60	-	-
MW-1	05/15/12	16.4	2.4	150	510	20.61	-	-
MW-1	06/05/13	23	3.5	190	54	20.79	-	-
MW-1	09/11/13	13	0.68 J	220	13	21.21	-	-
MW-1	12/12/13	12	17	150	8.7	20.52	-	-
MW-1	04/04/14	21	17	180	<0.65	20.10	-	-
MW-1	10/24/14	11	<0.70	120	<1.6	20.68	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1								
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-2	12/13/01	940	74	360	2900	27.15	-	-
MW-2	08/06/02					27.65	-	-
MW-2	11/04/02					27.59	-	-
MW-2	05/19/03	673	167	228	1010	27.29	-	-
MW-2	08/18/03					29.96	-	-
MW-2	11/15/03					27.33	-	-
MW-2	02/17/04					26.86	-	-
MW-2	06/02/04	943	120	309	1130	26.94	-	-
MW-2	06/24/05	1090	120	418	1510	26.92	-	-
MW-2	06/07/06	592	37.7	216	692	27.12	-	-
MW-2	06/12/07	781	<25	286	733	26.96	-	-
MW-2	06/16/08	480	5.6 J	299	614	27.17	-	-
MW-2	06/10/09	532	<1	356	836	27.45	-	-
MW-2	06/02/10	421	3	348	670	27.50	-	-
MW-2	05/09/11	354	1.5 J	275	461	27.56	-	-
MW-2	05/15/12	630	12.2	358	892	27.53	-	-
MW-2	06/05/13	440	94	520	1700	27.59	-	-
MW-2	09/11/13	390	11	680	2100	28.14	-	-
MW-2	12/12/13	150	8.6	300	640	27.43	-	-
MW-2	04/04/14	140	10	240	400	27.00	-	-
MW-2	10/24/14	59	<0.70	62	1.6 J	27.54	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1								
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-3	12/13/01	1800	1600	570	5600	27.15	-	-
MW-3	08/06/02					27.65	-	-
MW-3	11/04/02					27.59	-	-
MW-3	05/19/03					27.29	-	-
MW-3	08/18/03					29.96	-	-
MW-3	11/15/03					27.33	-	-
MW-3	02/17/04					26.86	-	-
MW-3	06/02/04					26.94	-	-
MW-3	06/24/05					26.92	-	-
MW-3	06/07/06					27.12	-	-
MW-3	06/12/07					26.96	-	-
MW-3	06/16/08					27.17	-	-
MW-3	06/10/09					27.45	-	-
MW-3	06/02/10					27.50	-	-
MW-3	05/09/11	2370	15.2	429	836	27.56	-	-
MW-3	05/15/12	2240	10.3	405	807	27.53	-	-
MW-3	06/05/13	2500	24	400	970	21.57	-	-
MW-3	09/11/13	2200	<0.6	550	1300	22.02	-	-
MW-3	12/12/13	1300	<3	390	700	21.33	-	-
MW-3	04/04/14	1600	<7.5	440	990	20.89	-	-
MW-3	10/24/14	1300	<3.5	340	490	21.49	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1								
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-4	12/13/01	380	340	780	7300	21.10	-	-
MW-4	08/06/02					21.53	-	-
MW-4	11/04/02					21.40	-	-
MW-4	05/19/03					21.07	-	-
MW-4	08/18/03					21.78	-	-
MW-4	11/15/03					21.22	-	-
MW-4	02/17/04					20.74	-	-
MW-4	06/02/04					20.74	-	-
MW-4	06/24/05					20.75	-	-
MW-4	06/07/06					20.96	-	-
MW-4	06/12/07					20.58	-	-
MW-4	06/16/08					20.95	-	-
MW-4	06/10/09					21.23	-	-
MW-4	06/02/10					21.25	-	-
MW-4	05/09/11	1.6	5.2	227	700	21.33	-	-
MW-4	05/15/12	59	5	187	545	17.60	-	-
MW-4	06/05/13	0.16 J	0.56 J	82	71	17.79	-	-
MW-4	09/11/13	<0.14	0.73 J	140	75	18.21	-	-
MW-4	12/12/13	0.21 J	13	37	1.1 J	17.56	-	-
MW-4	04/04/14	<0.20	18	130	48	17.11	-	-
MW-4	10/24/14	<0.38	<0.70	100	12	17.70	-	-

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1								
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-5	11/09/06					17.63	-	-
MW-5	06/12/07	<1	<1	<1	15.6	17.85	-	-
MW-5	06/16/08	<1	<1	0.39 J	0.68 J	18.20	-	-
MW-5	06/10/09	<1	<1	1.7	4.2	18.58	-	-
MW-5	06/02/10	<2	<2	<2	<6	18.65	-	-
MW-5	05/09/11					18.74	-	-
MW-5	05/15/12					18.67	-	-
MW-5	06/05/13	<0.14	<0.30	<0.20	<0.23	18.88	-	-
MW-5	09/11/13	<0.14	<0.30	<0.20	<0.23	19.41	-	-
MW-5	12/12/13	<0.20	<0.38	<0.20	<0.65	18.69	-	-
MW-5	04/04/14	0.74 J H	<0.38 H	<0.20 H	2 H	18.18	-	-
MW-5	10/24/14					DRY	-	-

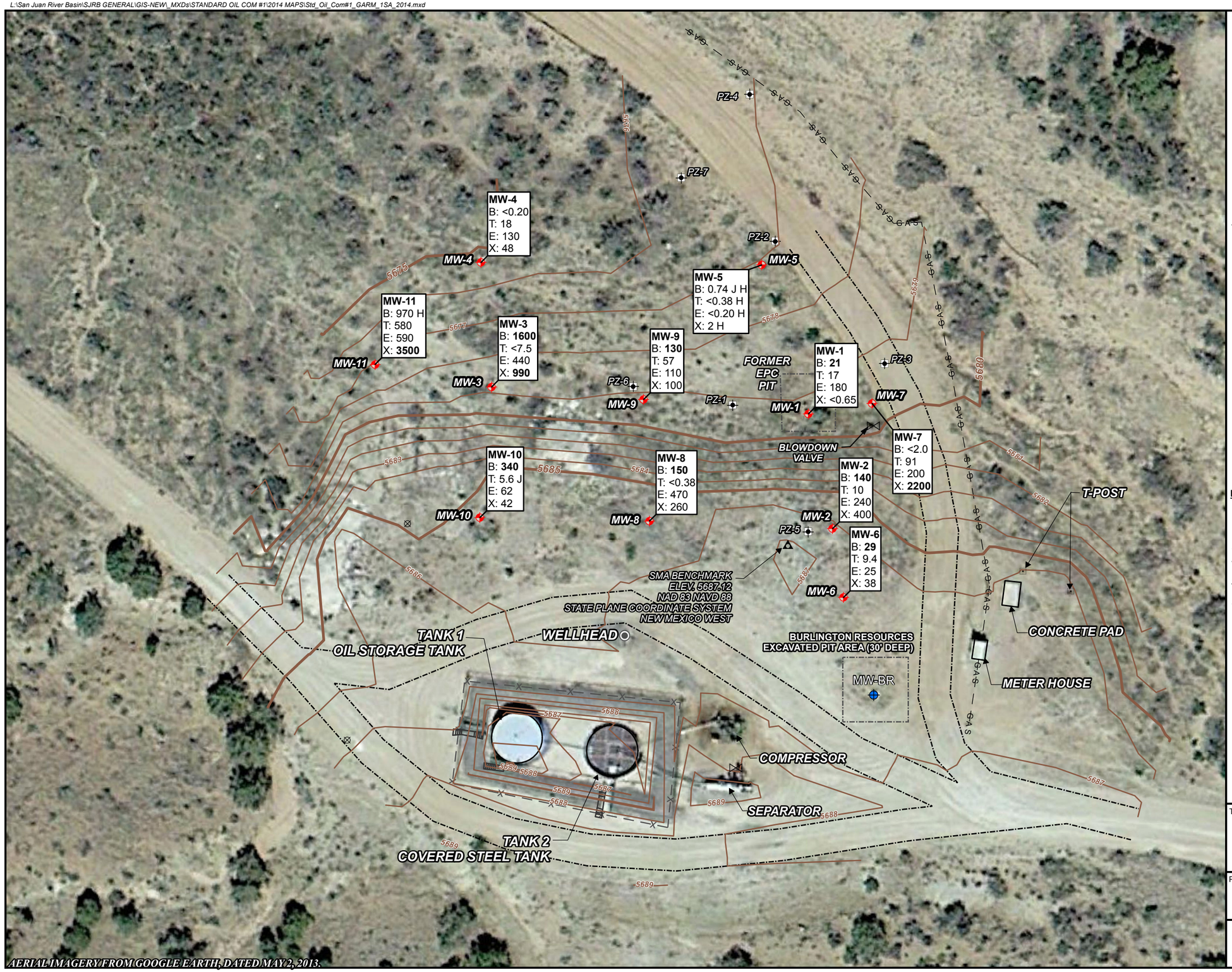
TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Standard Oil Com #1								
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**
NMWQCC Standards:		10	750	750	620	NA	NA	NA
MW-6	12/12/13	60	35	73	220	27.63	-	-
MW-6	04/04/14	29	9.4	25	38	27.20	-	-
MW-6	10/24/14	43	<0.70	20	2.5 J	27.69	-	-
MW-7	12/12/13	<1.0	110	200	2200	21.40	-	-
MW-7	04/04/14	<2.0	91	200	2200	21.00	-	-
MW-7	10/24/14	<3.8	53	380	3400	21.52	-	-
MW-8	12/12/13	350	53	480	780	27.95	-	-
MW-8	04/04/14	150	<0.38	470	260	27.49	-	-
MW-8	10/24/14	180	<1.4	460	70	28.09	-	-
MW-9	12/12/13	250	110	250	310	21.61	-	-
MW-9	04/04/14	130	57	110	100	21.11	-	-
MW-9	10/24/14	120	2.5	100	29	21.66	-	-
MW-10	12/12/13	1600	460	130	1100	27.74	-	-
MW-10	04/04/14	340	5.6 J	62	42	27.30	-	-
MW-10	10/24/14	430	<1.4	63	12 J	27.91	-	-
MW-11	12/12/13	1800	270	410	3000	20.16	-	-
MW-11	04/04/14	970 H	580	590	3500	19.72	-	-
MW-11	10/24/14	1800	210	380	2400	20.32	-	-

Notes:
Results highlighted yellow exceed their respective New Mexico Water Quality Control Comission standards.
"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).

FIGURES

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STANDARD OIL COM #1\2014 MAPS\Std_Oil_Com#1_GARM_1SA_2014.mxd



LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PW — PRODUCED WATER LINE
- GAS — NATURAL GAS PIPELINE
- 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.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<0.30 = BELOW METHOD DETECTION LIMIT
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.
MDL = METHOD DETECTION LIMIT
RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

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

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/15/2014	CCL	CCL	DCW

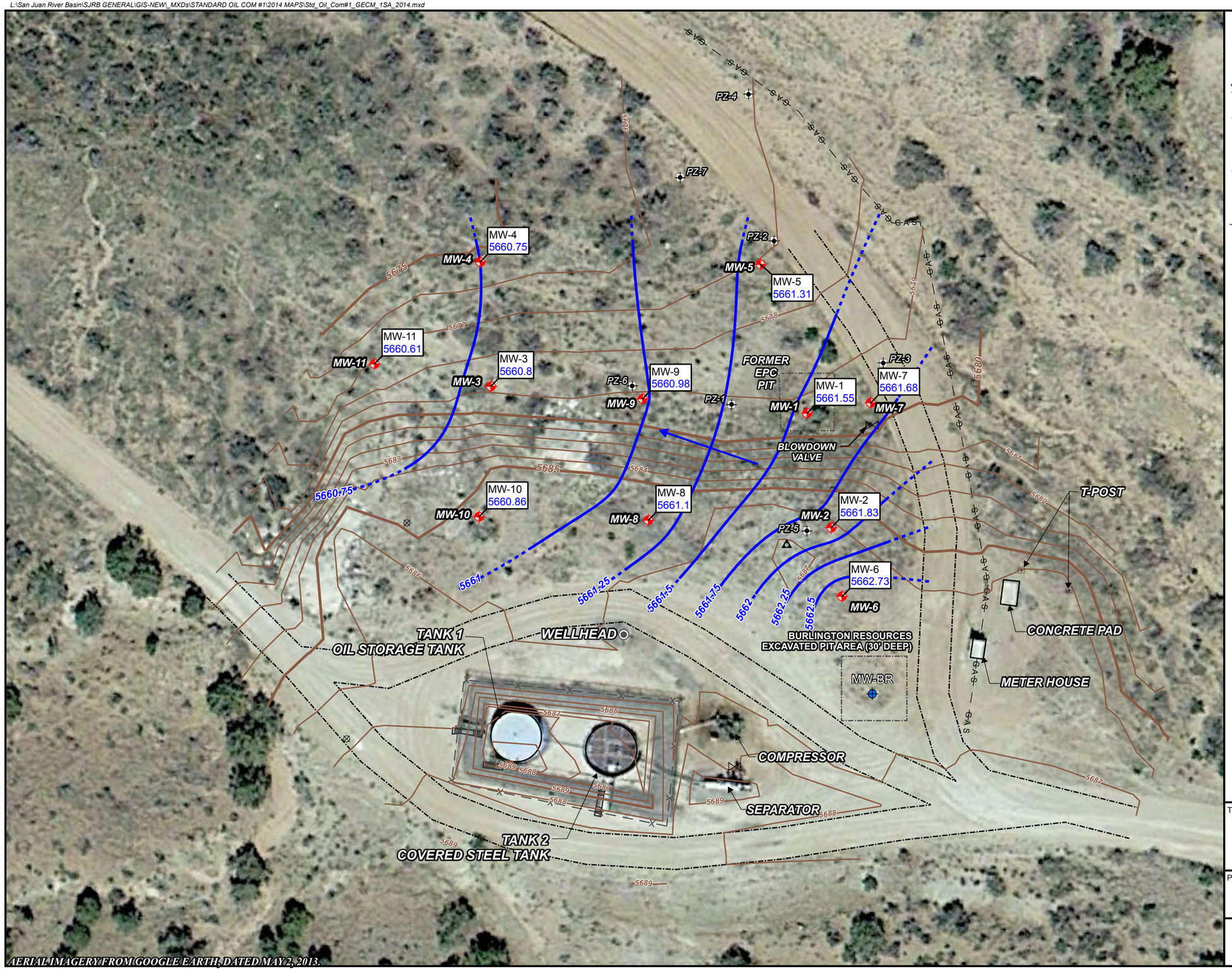
TITLE:
STANDARD OIL COM #1
GROUNDWATER ANALYTICAL RESULTS
SAMPLED APRIL 4, 2014

PROJECT:
SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 1

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STANDARD OIL COM #1\2014 MAPS\Std_Oil_Com#1_GECM_1SA_2014.mxd



AERIAL IMAGERY FROM GOOGLE EARTH, DATED MAY 2, 2013.

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- —x— — FENCE
- FORMER PIT
- —PW— PRODUCED WATER LINE
- —GAS— NATURAL GAS PIPELINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- OTHER MONITORING WELL
- RIG ANCHOR

NOTES:

5662.30 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

-5661.75- — CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

→ DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/15/2014	CCL	CCL	DCW

TITLE:

STANDARD OIL COM #1
GROUNDWATER ELEVATION MAP
GAUGED APRIL 4, 2014

PROJECT:

SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 2

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STANDARD OIL COM #1\2014 MAPS\Std_Oil_Com#1_GARM_2SA_2014.mxd

MW-4
B: <0.38
T: <0.70
E: 100
X: 12

MW-11
B: **1800**
T: 210
E: 380
X: **2400**

MW-3
B: **1300**
T: <3.5
E: 340
X: 490

MW-9
B: **120**
T: 2.5
E: 100
X: 29

MW-5
DRY

MW-1
B: **11**
T: <0.70
E: 120
X: <1.6

MW-7
B: <3.8
T: 53
E: 380
X: **3400**

MW-10
B: **430**
T: <1.4
E: 63
X: 12 J

MW-8
B: **180**
T: <1.4
E: 460
X: 70

MW-2
B: **59**
T: <0.70
E: 62
X: 1.6 J

MW-6
B: **43**
T: <0.70
E: 20
X: 2.5 J

PZ-4
PZ-7
PZ-2
PZ-6
PZ-1
PZ-5
MW-4
MW-5
MW-11
MW-3
MW-9
MW-1
MW-7
MW-10
MW-8
MW-2
MW-6
MW-BR

FORMER EPC PIT
BLOWDOWN VALVE
SMA BENCHMARK
ELEV. 5687.12
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST
TANK 1
OIL STORAGE TANK
WELLHEAD
BURLINGTON RESOURCES
EXCAVATED PIT AREA (30' DEEP)
COMPRESSOR
SEPARATOR
TANK 2
COVERED STEEL TANK
T-POST
CONCRETE PAD
METER HOUSE

5675 5676 5677 5678 5679 5680 5681 5682 5683 5684 5685 5686 5687 5688 5689

AERIAL IMAGERY FROM GOOGLE EARTH, DATED MAY 2, 2013.

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PW — PRODUCED WATER LINE
- GAS — NATURAL GAS PIPELINE
- 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.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<0.30 = BELOW METHOD DETECTION LIMIT
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.
MDL = METHOD DETECTION LIMIT
RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

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

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	11/19/2014	CCL	CCL	DCW

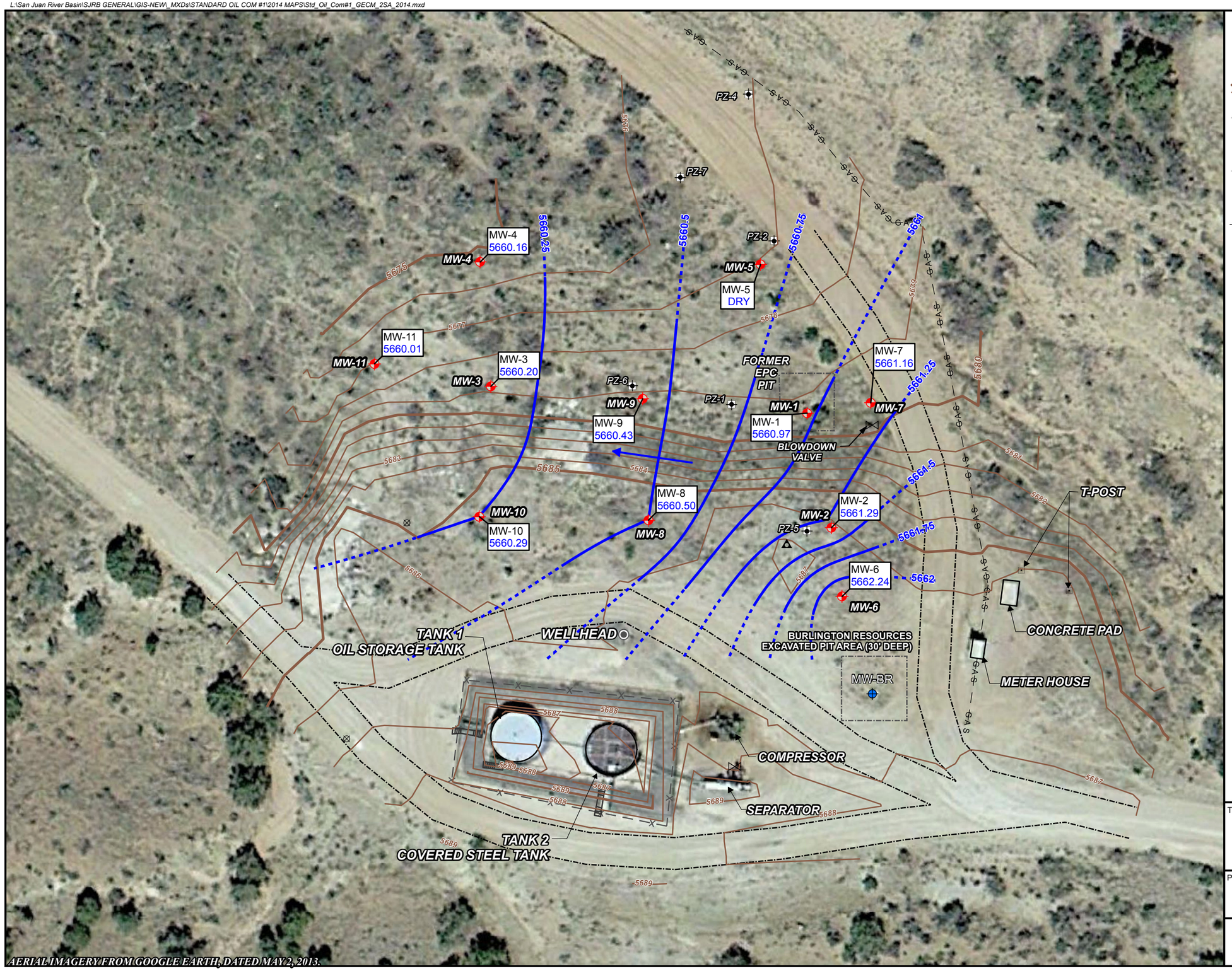
TITLE:
STANDARD OIL COM #1
GROUNDWATER ANALYTICAL RESULTS
SAMPLED OCTOBER 24, 2014

PROJECT:
SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: **3**

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\STANDARD OIL COM #1\2014 MAPS\Std_Oil_Com#1_GECM_2SA_2014.mxd



AERIAL IMAGERY FROM GOOGLE EARTH, DATED MAY 2, 2013.

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PW — PRODUCED WATER LINE
- GAS — NATURAL GAS PIPELINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- OTHER MONITORING WELL
- RIG ANCHOR

NOTES:

5662.30 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

-5661.75- — CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	11/18/2014	CCL	CCL	DCW

TITLE:

STANDARD OIL COM #1
GROUNDWATER ELEVATION MAP
GAUGED OCTOBER 24, 2014

PROJECT:

SAN JUAN RIVER BASIN
MONITORING AND REMEDIATION
SAN JUAN COUNTY, NEW MEXICO

MWH

Figure No.: 4

APPENDICES

APPENDIX A – APRIL 4, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT
OCTOBER 24, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 560-46619-1
Client Project/Site: Standard Oil Com, 4/4/14 BTEX

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

Attn: Ms. Sarah Gardner

Authorized for release by:
4/28/2014 5:56:20 PM

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

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
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)

Detection Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Client Sample ID: MW-1 — Lab Sample ID: 560-46619-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	21		2.0	0.20	ug/L	1		8021B	Total/NA
Toluene	17		2.0	0.38	ug/L	1		8021B	Total/NA
Ethylbenzene	180		2.0	0.20	ug/L	1		8021B	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 560-46619-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140		4.0	0.40	ug/L	2		8021B	Total/NA
Toluene	10		4.0	0.75	ug/L	2		8021B	Total/NA
Ethylbenzene	240		4.0	0.40	ug/L	2		8021B	Total/NA
Xylenes, Total	400		4.0	1.3	ug/L	2		8021B	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 560-46619-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1600		40	4.0	ug/L	20		8021B	Total/NA
Ethylbenzene	440		40	4.0	ug/L	20		8021B	Total/NA
Xylenes, Total	990		40	13	ug/L	20		8021B	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 560-46619-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	18		2.0	0.38	ug/L	1		8021B	Total/NA
Ethylbenzene	130		2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	48		2.0	0.65	ug/L	1		8021B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 560-46619-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.74	J H	2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	2.0	H	2.0	0.65	ug/L	1		8021B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 560-46619-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	29		2.0	0.20	ug/L	1		8021B	Total/NA
Toluene	9.4		2.0	0.38	ug/L	1		8021B	Total/NA
Ethylbenzene	25		2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	38		2.0	0.65	ug/L	1		8021B	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 560-46619-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	91		20	3.8	ug/L	10		8021B	Total/NA
Ethylbenzene	200		20	2.0	ug/L	10		8021B	Total/NA
Xylenes, Total	2200		20	6.5	ug/L	10		8021B	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 560-46619-8

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Client Sample ID: MW-8 (Continued) — Lab Sample ID: 560-46619-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150		2.0	0.20	ug/L	1		8021B	Total/NA
Ethylbenzene	470		10	1.0	ug/L	5		8021B	Total/NA
Xylenes, Total	260		2.0	0.65	ug/L	1		8021B	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 560-46619-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	130		2.0	0.20	ug/L	1		8021B	Total/NA
Toluene	57		2.0	0.38	ug/L	1		8021B	Total/NA
Ethylbenzene	110		2.0	0.20	ug/L	1		8021B	Total/NA
Xylenes, Total	100		2.0	0.65	ug/L	1		8021B	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 560-46619-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	340		8.0	0.80	ug/L	4		8021B	Total/NA
Toluene	5.6	J	8.0	1.5	ug/L	4		8021B	Total/NA
Ethylbenzene	62		8.0	0.80	ug/L	4		8021B	Total/NA
Xylenes, Total	42		8.0	2.6	ug/L	4		8021B	Total/NA

Client Sample ID: MW-11 — Lab Sample ID: 560-46619-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	970	H	40	4.0	ug/L	20		8021B	Total/NA
Toluene	580		20	3.8	ug/L	10		8021B	Total/NA
Ethylbenzene	590		20	2.0	ug/L	10		8021B	Total/NA
Xylenes, Total	3500		20	6.5	ug/L	10		8021B	Total/NA

Client Sample ID: SP-1 — Lab Sample ID: 560-46619-12

No Detections.

Client Sample ID: SP-2 — Lab Sample ID: 560-46619-13

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 560-46619-14

No Detections.

This Detection Summary does not include radiochemical test results.

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Client Sample ID: MW-1

Lab Sample ID: 560-46619-1

Date Collected: 04/04/14 15:40
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**21**		2.0	0.20	ug/L			04/17/14 19:00	1
Toluene	**17**		2.0	0.38	ug/L			04/17/14 19:00	1
Ethylbenzene	**180**		2.0	0.20	ug/L			04/17/14 19:00	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*58 - 129*		*04/17/14 19:00*	*1*
Trifluorotoluene (Surr)	*101*		*54 - 130*		*04/17/14 19:00*	*1*

Client Sample ID: MW-2

Lab Sample ID: 560-46619-2

Date Collected: 04/04/14 15:35
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**140**		4.0	0.40	ug/L			04/17/14 19:27	2
Toluene	**10**		4.0	0.75	ug/L			04/17/14 19:27	2
Ethylbenzene	**240**		4.0	0.40	ug/L			04/17/14 19:27	2
Xylenes, Total	**400**		4.0	1.3	ug/L			04/17/14 19:27	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*58 - 129*		*04/17/14 19:27*	*2*
Trifluorotoluene (Surr)	*87*		*54 - 130*		*04/17/14 19:27*	*2*

Client Sample ID: MW-3

Lab Sample ID: 560-46619-3

Date Collected: 04/04/14 15:55
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1600**		40	4.0	ug/L			04/17/14 19:54	20
Toluene	<7.5		40	7.5	ug/L			04/17/14 19:54	20
Ethylbenzene	**440**		40	4.0	ug/L			04/17/14 19:54	20
Xylenes, Total	**990**		40	13	ug/L			04/17/14 19:54	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*58 - 129*		*04/17/14 19:54*	*20*
Trifluorotoluene (Surr)	*82*		*54 - 130*		*04/17/14 19:54*	*20*

Client Sample ID: MW-4

Lab Sample ID: 560-46619-4

Date Collected: 04/04/14 16:00
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 20:07	1
Toluene	**18**		2.0	0.38	ug/L			04/16/14 20:07	1
Ethylbenzene	**130**		2.0	0.20	ug/L			04/16/14 20:07	1
Xylenes, Total	**48**		2.0	0.65	ug/L			04/16/14 20:07	1

Client Sample ID: MW-4

Lab Sample ID: 560-46619-4

Date Collected: 04/04/14 16:00
Matrix: Water
Date Received: 04/08/14 09:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*109*		*58 - 129*		*04/16/14 20:07*	*1*
Trifluorotoluene (Surr)	*110*		*54 - 130*		*04/16/14 20:07*	*1*

Client Sample ID: MW-5

Lab Sample ID: 560-46619-5

Date Collected: 04/04/14 15:45
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.74**	**J H**	2.0	0.20	ug/L			04/19/14 07:49	1
Toluene	<0.38	H	2.0	0.38	ug/L			04/19/14 07:49	1
Ethylbenzene	<0.20	H	2.0	0.20	ug/L			04/19/14 07:49	1
Xylenes, Total	**2.0**	**H**	2.0	0.65	ug/L			04/19/14 07:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*69*		*58 - 129*		*04/19/14 07:49*	*1*
Trifluorotoluene (Surr)	*89*		*54 - 130*		*04/19/14 07:49*	*1*

Client Sample ID: MW-6

Lab Sample ID: 560-46619-6

Date Collected: 04/04/14 15:30
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**29**		2.0	0.20	ug/L			04/17/14 20:48	1
Toluene	**9.4**		2.0	0.38	ug/L			04/17/14 20:48	1
Ethylbenzene	**25**		2.0	0.20	ug/L			04/17/14 20:48	1
Xylenes, Total	**38**		2.0	0.65	ug/L			04/17/14 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*114*		*58 - 129*		*04/17/14 20:48*	*1*
Trifluorotoluene (Surr)	*65*		*54 - 130*		*04/17/14 20:48*	*1*

Client Sample ID: MW-7

Lab Sample ID: 560-46619-7

Date Collected: 04/04/14 16:10
Matrix: Water
Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.0		20	2.0	ug/L			04/17/14 21:15	10
Toluene	**91**		20	3.8	ug/L			04/17/14 21:15	10
Ethylbenzene	**200**		20	2.0	ug/L			04/17/14 21:15	10
Xylenes, Total	**2200**		20	6.5	ug/L			04/17/14 21:15	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*119*		*58 - 129*		*04/17/14 21:15*	*10*
Trifluorotoluene (Surr)	*87*		*54 - 130*		*04/17/14 21:15*	*10*

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Client Sample ID: MW-8

Lab Sample ID: 560-46619-8

Date Collected: 04/04/14 15:25

Matrix: Water

Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	150		2.0	0.20	ug/L			04/16/14 20:35	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 20:35	1
Ethylbenzene	470		10	1.0	ug/L			04/17/14 21:42	5
Xylenes, Total	260		2.0	0.65	ug/L			04/16/14 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*58 - 129*		*04/16/14 20:35*	*1*
Trifluorotoluene (Surr)	*103*		*54 - 130*		*04/16/14 20:35*	*1*

Client Sample ID: MW-9

Lab Sample ID: 560-46619-9

Date Collected: 04/04/14 15:50

Matrix: Water

Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	130		2.0	0.20	ug/L			04/18/14 22:56	1
Toluene	57		2.0	0.38	ug/L			04/18/14 22:56	1
Ethylbenzene	110		2.0	0.20	ug/L			04/18/14 22:56	1
Xylenes, Total	100		2.0	0.65	ug/L			04/18/14 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*58 - 129*		*04/18/14 22:56*	*1*
Trifluorotoluene (Surr)	*101*		*54 - 130*		*04/18/14 22:56*	*1*

Client Sample ID: MW-10

Lab Sample ID: 560-46619-10

Date Collected: 04/04/14 15:20

Matrix: Water

Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	340		8.0	0.80	ug/L			04/18/14 23:23	4
Toluene	5.6	J	8.0	1.5	ug/L			04/18/14 23:23	4
Ethylbenzene	62		8.0	0.80	ug/L			04/18/14 23:23	4
Xylenes, Total	42		8.0	2.6	ug/L			04/18/14 23:23	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*58 - 129*		*04/18/14 23:23*	*4*
Trifluorotoluene (Surr)	*100*		*54 - 130*		*04/18/14 23:23*	*4*

Client Sample ID: MW-11

Lab Sample ID: 560-46619-11

Date Collected: 04/04/14 16:05

Matrix: Water

Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	970	H	40	4.0	ug/L			04/21/14 14:32	20
Toluene	580		20	3.8	ug/L			04/18/14 23:51	10
Ethylbenzene	590		20	2.0	ug/L			04/18/14 23:51	10
Xylenes, Total	3500		20	6.5	ug/L			04/18/14 23:51	10

Client Sample ID: MW-11

Lab Sample ID: 560-46619-11

Date Collected: 04/04/14 16:05

Matrix: Water

Date Received: 04/08/14 09:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*75*		*58 - 129*		*04/18/14 23:51*	*10*
4-Bromofluorobenzene (Surr)	*66*		*58 - 129*		*04/21/14 14:32*	*20*
Trifluorotoluene (Surr)	*90*		*54 - 130*		*04/18/14 23:51*	*10*
Trifluorotoluene (Surr)	*87*		*54 - 130*		*04/21/14 14:32*	*20*

Client Sample ID: SP-1

Lab Sample ID: 560-46619-12

Date Collected: 04/06/14 15:00

Matrix: Solid

Date Received: 04/08/14 09:45

Percent Solids: 70.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.31	H	6.6	0.31	ug/Kg	☼		04/21/14 17:38	1
Ethylbenzene	<0.60	H	6.6	0.60	ug/Kg	☼		04/21/14 17:38	1
Toluene	<1.2	H	6.6	1.2	ug/Kg	☼		04/21/14 17:38	1
Xylenes, Total	<0.66	H	13	0.66	ug/Kg	☼		04/21/14 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*98*		*65 - 139*		*04/21/14 17:38*	*1*
4-Bromofluorobenzene (Surr)	*97*		*61 - 136*		*04/21/14 17:38*	*1*
Dibromofluoromethane (Surr)	*102*		*50 - 136*		*04/21/14 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*65 - 152*		*04/21/14 17:38*	*1*

Client Sample ID: SP-2

Lab Sample ID: 560-46619-13

Date Collected: 04/06/14 15:10

Matrix: Solid

Date Received: 04/08/14 09:45

Percent Solids: 94.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.22	H	4.9	0.22	ug/Kg	☼		04/21/14 18:03	1
Ethylbenzene	<0.44	H	4.9	0.44	ug/Kg	☼		04/21/14 18:03	1
Toluene	<0.87	H	4.9	0.87	ug/Kg	☼		04/21/14 18:03	1
Xylenes, Total	<0.49	H	9.7	0.49	ug/Kg	☼		04/21/14 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*97*		*65 - 139*		*04/21/14 18:03*	*1*
4-Bromofluorobenzene (Surr)	*96*		*61 - 136*		*04/21/14 18:03*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 136*		*04/21/14 18:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*65 - 152*		*04/21/14 18:03*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 560-46619-14

Date Collected: 04/06/14 00:00

Matrix: Water

Date Received: 04/08/14 09:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 22:09	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 22:09	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 22:09	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 22:09	1

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Client Sample ID: Trip Blank
Date Collected: 04/06/14 00:00
Date Received: 04/08/14 09:45

Lab Sample ID: 560-46619-14
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		58 - 129		04/17/14 22:09	1
Trifluorotoluene (Surr)	83		54 - 130		04/17/14 22:09	1

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

Lab Sample ID: MB 560-101054/8
Matrix: Solid
Analysis Batch: 101054

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.23		5.0	0.23	ug/Kg			04/21/14 10:55	1
Ethylbenzene	<0.45		5.0	0.45	ug/Kg			04/21/14 10:55	1
Toluene	<0.90		5.0	0.90	ug/Kg			04/21/14 10:55	1
Xylenes, Total	<0.50		10	0.50	ug/Kg			04/21/14 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*65 - 139*		*04/21/14 10:55*	*1*
4-Bromofluorobenzene (Surr)	*97*		*61 - 136*		*04/21/14 10:55*	*1*
Dibromofluoromethane (Surr)	*99*		*50 - 136*		*04/21/14 10:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*65 - 152*		*04/21/14 10:55*	*1*

Lab Sample ID: LCS 560-101054/3
Matrix: Solid
Analysis Batch: 101054

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	26.3		ug/Kg		105	70 - 130
Ethylbenzene	25.0	26.5		ug/Kg		106	70 - 130
Toluene	25.0	26.7		ug/Kg		107	70 - 130
Xylenes, Total	50.0	53.3		ug/Kg		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*65 - 139*
4-Bromofluorobenzene (Surr)	*99*		*61 - 136*
Dibromofluoromethane (Surr)	*102*		*50 - 136*
1,2-Dichloroethane-d4 (Surr)	*103*		*65 - 152*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-100888/3
Matrix: Water
Analysis Batch: 100888

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 10:43	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 10:43	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/16/14 10:43	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/16/14 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*58 - 129*		*04/16/14 10:43*	*1*
Trifluorotoluene (Surr)	*88*		*54 - 130*		*04/16/14 10:43*	*1*

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

Lab Sample ID: LCS 560-100888/2
Matrix: Water
Analysis Batch: 100888

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	40.0		ug/L		100	70 - 130
Toluene	40.0	41.1		ug/L		103	70 - 130
Ethylbenzene	40.0	40.9		ug/L		102	70 - 130
Xylenes, Total	120	118		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*58 - 129*
Trifluorotoluene (Surr)	*99*		*54 - 130*

Lab Sample ID: MB 560-100952/3
Matrix: Water
Analysis Batch: 100952

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 11:05	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 11:05	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 11:05	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 11:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*58 - 129*		*04/17/14 11:05*	*1*
Trifluorotoluene (Surr)	*77*		*54 - 130*		*04/17/14 11:05*	*1*

Lab Sample ID: LCS 560-100952/2
Matrix: Water
Analysis Batch: 100952

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	38.8		ug/L		97	70 - 130
Toluene	40.0	40.3		ug/L		101	70 - 130
Ethylbenzene	40.0	39.8		ug/L		99	70 - 130
Xylenes, Total	120	114		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*58 - 129*
Trifluorotoluene (Surr)	*82*		*54 - 130*

Lab Sample ID: 560-46619-3 MS
Matrix: Water
Analysis Batch: 100952

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1600		800	2310		ug/L		93	64 - 130
Toluene	<7.5		800	868		ug/L		108	59 - 130
Ethylbenzene	440		800	1310		ug/L		108	63 - 133
Xylenes, Total	990		2400	3380		ug/L		99	53 - 147

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

Lab Sample ID: 560-46619-3 MS
Matrix: Water
Analysis Batch: 100952

Client Sample ID: MW-3
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*128*		*58 - 129*
Trifluorotoluene (Surr)	*100*		*54 - 130*

Lab Sample ID: 560-46619-3 MSD
Matrix: Water
Analysis Batch: 100952

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	1600		800	2380		ug/L		102	64 - 130	3	20
Toluene	<7.5		800	889		ug/L		111	59 - 130	2	20
Ethylbenzene	440		800	1310		ug/L		108	63 - 133	0	20
Xylenes, Total	990		2400	3390		ug/L		100	53 - 147	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*118*		*58 - 129*
Trifluorotoluene (Surr)	*82*		*54 - 130*

Lab Sample ID: MB 560-101042/3
Matrix: Water
Analysis Batch: 101042

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/18/14 22:28	1
Toluene	<0.38		2.0	0.38	ug/L			04/18/14 22:28	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/18/14 22:28	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/18/14 22:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*65*		*58 - 129*		*04/18/14 22:28*	*1*
Trifluorotoluene (Surr)	*88*		*54 - 130*		*04/18/14 22:28*	*1*

Lab Sample ID: LCS 560-101042/2
Matrix: Water
Analysis Batch: 101042

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	36.4		ug/L		91	70 - 130
Toluene	40.0	41.7		ug/L		104	70 - 130
Ethylbenzene	40.0	41.9		ug/L		105	70 - 130
Xylenes, Total	120	122		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*81*		*58 - 129*
Trifluorotoluene (Surr)	*98*		*54 - 130*

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

Lab Sample ID: 560-46619-11 MS
Matrix: Water
Analysis Batch: 101042

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2300		400	2570	E 4	ug/L		65	64 - 130
Toluene	580		400	933		ug/L		88	59 - 130
Ethylbenzene	590		400	909		ug/L		80	63 - 133
Xylenes, Total	3500		1200	4210		ug/L		57	53 - 147

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*58 - 129*
Trifluorotoluene (Surr)	*94*		*54 - 130*

Lab Sample ID: 560-46619-11 MSD
Matrix: Water
Analysis Batch: 101042

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	2300		400	2570	E 4	ug/L		66	64 - 130	0	20
Toluene	580		400	947		ug/L		91	59 - 130	2	20
Ethylbenzene	590		400	950		ug/L		90	63 - 133	4	20
Xylenes, Total	3500		1200	4350		ug/L		68	53 - 147	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*76*		*58 - 129*
Trifluorotoluene (Surr)	*94*		*54 - 130*

Lab Sample ID: MB 560-101063/3
Matrix: Water
Analysis Batch: 101063

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/21/14 13:33	1
Toluene	<0.38		2.0	0.38	ug/L			04/21/14 13:33	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/21/14 13:33	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/21/14 13:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*58 - 129*		*04/21/14 13:33*	*1*
Trifluorotoluene (Surr)	*85*		*54 - 130*		*04/21/14 13:33*	*1*

Lab Sample ID: LCS 560-101063/2
Matrix: Water
Analysis Batch: 101063

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	40.0	32.3		ug/L		81	70 - 130
Toluene	40.0	38.0		ug/L		95	70 - 130
Ethylbenzene	40.0	38.6		ug/L		96	70 - 130
Xylenes, Total	120	112		ug/L		93	70 - 130

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

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

Lab Sample ID: LCS 560-101063/2
Matrix: Water
Analysis Batch: 101063

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*71*		*58 - 129*
Trifluorotoluene (Surr)	*88*		*54 - 130*

Certification Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Laboratory: TestAmerica Corpus Christi

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

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

Method Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8021B	Volatile Organic Compounds (GC)	SW846	TAL CC
Moisture	Percent Moisture	EPA	TAL CC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

Sample Summary

Client: MWH Americas Inc
Project/Site: Standard Oil Com, 4/4/14 BTEX

TestAmerica Job ID: 560-46619-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46619-1	MW-1	Water	04/04/14 15:40	04/08/14 09:45
560-46619-2	MW-2	Water	04/04/14 15:35	04/08/14 09:45
560-46619-3	MW-3	Water	04/04/14 15:55	04/08/14 09:45
560-46619-4	MW-4	Water	04/04/14 16:00	04/08/14 09:45
560-46619-5	MW-5	Water	04/04/14 15:45	04/08/14 09:45
560-46619-6	MW-6	Water	04/04/14 15:30	04/08/14 09:45
560-46619-7	MW-7	Water	04/04/14 16:10	04/08/14 09:45
560-46619-8	MW-8	Water	04/04/14 15:25	04/08/14 09:45
560-46619-9	MW-9	Water	04/04/14 15:50	04/08/14 09:45
560-46619-10	MW-10	Water	04/04/14 15:20	04/08/14 09:45
560-46619-11	MW-11	Water	04/04/14 16:05	04/08/14 09:45
560-46619-12	SP-1	Solid	04/06/14 15:00	04/08/14 09:45
560-46619-13	SP-2	Solid	04/06/14 15:10	04/08/14 09:45
560-46619-14	Trip Blank	Water	04/06/14 00:00	04/08/14 09:45

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

Chain of Custody Record

Client Information	Sampler: Sarah Gardner/Chris Lee	Lab PM: Kellogg, Timothy L.	Carrier Tracking No(s): Fedex 8995 2775 7397	COC No: 560-13131-1157
Client Contact: ~~Mr. Daniel Wade~~ Sarah Gardner	Phone: 303 291 2239	E-Mail: tim.kellogg@testamericainc.com		Page: Page 1 of 2
Company: MWH Americas Inc				Job #:
Address: 1801 California Street Suite 2900	Due Date Requested:			Loc: 560 46619
City: Denver	TAT Requested (days):			
State, Zip: CO, 80202				
Phone: ~~713-420-3414(Tel)~~ 303 291 2239	PO #: Purchase Order not required			
Email: sarah.gardner Daniel.A.Wade@us.mwhglobal.com	WO #: TWO # C-STLI-			
Project Name: San Juan River Basin Pit Sites	Project #: 56000058			
Site: Standard Oil Com	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
mw-1	4/4/14	1540		Water			X	3	
mw-2	4/4/14	1535		Water			X	3	
mw-3	4/4/14	1555		Water			X	3	
mw-4	4/4/14	1600		Water			X	3	
mw-5	4/4/14	1545		Water			X	3	
mw-6	4/4/14	1530		Water			X	3	
mw-7	4/4/14	1610		Water			X	3	
mw-8	4/4/14	1525		Water			X	3	
mw-9	4/4/14	1550		Water			X	3	
mw-10	4/4/14	1520		Water			X	3	
mw-11	4/4/14	1605		Water			X	3	

560-46619 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Sarah Gardner	4/7/14 900	MWH		4/8/14 9:45	TREC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		Seal 6058 1.6 °C Cor 1.8 °C IR4

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

Chain of Custody Record

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
Client Contact: ~~Mr. Daniel Wade~~ Sarah Gardner	Chris Lee / Sarah Gardner	Kellogg, Timothy L.	Fedex	560-13131-1157
Company: MWH Americas Inc	Phone: 303 291 2239	E-Mail: tim.kellogg@testamericainc.com	6945 2775 7398	Page: Page 2 of 2
Address: 1801 California Street Suite 2900	Due Date Requested:			Job #:
City: Denver	TAT Requested (days):			
State, Zip: CO, 80202	PO #: Purchase Order not required			
Phone: ~~713-420-3414(Tel)~~ 303 291 2239	WO #: TWO # C-STLI-			
Email: sarah.gardner ~~Daniel.A.Wade~~@us.mwhglobal.com	Project #: 56000058			
Project Name: San Juan River Basin Pit Sites	SSOW#:			
Site: Standard Oil Com				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
SP-1	4/6/14	1500	C	~~Water~~ SOIL			X	1	
SP-2	4/6/14	1510	C	~~Water~~ SOIL			X	1	
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					

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

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

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

Special Instructions/QC Requirements:

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

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: Sarah Gardner	4/7/14 900	MWH	Kelli Ho	4/8/14 9:45	TACC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Cooler Temperature(s) °C and Other Remarks: Seal on 1.6 & Cor 1.8 & IR4

Page 19 of 20

4/28/2014

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-46619-1
SDG Number:

Login Number: 46619
List Number: 1
Creator: Rood, Vivian R

List Source: TestAmerica Corpus Christi

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

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: 400-97683-1
Client Project/Site: KM Standard Oil COM #1

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

Attn: Ms. Sarah Gardner

Authorized for release by:
11/6/2014 1:46:56 PM
Bernard Kirkland, Manager of Project Management
(912)354-7858 e.3238
bernard.kirkland@testamericainc.com

Designee for

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 400-97683-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Job ID: 400-97683-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-97683-1

Comments
No additional comments.

Receipt
The samples were received on 10/28/2014 9:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

Except:

One of three containers for the following sample was received broken or leaking: MW-2 (400-97683-2). Sample analysis was not impacted.

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

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

Sample Summary

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

TestAmerica Job ID: 400-97683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97683-1	MW-1	Water	10/24/14 09:25	10/28/14 09:39
400-97683-2	MW-2	Water	10/24/14 09:20	10/28/14 09:39
400-97683-3	MW-3	Water	10/24/14 09:35	10/28/14 09:39
400-97683-4	MW-4	Water	10/24/14 09:40	10/28/14 09:39
400-97683-5	MW-6	Water	10/24/14 09:15	10/28/14 09:39
400-97683-6	MW-7	Water	10/24/14 09:30	10/28/14 09:39
400-97683-7	MW-8	Water	10/24/14 09:10	10/28/14 09:39
400-97683-8	MW-9	Water	10/24/14 09:30	10/28/14 09:39
400-97683-9	MW-10	Water	10/24/14 09:10	10/28/14 09:39
400-97683-10	MW-11	Water	10/24/14 09:45	10/28/14 09:39
400-97683-11	TRIP BLANK	Water	10/24/14 10:00	10/28/14 09:39

Client Sample ID: MW-1

Lab Sample ID: 400-97683-1

Date Collected: 10/24/14 09:25

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**11**		1.0	0.38	ug/L			11/01/14 18:13	1
Ethylbenzene	**120**		1.0	0.50	ug/L			11/01/14 18:13	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 18:13	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*78 - 118*		*11/01/14 18:13*	*1*
Dibromofluoromethane	*104*		*81 - 121*		*11/01/14 18:13*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*11/01/14 18:13*	*1*

Client Sample ID: MW-2

Lab Sample ID: 400-97683-2

Date Collected: 10/24/14 09:20

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**59**		1.0	0.38	ug/L			11/01/14 18:39	1
Ethylbenzene	**62**		1.0	0.50	ug/L			11/01/14 18:39	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 18:39	1
Xylenes, Total	**1.6**	**J**	10	1.6	ug/L			11/01/14 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*11/01/14 18:39*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*11/01/14 18:39*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/01/14 18:39*	*1*

Client Sample ID: MW-3

Lab Sample ID: 400-97683-3

Date Collected: 10/24/14 09:35

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1300**		5.0	1.9	ug/L			11/01/14 21:34	5
Ethylbenzene	**340**		5.0	2.5	ug/L			11/01/14 21:34	5
Toluene	<3.5		5.0	3.5	ug/L			11/01/14 21:34	5
Xylenes, Total	**490**		50	8.0	ug/L			11/01/14 21:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*11/01/14 21:34*	*5*
Dibromofluoromethane	*97*		*81 - 121*		*11/01/14 21:34*	*5*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/01/14 21:34*	*5*

Client Sample ID: MW-4

Lab Sample ID: 400-97683-4

Date Collected: 10/24/14 09:40

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 19:04	1
Ethylbenzene	**100**		1.0	0.50	ug/L			11/01/14 19:04	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 19:04	1

Client Sample ID: MW-4

Lab Sample ID: 400-97683-4

Date Collected: 10/24/14 09:40

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**12**		10	1.6	ug/L			11/01/14 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*89*		*78 - 118*		*11/01/14 19:04*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*11/01/14 19:04*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/01/14 19:04*	*1*

Client Sample ID: MW-6

Lab Sample ID: 400-97683-5

Date Collected: 10/24/14 09:15

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**43**		1.0	0.38	ug/L			11/01/14 19:29	1
Ethylbenzene	**20**		1.0	0.50	ug/L			11/01/14 19:29	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 19:29	1
Xylenes, Total	**2.5**	**J**	10	1.6	ug/L			11/01/14 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*78 - 118*		*11/01/14 19:29*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*11/01/14 19:29*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*11/01/14 19:29*	*1*

Client Sample ID: MW-7

Lab Sample ID: 400-97683-6

Date Collected: 10/24/14 09:30

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<3.8		10	3.8	ug/L			11/01/14 21:59	10
Ethylbenzene	**380**		10	5.0	ug/L			11/01/14 21:59	10
Toluene	**53**		10	7.0	ug/L			11/01/14 21:59	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*11/01/14 21:59*	*10*
Dibromofluoromethane	*99*		*81 - 121*		*11/01/14 21:59*	*10*
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/01/14 21:59*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**3400**		200	32	ug/L			11/02/14 19:55	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*11/02/14 19:55*	*20*
Dibromofluoromethane	*94*		*81 - 121*		*11/02/14 19:55*	*20*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/02/14 19:55*	*20*

Client Sample ID: MW-8

Lab Sample ID: 400-97683-7

Date Collected: 10/24/14 09:10

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	180		2.0	0.76	ug/L			11/01/14 20:44	2
Ethylbenzene	460		2.0	1.0	ug/L			11/01/14 20:44	2
Toluene	<1.4		2.0	1.4	ug/L			11/01/14 20:44	2
Xylenes, Total	70		20	3.2	ug/L			11/01/14 20:44	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*11/01/14 20:44*	*2*
Dibromofluoromethane	*94*		*81 - 121*		*11/01/14 20:44*	*2*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/01/14 20:44*	*2*

Client Sample ID: MW-9

Lab Sample ID: 400-97683-8

Date Collected: 10/24/14 09:30

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	120		1.0	0.38	ug/L			11/01/14 19:54	1
Ethylbenzene	100		1.0	0.50	ug/L			11/01/14 19:54	1
Toluene	2.5		1.0	0.70	ug/L			11/01/14 19:54	1
Xylenes, Total	29		10	1.6	ug/L			11/01/14 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*11/01/14 19:54*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*11/01/14 19:54*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/01/14 19:54*	*1*

Client Sample ID: MW-10

Lab Sample ID: 400-97683-9

Date Collected: 10/24/14 09:10

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	430		2.0	0.76	ug/L			11/01/14 21:09	2
Ethylbenzene	63		2.0	1.0	ug/L			11/01/14 21:09	2
Toluene	<1.4		2.0	1.4	ug/L			11/01/14 21:09	2
Xylenes, Total	12	J	20	3.2	ug/L			11/01/14 21:09	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*78 - 118*		*11/01/14 21:09*	*2*
Dibromofluoromethane	*95*		*81 - 121*		*11/01/14 21:09*	*2*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/01/14 21:09*	*2*

Client Sample ID: MW-11

Lab Sample ID: 400-97683-10

Date Collected: 10/24/14 09:45

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1800		10	3.8	ug/L			11/02/14 19:32	10
Ethylbenzene	380		10	5.0	ug/L			11/02/14 19:32	10
Toluene	210		10	7.0	ug/L			11/02/14 19:32	10

Client Sample ID: MW-11

Lab Sample ID: 400-97683-10

Date Collected: 10/24/14 09:45

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	**2400**		100	16	ug/L			11/02/14 19:32	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*11/02/14 19:32*	*10*
Dibromofluoromethane	*93*		*81 - 121*		*11/02/14 19:32*	*10*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/02/14 19:32*	*10*

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97683-11

Date Collected: 10/24/14 10:00

Matrix: Water

Date Received: 10/28/14 09:39

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 20:19	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 20:19	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 20:19	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*78 - 118*		*11/01/14 20:19*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/01/14 20:19*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/01/14 20:19*	*1*

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

Lab Sample ID: MB 400-235156/4
Matrix: Water
Analysis Batch: 235156

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 12:18	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 12:18	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 12:18	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 12:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*11/01/14 12:18*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*11/01/14 12:18*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/01/14 12:18*	*1*

Lab Sample ID: LCS 400-235156/1002
Matrix: Water
Analysis Batch: 235156

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	52.3		ug/L		105	79 - 120
Ethylbenzene	50.0	51.4		ug/L		103	80 - 120
Toluene	50.0	48.8		ug/L		98	80 - 120
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: 400-97683-1 MS
Matrix: Water
Analysis Batch: 235156

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	11		50.0	61.3		ug/L		102	10 - 150
Ethylbenzene	120		50.0	197	F1	ug/L		160	10 - 150
Toluene	<0.70		50.0	46.6		ug/L		93	10 - 150
Xylenes, Total	<1.6		100	98.1		ug/L		98	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*89*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 400-97683-1 MSD
Matrix: Water
Analysis Batch: 235156

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	11		50.0	65.8		ug/L		110	10 - 150	7	19
Ethylbenzene	120		50.0	201	F1	ug/L		167	10 - 150	2	40

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

Lab Sample ID: 400-97683-1 MSD
Matrix: Water
Analysis Batch: 235156

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	<0.70		50.0	49.3		ug/L		99	10 - 150	6	26
Xylenes, Total	<1.6		100	108		ug/L		108	10 - 150	10	41

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*89*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: MB 400-235170/4
Matrix: Water
Analysis Batch: 235170

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/02/14 11:21	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/02/14 11:21	1
Toluene	<0.70		1.0	0.70	ug/L			11/02/14 11:21	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/02/14 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*11/02/14 11:21*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*11/02/14 11:21*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/02/14 11:21*	*1*

Lab Sample ID: LCS 400-235170/6
Matrix: Water
Analysis Batch: 235170

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	47.6		ug/L		95	79 - 120		
Ethylbenzene			50.0	50.1		ug/L		100	80 - 120		
Toluene			50.0	50.2		ug/L		100	80 - 120		
Xylenes, Total			100	100		ug/L		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Chronicle

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

TestAmerica Job ID: 400-97683-1

Client Sample ID: MW-1
Lab Sample ID: 400-97683-1
Date Collected: 10/24/14 09:25
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 18:13	ABF	TAL PEN

Client Sample ID: MW-2
Lab Sample ID: 400-97683-2
Date Collected: 10/24/14 09:20
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 18:39	ABF	TAL PEN

Client Sample ID: MW-3
Lab Sample ID: 400-97683-3
Date Collected: 10/24/14 09:35
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	235156	11/01/14 21:34	ABF	TAL PEN

Client Sample ID: MW-4
Lab Sample ID: 400-97683-4
Date Collected: 10/24/14 09:40
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 19:04	ABF	TAL PEN

Client Sample ID: MW-6
Lab Sample ID: 400-97683-5
Date Collected: 10/24/14 09:15
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 19:29	ABF	TAL PEN

Client Sample ID: MW-7
Lab Sample ID: 400-97683-6
Date Collected: 10/24/14 09:30
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	20	235170	11/02/14 19:55	ABF	TAL PEN
Total/NA	Analysis	8260B		10	235156	11/01/14 21:59	ABF	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-97683-1

Client Sample ID: MW-8

Lab Sample ID: 400-97683-7

Date Collected: 10/24/14 09:10
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	235156	11/01/14 20:44	ABF	TAL PEN

Client Sample ID: MW-9

Lab Sample ID: 400-97683-8

Date Collected: 10/24/14 09:30
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 19:54	ABF	TAL PEN

Client Sample ID: MW-10

Lab Sample ID: 400-97683-9

Date Collected: 10/24/14 09:10
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	235156	11/01/14 21:09	ABF	TAL PEN

Client Sample ID: MW-11

Lab Sample ID: 400-97683-10

Date Collected: 10/24/14 09:45
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	235170	11/02/14 19:32	ABF	TAL PEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97683-11

Date Collected: 10/24/14 10:00
Matrix: Water
Date Received: 10/28/14 09:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235156	11/01/14 20:19	ABF	TAL PEN

Laboratory References:

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

Method Summary

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

TestAmerica Job ID: 400-97683-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN

Protocol References:

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

Laboratory References:

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

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Chris Lee, Sarah Gardner	Lab PM: Salcher, Neal	Carrier Tracking No(s):	COC No: 560-15435-1547.1
Client Contact: Ms. Sarah Gardner	Phone: 303 291-2242	E-Mail: neal.salcher@testamericainc.com		Page: Page 1 of 1
Company: MWH Americas Inc				Job #:
Address: 1801 California Street Suite 2900	Due Date Requested:			
City: Denver	TAT Requested (days):			
State, Zip: CO, 80202				
Phone: 303-291-2239(Tel)	PO #: Purchase Order Requested			
Email: sarah.gardner@mwhglobal.com	WO #: As per Enfos			
Project Name: ~~Sandoval GC A #1~~ STANDARD OIL COM #1	Project #: 56004990			
Site:	SSOW#:			

Analysis Requested

400-97683 COC

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-1	10/24/14	925	G	Water			X		
MW-2	10/24/14	920	G	W			X		
MW-3	10/24/14	935	G	W			X		
MW-4	10/24/14	940	G	W			X		
~~MW-5~~	~~10/24/14~~								NOT SAMPLED
MW-6	10/24/14	915	G	W			X		
MW-7	10/24/14	930	G	W			X		
MW-8	10/24/14	910	G	W			X		
MW-9	10/24/14	930	G	W			X		
MW-10	10/24/14	910	G	W			X		
MW-11	10/24/14	945	G	W			X		
Trip blank	10/24/14	1000					X		

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: Chris Lee	Date/Time: 10/27/14 915	Company: MWH	Received by:	Date/Time: 10-28-14 939	Company: TA	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.1C

11/6/2014