

2014 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 being managed pursuant to the procedures set forth in the document entitled, “Remediation Plan for Groundwater Encountered during Pit Closure Activities” (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company, LLC’s (EPCGP’s) program methods. Currently, the Site is operated by BP America Production Company and is active.

The Site is located on 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 and was observed during one site visit in 2014.

SUMMARY OF 2014 ACTIVITIES

On April 5 and October 25, 2014, water levels and free product thickness, if present, were gauged at MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7 and groundwater samples were collected from each well using HydraSleeve™ (HydraSleeve) no-purge passive groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above the termination depth of each monitoring well using a suspension tether and stainless steel weights to collect a sample from the screened interval. Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Corpus Christi, Texas where they were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Additional field parameters were collected including dissolved oxygen, temperature, conductivity, pH, and oxidation-reduction potential (ORP) using a YSI multi-parameter instrument, if free product was not present. The water remaining in the HydraSleeves was combined in a waste container and taken to Basin Disposal, Inc. for disposal.

SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1.

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SITE MAPS

Groundwater analytical results maps (Figures 1 and 3) and groundwater elevation maps (Figures 2 and 4) summarize the results of the 2014 groundwater sampling and gauging events.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix A.

RESULTS

- Based on 2014 semiannual water level gauging events, the groundwater flow direction is generally to the west at the Site (see Figures 2 and 4).
- The concentration of benzene (31 micrograms per liter [µg/L]) in groundwater collected from MW-1 remained above the New Mexico Water Quality Control Commission (NMWQCC) standard during the April 2014 sampling event. Concentrations of toluene, ethylbenzene, and total xylenes remained significantly below standards for the April 2014 sampling event.
- Approximately 0.01 foot of free product was detected in MW-1 during the October 2014 sampling event, and the well was not sampled.
- BTEX constituents were not detected in MW-2 during the 2014 sampling events.
- BTEX constituents were not detected in MW-3 during the 2014 sampling events.
- BTEX constituents were not detected in MW-4 during the 2014 sampling events.
- The benzene concentration in groundwater collected from MW-5 was above the NMWQCC standards during the April 2014 sampling event. Concentrations of toluene and ethylbenzene were significantly below the standards and total xylenes were reported as non-detect during the April 2014 sampling event. In October 2014, benzene and ethylbenzene were below the standard and toluene and total xylenes were not detected in the collected groundwater.
- BTEX constituents were not detected in groundwater collected from MW-6 during the 2014 sampling events.
- BTEX constituents were not detected in groundwater collected from MW-7 during the 2014 sampling events.

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PLANNED FUTURE ACTIVITIES

Monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7 will continue to be gauged and sampled on a semi-annual basis. Groundwater elevation and analytical data will be evaluated and presented in the 2015 Annual Groundwater Report. 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 observed, EPCGP will request site closure from the OCD.

TABLES

TABLE 1 – GROUNDWATER ANALYTICAL AND WATER LEVEL RESULTS

TABLE 1 - 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 1 - 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	-	-
MW-1	04/05/14	31	6.2	23	15	26.27	-	-
MW-1	10/25/14					27.07	27.06	0.01

TABLE 1 - 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-2	04/05/14	<0.20	<0.38	<0.20	<0.65	27.05	-	-
MW-2	10/25/14	<0.38	<0.70	<0.50	<1.6	27.84	-	-
MW-3	12/15/13	4.1	<0.30	7.4	27	26.02	-	-
MW-3	04/05/14	<0.20	<0.38	<0.20	<0.65	26.59	-	-
MW-3	10/25/14	<0.38	<0.70	<0.50	<1.6	27.37	-	-
MW-4	12/15/13	<0.14	<0.30	0.28 J	1.4 J	25.62	-	-
MW-4	04/05/14	<0.20	<0.38	<0.20	<0.65	26.22	-	-
MW-4	10/25/14	<0.38	<0.70	<0.50	<1.6	26.98	-	-
MW-5	12/15/13	9.3	<0.30	53	32	25.17	-	-
MW-5	04/05/14	11	5.8	13	<0.65	25.85	-	-
MW-5	10/25/14	5.9	<0.70	5.2	<1.6	26.60	-	-
MW-6	12/15/13	<0.14	<0.30	<0.20	2.0 J	25.48	-	-
MW-6	04/05/14	<0.20	<0.38	<0.20	<0.65	26.16	-	-
MW-6	10/25/14	<0.38	<0.70	<0.50	<1.6	26.90	-	-
MW-7	12/15/13	<0.14	<0.30	<0.20	<0.23	25.34	-	-
MW-7	04/05/14	<0.20	<0.38	<0.20	<0.65	26.13	-	-
MW-7	10/25/14	<0.38	<0.70	<0.50	<1.6	26.89	-	-
Notes: Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission standards. "J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result is an approximate value. "<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).								

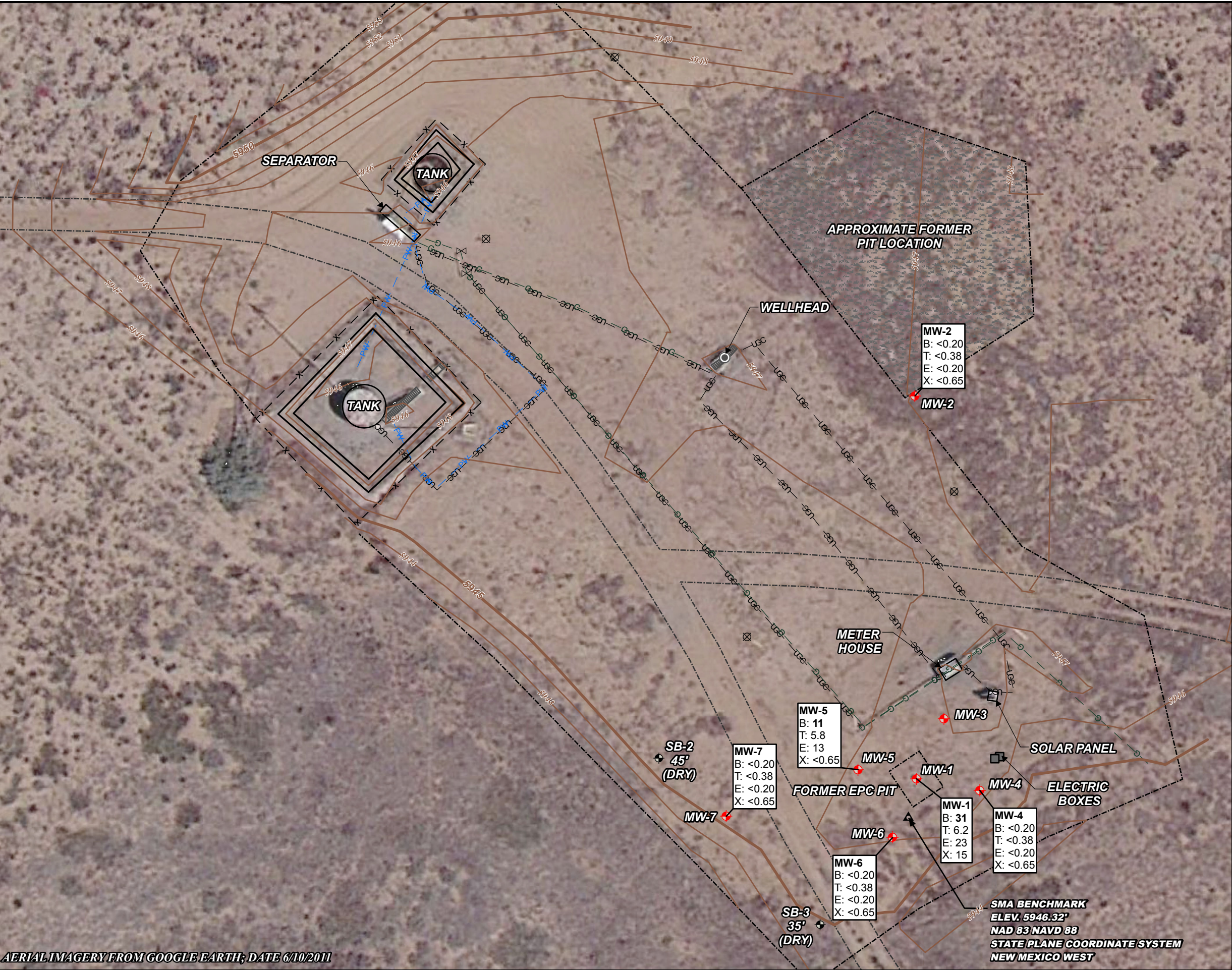
FIGURES

FIGURE 1: APRIL 5, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: APRIL 5, 2014 GROUNDWATER ELEVATION MAP

FIGURE 3: OCTOBER 25, 2014 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 4: OCTOBER 25, 2014 GROUNDWATER ELEVATION MAP



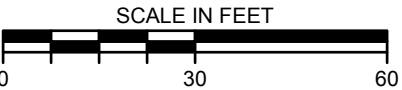
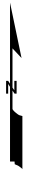
AERIAL IMAGERY FROM GOOGLE EARTH; DATE 6/10/2011

LEGEND:

- 5795 APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- x- FENCE
- FORMER PIT
- PW- PRODUCED WATER LINE
- UG- 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
J = RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.
MDL = METHOD DETECTION LIMIT
RL = REPORTING LIMIT OR REQUESTED LIMIT (RADIOCHEMISTRY)

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



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

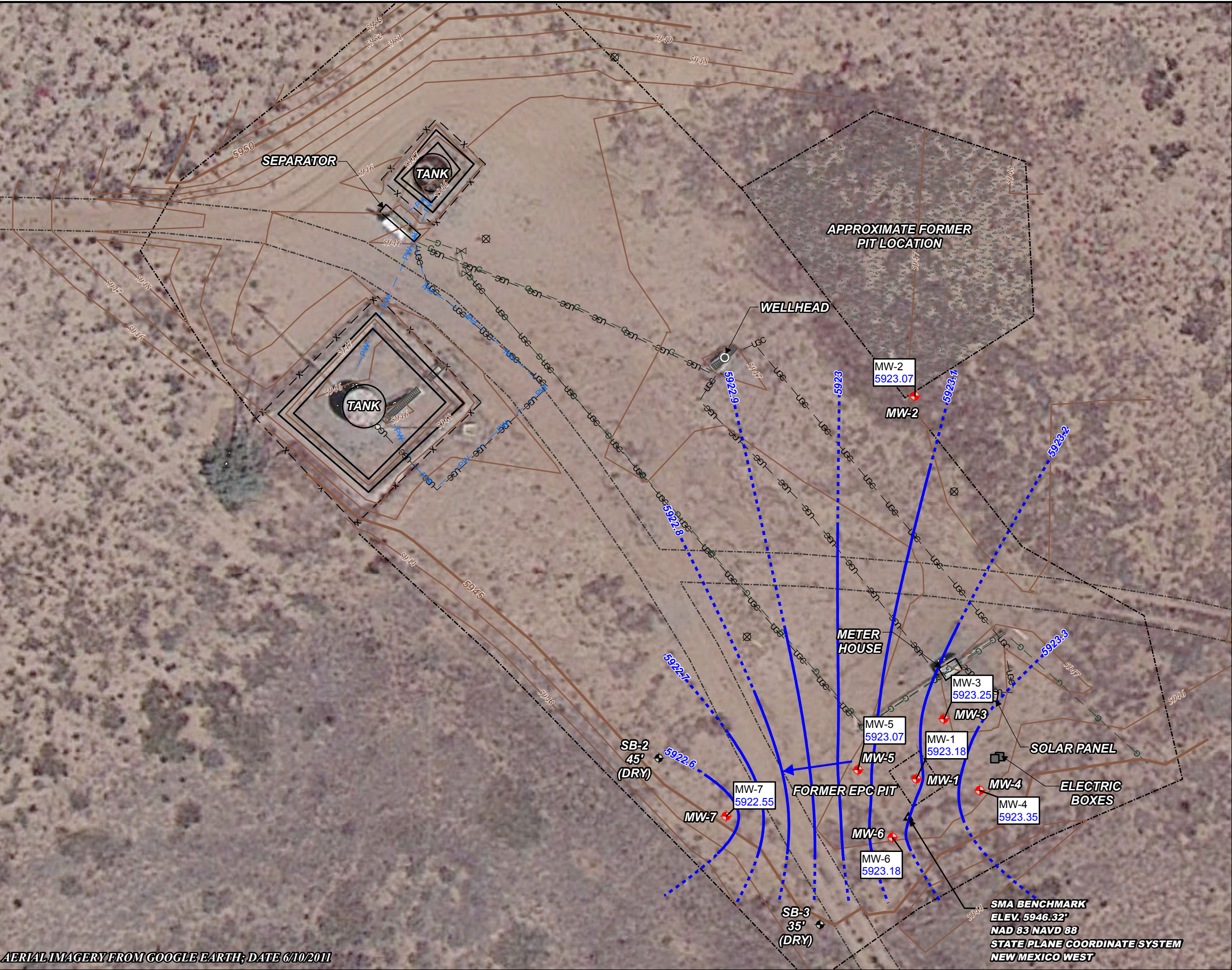
TITLE:
**GALLEGOS CANYON UNIT #124E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED APRIL 5, 2014**

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



Figure No.:

1



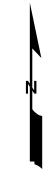
AERIAL IMAGERY FROM GOOGLE EARTH; DATE 6/10/2011

LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- FORMER PIT
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- 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



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

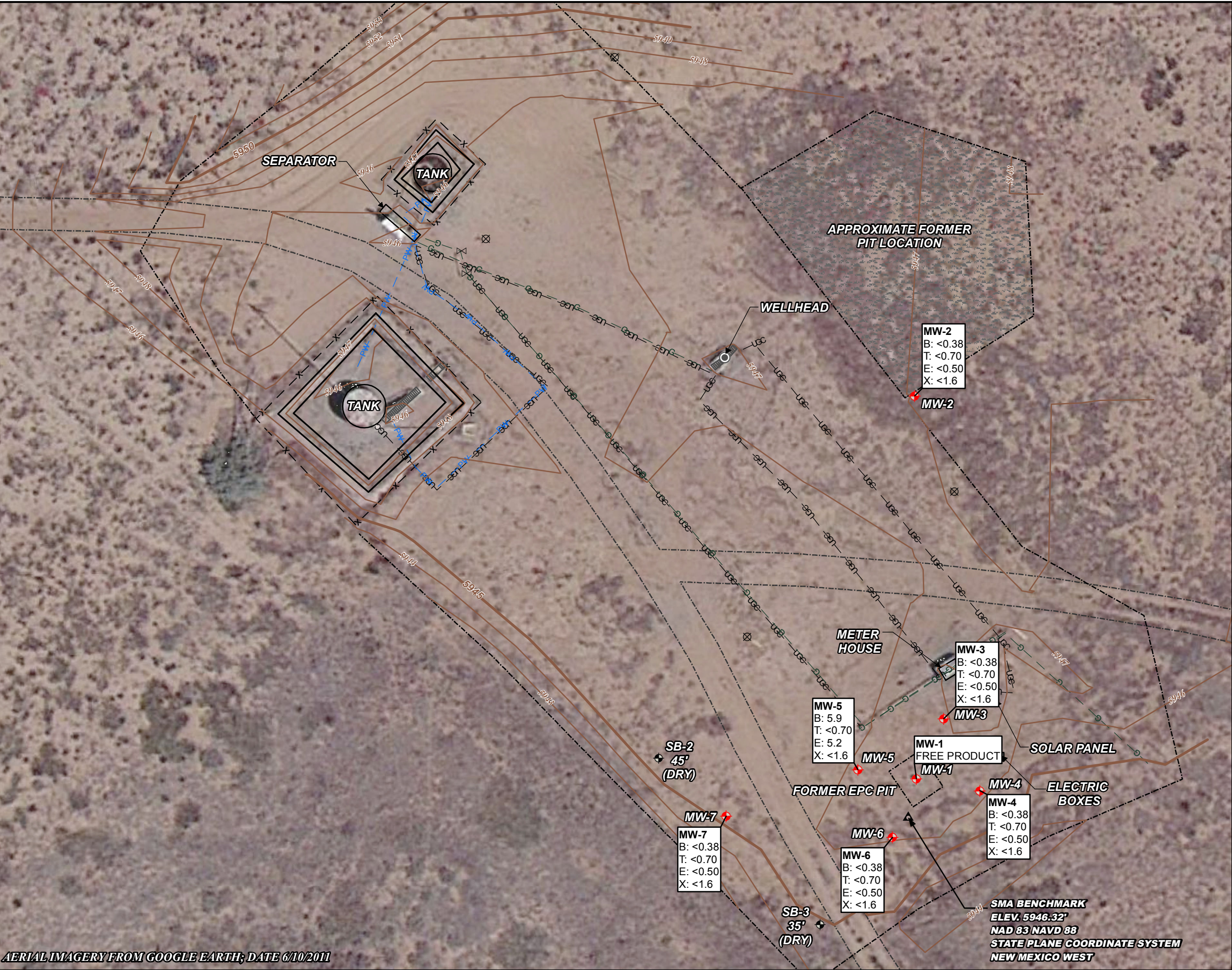
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GROUNDWATER ELEVATION MAP
SAMPLED APRIL 5, 2014**

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



Figure No.:

2



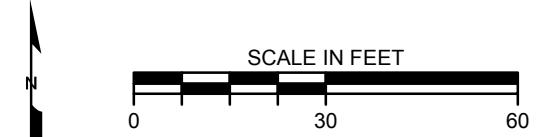
AERIAL IMAGERY FROM GOOGLE EARTH; DATE 6/10/2011

LEGEND:

- 5795** APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- x- FENCE
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ANALYTE	NMWQCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/20/2014	CCL	CCL	DCW

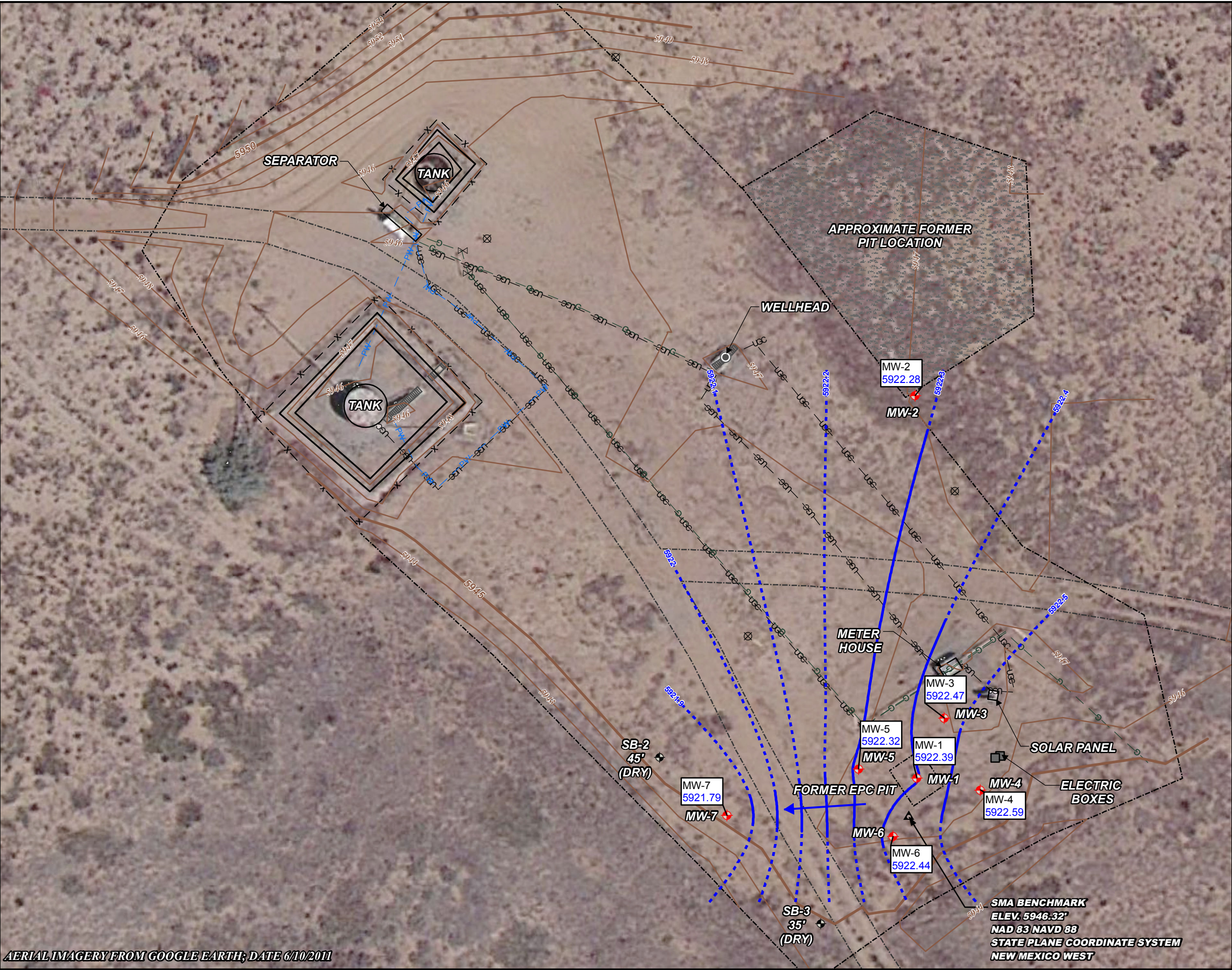
TITLE:
**GALLEGOS CANYON UNIT #124E
GROUNDWATER ANALYTICAL RESULTS
SAMPLED OCTOBER 25, 2014**

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



Figure No.:
3

**SMA BENCHMARK
ELEV. 5946.32'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST**



AERIAL IMAGERY FROM GOOGLE EARTH; DATE 6/10/2011

LEGEND:

- 5795— APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- X— FENCE
- FORMER PIT
- PW— PRODUCED WATER LINE
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- MONITORING WELL
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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



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	12/30/2014	CCL	CCL	DCW

TITLE: **GALLEGOS CANYON UNIT #124E
GROUNDWATER ELEVATION MAP
SAMPLED OCTOBER 25, 2014**

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



Figure No.: **4**

APPENDIX A

APRIL 5, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

OCTOBER 25, 2014 GROUNDWATER SAMPLING ANALYTICAL REPORT

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

TestAmerica Job ID: 560-46616-1

Client Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

For:

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

Attn: Ms. Sarah Gardner



Authorized for release by:
4/22/2014 1:58:44 PM

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

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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.

Definitions/Glossary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Job ID: 560-46616-1

Laboratory: TestAmerica Corpus Christi

Narrative

Job Narrative
560-46616-1

Comments

No additional comments.

Receipt

The samples were received on 4/8/2014 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

GC VOA

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

Organic Prep

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

Detection Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Client Sample ID: MW-1

Lab Sample ID: 560-46616-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	31		2.0	0.20	ug/L		1		8021B	Total/NA
Toluene	6.2		2.0	0.38	ug/L		1		8021B	Total/NA
Ethylbenzene	23		2.0	0.20	ug/L		1		8021B	Total/NA
Xylenes, Total	15		2.0	0.65	ug/L		1		8021B	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 560-46616-2

No Detections.

Client Sample ID: MW-3

Lab Sample ID: 560-46616-3

No Detections.

Client Sample ID: MW-4

Lab Sample ID: 560-46616-4

No Detections.

Client Sample ID: MW-5

Lab Sample ID: 560-46616-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	11		2.0	0.20	ug/L		1		8021B	Total/NA
Toluene	5.8		2.0	0.38	ug/L		1		8021B	Total/NA
Ethylbenzene	13		2.0	0.20	ug/L		1		8021B	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 560-46616-6

No Detections.

Client Sample ID: MW-7

Lab Sample ID: 560-46616-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Client Sample ID: MW-1

Date Collected: 04/05/14 16:25

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-1

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	31		2.0	0.20	ug/L			04/17/14 11:58	1
Toluene	6.2		2.0	0.38	ug/L			04/17/14 11:58	1
Ethylbenzene	23		2.0	0.20	ug/L			04/17/14 11:58	1
Xylenes, Total	15		2.0	0.65	ug/L			04/17/14 11:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		58 - 129					04/17/14 11:58	1
Trifluorotoluene (Surr)	86		54 - 130					04/17/14 11:58	1

Client Sample ID: MW-2

Date Collected: 04/05/14 16:40

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-2

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 12:26	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 12:26	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 12:26	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 12:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		58 - 129					04/17/14 12:26	1
Trifluorotoluene (Surr)	81		54 - 130					04/17/14 12:26	1

Client Sample ID: MW-3

Date Collected: 04/05/14 16:35

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 12:54	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 12:54	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 12:54	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 12:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		58 - 129					04/17/14 12:54	1
Trifluorotoluene (Surr)	83		54 - 130					04/17/14 12:54	1

Client Sample ID: MW-4

Date Collected: 04/05/14 16:30

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-4

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/16/14 19:10	1
Toluene	<0.38		2.0	0.38	ug/L			04/16/14 19:10	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/16/14 19:10	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/16/14 19:10	1

TestAmerica Corpus Christi

Client Sample Results

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Client Sample ID: MW-4

Date Collected: 04/05/14 16:30

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		58 - 129		04/16/14 19:10	1
Trifluorotoluene (Surr)	86		54 - 130		04/16/14 19:10	1

Client Sample ID: MW-5

Date Collected: 04/05/14 16:15

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-5

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	11		2.0	0.20	ug/L			04/17/14 13:22	1
Toluene	5.8		2.0	0.38	ug/L			04/17/14 13:22	1
Ethylbenzene	13		2.0	0.20	ug/L			04/17/14 13:22	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 13:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		58 - 129					04/17/14 13:22	1
Trifluorotoluene (Surr)	84		54 - 130					04/17/14 13:22	1

Client Sample ID: MW-6

Date Collected: 04/05/14 16:20

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-6

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 13:50	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 13:50	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 13:50	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 13:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		58 - 129					04/17/14 13:50	1
Trifluorotoluene (Surr)	79		54 - 130					04/17/14 13:50	1

Client Sample ID: MW-7

Date Collected: 04/05/14 16:10

Date Received: 04/08/14 09:45

Lab Sample ID: 560-46616-7

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.20		2.0	0.20	ug/L			04/17/14 14:40	1
Toluene	<0.38		2.0	0.38	ug/L			04/17/14 14:40	1
Ethylbenzene	<0.20		2.0	0.20	ug/L			04/17/14 14:40	1
Xylenes, Total	<0.65		2.0	0.65	ug/L			04/17/14 14:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		58 - 129					04/17/14 14:40	1
Trifluorotoluene (Surr)	81		54 - 130					04/17/14 14:40	1

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 560-100888/3

Matrix: Water

Analysis Batch: 100888

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 560-100888/2

Matrix: Water

Analysis Batch: 100888

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

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

Lab Sample ID: MB 560-100952/3

Matrix: Water

Analysis Batch: 100952

Client Sample ID: Method Blank

Prep Type: Total/NA

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

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

Lab Sample ID: LCS 560-100952/2

Matrix: Water

Analysis Batch: 100952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Corpus Christi

QC Sample Results

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

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

Lab Sample ID: LCS 560-100952/2

Matrix: Water

Analysis Batch: 100952

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

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

Certification Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

Laboratory: TestAmerica Corpus Christi

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

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

Method Summary

Client: MWH Americas Inc
Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

TestAmerica Job ID: 560-46616-1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: MWH Americas Inc

TestAmerica Job ID: 560-46616-1

Project/Site: Gallegos Canyon Unit #124. 4/5/14 BTEX

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-46616-1	MW-1	Water	04/05/14 16:25	04/08/14 09:45
560-46616-2	MW-2	Water	04/05/14 16:40	04/08/14 09:45
560-46616-3	MW-3	Water	04/05/14 16:35	04/08/14 09:45
560-46616-4	MW-4	Water	04/05/14 16:30	04/08/14 09:45
560-46616-5	MW-5	Water	04/05/14 16:15	04/08/14 09:45
560-46616-6	MW-6	Water	04/05/14 16:20	04/08/14 09:45
560-46616-7	MW-7	Water	04/05/14 16:10	04/08/14 09:45

Chain of Custody Record

Phone (361) 289-2673 Fax (361) 289-2471

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

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 560-46616-1

SDG Number:

Login Number: 46616

List Number: 1

Creator: Rood, Vivian R

List Source: TestAmerica Corpus Christi

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

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-97699-1

Client Project/Site: KM GCU #124E

For:

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

Attn: Ms. Sarah Gardner



Authorized for release by:

11/6/2014 2:05:24 PM

Bernard Kirkland, Manager of Project Management
(912)354-7858 e.3238

bernard.kirkland@testamericainc.com

Designee for

Neal Salcher, Senior Project Manager
(713)690-4444

neal.salcher@testamericainc.com

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

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

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

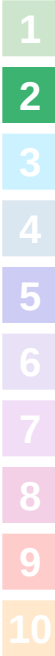


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Definitions/Glossary

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

TestAmerica Job ID: 400-97699-1

Glossary

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

Case Narrative

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

TestAmerica Job ID: 400-97699-1

Job ID: 400-97699-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-97699-1

Comments

No additional comments.

Receipt

The samples were received on 10/28/2014 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

GC/MS VOA

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

VOA Prep

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

Sample Summary

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

TestAmerica Job ID: 400-97699-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-97699-1	MW-2	Water	10/25/14 09:15	10/28/14 10:25
400-97699-2	MW-3	Water	10/25/14 09:10	10/28/14 10:25
400-97699-3	MW-4	Water	10/25/14 09:05	10/28/14 10:25
400-97699-4	MW-5	Water	10/25/14 08:50	10/28/14 10:25
400-97699-5	MW-6	Water	10/25/14 08:55	10/28/14 10:25
400-97699-6	MW-7	Water	10/25/14 08:45	10/28/14 10:25
400-97699-7	TRIP BLANK	Water	10/25/14 09:30	10/28/14 10:25

Client Sample Results

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

TestAmerica Job ID: 400-97699-1

Client Sample ID: MW-2

Date Collected: 10/25/14 09:15

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 15:51	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 15:51	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 15:51	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 15:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118					11/01/14 15:51	1
Dibromofluoromethane	96		81 - 121					11/01/14 15:51	1
Toluene-d8 (Surr)	103		80 - 120					11/01/14 15:51	1

Client Sample ID: MW-3

Date Collected: 10/25/14 09:10

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 16:14	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 16:14	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 16:14	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118					11/01/14 16:14	1
Dibromofluoromethane	96		81 - 121					11/01/14 16:14	1
Toluene-d8 (Surr)	103		80 - 120					11/01/14 16:14	1

Client Sample ID: MW-4

Date Collected: 10/25/14 09:05

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 16:37	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 16:37	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 16:37	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 16:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118					11/01/14 16:37	1
Dibromofluoromethane	96		81 - 121					11/01/14 16:37	1
Toluene-d8 (Surr)	104		80 - 120					11/01/14 16:37	1

Client Sample ID: MW-5

Date Collected: 10/25/14 08:50

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.9		1.0	0.38	ug/L			11/01/14 17:00	1
Ethylbenzene	5.2		1.0	0.50	ug/L			11/01/14 17:00	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 17:00	1

TestAmerica Pensacola

Client Sample Results

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

TestAmerica Job ID: 400-97699-1

Client Sample ID: MW-5

Date Collected: 10/25/14 08:50

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		78 - 118					11/01/14 17:00	1
Dibromofluoromethane	98		81 - 121					11/01/14 17:00	1
Toluene-d8 (Surr)	104		80 - 120					11/01/14 17:00	1

Client Sample ID: MW-6

Date Collected: 10/25/14 08:55

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 17:23	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 17:23	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 17:23	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118					11/01/14 17:23	1
Dibromofluoromethane	95		81 - 121					11/01/14 17:23	1
Toluene-d8 (Surr)	104		80 - 120					11/01/14 17:23	1

Client Sample ID: MW-7

Date Collected: 10/25/14 08:45

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 17:46	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 17:46	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 17:46	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 17:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118					11/01/14 17:46	1
Dibromofluoromethane	96		81 - 121					11/01/14 17:46	1
Toluene-d8 (Surr)	103		80 - 120					11/01/14 17:46	1

Client Sample ID: TRIP BLANK

Date Collected: 10/25/14 09:30

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 13:34	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 13:34	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 13:34	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 13:34	1

TestAmerica Pensacola

Client Sample Results

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

TestAmerica Job ID: 400-97699-1

Client Sample ID: TRIP BLANK

Date Collected: 10/25/14 09:30

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-7

Matrix: Water

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
4-Bromofluorobenzene	99		78 - 118		11/01/14 13:34	1
Dibromofluoromethane	96		81 - 121		11/01/14 13:34	1
Toluene-d8 (Surr)	103		80 - 120		11/01/14 13:34	1

QC Sample Results

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

TestAmerica Job ID: 400-97699-1

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

Lab Sample ID: MB 400-235152/30

Matrix: Water

Analysis Batch: 235152

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.38		1.0	0.38	ug/L			11/01/14 10:56	1
Ethylbenzene	<0.50		1.0	0.50	ug/L			11/01/14 10:56	1
Toluene	<0.70		1.0	0.70	ug/L			11/01/14 10:56	1
Xylenes, Total	<1.6		10	1.6	ug/L			11/01/14 10:56	1

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

Lab Sample ID: LCS 400-235152/1002

Matrix: Water

Analysis Batch: 235152

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.4		ug/L		95	79 - 120
Ethylbenzene	50.0	50.5		ug/L		101	80 - 120
Toluene	50.0	50.2		ug/L		100	80 - 120
Xylenes, Total	100	102		ug/L		102	70 - 130

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

Lab Chronicle

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

TestAmerica Job ID: 400-97699-1

Client Sample ID: MW-2

Date Collected: 10/25/14 09:15

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 15:51	ABF	TAL PEN

Client Sample ID: MW-3

Date Collected: 10/25/14 09:10

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 16:14	ABF	TAL PEN

Client Sample ID: MW-4

Date Collected: 10/25/14 09:05

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 16:37	ABF	TAL PEN

Client Sample ID: MW-5

Date Collected: 10/25/14 08:50

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 17:00	ABF	TAL PEN

Client Sample ID: MW-6

Date Collected: 10/25/14 08:55

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 17:23	ABF	TAL PEN

Client Sample ID: MW-7

Date Collected: 10/25/14 08:45

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 17:46	ABF	TAL PEN

TestAmerica Pensacola

Lab Chronicle

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

TestAmerica Job ID: 400-97699-1

Client Sample ID: TRIP BLANK

Date Collected: 10/25/14 09:30

Date Received: 10/28/14 10:25

Lab Sample ID: 400-97699-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	235152	11/01/14 13:34	ABF	TAL PEN

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

Method Summary

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

TestAmerica Job ID: 400-97699-1

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

Protocol References:

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

Laboratory References:

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

Chain of Custody Record

Client Information Company: MWH Americas Inc Address: 1801 California Street Suite 2900 City: Denver State: CO Zip: 80202 Phone: 303-291-2239 (Tel) Email: sarah.gardner@mwhglobal.com Project Name: KM GCU #124E Site:		Sampler: S. Gardner / C. Lee Lab PM: Salcher, Neal E-Mail: neal.salcher@testamericainc.com Phone: 303 291-2239 Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: As per Entos Project #: 56004960 SSOW#:		Carrier Tracking No(s): COC No: 560-15209-1506.1 Page: Page 1 of 1 Job #:	
Sample Identification Sample ID: MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 TRIP BLANK		Sample Date: 10/25/14 10/25/14 10/25/14 10/25/14 10/25/14 10/25/14 10/25/14		Sample Time: 900 915 910 905 850 855 845 930	
Sample Type: (C=Comp, G=grab) G G G G G G G		Matrix: (W=water, S=solid, O=wastewater, BT=tissue, A=air) Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No): A X X X X X X X	
Preservation Code: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Total Number of Containers:		Special Instructions/Note:	
Analysis Requested:					
Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecaldehyde U - Acetone V - MCAA W - ph 4-5 Z - other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months					
Special Instructions/QC Requirements:					
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:		Date:			
Relinquished by: <i>Sarah Gardner</i>		Date/Time: 10/27/14 915		Company: MWH	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 4.1°C IR-2			

Analysis Requested

Job #:

Preservation Codes:

- A-HCl
- B-NaOH
- C-Zn Acetate
- D-Nitro Acid
- E-NaHSO4
- F-MeOH
- G-Ambicor
- H-Acetic Acid
- I-Iso
- J-DI Water
- K-EDTA
- L-EDTA
- M-Hexane
- N-Nore
- O-AshAc2
- P-Na2OAS
- Q-Na2SO3
- R-Na2S2O3
- S-H2SO4
- T-TSP Decalcifyate
- U-Acetone
- V-MCAA
- W-pH 4.5
- Z-Other (Specify)

Special Instructions/Note:

Not Sampled

Total Number of Containers:

Field Filtered Sample (Yes/No)
Incompletes/Made by Year (No)

8260B - BTEX



Sample Date	Sample Time	Sample Type (C-Comp, G-grab)	Matrix (Water, Sealed, Overhead, BT-Tissue, Aque)	Field Filtered Sample (Yes/No)	Incompletes/Made by Year (No)	8260B - BTEX	Total Number of Containers	Special Instructions/Note
10/23/14	900	G	Water	X				
10/23/14	915	G	Water	X				
10/23/14	910	G	Water	X				
10/23/14	905	G	Water	X				
10/23/14	850	G	Water	X				
10/23/14	855	G	Water	X				
10/23/14	845	G	Water	X				
10/23/14	930	G	Water	X				

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

Date/Time	Date	Time	Method of Shipment
10/27/14 915	10-28-14	0339	18-18
Date/Time	Received by:	Date/Time	Company
Date/Time	Released by:	Date/Time	Company
Date/Time	Received by:	Date/Time	Company
Cooler Temperature(s) °C and Other Remarks: 4.1°C IR-2			