

AP-57

**Monitoring
Report**

August, 2012



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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
Texaco New Mexico G State Battery #22 AP-57
Unit N, Sec 19, T-19S, R-37E, Lea County

Dear Mr. Von Gonten:

Enclosed please find the Groundwater Monitoring Report for the Texaco New Mexico G State Battery #22 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 conduct a bail down test to determine liquid phase hydrocarbons (LPH) well yields in monitoring wells MW-9 and MW-10. This information will be used to select the most appropriate LPH recovery method.

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

TEXACO NEW MEXICO G STATE BATTERY #22

LEA COUNTY, NEW MEXICO

GROUNDWATER MONITORING REPORT SAMPLED AUGUST 2012

Prepared for:



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1.0 INTRODUCTION

The G-LACT Battery #22 site is located north of Monument, New Mexico in southern Lea County. The legal description of the site is Unit Letter N, of Section 19, Township 19 South, and Range 37 East. The site was formerly a tank battery and associated pit operated from the late 1930's until 1991 when it was decommissioned by the Hess Corporation (Hess). The site lies near the bottom of a small draw which contains a small perennial waterway with several depressions that occasionally hold one to two feet (ft) of water. During heavy rainfall, this draw carries water downhill to the southeast towards Monument Draw. It is also likely that this draw is an area of local recharge for the unconfined Ogallala aquifer underlying the site due to the shallow groundwater depth in this area [less than 30 ft below ground surface (bgs)] A regional location map showing the site location is included as **Figure 1**.

On December 5, 2005, the New Mexico Oil Conservation Division (NMOCD) approved a generic work plan submitted by Hess Corporation (Hess) to investigate and remediate locations within the North Monument Grayburg San Andreas Unit (NMGSAU) that have historical contamination. The G-LACT Battery #22 site was included in this generic work plan and site assessment and remediation activities began in May 2006.

May 4, 2006, site assessment and remediation began with the excavation of the battery and associated pit. On May 5, 2006, two soils samples were taken from the areas of excavation that appeared to have hydrocarbon impacted soils. These two soil samples were submitted to a laboratory and analyzed for total petroleum hydrocarbons (TPH) for both gasoline range organics (GRO) and diesel range organics (DRO). The samples were also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). The laboratory results did not identify any constituents of concern (COC) above NMOCD guidelines.

On May 11, 2006, three additional soil samples were collected, one to characterize soils for disposal and two additional samples from within the open excavations beneath the battery pad and the associated pit. The soil characterization sample indicated that the soil could not be disposed of via landfarm due to chloride concentrations below 1,000 milligrams per kilogram (mg/kg). The results of the soil sample collected from the excavation beneath the associated pit identified TPH concentrations above NMOCD guidelines, indicating that additional soils would have to be excavated in this area. Due to these results, the excavation area beneath the associated pit was extended an additional three feet. The results of the soil sample collected from the excavation beneath the battery pad identified TPH concentrations were below NMOCD guidelines, indicating that the excavation in the area of the battery pad was complete.

On May 22, 2006, upon completion of the additional excavation, two additional soil samples were collected from the excavation area beneath the associated pit. The analytical results from both of these samples identified TPH concentrations above NMOCD guidelines. At this time, Hess determined that a drilling rig was required to determine if contamination had impacted the groundwater below the associated pit.

Beginning June 6, 2006, drilling and soil sampling in proximity to the associated pit commenced. Two soil borings were drilled (SB-1 and SB-2) and soil samples were submitted from each location. The results indicated hydrocarbon impact from 15 ft bgs to the groundwater at 22 ft bgs. Soil boring SB-1 was backfilled and soil boring SB-2 was converted to monitoring well MW-1. NMOCD was then notified of possible groundwater contamination at the site. NMOCD then directed Hess to submit a Stage 1 Abatement Plan.

On June 8, 2006, MNOCD granted approval to proceed with the work proposed in the Abatement Plan. That same day, soil boring, soils sampling, and monitoring well installation continued at the site. Four soil borings were completed, two of which were converted to monitoring wells.

On June 20, 2006, eleven closing soil samples were collected from the floor of the battery pad excavation and submitted for laboratory analysis. Analysis showed that the sampled were below NMOCD guidelines and the battery pad excavation could be closed and backfilled. From July 18-20, 2006, the battery pad excavation was backfilled with 2,780 cubic yards of soil.

On July 10, 2006, four additional soil borings were drilled in the vicinity of the associated pit excavation, three of which were converted to monitoring wells. At this point, six monitoring wells had been installed and it was decided that the extent of the contamination had been delineated.

On July 11, 2006 NMOCD approved a proposal to backfill the associated pit excavation. On August 10, 2006, the associated pit was backfilled with 2,076 cubic yards of fine soils from 15 ft bgs to 6 ft bgs, 264 cubic yards of clay from 5 ft bgs to 6 ft bgs, and 4,932 cubic yards of topsoil from the ground surface to 5 ft bgs. The extent of both the battery pad excavation and the associated pit excavation can be seen on **Figure 2**.

On August 23-24, 2006, all six monitoring wells were sampled with the exception of monitoring well MW-3 which, upon gauging, contained 0.46 ft of liquid phase hydrocarbon (LPH). Samples from the remaining monitoring wells were analyzed for volatile organic compounds (VOC's), semi-volatile organic compounds (SVOC's), metals, and total dissolved solids (TDS). All analytical results were within NMOCD guidelines.

On November 1, 2006 an addendum was requested by NMOCD for the Stage 1 Abatement Plan which included the installation of additional groundwater monitoring wells.

On December 4, 2008, six groundwater monitoring wells were installed onsite. On December 17, 2008, these six wells were developed and a groundwater sample was collected from each well and analyzed for BTEX, TPH, Polynuclear Aromatic Hydrocarbons (PAH's), TDS, Chloride, Nitrate/Nitrite, Cyanide, and Total Mercury. All

constituents were either non-detect or below NMOCD standards for all samples except for PAH's in monitoring well MW-9 and MW-10.

In July 2009, all 12 monitoring wells onsite were purged and sampled. Analysis included BTEX, Total Metals, SVOC's, Cyanide, TDS, Chloride, Fluoride, Sulfate, Nitrate, Dissolved Calcium, Potassium, Magnesium, and Sodium. All constituents were either non-detect or below NMOCD standards except for Barium in monitoring well MW-9, SVOC's in monitoring wells MW-3 and MW-9, and TDS in monitoring wells MW-5, MW-8, and MW-9.

2.0 MONITORING WELL GAUGING ACTIVITIES

All 12 monitoring wells onsite were gauged on August 22-24, 2012, with the exception of MW-9 and MW-10. MW-9 was gauged on July 24, 2012 and contained 5.05 ft of LPH, MW-10 was gauged on MW-10 and contained 2.70 ft of LPH. The monitoring well locations are shown on **Figure 2**.

The depth to water (DTW) and presence of LPH, if any, were gauged using an oil/water interface probe capable of measuring to the nearest 0.01 ft. The groundwater level measurements were converted to groundwater elevations using the top of monitoring well casing elevations. Groundwater elevations were adjusted for the presence of LPH, as appropriate.

As shown in **Table 1** and on **Figure 3**, groundwater elevations ranged from 3,631.99 feet mean sea level (ft msl) in monitoring well MW-11 to 3,634.38 ft msl in monitoring well MW-7. The interpreted groundwater flow direction is to the southeast, which is consistent with the historical groundwater flow direction.

3.0 MONITORING WELL DEVELOPMENT ACTIVITIES

Due to the long period of time since the previous sampling event, all wells onsite were redeveloped by BBC International, Inc. on July 17-24, 2012 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-1 had a DTW of 22.50 ft, monitoring well MW-2 had a DTW of 21.61, monitoring well MW-3 was dry, monitoring well MW-4 had a DTW of 26.75 ft, monitoring well MW-5 had a DTW of 29.58 ft, monitoring well MW-6 had a DTW of 23.40 ft, monitoring well MW-7 had a DTW of 28.02 ft, monitoring well MW-8 had a DTW of 25.60 ft, monitoring well MW-9 had a DTW of 29.48 ft, monitoring well MW-10 had a DTW of 25.25 ft, monitoring well MW-11 had a DTW of 26.30 ft, and monitoring well MW-12 had a DTW of 28.60 ft. Between 7 and 35 gallons of groundwater were purged from each monitoring well during well development. Well development data can be found on **Table 3**.

4.0 MONITORING WELL SAMPLING ACTIVITIES

On August 23-24, 2012, all monitoring wells onsite were sampled, except for MW-3 which was dry, MW-9, which contained 5.05 ft of LPH, and MW-10, which contained 2.70 ft of LPH.

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 6.29 standard units (s.u.) at monitoring well MW-12 to 6.87 s.u. at monitoring wells MW-1 and MW-7. Conductivity ranged from 1,528 micro-ohms per centimeter squared ($\mu\text{ohms}/\text{cm}^2$) at monitoring well MW-8 to 498 $\mu\text{ohms}/\text{cm}^2$ at monitoring well MW-2. D.O. ranged from -16.71 mg/L at monitoring well MW-8 to -1.16 mg/L at monitoring well MW-4. The temperature ranged from 16.75°C at monitoring well MW-1 to 24.51 °C at monitoring well MW-12. Salinity ranged from 0.27 parts per thousand in monitoring well MW-2 to 0.85 parts per thousand in monitoring well MW-8. And ORP ranged from 33.1 millivolts (mV) in monitoring well MW-1 to 104.8 mV in monitoring well MW-12.

Groundwater laboratory analysis included analysis of BTEX tested under EPA Method No. 8260B, PAH analysis under EPA Method No. 8270C, Broad Spectrum Analysis of Total Petroleum Hydrocarbons Gasoline Range Organics (TPH-GRO) under EPA Method No. 8015, and Broad Spectrum Analysis of Total Petroleum Hydrocarbons Diesel Range Organics (TPH-DRO) under EPA Method No. 8015, Chlorides under EPA Method No. 300, and Total Suspended Solids (TSS) under EPA Method No. 2540C.

Laboratory analysis did not identify any constituents of concern in excess of the New Mexico Water Quality Control Commission (NM WQCC) Standards for any of the groundwater samples analyzed.

Benzene concentrations were only identified in two groundwater samples, monitoring well MW-4 with a concentration of 0.74J $\mu\text{g}/\text{L}$ and monitoring well MW-11 with a concentration of 0.28J $\mu\text{g}/\text{L}$.

Toluene, Ethylbenzene, Xylenes, PAH's, and TPH-GRO (C6-C10) were not detected in any monitoring wells during this sampling event.

TPH-DRO (C10-C28) analysis identified a concentration of 100 mg/L in monitoring well MW-1, 0.0445J mg/L in monitoring well MW-2, 0.686 mg/L in monitoring well MW-4, 0.0841J mg/L in monitoring well MW-5, 0.214 mg/L in monitoring well MW-6, 0.0507J

mg/L in monitoring well MW-7, 0.0932J mg/L in monitoring well MW-8, 0.370 mg/L in monitoring well MW-11, and 0.113 mg/L in monitoring well MW-12.

Chloride analysis identified a concentration of 80.9 mg/L in monitoring well MW-1, 15.9 mg/L in monitoring well MW-2, 182 mg/L in monitoring well MW-4, 187 mg/L in monitoring well MW-5, 95.3 mg/L in monitoring well MW-6, 54.5 mg/L in monitoring well MW-7, 230 mg/L in monitoring well MW-8, 95.1 mg/L in monitoring well MW-11, and 195 mg/L in monitoring well MW-12.

TSS analysis identified a concentration of 54.7 mg/L in monitoring well MW-1, 27.0 mg/L in monitoring well MW-2, 2.7 mg/L in monitoring well MW-4, 16.0 mg/L in monitoring well MW-5, 9.7 mg/L in monitoring well MW-6, 36.3 mg/L in monitoring well MW-7, 24.3 mg/L in monitoring well MW-8, 37.3 mg/L in monitoring well MW-11, and 157 mg/L in monitoring well MW-12. **Table 2** and **Figure 4** provides a summary of the groundwater analytical results. The laboratory analytical report is included in **Appendix A**.

5.0 CONCLUSIONS AND PROPOSALS

Laboratory analysis did not identify any constituents of concern in excess of the EPA National Primary Drinking Water Standards for any of the groundwater samples analyzed. However, monitoring wells MW-9 and MW-10 were gauged with 5.05 and 2.70 ft of LPH, respectively. Based on these results, Hess proposes to conduct a bail down test to determine LPH well yields in monitoring wells MW-9 and MW-10. This information will be used to select the most appropriate LPH recovery method. Bail down testing will be completed during the next groundwater monitoring event, which is scheduled for the 1st quarter in 2013.

Table 1
Groundwater Field Data Summary
Texaco NM G State Battery #22
August 23-24, 2012

Well No.	Casing Diameter (inches)	Date	Top of Casing to Water (feet)	Top of Casing Elevation (feet)	Groundwater Elevation (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	8/23/2012	22.62	3,656.47	3,633.85	31.00	230	230	2.5	None None	Initial Reading Stabilized Reading	6.97 6.87	891 868	-11.67 -6.73	20.22 18.75	0.48 0.48	21.4 33.1
MW-2	2	8/23/2012	21.73	3,654.85	3,633.12	28.80	240	240	2	None None	Initial Reading Stabilized Reading	6.80 6.79	599 498	-14.06 -8.93	20.77 20.20	0.32 0.27	40.1 41.2
MW-3	2	8/22/2012	Dry	3,656.43	--	--	--	--	--	-- --	Initial Reading Stabilized Reading	-- --	-- --	-- --	-- --	-- --	-- --
MW-4	2	8/23/2012	26.87	3,659.16	3,632.29	33.45	235	235	2.5	None None	Initial Reading Stabilized Reading	6.82 6.76	1,207 1,185	0.48 -1.16	21.82 21.08	0.64 0.63	17.4 37.6
MW-5	2	8/23/2012	29.70	3,662.34	3,632.64	36.00	255	255	2.5	None None	Initial Reading Stabilized Reading	6.59 6.49	1,340 1,336	-9.73 -7.53	25.21 23.77	0.67 0.69	45.9 88.3
MW-6	2	8/23/2012	23.51	3,655.85	3,632.34	33.33	250	250	3	None None	Initial Reading Stabilized Reading	6.66 6.57	928 878	-16.65 -7.40	22.03 21.24	0.49 0.47	47.9 61.8
MW-7	2	8/24/2012	28.08	3,662.46	3,634.38	35.10	250	250	2.5	None None	Initial Reading Stabilized Reading	6.80 6.87	571 548	-14.37 -8.25	20.53 20.23	0.30 0.29	43.5 39.6
MW-8	2	8/24/2012	25.75	3,659.58	3,633.83	35.35	225	225	2.25	None None	Initial Reading Stabilized Reading	6.48 6.42	1,545 1,528	-19.71 -16.71	20.88 20.48	0.85 0.85	50.7 47.3
MW-9	2	--	--	3,657.98	--	33.00	--	--	--	LPH in Well (5.05 feet) Well Not Sampled	Initial Reading Stabilized Reading	-- --	-- --	-- --	-- --	-- --	-- --
MW-10	2	--	--	3,655.65	--	33.00	--	--	--	LPH in Well (2.70 feet) Well Not Sampled	Initial Reading Stabilized Reading	-- --	-- --	-- --	-- --	-- --	-- --
MW-11	2	8/23/2012	24.38	3,656.37	3,631.99	32.60	225	225	2	None None	Initial Reading Stabilized Reading	8.80 6.83	864 861	-17.20 -12.42	21.55 21.00	0.46 0.46	49.8 44.4
MW-12	2	8/23/2012	28.72	3,661.68	3,632.96	37.40	230	230	2	None None	Initial Reading Stabilized Reading	6.51 6.29	1,520 1,459	-9.04 -6.31	25.46 24.51	0.75 0.74	51.8 104.8

NOTE:
LPH = liquid phase hydrocarbon
ml/min = milliliters per minute
gals = gallons
s.u. = standard unit
 μ ohms/cm² = 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
Texaco NM G State Battery #22
August 23-24, 2012

	Units	MW-1	MW-2	MW-4	MW-5	MW-6	MW-7	MW-8	MW-11	MW-12	NM WQCC Standards
Date Sampled		8/23/2012	8/23/2012	8/23/2012	8/23/2012	8/23/2012	8/24/2012	8/24/2012	8/23/2012	8/23/2012	
BTEX (Method 8260B)											
Benzene	µg/L	<0.25	<0.25	0.74J	<0.25	<0.25	<0.25	<0.25	0.28J	<0.25	5
Toluene	µg/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	750
Ethylbenzene	µg/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	750
Xylenes	µg/L	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	620
PAHs (Method 8270C)											
Acenaphthene	µg/L	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	NONE
Acenaphthylene	µg/L	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	<0.072	NONE
Anthracene	µg/L	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	NONE
Benzo(a)anthracene	µg/L	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	NONE
Benzo(a)pyrene	µg/L	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	0.7
Benzo(b)fluoranthene	µg/L	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	NONE
Benzo(g,h,i)perylene	µg/L	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	NONE
Benzo(k)fluoranthene	µg/L	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	NONE
Chrysene	µg/L	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	NONE
Dibenzo(a,h)anthracene	µg/L	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	NONE
Fluoranthene	µg/L	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	NONE
Fluorene	µg/L	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	<0.065	NONE
Indeno(1,2,3-cd)pyrene	µg/L	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	NONE
2-Methylnaphthalene	µg/L	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	NONE
Naphthalene	µg/L	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	NONE
Phenanthrene	µg/L	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	<0.076	NONE
Pyrene	µg/L	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	NONE
TPH (Method 8015)											
TPH-GRO (C6-C10)	mg/L	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	NONE
TPH-DRO (C10-C28)	mg/L	100	0.0445J	0.686	0.0841J	0.214	0.0507J	0.0932J	0.370	0.113	NONE
Chloride											
Chloride	mg/L	80.9	15.9	182	187	95.3	54.5	230	95.1	195	250
Total Suspended Solids											
TSS	mg/L	54.7	27.0	2.7	16.0	9.7	36.3	24.3	37.3	157	NONE

NOTE:

NM WQCC = New Mexico Water Quality Control Commission

µg/L = micrograms per Liter

mg/L = milligrams per Liter

J = Indicates an estimated value

NONE = no NM WQCC Standard for this constituent

Table 3
Well Development Data
Texaco NM G State Battery #22
July 17-24, 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	7/17/2012	22.50	3,656.47	3,633.97	31.00	--	0	10
MW-2	7/17/2012	21.61	3,654.85	3,633.24	29.80	--	0	8
MW-3	--	DRY	3,656.43	--	--	--	0	--
MW-4	7/17/2012	26.75	3,659.16	3,632.41	33.45	--	0	10
MW-5	7/17/2012	29.58	3,662.34	3,632.76	36.00	--	0	10
MW-6	7/17/2012	23.40	3,655.85	3,632.45	33.33	--	0	10
MW-7	7/17/2012	28.02	3,662.46	3,634.44	35.10	--	0	8
MW-8	7/17/2012	25.60	3,659.58	3,633.98	35.35	--	0	9
MW-9	7/24/2012	29.48	3,657.98	3,628.50	33.00	24.43	5.05	35
MW-10	7/19/2012	25.25	3,655.65	3,630.40	33.00	22.55	2.70	11
MW-11	7/17/2012	26.30	3,656.37	3,630.07	32.60	--	0	7
MW-12	7/17/2012	28.60	3,661.68	3,633.08	37.40	--	0	8

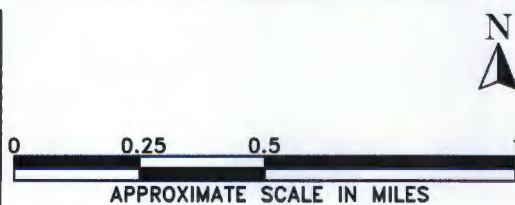
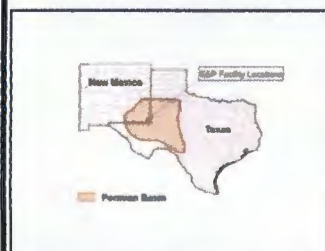
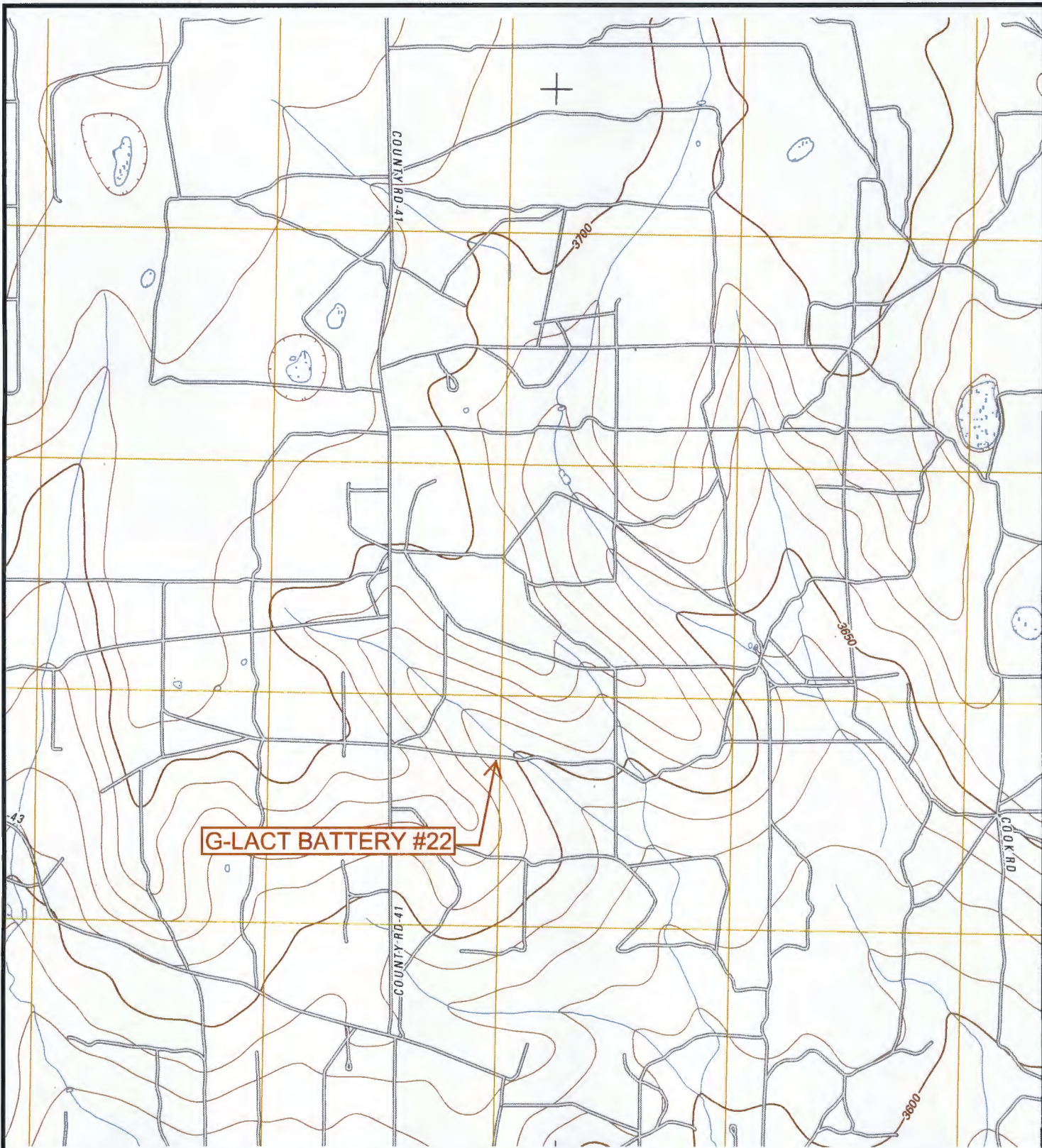
NOTE:

LPH = liquid phase hydrocarbon

-- = not applicable or not taken

DRY = well dry

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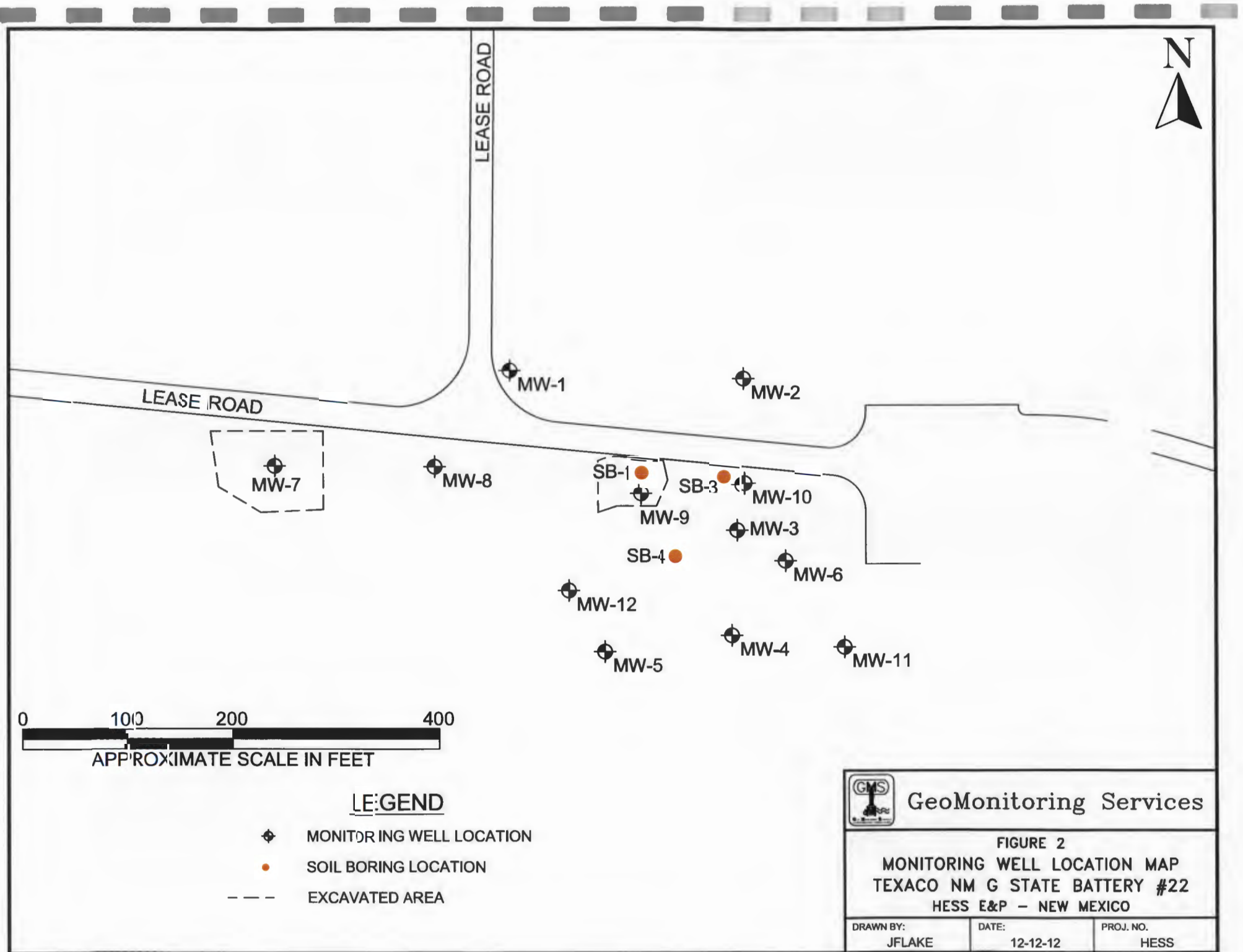
FIGURE 1
REGIONAL LOCATION MAP
TEXACO NM G STATE BATTERY #22
LEA COUNTY, NEW MEXICO

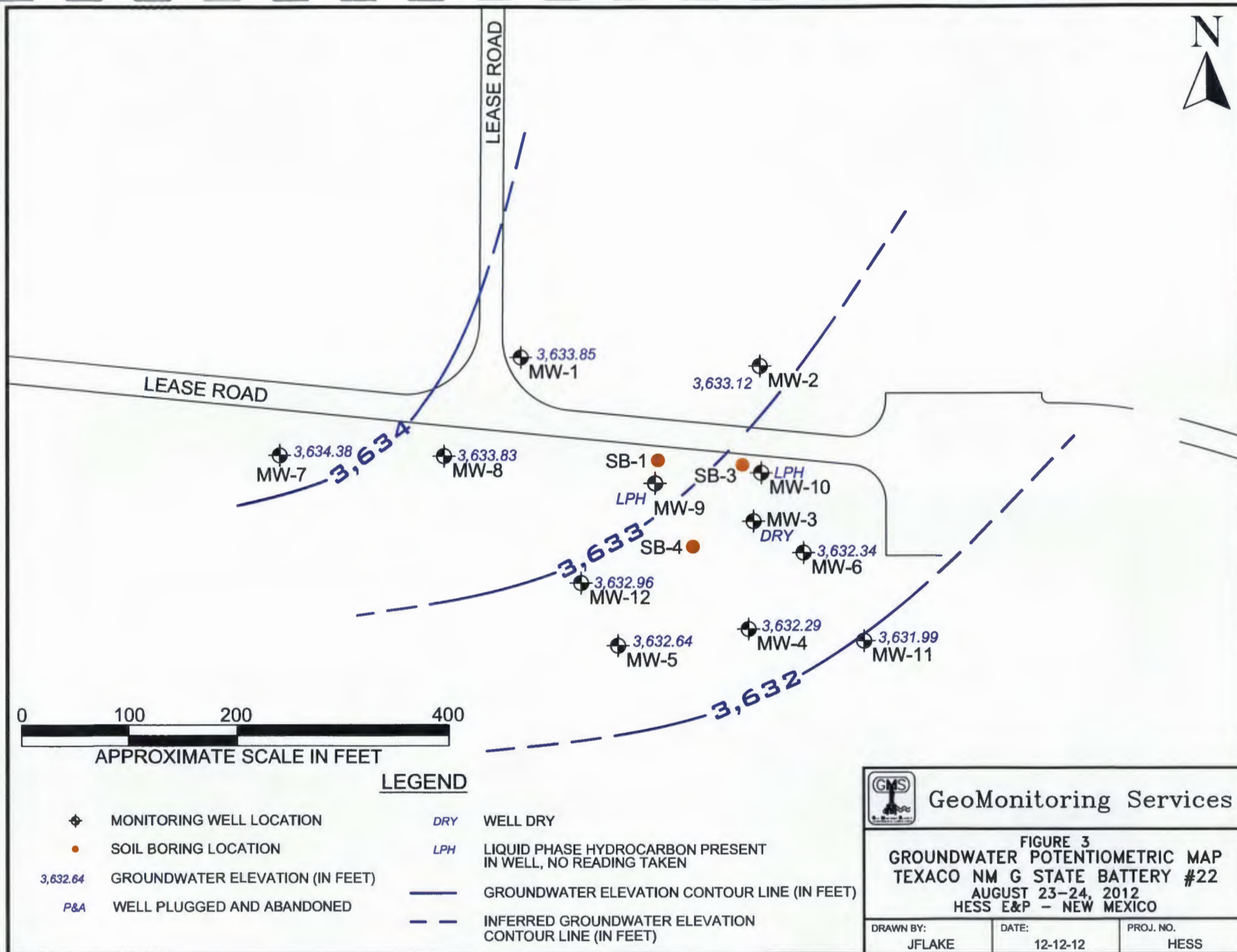
DRAWN BY:
JFLAKE

DATE:
12-12-12

PROJ. NO.
HESS

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





GeoMonitoring Services

FIGURE 3

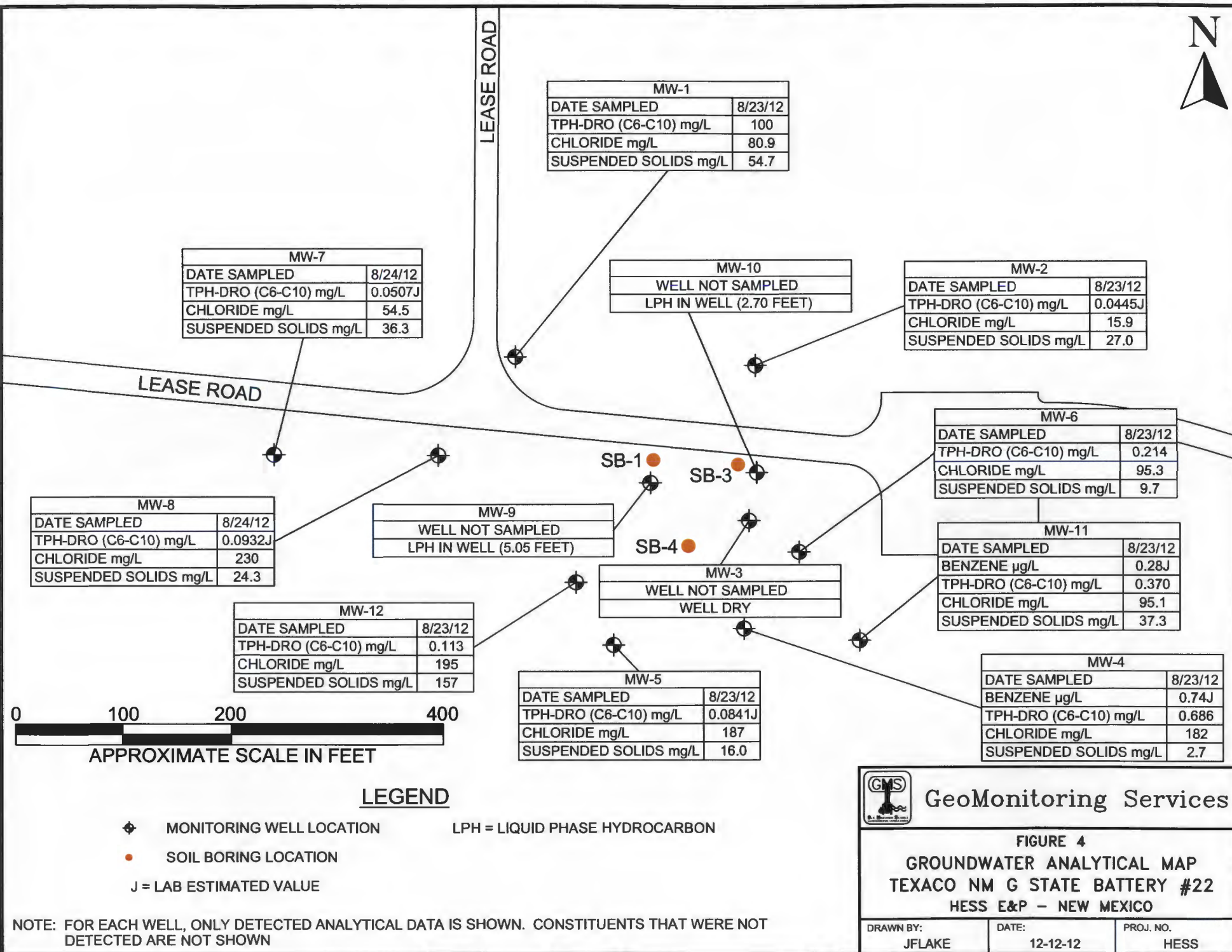
GROUNDWATER POTENTIOMETRIC MAP

TEXACO NM G STATE BATTERY #22

AUGUST 23-24, 2012

HESS E&P - NEW MEXICO

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

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10/01/12

Technical Report for

Geo Monitoring Services

G-Lact Battery 22

Accutest Job Number: TC15248

Sampling Dates: 08/23/12 - 08/24/12


Report to:

james@geomon.net

Total number of pages in report: 82



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)

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Test results relate only to samples analyzed.

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Sample Summary

Geo Monitoring Services

Job No: TC15248

G-Lact Battery 22

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
TC15248-1	08/23/12	09:45	08/25/12	AQ	Ground Water	MW-1
TC15248-2	08/23/12	10:38	08/25/12	AQ	Ground Water	MW-2
TC15248-3	08/23/12	13:26	08/25/12	AQ	Ground Water	MW-4
TC15248-4	08/23/12	15:07	08/25/12	AQ	Ground Water	MW-5
TC15248-5	08/23/12	14:20	08/25/12	AQ	Ground Water	MW-6
TC15248-6	08/24/12	09:31	08/25/12	AQ	Ground Water	MW-7
TC15248-7	08/24/12	10:30	08/25/12	AQ	Ground Water	MW-8
TC15248-8	08/23/12	11:38	08/25/12	AQ	Ground Water	MW-11
TC15248-9	08/23/12	16:06	08/25/12	AQ	Ground Water	MW-12
TC15248-10	08/23/12	00:00	08/25/12	AQ	Trip Blank Water	TRIP BLANK

Summary of Hits

Page 1 of 2

Job Number: TC15248
Account: Geo Monitoring Services
Project: G-Lact Battery 22
Collected: 08/23/12 thru 08/24/12

2

Lab Sample ID	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TC15248-1	MW-1					
TPH (C10-C28)		0.100	0.10	0.031	mg/l	SW846 8015 M
Chloride		80.9	5.0	2.5	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		54.7	2.0	1.0	mg/l	SM 2540D
TC15248-2	MW-2					
TPH (C10-C28)		0.0445 J	0.10	0.031	mg/l	SW846 8015 M
Chloride		15.9	1.0	0.50	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		27.0	2.0	1.0	mg/l	SM 2540D
TC15248-3	MW-4					
Benzene		0.00074 J	0.0010	0.00025	mg/l	SW846 8260B
TPH (C10-C28)		0.686	0.10	0.031	mg/l	SW846 8015 M
Chloride		182	5.0	2.5	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		2.7	2.0	1.0	mg/l	SM 2540D
TC15248-4	MW-5					
TPH (C10-C28)		0.0841 J	0.10	0.031	mg/l	SW846 8015 M
Chloride		187	10	5.0	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		16.0	2.0	1.0	mg/l	SM 2540D
TC15248-5	MW-6					
TPH (C10-C28)		0.214	0.10	0.031	mg/l	SW846 8015 M
Chloride		95.3	5.0	2.5	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		9.7	2.0	1.0	mg/l	SM 2540D
TC15248-6	MW-7					
TPH (C10-C28)		0.0507 J	0.10	0.031	mg/l	SW846 8015 M
Chloride		54.5	5.0	2.5	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		36.3	2.0	1.0	mg/l	SM 2540D
TC15248-7	MW-8					
TPH (C10-C28)		0.0932 J	0.10	0.031	mg/l	SW846 8015 M
Chloride		230	10	5.0	mg/l	EPA 300/SW846 9056
Solids, Total Suspended		24.3	2.0	1.0	mg/l	SM 2540D

Summary of Hits

Page 2 of 2

Job Number: TC15248
Account: Geo Monitoring Services
Project: G-Lact Battery 22
Collected: 08/23/12 thru 08/24/12

2

Lab Sample ID	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
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TC15248-8 MW-11

Benzene	0.00028 J	0.0010	0.00025	mg/l	SW846 8260B
TPH (C10-C28)	0.370	0.10	0.031	mg/l	SW846 8015 M
Chloride	95.1	5.0	2.5	mg/l	EPA 300/SW846 9056
Solids, Total Suspended	37.3	2.0	1.0	mg/l	SM 2540D

TC15248-9 MW-12

TPH (C10-C28)	0.113	0.10	0.031	mg/l	SW846 8015 M
Chloride	195	10	5.0	mg/l	EPA 300/SW846 9056
Solids, Total Suspended	157	2.0	1.0	mg/l	SM 2540D

TC15248-10 TRIP BLANK

No hits reported in this sample.



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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-1	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028430.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	99%		79-122%
17060-07-0	1,2-Dichloroethane-D4	88%		75-121%
2037-26-5	Toluene-D8	99%		87-119%
460-00-4	4-Bromofluorobenzene	109%		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

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-1	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12426.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000072 U	0.00020	0.000072	mg/l	
120-12-7	Anthracene	0.000054 U	0.00020	0.000054	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000065 U	0.00020	0.000065	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000061 U	0.00020	0.000061	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000068 U	0.00020	0.000068	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000056 U	0.00020	0.000056	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000060 U	0.00020	0.000060	mg/l	
206-44-0	Fluoranthene	0.000046 U	0.00020	0.000046	mg/l	
86-73-7	Fluorene	0.000065 U	0.00020	0.000065	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000061 U	0.00020	0.000061	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000076 U	0.00020	0.000076	mg/l	
85-01-8	Phenanthrene	0.000076 U	0.00020	0.000076	mg/l	
129-00-0	Pyrene	0.000080 U	0.00020	0.000080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		17-131%
321-60-8	2-Fluorobiphenyl	67%		15-137%
1718-51-0	Terphenyl-d14	111%		10-160%

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-1	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-1	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011731.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	79%		52-127%		
98-08-8	aaa-Trifluorotoluene	85%		58-141%		

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-1	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-1	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227581.D	1	08/30/12	FO	08/28/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.100	0.10	0.031	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		37-135%		

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

Report of Analysis

Page 1 of 1

Client Sample ID: MW-1	Date Sampled: 08/23/12
Lab Sample ID: TC15248-1	Date Received: 08/25/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: G-Lact Battery 22	

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	80.9	5.0	2.5	mg/l	10	08/31/12 23:02 ES	EPA 300/SW846	9056
Solids, Total Suspended	54.7	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-2	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-2	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028434.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	102%		79-122%
17060-07-0	1,2-Dichloroethane-D4	89%		75-121%
2037-26-5	Toluene-D8	96%		87-119%
460-00-4	4-Bromofluorobenzene	110%		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

Report of Analysis

Client Sample ID:	MW-2	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-2	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12427.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000072 U	0.00020	0.000072	mg/l	
120-12-7	Anthracene	0.000054 U	0.00020	0.000054	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000065 U	0.00020	0.000065	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000061 U	0.00020	0.000061	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000068 U	0.00020	0.000068	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000056 U	0.00020	0.000056	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000060 U	0.00020	0.000060	mg/l	
206-44-0	Fluoranthene	0.000046 U	0.00020	0.000046	mg/l	
86-73-7	Fluorene	0.000065 U	0.00020	0.000065	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000061 U	0.00020	0.000061	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000076 U	0.00020	0.000076	mg/l	
85-01-8	Phenanthrene	0.000076 U	0.00020	0.000076	mg/l	
129-00-0	Pyrene	0.000080 U	0.00020	0.000080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		17-131%
321-60-8	2-Fluorobiphenyl	73%		15-137%
1718-51-0	Terphenyl-d14	98%		10-160%

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

Report of Analysis

Page 1 of 1

3.2

3

Client Sample ID:	MW-2	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-2	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011732.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	78%		52-127%		
98-08-8	aaa-Trifluorotoluene	86%		58-141%		

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-2	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-2	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227582.D	1	08/30/12	FO	08/28/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.0445	0.10	0.031	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		37-135%

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-2	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-2	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	15.9	1.0	0.50	mg/l	2	09/04/12 12:29 RA	EPA 300/SW846	9056
Solids, Total Suspended	27.0	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-4	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-3	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028435.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	0.00074	0.0010	0.00025	mg/l	J
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	108%		79-122%
17060-07-0	1,2-Dichloroethane-D4	91%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	115%		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

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-3	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12428.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000073 U	0.00020	0.000073	mg/l	
120-12-7	Anthracene	0.000055 U	0.00020	0.000055	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000066 U	0.00020	0.000066	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000062 U	0.00020	0.000062	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000069 U	0.00020	0.000069	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000057 U	0.00020	0.000057	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000061 U	0.00020	0.000061	mg/l	
206-44-0	Fluoranthene	0.000047 U	0.00020	0.000047	mg/l	
86-73-7	Fluorene	0.000066 U	0.00020	0.000066	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000062 U	0.00020	0.000062	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000077 U	0.00020	0.000077	mg/l	
85-01-8	Phenanthrene	0.000077 U	0.00020	0.000077	mg/l	
129-00-0	Pyrene	0.000081 U	0.00020	0.000081	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		17-131%
321-60-8	2-Fluorobiphenyl	72%		15-137%
1718-51-0	Terphenyl-d14	96%		10-160%

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

Report of Analysis

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Client Sample ID:	MW-4	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-3	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011735.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	78%		52-127%		
98-08-8	aaa-Trifluorotoluene	84%		58-141%		

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

Report of Analysis

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Client Sample ID:	MW-4	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-3	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227586.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.686	0.10	0.031	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	91%		37-135%		

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

Report of Analysis

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Client Sample ID:	MW-4	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-3	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	182	5.0	2.5	mg/l	10	08/31/12 23:36 ES		EPA 300/SW846 9056
Solids, Total Suspended	2.7	2.0	1.0	mg/l	1	08/30/12	DP	SM 2540D

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

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Client Sample ID:	MW-5	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-4	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028436.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	105%		79-122%
17060-07-0	1,2-Dichloroethane-D4	90%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	111%		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

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-4	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12433.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000073 U	0.00020	0.000073	mg/l	
120-12-7	Anthracene	0.000055 U	0.00020	0.000055	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000066 U	0.00020	0.000066	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000062 U	0.00020	0.000062	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000069 U	0.00020	0.000069	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000057 U	0.00020	0.000057	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000061 U	0.00020	0.000061	mg/l	
206-44-0	Fluoranthene	0.000047 U	0.00020	0.000047	mg/l	
86-73-7	Fluorene	0.000066 U	0.00020	0.000066	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000062 U	0.00020	0.000062	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000077 U	0.00020	0.000077	mg/l	
85-01-8	Phenanthrene	0.000077 U	0.00020	0.000077	mg/l	
129-00-0	Pyrene	0.000081 U	0.00020	0.000081	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		17-131%
321-60-8	2-Fluorobiphenyl	61%		15-137%
1718-51-0	Terphenyl-d14	99%		10-160%

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

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Client Sample ID:	MW-5	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-4	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011736.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	79%		52-127%		
98-08-8	aaa-Trifluorotoluene	87%		58-141%		

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

Report of Analysis

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Client Sample ID:	MW-5	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-4	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227587.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.0841	0.10	0.031	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		37-135%		

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

Report of Analysis

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Client Sample ID:	MW-5	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-4	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	ML	SDL	Units	DF	Analyzed	By	Method
Chloride	187	10	5.0	mg/l	20	09/04/12 12:46 RA	EPA 300/SW846	9056
Solids, Total Suspended	16.0	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

ML = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

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Client Sample ID:	MW-6	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-5	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028437.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	89%		75-121%
2037-26-5	Toluene-D8	95%		87-119%
460-00-4	4-Bromofluorobenzene	110%		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

Report of Analysis

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Client Sample ID:	MW-6	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-5	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12434.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000072 U	0.00020	0.000072	mg/l	
120-12-7	Anthracene	0.000054 U	0.00020	0.000054	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000065 U	0.00020	0.000065	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000061 U	0.00020	0.000061	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000068 U	0.00020	0.000068	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000056 U	0.00020	0.000056	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000060 U	0.00020	0.000060	mg/l	
206-44-0	Fluoranthene	0.000046 U	0.00020	0.000046	mg/l	
86-73-7	Fluorene	0.000065 U	0.00020	0.000065	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000061 U	0.00020	0.000061	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000076 U	0.00020	0.000076	mg/l	
85-01-8	Phenanthrene	0.000076 U	0.00020	0.000076	mg/l	
129-00-0	Pyrene	0.000080 U	0.00020	0.000080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		17-131%
321-60-8	2-Fluorobiphenyl	75%		15-137%
1718-51-0	Terphenyl-d14	95%		10-160%

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

Report of Analysis

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Client Sample ID:	MW-6	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-5	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011737.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	77%		52-127%		
98-08-8	aaa-Trifluorotoluene	82%		58-141%		

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

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Client Sample ID:	MW-6	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-5	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227588.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.214	0.10	0.031	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	91%		37-135%		

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

Report of Analysis

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Client Sample ID: MW-6	Date Sampled: 08/23/12
Lab Sample ID: TC15248-5	Date Received: 08/25/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: G-Lact Battery 22	

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	95.3	5.0	2.5	mg/l	10	09/01/12 00:10 ES	EPA 300/SW846	9056
Solids, Total Suspended	9.7	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-6	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028438.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	109%		79-122%
17060-07-0	1,2-Dichloroethane-D4	90%		75-121%
2037-26-5	Toluene-D8	97%		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

Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-6	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12435.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000072 U	0.00020	0.000072	mg/l	
120-12-7	Anthracene	0.000054 U	0.00020	0.000054	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000065 U	0.00020	0.000065	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000061 U	0.00020	0.000061	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000068 U	0.00020	0.000068	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000056 U	0.00020	0.000056	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000060 U	0.00020	0.000060	mg/l	
206-44-0	Fluoranthene	0.000046 U	0.00020	0.000046	mg/l	
86-73-7	Fluorene	0.000065 U	0.00020	0.000065	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000061 U	0.00020	0.000061	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000076 U	0.00020	0.000076	mg/l	
85-01-8	Phenanthrene	0.000076 U	0.00020	0.000076	mg/l	
129-00-0	Pyrene	0.000080 U	0.00020	0.000080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		17-131%
321-60-8	2-Fluorobiphenyl	80%		15-137%
1718-51-0	Terphenyl-d14	101%		10-160%

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

Report of Analysis

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Client Sample ID:	MW-7	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-6	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	HH0011747.D	1	09/04/12	LT	n/a	n/a	GHH637

Run #1	Purge Volume
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	78%		52-127%		
98-08-8	aaa-Trifluorotoluene	86%		58-141%		

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

Report of Analysis

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Client Sample ID:	MW-7	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-6	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227589.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.0507	0.10	0.031	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		37-135%

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

Report of Analysis

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Client Sample ID:	MW-7	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-6	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	54.5	5.0	2.5	mg/l	10	09/01/12 00:27 ES	EPA 300/SW846	9056
Solids, Total Suspended	36.3	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

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Client Sample ID:	MW-8	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-7	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028439.D	1	08/28/12	EM	n/a	n/a	VZ3736
Run #2							

Run #	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	107%		79-122%
17060-07-0	1,2-Dichloroethane-D4	89%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	113%		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

Report of Analysis

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Client Sample ID:	MW-8	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-7	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12436.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000042 U	0.00020	0.000042	mg/l	
208-96-8	Acenaphthylene	0.000072 U	0.00020	0.000072	mg/l	
120-12-7	Anthracene	0.000054 U	0.00020	0.000054	mg/l	
56-55-3	Benzo(a)anthracene	0.000042 U	0.00020	0.000042	mg/l	
50-32-8	Benzo(a)pyrene	0.000065 U	0.00020	0.000065	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000061 U	0.00020	0.000061	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000068 U	0.00020	0.000068	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000056 U	0.00020	0.000056	mg/l	
218-01-9	Chrysene	0.000045 U	0.00020	0.000045	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000060 U	0.00020	0.000060	mg/l	
206-44-0	Fluoranthene	0.000046 U	0.00020	0.000046	mg/l	
86-73-7	Fluorene	0.000065 U	0.00020	0.000065	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000061 U	0.00020	0.000061	mg/l	
91-57-6	2-Methylnaphthalene	0.00012 U	0.00020	0.00012	mg/l	
91-20-3	Naphthalene	0.000076 U	0.00020	0.000076	mg/l	
85-01-8	Phenanthrene	0.000076 U	0.00020	0.000076	mg/l	
129-00-0	Pyrene	0.000080 U	0.00020	0.000080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		17-131%
321-60-8	2-Fluorobiphenyl	78%		15-137%
1718-51-0	Terphenyl-d14	100%		10-160%

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

Report of Analysis

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Client Sample ID:	MW-8	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-7	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011753.D	1	09/04/12	LT	n/a	n/a	GHH637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	77%		52-127%		
98-08-8	aaa-Trifluorotoluene	87%		58-141%		

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

Report of Analysis

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Client Sample ID:	MW-8	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-7	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227590.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.0932	0.10	0.031	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		37-135%		

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

Report of Analysis

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Client Sample ID:	MW-8	Date Sampled:	08/24/12
Lab Sample ID:	TC15248-7	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	230	10	5.0	mg/l	20	09/04/12 13:03 RA	EPA 300/SW846	9056
Solids, Total Suspended	24.3	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

Client Sample ID:	MW-11	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-8	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028440.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	0.00028	0.0010	0.00025	mg/l	J
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	100%		79-122%
17060-07-0	1,2-Dichloroethane-D4	85%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	107%		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

Report of Analysis

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Client Sample ID: MW-11

Lab Sample ID: TC15248-8

Matrix: AQ - Ground Water

Method: SW846 8270C BY SIM SW846 3510C

Project: G-Lact Battery 22

Date Sampled: 08/23/12

Date Received: 08/25/12

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12437.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000064 U	0.00020	0.000064	mg/l	
208-96-8	Acenaphthylene	0.000051 U	0.00020	0.000051	mg/l	
120-12-7	Anthracene	0.000051 U	0.00020	0.000051	mg/l	
56-55-3	Benzo(a)anthracene	0.000051 U	0.00020	0.000051	mg/l	
50-32-8	Benzo(a)pyrene	0.000033 U	0.00020	0.000033	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000050 U	0.00020	0.000050	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000059 U	0.00020	0.000059	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000075 U	0.00020	0.000075	mg/l	
218-01-9	Chrysene	0.000041 U	0.00020	0.000041	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000054 U	0.00020	0.000054	mg/l	
206-44-0	Fluoranthene	0.000081 U	0.00020	0.000081	mg/l	
86-73-7	Fluorene	0.000051 U	0.00020	0.000051	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000050 U	0.00020	0.000050	mg/l	
91-57-6	2-Methylnaphthalene	0.000051 U	0.00020	0.000051	mg/l	
91-20-3	Naphthalene	0.00010 U	0.00020	0.00010	mg/l	
85-01-8	Phenanthrene	0.000051 U	0.00020	0.000051	mg/l	
129-00-0	Pyrene	0.000042 U	0.00020	0.000042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		17-131%
321-60-8	2-Fluorobiphenyl	77%		11-122%
1718-51-0	Terphenyl-d14	102%		21-144%

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

Report of Analysis

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Client Sample ID:	MW-11	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-8	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011756.D	1	09/04/12	LT	n/a	n/a	GHH637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	83%		52-127%
98-08-8	aaa-Trifluorotoluene	84%		58-141%

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

Report of Analysis

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Client Sample ID:	MW-11	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-8	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227591.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.370	0.10	0.031	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	90%		37-135%		

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

Report of Analysis

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Client Sample ID: MW-11	Date Sampled: 08/23/12
Lab Sample ID: TC15248-8	Date Received: 08/25/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: G-Lact Battery 22	

General Chemistry

Analyte	Result	MLQ	SDL	Units	DF	Analyzed	By	Method
Chloride	95.1	5.0	2.5	mg/l	10	09/01/12 01:01 ES	EPA 300/SW846	9056
Solids, Total Suspended	37.3	2.0	1.0	mg/l	1	08/30/12 DP	SM 2540D	

MLQ = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

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Client Sample ID:	MW-12	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-9	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028441.D	1	08/28/12	EM	n/a	n/a	VZ3736
Run #2							

Run #	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	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	86%		75-121%
2037-26-5	Toluene-D8	94%		87-119%
460-00-4	4-Bromofluorobenzene	111%		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

Report of Analysis

Client Sample ID:	MW-12	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-9	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	G-Lact Battery 22		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V12438.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	MQL	SDL	Units	Q
83-32-9	Acenaphthene	0.000066 U	0.00021	0.000066	mg/l	
208-96-8	Acenaphthylene	0.000052 U	0.00021	0.000052	mg/l	
120-12-7	Anthracene	0.000052 U	0.00021	0.000052	mg/l	
56-55-3	Benzo(a)anthracene	0.000052 U	0.00021	0.000052	mg/l	
50-32-8	Benzo(a)pyrene	0.000034 U	0.00021	0.000034	mg/l	
205-99-2	Benzo(b)fluoranthene	0.000051 U	0.00021	0.000051	mg/l	
191-24-2	Benzo(g,h,i)perylene	0.000060 U	0.00021	0.000060	mg/l	
207-08-9	Benzo(k)fluoranthene	0.000077 U	0.00021	0.000077	mg/l	
218-01-9	Chrysene	0.000042 U	0.00021	0.000042	mg/l	
53-70-3	Dibenzo(a,h)anthracene	0.000055 U	0.00021	0.000055	mg/l	
206-44-0	Fluoranthene	0.000083 U	0.00021	0.000083	mg/l	
86-73-7	Fluorene	0.000052 U	0.00021	0.000052	mg/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.000051 U	0.00021	0.000051	mg/l	
91-57-6	2-Methylnaphthalene	0.000052 U	0.00021	0.000052	mg/l	
91-20-3	Naphthalene	0.00010 U	0.00021	0.00010	mg/l	
85-01-8	Phenanthrene	0.000052 U	0.00021	0.000052	mg/l	
129-00-0	Pyrene	0.000042 U	0.00021	0.000042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		17-131%
321-60-8	2-Fluorobiphenyl	80%		11-122%
1718-51-0	Terphenyl-d14	108%		21-144%

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

Report of Analysis

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Client Sample ID:	MW-12	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-9	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH0011715.D	1	09/04/12	LT	n/a	n/a	GHH636
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH-GRO (C6-C10)	0.012 U	0.050	0.012	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	75%		52-127%		
98-08-8	aaa-Trifluorotoluene	85%		58-141%		

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

Report of Analysis

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Client Sample ID:	MW-12	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-9	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015 M SW846 3510C		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC227592.D	1	08/30/12	FO	08/29/12	OP24916	GCC1393
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MQL	SDL	Units	Q
	TPH (C10-C28)	0.113	0.10	0.031	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	86%		37-135%		

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-12	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-9	Date Received:	08/25/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	G-Lact Battery 22		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Chloride	195 	10	5.0	mg/l	20	09/04/12 13:54	RA	EPA 300/SW846 9056
Solids, Total Suspended	157 	2.0	1.0	mg/l	1	08/30/12	DP	SM 2540D

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

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

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	08/23/12
Lab Sample ID:	TC15248-10	Date Received:	08/25/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	G-Lact Battery 22		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z028429.D	1	08/28/12	EM	n/a	n/a	VZ3736
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	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	89%		75-121%
2037-26-5	Toluene-D8	101%		87-119%
460-00-4	4-Bromofluorobenzene	112%		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

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

PAGE 1 OF 1

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

FED-EX Tracking #	Accutest Job #
Accutest Quote #	TC15248

Client / Reporting Information				Project Information				Requested Analyses																Matrix Codes
Company Name Geo Monitoring Services				Project Name G-LACT Battery 22																				
Street Address 4123 S th St.				Street																				
City State Zip Brookshire TX 77423				City State																				
Project Contact Rex Meyer rex@geomon.net				Project #																				
Phone # 281-375-5101				Client Purchase Order #																				
Sample(s) Name(s) James Flake				Project Manager 843-343-6236																				
Attention:																								
Collection				Number of preserved bottles																				
Field ID / Point of Collection																								
Date																								
Time																								
Sampled By																								
Matrix																								
# of bottles																								
HCl																								
NaOH																								
ZnSO ₄																								
HNO ₃																								
H ₂ SO ₄																								
NONE																								
DI Water																								
MCHT																								
TSP																								
NaHCO ₃																								
ENCORE																								
OTHER																								
LAB USE ONLY																								
Turnaround Time (Business days)				Data Deliverable Information																				
<input checked="" type="checkbox"/> Standard				Approved By (Accutest PM): / Date:																				
<input type="checkbox"/> 5 Day RUSH																								
<input type="checkbox"/> 4 Day RUSH																								
<input type="checkbox"/> 3 Day RUSH																								
<input type="checkbox"/> 2 Day RUSH																								
<input type="checkbox"/> 1 Day EMERGENCY																								
Emergency & Rush T/A data available via Lablink																								
<input checked="" type="checkbox"/> Commercial "A" (Level 1)				<input type="checkbox"/> TRRP																				
<input type="checkbox"/> Commercial "B" (Level 2)				<input type="checkbox"/> EDD Format																				
<input type="checkbox"/> FULT1 (Level 3+4)				<input type="checkbox"/> Other																				
<input type="checkbox"/> REDT1 (Level 3+4)																								
<input type="checkbox"/> Commercial "C"																								
Commercial "A" = Results Only																								
Commercial "B" = Results + QC Summary																								
Commercial "C" = Results + QC & Surrogate Summary																								
Sample Custody must be documented below each time samples change possession, including courier delivery.																								
Relinquished by Sampler:				Received By:																				
Date Time:				Date Time:																				
Relinquished by Sampler:				Received By:																				
Date Time:				Date Time:																				
Relinquished by:				Received By:																				
Date Time:				Date Time:																				
Relinquished by:				Received By:																				
Date Time:				Date Time:																				
Custody Seal #				Intact																				
				Not Intact																				
Preserved where applicable																								
On ice																								
Cooler Temp.																								

TC15248: Chain of Custody

Page 1 of 8



Accutest Laboratories Sample Receipt Summary

Page 1 of 7

Accutest Job Number: TC15248 Client: GEO MONITORING SERVICES Project: G LACT BATTERY 22
Date / Time Received: 8/25/2012 Delivery Method: Airbill #s: 535599232156/535599232167/535599232189/5355
No. Coolers: 5 Therm ID: IRGUN5; Temp Adjustment Factor: -0.4;
Cooler Temps (Initial/Adjusted): #1: (5.8/5.4); #2: (5.6/5.2); #3: (6.2/5.8); #4: (16.3/15.9); #5: (12.2/11.8);

Cooler Security

	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature

	Y	or	N
1. Temp criteria achieved:	<input type="checkbox"/>		<input checked="" type="checkbox"/>
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		

Quality Control Preservation

	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>			
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

Sample Integrity - Documentation

	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition

	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

Sample Integrity - Instructions

	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments Received cooler 4 with melted ice. Out of temp at 15.9 degrees celcius with id MW12 in cooler.
Received cooler 5 with melted ice. Out of temp at 11.8 degrees celcius with MW4 and MW7 in cooler.

Accutest Laboratories
V: 713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

TC15248: Chain of Custody
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Accutest Job Number: TC15248

CSR: _____

Response Date: _____

Response:

4.1
4

TC15248: Chain of Custody
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Sample Receipt Log

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Job #: TC15248

Date / Time Received: 8/25/2012

Initials: EC

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TC15248-1	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-1	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
2	TC15248-2	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.6	-0.4	5.2
5	TC15248-3	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8

 4.1
4

TC15248: Chain of Custody

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Sample Receipt Log

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Job #: TC15248

Date / Time Received: 8/25/2012

Initials: EC

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
5	TC15248-3	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-3	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
1	TC15248-4	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-4	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4

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Sample Receipt Log

Job #: TC15248

Date / Time Received: 8/25/2012

Initials: EC

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC15248-5	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-5	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
5	TC15248-6	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
5	TC15248-6	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	12.2	-0.4	11.8
3	TC15248-7	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8

TC15248: Chain of Custody

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Sample Receipt Log

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Job #: TC15248

Date / Time Received: 8/25/2012

Initials: EC

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
3	TC15248-7	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-7	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
3	TC15248-8	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	6.2	-0.4	5.8
4	TC15248-9	1000ml	1	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	1000ml	2	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	1000ml	3	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	1000ml	4	4E	N/P	Note #2 - Preservative check not applicable.	IRGUN5	16.3	-0.4	15.9

TC15248: Chain of Custody

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Sample Receipt Log

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Job #: TC15248

Date / Time Received: 8/25/2012

Initials: EC

Client: GEO MONITORING SERVICES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
4	TC15248-9	1000ml	5	3H	N/P	Note #2 - Preservative check not applicable.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	10	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
4	TC15248-9	40ml	11	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	16.3	-0.4	15.9
1	TC15248-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4
1	TC15248-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN5	5.8	-0.4	5.4

4.1

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TC15248: Chain of Custody

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GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3736-MB	Z028428.D	1	08/28/12	EM	n/a	n/a	VZ3736

The QC reported here applies to the following samples:

Method: SW846 8260B

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9, TC15248-10

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	88%	75-121%
2037-26-5	Toluene-D8	101%	87-119%
460-00-4	4-Bromofluorobenzene	112%	80-133%

Blank Spike Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ3736-BS	Z028426.D	1	08/28/12	EM	n/a	n/a	VZ3736

The QC reported here applies to the following samples:

Method: SW846 8260B

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9, TC15248-10

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	24.4	98	77-114
1330-20-7	Xylene (total)	75	73.2	98	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	79-122%
17060-07-0	1,2-Dichloroethane-D4	93%	75-121%
2037-26-5	Toluene-D8	106%	87-119%
460-00-4	4-Bromofluorobenzene	114%	80-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15248-1MS	Z028431.D	1	08/28/12	EM	n/a	n/a	VZ3736
TC15248-1MSD	Z028432.D	1	08/28/12	EM	n/a	n/a	VZ3736
TC15248-1	Z028430.D	1	08/28/12	EM	n/a	n/a	VZ3736

The QC reported here applies to the following samples:

Method: SW846 8260B

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9, TC15248-10

CAS No.	Compound	TC15248-1 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U	25	26.7	107	26.3	105	2	76-118/16
100-41-4	Ethylbenzene	1.0 U	25	25.8	103	25.1	100	3	75-112/12
108-88-3	Toluene	1.0 U	25	24.3	97	24.1	96	1	77-114/12
1330-20-7	Xylene (total)	3.0 U	75	78.9	105	79.5	106	1	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	TC15248-1	Limits
1868-53-7	Dibromofluoromethane	104%	105%	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	92%	90%	88%	75-121%
2037-26-5	Toluene-D8	99%	99%	99%	87-119%
460-00-4	4-Bromofluorobenzene	113%	113%	109%	80-133%

* = Outside of Control Limits.



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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP24920-MB	V12419.D	1	08/31/12	GJ	08/30/12	OP24920	EV695

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.042	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.072	ug/l	
120-12-7	Anthracene	ND	0.20	0.054	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.041	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.064	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.060	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.068	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.056	ug/l	
218-01-9	Chrysene	ND	0.20	0.044	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.060	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.046	ug/l	
86-73-7	Fluorene	ND	0.20	0.064	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.12	ug/l	
91-20-3	Naphthalene	ND	0.20	0.075	ug/l	
85-01-8	Phenanthrene	ND	0.20	0.075	ug/l	
129-00-0	Pyrene	ND	0.20	0.079	ug/l	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	115% 17-131%
321-60-8	2-Fluorobiphenyl	112% 15-137%
1718-51-0	Terphenyl-d14	130% 10-160%

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP24920-BS	V12420.D	1	08/31/12	GJ	08/30/12	OP24920	EV695
OP24920-BSD ^a	V12421.D	1	08/31/12	GJ	08/30/12	OP24920	EV695

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	5	4.5	90	4.7	94	4	10-125/30
208-96-8	Acenaphthylene	5	4.8	96	4.9	98	2	10-141/30
120-12-7	Anthracene	5	5.1	102	5.2	104	2	13-139/30
56-55-3	Benzo(a)anthracene	5	5.1	102	5.3	106	4	24-151/30
50-32-8	Benzo(a)pyrene	5	5.1	102	5.2	104	2	36-146/30
205-99-2	Benzo(b)fluoranthene	5	5.5	110	5.8	116	5	27-159/30
191-24-2	Benzo(g,h,i)perylene	5	5.3	106	5.3	106	0	21-156/30
207-08-9	Benzo(k)fluoranthene	5	4.8	96	4.9	98	2	26-157/30
218-01-9	Chrysene	5	5.3	106	5.4	108	2	26-146/30
53-70-3	Dibenzo(a,h)anthracene	5	5.3	106	5.4	108	2	23-161/30
206-44-0	Fluoranthene	5	5.7	114	5.1	102	11	20-140/30
86-73-7	Fluorene	5	5.0	100	4.9	98	2	16-126/30
193-39-5	Indeno(1,2,3-cd)pyrene	5	5.7	114	5.7	114	0	25-153/30
91-57-6	2-Methylnaphthalene	5	4.3	86	4.3	86	0	10-115/30
91-20-3	Naphthalene	5	4.2	84	4.5	90	7	11-111/30
85-01-8	Phenanthrene	5	4.9	98	4.9	98	0	23-135/30
129-00-0	Pyrene	5	5.1	102	5.8	116	13	27-138/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	81%	84%	17-131%
321-60-8	2-Fluorobiphenyl	83%	87%	15-137%
1718-51-0	Terphenyl-d14	102%	110%	10-160%

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

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Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GHH636-MB	HH0011714.D		09/03/12	LT	n/a	n/a	GHH636

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.012	mg/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	77% 52-127%
98-08-8	aaa-Trifluorotoluene	80% 58-141%

7.1.1
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Method Blank Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GHH637-MB	HH0011746.D		09/04/12	LT	n/a	n/a	GHH637

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-6, TC15248-7, TC15248-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.012	mg/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	79% 52-127%
98-08-8	aaa-Trifluorotoluene	88% 58-141%

7.1.2

7

Blank Spike Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GHH636-BS	HH0011712.D		09/03/12	LT	n/a	n/a	GHH636

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-9

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.387	97	73-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	87%	52-127%
98-08-8	aaa-Trifluorotoluene	87%	58-141%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GHH637-BS	HH0011744.D		09/04/12	LT	n/a	n/a	GHH637

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-6, TC15248-7, TC15248-8

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.431	108	73-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	99%	52-127%
98-08-8	aaa-Trifluorotoluene	101%	58-141%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15248-9MS	HH0011716.D		09/04/12	LT	n/a	n/a	GHH636
TC15248-9MSD	HH0011717.D		09/04/12	LT	n/a	n/a	GHH636
TC15248-9	HH0011715.D		09/04/12	LT	n/a	n/a	GHH636

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-9

CAS No.	Compound	TC15248-9 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.050 U	0.4	0.404	101	0.397	99	2	73-122/15

CAS No.	Surrogate Recoveries	MS	MSD	TC15248-9	Limits
460-00-4	4-Bromofluorobenzene	91%	89%	75%	52-127%
98-08-8	aaa-Trifluorotoluene	87%	90%	85%	58-141%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC15248-6MS	HH0011748.D		09/04/12	LT	n/a	n/a	GHH637
TC15248-6MSD	HH0011749.D		09/04/12	LT	n/a	n/a	GHH637
TC15248-6	HH0011747.D		09/04/12	LT	n/a	n/a	GHH637

The QC reported here applies to the following samples:

Method: SW846 8015

TC15248-6, TC15248-7, TC15248-8

CAS No.	Compound	TC15248-6 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.050 U	0.4	0.453	113	0.454	114	0	73-122/15

CAS No.	Surrogate Recoveries	MS	MSD	TC15248-6	Limits
460-00-4	4-Bromofluorobenzene	93%	94%	78%	52-127%
98-08-8	aaa-Trifluorotoluene	91%	94%	86%	58-141%

* = Outside of Control Limits.



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QC Data Summaries

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Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: TC15248
Account: GMSTXFU Geo Monitoring Services
Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP24916-MB	CC227568.D	1	08/30/12	FO	08/28/12	OP24916	GCC1393

The QC reported here applies to the following samples:

Method: SW846 8015 M

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.10	0.023	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	85% 25-112%

8.1.1

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Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: TC15248

Account: GMSTXFU Geo Monitoring Services

Project: G-Lact Battery 22

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP24916-BS	CC227566.D 1		08/30/12	FO	08/28/12	OP24916	GCC1393
OP24916-BSD ^a	CC227567.D 1		08/30/12	FO	08/28/12	OP24916	GCC1393

The QC reported here applies to the following samples:

Method: SW846 8015 M

TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	1	0.868	87	0.970	97	11	41-105/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	90%	102%	25-112%

(a) Insufficient sample volume for MS/MSD

* = Outside of Control Limits.



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: TC15248
Account: GMSTXFU - Geo Monitoring Services
Project: G-Lact Battery 22

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP20599/GN44663	0.50	0.0	mg/l	10	10.9	109.0	90-110%
Chloride	GP20600/GN44668	0.50	0.0	mg/l	10	10.1	101.0	90-110%
Solids, Total Suspended	GN44617	2.0	0.0	mg/l	500	482	96.4	80-120%
Sulfate	GP20599/GN44663	0.50	0.0	mg/l	10	10.9	109.0	90-110%
Sulfate	GP20600/GN44668	0.50	0.0	mg/l	10	10.3	103.0	90-110%

Associated Samples:

Batch GN44617: TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

Batch GP20599: TC15248-1, TC15248-3, TC15248-5, TC15248-6, TC15248-8

Batch GP20600: TC15248-2, TC15248-4, TC15248-7, TC15248-9

(*) Outside of QC limits

9.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC15248
Account: GMSTXFU - Geo Monitoring Services
Project: G-Lact Battery 22

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP20599/GN44663	TC15150-1	mg/l	37.3	37.5	0.5	0-13%
Chloride	GP20600/GN44668	TC15150-5	mg/l	163	163	0.0	0-13%
Solids, Total Suspended	GN44617	TC15248-9	mg/l	157	151	3.9	0-22%
Sulfate	GP20599/GN44663	TC15150-1	mg/l	25.7	26.1	1.5	0-20%
Sulfate	GP20600/GN44668	TC15150-5	mg/l	128	128	0.0	0-20%

Associated Samples:

Batch GN44617: TC15248-1, TC15248-2, TC15248-3, TC15248-4, TC15248-5, TC15248-6, TC15248-7, TC15248-8, TC15248-9

Batch GP20599: TC15248-1, TC15248-3, TC15248-5, TC15248-6, TC15248-8

Batch GP20600: TC15248-2, TC15248-4, TC15248-7, TC15248-9

(*) Outside of QC limits

9.2

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC15248
Account: GMSTXFU - Geo Monitoring Services
Project: G-Lact Battery 22

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP20599/GN44663	TC15150-1	mg/l	37.3	50	91.9	109.2	90-110%
Chloride	GP20600/GN44668	TC15150-5	mg/l	163	200	383	110.0	90-110%
Sulfate	GP20599/GN44663	TC15150-1	mg/l	25.7	50	75.4	99.4	90-110%
Sulfate	GP20600/GN44668	TC15150-5	mg/l	128	200	329	100.5	90-110%

Associated Samples:

Batch GP20599: TC15248-1, TC15248-3, TC15248-5, TC15248-6, TC15248-8

Batch GP20600: TC15248-2, TC15248-4, TC15248-7, TC15248-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

9.3
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