1R-11

Monitoring Report

August, 2012

HESS CORPORATION
1 Hess Plaza
Woodbridge, NJ 07095

Donald G. Bull
Senior Specialist
Corporate EHS&SR
(732) 750-7099
FAX: (732) 352-7792

February 28, 2013

Mr. Glenn Von Gonten
New Mexico Oil Conservation District
1220 South St. Francis Drive
Santa Fe, NM 87505

VIA: Priority Mail and Delivery Confirmation

Re: Groundwater Monitoring Report Sampled August 2012
Oxy State E Battery #40 IRP-11
Sec 30, T-19S, R-37E, Lea County

Dear Mr. Von Gonten:

Enclosed please find the Groundwater Monitoring Report for the Oxy State E Battery #40 located in Monument, NM.

The report includes pertinent historical site information as well as data collected during groundwater sampling in August 2012.

Please note that Hess proposes to install a solar sipping pump in monitoring well MW-5 to initiate the removal of liquid phase hydrocarbons (LPH) from the vicinity of the well. Furthermore, Hess proposes to install three additional monitoring wells onsite to aid in further delineation.

If you should have any further questions or require additional information, please feel free to contact the undersigned at 732-750-7099.

Sincerely,

Donald G. Bull
Senior Specialist

cc: Rex Meyer, GeoMonitoring Services
Jim Griswold, New Mexico Oil Conservation Division

OXY STATE E BATTERY #40

SECTION 30, TOWNSHIP 19 SOUTH, RANGE 37 EAST
LEA COUNTY, NEW MEXICO

GROUNDWATER MONITORING REPORT
SAMPLED AUGUST 2012

Prepared for:

Hess Corporation
One Hess Plaza
Woodbridge, New Jersey 07095

Prepared by:

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1.0 INTRODUCTION

The Oxy State E Battery #40 site is located northwest of Monument, New Mexico in southern Lea County. The legal description of the site is Section 30, Township 19 South, and Range 37 East. The site lies within the Pecos River Valley section of the Great Plains physiographic province and is located in the southern margin of the Llano Estacado. The site was formerly a tank battery and associated pit, but it is unclear what date the tank battery and associated pit were decommissioned. A regional location map showing the site location is included as **Figure 1**.

On February 12, 1997, excavation began onsite in the areas of the former tank battery and associated pit. The deepest point of the excavation was located on the north side at a depth of 13 feet (ft) below ground surface (bgs). A trench was also dug across the site in a north-south direction to a depth of 10 ft. Excavation continued until February 14, 1997. Elevated contamination levels were detected in the excavation area for both the battery site and the associated pit.

On February 25, 1997, a letter was submitted to New Mexico Oil Conservation Division (NMOCD) proposing to install four monitoring wells onsite to delineate the extent of groundwater contamination onsite.

On March 10, 1997, the NMOCD approved the work plan to install four monitoring wells at the site.

On April 21, 1997, monitoring wells MW-1 and MW-2 were installed, and on April 22, 1997, monitoring wells MW-3 and MW-4 were installed. Monitoring well MW-1 was installed upgradient of the battery site, monitoring well MW-2 was installed within the former battery site excavation as close to the old pit area as possible. Monitoring wells MW-3 and MW-4 were installed downgradient of the excavation. The monitoring wells were drilled to a depth of 10 ft below initial groundwater contact and contained a screened interval of 15 ft, with five ft of screen above the initial groundwater contact and 10 ft of screen below initial groundwater contact. Soil samples were collected every five ft during well installation and analyzed for total petroleum hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and Chloride content. The results from these soil samples indicated elevated levels of TPH and Chloride in soil samples taken from monitoring wells MW-1 and MW-2. Monitoring wells MW-3 and MW-4 had no detections of TPH or chloride. BTEX was only detected in very low concentrations in the soil samples.

On April 23, 1997, a groundwater sample was taken from monitoring wells MW-1 through MW-4 and analyzed for TPH, BTEX, and chloride. All constituents were below water quality standards of 250 milligrams per Liter (mg/L) for chloride except for monitoring well MW-3 (638 mg/L) and MW-4 (851 mg/L). On May 15, 1997 a letter was sent to the NMOCD indicating that the groundwater had been impacted.

On June 8, 1998, a letter was sent to the NMOCD informing them that Hess, Inc. (Hess) intended to start remediation activities onsite. On June 8, 1998, excavation began onsite and continued until June 24, 1998. The excavation near the former tank battery was excavated to a depth of approximately 18 ft. On July 7, 1998, the excavated pit was backfilled with blended soil and on July 13, 1998, the former battery site was backfilled with blended soil. Upon completion of blended soil backfilling, the excavated areas were backfilled with five ft of fresh caliche which was taken from an area approximately 150 ft east of the former battery excavation, followed by two ft of red bed clay which was brought in from offsite on July 6, 1998. The remaining excavation was then filled with topsoil and the site was re-seeded with native vegetation to restore the site to its original condition.

On September 8, 1999, monitoring well MW-5 was installed near the center of the excavation of the associated pit.

On July 3, 2000, liquid phase hydrocarbons (LPH) were discovered in monitoring wells MW-2 and MW-5 during groundwater sampling. On July 5, 2000, a letter was sent to the NMOCD indicating that monitoring wells MW-2 and MW-5 contained LPH.

Currently, the site is situated on and surrounded by land owned by Jimmy Cooper.

2.0 MONITORING WELL GAUGING ACTIVITIES

Monitoring wells MW-1 through MW-4 were gauged on August 21-22, 2012. Monitoring wells MW-1 and MW-2 did not contain water. On July 19, 2012, monitoring well MW-5 was gauged and contained 0.24 ft of LPH. The monitoring well locations are shown on **Figure 2**.

The depth to water (DTW) and presence of liquid phase hydrocarbons (LPH), if any, were gauged using an oil/water interface probe capable of measuring to the nearest 0.01 ft.

As shown in **Table 1**, depth to groundwater (DTW) ranged from 20.60 ft below the top of casing (TOC) in monitoring well MW-4 to 23.05 ft below the TOC in monitoring well MW-5. The wells onsite have not been surveyed so no groundwater elevations can be determined, but based on historical regional groundwater elevation data, the groundwater flow direction is likely from northwest to southeast.

3.0 MONITORING WELL DEVELOPMENT ACTIVITIES

Due to the long period of time since the previous sampling event, monitoring wells MW-3 through MW-5 were redeveloped using a surge block, monitoring wells MW-1 and MW-2 were not redeveloped because they did not contain water. On July 13-19, 2012, BBC International, Inc. redeveloped monitoring well MW-3 through MW-5 to ensure that

the well recharge rates would be sufficient for sampling and that accurate water samples would be obtained. During well development, monitoring well MW-3 had a DTW of 20.75 ft, monitoring well MW-4 had a DTW of 20.46 ft, and monitoring well MW-5 had a DTW of 23.05 ft. Between 5 and 12 gallons of groundwater were purged from each well during well development. LPH was detected in monitoring well MW-5 with a thickness of 0.24 ft, so it will not be sampled during this sampling event. No LPH or odors were present in any of the remaining monitoring wells onsite during well development. Well development data can be found on **Table 3**.

4.0 MONITORING WELL SAMPLING ACTIVITIES

On August 21-22, 2012, monitoring wells MW-3 and MW-4 were sampled. Monitoring wells MW-1 and MW-2 were dry and were not sampled; also monitoring well MW-5 was gauged with 0.24 ft of LPH and was not sampled.

Groundwater samples were collected via a downhole pneumatic pump utilizing a low flow purging and sampling method. Air flow into the pump was controlled by a GeoTech Micropurge control panel. Disposable Teflon-lined polypropylene tubing was used at each sampling point and sampling equipment was decontaminated after each use. Each monitoring well was purged and sampled at a rate of 300 milliliters/minute or less. Actual purging and sampling rates can be found in **Table 1**.

Prior to collection of water samples, field readings were taken at each well for pH, Conductivity, Dissolved Oxygen (D.O.), Temperature, Salinity, and Oxygen Redox Potential (ORP). During this sampling event, the pH ranged from 6.76 standard units (s.u.) at monitoring well MW-4 to 7.30 s.u. at monitoring well MW-3. Conductivity ranged from 1,758 micro-ohms per centimeter squared (µohms/cm^2) at monitoring well MW-3 to 1,768 µohms/cm^2 at monitoring well MW-4. D.O. ranged from -32.70 mg/L (reading is subject, meter may have been inoperable during this reading) at monitoring well MW-4 to 1.81 mg/L at monitoring well MW-3. Temperature ranged from 20.84°C at monitoring well MW-4 to 20.89°C at monitoring well MW-3. Salinity ranged from 0.95 parts per thousand in monitoring well MW-3 to 0.98 parts per thousand in monitoring well MW-4. And ORP ranged from -10.7 milliVolts (mV) in monitoring well MW-3 to -3.8 mV in monitoring well MW-4.

Groundwater laboratory analysis included BTEX tested under EPA Method No. 8260B, Chlorides under EPA Method No. 300, Total Dissolved Solids, and Dissolved Metals.

Benzene was detected in both monitoring wells sampled. Monitoring well MW-3 had a benzene detection of 1.7 µg/L and monitoring well MW-4 had a benzene detection of 1.2 µg/L. Benzene was not detected above the New Mexico Water Quality Control Commission (NM WQCC) Standard of 10 µg/L for Benzene.

Toluene, Ethylbenzene, and Xylenes were not detected in the groundwater samples from either monitoring well.

Chloride was detected above the NM WQCC Standard of 250 mg/L in both monitoring wells sampled. Monitoring well MW-3 had a Chloride concentration of 273 mg/L and monitoring well MW-4 had a Chloride concentration of 391 mg/L.

Total Dissolved Solids (TDS) were detected above the NM WQCC Standard of 1,000 mg/L in groundwater samples from both monitoring wells. Monitoring well MW-3 had a TDS concentration of 1,090 mg/L and monitoring well MW-4 had a TDS concentration of 1,140 mg/L.

For dissolved metals, Arsenic was detected in groundwater samples collected from both monitoring wells. Monitoring well MW-3 had an Arsenic concentration of 70 µg/L and monitoring well MW-4 had an Arsenic concentration of 14.7 µg/L. Barium was detected above the NM WQCC Standard of 1,000 µg/L in the groundwater sample collected from monitoring well MW-3 at a concentration of 2,390 µg/L. Monitoring well MW-4 had a Barium concentration of 317 µg/L. Cadmium was detected in monitoring well MW-3 at a concentration of 0.16J µg/L. Chromium was detected in groundwater samples from both monitoring wells. Monitoring well MW-3 had a Chromium concentration of 0.48J µg/L and monitoring well MW-4 had a Chromium concentration of 0.75J µg/L. Lead was detected in groundwater samples from both monitoring wells. Monitoring well MW-3 had a Lead concentration of 3.6 µg/L and monitoring well MW-4 had a Lead concentration of 3.2 µg/L. Mercury was not detected in the groundwater samples from either monitoring well. Selenium was detected in monitoring well MW-3 with a concentration of 2.3J µg/L. Silver was detected in monitoring well MW-4 with a concentration of 0.75J µg/L. **Table 2** and **Figure 3** provide a summary of the groundwater analytical results. The laboratory analytical report is included in **Appendix A**.

5.0 CONCLUSIONS AND PROPOSALS

Chloride was detected above the NM WQCC Standard of 250 mg/L in both monitoring wells sampled. Additionally, TDS was detected above the NM WQCC Standard of 1,000 mg/L in both monitoring wells sampled. Barium was also detected above the NM WQCC Standard of 1,000 µg/L in monitoring well MW-3. LPH was also found in monitoring well MW-5 with a thickness of 0.24 ft.

Based on these results, Hess proposes to install a solar sipping pump in monitoring well MW-5 to remove LPH from the vicinity of the well. Furthermore, Hess proposes to install three additional monitoring wells onsite to aid in the delineation of contamination. Two replacement monitoring wells will be installed adjacent to monitoring wells MW-1 and MW-2, which do not contain water, and one additional monitoring well will be placed downgradient of monitoring well MW-5, which contained 0.24 ft of LPH. The proposed locations of the additional monitoring wells can be found on **Figure 2**. Hess also proposes that the site remain on a quarterly groundwater sampling and reporting schedule.

TABLES

Table 1
Groundwater Field Data Summary
Oxy State E Battery #40
August 21-22, 2012

Well No.	Casing Diameter (inches)	Date	Top of Casing to Water (feet)	Top of Casing to Bottom of Well (feet)	Purge pumping Rate (ml/min)	Sampling pump Rate (ml/min)	Amount Purge (gal)	LPH Films Detected by Interface Probe During Well Development	Field Reading	pH s.u.	Conductivity µ ohms/cm^2	Dissolved Oxygen mg/L	Temperature °C	Salinity ppt	ORP (mv)
MW-1	2	7/13/2012	Dry	23.40	--	--	--	--	Initial Reading	--	--	--	--	--	--
								--	Stabilized Reading	--	--	--	--	--	--
MW-2	2	7/18/2012	Dry	22.35	--	--	--	--	Initial Reading	--	--	--	--	--	--
								--	Stabilized Reading	--	--	--	--	--	--
MW-3	2	8/21/2012	20.93	32.05	230	230	1.25	None	Initial Reading	7.65	2,579	2.57	22.06	1.40	20.8
								None	Stabilized Reading	7.30	1,758	1.81	20.89	0.95	-10.7
MW-4	2	8/22/2012	20.60	32.30	250	250	3.5	None	Initial Reading	6.86	1,850	-31.65*	21.51	1.01	-3.4
								None	Stabilized Reading	6.76	1,768	-32.70*	20.84	0.98	-3.8
MW-5	2	7/19/2012	23.05	35.12	--	--	--	LPH in Well (0.24 feet)	Initial Reading	--	--	--	--	--	--
								Well Not Sampled	Stabilized Reading	--	--	--	--	--	--

NOTE:
LPH = liquid phase hydrocarbon
Dry = Well Dry
ml/min = milliliters per minute
gals = gallons
s.u. = standard unit
µ ohms/cm^2 = micro-ohms per centimeter squared
mg/L = milligrams per liter
°C = degrees Celsius
mv = millivolts
-- = reading not taken or not applicable

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Table 2
Summary of Groundwater Monitoring Results
Oxy State E Battery #40
August 21-22, 2012

	Units	MW-3	MW-4	NM WQCC Standards
Date Sampled		8/21/2012	8/22/2012	
BTEX (Method 8260B)				
Benzene	µg/L	1.7	1.2	10
Toluene	µg/L	<0.26	<0.26	750
Ethylbenzene	µg/L	<0.25	<0.25	750
Xylenes	µg/L	<0.71	<0.71	620
Chloride				
Chloride	mg/L	**273**	**391**	250
Total Dissolved Solids				
TDS	mg/L	**1,090**	**1,140**	1,000
Dissolved Metals, Lab Filtered				
Arsenic	µg/L	70	14.7	100
Barium	µg/L	**2,390**	317	1,000
Cadmium	µg/L	0.16J	<0.090	10
Chromium	µg/L	0.48J	0.75J	50
Lead	µg/L	3.6	3.2	50
Mercury	µg/L	<0.050	<0.050	2
Selenium	µg/L	2.3J	<0.98	50
Silver	µg/L	<0.24	0.75J	50

NOTE:
NM WQCC = New Mexico Water Quality Control Commission
µg/L = micrograms per Liter
mg/L - milligrams per Liter
J = Indicates an estimated value
BOLD values exceed NM WQCC standards

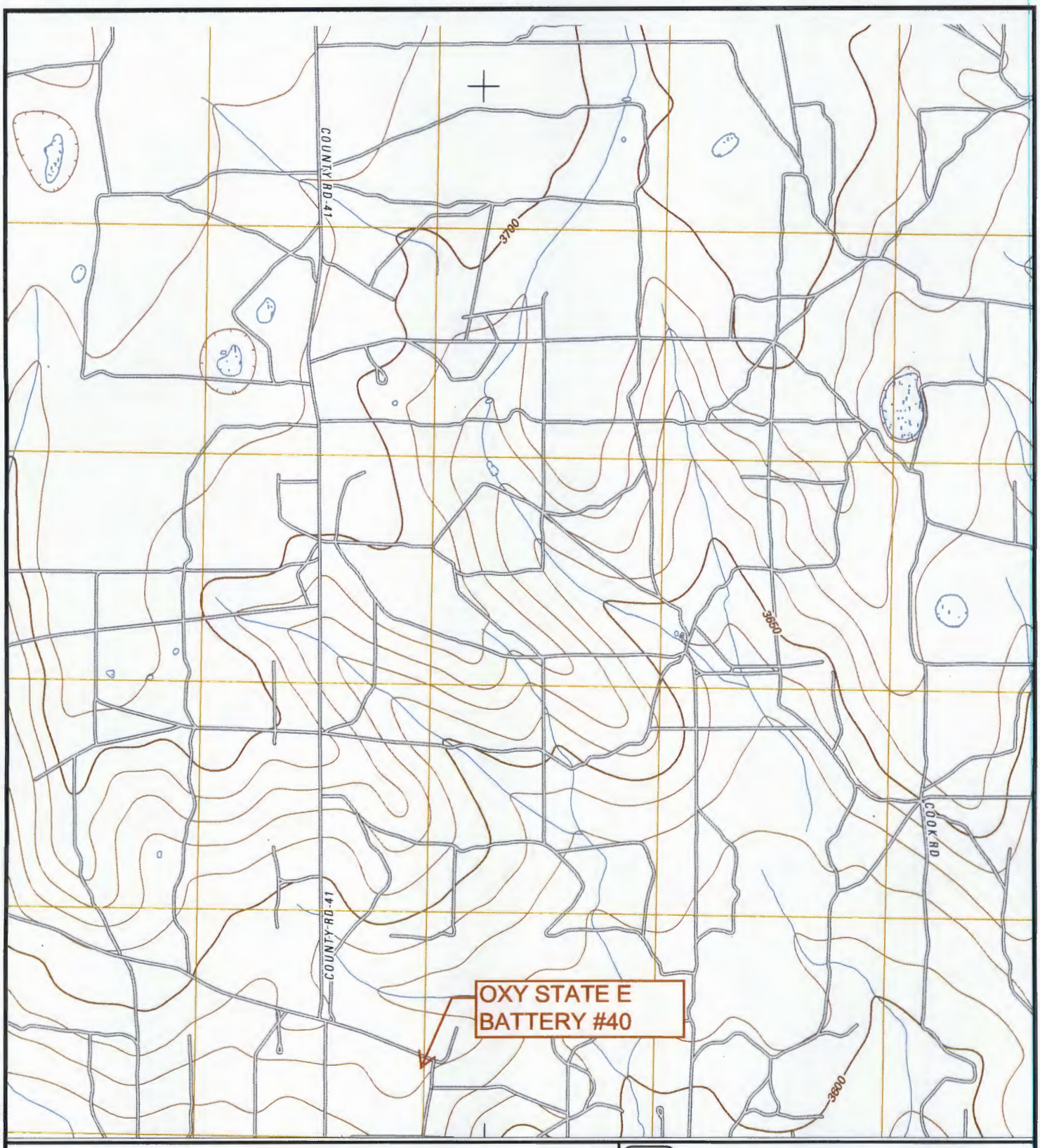
Table 3
Well Development Data
Oxy State E Battery #40
July 13-19, 2012

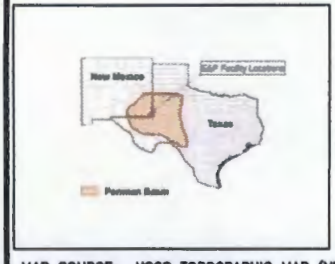
Well No.	Date	Top of Casing to Water *(feet)*	Top of Casing Elevation *(feet)*	Groundwater Elevation *(feet)*	Top of Casing to Bottom of Well *(feet)*	Top of Casing to LPH *(feet)*	LPH Thickness *(feet)*	Amount Purged *(gal)*
MW-1	7/13/2012	DRY	--	--	23.40	--	0	--
MW-2	7/13/2012	DRY	--	--	29.80	--	0	--
MW-3	7/13/2012	20.75	--	--	--	--	0	5
MW-4	7/13/2012	20.46	--	--	33.45	--	0	10
MW-5	7/19/2012	23.05	--	--	37.40	22.81	0.24	12

NOTE:
LPH = liquid phase hydrocarbon
-- = not applicable or not taken
DRY = well dry

GeoMonitoring Services

FIGURES





N

0 0.25 0.5 1

APPROXIMATE SCALE IN MILES

MAP SOURCE: USGS TOPOGRAPHIC MAP (VERSION 2010) – MONUMENT SOUTH QUADRANGLE

GeoMonitoring Services

FIGURE 1
REGIONAL LOCATION MAP
OXY STATE E BATTERY #40
LEA COUNTY, NEW MEXICO

DRAWN BY:	DATE:	PROJ. NO.
JFLAKE	12-12-12	HESS

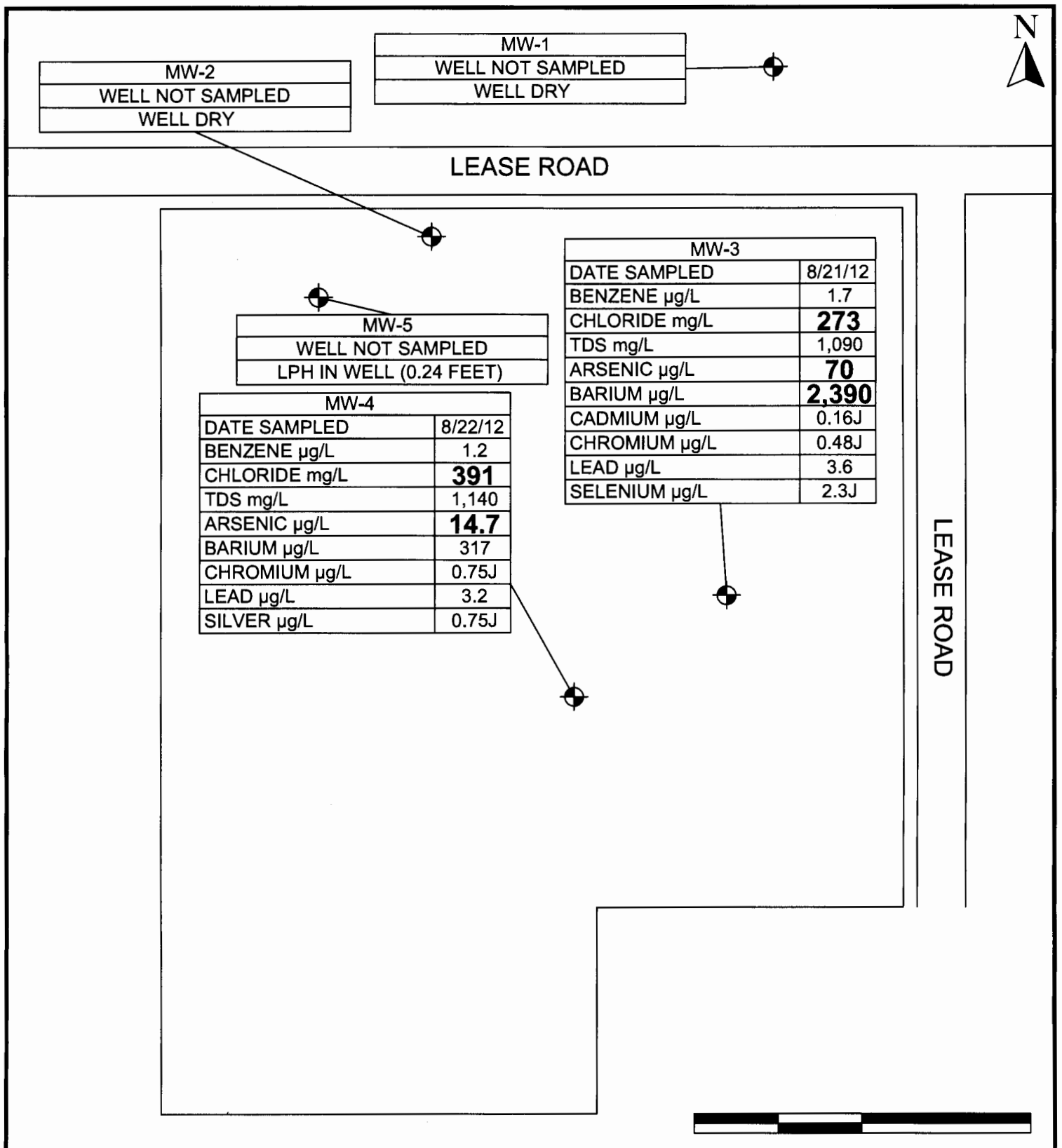
LEGEND

- MONITORING WELL LOCATION
- PROPOSED ADDITIONAL MONITORING WELL LOCATION

GeoMonitoring Services

FIGURE 2
MONITORING WELL LOCATION MAP
OXY STATE E BATTERY #40
HESS E&P – NEW MEXICO

DRAWN BY:	DATE:	PROJ. NO.
JFLAKE	12-12-12	HESS



LEGEND

⊕ MONITORING WELL LOCATION

TDS = TOTAL DISSOLVED SOLIDS

LPH = LIQUID PHASE HYDROCARBON

NOTE: FOR EACH WELL, ONLY DETECTED ANALYTICAL DATA IS SHOWN. CONSTITUENTS THAT WERE NOT DETECTED ARE NOT SHOWN
BOLD VALUES EXCEED WATER QUALITY STANDARDS

GeoMonitoring Services

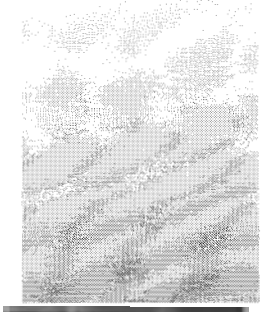
FIGURE 3
GROUNDWATER ANALYTICAL MAP
OXY STATE E BATTERY #40
HESS E&P – NEW MEXICO

DRAWN BY:	DATE:	PROJ. NO.
JFLAKE	12-12-12	HESS

APPENDIX A
LABORATORY ANALYTICAL RESULTS

Gulf Coast
ACCUTEST LABORATORIES

10/01/12



Technical Report for

Geo Monitoring Services

Battery #40

Accutest Job Number: TC14998

Sampling Date: 08/21/12

Report to:

james@geomon.net

Total number of pages in report: **35**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-12-8) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

Sections: 1 2 3 4 5 6 7

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Accutest Laboratories

Sample Summary

Geo Monitoring Services

Job No: TC14998

Battery #40

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
TC14998-1	08/21/12	15:53		08/22/12	AQ	Ground Water	MW3
TC14998-1F	08/21/12	15:53		08/22/12	AQ	Groundwater Filtered	MW3
TC14998-2	08/21/12	00:00		08/22/12	AQ	Trip Blank Water	TRIP BLANK

Summary of Hits

Job Number: TC14998
Account: Geo Monitoring Services
Project: Battery #40
Collected: 08/21/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TC14998-1	MW3					
Benzene		0.0017	0.0010	0.00025	mg/l	SW846 8260B
Chloride		273	10	5.0	mg/l	EPA 300/SW846 9056
Solids, Total Dissolved		1090	10	6.0	mg/l	SM 2540C
TC14998-1F	MW3					
Arsenic		0.0700	0.0050	0.0010	mg/l	SW846 6010B
Barium		2.39	0.20	0.0034	mg/l	SW846 6010B
Cadmium		0.00016 J	0.0040	0.000090	mg/l	SW846 6010B
Chromium		0.00048 J	0.010	0.00027	mg/l	SW846 6010B
Lead		0.0036	0.0030	0.0018	mg/l	SW846 6010B
Selenium		0.0023 J	0.0050	0.00098	mg/l	SW846 6010B
TC14998-2	TRIP BLANK					

No hits reported in this sample.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW3		
Lab Sample ID:	TC14998-1	Date Sampled:	08/21/12
Matrix:	AQ - Ground Water	Date Received:	08/22/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Battery #40		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028385.D	1	08/27/12	EM	n/a	n/a	VZ3734
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	MQL	SDL	Units	Q
71-43-2	Benzene	0.0017	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	92%		75-121%
2037-26-5	Toluene-D8	107%		87-119%
460-00-4	4-Bromofluorobenzene	117%		80-133%

U = Not detected SDL - Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW3		
Lab Sample ID:	TC14998-1	**Date Sampled:**	08/21/12
Matrix:	AQ - Ground Water	**Date Received:**	08/22/12
		Percent Solids:	n/a
Project:	Battery #40		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	273	10	5.0	mg/l	20	08/27/12 19:10	ES	EPA 300/SW846 9056
Solids, Total Dissolved	1090	10	6.0	mg/l	1	08/22/12	BG	SM 2540C

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW3		
Lab Sample ID:	TC14998-1F	**Date Sampled:**	08/21/12
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/22/12
		Percent Solids:	n/a
Project:	Battery #40		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	0.0700	0.0050	0.0010	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Barium	2.39	0.20	0.0034	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Cadmium	0.00016 J	0.0040	0.000090	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Chromium	0.00048 J	0.010	0.00027	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Lead	0.0036	0.0030	0.0018	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Mercury	0.000050 U	0.00020	0.000050	mg/l	1	09/04/12	09/04/12	NS	SW846 7470A [2]	SW846 7470A [4]
Selenium	0.0023 J	0.0050	0.00098	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]
Silver	0.00024 U	0.010	0.00024	mg/l	1	08/23/12	08/24/12	NS	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA7226
(2) Instrument QC Batch: MA7265
(3) Prep QC Batch: MP18527
(4) Prep QC Batch: MP18617

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	TC14998-2	Date Sampled:	08/21/12
Matrix:	AQ - Trip Blank Water	Date Received:	08/22/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Battery #40		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K10088.D	1	08/24/12	AK	n/a	n/a	VK451
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	MQL	SDL	Units	Q
71-43-2	Benzene	0.00025 U	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-122%
17060-07-0	1,2-Dichloroethane-D4	95%		75-121%
2037-26-5	Toluene-D8	103%		87-119%
460-00-4	4-Bromofluorobenzene	123%		80-133%

U = Not detected SDL - Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Gulf Coast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

PAGE __

ACCUTEST LABORATORIES

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: TC1

Client / Reporting Information

Company Name: Gen Monitoring Services
Street Address: 4123 5th St.
City: Brookshire State: TX Zip: 77423
Project Contact: Rae Mayer E-mail: rae@geomon.net
Phone #: 281-375-5101 Fax #:
Sampler(s) Name(s): James Flak Phone #:

Project Information

Project Name: Battery #40
Street:
City: Monument State: NM
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

8260 BTEX
TDS/Cl2
Dissolved Metals

Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 BTEX	TDS/Cl2	Dissolved Metals
1	MW 3	8/21/12	1553	JF	GW	5	3											2	✓	✓	✓
2	Trip Blank						2														

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	James Flak	8/21/12 1600	1	2 FedEx	8-22-12 9:30	
3	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:		
5	Relinquished by:	Date Time:	Received By:	Custody Seal #		

4.1 4

TC14998: Chain of Custody
Page 1 of 4

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC14998 **Client:** GEO MONITORING SERVICES **Project:** BATTARY #40

Date / Time Received: 8/22/2012 **Delivery Method:** **Airbill #'s:** 535599231962

No. Coolers: 1 **Therm ID:** IRGUN5; **Temp Adjustment Factor:** -0.4;

Cooler Temps (Initial/Adjusted): #1: (4.6/4.2);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☐ ☑

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	
3. Cooler media:	Ice (Bag)

Quality Control Preservation	Y or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑ ☐	☐	☑	☐
2. Trip Blank listed on COC:	☑ ☐	☐		
3. Samples preserved properly:	☑ ☐			
4. VOCs headspace free:	☑ ☐	☐		

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☐ ☐
3. Sample container label / COC agree:	☐ ☑

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

Comments -[trip blank]: coc does not list matrix, time or date.

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www/accutest.com

TC14998: Chain of Custody
Page 2 of 4

ACCUTEST LABORATORIES

Problem Resolution

Accutest Job Number: TC14998

CSR: _____ **Response Date:** _____

Response:

TC14998: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC14998 **Date / Time Received:** 8/22/2012 **Initials:** CH

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC14998-1	1000ml	1	3G	N/P	Note #2 - Preservative check not applicable.	IRGUN5	4.6	-0.4	4.2
1	TC14998-1	500ml	2	M2C	N/P	Note #2 - Preservative check not applicable.	IRGUN5	4.6	-0.4	4.2
1	TC14998-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4.6	-0.4	4.2
1	TC14998-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4.6	-0.4	4.2
1	TC14998-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4.6	-0.4	4.2
1	TC14998-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4.6	-0.4	4.2
1	TC14998-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4.6	-0.4	4.2

4.1 4

TC14998: Chain of Custody
Page 4 of 4

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK451-MB	K10085.D	1	08/24/12	AK	n/a	n/a	VK451

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	93%	75-121%
2037-26-5	Toluene-D8	101%	87-119%
460-00-4	4-Bromofluorobenzene	122%	80-133%

Method Blank Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3734-MB	Z028371.D	1	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	79-122%
17060-07-0	1,2-Dichloroethane-D4	91%	75-121%
2037-26-5	Toluene-D8	105%	87-119%
460-00-4	4-Bromofluorobenzene	111%	80-133%

Blank Spike Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK451-BS	K10083.D	1	08/24/12	AK	n/a	n/a	VK451

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.8	91	76-118
100-41-4	Ethylbenzene	25	23.5	94	75-112
108-88-3	Toluene	25	23.3	93	77-114
1330-20-7	Xylene (total)	75	71.6	95	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	94%	75-121%
2037-26-5	Toluene-D8	102%	87-119%
460-00-4	4-Bromofluorobenzene	122%	80-133%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3734-BS	Z028369.D	1	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.5	98	76-118
100-41-4	Ethylbenzene	25	24.3	97	75-112
108-88-3	Toluene	25	24.1	96	77-114
1330-20-7	Xylene (total)	75	74.1	99	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	90%	75-121%
2037-26-5	Toluene-D8	102%	87-119%
460-00-4	4-Bromofluorobenzene	110%	80-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15158-1MS	K10093.D	1	08/24/12	AK	n/a	n/a	VK451
TC15158-1MSD	K10094.D	1	08/24/12	AK	n/a	n/a	VK451
TC15158-1	K10092.D	1	08/24/12	AK	n/a	n/a	VK451

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-2

CAS No.	Compound	TC15158-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	22.1	88	21.6	86	2	76-118/16
100-41-4	Ethylbenzene	ND		25	22.4	90	22.0	88	2	75-112/12
108-88-3	Toluene	ND		25	21.9	88	21.6	86	1	77-114/12
1330-20-7	Xylene (total)	ND		75	68.2	91	66.8	89	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC15158-1	Limits
1868-53-7	Dibromofluoromethane	100%	100%	96%	79-122%
17060-07-0	1,2-Dichloroethane-D4	94%	95%	90%	75-121%
2037-26-5	Toluene-D8	100%	101%	98%	87-119%
460-00-4	4-Bromofluorobenzene	123%	121%	119%	80-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC14998
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15039-3MS	Z028379.D	100	08/27/12	EM	n/a	n/a	VZ3734
TC15039-3MSD	Z028380.D	100	08/27/12	EM	n/a	n/a	VZ3734
TC15039-3 [a]	Z028374.D	100	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC14998-1

CAS No.	Compound	TC15039-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	34.4		2500	2610	103	2410	95	8	76-118/16
100-41-4	Ethylbenzene	ND		2500	2560	102	2380	95	7	75-112/12
108-88-3	Toluene	ND		2500	2560	102	2410	96	6	77-114/12
1330-20-7	Xylene (total)	ND		7500	7730	103	7170	96	8	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC15039-3	Limits
1868-53-7	Dibromofluoromethane	156%* [b]	149%* [b]	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	139%* [b]	136%* [b]	89%	75-121%
2037-26-5	Toluene-D8	161%* [b]	152%* [b]	100%	87-119%
460-00-4	4-Bromofluorobenzene	160%* [b]	155%* [b]	110%	80-133%

(a) Sample was not preserved to a pH < 2
(b) Outside control limits biased high.

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18527
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/23/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	6.9	12		
Antimony	5.0	.56	1		
Arsenic	5.0	1	1	0.14	<5.0
Barium	200	.16	3.4	-0.030	<200
Beryllium	4.0	.1	.16		
Boron	100	.39	7.8		
Cadmium	4.0	.15	.09	-0.020	<4.0
Calcium	5000	4	25		
Chromium	10	.22	.27	0.11	<10
Cobalt	50	.25	.22		
Copper	20	.24	5.9		
Iron	100	4.6	23		
Lead	3.0	.65	1.8	0.050	<3.0
Lithium	300	.65	2		
Magnesium	5000	7.7	7.9		
Manganese	15	.09	1.9		
Molybdenum	10	.62	.2		
Nickel	40	.22	1.4		
Potassium	5000	7.6	45		
Selenium	5.0	1.2	.98	1.2	<5.0
Silver	10	.2	.24	-0.26	<10
Sodium	5000	5.7	100		
Strontium	10	.07	.4		
Thallium	10	.83	1.2		
Tin	20	.67	2.8		
Titanium	20	.19	.3		
Vanadium	50	.18	.3		
Zinc	20	.13	3.5		

Associated samples MP18527: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18527
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/23/12

Metal	Original MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18527: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18527
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/23/12

Metal	Original MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP18527: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18527
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/23/12

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	396	400	99.0	80-120
Barium	400	400	100.0	80-120
Beryllium				
Boron				
Cadmium	410	400	102.5	80-120
Calcium				
Chromium	393	400	98.3	80-120
Cobalt				
Copper				
Iron				
Lead	377	400	94.3	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	406	400	101.5	80-120
Silver	374	400	93.5	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18527: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18527
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/23/12

Metal	Original	%DIF	QC Limits
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Lithium			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc			

Associated samples MP18527: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.049	.05	-0.029	<0.20

Associated samples MP18617: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.2.1
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	Original MS	Spikelot HGTXAQ40	% Rec	QC Limits
Mercury				

Associated samples MP18617: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.2.2

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	Original MSD	Spikelot HGTXAQ40 % Rec	MSD RPD	QC Limit

Mercury

Associated samples MP18617: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.2.2

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	BSP Result	Spikelot HGTXAQ40	% Rec	QC Limits
Mercury	3.1	3	103.3	81-122

Associated samples MP18617: TC14998-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.2.3

6

Gulf Coast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP20530/GN44548	0.50	0.0	mg/l	10	9.55	95.5	90-110%
Solids, Total Dissolved	GN44410	10	0.0	mg/l	500	482	96.4	80-120%
Sulfate	GP20530/GN44548	0.50	0.0	mg/l	10	10.1	101.0	90-110%

Associated Samples:
Batch GN44410: TC14998-1
Batch GP20530: TC14998-1
(*) Outside of QC limits

7.1

7

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP20530/GN44548	TC14997-1	mg/l	1800	1810	0.6	0-20%
Solids, Total Dissolved	GN44410	TC14721-1	mg/l	723	729	0.8	0-5%
Sulfate	GP20530/GN44548	TC14997-1	mg/l	1690	1690	0.0	0-20%

Associated Samples:
Batch GN44410: TC14998-1
Batch GP20530: TC14998-1
(*) Outside of QC limits

7.2

7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC14998
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP20530/GN44548	TC14997-1	mg/l	1800	2000	3980	109.0	80-120%
Sulfate	GP20530/GN44548	TC14997-1	mg/l	1690	2000	3840	107.5	80-120%

Associated Samples:
Batch GP20530: TC14998-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Gulf Coast
ACCUTEST
LABORATORIES

10/01/12

Technical Report for

Geo Monitoring Services

Battery #40

Oxy State E Battery 40

Accutest Job Number: TC15104

Sampling Date: 08/22/12

Report to:

james@geomon.net

Total number of pages in report: **30**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-12-8) AR (11-028-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) OK (211-035)

Sections: 1 2 3 4 5 6 7

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Sample Summary

Geo Monitoring Services

Job No: TC15104

Battery #40
Project No: Oxy State E Battery 40

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
TC15104-1	08/22/12	15:35		08/23/12	AQ	Ground Water	MW4
TC15104-1F	08/22/12	15:35		08/23/12	AQ	Groundwater Filtered	MW4

Summary of Hits

Job Number: TC15104
Account: Geo Monitoring Services
Project: Battery #40
Collected: 08/22/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TC15104-1	MW4					
Benzene		0.0012	0.0010	0.00025	mg/l	SW846 8260B
Chloride		391	25	13	mg/l	EPA 300/SW846 9056
Solids, Total Dissolved		1140	10	6.0	mg/l	SM 2540C
TC15104-1F	MW4					
Arsenic		0.0147	0.0050	0.0010	mg/l	SW846 6010B
Barium		0.317	0.20	0.0034	mg/l	SW846 6010B
Chromium		0.00075 J	0.010	0.00027	mg/l	SW846 6010B
Lead		0.0032	0.0030	0.0018	mg/l	SW846 6010B
Silver		0.00075 J	0.010	0.00024	mg/l	SW846 6010B

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW4		
Lab Sample ID:	TC15104-1	Date Sampled:	08/22/12
Matrix:	AQ - Ground Water	Date Received:	08/23/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Battery #40		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028382.D	1	08/27/12	EM	n/a	n/a	VZ3734
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	MQL	SDL	Units	Q
71-43-2	Benzene	0.0012	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.00026 U	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00025 U	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.00071 U	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	90%		75-121%
2037-26-5	Toluene-D8	104%		87-119%
460-00-4	4-Bromofluorobenzene	114%		80-133%

U = Not detected SDL - Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW4		
Lab Sample ID:	TC15104-1	**Date Sampled:**	08/22/12
Matrix:	AQ - Ground Water	**Date Received:**	08/23/12
		Percent Solids:	n/a
Project:	Battery #40		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	391	25	13	mg/l	50	08/29/12 16:22	RA	EPA 300/SW846 9056
Solids, Total Dissolved	1140	10	6.0	mg/l	1	08/24/12	BG	SM 2540C

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW4		
Lab Sample ID:	TC15104-1F	**Date Sampled:**	08/22/12
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/23/12
		Percent Solids:	n/a
Project:	Battery #40		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	0.0147	0.0050	0.0010	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Barium	0.317	0.20	0.0034	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Cadmium	0.000090 U	0.0040	0.000090	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Chromium	0.00075 J	0.010	0.00027	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Lead	0.0032	0.0030	0.0018	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Mercury	0.000050 U	0.00020	0.000050	mg/l	1	09/04/12	09/04/12	NS	SW846 7470A [2]	SW846 7470A [4]
Selenium	0.00098 U	0.0050	0.00098	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]
Silver	0.00075 J	0.010	0.00024	mg/l	1	08/29/12	08/31/12	NS	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA7256
(2) Instrument QC Batch: MA7265
(3) Prep QC Batch: MP18579
(4) Prep QC Batch: MP18617

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

PAGE 1 OF 1

ACCUTEST LABORATORIES

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: TC15104

Client / Reporting Information

Company Name: Geo Monitoring Services
Street Address: 4123 5th St.
City State Zip: Brookshire TX 77423
Project Contact: Rex Meyer E-mail: rex@geomon.net
Phone #: 281-375-5105 Fax #:
Sampler(s) Name(s): James Flake Phone #: 843-343-6236

Project Information

Project Name: Oxy State E Battery 40
Street:
City State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analyses

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	Zn Ac/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX 8260	TDS/CHL	Dissolved Metals	LAB USE ONLY
1	MW-4	8/22/12	1535	TF	GW	5	3											2	X	X	X	

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Data:

Data Deliverable Information

- [X] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	James E. Flake	8/22/12 1300	1	2	8/23/12 915	2
3			3	4		4
5			5	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.

4.1 4

TC15104: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC15104 **Client:** GEO MONITORING **Project:** OXY STATE E BATTERY 40

Date / Time Received: 8/23/2012 **Delivery Method:** **Airbill #'s:** 535599231745

No. Coolers: 1 **Therm ID:** IRGUN5; **Temp Adjustment Factor:** -0.4;

Cooler Temps (Initial/Adjusted): #1: (4/3.6);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☑ ☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	
3. Cooler media:	Ice (Bag)

Quality Control Preservation	Y or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐ ☑	☐	☐	☐
2. Trip Blank listed on COC:	☐ ☑	☐		
3. Samples preserved properly:	☑ ☐			
4. VOCs headspace free:	☑ ☐	☐		

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

Comments

TC15104: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: TC15104 **Date / Time Received:** 8/23/2012 9:15:00 AM **Initials:** BG

Client: GEO MONITORING

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC15104-1	1000ml	1	3G	N/P	Note #2 - Preservative check not applicable.	IRGUN5	4	-0.4	3.6
1	TC15104-1	500ml	2	M2D	N/P	Note #2 - Preservative check not applicable.	IRGUN5	4	-0.4	3.6
1	TC15104-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4	-0.4	3.6
1	TC15104-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4	-0.4	3.6
1	TC15104-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	4	-0.4	3.6

TC15104: Chain of Custody
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Gulf Coast ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TC15104
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3734-MB	Z028371.D	1	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC15104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	79-122%
17060-07-0	1,2-Dichloroethane-D4	91%	75-121%
2037-26-5	Toluene-D8	105%	87-119%
460-00-4	4-Bromofluorobenzene	111%	80-133%

Blank Spike Summary

Job Number: TC15104
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3734-BS	Z028369.D	1	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC15104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.5	98	76-118
100-41-4	Ethylbenzene	25	24.3	97	75-112
108-88-3	Toluene	25	24.1	96	77-114
1330-20-7	Xylene (total)	75	74.1	99	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	90%	75-121%
2037-26-5	Toluene-D8	102%	87-119%
460-00-4	4-Bromofluorobenzene	110%	80-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TC15104
Account: GMSTXFU Geo Monitoring Services
Project: Battery #40

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15039-3MS	Z028379.D	100	08/27/12	EM	n/a	n/a	VZ3734
TC15039-3MSD	Z028380.D	100	08/27/12	EM	n/a	n/a	VZ3734
TC15039-3 [a]	Z028374.D	100	08/27/12	EM	n/a	n/a	VZ3734

The QC reported here applies to the following samples: Method: SW846 8260B

TC15104-1

CAS No.	Compound	TC15039-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	34.4		2500	2610	103	2410	95	8	76-118/16
100-41-4	Ethylbenzene	ND		2500	2560	102	2380	95	7	75-112/12
108-88-3	Toluene	ND		2500	2560	102	2410	96	6	77-114/12
1330-20-7	Xylene (total)	ND		7500	7730	103	7170	96	8	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC15039-3	Limits
1868-53-7	Dibromofluoromethane	156%* [b]	149%* [b]	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	139%* [b]	136%* [b]	89%	75-121%
2037-26-5	Toluene-D8	161%* [b]	152%* [b]	100%	87-119%
460-00-4	4-Bromofluorobenzene	160%* [b]	155%* [b]	110%	80-133%

(a) Sample was not preserved to a pH < 2
(b) Outside control limits biased high.

* = Outside of Control Limits.

Gulf Coast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18579
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	6.9	12		
Antimony	5.0	.56	1		
Arsenic	5.0	1	1	0.89	<5.0
Barium	200	.16	3.4	0.030	<200
Beryllium	4.0	.1	.16		
Boron	100	.39	7.8		
Cadmium	4.0	.15	.09	0.010	<4.0
Calcium	5000	4	25		
Chromium	10	.22	.27	-0.060	<10
Cobalt	50	.25	.22		
Copper	20	.24	5.9		
Iron	100	4.6	23		
Lead	3.0	.65	1.8	0.10	<3.0
Lithium	300	.65	2		
Magnesium	5000	7.7	7.9		
Manganese	15	.09	1.9		
Molybdenum	10	.62	.2		
Nickel	40	.22	1.4		
Potassium	5000	7.6	45		
Selenium	5.0	1.2	.98	-0.41	<5.0
Silver	10	.2	.24	0.060	<10
Sodium	5000	5.7	100		
Strontium	10	.07	.4		
Thallium	10	.83	1.2		
Tin	20	.67	2.8		
Titanium	20	.19	.3		
Vanadium	50	.18	.3		
Zinc	20	.13	3.5		

Associated samples MP18579: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18579
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/12

Metal	TC15104-1F Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	14.7	413	400	99.6	75-125
Barium	317	698	400	95.3	75-125
Beryllium					
Boron					
Cadmium	0.0	404	400	101.0	75-125
Calcium					
Chromium	0.75	377	400	94.1	75-125
Cobalt					
Copper					
Iron					
Lead	3.2	388	400	96.2	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	0.0	425	400	106.3	75-125
Silver	0.75	404	400	100.8	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP18579: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18579
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/12

Metal	TC15104-1F Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	14.7	411	400	99.1	0.5	20
Barium	317	746	400	107.3	6.6	20
Beryllium						
Boron						
Cadmium	0.0	414	400	103.5	2.4	20
Calcium						
Chromium	0.75	377	400	94.1	0.0	20
Cobalt						
Copper						
Iron						
Lead	3.2	395	400	98.0	1.8	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.0	439	400	109.8	3.2	20
Silver	0.75	404	400	100.8	0.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP18579: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18579
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/12

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	401	400	100.3	80-120
Barium	406	400	101.5	80-120
Beryllium				
Boron				
Cadmium	407	400	101.8	80-120
Calcium				
Chromium	398	400	99.5	80-120
Cobalt				
Copper				
Iron				
Lead	395	400	98.8	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	421	400	105.3	80-120
Silver	401	400	100.3	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18579: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18579
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/12

Metal	TC15104-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	14.7	20.7	40.9 (a)	0-10
Barium	317	320	1.0	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.750	1.24	65.3 (a)	0-10
Cobalt				
Copper				
Iron				
Lead	3.21	0.00	100.0(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silver	0.750	2.08	177.3(a)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18579: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.049	.05	-0.029	<0.20

Associated samples MP18617: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.2.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	Original MS	Spikelot HGTXAQ40 % Rec	QC Limits
Mercury			

Associated samples MP18617: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.2.2

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	Original MSD	Spikelot HGTXAQ40 % Rec	MSD RPD	QC Limit
Mercury				

Associated samples MP18617: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

QC Batch ID: MP18617
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/04/12

Metal	BSP Result	Spikelot HGTXAQ40	% Rec	QC Limits
Mercury	3.1	3	103.3	81-122

Associated samples MP18617: TC15104-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.2.3

6

Gulf Coast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP20553/GN44591	0.50	0.0	mg/l	10	9.78	97.8	90-110%
Solids, Total Dissolved	GN44478	10	0.0	mg/l	500	482	96.4	80-120%

Associated Samples:
Batch GN44478: TC15104-1
Batch GP20553: TC15104-1
(*) Outside of QC limits

7.1

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP20553/GN44591	TC15203-3	mg/l	530	537	1.3	0-20%
Solids, Total Dissolved	GN44478	TC15030-1	mg/l	1090	1080	0.9	0-5%

Associated Samples:
Batch GN44478: TC15104-1
Batch GP20553: TC15104-1
(*) Outside of QC limits

7.2 7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC15104
Account: GMSTXFU - Geo Monitoring Services
Project: Battery #40

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP20553/GN44591	TC15203-3	mg/l	530	500	1580	210.0N	80-120%

Associated Samples:
Batch GP20553: TC15104-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

7.3

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