2014 ANNUAL GROUNDWATER REPORT

Gallegos Canyon Unit #142E
Meter Code: 03906
T29N, R12W Sec 25, Unit G

SITE DETAILS

Site Location: Latitude: 36.699300 N, Longitude: -108.046700 W
Land Type: State
Operator: BP America Production Company

SITE BACKGROUND

- **Site Assessment:** 4/94
- **Excavation:** 4/94 (20 cy)
- **Re-excavation:** 10/98 (882 cy)

Gallegos Canyon Unit #142 (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 BP America Production Company and is active.

The Site is located on Fee/State land (T29N, R12W, Sec25, Unit G). There are three existing monitoring wells at the Site: 1997 (MW-1), 2001 (MW-2), and 2006 (TMW-1). Temporary piezometers PZ-1 through PZ-6 were installed and removed in 1997. Free product has been observed and periodically recovered. Currently, groundwater sampling is conducted on a semi-annual basis and free product was observed in 2014.

SUMMARY OF 2014 ACTIVITIES

In July 2014, new monitoring well locations were staked and surveyed for permitting and utility locating purposes.

Five new wells (MW-3, MW-5, MW-6, MW-7, and MW-8) and one soil boring (MW-4) were drilled in August 2014, to further assess the extent of the dissolved-phase hydrocarbons and to define the groundwater gradient at the Site. Ground surface and casing elevations of the new monitoring wells were surveyed in September 2014, by a licensed surveyor using state plane coordinates.

Monitoring wells were constructed of 2-inch-diameter, schedule 40 polyvinyl chloride (PVC), with 0.010-inch, continuous, factory-slotted PVC screen. The well screen was installed from 25 feet below ground surface (bgs) to 5 feet bgs and bisects the observed water table located at depths ranging from 12-17 feet below the top of the monitoring well casings during 2014 gauging events. A 3-foot seal of bentonite chips was placed above the sandpack and hydrated, and the remaining annular space filled with bentonite grout. The wells were completed as stick-up wells with locking protective casings and a concrete surface completion. Four protective bollards were installed around each new monitoring well. Borehole logs and well construction diagrams are provided in Appendix A.

Monitoring well MW-3 was installed upgradient of the former pit location. Wells MW-3, MW-7, and MW-8 were installed to the southwest of suspected dissolved hydrocarbons. Well MW-5 and soil boring MW-4 were installed to the northeast of suspected dissolved hydrocarbons. Well MW-6 was installed down the axis of the groundwater plume in order to better delineate groundwater impacts from the former pit. Pertinent site features and soil boring/monitoring well locations are shown on Figures 1 through 4.

During the drilling of the Site soil borings completed in August 2014, the soil sample interval exhibiting the highest photoionization detector (PID) reading was collected and placed in a 4-ounce jar for laboratory analysis. Soil samples were analyzed for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) according to United States Environmental Protection Agency (EPA) Method SW846 8260B, total petroleum hydrocarbons using EPA Method 418.1, and chlorides according to EPA Method 300. Sample jars were stored in an ice-filled cooler and shipped under standard chain-of-custody protocol to TestAmerica Laboratories, Inc. (TestAmerica) in Corpus Christi, Texas. The soil sample analytical report is provided in Appendix B.

Monitoring well development was performed using a well swab and stainless steel bailer until all sediment was removed and visibly clear groundwater was observed. Monitoring wells were then purged and developed until dry. Purged groundwater was containerized and transported to Basin Disposal, Inc. for disposal. In addition to monitoring well installation, monitoring well TMW-1 was plugged and abandoned in accordance with New Mexico Environment Department (NMED), Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011. Soil drums were staged on site. On November 11, 2014, Sierra Oilfield Services, Inc. removed nine drums of soil cuttings from the Site and delivered them to Envirotech, Inc.

On April 3, 2014, water levels were gauged at MW-1, MW-2, and TMW-1, and groundwater samples were collected from MW-1 and MW-2. Groundwater samples were collected from wells using a HydraSleeve™ (HydraSleeve), a disposable, no-purge passive groundwater sampling device. 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. TMW-1 was not sampled due to the presence of free product. On October 25, 2014, water levels were gauged at MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, and MW-8. Groundwater samples from the April and October 2014 events were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica where they were analyzed for 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 soil sampling results are summarized in Table 1, and the historic analytical and water level data are summarized in Table 2.

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SITE MAPS

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

ANALYTICAL LAB REPORTS

Based on the 2014 semi-annual gauging events, groundwater flows to the southeast. Soil and groundwater analytical lab reports are included as Appendices B and C, respectively.

RESULTS

- The groundwater flow direction is generally to the south-southeast at the Site (see Figures 2 and 4).
- Concentrations of benzene in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standard during both 2014 semi-annual sampling events. Toluene, ethylbenzene, and total xylenes were not detected above standard during any sampling event in 2014.
- MW-2 was not sampled in 2014 due to the presence of free product in April 2014. A Hydrasleeve was installed during the October 23, 2014 sampling event.
- TMW-1 was not sampled in April 2014 due to the presence of free product. The well was abandoned in August 2014 and replaced with monitoring well MW-8.
- BTEX concentrations were not detected in MW-3.
- Concentrations of benzene, ethylbenzene, and total xylenes in groundwater collected from MW-5 are either below the NMWQCC standards or below the reporting limit (J-flagged) for the October 2014 sampling event. Toluene concentrations were not detected.
- Concentrations of benzene in groundwater collected from MW-6 are below the NMWQCC standard during the October 2014 semi-annual sampling event. Toluene, ethylbenzene, and total xylenes were not detected during the October 2014 sampling event.
- BTEX concentrations at MW-7 were either below the NMWQCC standards or below the reporting limit (J-flagged) for the October 2014 sampling event.
- BTEX concentrations at MW-8 were either below the NMWQCC standards or below the reporting limit (J-flagged) for the October 2014 sampling event.
- The presence of several monitoring wells which do not belong to EPCGP implies that the current operator has had a release at the Site. Additionally, concentrations at upgradient well MW-2 and cross-gradient well TMW-1 are at least one order of magnitude greater than the concentration at MW-1 located in the former EPCGP pit.

- Soil samples were collected from the borings for monitoring wells MW-3 and MW-5 through MW-8, and soil boring MW-4. Sample locations were based on elevated soil screening results. For benzene, all sample results were below the NMWQCC standard or below the reporting limit (J-flagged). Toluene results ranged from non-detect (MW-4) to a high of 2.21 milligrams per kilogram (mg/kg) at MW-7. Ethylbenzene results ranged from non-detect (MW-11) to 3.51 mg/kg at MW-6. Total xylene concentrations ranged from non-detect (MW-8) to 37.3 mg/kg at MW-6. Total petroleum hydrocarbons ranged from non-detect (MW-3) to 190 mg/kg (MW-5). Chloride ranged from 62.5 mg/kg (MW-6) to 150 mg/kg (MW-3).

PLANNED FUTURE ACTIVITIES

MW-1, MW-2, and MW-5 through MW-8 will continue to be sampled on a semi-annual basis. The current operator will be contacted to determine the nature of environmental issues which have apparently occurred, based on the presence of monitoring wells observed by EPCGP personnel.

TABLES

TABLE 1 - SOIL ANALYTICAL RESULTS

Gallegos Canyon Unit #142E										
Location	Date	Benzene (mg/Kg)		Toluene (mg/kg)		Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	BTEX Total (mg/Kg)	TPH* (mg/Kg)	Chloride (mg/Kg)
NMWQCC Standards[1]:		10		NA		NA	NA	50	100	600
MW-3 (16-18)	08/24/14	0.0407		0.019	J	0.0647	<0.117	0.1	<20.0	150 B
MW-4 (13-15)	08/25/14	1.89		<0.105		2.92	17.4	22.2	46.0	69.5 B
MW-5 (18-20)	08/24/14	1.47		2.17		2.9	21.1	27.6	190	61.4 B
MW-6 (16-18)	08/25/14	4.75		<0.105		3.51	37.3	45.6	160	62.5 B
MW-7 (18-20)	08/24/14	0.212		2.21		0.413	2.83	5.7	67	67.8 B
MW-8 (13-15)	08/24/14	0.00682	J	0.0268		<0.00642	<0.0193	0.03	<20.0	64.9

Notes:
"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).
"*" = TPH concentration is calculted by adding GRO, DRO, and MRO and rounded to the nearest mg/Kg.
"1" = 2013 Pit Rule Table I standards for soils beneith pits - Groundwater less than or equel to 50 feet BGS

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #142E								
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	03/10/97	4010	7960	213	2050	16.78	-	-
MW-1	08/06/97	1040	1310	49.4	647	14.46	-	-
MW-1	11/05/97	543	719	33.9	342	15.02	-	-
MW-1	02/13/98	343	354	27.6	394	18.18	-	-
MW-1	05/06/98	429	216	13.6	176	18.69	-	-
MW-1	05/04/99	143	20.4	7.78	63.3	17.61	-	-
MW-1	05/25/00	230	4.4	6	450	16.44	-	-
MW-1	06/01/01	130	0.5	3.5	6.1	17.08	-	-
MW-1	05/14/02	34	4.9	1	3.3	14.70	-	-
MW-1	03/07/03	270	36.8	8.3	21.1	15.32	-	-
MW-1	09/17/03	150	77	1.9	12.8	DRY	-	-
MW-1	03/22/04	1.4	<0.14	<0.029	<0.082	17.38	-	-
MW-1	03/17/05	169	1.3	2.7	6.6	18.15	-	-
MW-1	06/23/05	810	1.9	0.62	8.1	14.72	-	-
MW-1	09/26/05	232	14.9	4	15.1	11.95	-	-
MW-1	12/14/05	354	10.6	5.9	25.6	14.67	-	-
MW-1	01/09/06					15.67	-	-
MW-1	01/18/06					15.97	-	-
MW-1	03/28/06	362	0.37 J	15	15.7	18.16	-	-
MW-1	06/14/06	210	6.5	2.3	6.1	13.08	-	-
MW-1	06/28/07	109	12.6	1.1	5.5	16.18	-	-
MW-1	06/23/08	2320	305	140	934	15.45	-	-
MW-1	06/02/09	35.3	<1	0.75 J	1.4 J	17.80	-	-
MW-1	12/30/09	597	10.7 J	26.5	159	16.82	-	-
MW-1	01/25/10					17.61	-	-
MW-1	05/25/10					18.45	-	-
MW-1	09/24/10					14.59	-	-
MW-1	11/09/10	8610	2770	348	2810	14.86	-	-
MW-1	02/01/11					17.46	-	-
MW-1	05/03/11					19.22	-	-
MW-1	09/27/11					11.12	-	-
MW-1	11/16/11	229	36.2	5.3	39.3	12.75	-	-
MW-1	02/16/12					15.47	-	-
MW-1	05/07/12					16.21	-	-
MW-1	06/07/13	810	<0.30	<0.20	4.3 J	14.06	-	-
MW-1	09/11/13	25	<0.30	<0.20	0.39 J	12.61	-	-
MW-1	12/13/13	330	<0.90	6.9	20	14.22	-	-
MW-1	04/03/14	560	<3.8	<2.0	<6.5	17.66	-	-
MW-1	10/25/14	57	<0.70	1.9	3.0 J	12.69	-	-

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #142E								
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	22000	25000	500	4300	14.52	-	-
MW-2	05/14/02					14.37	-	-
MW-2	09/17/03	6890	4760	219	1770	DRY	-	-
MW-2	03/22/04	13000	8880	321	2850	17.06	-	-
MW-2	03/17/05	2800	1640	125	978	17.83	-	-
MW-2	09/14/05	1980	915	63.8	391	11.45	-	-
MW-2	01/09/06					15.35	-	-
MW-2	01/18/06					15.65	-	-
MW-2	06/14/06	2140	811	83.5	610	12.64	-	-
MW-2	06/28/07	2100	492	140	1050	16.86	-	-
MW-2	06/23/08	221	1.5 J	3.9	5.8	15.15	-	-
MW-2	06/02/09					17.84	17.42	0.42
MW-2	12/30/09	6660	6750	764	6210	16.48	16.45	0.03
MW-2	01/25/10					17.45	17.27	0.18
MW-2	05/25/10					18.55	18.05	0.50
MW-2	09/24/10					14.25	-	-
MW-2	11/09/10	3900	2450	342	2660	14.50	14.49	0.01
MW-2	02/01/11					17.15	-	-
MW-2	05/03/11					18.91	-	-
MW-2	09/27/11					12.65	-	-
MW-2	11/16/11	2040	1020	231	1520	12.37	-	-
MW-2	02/16/12					15.13	-	-
MW-2	05/07/12					16.91	-	-
MW-2	06/07/13	6000	1100	500	3800	13.63	-	-
MW-2	09/11/13	2200	470	240	1900	12.18	-	-
MW-2	12/13/13	5500	830	510	3700	13.92	-	-
MW-2	04/03/14					17.42	17.31	0.11
MW-2	10/25/14					12.14	-	-

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #142E								
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
TMW-1	01/06/06					15.29	-	-
TMW-1	01/09/06					15.27	-	-
TMW-1	01/18/06					15.57	-	-
TMW-1	06/23/08					15.04	-	-
TMW-1	12/30/09	3660	1550	520	4110	NA	-	-
TMW-1	01/25/10					17.23	-	-
TMW-1	05/25/10					18.70	17.80	0.90
TMW-1	09/24/10					14.45	14.10	0.35
TMW-1	11/09/10	8880	14400	956	9040	14.62	14.37	0.25
TMW-1	02/01/11					17.45	17.00	0.45
TMW-1	05/03/11					19.76	18.55	1.21
TMW-1	09/27/11					12.43	12.03	0.40
TMW-1	11/16/11	3890	6250	420	3610	12.44	12.31	0.13
TMW-1	02/16/12					14.25	12.03	2.22
TMW-1	05/07/12					14.20	14.18	0.02
TMW-1	06/07/13	5100	1100	190	2600	13.65	-	-
TMW-1	09/11/13	6600	960	190	2600	12.14	-	-
TMW-1	12/13/13	6500	2200	410	4000	13.90	-	-
TMW-1	04/03/14					17.36	17.25	0.11
MW-3	10/25/14	<0.38	<0.70	<0.50	<1.6	12.53	-	-
MW-5	10/25/14	1.8	<0.70	0.89 J	11	12.73	-	-
MW-6	10/25/14	1.1	<0.70	<0.50	<1.6	12.31	-	-
MW-7	10/25/14	4.7	0.70 J	1.7	5.7 J	12.59	-	-
MW-8	10/25/14	0.77 J	<0.70	<0.50	<1.6	12.50	-	-

Notes:
Results highlighted yellow exceed their respective New Mexico Water Quality Control Comission standards.
"J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.
"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).

FIGURES

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\GALLEGOS CAYON UNIT #142E\2014 MAPS\GCU#142E_GARM_1SA_2014.mxd

BP MW #11
BP MW #9
BP MW #8
BP MW #6
BP MW #7
BP MW #12
BP MW #7

MW-2
MW-2
FREE PRODUCT

MW-1
B: **560**
T: <3.8
E: <2.0
X: <6.5

MW-1

TMW-1
TMW-1
FREE PRODUCT

FORMER EPC PIT

SMA BENCHMARK
ELEV 5478.19'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

FOUND BM

SOLAR PANEL

LEGEND:

- 5705 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- ABANDONED UNKNOWN LINE
- FENCE
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- UNDERGROUND GAS LINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- MONITORING WELL ASSOCIATED WITH UNRELATED RELEASE
- 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

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	10/14/2014	CCL	CCL	DAW

TITLE:
GALLEGOS CANYON UNIT #142E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED APRIL 3, 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\GALLEGOS CAYON UNIT #142E\2014 MAPS\GCU#142E_GECM_1SA_2014.mxd

BP MW #11
BP MW #9
BP MW #8
BP MW #6
BP MW #7
BP MW #12
BP MW #7

MW-2
5464.22
MW-1
5464.17
TMW-1
5464.16

5464.21
5464.2
5464.19
5464.18
5464.17
5464.16

SMA BENCHMARK
ELEV 5478.19'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

FORMER EPC PIT
FOUND BM
SOLAR PANEL

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- ABANDONED UNKNOWN LINE
- FENCE
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- UNDERGROUND GAS LINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- MONITORING WELL ASSOCIATED WITH UNRELATED RELEASE
- RIG ANCHOR

NOTES:

5469.22 — GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

-5469.23- — CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.02 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/14/2014	CCL	CCL	DAW

TITLE:
GALLEGOS CANYON UNIT #142E
GROUNDWATER ELEVATION MAP
GAUGED APRIL 3, 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\GALLEGOS CAYON UNIT #142E\2014 MAPS\GCU#142E_GARM_2SA_2014.mxd

BP MW #11

BP MW #9

BP MW #8

BP MW #6

BP MW #5

BP MW #12

BP MW #7

MW-2
NOT SAMPLED

MW-1
B: **57**
T: <0.70
E: 1.9
X: **3.0 J**

MW-3
B: <0.38
T: <0.70
E: <0.50
X: <1.6

MW-8
B: 0.77
T: <0.70
E: <0.50
X: <1.6

MW-7
B: 4.7
T: 0.70 J
E: 1.7
X: 5.7 J

MW-5
B: 1.8
T: <0.70
E: 0.89 J
X: 11

MW-6
B: 1.1
T: <0.70
E: <0.50
X: <1.6

TMW-1

FORMER EPC PIT

SOLAR PANEL

FOUND BM

SMA BENCHMARK
ELEV 5478.19'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

AERIAL IMAGE FROM GOOGLE EARTH, DATED 6/10/2011

LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- CORRECTED GROUNDWATER ELEVATION CONTOUR
- ACCESS ROAD
- ABANDONED UNKNOWN LINE
- FENCE
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- UNDERGROUND GAS LINE
- ABANDONED MONITORING WELL
- BENCHMARK
- MONITORING WELL
- MONITORING WELL ASSOCIATED WITH UNRELATED RELEASE
- PRODUCTION WELL
- RIG ANCHOR
- SOIL BORING

NOTE:
MW-4 was a soil boring only (no well constructed).

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/31/2014	CCL	CCL	DAW

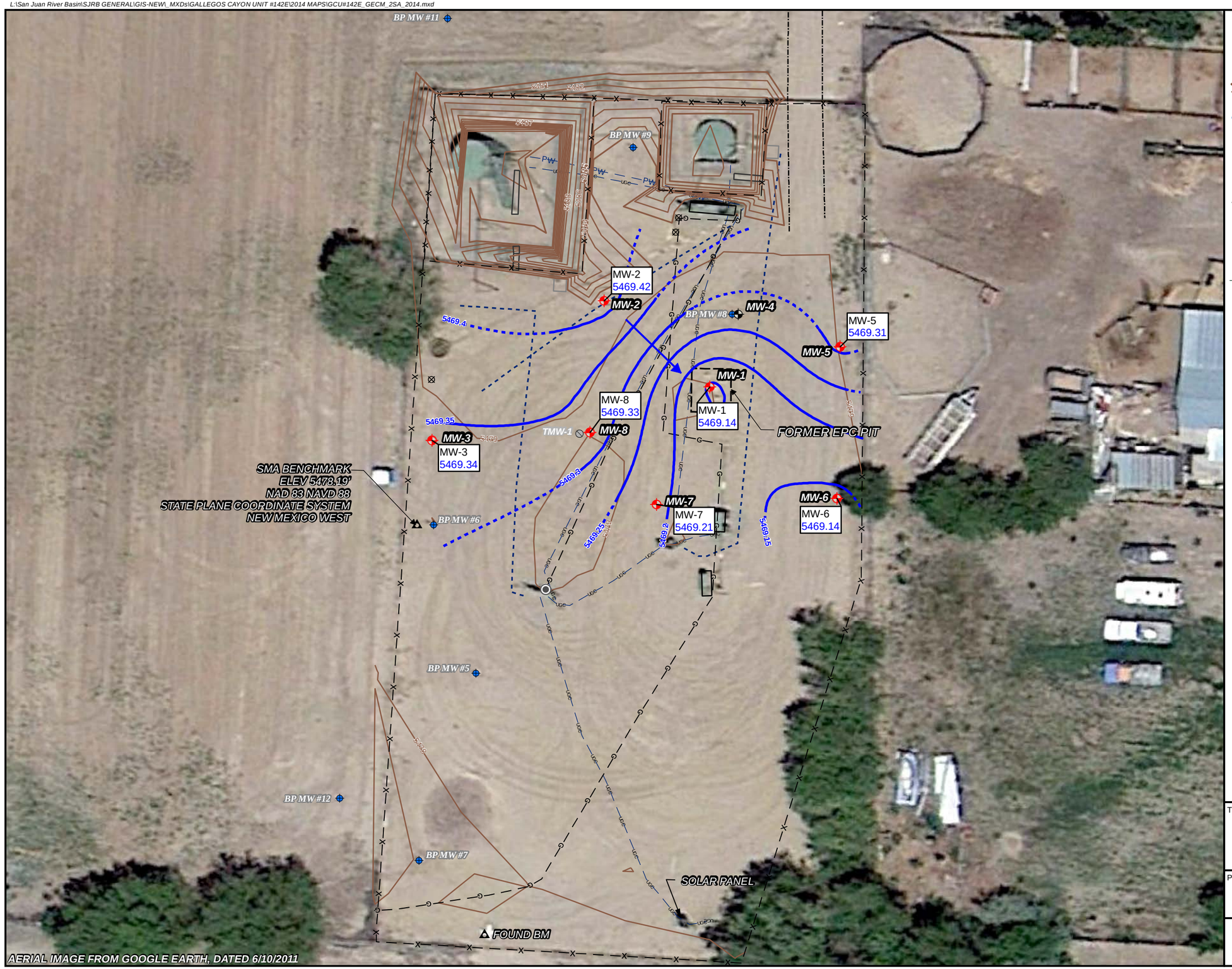
TITLE:
GALLEGOS CANYON UNIT #142E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED OCTOBER 25, 2014

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\GALLEGOS CAYON UNIT #142E\2014 MAPS\GCU#142E_GECM_2SA_2014.mxd



LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- 5481.8 — CORRECTED GROUNDWATER ELEVATION CONTOUR
- ACCESS ROAD
- ABANDONED UNKNOWN LINE
- FENCE
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- UNDERGROUND GAS LINE
- ABANDONED MONITORING WELL
- BENCHMARK
- MONITORING WELL
- MONITORING WELL ASSOCIATED WITH UNRELATED RELEASE
- PRODUCTION WELL
- RIG ANCHOR
- SOIL BORING

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/31/2014	CCL	CCL	DAW

TITLE:

GALLEGOS CANYON UNIT #142E
GROUNDWATER ELEVATION MAP
GAUGED OCTOBER 25, 2014

PROJECT:

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

MWH

Figure No.: 4

APPENDICES

APPENDIX A – BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B – SOIL SAMPLING ANALYTICAL REPORTS

APPENDIX C – APRIL 3, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT
OCTOBER 25, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

APPENDIX A

MWH

Drilling Log

Monitoring Well **MW-3**

FINAL

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5478.78 ft* North *2073983.652* East *2660533*

Top of Casing *5481.87 ft* Water Level Initial ▽ Static ▼ *5471.72* 08/24/14 00:00

Hole Depth *27.5ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *5.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *10-20*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/24/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0							
5	0.0	0%			CL	CLAY, yellowish-brown, with fine grained sand and silt, low plasticity, slightly moist, no hydrocarbon odor; (hydro-vac from 0-10' bgs; logged from cuttings).	
						Cobbles up to 4" diameter present.	
10	0.0				SC	Clayey SAND, yellowish brown (10 YR 5/4), fine to medium grained sand, trace gravel (up to 1.5" in diameter), low plasticity, loose, wet (due to use of water during drilling), no hydrocarbon odor.	
		26%				No recovery	
	0.0						
15	109	MW-3 16-18'			SC	Clayey SAND, yellowish brown (10 YR 5/4), fine to medium grained sand, increasing amount of gravel, low plasticity, loose, wet (due to use of water during drilling), moderate hydrocarbon odor.	
		36%				No recovery	
	20.9						
20	14.3				SP	SAND with gravel, dark gray, (gravel rounded to sub-rounded, up to 2.5" in diameter), poorly graded, poorly graded, loose, wet, slight hydrocarbon odor.	
		22%				No recovery	
	10.4						
25	0.1	35%			GW	Gravel.	
						No recovery.	
						Well set at 25.5'	
						Hole depth = 27'.	
30							

Drilling Log GCU#142E.GPJ MWH IA.GDT 11/29/14

MWH

Drilling Log

FINAL

Soil Boring **MW-4**

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5478.90 ft* North *2074023.671* East *2660627.624*

Top of Casing *NA* Water Level Initial ▽ Static ▼

Hole Depth *22.0ft* Screen: Diameter *NA* Length *NA* Type/Size *NA*

Hole Diameter *8.25 in* Casing: Diameter *NA* Length *NA* Type *NA*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *NA*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/25/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.
0						
	0.0	0%			SM	Silty SAND, yellowish-brown, fine grained sand, trace gravel, loose, slightly moist, no hydrocarbon odor; (hydro-vac from 0-10' bgs; logged from cuttings).
5						
10	0.6	100% MW-4 13-15'			CH	Fat CLAY, brown, medium stiffness, high plasticity, no dilatancy, moist, no hydrocarbon odor. Color changes to dark gray, moderate hydrocarbon odor, moist to very moist.
	267					
15	6.7					Slight hydrocarbon odor, wet.
	1.6	30%			SW	No recovery. SAND with gravel, brown, well graded, gravel up to 1.5" diameter (rounded), loose, no cementation, wet, very slight hydrocarbon odor (logged from cuttings).
20		0%				No recovery, driller reports very hard drilling.
						Hole depth = 22', refusal. Borehole abandoned with portland cement-bentonite grout.
25						
30						

MWH

Drilling Log

Monitoring Well **MW-5**

FINAL

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5478.96 ft* North *2074012.99* East *2660661.174*

Top of Casing *5482.04 ft* Water Level Initial ▽ Static ▼ *5471.8* 08/24/14 00:00

Hole Depth *27.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *5.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *10-20*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/24/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0							
5	0.0	0%			SM	Silty SAND, yellowish-brown, fine grained sand, loose, slightly moist, no hydrocarbon odor; (hydro-vac from 0-10' bgs; logged from cuttings).	
10	0.0	90%			CH	Fat CLAY, brown, high plasticity, medium stiffness, moist, no hydrocarbon odor. Color changes to dark gray, moderate hydrocarbon odor, minor black staining.	
	798					No recovery.	
15	944				CH	Fat CLAY, brown, high plasticity, medium stiffness, moist, no hydrocarbon odor. No recovery.	
	1164	32% MW-5 18-20'					
20					SP	SAND with gravel, poorly graded, black, fine to medium grained sand, gravel up to 1.5" in diameter, loose, no cementation, wet, hydrocarbon staining, moderate hydrocarbon odor.	
	16	18%				No recovery.	
25	2.2	35%			SW	SAND with gravel, well graded, light brown, gravel up to 1.5" in diameter, loose, no cementation, wet, slight hydrocarbon odor. No recovery.	
30						Well set at 25.5' Hole depth = 27'.	

Drilling Log GCU#142E.GPJ MWH IA.GDT 11/29/14

MWH

Drilling Log

FINAL

Monitoring Well **MW-6**

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5478.71 ft* North *2073965.4* East *2660660.186*

Top of Casing *5481.45 ft* Water Level Initial ▽ Static ▼ *5466.55* 08/25/14 00:00

Hole Depth *27.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *5.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *10-20*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/25/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0							
5	0.0	0%			SM	Silty SAND, yellowish-brown, fine grained sand, loose, dry to slightly moist, no hydrocarbon odor; (hydro-vac from 0-10' bgs; logged from cuttings).	
10	0.4	52%			CH	Fat CLAY, brown to dark gray with depth, trace gravel, medium stiffness, high plasticity, moist, moderate hydrocarbon odor at ~13'.	
	973					No recovery.	
15	1533	MW-6 16-18'			CH	Fat CLAY, brown to dark gray with depth, trace gravel, medium stiffness, high plasticity.	
	488	38%			SC	No recovery. Clayey SAND, dark gray, low plasticity, loose, wet, strong hydrocarbon odor (logged from cuttings).	
20	55.4				SW	SAND with gravel, well graded, dark gray, fine to medium grained sand, gravel up to 1.5" diameter (rounded), loose, slight to moderate hydrocarbon odor.	
	4.3	65%				No recovery.	
						No recovery.	
25		0%					
						Well set at 25.5' Hole depth = 27'.	
30							

Drilling Log GCU#142E.GPJ MWH IA.GDT 11/29/14

MWH

Drilling Log

Monitoring Well **MW-7**

FINAL

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5478.83 ft* North *2073963.477* East *2660603.577*

Top of Casing *5481.80 ft* Water Level Initial ▽ Static ▼ *5471.45* 08/24/14 00:00

Hole Depth *27.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *5.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *10-20*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/24/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0							
5	0.0	0%			SM	Silty SAND, cobbles, yellowish brown, very fine grained sand, trace gravel, moist to slightly moist, no hydrocarbon odor (hydro-vac from 0-10' bgs; logged from cuttings).	
10	60.8	100%			CH	Fat CLAY, brown, high plasticity, medium stiffness, moist, slight hydrocarbon odor. Color changes to dark gray, moderate hydrocarbon odor.	
	1170					Minor black hydrocarbon staining.	
15	954				SP	SAND with gravel, poorly graded, black hydrocarbon staining, gravel up to 1.5" in diameter, fine grained sand, loose, no cementation, wet, strong hydrocarbon odor.	
	1159	30% MW-7 18-20'				No recovery.	
20					SW	SAND with gravel, graded to well graded, gravel up to 1.5" in diameter (sub-round to sub-angular), fine to medium grained sand, loose, no cementation, wet, slight hydrocarbon odor.	
	1.3	20%				No recovery.	
25					SW	SAND with gravel, graded to well graded, gravel up to 1.5" in diameter (sub-round to sub-angular), fine to medium grained sand, loose, no cementation, wet, slight hydrocarbon odor.	
	1.9	30%				No recovery.	
						Well set at 25.5' Hole depth = 27'.	
30							

Drilling Log GCU#142E.GPJ MWH IA.GDT 11/29/14

MWH

Drilling Log

FINAL

Monitoring Well **MW-8**

Project *GCU#142E* Owner *EPCGPC*

Location *San Juan County, New Mexico* Project Number *10504833.010301*

Surface Elev. *5479.00 ft* North *2073986.099* East *2660582.676*

Top of Casing *5481.83 ft* Water Level Initial ▽ Static ▼ *5471.6* 08/24/14 00:00

Hole Depth *26.5ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *5.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *Hollow Stem Auger* Sand Pack *10-20*

Driller *Matt Cain/Bryan Nydoske* Driller Reg. # *WD-1210* Log By *Brad Barton*

Start Date *8/23/2014* Completion Date *8/24/2014* Checked By *Jeff Bechtel*

COMMENTS

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion
0					SM	Silty SAND with cobbles; (hydro-vac from 0-2'; logged from cuttings).	
5	0.0	0%			CL	CLAY, with silt and sand, yellowish brown, trace gravel, fine grained sand, low plasticity, moist to slightly moist, no hydrocarbon odor; (hydro-vac from 2-10'; logged from cuttings).	
10	0.0				CH	Fat CLAY, dark yellowish brown (10 YR 5/6), trace gravel, soft, high plasticity, no dilatancy, moist, no hydrocarbon odor.	
						No recovery.	
	0.0	32% MW-8 13-15'					
15						No recovery.	
	N/R						
		0%					
	N/R						
20					SP	SAND with gravel, poorly graded, brown, fine grained sand, loose, poor recovery, hydrocarbon odor.	
	4.0					No recovery.	
		8%					
	N/R						
25					GW	GRAVEL and cobbles with sand, poor recovery.	
	0.0	20%				No recovery.	
						Well set at 25.5'	
						Hole depth = 26.5'; refusal.	
30							

Drilling Log GCU#142E.GPJ MWH IA.GDT 11/29/14

APPENDIX B

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-97733-1
Client Project/Site: Kinder Morgan GCU Com A #142E

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

Attn: Clint Oberbroeckling

Authorized for release by:
9/12/2014 8:40:31 AM

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

Table of Contents

Case Narrative

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Job ID: 600-97733-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-97733-1

Comments
No additional comments.

Receipt
The samples were received on 8/27/2014 10:32 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8º C.

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

GC VOA
Method(s) 8021B: Surrogate recovery for the following sample(s) was outside control limits: MW-7 (18-20)-GCU (600-97733-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8021B: The following sample(s) was diluted due to the abundance of non-target analytes: MW-4 (13-15)-GCU (600-97733-6), MW-5 (18-20)-GCU (600-97733-4), MW-6 (16-18)-GCU (600-97733-5). Elevated reporting limits (RLs) are provided.

Method(s) 8021B: Surrogate recovery for the following sample(s) was outside control limits: MW-4 (13-15)-GCU (600-97733-6), MW-5 (18-20)-GCU (600-97733-4), MW-6 (16-18)-GCU (600-97733-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

General Chemistry
Method(s) 9056: The matrix spike duplicate (MSD) recovery for batch 143678 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9056: The method blank for batch 143678 contained Chloride above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

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

Method Summary

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL HOU
9056	Anions, Ion Chromatography	SW846	TAL HOU
EPA 418.1 TPH	EPA 418.1 Total Petroleum Hydrocarbons	NONE	Hall Env

Protocol References:

NONE = NONE

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

Laboratory References:

Hall Env = Hall Environmental Analysis Laboratory, 4901 Hawkins NE, Suite D, Albuquerque, NM 87109

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-97733-1	MW-8 (13-15)-GCU	Solid	08/24/14 07:50	08/27/14 10:32
600-97733-2	MW-3 (16-18)-GCU	Solid	08/24/14 10:20	08/27/14 10:32
600-97733-3	MW-7 (18-20)-GCU	Solid	08/24/14 13:00	08/27/14 10:32
600-97733-4	MW-5 (18-20)-GCU	Solid	08/24/14 15:30	08/27/14 10:32
600-97733-5	MW-6 (16-18)-GCU	Solid	08/25/14 08:45	08/27/14 10:32
600-97733-6	MW-4 (13-15)-GCU	Solid	08/25/14 12:30	08/27/14 10:32

Client Sample ID: MW-8 (13-15)-GCU

Lab Sample ID: 600-97733-1

Date Collected: 08/24/14 07:50
Matrix: Solid
Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00682	J	0.0200	0.00347	mg/Kg		08/28/14 08:34	08/28/14 16:14	20
Toluene	0.0268		0.0200	0.00525	mg/Kg		08/28/14 08:34	08/28/14 16:14	20
Ethylbenzene	0.00642	U	0.0200	0.00642	mg/Kg		08/28/14 08:34	08/28/14 16:14	20
Xylenes, Total	0.0193	U	0.0200	0.0193	mg/Kg		08/28/14 08:34	08/28/14 16:14	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*111*		*43 - 141*	*08/28/14 08:34*	*08/28/14 16:14*	*20*
a,a,a-Trifluorotoluene	*106*		*44 - 134*	*08/28/14 08:34*	*08/28/14 16:14*	*20*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.9	B	4.04	0.0677	mg/Kg			09/09/14 14:38	1

Client Sample ID: MW-3 (16-18)-GCU

Lab Sample ID: 600-97733-2

Date Collected: 08/24/14 10:20
Matrix: Solid
Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0407		0.0200	0.00347	mg/Kg		08/28/14 08:34	08/28/14 16:34	20
Toluene	0.0190	J	0.0200	0.00525	mg/Kg		08/28/14 08:34	08/28/14 16:34	20
Ethylbenzene	0.0647		0.0200	0.00642	mg/Kg		08/28/14 08:34	08/28/14 16:34	20
Xylenes, Total	0.117		0.0200	0.0193	mg/Kg		08/28/14 08:34	08/28/14 16:34	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*117*		*43 - 141*	*08/28/14 08:34*	*08/28/14 16:34*	*20*
a,a,a-Trifluorotoluene	*121*		*44 - 134*	*08/28/14 08:34*	*08/28/14 16:34*	*20*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150	B	3.98	0.0667	mg/Kg			09/09/14 14:53	1

Client Sample ID: MW-7 (18-20)-GCU

Lab Sample ID: 600-97733-3

Date Collected: 08/24/14 13:00
Matrix: Solid
Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.212		0.0200	0.00347	mg/Kg		08/28/14 08:34	08/28/14 16:55	20
Toluene	2.21		0.0200	0.00525	mg/Kg		08/28/14 08:34	08/28/14 16:55	20
Ethylbenzene	0.413		0.0200	0.00642	mg/Kg		08/28/14 08:34	08/28/14 16:55	20
Xylenes, Total	2.83		0.0200	0.0193	mg/Kg		08/28/14 08:34	08/28/14 16:55	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*134*		*43 - 141*	*08/28/14 08:34*	*08/28/14 16:55*	*20*
a,a,a-Trifluorotoluene	*259*	*X*	*44 - 134*	*08/28/14 08:34*	*08/28/14 16:55*	*20*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.8	B	3.96	0.0663	mg/Kg			09/09/14 15:09	1

Client Sample ID: MW-5 (18-20)-GCU

Lab Sample ID: 600-97733-4

Date Collected: 08/24/14 15:30

Matrix: Solid

Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.47		0.400	0.0695	mg/Kg		08/28/14 08:34	08/29/14 12:26	400
Toluene	2.17		0.400	0.105	mg/Kg		08/28/14 08:34	08/29/14 12:26	400
Ethylbenzene	2.90		0.400	0.128	mg/Kg		08/28/14 08:34	08/29/14 12:26	400
Xylenes, Total	21.1		0.400	0.385	mg/Kg		08/28/14 08:34	08/29/14 12:26	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*177*	*X*	*43 - 141*	*08/28/14 08:34*	*08/29/14 12:26*	*400*
a,a,a-Trifluorotoluene	*980*	*X*	*44 - 134*	*08/28/14 08:34*	*08/29/14 12:26*	*400*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	61.4	B	4.04	0.0677	mg/Kg			09/09/14 15:24	1

Client Sample ID: MW-6 (16-18)-GCU

Lab Sample ID: 600-97733-5

Date Collected: 08/25/14 08:45

Matrix: Solid

Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.75		0.400	0.0695	mg/Kg		08/28/14 08:34	08/29/14 14:28	400
Toluene	0.105	U	0.400	0.105	mg/Kg		08/28/14 08:34	08/29/14 14:28	400
Ethylbenzene	3.51		0.400	0.128	mg/Kg		08/28/14 08:34	08/29/14 14:28	400
Xylenes, Total	37.3		0.400	0.385	mg/Kg		08/28/14 08:34	08/29/14 14:28	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*211*	*X*	*43 - 141*	*08/28/14 08:34*	*08/29/14 14:28*	*400*
a,a,a-Trifluorotoluene	*1508*	*X*	*44 - 134*	*08/28/14 08:34*	*08/29/14 14:28*	*400*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.5	B	4.02	0.0674	mg/Kg			09/09/14 15:40	1

Client Sample ID: MW-4 (13-15)-GCU

Lab Sample ID: 600-97733-6

Date Collected: 08/25/14 12:30

Matrix: Solid

Date Received: 08/27/14 10:32

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.89		0.400	0.0695	mg/Kg		08/28/14 08:34	08/29/14 13:08	400
Toluene	0.105	U	0.400	0.105	mg/Kg		08/28/14 08:34	08/29/14 13:08	400
Ethylbenzene	2.92		0.400	0.128	mg/Kg		08/28/14 08:34	08/29/14 13:08	400
Xylenes, Total	17.4		0.400	0.385	mg/Kg		08/28/14 08:34	08/29/14 13:08	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*224*	*X*	*43 - 141*	*08/28/14 08:34*	*08/29/14 13:08*	*400*
a,a,a-Trifluorotoluene	*796*	*X*	*44 - 134*	*08/28/14 08:34*	*08/29/14 13:08*	*400*

Method: 9056 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.5	B	3.98	0.0666	mg/Kg			09/09/14 16:43	1

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
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.

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)

Surrogate Summary

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	TFT1										
Lab Sample ID	Client Sample ID	(43-141)	(44-134)										
600-97733-1	MW-8 (13-15)-GCU	111	106										
600-97733-2	MW-3 (16-18)-GCU	117	121										
600-97733-3	MW-7 (18-20)-GCU	134	259 X										
600-97733-4	MW-5 (18-20)-GCU	177 X	980 X										
600-97733-5	MW-6 (16-18)-GCU	211 X	1508 X										
600-97733-6	MW-4 (13-15)-GCU	224 X	796 X										
LCS 600-142839/1-A	Lab Control Sample	101	104										
LCSD 600-142839/9-A	Lab Control Sample Dup	109	116										
MB 600-142839/2-A	Method Blank	105	105										

Surrogate Legend

BFB = 4-Bromofluorobenzene

TFT = a,a,a-Trifluorotoluene

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 600-142839/2-A
Matrix: Solid
Analysis Batch: 142838

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00347	U	0.0200	0.00347	mg/Kg		08/28/14 08:34	08/28/14 15:53	20
Toluene	0.00525	U	0.0200	0.00525	mg/Kg		08/28/14 08:34	08/28/14 15:53	20
Ethylbenzene	0.00642	U	0.0200	0.00642	mg/Kg		08/28/14 08:34	08/28/14 15:53	20
Xylenes, Total	0.0193	U	0.0200	0.0193	mg/Kg		08/28/14 08:34	08/28/14 15:53	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*43 - 141*	*08/28/14 08:34*	*08/28/14 15:53*	*20*
a,a,a-Trifluorotoluene	*105*		*44 - 134*	*08/28/14 08:34*	*08/28/14 15:53*	*20*

Lab Sample ID: LCS 600-142839/1-A
Matrix: Solid
Analysis Batch: 142838

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.401	0.3763		mg/Kg		94	70 - 130
Toluene	0.401	0.4119		mg/Kg		103	70 - 130
Ethylbenzene	0.401	0.3827		mg/Kg		95	70 - 130
Xylenes, Total	1.20	1.185		mg/Kg		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*43 - 141*
a,a,a-Trifluorotoluene	*104*		*44 - 134*

Lab Sample ID: LCSD 600-142839/9-A
Matrix: Solid
Analysis Batch: 142838

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 142839

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.401	0.4092		mg/Kg		102	70 - 130	3	20
Toluene	0.401	0.4444		mg/Kg		111	70 - 130	3	20
Ethylbenzene	0.401	0.4390		mg/Kg		109	70 - 130	8	20
Xylenes, Total	1.20	1.353		mg/Kg		112	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*109*		*43 - 141*
a,a,a-Trifluorotoluene	*116*		*44 - 134*

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 600-143677/1-A
Matrix: Solid
Analysis Batch: 143678

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.505	J	4.02	0.0673	mg/Kg			09/09/14 13:20	1

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-143677/2-A
Matrix: Solid
Analysis Batch: 143678

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	201	195.1		mg/Kg		97	90 - 110

GC VOA

Analysis Batch: 142838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97733-1	MW-8 (13-15)-GCU	Total/NA	Solid	8021B	142839
600-97733-2	MW-3 (16-18)-GCU	Total/NA	Solid	8021B	142839
600-97733-3	MW-7 (18-20)-GCU	Total/NA	Solid	8021B	142839
600-97733-4	MW-5 (18-20)-GCU	Total/NA	Solid	8021B	142839
600-97733-5	MW-6 (16-18)-GCU	Total/NA	Solid	8021B	142839
600-97733-6	MW-4 (13-15)-GCU	Total/NA	Solid	8021B	142839
LCS 600-142839/1-A	Lab Control Sample	Total/NA	Solid	8021B	142839
LCSD 600-142839/9-A	Lab Control Sample Dup	Total/NA	Solid	8021B	142839
MB 600-142839/2-A	Method Blank	Total/NA	Solid	8021B	142839

Prep Batch: 142839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97733-1	MW-8 (13-15)-GCU	Total/NA	Solid	5030B	
600-97733-2	MW-3 (16-18)-GCU	Total/NA	Solid	5030B	
600-97733-3	MW-7 (18-20)-GCU	Total/NA	Solid	5030B	
600-97733-4	MW-5 (18-20)-GCU	Total/NA	Solid	5030B	
600-97733-5	MW-6 (16-18)-GCU	Total/NA	Solid	5030B	
600-97733-6	MW-4 (13-15)-GCU	Total/NA	Solid	5030B	
LCS 600-142839/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-142839/9-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-142839/2-A	Method Blank	Total/NA	Solid	5030B	

HPLC/IC

Leach Batch: 143677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97733-1	MW-8 (13-15)-GCU	Soluble	Solid	DI Leach	
600-97733-2	MW-3 (16-18)-GCU	Soluble	Solid	DI Leach	
600-97733-3	MW-7 (18-20)-GCU	Soluble	Solid	DI Leach	
600-97733-4	MW-5 (18-20)-GCU	Soluble	Solid	DI Leach	
600-97733-5	MW-6 (16-18)-GCU	Soluble	Solid	DI Leach	
600-97733-6	MW-4 (13-15)-GCU	Soluble	Solid	DI Leach	
LCS 600-143677/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-143677/1-A	Method Blank	Soluble	Solid	DI Leach	

Analysis Batch: 143678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-97733-1	MW-8 (13-15)-GCU	Soluble	Solid	9056	143677
600-97733-2	MW-3 (16-18)-GCU	Soluble	Solid	9056	143677
600-97733-3	MW-7 (18-20)-GCU	Soluble	Solid	9056	143677
600-97733-4	MW-5 (18-20)-GCU	Soluble	Solid	9056	143677
600-97733-5	MW-6 (16-18)-GCU	Soluble	Solid	9056	143677
600-97733-6	MW-4 (13-15)-GCU	Soluble	Solid	9056	143677
LCS 600-143677/2-A	Lab Control Sample	Soluble	Solid	9056	143677
MB 600-143677/1-A	Method Blank	Soluble	Solid	9056	143677

Client Sample ID: MW-8 (13-15)-GCU

Lab Sample ID: 600-97733-1

Date Collected: 08/24/14 07:50

Matrix: Solid

Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	142838	08/28/14 16:14	MHT	TAL HOU
Soluble	Leach	DI Leach			4.95 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 14:38	DAW	TAL HOU

Client Sample ID: MW-3 (16-18)-GCU

Lab Sample ID: 600-97733-2

Date Collected: 08/24/14 10:20

Matrix: Solid

Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	142838	08/28/14 16:34	MHT	TAL HOU
Soluble	Leach	DI Leach			5.02 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 14:53	DAW	TAL HOU

Client Sample ID: MW-7 (18-20)-GCU

Lab Sample ID: 600-97733-3

Date Collected: 08/24/14 13:00

Matrix: Solid

Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		20	10 g	10 mL	142838	08/28/14 16:55	MHT	TAL HOU
Soluble	Leach	DI Leach			5.05 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 15:09	DAW	TAL HOU

Client Sample ID: MW-5 (18-20)-GCU

Lab Sample ID: 600-97733-4

Date Collected: 08/24/14 15:30

Matrix: Solid

Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		400	10 g	10 mL	142838	08/29/14 12:26	MHT	TAL HOU
Soluble	Leach	DI Leach			4.95 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 15:24	DAW	TAL HOU

Client Sample ID: MW-6 (16-18)-GCU

Lab Sample ID: 600-97733-5

Date Collected: 08/25/14 08:45

Matrix: Solid

Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		400	10 g	10 mL	142838	08/29/14 14:28	MHT	TAL HOU
Soluble	Leach	DI Leach			4.97 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Client Sample ID: MW-6 (16-18)-GCU

Lab Sample ID: 600-97733-5

Date Collected: 08/25/14 08:45
Matrix: Solid
Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 15:40	DAW	TAL HOU

Client Sample ID: MW-4 (13-15)-GCU

Lab Sample ID: 600-97733-6

Date Collected: 08/25/14 12:30
Matrix: Solid
Date Received: 08/27/14 10:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	10 mL	142839	08/28/14 08:34	MHT	TAL HOU
Total/NA	Analysis	8021B		400	10 g	10 mL	142838	08/29/14 13:08	MHT	TAL HOU
Soluble	Leach	DI Leach			5.03 g	50 mL	143677	09/09/14 12:05	DAW	TAL HOU
Soluble	Analysis	9056		1	5 mL		143678	09/09/14 16:43	DAW	TAL HOU

Laboratory References:

Hall Env = Hall Environmental Analysis Laboratory, 4901 Hawkins NE, Suite D, Albuquerque, NM 87109

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: MWH Americas Inc
Project/Site: Kinder Morgan GCU Com A #142E

TestAmerica Job ID: 600-97733-1

Laboratory: TestAmerica Houston

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14 *
Louisiana	NELAP	6	30643	06-30-15
Oklahoma	State Program	6	1309	08-31-15 *
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-14-00192	06-06-17
Utah	NELAP	8	TX00083	10-31-14

* Certification renewal pending - certification considered valid.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 04, 2014

Neal Salcher

Test America
6310 Rothway Street
Houston, TX 77040
TEL: (713) 690-4444
FAX

RE: Kinder Morgan GCU Com A #142E OrderNo.: 1408F79

Dear Neal Salcher:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/29/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Test America
Project: Kinder Morgan GCU Com A #142E
Lab Order: 1408F79

Lab ID: 1408F79-001 **Collection Date:** 8/24/2014 6:50:00 AM
Client Sample ID: MW-8 (13-15)-GCU (600-97733-1) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Lab ID: 1408F79-002 **Collection Date:** 8/24/2014 9:20:00 AM
Client Sample ID: MW-3 (16-18)-GCU (600-97733-2) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Lab ID: 1408F79-003 **Collection Date:** 8/24/2014 12:00:00 PM
Client Sample ID: MW-7 (18-20)-GCU (600-97733-3) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	69	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Lab ID: 1408F79-004 **Collection Date:** 8/24/2014 2:30:00 PM
Client Sample ID: MW-5 (18-20)-GCU (600-97733-4) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	190	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Lab ID: 1408F79-005 **Collection Date:** 8/24/2014 7:45:00 AM
Client Sample ID: MW-6 (16-18)-GCU (600-97733-5) **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	160	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Test America
Project: Kinder Morgan GCU Com A #142E
Lab Order: 1408F79

Lab ID: 1408F79-006
Client Sample ID: MW-4 (13-15)-GCU (600-97733-6)
Collection Date: 8/25/2014 11:30:00 AM
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	46	20		mg/Kg	1	9/3/2014 12:00:00 PM	15052

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408F79**

04-Sep-14

Client: Test America

Project: Kinder Morgan GCU Com A #142E

Sample ID	**MB-15052**	SampType:	**MBLK**	TestCode:	**EPA Method 418.1: TPH**					
Client ID:	**PBS**	Batch ID:	**15052**	RunNo:	**20959**					
Prep Date:	**9/2/2014**	Analysis Date:	**9/3/2014**	SeqNo:	**610066**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	**LCS-15052**	SampType:	**LCS**	TestCode:	**EPA Method 418.1: TPH**					
Client ID:	**LCSS**	Batch ID:	**15052**	RunNo:	**20959**					
Prep Date:	**9/2/2014**	Analysis Date:	**9/3/2014**	SeqNo:	**610067**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	107	80	120			

Sample ID	**LCSD-15052**	SampType:	**LCSD**	TestCode:	**EPA Method 418.1: TPH**					
Client ID:	**LCSS02**	Batch ID:	**15052**	RunNo:	**20959**					
Prep Date:	**9/2/2014**	Analysis Date:	**9/3/2014**	SeqNo:	**610068**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	111	80	120	4.14	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **TEST AMERICA HOUST** Work Order Number: **1408F79** RcptNo: **1**

Received by/date: AMG 08/29/14

Logged By: **Ashley Gallegos** **8/29/2014 10:00:00 AM** AG

Completed By: **Ashley Gallegos** **8/29/2014 2:39:19 PM** AG

Reviewed By: CS 09/02/14

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	UPS		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Page 1 of 1

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salcher, Neal	Carrier Tracking No(s):	COC No: 600-11188.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: neal.salcher@testamericainc.com		Page: Page 1 of 1
Company: Hall Environmental Analysis Laboratory				Job #: 600-97733-1
Address: 4901 Hawkins NE, Suite D,	Due Date Requested: 9/9/2014			
City: Albuquerque	TAT Requested (days):			
State, Zip: NM, 87109				
Phone:	PO #:			
Email:	WO #:			
Project Name: Kinder Morgan GCU Com A #142E	Project #: 60005509			
Site:	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, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	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)	SUB (EPA 418.1 TPH - Subcontract to Hall Enviornmental Analysis Laboratory)/ EPA 418.1 TPH	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-8 (13-15)-GCU (600-97733-1)	8/24/14	07:50 Central		Solid			X	1	1408F79-001
MW-3 (16-18)-GCU (600-97733-2)	8/24/14	10:20 Central		Solid			X	1	-002
MW-7 (18-20)-GCU (600-97733-3)	8/24/14	13:00 Central		Solid			X	1	-003
MW-5 (18-20)-GCU (600-97733-4)	8/24/14	15:30 Central		Solid			X	1	-004
MW-6 (16-18)-GCU (600-97733-5)	8/25/14	08:45 Central		Solid			X	1	-005
MW-4 (13-15)-GCU (600-97733-6)	8/25/14	12:30 Central		Solid			X	1	-006

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: UPS		
Relinquished by:	Date/Time: 8/28/14 1600	Company	Received by:	Date/Time: 8/28/14 1000	Company Hall Env.
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 ☒ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.0°

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

in of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

600-97733 Chain of Custody

Client Information

Client Contact:	~~[illegible]~~ KMI/El Paso
Company:	~~TestAmerica Laboratories Inc.~~ MWH Americas
Address:	~~[illegible]~~ 11153 Aurora Ave.
City:	~~[illegible]~~ Des Moines
State, Zip:	~~[illegible]~~ Iowa 50322-7904
Phone:	~~[illegible]~~ (515) 253-0830
Email:	~~eprocurement@testamericainc.com~~ clint.w.oberbreckling.mwhglobal.com
Project Name:	~~[illegible]~~ Pit GW: GCU Com A #142E
Site:	GCU #142E New Mexico

Due Date Requested:	–
TAT Requested (days):	Normal
PO #:	WD214204
~~WO #:~~	~~ARF#~~ ERG-MWH-07-22-14-CWD-01
Project #:	60005509
SSOW#:	

Lab PM	Salcher, Neal
E-Mail:	neal.salcher@testamericainc.com
Carrier Tracking No(s):	
COC No:	600-30005-10240.1
Page:	Page 1 of 1
Job #:	1050 4833

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B - (MOD) BTEX Only List	~~[illegible]~~ - Chloride EPA 300	~~[illegible]~~ - TJJ	~~[illegible]~~ - TJJ	Sub contract - EPA 418.1 TPH	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	N			N	X	
MW-8 (13-15) - GCU	8/24/14	0750	G	Solid	N	N	1	1			1		2 4oz Jars, 1 2oz Jar
MW-3 (16-18) - GCU	8/24/14	1020	G	Solid	N	N	1	1			1		"
MW-7 (18-20) - GCU	8/24/14	1300	G	Solid	N	N	1	1			1		"
MW-5 (18-20) - GCU	8/24/14	1530	G	Solid	N	N	1	1			1		"
MW-6 (16-18) - GCU	8/25/14	0845	G	Solid	N	N	1	1			1		"
MW-4 (13-15) - GCU	8/25/14	1230	G	Solid	N	N	1	1			1		"
				~~Solid~~									
				~~Solid~~									
				~~Solid~~									
				~~Solid~~									
				~~Solid~~									

Brad Bart 8/26/14

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:

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

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

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

Special Instructions/QC Requirements: See ARF

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Brad Bart	8/26/14 1200	MWH	Fed Ex	8/26/14 1200	Fed Ex
Fed Ex	8/27/14 –	Fed Ex			
			[illegible signature]	8/27/14 1032	TM

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

TestAmerica Houston

Loc: 600
97733

Sample Receipt Checklist

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 14 AUG 27 1600

JOB NUMBER: _____

CLIENT: KMI

UNPACKED BY: _____

CARRIER/DRIVER: Fed Ex

Custody Seal Present. ☒ YES ☐ NO

Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
RW	Y / N	Y / N	1.3	206	0.5	1.8
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 600-97733-1

Login Number: 97733

List Source: TestAmerica Houston

List Number: 1

Creator: Crafton, Tommie S

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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	1.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

APPENDIX C

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: 560-46607-1
Client Project/Site: Gallegos Canyon Unit #142E, 4/3/14 BTEX

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

Attn: Ms. Sarah Gardner

Authorized for release by:
4/21/2014 1:25:36 PM

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

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)

Job ID: 560-46607-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-46607-1

Comments
No additional comments.

Receipt
The sample was received on 4/8/2014 9:45 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8º C.

Except:

The following sample(1) MW-2 was listed on the Chain of Custody (COC); however, no sample was received: MW-1 (560-46607-1).

The only sample received for this site; container label lists MW-1 @10:50. The COC lists TMW-1 @10:55 nothing on this COC matches this container.(All other sites/containers have been labeled and put away.)

GC VOA
Method(s) 8021B: LCS and MB are also designated as ICV and ICB for calibration...batch 100781

No other analytical or quality issues were noted.

Organic 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: Gallegos Canyon Unit #142E, 4/3/14 BTEX

TestAmerica Job ID: 560-46607-1

Client Sample ID: MW-1

Lab Sample ID: 560-46607-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	560		20	2.0	ug/L	10		8021B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #142E, 4/3/14 BTEX

TestAmerica Job ID: 560-46607-1

Client Sample ID: MW-1
Date Collected: 04/03/14 10:50
Date Received: 04/08/14 09:45

Lab Sample ID: 560-46607-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**560**		20	2.0	ug/L			04/14/14 21:09	10
Toluene	<3.8		20	3.8	ug/L			04/14/14 21:09	10
Ethylbenzene	<2.0		20	2.0	ug/L			04/14/14 21:09	10
Xylenes, Total	<6.5		20	6.5	ug/L			04/14/14 21:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*58 - 129*		*04/14/14 21:09*	*10*
Trifluorotoluene (Surr)	*103*		*54 - 130*		*04/14/14 21:09*	*10*

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #142E, 4/3/14 BTEX

TestAmerica Job ID: 560-46607-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-100789/7
Matrix: Water
Analysis Batch: 100789

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			04/14/14 16:55	1
Toluene	<0.38		2.0	0.38	ug/L			04/14/14 16:55	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/14/14 16:55	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/14/14 16:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*58 - 129*		*04/14/14 16:55*	*1*
Trifluorotoluene (Surr)	*100*		*54 - 130*		*04/14/14 16:55*	*1*

Lab Sample ID: LCS 560-100789/6
Matrix: Water
Analysis Batch: 100789

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	38.5		ug/L		96	70 - 130		
Toluene			40.0	40.6		ug/L		101	70 - 130		
Ethylbenzene			40.0	39.6		ug/L		99	70 - 130		
Xylenes, Total			120	114		ug/L		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*58 - 129*
Trifluorotoluene (Surr)	*106*		*54 - 130*

Certification Summary

Client: MWH Americas Inc
TestAmerica Job ID: 560-46607-1
Project/Site: Gallegos Canyon Unit #142E, 4/3/14 BTEX

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: Gallegos Canyon Unit #142E, 4/3/14 BTEX

TestAmerica Job ID: 560-46607-1

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

Protocol References:

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: Gallegos Canyon Unit #142E, 4/3/14 BTEX

TestAmerica Job ID: 560-46607-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46607-1	MW-1	Water	04/03/14 10:50	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 8695277573 97	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
Company: MWH Americas Inc				Job #: Loc: 560 46607
Address: 1801 California Street Suite 2900	Due Date Requested:			
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: Gallegos Canyon Unit #142E	SSOW#:			

Analysis Requested

Preservation Code: A

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:
~~MW-1~~	4/3/14			Water					Not Sampled
MW-2	4/3/14	1040		Water			X	3	
TMW-1	4/3/14	1055		Water			X	3	
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					

Preservation Codes:
A - HC
B - Na(
C - Zn A
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)
Other:

560-46607 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	[illegible]	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: @5 1.6°C cor 1.8°C IR Seal

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-46607-1

Login Number: 46607

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Rood, Vivian R

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: 400-97696-1
Client Project/Site: KM GCU #142E

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

Attn: Ms. Sarah Gardner

Authorized for release by:
11/6/2014 1:58:39 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 GCU #142E

TestAmerica Job ID: 400-97696-1

Qualifiers

GC/MS 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.
X	Surrogate is outside control limits

Glossary

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

Client: MWH Americas Inc
Project/Site: KM GCU #142E

TestAmerica Job ID: 400-97696-1

Job ID: 400-97696-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-97696-1

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 5.8º C.

Except:

One of three containers for the following sample was received broken or leaking: MW-1 (400-97696-1). Sample analysis was not impacted. Other vials for that sampel arrived in tact.

GC/MS VOA
Method(s) 8260B: One of three surrogate recoveries for the following samples was outside control limits: MW-5 (400-97696-3), MW-7 (400-97696-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or 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 GCU #142E

TestAmerica Job ID: 400-97696-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97696-1	MW-1	Water	10/25/14 10:45	10/28/14 09:39
400-97696-2	MW-3	Water	10/25/14 10:25	10/28/14 09:39
400-97696-3	MW-5	Water	10/25/14 10:40	10/28/14 09:39
400-97696-4	MW-6	Water	10/25/14 10:35	10/28/14 09:39
400-97696-5	MW-7	Water	10/25/14 10:30	10/28/14 09:39
400-97696-6	MW-8	Water	10/25/14 10:50	10/28/14 09:39
400-97696-7	TRIP BLANK	Water	10/25/14 11:00	10/28/14 09:39

Client Sample ID: MW-1

Lab Sample ID: 400-97696-1

Date Collected: 10/25/14 10:45

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	**57**		1.0	0.38	ug/L			11/01/14 18:08	1
Ethylbenzene	**1.9**		1.0	0.50	ug/L			11/01/14 18:08	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 18:08	1
Xylenes, Total	**3.0**	**J**	10	1.6	ug/L			11/01/14 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*11/01/14 18:08*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*11/01/14 18:08*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/01/14 18:08*	*1*

Client Sample ID: MW-3

Lab Sample ID: 400-97696-2

Date Collected: 10/25/14 10:25

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	<0.38		1.0	0.38	ug/L			11/01/14 18:31	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 18:31	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 18:31	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*11/01/14 18:31*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*11/01/14 18:31*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/01/14 18:31*	*1*

Client Sample ID: MW-5

Lab Sample ID: 400-97696-3

Date Collected: 10/25/14 10:40

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	**1.8**		1.0	0.38	ug/L			11/01/14 18:54	1
Ethylbenzene	**0.89**	**J**	1.0	0.50	ug/L			11/01/14 18:54	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 18:54	1
Xylenes, Total	**11**		10	1.6	ug/L			11/01/14 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*11/01/14 18:54*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*11/01/14 18:54*	*1*
Toluene-d8 (Surr)	*126*	*X*	*80 - 120*		*11/01/14 18:54*	*1*

Client Sample ID: MW-6

Lab Sample ID: 400-97696-4

Date Collected: 10/25/14 10:35

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	**1.1**		1.0	0.38	ug/L			11/01/14 19:17	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 19:17	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 19:17	1

Client Sample ID: MW-6

Lab Sample ID: 400-97696-4

Date Collected: 10/25/14 10:35

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	<1.6		10	1.6	ug/L			11/01/14 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*11/01/14 19:17*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*11/01/14 19:17*	*1*
Toluene-d8 (Surr)	*114*		*80 - 120*		*11/01/14 19:17*	*1*

Client Sample ID: MW-7

Lab Sample ID: 400-97696-5

Date Collected: 10/25/14 10:30

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	**4.7**		1.0	0.38	ug/L			11/01/14 19:40	1
Ethylbenzene	**1.7**		1.0	0.50	ug/L			11/01/14 19:40	1
Toluene	**0.70**	**J**	1.0	0.70	ug/L			11/01/14 19:40	1
Xylenes, Total	**5.7**	**J**	10	1.6	ug/L			11/01/14 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*11/01/14 19:40*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*11/01/14 19:40*	*1*
Toluene-d8 (Surr)	*126*	*X*	*80 - 120*		*11/01/14 19:40*	*1*

Client Sample ID: MW-8

Lab Sample ID: 400-97696-6

Date Collected: 10/25/14 10:50

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	**0.77**	**J**	1.0	0.38	ug/L			11/01/14 20:03	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 20:03	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 20:03	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*11/01/14 20:03*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*11/01/14 20:03*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/01/14 20:03*	*1*

Client Sample ID: TRIP BLANK

Lab Sample ID: 400-97696-7

Date Collected: 10/25/14 11:00

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 13:57	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 13:57	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 13:57	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 13:57	1

Client: MWH Americas Inc
Project/Site: KM GCU #142E

TestAmerica Job ID: 400-97696-1

Client Sample ID: TRIP BLANK
Date Collected: 10/25/14 11:00
Date Received: 10/28/14 09:39

Lab Sample ID: 400-97696-7
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118		11/01/14 13:57	1
Dibromofluoromethane	95		81 - 121		11/01/14 13:57	1
Toluene-d8 (Surr)	105		80 - 120		11/01/14 13:57	1

Client: MWH Americas Inc
Project/Site: KM GCU #142E

TestAmerica Job ID: 400-97696-1

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

Lab Sample ID: MB 400-235152/30
Matrix: Water
Analysis Batch: 235152

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 10:56	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 10:56	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 10:56	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 10:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*11/01/14 10:56*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*11/01/14 10:56*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/01/14 10:56*	*1*

Lab Sample ID: LCS 400-235152/1002
Matrix: Water
Analysis Batch: 235152

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	47.4		ug/L		95	79 - 120		
Ethylbenzene			50.0	50.5		ug/L		101	80 - 120		
Toluene			50.0	50.2		ug/L		100	80 - 120		
Xylenes, Total			100	102		ug/L		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*93*		*81 - 121*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Chronicle

Client: MWH Americas Inc
Project/Site: KM GCU #142E

TestAmerica Job ID: 400-97696-1

Client Sample ID: MW-1
Lab Sample ID: 400-97696-1
Date Collected: 10/25/14 10:45
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		1	235152	11/01/14 18:08	ABF	TAL PEN

Client Sample ID: MW-3
Lab Sample ID: 400-97696-2
Date Collected: 10/25/14 10:25
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	235152	11/01/14 18:31	ABF	TAL PEN

Client Sample ID: MW-5
Lab Sample ID: 400-97696-3
Date Collected: 10/25/14 10:40
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	235152	11/01/14 18:54	ABF	TAL PEN

Client Sample ID: MW-6
Lab Sample ID: 400-97696-4
Date Collected: 10/25/14 10:35
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		1	235152	11/01/14 19:17	ABF	TAL PEN

Client Sample ID: MW-7
Lab Sample ID: 400-97696-5
Date Collected: 10/25/14 10:30
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	235152	11/01/14 19:40	ABF	TAL PEN

Client Sample ID: MW-8
Lab Sample ID: 400-97696-6
Date Collected: 10/25/14 10:50
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	235152	11/01/14 20:03	ABF	TAL PEN

Lab Chronicle

Client: MWH Americas Inc
Project/Site: KM GCU #142E

TestAmerica Job ID: 400-97696-1

Client Sample ID: TRIP BLANK — **Lab Sample ID: 400-97696-7**

Date Collected: 10/25/14 11:00 — **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	235152	11/01/14 13:57	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 GCU #142E

TestAmerica Job ID: 400-97696-1

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: S. Gardner / C. Lee	Lab PM: Salcher, Neal	Carrier Tracking No(s):	COC No: 560-15210-1507.1
Client Contact: Ms. Sarah Gardner	Phone: 303 291 2239	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:	Analysis Requested		Preservation Codes:
City: Denver	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CO, 80202				
Phone: 303-291-2239(Tel)	PO #: Purchase Order Requested			
Email: sarah.gardner@mwhglobal.com	WO #: As per Enfos			Other:
Project Name: KM GCU #142E	Project #: 56004962			
Site:	SSOW#:			

400-97696 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-1	10/25/14	1045		Water			X		
MW-3	10/25/14	1025		Water			X		
~~MW-4~~	~~10/25/14~~			Water					There's no MW-4
MW-5	10/25/14	1040		Water			X		
MW-6	10/25/14	1035		Water			X		
MW-7	10/25/14	1030		Water			X		
MW-8	10/25/14	1050		Water			X		
TRIP BLANK	10/25/14	1100		Water			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:	Date/Time:	Company	Received by:	Date/Time:	Company
Chris Lee	10/27/14 915	MWH		10-28-14 0934	
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: 5.8°C IR-2

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: 560-15434-1546.1
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: Miles Fed #1A	Project #: 56004989			
Site:	SSOW#:			

Analysis Requested

400-97695 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	1210	G	Water			X		
MW-2	10/24/14	1205	G	Water			X		
MW-3	10/24/14	1200	G	Water			X		
TRIP BLANK	10/24/14	1220	G	Water			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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Chris Lee	10/27/14 915			10-28-14 931	
2		Date/Time:	Company	Received by:	Date/Time:	Company
3	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: 5.8°C IR-2

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

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Client Contact: Ms. Sarah Gardner	Phone: 303 291 2239	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: KM GCU #142E	Project #: 56004962
Site:	SSOW#:

Analysis Requested

400-97696 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	10/25/14	1045		Water			X		
MW-3	10/25/14	1025		Water			X		
~~MW-4~~	~~10/25/14~~			Water					There's no MW-4
MW-5	10/25/14	1040		Water			X		
MW-6	10/25/14	1035		Water			X		
MW-7	10/25/14	1030		Water			X		
MW-8	10/25/14	1050		Water			X		
TRIP BLANK	10/25/14	1100		Water			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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	10/27/14 915	MWH	[signature]	10-28-14 0930	
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: 5.8 - IR-2