3R – 407

2013 AGWMR

03 / 04 / 2014

MWH

BUILDING A BETTER WORLD

March 4, 2014

Mr. Glenn von Gonten
New Mexico Oil Conservation Division (NMOCD)
1220 South St., Francis Drive
Santa Fe, NM 87505

RE: 2013 Annual Report Submittals
San Juan River Basin Program - Pit Sites

Dear Mr. von Gonten

On behalf of El Paso CGP Company (EPCGPC), MWH is submitting the enclosed 2013 Annual Reports for 18 of its remaining San Juan River Basin pit groundwater remediation sites. The reports present the 2013 sampling data and planned activities for 2014 at these sites.

If you have any questions concerning the enclosed reports, please contact either Joe Wiley (representing EPCGPC) at 713-420-3475 or me at 515-253-0830.

Sincerely,

David C. Wombacher
Principal Engineer

/mja:dcw:hls
Enclosures
cc: Bill Freeman – NNEPA, Shiprock, NM (Navajo Nation Lands, See Table 1)
Mark Kelly – BLM, Farmington, NM (Federal Lands, See Table 1)
Brandon Powell – NMOCD, Aztec, NM (all 18 reports)
Joe Wiley – EPCGP Company (all 18 reports, electronic)

P:\Word Processing\EL PASO\NEW MEXICO\SAN JUAN RIVER BASIN PROGRAM\PIT SITES\LTR-03-14-2013 ANNUAL REPORT SUBMITTALS\Ltr-03-14-von Gonten-2013 Annual Report Submittals.docx

11153 Aurora Avenue
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TABLE 1

REPORT LISTING AND LAND TYPE
SAN JUAN RIVER BASIN PROGRAM – PIT SITES

METER or LINE ID	NMOCD CASE NO.	SITE NAME	Land Type
87640	3RP-155-0	Canada Mesa #2	Federal
89961	3RP-170-0	Fields A#7A	Federal
73220	3RP-068-0	Fogelson 4-1 Com. #14	Federal
95608	3RP-407-0	Gallegos Canyon Unit #124E	Navajo
03906	3RP-179-0	GCU Com A #142E	State/Fee
89894	3RP-186-0	Hammond #41A	Federal
94715	3RP-196-0	James F. Bell #1E	Federal
70194	3RP-201-0	Johnston Fed #4	State/Fee
89232	3RP-202-0	Johnston Fed #6A	Federal
LD072	3RP-204-0	K27 LD072	Federal
LD087	3RP-205-0	K-31 Line Drip	State/Fee
72556	3RP-207-0	Knight #1	State/Fee
LD174	3RP-212-0	Lateral L 40	Federal
LD151	3RP-213-0	Lateral 0-21 Line Drip	Federal
94810	3RP-223-0	Miles Fed 1A	Federal
89620	3RP-235-0	Sandoval GC A #1A	Federal
70445	3RP-074-0	Standard Oil Com #1	State/Fee
71669	3RP-239-0	State Gas Com N #1	State/Fee

2013 ANNUAL GROUNDWATER REPORT

Gallegos Canyon Unit #124E
Meter Code: 95608
T28N, R12W, Sec 35, Unit N

SITE DETAILS

Site Location: Latitude: 36.614105 N, Longitude: -108.083662 W
Land Type: Navajo
Operator: BP America Production Company

SITE BACKGROUND

- **Site Assessment:** 1/95
- **Excavation:** 10/95 (196 cy)

Gallegos Canyon Unit #124E (Site) is managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company (EPCGP's) program methods. Currently, the site is operated by BP America Production Company and is active.

The Site is located on Navajo Agricultural Products Industry land. Various site investigations have occurred from 1995 through 2012. Monitoring wells were installed in 1995 (MW-1) and 2013 (MW-2 through MW-7). Free product has historically been detected in MW-1 but no free product has been detected since 2003. Currently, groundwater sampling conducted on a semi-annual basis.

SUMMARY OF 2013 ACTIVITIES

In July 2013, a Site survey was completed to re-develop a base Site map, confirm the Site benchmark, and validate the elevation and location of monitoring well MW-1.

Six new wells (MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7) were drilled in October 2013, 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 monitoring wells MW-1 and MW-2 through MW-7 (completed in October 2013), were again surveyed in November 2013, by a licensed surveyor using state plane coordinates.

Monitoring wells MW-2 through MW-7 were constructed of 2-inch diameter, schedule 40, 0.010-inch, continuous, factory-slotted PVC screen and schedule 40 blank PVC casing. The well screen was installed from 40 feet below ground surface (bgs) to 15 feet bgs and bisects the observed water table located at depths ranging from 25-27 feet below the top of the monitoring well casings during 2013 gauging events. A 3-foot seal of bentonite chips was placed above the sandpack 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 wells MW-3, MW-4, MW-5, and MW-6 were installed around the existing MW-1 in order to better delineate groundwater impacts from the former EPC pit. Monitoring well MW-2 was installed south of a former operator's drill pit, and monitoring well MW-7 was installed southwest between two previously completed soil borings (soil boring drilled in November 2000). Pertinent Site features and soil boring/monitoring well locations are shown on accompanying Figures 1-6.

During the drilling of soil borings associated with the installation of the wells completed in October 2013, the soil sample interval exhibiting the highest 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 EPA Method SW846 8260B, Total petroleum hydrocarbons using EPA Method SW846 9071, and Chlorides according to EPA Method 300. Sample jars were stored in an ice-filled cooler and shipped under standard chain of custody to Test America Laboratories in Corpus Christi, Texas. The soil sample laboratory analytical report is provided in Appendix B.

Monitoring well development was performed using a well swab and disposable bailer until all sediment was removed and visibly clear groundwater was observed. Purged groundwater was stored in a labeled 55-gallon drum and staged on-site along with the soil boring cuttings for later disposal by Safety-Kleen.

On June 4 and September 11, 2013, groundwater levels were gauged at MW-1, and groundwater samples were collected using a HydraSleeve™ (HydraSleeve); a disposable, no-purge passive groundwater sampling device. On December 15, 2013, MW-1, and new monitoring wells MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7 were gauged and a groundwater sample was collected from MW-1 using a HydraSleeve. The HydraSleeve within MW-1 was set during the previous sampling event approximately 0.5 foot above the termination depth of each monitoring well using a suspension tether and weights to collect a sample from the screened interval. All new monitoring wells installed in October 2013 were purged and samples were collected with a 2 inch disposable bailer. HydraSleeves were set in wells without free product to be sampled at a future event. Groundwater samples were placed into laboratory supplied sample containers, packed on ice and shipped under standard chain of custody protocols to Test America Laboratories in Corpus Christi, Texas where they were analyzed for BTEX. Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and ORP using a YSI multi-parameter instrument. The de minimis water remaining in the HydraSleeve was combined in a waste container along with excess water from bailing activities and transferred to an off-site 55-gallon drum for later disposal by Safety-Kleen.

SUMMARY TABLES

Soil analytical results for samples from the MW-2 through MW-7 borings are presented in Table 1. Historic analytical and water level data are summarized in Table 2.

2013 ANNUAL GROUNDWATER REPORT

Gallegos Canyon Unit #124E
Meter Code: 95608
T28N, R12W, Sec 35, Unit N

SITE MAPS

Groundwater analytical results maps (Figures 1, 3, and 5) and groundwater elevation maps (Figures 2, 4, and 6) summarize the results of the 2013 groundwater sampling and gauging events.

ANALYTICAL LAB REPORTS

The soil and groundwater analytical lab reports are presented in Appendices B and C, respectively.

RESULTS

- Based on 2013 quarterly water level gauging events, the groundwater flow direction is generally to the west at the Site (see Figure 6).

- Concentrations of benzene (25, 33, and 87 µg/L) in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standard during each of the three 2013 quarterly sampling events. Concentrations of ethylbenzene and total xylenes remained significantly below standards for all three 2013 sampling events. Toluene was not detected in groundwater obtained from MW-1 during the three 2013 quarterly sampling events.

- BTEX constituents were not detected in MW-2 during the December 2013 sampling event.

- Concentrations of benzene, ethylbenzene, and total xylenes in groundwater collected from MW-3 were below NMWQCC standards during the December 2013 sampling event. Toluene was not detected in the collected groundwater in December 2013.

- BTEX constituents were not detected in g MW-4 during the December 2013 sampling event or were reported below the reporting limit (J-flagged).

- Concentrations of benzene, ethylbenzene, and total xylenes in groundwater collected from MW-5 were below NMWQCC standards during the December 2013 sampling event. Toluene was not detected in the collected groundwater in December 2013.

- BTEX constituents were not detected in groundwater collected from MW-6 during the December 2013 sampling event.

- BTEX constituents were not detected in groundwater collected from MW-7 during the December 2013 sampling event.

- Based on the results of groundwater analyses from the wells installed in 2013, comprehensive coverage of the potential area where dissolved hydrocarbon concentrations could exist from the former release has been achieved. It does not appear that additional delineation of dissolved hydrocarbons is necessary at this time.

- Soil samples from the borings for new monitoring wells MW-2 through MW-7 were analyzed for BTEX, total petroleum hydrocarbons (TPH), and chloride. All samples were non-detect for benzene and toluene. Ethylbenzene was non detect at 4 of the sample locations with high reported concentration 0.24 milligrams/kilogram of soil (mg/kg) at MW-4. Xylenes were non detect or estimated at concentration below the reporting limit at 4 locations with a high concentration of 3.4 mg/kg at MW-4. TPH values ranged from 65 milligrams per kilogram of soil (mg/kg) at MW-2 to 590 mg/kg at MW-6. Chloride was detected below the reporting limit (J-flagged) at all locations except MW-5 where chloride was reported at 61 mg/kg.

PLANNED FUTURE ACTIVITIES

Monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7 will be gauged and sampled on a semi-annual basis in 2014. Groundwater elevation and analytical data collected during 2014 will be evaluated and presented in the 2014 Annual Groundwater Report issued in early 2015. When BTEX concentrations in all wells are reported below the NMWQCC standards, groundwater sampling frequency will be increased to quarterly. After four consecutive quarters with no dissolved hydrocarbon concentrations are observed EPCGP will request site closure from NMOCD.

TABLES

TABLE 1 - SOIL ANALYTICAL RESULTS

Gallegos Canyon Unit #124E							
Location	**Date**	**Benzene (mg/kg)**	**Toluene (mg/kg)**	**Ethylbenzene (mg/kg)**	**Total Xylenes (mg/kg)**	**TPH (mg/kg)**	**Chloride (mg/kg)**
MW-2(19-20)	10/31/13	<0.00022	<0.00087	<0.00044	<0.00048	65	35J
MW-3(25-26)	10/30/13	<0.019	<0.0096	0.21	2.3	260	39J
MW-4(25-30)	10/29/13	<0.023	<0.012	0.24	3.4	430	26J
MW-5(24-25)	10/31/13	<0.00024	<0.00094	<0.00024	0.0036J	230	61
MW-6(25-26)	10/30/13	<0.021	<0.010	<0.010	<0.010	590	45J
MW-7(24-25)	10/31/13	<0.00021	<0.00084	<0.00042	<0.00047	130	26J

Notes:
"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).

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #124E								
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	06/25/98	340	271	111	510	27.21	-	-
MW-1	09/14/98	410	251	68.3	220	27.50	-	-
MW-1	12/15/98	710	1300	160	940	28.16	27.61	0.55
MW-1	03/16/99	2960	5130	367	2890	29.02	27.60	1.42
MW-1	10/05/00					29.46	29.04	0.42
MW-1	11/15/00					28.93	28.93	0.00
MW-1	12/20/00					28.98	-	-
MW-1	01/09/01					29.21	29.18	0.03
MW-1	01/15/01					29.07	29.04	0.03
MW-1	01/22/01					28.99	-	-
MW-1	01/30/01					29.09	-	-
MW-1	03/12/01					29.26	-	-
MW-1	06/05/01					29.32	29.28	0.04
MW-1	07/13/01					29.65	-	-
MW-1	08/02/01					29.53	-	-
MW-1	08/31/01					29.27	-	-
MW-1	09/21/01					29.33	-	-
MW-1	10/02/01					28.98	-	-
MW-1	01/02/02					28.96	28.85	0.11
MW-1	01/07/02					28.99	28.94	0.05
MW-1	01/23/02					29.35	26.35	3.00
MW-1	01/30/02					29.24	29.22	0.02
MW-1	02/07/02					29.70	29.66	0.04
MW-1	02/14/02					29.29	29.28	0.01
MW-1	02/20/02					29.76	29.75	0.01
MW-1	03/04/02					29.30	-	-
MW-1	03/11/02					29.17	-	-
MW-1	03/21/02					29.47	-	-
MW-1	03/28/02					29.33	-	-
MW-1	04/03/02					29.33	-	-
MW-1	04/12/02					29.70	-	-
MW-1	04/18/02					29.31	-	-
MW-1	04/25/02					30.11	-	-
MW-1	05/03/02					30.18	-	-
MW-1	05/10/02					30.25	-	-
MW-1	05/17/02					29.57	-	-
MW-1	05/24/02					29.70	-	-
MW-1	05/31/02					29.54	-	-
MW-1	06/07/02					29.42	-	-
MW-1	06/12/02					29.21	-	-
MW-1	06/21/02					30.12	-	-
MW-1	06/27/02					30.18	-	-
MW-1	07/02/02					29.99	29.98	0.01
MW-1	07/11/02					30.06	-	-
MW-1	07/15/02					29.63	-	-
MW-1	10/16/02					29.65	29.24	0.41
MW-1	01/15/03					28.63	-	-
MW-1	05/05/03					27.72	27.69	0.03
MW-1	07/18/03					27.08	27.06	0.02
MW-1	01/29/04					25.40	-	-
MW-1	04/15/04					24.98	-	-
MW-1	07/26/04					24.50	-	-
MW-1	10/15/04					24.98	-	-
MW-1	01/17/05					25.49	-	-
MW-1	04/19/05	38.8	<1	142	1160	25.45	-	-
MW-1	07/20/05	125	11.4	371	2640	24.73	-	-

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #124E								
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	10/20/05	86.8	11.3	125	864	24.85	-	-
MW-1	01/19/06	77.9	12	101	656	24.53	-	-
MW-1	04/24/06	45.1	3.5 J	56.1	377	24.25	-	-
MW-1	07/31/06	60.8	1.5 J	79.3	524	25.68	-	-
MW-1	10/24/06	21.1	<1	56.6	349	24.94	-	-
MW-1	01/19/07	22.4	<1	60	367	26.33	-	-
MW-1	04/24/07	30.3	<1	60.6	407	25.97	-	-
MW-1	07/31/07	35.3	<2	68.4	416	26.26	-	-
MW-1	10/25/07	9	<1	33.2	173	26.44	-	-
MW-1	01/28/08	6	<2	41.6	210	26.67	-	-
MW-1	04/23/08	14.1	0.59 J	50.1	360	26.67	-	-
MW-1	07/23/08	72.7	6.7	65.8	210	23.49	-	-
MW-1	10/08/08	194	<50	43.6 J	328	22.30	-	-
MW-1	01/07/09	281	6 J	110	653	23.74	-	-
MW-1	08/25/09	57.9	8.8 J	58.4	298	26.65	-	-
MW-1	11/03/09					25.62	-	-
MW-1	02/15/10	98.3	4.1	80.6	385	25.93	-	-
MW-1	05/24/10					19.47	-	-
MW-1	09/27/10	159	<2	56.4	348	19.78	-	-
MW-1	11/01/10					19.82	-	-
MW-1	02/01/11	109	0.28 J	54.1	436	21.70	-	-
MW-1	05/02/11					23.32	-	-
MW-1	09/23/11	288	<1	116	1020	24.71	-	-
MW-1	02/22/12	255	<5	145	853	23.51	-	-
MW-1	05/07/12					24.20	-	-
MW-1	06/04/13	33	<0.60	11.0	0.86	25.87	-	-
MW-1	09/11/13	25	<0.30	9.8	8.9	25.74	-	-
MW-1	12/15/13	87	<0.30	50	100	25.67	-	-

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Gallegos Canyon Unit #124E								
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	12/15/13	<0.14	<0.30	<0.20	<0.23	26.46	-	-
MW-3	12/15/13	4.1	<0.30	7.4	27	26.02	-	-
MW-4	12/15/13	<0.14	<0.30	0.28 J	1.4 J	25.62	-	-
MW-5	12/15/13	9.3	<0.30	53	32	25.17	-	-
MW-6	12/15/13	<0.14	<0.30	<0.20	2.0 J	25.48	-	-
MW-7	12/15/13	<0.14	<0.30	<0.20	<0.23	25.34	-	-

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 CANYON UNIT #124E\2013 MAPS\GCU#124E_GARM_2Q_2013.mxd

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PW — PRODUCED WATER LINE
- UGC — UNDERGROUND CABLE
- G — UNDERGROUND GAS LINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- SOIL BORING
- 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	10/14/2013	CCL	CCL	DAW

TITLE:
GALLEGOS CANYON UNIT #124E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED JUNE 4, 2013

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

MWH

Figure No.: 1

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LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
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- UNDERGROUND GAS LINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- SOIL BORING
- RIG ANCHOR

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/14/2013	CCL	CCL	DAW

TITLE:

GALLEGOS CANYON UNIT #124E
GROUNDWATER ELEVATION MAP
SAMPLED JUNE 4, 2013

PROJECT:

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

MWH

Figure No.: 2

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LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
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- 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	10/14/2013	CCL	CCL	DAW

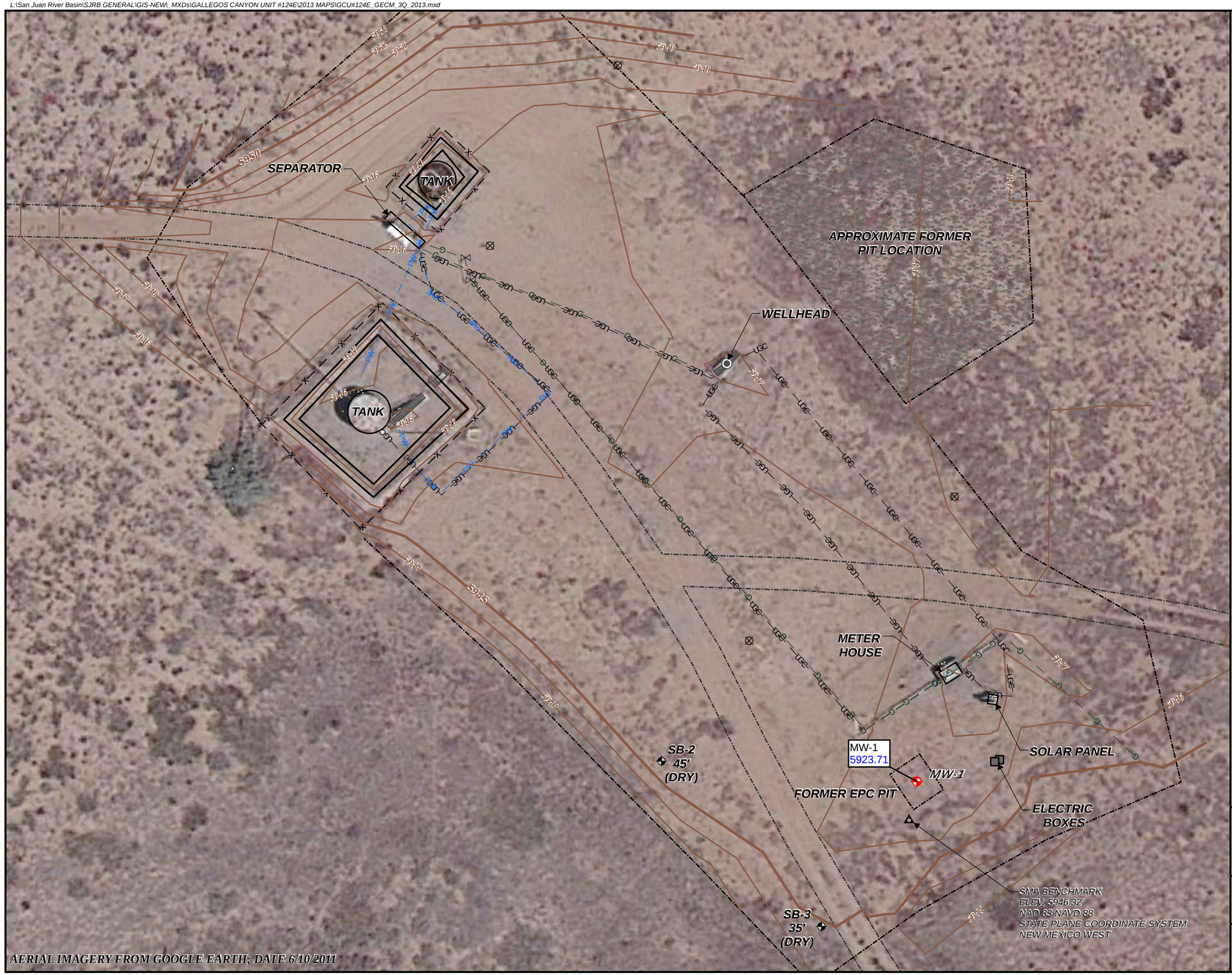
TITLE:
GALLEGOS CANYON UNIT #124E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED SEPTEMBER 11, 2013

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 CANYON UNIT #124E\2013 MAPS\GCU#124E_GECM_3Q_2013.mxd



LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
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- MONITORING WELL
- SOIL BORING
- RIG ANCHOR

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	10/14/2013	CCL	CCL	DAW

TITLE:

GALLEGOS CANYON UNIT #124E
GROUNDWATER ELEVATION MAP
SAMPLED SEPTEMBER 11, 2013

PROJECT:

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

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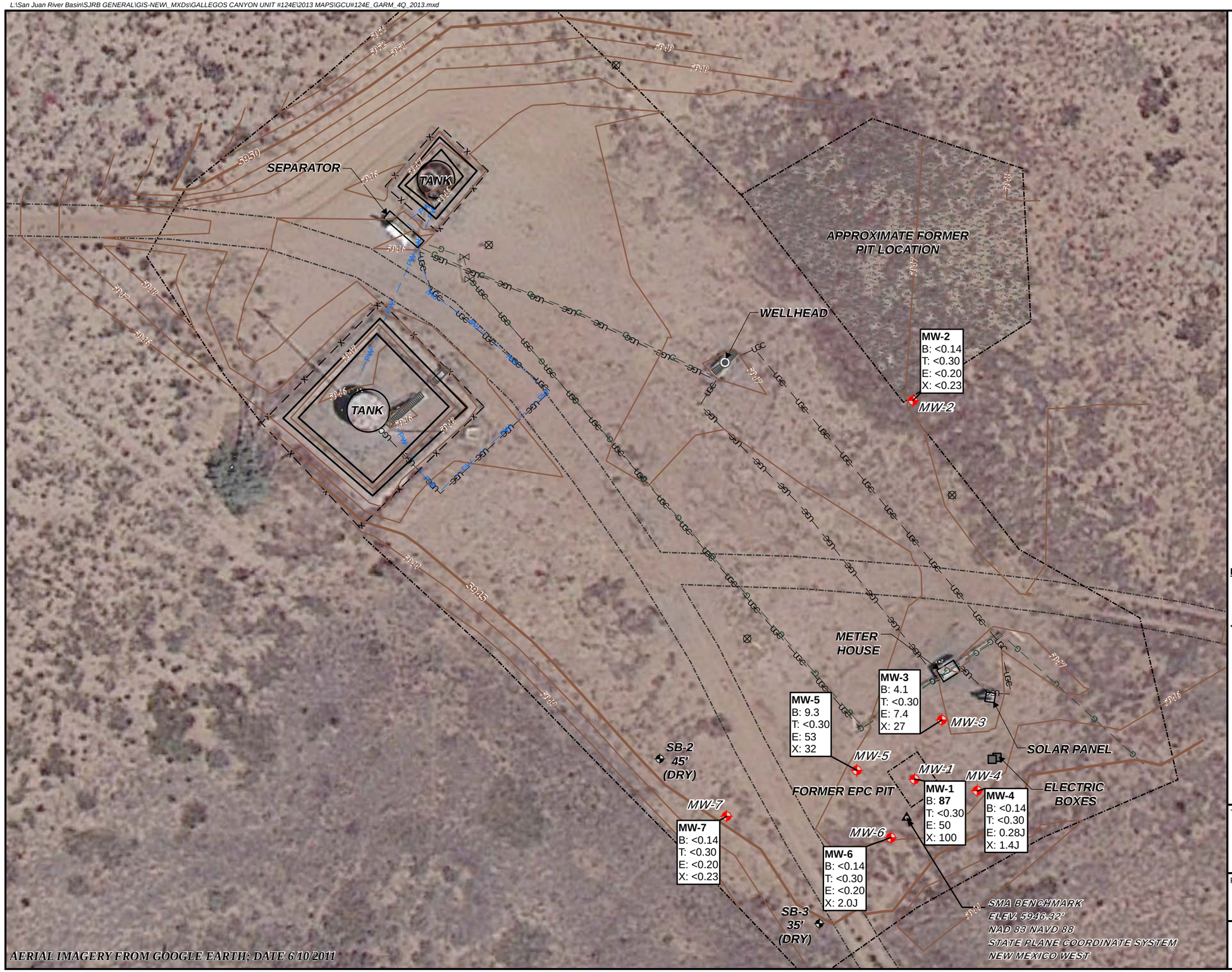
Figure No.: 4

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\GALLEGOS CANYON UNIT #124E\2013 MAPS\GCU#124E_GARM_4Q_2013.mxd



LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
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- BENCHMARK
- GAS VALVE
- MONITORING WELL
- SOIL BORING
- 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	1/17/2014	CCL	CCL	DAW

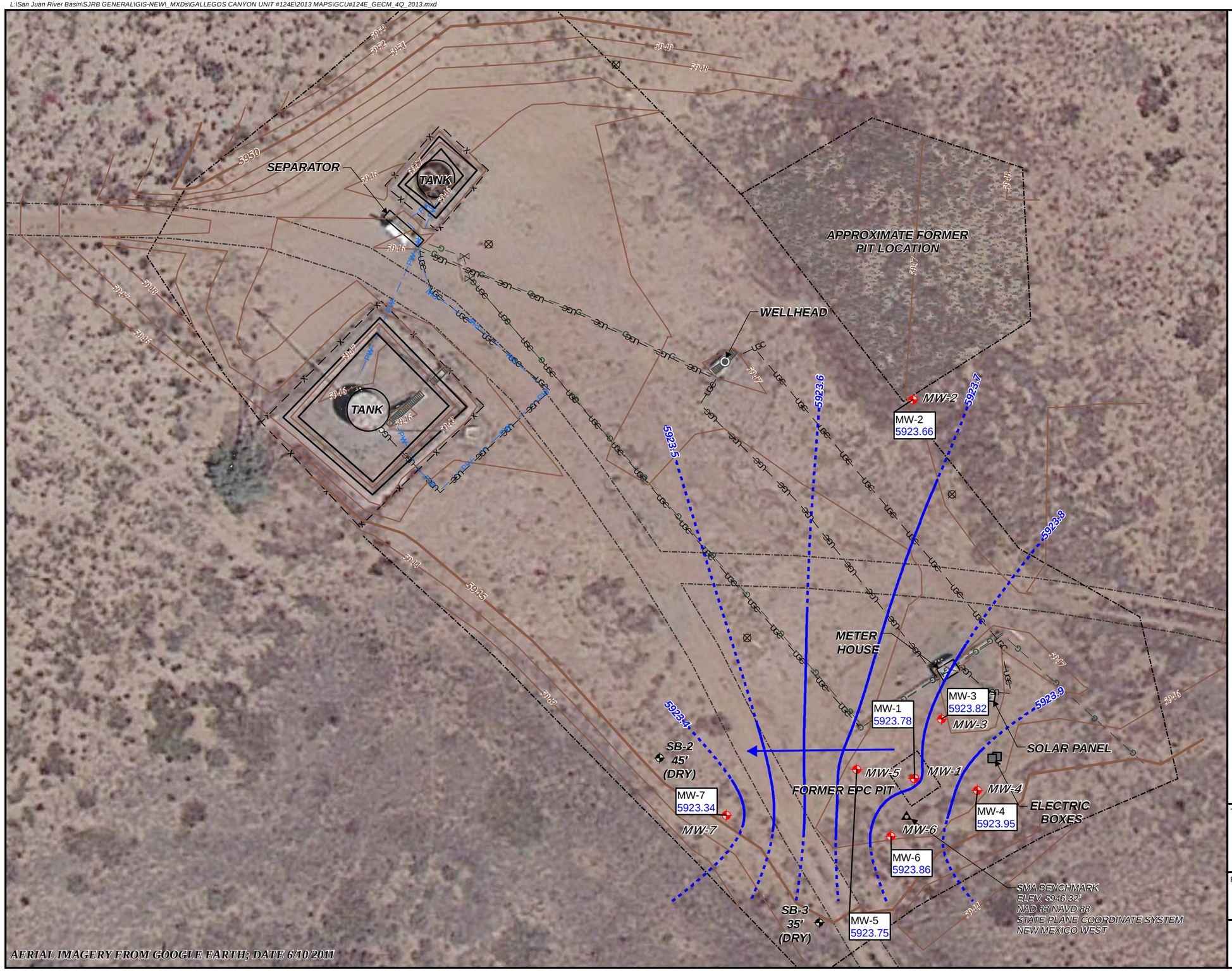
TITLE:
GALLEGOS CANYON UNIT #124E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED DECEMBER 15, 2013

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

MWH

Figure No.: 5

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\GALLEGOS CANYON UNIT #124E\2013 MAPS\GCU#124E_GECM_4Q_2013.mxd



LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PW — PRODUCED WATER LINE
- UGC — UNDERGROUND CABLE
- G — UNDERGROUND GAS LINE
- BENCHMARK
- GAS VALVE
- MONITORING WELL
- SOIL BORING
- RIG ANCHOR

NOTES:

5367.84 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

5367.76 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL, 0.5 FOOT CONTOUR INTERVAL)

DIRECTION OF GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	1/16/2014	CCL	CCL	DAW

TITLE:

GALLEGOS CANYON UNIT #124E
GROUNDWATER ELEVATION MAP
SAMPLED DECEMBER 15, 2013

PROJECT:

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

MWH

Figure No.: 6

APPENDICES

APPENDIX A – BOREHOLE AND WELL CONSTRUCTION LOGS

APPENDIX B – NOVEMBER SOIL SAMPLING ANALYTICAL REPORT

APPENDIX C - JUNE 6, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
SEPTEMBER 11, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT
DECEMBER 15, 2013 GROUNDWATER SAMPLING ANALYTICAL REPORT

APPENDIX A

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

GEOLOGIST: Doug Burr	COMPLETION DATE: October 31, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5947.3
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5950.1
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042957.1 Easting 2649677.6

Groundwater seepage encountered at 27-35 ft depth during drilling.
Soil colors classified using the Munsell soil color charts

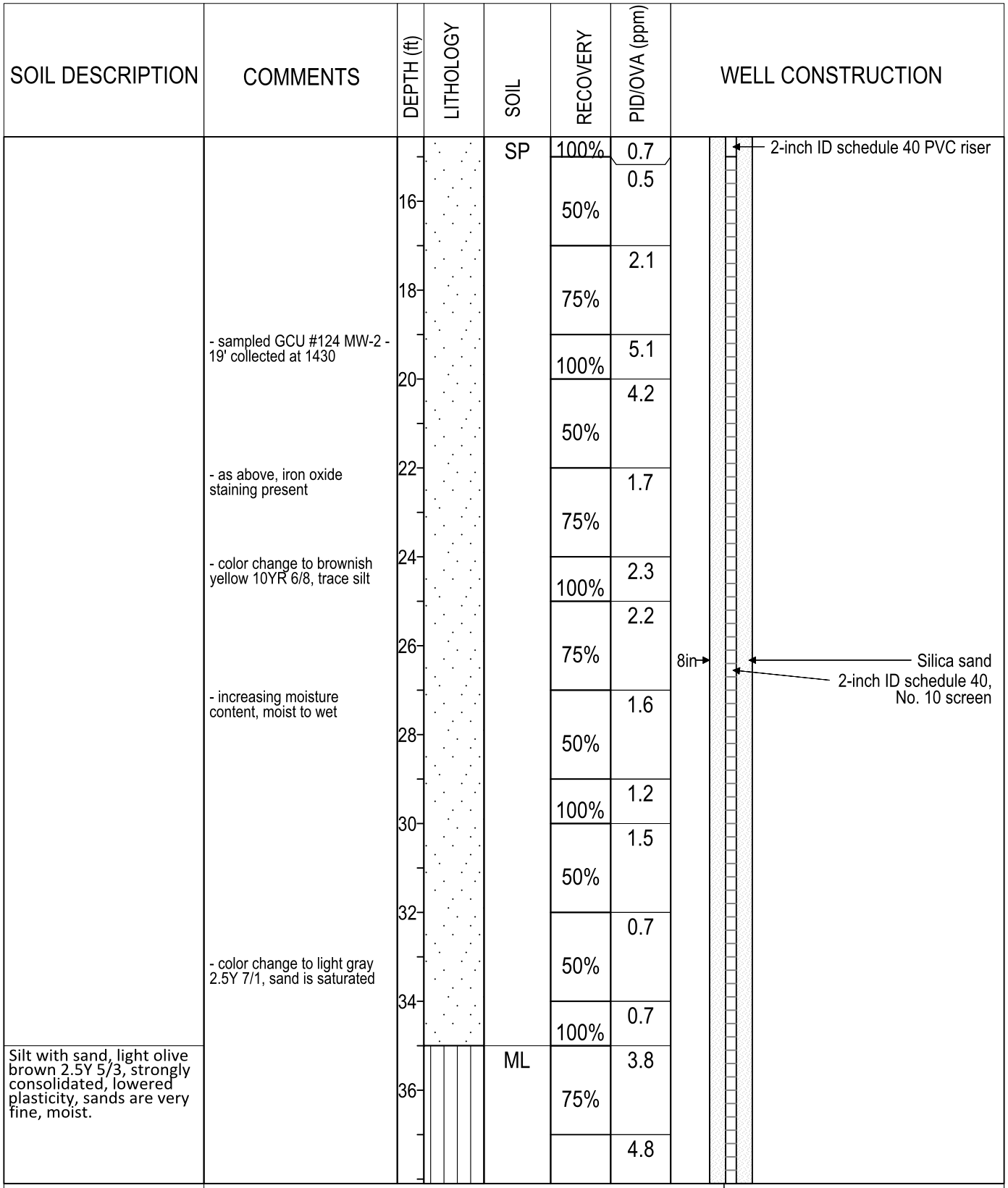
SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
		0				NA	
		2					
		4					
Silty sand, yelllowish brown 10YR 4/6, loose, moist, no cementation, low plasticity, poorly graded.	- Hand augered to 5' bgs (no sample recovered)	6		SM	100%	0.8	8in
Poorly graded sand, light olive brown, 2.5Y 5/3, very loose moist, fine - medium sand, no cementation, abundant quartz.		8		SP	100%	0.9	
					100%	0.8	
		10			100%	1.4	
		12			50%	1	8in
		14				0.7	8in

Protective casing
Annular space seal
2-inch ID schedule 40 PVC riser
Bentonite seal
Silica sand

MWH

LOG & RECORD OF WELL CONSTRUCTION MW-2

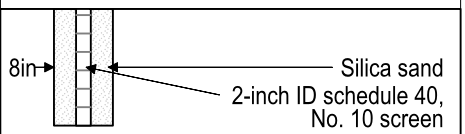
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-2

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				ML	75%	4.8	
					100%	4.2	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-2

Gallegos Canyon Unit #124E

GEOLOGIST: Doug Burr	COMPLETION DATE: October 30, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5947.0
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5949.8
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042857.1 Easting 2649686.6

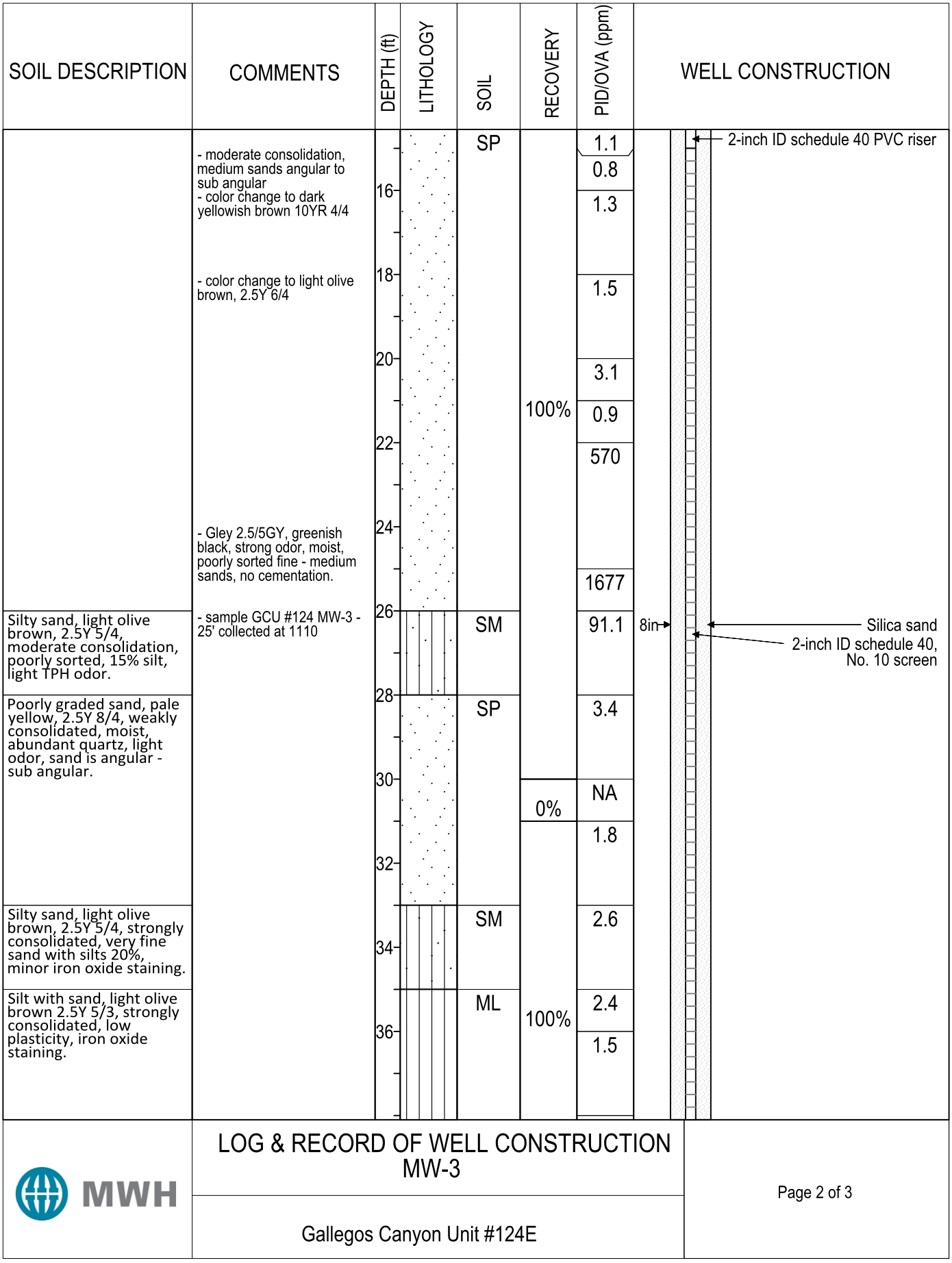
Groundwater seepage encountered at none noted ft depth during drilling.
Soil colors classified using the Munsell soil color charts

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
Recovered sample from 0'-5' just outside of boring. Silty sand, dark yellowish brown, 10YR 4/6, loose, medium-fine sand, no cementation, non-plastic, poorly graded.	- Hand augered to 5' bgs	0		SM	100%	0.6	Protective casing
		2				0	
		4				0.7	
		6				0.6	8in — Annular space seal; 2-inch ID schedule 40 PVC riser
		8				0.1	
Poorly graded sand, light olive brown, 2.5Y 5/3, very loose moist, fine - medium sand, no cementation, minor caliche		10		SP	0%	0	
						NA	
		12				0.9	8in — Bentonite seal
		14				1.1	8in — Silica sand

MWH

LOG & RECORD OF WELL CONSTRUCTION MW-3

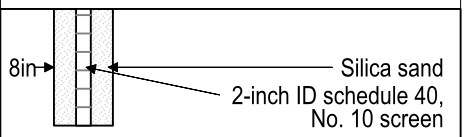
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-3

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				ML		2.4	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-3

Gallegos Canyon Unit #124E

GEOLOGIST: Doug Burr	COMPLETION DATE: October 28, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5946.7
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5949.6
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042834.9 Easting 2649697.7

Groundwater seepage encountered at none noted ft depth during drilling.
Soil colors classified using the Munsell soil color charts

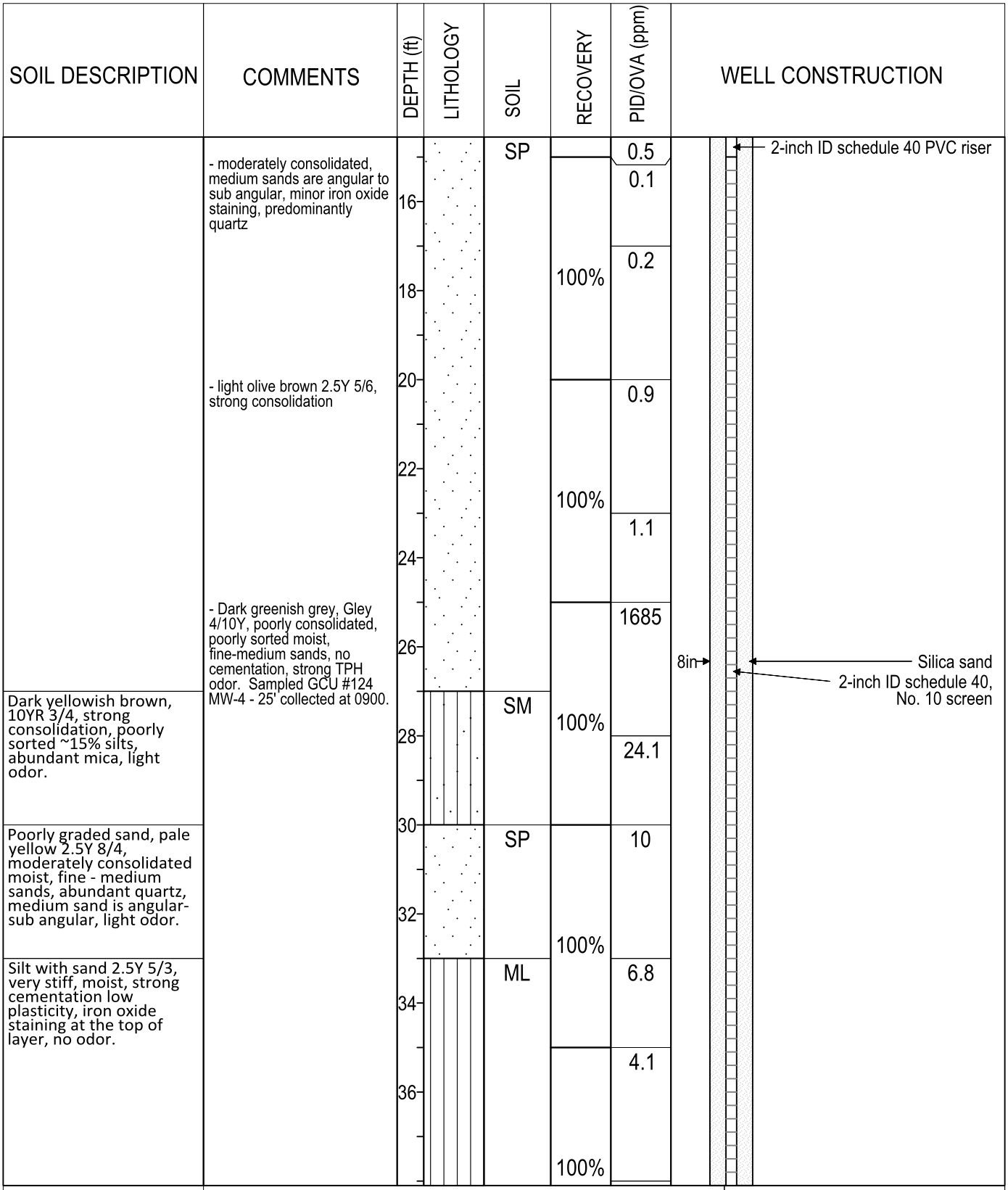
SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
		0					
		2			0%		
		4					
Silty sand, yellowish brown 10YR 5/8, poorly consolidated, medium - fine sand, weak cementation, non plastic, poorly graded.	- Hand augered to 5' bgs (no sample recovered) - pale yellow 2.5Y 8/4	6		SM		0.8	8in
		8			80%	0	
Poorly graded sand, pale yellow 2.5Y 8/4, very loose, moist fine - medium sand, weak cementation, non plastic, up to 1" caliche spheres.		10		SP		0.3	
		12			100%		8in
		14				0.5	8in

Protective casing
Annular space seal
2-inch ID schedule 40 PVC riser
Bentonite seal
Silica sand

MWH

LOG & RECORD OF WELL CONSTRUCTION MW-4

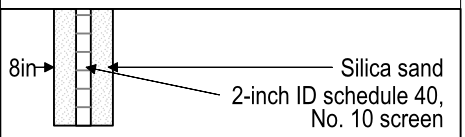
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-4

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				ML		4.2	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

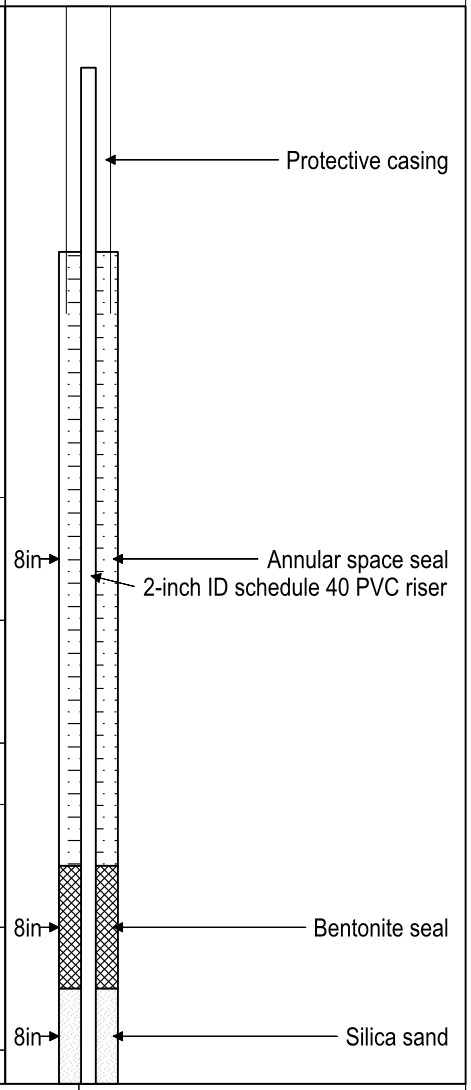
LOG & RECORD OF WELL CONSTRUCTION
MW-4

Gallegos Canyon Unit #124E

GEOLOGIST: Doug Burr	COMPLETION DATE: October 30, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5946.2
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5948.9
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042841.3 Easting 2649660.0

Groundwater seepage encountered at none noted ft depth during drilling.
Soil colors classified using the Munsell soil color charts

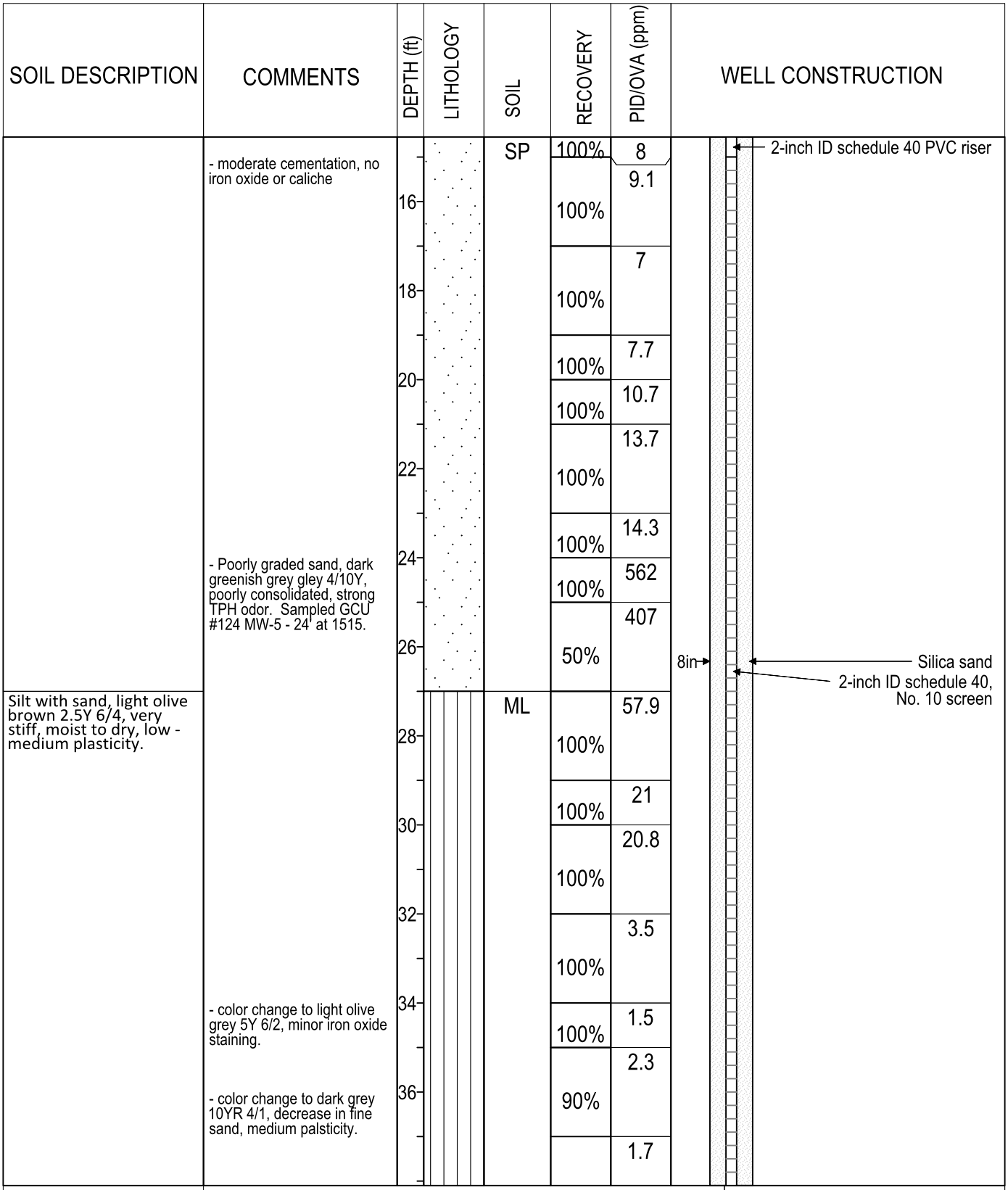
SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)
Silty sand, yellowish brown, 2.5Y 5/8, poorly consolidated, dry, fine - medium sand, no cementation, poorly graded.	- Hand augered to 5' bgs (no sample recovered)	6		SM	100%	2.9
Poorly graded sand, pale yellow 2.5Y 8/4, loose, dry - moist, fine - medium sand poorly graded	- color change to yellowish brown 10YR 5/6, iron oxide staining and caliche present	8		SP	100%	5.5
		10			100%	4.1
		12			100%	5.7
	- color change to pale yellow 2.5Y 8/4	14			100%	4.1
						8



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-5

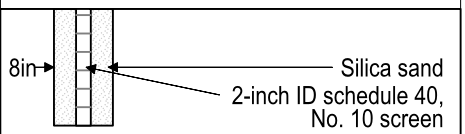
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-5

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				ML	100%	1.7	
					100%	2.2	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-5

Gallegos Canyon Unit #124E

GEOLOGIST: Doug Burr	COMPLETION DATE: October 29, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5946.4
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5949.3
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042820.3 Easting 2649670.7

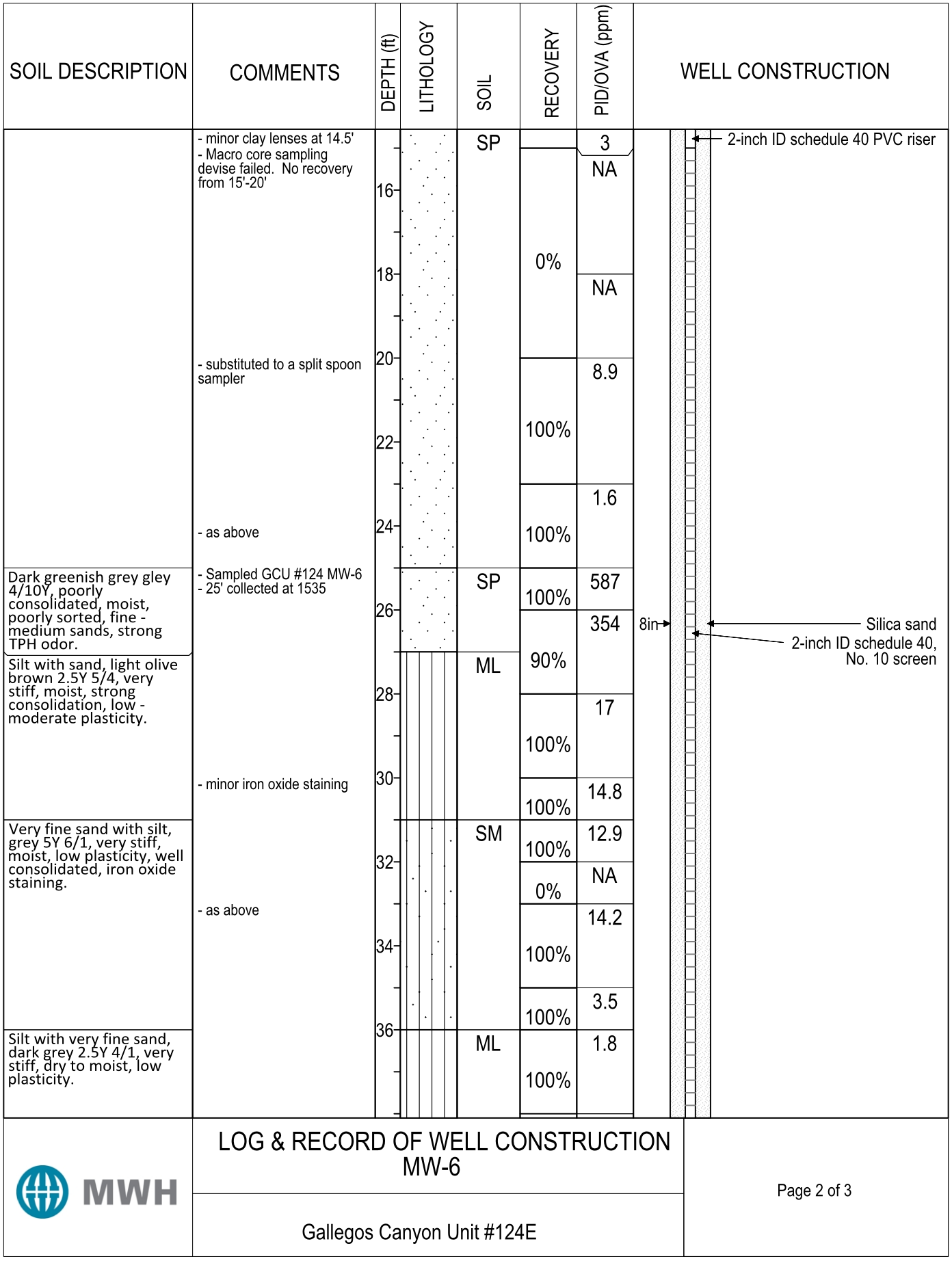
Groundwater seepage encountered at none noted ft depth during drilling.
Soil colors classified using the Munsell soil color charts

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
Silty sand, yellowish brown 10YR 5/8, poorly consolidated fine -medium sand, weak cementation, poorly graded.	- Hand augered to 5' bgs (no sample recovered)	0		SM	0%	4.1	Protective casing
Poorly graded sand, pale yellow 2.5YR 5/8, moderately consolidated dry, fine - medium sand, weak cementation, non plastic.	- brown 7.5YR 4/3, poorly consolidated - light yellowish brown, 2.5Y 6/3	2 4 6 8 10 12 14		SP	30% 100%	1.3 3.5 3	8in Annular space seal 2-inch ID schedule 40 PVC riser 8in Bentonite seal 8in Silica sand

MWH

LOG & RECORD OF WELL CONSTRUCTION MW-6

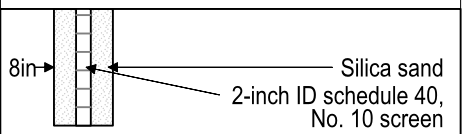
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-6

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				ML	100%	1.3	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

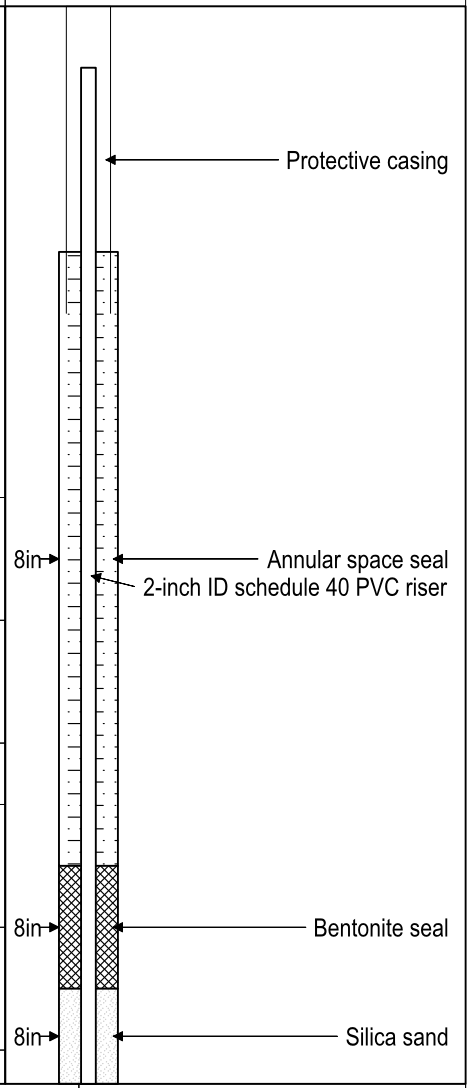
LOG & RECORD OF WELL CONSTRUCTION
MW-6

Gallegos Canyon Unit #124E

GEOLOGIST: Doug Burr	COMPLETION DATE: October 31, 2013
DRILLER: Miguel Alveredo	GROUND SURFACE ELEV (ft MSL) 5946.0
DRILLING COMPANY: National	TOP OF CASING ELEV (ft, MSL) 5948.7
DRILLING METHOD: Hollow Stem Auger	STATE PLANE COORDINATES (ft)
HOLE DIAMETER (IN): 8.0	Northing 2042826.9 Easting 2649619.2

Groundwater seepage encountered at 24.0 ft depth during drilling.
Soil colors classified using the Munsell soil color charts

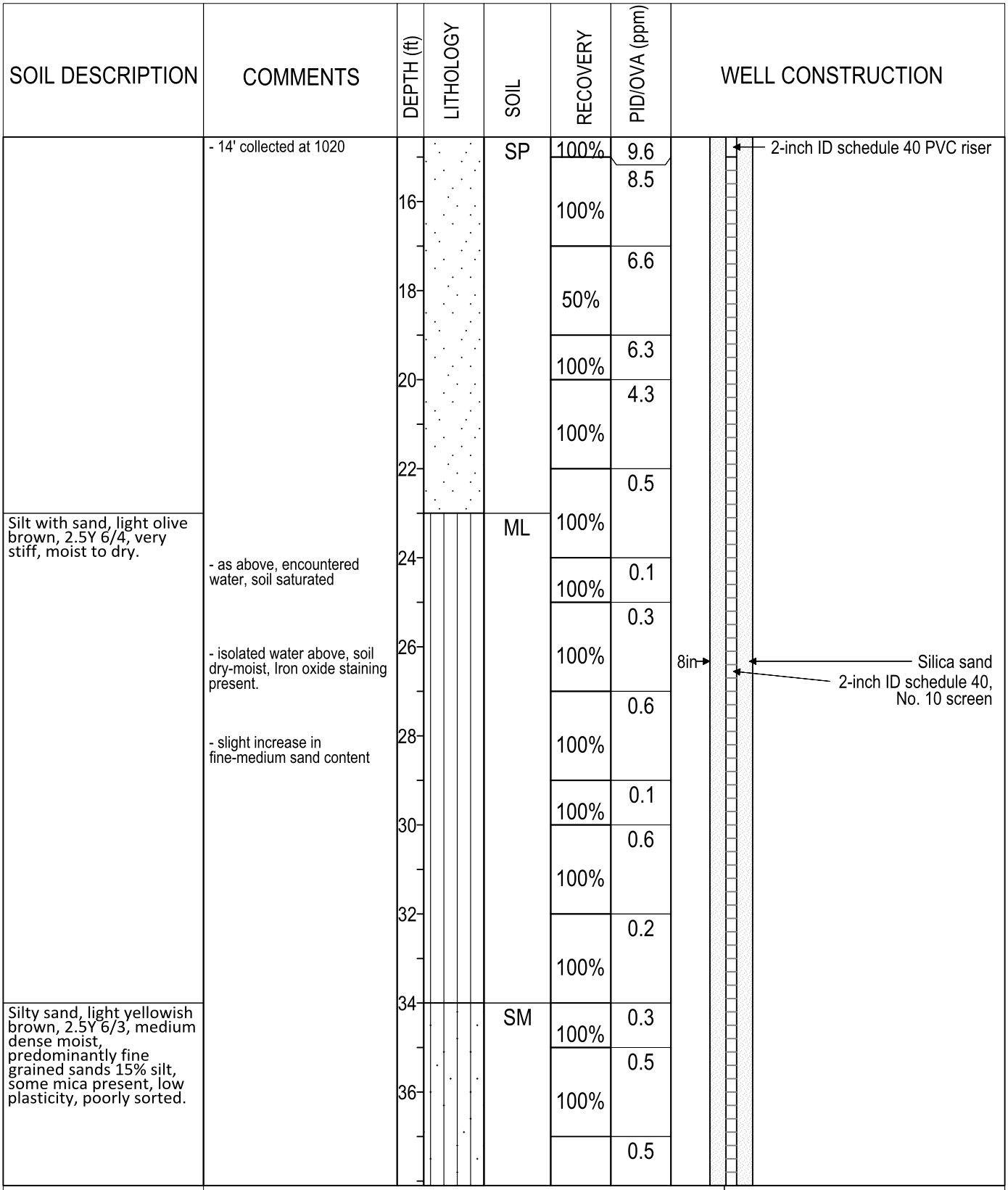
SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)
Silty sand, yellowish brown 10YR 5/8, poorly consolidated dry fine - medium sand, poorly graded.	- Hand augered to 5' bgs (no sample recovered)	6		SM	100%	2
		8			100%	3.3
Poorly graded sand, pale yellow 2.5Y 8/4, loose, dry, fine - medium sand, trace coarse sands, no cementation, non plastic.		10		SP	100%	5.7
		12			100%	7.2
		14			100%	7.4
	- Sampled GCU #124 MW-7					9.6



MWH

LOG & RECORD OF WELL CONSTRUCTION MW-7

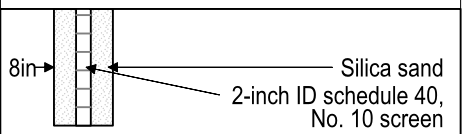
Gallegos Canyon Unit #124E



MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-7

Gallegos Canyon Unit #124E

SOIL DESCRIPTION	COMMENTS	DEPTH (ft)	LITHOLOGY	SOIL	RECOVERY	PID/OVA (ppm)	WELL CONSTRUCTION
				SM	100%	0.5	
					100%	0.3	
	Total depth = 40' bgs	40					
		42					
		44					
		46					
		48					
		50					
		52					
		54					
		56					
		58					
		60					

MWH

LOG & RECORD OF WELL CONSTRUCTION
MW-7

Gallegos Canyon Unit #124E

APPENDIX B

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: 560-43493-1
TestAmerica SDG: W-MWH-10-23-13-DAW-01
Client Project/Site: Gallegos Canyon Unit #124E

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

Attn: Mr. Daniel Wade

Authorized for release by:
11/14/2013 8:28:20 PM

Timothy Kellogg, Lab Director
(361)289-2673
tim.kellogg@testamericainc.com

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.

General Chemistry

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.
B	Compound was found in the blank and sample.

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)

Case Narrative

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Job ID: 560-43493-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The samples were received on 11/2/2013 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5º C.

GC/MS VOA

Method(s) 8260B: Please note that samples 560-43493-1 through -3 were prepared and analyzed from a methanol extraction due to the abundance of non-target analytes. Elevated reporting limits (RLs) are provided. No other analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Client Sample ID: GCU#124-MW-4-25' — Lab Sample ID: 560-43493-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.24		0.12	0.012	mg/Kg	50	☼	8260B	Total/NA
Xylenes, Total	3.4		0.35	0.012	mg/Kg	50	☼	8260B	Total/NA
TPH (1664A)	430	B	65	1.5	mg/Kg	1	☼	9071B	Total/NA
Chloride	26	J	65	6.5	mg/Kg	1	☼	9251	Soluble

Client Sample ID: GCU#124-MW-6-25' — Lab Sample ID: 560-43493-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
TPH (1664A)	590	B	58	1.4	mg/Kg	1	☼	9071B	Total/NA
Chloride	45	J	58	5.8	mg/Kg	1	☼	9251	Soluble

Client Sample ID: GCU#124-MW-3-25' — Lab Sample ID: 560-43493-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.21		0.096	0.0096	mg/Kg	50	☼	8260B	Total/NA
Xylenes, Total	2.3		0.29	0.0096	mg/Kg	50	☼	8260B	Total/NA
TPH (1664A)	260	B	54	1.3	mg/Kg	1	☼	9071B	Total/NA
Chloride	39	J	54	5.4	mg/Kg	1	☼	9251	Soluble

Client Sample ID: GCU#124-MW-5-24' — Lab Sample ID: 560-43493-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.0036	J	0.016	0.00052	mg/Kg	1	☼	8260B	Total/NA
TPH (1664A)	230	B	57	1.4	mg/Kg	1	☼	9071B	Total/NA
Chloride	61		58	5.8	mg/Kg	1	☼	9251	Soluble

Client Sample ID: GCU#124-MW-7-14' — Lab Sample ID: 560-43493-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
TPH (1664A)	130	B	52	1.2	mg/Kg	1	☼	9071B	Total/NA
Chloride	26	J	53	5.3	mg/Kg	1	☼	9251	Soluble

Client Sample ID: GCU#124-MW-2-19' — Lab Sample ID: 560-43493-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
TPH (1664A)	65	B	54	1.3	mg/Kg	1	☼	9071B	Total/NA
Chloride	35	J	55	5.5	mg/Kg	1	☼	9251	Soluble

Client Sample ID: Trip Blank — Lab Sample ID: 560-43493-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Client Sample ID: GCU#124-MW-4-25'

Lab Sample ID: 560-43493-1

Date Collected: 10/29/13 09:00
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 76.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.023		0.12	0.023	mg/Kg	☼	11/05/13 08:18	11/05/13 16:31	50
Ethylbenzene	**0.24**		0.12	0.012	mg/Kg	☼	11/05/13 08:18	11/05/13 16:31	50
Toluene	<0.012		0.12	0.012	mg/Kg	☼	11/05/13 08:18	11/05/13 16:31	50
Xylenes, Total	**3.4**		0.35	0.012	mg/Kg	☼	11/05/13 08:18	11/05/13 16:31	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*117*		*50 - 135*	*11/05/13 08:18*	*11/05/13 16:31*	*50*
4-Bromofluorobenzene (Surr)	*114*		*37 - 138*	*11/05/13 08:18*	*11/05/13 16:31*	*50*
Dibromofluoromethane (Surr)	*103*		*55 - 135*	*11/05/13 08:18*	*11/05/13 16:31*	*50*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 145*	*11/05/13 08:18*	*11/05/13 16:31*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	**430**	**B**	65	1.5	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26**	**J**	65	6.5	mg/Kg	☼		11/06/13 16:55	1

Client Sample ID: GCU#124-MW-6-25'

Lab Sample ID: 560-43493-2

Date Collected: 10/29/13 15:35
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 85.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.021		0.10	0.021	mg/Kg	☼	11/05/13 08:18	11/05/13 16:56	50
Ethylbenzene	<0.010		0.10	0.010	mg/Kg	☼	11/05/13 08:18	11/05/13 16:56	50
Toluene	<0.010		0.10	0.010	mg/Kg	☼	11/05/13 08:18	11/05/13 16:56	50
Xylenes, Total	<0.010		0.31	0.010	mg/Kg	☼	11/05/13 08:18	11/05/13 16:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*50 - 135*	*11/05/13 08:18*	*11/05/13 16:56*	*50*
4-Bromofluorobenzene (Surr)	*104*		*37 - 138*	*11/05/13 08:18*	*11/05/13 16:56*	*50*
Dibromofluoromethane (Surr)	*99*		*55 - 135*	*11/05/13 08:18*	*11/05/13 16:56*	*50*
1,2-Dichloroethane-d4 (Surr)	*114*		*60 - 145*	*11/05/13 08:18*	*11/05/13 16:56*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	**590**	**B**	58	1.4	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**45**	**J**	58	5.8	mg/Kg	☼		11/06/13 16:57	1

Client Sample ID: GCU#124-MW-3-25'

Lab Sample ID: 560-43493-3

Date Collected: 10/30/13 11:10
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 92.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.019		0.096	0.019	mg/Kg	☼	11/05/13 08:18	11/05/13 17:21	50

Client Sample ID: GCU#124-MW-3-25'

Lab Sample ID: 560-43493-3
Date Collected: 10/30/13 11:10
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 92.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**0.21**		0.096	0.0096	mg/Kg	☼	11/05/13 08:18	11/05/13 17:21	50
Toluene	<0.0096		0.096	0.0096	mg/Kg	☼	11/05/13 08:18	11/05/13 17:21	50
Xylenes, Total	**2.3**		0.29	0.0096	mg/Kg	☼	11/05/13 08:18	11/05/13 17:21	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*50 - 135*	*11/05/13 08:18*	*11/05/13 17:21*	*50*
4-Bromofluorobenzene (Surr)	*108*		*37 - 138*	*11/05/13 08:18*	*11/05/13 17:21*	*50*
Dibromofluoromethane (Surr)	*100*		*55 - 135*	*11/05/13 08:18*	*11/05/13 17:21*	*50*
1,2-Dichloroethane-d4 (Surr)	*113*		*60 - 145*	*11/05/13 08:18*	*11/05/13 17:21*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	**260**	**B**	54	1.3	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39**	**J**	54	5.4	mg/Kg	☼		11/06/13 16:58	1

Client Sample ID: GCU#124-MW-5-24'

Lab Sample ID: 560-43493-4
Date Collected: 10/30/13 15:15
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 85.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00024		0.0052	0.00024	mg/Kg	☼		11/08/13 15:20	1
Ethylbenzene	<0.00047		0.0052	0.00047	mg/Kg	☼		11/08/13 15:20	1
Toluene	<0.00094		0.0052	0.00094	mg/Kg	☼		11/08/13 15:20	1
Xylenes, Total	**0.0036**	**J**	0.016	0.00052	mg/Kg	☼		11/08/13 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*65 - 139*		*11/08/13 15:20*	*1*
4-Bromofluorobenzene (Surr)	*97*		*61 - 136*		*11/08/13 15:20*	*1*
Dibromofluoromethane (Surr)	*112*		*50 - 136*		*11/08/13 15:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*65 - 152*		*11/08/13 15:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	**230**	**B**	57	1.4	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61**		58	5.8	mg/Kg	☼		11/06/13 16:58	1

Client Sample ID: GCU#124-MW-7-14'

Lab Sample ID: 560-43493-5
Date Collected: 10/31/13 10:20
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 95.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00021		0.0047	0.00021	mg/Kg	☼		11/08/13 12:16	1
Ethylbenzene	<0.00042		0.0047	0.00042	mg/Kg	☼		11/08/13 12:16	1

Client Sample ID: GCU#124-MW-7-14'

Lab Sample ID: 560-43493-5
Date Collected: 10/31/13 10:20
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 95.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00084		0.0047	0.00084	mg/Kg	☼		11/08/13 12:16	1
Xylenes, Total	<0.00047		0.014	0.00047	mg/Kg	☼		11/08/13 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*65 - 139*		*11/08/13 12:16*	*1*
4-Bromofluorobenzene (Surr)	*91*		*61 - 136*		*11/08/13 12:16*	*1*
Dibromofluoromethane (Surr)	*114*		*50 - 136*		*11/08/13 12:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*65 - 152*		*11/08/13 12:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	130	B	52	1.2	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26	J	53	5.3	mg/Kg	☼		11/06/13 16:59	1

Client Sample ID: GCU#124-MW-2-19'

Lab Sample ID: 560-43493-6
Date Collected: 10/31/13 14:30
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 91.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00022		0.0048	0.00022	mg/Kg	☼		11/08/13 15:47	1
Ethylbenzene	<0.00044		0.0048	0.00044	mg/Kg	☼		11/08/13 15:47	1
Toluene	<0.00087		0.0048	0.00087	mg/Kg	☼		11/08/13 15:47	1
Xylenes, Total	<0.00048		0.015	0.00048	mg/Kg	☼		11/08/13 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*65 - 139*		*11/08/13 15:47*	*1*
4-Bromofluorobenzene (Surr)	*89*		*61 - 136*		*11/08/13 15:47*	*1*
Dibromofluoromethane (Surr)	*117*		*50 - 136*		*11/08/13 15:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*65 - 152*		*11/08/13 15:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	65	B	54	1.3	mg/Kg	☼	11/13/13 12:32	11/13/13 12:32	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35	J	55	5.5	mg/Kg	☼		11/06/13 16:59	1

Client Sample ID: Trip Blank

Lab Sample ID: 560-43493-7
Date Collected: 10/31/13 00:00
Matrix: Water
Date Received: 11/02/13 09:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			11/06/13 16:34	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			11/06/13 16:34	1
Toluene	<0.00030		0.0010	0.00030	mg/L			11/06/13 16:34	1

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Client Sample ID: Trip Blank
Date Collected: 10/31/13 00:00
Date Received: 11/02/13 09:45

Lab Sample ID: 560-43493-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			11/06/13 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*11/06/13 16:34*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*11/06/13 16:34*	*1*

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

Lab Sample ID: MB 560-94646/1-A
Matrix: Solid
Analysis Batch: 94647

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94646

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.10	0.020	mg/Kg		11/05/13 08:18	11/05/13 13:59	50
Ethylbenzene	<0.010		0.10	0.010	mg/Kg		11/05/13 08:18	11/05/13 13:59	50
Toluene	<0.010		0.10	0.010	mg/Kg		11/05/13 08:18	11/05/13 13:59	50
Xylenes, Total	<0.010		0.30	0.010	mg/Kg		11/05/13 08:18	11/05/13 13:59	50

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*50 - 135*	*11/05/13 08:18*	*11/05/13 13:59*	*50*
4-Bromofluorobenzene (Surr)	*93*		*37 - 138*	*11/05/13 08:18*	*11/05/13 13:59*	*50*
Dibromofluoromethane (Surr)	*91*		*55 - 135*	*11/05/13 08:18*	*11/05/13 13:59*	*50*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 145*	*11/05/13 08:18*	*11/05/13 13:59*	*50*

Lab Sample ID: LCS 560-94646/2-A
Matrix: Solid
Analysis Batch: 94647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 94646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	2.71		mg/Kg		109	70 - 130
Ethylbenzene	2.50	2.62		mg/Kg		105	70 - 130
Toluene	2.50	2.56		mg/Kg		103	70 - 130
Xylenes, Total	5.00	5.06		mg/Kg		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*50 - 135*
4-Bromofluorobenzene (Surr)	*103*		*37 - 138*
Dibromofluoromethane (Surr)	*117*		*55 - 135*
1,2-Dichloroethane-d4 (Surr)	*114*		*60 - 145*

Lab Sample ID: MB 560-94813/8
Matrix: Solid
Analysis Batch: 94813

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00023		0.0050	0.00023	mg/Kg			11/08/13 11:50	1
Ethylbenzene	<0.00045		0.0050	0.00045	mg/Kg			11/08/13 11:50	1
Toluene	<0.00090		0.0050	0.00090	mg/Kg			11/08/13 11:50	1
Xylenes, Total	<0.00050		0.015	0.00050	mg/Kg			11/08/13 11:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*65 - 139*		*11/08/13 11:50*	*1*
4-Bromofluorobenzene (Surr)	*93*		*61 - 136*		*11/08/13 11:50*	*1*
Dibromofluoromethane (Surr)	*111*		*50 - 136*		*11/08/13 11:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*65 - 152*		*11/08/13 11:50*	*1*

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

Lab Sample ID: LCS 560-94813/3
Matrix: Solid
Analysis Batch: 94813

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0400	0.0381		mg/Kg		95	70 - 130		
Ethylbenzene			0.0400	0.0390		mg/Kg		98	70 - 130		
Toluene			0.0400	0.0383		mg/Kg		96	70 - 130		
Xylenes, Total			0.0800	0.0804		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*65 - 139*
4-Bromofluorobenzene (Surr)	*98*		*61 - 136*
Dibromofluoromethane (Surr)	*106*		*50 - 136*
1,2-Dichloroethane-d4 (Surr)	*116*		*65 - 152*

Lab Sample ID: 560-43493-5 MS
Matrix: Solid
Analysis Batch: 94813

Client Sample ID: GCU#124-MW-7-14'
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00021		0.0379	0.0348		mg/Kg	☼	92	56 - 132		
Ethylbenzene	<0.00042		0.0379	0.0366		mg/Kg	☼	97	48 - 138		
Toluene	<0.00084		0.0379	0.0359		mg/Kg	☼	95	48 - 135		
Xylenes, Total	<0.00047		0.0758	0.0763		mg/Kg	☼	101	49 - 137		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*65 - 139*
4-Bromofluorobenzene (Surr)	*90*		*61 - 136*
Dibromofluoromethane (Surr)	*111*		*50 - 136*
1,2-Dichloroethane-d4 (Surr)	*115*		*65 - 152*

Lab Sample ID: 560-43493-5 MSD
Matrix: Solid
Analysis Batch: 94813

Client Sample ID: GCU#124-MW-7-14'
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00021		0.0378	0.0320		mg/Kg	☼	85	56 - 132	8	40.0
Ethylbenzene	<0.00042		0.0378	0.0320		mg/Kg	☼	85	48 - 138	13	40.0
Toluene	<0.00084		0.0378	0.0315		mg/Kg	☼	83	48 - 135	13	40.0
Xylenes, Total	<0.00047		0.0755	0.0651		mg/Kg	☼	86	49 - 137	16	40.0

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*65 - 139*
4-Bromofluorobenzene (Surr)	*95*		*61 - 136*
Dibromofluoromethane (Surr)	*103*		*50 - 136*
1,2-Dichloroethane-d4 (Surr)	*108*		*65 - 152*

Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 600-120370/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 120371 — **Prep Batch: 120370**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TPH (1664A)	9.95	J	50	1.2	mg/Kg		11/13/13 12:32	11/13/13 12:32	1

Lab Sample ID: LCS 600-120370/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 120371 — **Prep Batch: 120370**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TPH (1664A)	1980	1850		mg/Kg		94	70 - 130

Lab Sample ID: LCSD 600-120370/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 120371 — **Prep Batch: 120370**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH (1664A)	1980	1940		mg/Kg		98	70 - 130	5	30

Method: 9251 - Chloride

Lab Sample ID: MB 560-94748/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 94746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.50		5.0	0.50	mg/Kg			11/06/13 16:54	1

Lab Sample ID: LCS 560-94748/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 94746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	150	142		mg/Kg		95	85 - 115

Lab Sample ID: 560-43493-1 MS — **Client Sample ID: GCU#124-MW-4-25'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 94746

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	26	J	1300	1230		mg/Kg	☼	93	85 - 115

Lab Sample ID: 560-43493-1 MSD — **Client Sample ID: GCU#124-MW-4-25'**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 94746

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	26	J	1300	1300		mg/Kg	☼	98	85 - 115	5	30

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Client Sample ID: GCU#124-MW-4-25'

Lab Sample ID: 560-43493-1
Date Collected: 10/29/13 09:00
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 76.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			94646	11/05/13 08:18	RP56	TAL CC
Total/NA	Analysis	8260B		50	94647	11/05/13 16:31	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC
Soluble	Analysis	9251		1	94746	11/06/13 16:55	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: GCU#124-MW-6-25'

Lab Sample ID: 560-43493-2
Date Collected: 10/29/13 15:35
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			94646	11/05/13 08:18	RP56	TAL CC
Total/NA	Analysis	8260B		50	94647	11/05/13 16:56	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC
Soluble	Analysis	9251		1	94746	11/06/13 16:57	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: GCU#124-MW-3-25'

Lab Sample ID: 560-43493-3
Date Collected: 10/30/13 11:10
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			94646	11/05/13 08:18	RP56	TAL CC
Total/NA	Analysis	8260B		50	94647	11/05/13 17:21	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC
Soluble	Analysis	9251		1	94746	11/06/13 16:58	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: GCU#124-MW-5-24'

Lab Sample ID: 560-43493-4
Date Collected: 10/30/13 15:15
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	94813	11/08/13 15:20	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Client Sample ID: GCU#124-MW-5-24'

Lab Sample ID: 560-43493-4

Date Collected: 10/30/13 15:15
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Analysis	9251		1	94746	11/06/13 16:58	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: GCU#124-MW-7-14'

Lab Sample ID: 560-43493-5

Date Collected: 10/31/13 10:20
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	94813	11/08/13 12:16	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC
Soluble	Analysis	9251		1	94746	11/06/13 16:59	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: GCU#124-MW-2-19'

Lab Sample ID: 560-43493-6

Date Collected: 10/31/13 14:30
Matrix: Solid
Date Received: 11/02/13 09:45
Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	94813	11/08/13 15:47	ANT	TAL CC
Total/NA	Analysis	Moisture		1	94688	11/05/13 15:58	DRB	TAL CC
Soluble	Leach	DI Leach			94748	11/06/13 12:00	LPO	TAL CC
Soluble	Analysis	9251		1	94746	11/06/13 16:59	LPO	TAL CC
Total/NA	Prep	9071B			120370	11/13/13 12:32	FNC	TAL HOU
Total/NA	Analysis	9071B		1	120371	11/13/13 12:32	FNC	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 560-43493-7

Date Collected: 10/31/13 00:00
Matrix: Water
Date Received: 11/02/13 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	94706	11/06/13 16:34	RJT	TAL CC

Laboratory References:

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

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

Certification Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

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	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

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	08-04-13 *
Louisiana	NELAP	6	01967	06-30-14
Oklahoma	State Program	6	9503	08-31-13 *
Texas	NELAP	6	T104704223-10-6-TX	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	GULF	10-31-13 *

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
9071B	HEM and SGT-HEM	SW846	TAL HOU
9251	Chloride	SW846	TAL CC
Moisture	Percent Moisture	EPA	TAL CC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

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

Sample Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124E

TestAmerica Job ID: 560-43493-1
SDG: W-MWH-10-23-13-DAW-01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-43493-1	GCU#124-MW-4-25'	Solid	10/29/13 09:00	11/02/13 09:45
560-43493-2	GCU#124-MW-6-25'	Solid	10/29/13 15:35	11/02/13 09:45
560-43493-3	GCU#124-MW-3-25'	Solid	10/30/13 11:10	11/02/13 09:45
560-43493-4	GCU#124-MW-5-24'	Solid	10/30/13 15:15	11/02/13 09:45
560-43493-5	GCU#124-MW-7-14'	Solid	10/31/13 10:20	11/02/13 09:45
560-43493-6	GCU#124-MW-2-19'	Solid	10/31/13 14:30	11/02/13 09:45
560-43493-7	Trip Blank	Water	10/31/13 00:00	11/02/13 09:45

TestAmerica Corpus Christi TPH frozen 11/02

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: Dave Burr	Lab PM: Kellogg, Timothy L.	Carrier Tracking No(s): 8495 2775 7407	COC No: 560-11420-1198.1
Client Contact: Mr. Daniel Wade	Phone: 918 761 3793	E-Mail: tim.kellogg@testamericainc.com		Page: Page 1 of 1
Company: MWH Americas Inc				Job #: Loc: 560 43493
Address: 1801 California Street Suite 2900	Due Date Requested:			
City: Denver	TAT Requested (days):			
State, Zip: CO, 80202				
Phone: 713-420-3414(Tel)	PO #: Purchase Order not required			
Email: Daniel.A.Wade@us.mwhglobal.com	WO #: TWO # C-STLI-			
Project Name: W-MWH-10-23-13-DAW-01	Project #: 56000058			
Site: Gallegos Canyon Unit #124E	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300 - Chloride	Moisture, TX_1005	8260B - BTEX	8260B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	A		
GCU#124-MW-4-25'	102913	0900	C	Solid			X	X	X			
GCU#124-MW-6-25'	102913	1535	C	Solid			X	X	X			
GCU#124-MW-3-25'	103013	1110	C	Solid			X	X	X			
GCU#124-MW-5-24'	103013	1515	C	Solid			X	X	X			
GCU#124-MW-7-14'	103113	1020	C	Solid			X	X	X			
GCU#124-MW-8-19'	103113	1430	C	Solid			X	X	X			
				Solid								
Trip Blank				Water						X		

560-43493 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: FedEx Sat

Relinquished by:	Date/Time: 110113	Company: MWH	Received by:	Date/Time: 11-02-13 0845	Company
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.: 345228

Cooler Temperature(s) °C and Other Remarks: OBS 1.3C Corr 1.5C IR4

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11/14/2013

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-43493-1
SDG Number: W-MWH-10-23-13-DAW-01

Login Number: 43493
List Number: 1
Creator: Rood, Vivian R

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	TPH frozen 11/02 - Refer to job narrative
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	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-43493-1
SDG Number: W-MWH-10-23-13-DAW-01

Login Number: 43493
List Number: 1
Creator: Lopez, Sandro R

List Source: TestAmerica Houston
List Creation: 11/06/13 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
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	4.7
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	

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: 560-40568-1
TestAmerica Sample Delivery Group: June 2013
Client Project/Site: GCU #124E

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

Attn: Mr. Daniel Wade

Authorized for release by:
6/19/2013 7:54:07 PM

Timothy Kellogg, Lab Director
tim.kellogg@testamericainc.com

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.

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)
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: 560-40568-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The sample was received on 6/12/2013 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0º C.

GC/MS VOA

Method(s) 8260B: Please note that sample 560-40568-1 was diluted due to the nature of the sample matrix (non-target analytes). As such, elevated reporting limits (RLs) for some compounds are provided. No other analytical or quality issues were noted.

Client: MWH Americas Inc
Project/Site: GCU #124E

TestAmerica Job ID: 560-40568-1
SDG: June 2013

Client Sample ID: MW-1
Date Collected: 06/09/13 16:30
Date Received: 06/12/13 10:00

Lab Sample ID: 560-40568-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.033		0.0020	0.00028	mg/L			06/17/13 17:47	2
Ethylbenzene	0.011		0.0020	0.00040	mg/L			06/17/13 17:47	2
Toluene	<0.00060		0.0020	0.00060	mg/L			06/17/13 17:47	2
Xylenes, Total	0.00086	J	0.0060	0.00045	mg/L			06/17/13 17:47	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*06/17/13 17:47*	*2*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/17/13 17:47*	*2*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*06/17/13 17:47*	*2*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*06/17/13 17:47*	*2*

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

Lab Sample ID: MB 560-89167/8
Matrix: Water
Analysis Batch: 89167

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			06/17/13 11:31	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			06/17/13 11:31	1
Toluene	<0.00030		0.0010	0.00030	mg/L			06/17/13 11:31	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			06/17/13 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*06/17/13 11:31*	*1*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*06/17/13 11:31*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*06/17/13 11:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*06/17/13 11:31*	*1*

Lab Sample ID: LCS 560-89167/3
Matrix: Water
Analysis Batch: 89167

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0251		mg/L		101	70 - 130
Ethylbenzene	0.0250	0.0255		mg/L		102	70 - 130
Toluene	0.0250	0.0254		mg/L		102	70 - 130
Xylenes, Total	0.0750	0.0771		mg/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*

Lab Chronicle

Client: MWH Americas Inc
Project/Site: GCU #124E

TestAmerica Job ID: 560-40568-1
SDG: June 2013

Client Sample ID: MW-1
Date Collected: 06/09/13 16:30
Date Received: 06/12/13 10:00

Lab Sample ID: 560-40568-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	89167	06/17/13 17:47	RT	TAL CC

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: GCU #124E

TestAmerica Job ID: 560-40568-1
SDG: June 2013

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	10-31-13
Oklahoma	State Program	6	9968	08-31-13
Texas	NELAP	6	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: GCU #124E

TestAmerica Job ID: 560-40568-1
SDG: June 2013

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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: GCU #124E

TestAmerica Job ID: 560-40568-1
SDG: June 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-40568-1	MW-1	Water	06/09/13 16:30	06/12/13 10:00

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

No. 3,30[illegible]

CHAIN OF CUSTODY RECORD

Loc: 560
40568

560-40568 Chain of Custody

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: MWH/KMI	PROJECT NAME/NUMBER: GCU #124E
SEND REPORT TO: DW ~~MWH~~ Daniel Wade	BILLING INFORMATION
ADDRESS: 1801 California st.	BILL TO: Kinder Morgan
Denver, CO 80202	ADDRESS: Houston, Tx
PHONE: 303-291-~~2222~~ DW 2250	PHONE:
FAX:	FAX: PO NO:

SEAL INTACT: YES
TEMP C: 4.8
CORR TEMP C: 4.0
IR GUN ID: 4
INITIAL/DATE: MM 6/12

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER	PRESERV.	NUMBER OF CONTAINERS	8260	REMARKS/PRECAUTIONS.
	MW-1	6/9/13	1630	GW	VOA	HCL	3	X	

SAMPLER: Daniel Wade
SHIPMENT METHOD: FedEx
AIRBILL NO.: 795788553894

REQUIRED TURNAROUND: [X] ROUTINE TAT (10 BUSINESS DAYS) [ ] RUSH TAT (MAY REQUIRE SURCHARGE)

1. RELINQUISHED BY: Daniel Wade	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE:	6/~~10~~/13 DW	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: MWH	TIME ~~1000~~ 0730 DW	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE:	06/13/13	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY:	TIME 10 00	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

TAL-8222-560 (0412)

TestAmerica
1733 N. Padre Island Drive
Corpus Christi, TX 78408
Phone: 361.289.2673/Fax: 361.289.2471

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-40568-1
SDG Number: June 2013

Login Number: 40568
List Number: 1
Creator: McDermott, Vivian

List Source: TestAmerica Corpus Christi

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

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ANALYTICAL REPORT

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

TestAmerica Job ID: 560-42547-1
TestAmerica Sample Delivery Group: September 2013
Client Project/Site: GCU #124E Groundwater Analysis

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

Attn: Mr. Daniel Wade

Authorized for release by:
10/3/2013 11:36:01 AM
Lindy Maingot, Project Manager I
lindy.maingot@testamericainc.com

Designee for

Timothy Kellogg, Lab Director
tim.kellogg@testamericainc.com

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

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

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

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: 560-42547-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-42547-1

Comments
No additional comments.

Receipt
The sample was received on 9/14/2013 10:05 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.4° C.

GC/MS VOA
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: GCU #124E Groundwater Analysis

TestAmerica Job ID: 560-42547-1
SDG: September 2013

Client Sample ID: MW-1

Lab Sample ID: 560-42547-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.025		0.0010	0.00014	mg/L	1		8260B	Total/NA
Ethylbenzene	0.0098		0.0010	0.00020	mg/L	1		8260B	Total/NA
Xylenes, Total	0.0089		0.0030	0.00023	mg/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: MWH Americas Inc
Project/Site: GCU #124E Groundwater Analysis

TestAmerica Job ID: 560-42547-1
SDG: September 2013

Client Sample ID: MW-1
Date Collected: 09/11/13 09:00
Date Received: 09/14/13 10:05

Lab Sample ID: 560-42547-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.025**		0.0010	0.00014	mg/L			09/19/13 03:12	1
Ethylbenzene	**0.0098**		0.0010	0.00020	mg/L			09/19/13 03:12	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/19/13 03:12	1
Xylenes, Total	**0.0089**		0.0030	0.00023	mg/L			09/19/13 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*09/19/13 03:12*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*09/19/13 03:12*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*09/19/13 03:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 140*		*09/19/13 03:12*	*1*

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

Lab Sample ID: MB 560-92892/8
Matrix: Water
Analysis Batch: 92892

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			09/18/13 18:46	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			09/18/13 18:46	1
Toluene	<0.00030		0.0010	0.00030	mg/L			09/18/13 18:46	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			09/18/13 18:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/18/13 18:46*	*1*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*09/18/13 18:46*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*09/18/13 18:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 140*		*09/18/13 18:46*	*1*

Lab Sample ID: LCS 560-92892/3
Matrix: Water
Analysis Batch: 92892

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0235		mg/L		94	70 - 130
Ethylbenzene	0.0250	0.0248		mg/L		99	70 - 130
Toluene	0.0250	0.0221		mg/L		89	70 - 130
Xylenes, Total	0.0750	0.0747		mg/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 140*

Certification Summary

Client: MWH Americas Inc
Project/Site: GCU #124E Groundwater Analysis

TestAmerica Job ID: 560-42547-1
SDG: September 2013

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	10-31-13
Oklahoma	State Program	6	9968	08-31-14
Texas	NELAP	6	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: GCU #124E Groundwater Analysis

TestAmerica Job ID: 560-42547-1
SDG: September 2013

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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: GCU #124E Groundwater Analysis

TestAmerica Job ID: 560-42547-1
SDG: September 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-42547-1	MW-1	Water	09/11/13 09:00	09/14/13 10:05

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

Chain of Custody

560-42547 Chain of Custody

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Loc: 560
42547

Client Information	Sampler: DAW
Client Contact: Mr. Daniel Wade	Phone: 303-912-2625
Lab PM: Kellogg, Timothy L.	E-Mail: tim.kellogg@testamericainc.com
COC No: 560-10718-1157	Page: Page 1 of 1
Company: MWH Americas Inc	Job #:
Address: 1801 California Street Suite 2900	Due Date Requested:
City: Denver	TAT Requested (days): Standard
State, Zip: CO, 80202	
Phone: 713-420-3414(Tel)	PO #: Purchase Order not required
Email: Daniel.A.Wade@us.mwhglobal.com	WO #: TWO # C-STLI-
Project Name: San Juan River Basin Pit Sites	Project #: 56000058
Site: GCU # 124 E	SSOW#:

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)	8260B - BTEX	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	A	X	
mw-1	9/11/13	900	G	Water			X		
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					

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

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: FedEx Std
Relinquished by: [signature]	Date/Time: 9/13/13 1200	Company	Received by: [signature]
			Date/Time: 1005 091413
			Company: TACC
Relinquished by:	Date/Time:	Company	Received by:
			Date/Time:
			Company
Relinquished by:	Date/Time:	Company	Received by:
			Date/Time:
			Company
Custody Seals Intact: ✓ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Obs 1.3C Corr 1.4C IR4	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-42547-1
SDG Number: September 2013

Login Number: 42547
List Number: 1
Creator: Wing, Randi

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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	

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ANALYTICAL REPORT

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

TestAmerica Job ID: 560-44357-1
TestAmerica Sample Delivery Group: December 2013
Client Project/Site: Gallegos Canyon Unit #124 Groundwater

For:
MWH Americas Inc
2890 East Cottonwood Pkwy
Suite 300
Salt Lake City, Utah 84121

Attn: Mr. Cary Ruble

Authorized for release by:
12/30/2013 7:30:05 PM

Timothy Kellogg, Lab Director
(361)289-2673
tim.kellogg@testamericainc.com

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

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.

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)

Case Narrative

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Job ID: 560-44357-1

Laboratory: TestAmerica Corpus Christi

Narrative

Receipt

The samples were received on 12/17/2013 10:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C. No analytical or quality issues were noted.

Detection Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Client Sample ID: MW-1 — Lab Sample ID: 560-44357-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.087		0.0010	0.00014	mg/L	1		8260B	Total/NA
Ethylbenzene	0.050		0.0010	0.00020	mg/L	1		8260B	Total/NA
Xylenes, Total	0.10		0.0030	0.00023	mg/L	1		8260B	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 560-44357-2

No Detections.

Client Sample ID: MW-3 — Lab Sample ID: 560-44357-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0041		0.0010	0.00014	mg/L	1		8260B	Total/NA
Ethylbenzene	0.0074		0.0010	0.00020	mg/L	1		8260B	Total/NA
Xylenes, Total	0.027		0.0030	0.00023	mg/L	1		8260B	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 560-44357-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.00028	J	0.0010	0.00020	mg/L	1		8260B	Total/NA
Xylenes, Total	0.0014	J	0.0030	0.00023	mg/L	1		8260B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 560-44357-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0093		0.0010	0.00014	mg/L	1		8260B	Total/NA
Ethylbenzene	0.053		0.0010	0.00020	mg/L	1		8260B	Total/NA
Xylenes, Total	0.032		0.0030	0.00023	mg/L	1		8260B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 560-44357-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.0020	J	0.0030	0.00023	mg/L	1		8260B	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 560-44357-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1

Lab Sample ID: 560-44357-1

Date Collected: 12/15/13 10:00
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.087**		0.0010	0.00014	mg/L			12/27/13 11:43	1
Ethylbenzene	**0.050**		0.0010	0.00020	mg/L			12/27/13 11:43	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/27/13 11:43	1
Xylenes, Total	**0.10**		0.0030	0.00023	mg/L			12/27/13 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*70 - 130*		*12/27/13 11:43*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*12/27/13 11:43*	*1*

Client Sample ID: MW-2

Lab Sample ID: 560-44357-2

Date Collected: 12/15/13 11:00
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/26/13 19:51	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			12/26/13 19:51	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 19:51	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			12/26/13 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*12/26/13 19:51*	*1*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*12/26/13 19:51*	*1*

Client Sample ID: MW-3

Lab Sample ID: 560-44357-3

Date Collected: 12/15/13 10:05
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0041**		0.0010	0.00014	mg/L			12/26/13 19:01	1
Ethylbenzene	**0.0074**		0.0010	0.00020	mg/L			12/26/13 19:01	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 19:01	1
Xylenes, Total	**0.027**		0.0030	0.00023	mg/L			12/26/13 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*12/26/13 19:01*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*12/26/13 19:01*	*1*

Client Sample ID: MW-4

Lab Sample ID: 560-44357-4

Date Collected: 12/15/13 10:10
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/26/13 20:17	1
Ethylbenzene	**0.00028**	**J**	0.0010	0.00020	mg/L			12/26/13 20:17	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 20:17	1
Xylenes, Total	**0.0014**	**J**	0.0030	0.00023	mg/L			12/26/13 20:17	1

Client Sample ID: MW-4

Lab Sample ID: 560-44357-4

Date Collected: 12/15/13 10:10
Matrix: Water
Date Received: 12/17/13 10:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*98*		*70 - 130*		*12/26/13 20:17*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*12/26/13 20:17*	*1*

Client Sample ID: MW-5

Lab Sample ID: 560-44357-5

Date Collected: 12/15/13 10:20
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0093**		0.0010	0.00014	mg/L			12/26/13 20:42	1
Ethylbenzene	**0.053**		0.0010	0.00020	mg/L			12/26/13 20:42	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 20:42	1
Xylenes, Total	**0.032**		0.0030	0.00023	mg/L			12/26/13 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*106*		*70 - 130*		*12/26/13 20:42*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*12/26/13 20:42*	*1*

Client Sample ID: MW-6

Lab Sample ID: 560-44357-6

Date Collected: 12/15/13 10:25
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/26/13 21:07	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			12/26/13 21:07	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 21:07	1
Xylenes, Total	**0.0020**	**J**	0.0030	0.00023	mg/L			12/26/13 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*98*		*70 - 130*		*12/26/13 21:07*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*12/26/13 21:07*	*1*

Client Sample ID: MW-7

Lab Sample ID: 560-44357-7

Date Collected: 12/15/13 10:30
Matrix: Water
Date Received: 12/17/13 10:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/27/13 12:08	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			12/27/13 12:08	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/27/13 12:08	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			12/27/13 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*100*		*70 - 130*		*12/27/13 12:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*12/27/13 12:08*	*1*

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

Lab Sample ID: MB 560-96593/8
Matrix: Water
Analysis Batch: 96593

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/26/13 13:58	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			12/26/13 13:58	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/26/13 13:58	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			12/26/13 13:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*12/26/13 13:58*	*1*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*12/26/13 13:58*	*1*

Lab Sample ID: LCS 560-96593/3
Matrix: Water
Analysis Batch: 96593

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0249		mg/L		100	70 - 130
Ethylbenzene	0.0250	0.0250		mg/L		100	70 - 130
Toluene	0.0250	0.0233		mg/L		93	70 - 130
Xylenes, Total	0.0500	0.0507		mg/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 560-96638/8
Matrix: Water
Analysis Batch: 96638

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00014		0.0010	0.00014	mg/L			12/27/13 11:17	1
Ethylbenzene	<0.00020		0.0010	0.00020	mg/L			12/27/13 11:17	1
Toluene	<0.00030		0.0010	0.00030	mg/L			12/27/13 11:17	1
Xylenes, Total	<0.00023		0.0030	0.00023	mg/L			12/27/13 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*12/27/13 11:17*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*12/27/13 11:17*	*1*

Lab Sample ID: LCS 560-96638/3
Matrix: Water
Analysis Batch: 96638

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0250	0.0252		mg/L		101	70 - 130
Ethylbenzene	0.0250	0.0235		mg/L		94	70 - 130
Toluene	0.0250	0.0248		mg/L		99	70 - 130
Xylenes, Total	0.0750	0.0705		mg/L		94	70 - 130

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

Lab Sample ID: LCS 560-96638/3
Matrix: Water
Analysis Batch: 96638

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Client Sample ID: MW-1
Lab Sample ID: 560-44357-1
Date Collected: 12/15/13 10:00
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96638	12/27/13 11:43	RP56	TAL CC

Client Sample ID: MW-2
Lab Sample ID: 560-44357-2
Date Collected: 12/15/13 11:00
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96593	12/26/13 19:51	RJT	TAL CC

Client Sample ID: MW-3
Lab Sample ID: 560-44357-3
Date Collected: 12/15/13 10:05
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96593	12/26/13 19:01	RJT	TAL CC

Client Sample ID: MW-4
Lab Sample ID: 560-44357-4
Date Collected: 12/15/13 10:10
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96593	12/26/13 20:17	RJT	TAL CC

Client Sample ID: MW-5
Lab Sample ID: 560-44357-5
Date Collected: 12/15/13 10:20
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96593	12/26/13 20:42	RJT	TAL CC

Client Sample ID: MW-6
Lab Sample ID: 560-44357-6
Date Collected: 12/15/13 10:25
Matrix: Water
Date Received: 12/17/13 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96593	12/26/13 21:07	RJT	TAL CC

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Client Sample ID: MW-7
Date Collected: 12/15/13 10:30
Date Received: 12/17/13 10:40

Lab Sample ID: 560-44357-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	96638	12/27/13 12:08	RP56	TAL CC

Laboratory References:

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

Certification Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

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	T104704210-12-8	03-31-14
USDA	Federal		P330-11-00060	02-03-14

Method Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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 #124 Groundwater

TestAmerica Job ID: 560-44357-1
SDG: December 2013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-44357-1	MW-1	Water	12/15/13 10:00	12/17/13 10:40
560-44357-2	MW-2	Water	12/15/13 11:00	12/17/13 10:40
560-44357-3	MW-3	Water	12/15/13 10:05	12/17/13 10:40
560-44357-4	MW-4	Water	12/15/13 10:10	12/17/13 10:40
560-44357-5	MW-5	Water	12/15/13 10:20	12/17/13 10:40
560-44357-6	MW-6	Water	12/15/13 10:25	12/17/13 10:40
560-44357-7	MW-7	Water	12/15/13 10:30	12/17/13 10:40

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: CCL	Lab PM: Kellogg, Timothy L.	Carrier Tracking No(s):	COC No: 560-11604-1157.1
Client Contact: ~~Mr. Daniel Wade~~ Christopher Lee	Phone: 303 291-2242	E-Mail: tim.kellogg@testamericainc.com		Page: Page 1 o
Company: MWH Americas Inc				Job #:

Loc: 560
44357

Address: 1801 California Street Suite 2900	Due Date Requested:	Analysis Requested
City: Denver	TAT Requested (days): STANDARD	
State, Zip: CO, 80202	PO #: Purchase Order not required	
Phone: 713-420-3414(Tel)	WO #: TWO # C-STLI-	
Email: Christopher.C.Lee@mwhglobal.com ~~Daniel.A.Wade@us.mwhglobal.com~~	Project #: 56000058	
Project Name: San Juan River Basin Pit Sites	SSOW#:	
Site: Gallegos Canyon Unit #124		

Preserva
A - HCL
B - NaOH
C - Zn Ac
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:

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	12/15/13	1000	G	Water			X		
MW-2	12/15/13	1100	G	Water			X		
MW-3	12/15/13	1005	G	Water			X		
MW-4	12/15/13	1010	G	Water			X		
MW-5	12/15/13	1020	G	Water			X		
MW-6	12/15/13	1025	G	Water			X		
MW-7	12/15/13	1030	G	Water			X		
				Water					
				Water					
				Water					
Trip Blank				Water					

560-44357 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
[signature]	9/16/13 900		[signature]	12-17-13 10:40	TAC
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: 1.9/2.1 IR Gun

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12/30/2013

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-44357-1
SDG Number: December 2013

Login Number: 44357
List Number: 1
Creator: Rood, Vivian R

List Source: TestAmerica Corpus Christi

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