# GW-211

Q1 2012 Monitoring Report Date: 3/2/2012



OIL CONS. DIV DIST. 3 MAR 1 9 2012

# QUARTERLY GROUNDWATER MONITORING REPORT (January 2012 Sampling Event)

## GROUNDWATER DISCHARGE PLAN GW-211

# Property:

LARGO COMPRESSOR STATION Section 15, Township 26N, Range 7W Rio Arriba County, New Mexico SWG Project No. 0410002 March 2, 2012

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## QUARTERLY GROUNDWATER MONITORING REPORT (January 2012 Sampling Event) GROUNDWATER DISCHARGE PLAN GW-211

LARGO COMPRESSOR STATION Section 15, Township 26N, Range 7W Rio Arriba County, New Mexico

SWG Project No. 0410002

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Largo Compressor Station is located off of County Road (CR) 379 in Section 15, Township 26N, Range 7W in Rio Arriba County, New Mexico, referred to hereinafter as the "Site" or "subject Site". The Site is a natural gas compressor station utilized to dehydrate and compress natural gas collected from production wells in the area for transportation via pipeline. The Site was constructed in the mid-1960s and currently includes two (2) compressor engines, a dehydration unit and related treater, one (1) bullet storage tank, an out-of-service condensate storage tank battery, which includes six (6) condensate storage tanks and two (2) below-grade drain tanks, a new condensate storage tank battery, which includes seven (7) new condensate storage tanks, inlet scrubbers, a control room, and an office/shop building.

The Site is subject to regulatory oversight by the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD). To address activities related to crude oil/condensate related releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the EMNRD/OCD rules, specifically New Mexico Administrative Code (NMAC) 19.15.30 Remediation. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

The Site location is depicted on Figure 1 of Appendix A which was reproduced from a portion of the United States Geological Survey (USGS) 7.5-minute series topographic map. A Site vicinity map, created from an aerial photograph, is provided as Figure 2 of Appendix A.

The areas of known or suspected impact at the Site have been previously identified as Areas 1 through 4 in OCD correspondence. Each of the areas is depicted on Figure 3 in relation to pertinent Site features and general Site boundaries. These areas are briefly described below:

#### Area 1(Condensate Storage Tank Area)

Area 1 is defined as the northwestern portion of the Site and includes the out-of-service condensate storage tank battery associated with on-going investigation and/or corrective actions since a release from a condensate storage tank valve was reported to



the OCD in January of 2008. Additional detail regarding the investigative and corrective activities at Area 1 are provided in the *Environmental Site Investigation – Largo Compressor Station (GW-211) (SWG - March 24, 2011)*, and the *Corrective Action Pilot Study Report (SWG - October 10, 2011)*.

#### Area 2 (Valve Box Area)

Area 2 includes the new condensate storage tank battery and the immediately surrounding areas. This area is in the north central portion of the Site, immediately south of CR 379. During the construction of the new tank battery in June 2009, petroleum hydrocarbon impacted soils and groundwater were encountered in association with a former valve box and related appurtenances. Additional detail regarding the investigative and corrective activities at Area 2 are provided in the Environmental Site Investigation – Largo Compressor Station (GW-211) (SWG-March 24, 2011).

#### Area 3 (Retention Pond Area)

Area 3 encompasses the northeast portion of the Site including the storm-water retention pond. Historical petroleum hydrocarbon affected soil and groundwater were identified during the construction of the retention pond in July of 2009, which apparently originated from historic oil and contact water treatment and storage in the area of the current retention pond. Additional detail regarding the investigative and corrective activities at Area 3 are provided in the *Environmental Site Investigation – Largo Compressor Station (GW-211) (SWG - March 24, 2011)*.

#### Area 4 (Compression & Dehydration Area)

Area 4 includes the remainder of the Site, which includes the active compression and treatment area comprised of two (2) compressor engines, a dehydration unit and related treated and inlet scrubbers. Soil and groundwater investigation activities pertaining to Area 4 are provided in the *Environmental Site Investigation – Largo Compressor Station (GW-211) (SWG - March 24, 2011)* 

#### 1.2 Scope of Work

The objective of the groundwater monitoring event was to further evaluate the concentrations of constituents of concern (COCs) in groundwater at the Site.

#### 1.3 Standard of Care & Limitations

The findings and recommendations contained in this report represent SWG's professional opinions based upon information derived from on-Site activities and other services performed under this scope of work and were arrived at in accordance with currently acceptable professional standards. The findings were based upon analytical results provided by an independent laboratory. **Evaluations** geologic/hydrogeologic conditions at the Site for the purpose of this investigation are made from a limited number of available data points (i.e. soil borings and ground water samples) and site wide subsurface conditions may vary from these data points. SWG makes no warranties, express or implied, as to the services performed hereunder. Additionally, SWG does not warrant the work of third parties supplying information used Quarterly Groundwater Monitoring Report (January 2012 Sampling Event) Largo Compressor Station SWG Project No. 0410002 March 2, 2012



in the report (e.g. laboratories, regulatory agencies, or other third parties).

This report is based upon a specific scope of work requested by Enterprise. The agreement between SWG and Enterprise outlines the scope of work, and only those tasks specifically authorized by that agreement or outlined in this report were performed. This report has been prepared for the intended use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Enterprise and SWG.

#### 2.0 SAMPLING PROGRAM

A quarterly groundwater sampling event was conducted on January 27<sup>th</sup> through January 31<sup>st</sup>, 2012 by Kyle Summers, a SWG environmental professional.

SWG's groundwater sampling program consisted of the following:

Prior to sample collection, SWG gauged the depth to fluids in each monitoring well using an interface probe capable of detecting light non-aqueous phase liquids (LNAPL). Monitoring wells exhibiting LNAPL were not sampled.

Each monitoring well was micro-purged utilizing low-flow sampling techniques. Low-flow refers to the velocity with which groundwater enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface which can be affected by flow regulators or restrictions. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective is to pump in a manner that minimizes stress (drawdown) to the system, to the extent practical, taking into account established Site sampling objectives. Flow rates on the order of 0.1 to 0.5 L/min will be maintained during sampling activities, using dedicated sampling equipment.

The utilization of low-flow minimal drawdown techniques enables the isolation of the screened interval groundwater from the overlying stagnant casing water. The pump intake is placed within the screened interval such that the groundwater recovered is drawn in directly from the formation with little mixing of casing water or disturbance to the sampling zone.

Subsequent to the completion of the micro-purge process, one groundwater sample was collected from each monitoring well that did not contain LNAPL. The groundwater samples were collected from each monitoring well once produced groundwater was consistent in color, clarity, pH, DO, ORP, temperature and conductivity.

Groundwater samples were collected in laboratory prepared containers, sealed with custody tape and placed on ice in a cooler secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico.



#### 3.0 LABORATORY ANALYTICAL PROGRAM

The groundwater samples collected from the monitoring wells during the groundwater sampling event were analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA method SW-846#8015M, and benzene, toluene, ethylbenzene and xylenes (BTEX) utilizing EPA method SW-846 #8021B.

A summary of the analysis, sample type, sample frequency and EPA-approved methods are presented on the following table:

Analysis	Sample Type	No. of Samples	Method
TPH GRO/DRO	Groundwater	20	SW-846# 8015M
BTEX	Groundwater	20	SW-846# 8021B

Laboratory results are summarized in Table 1 included in Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

#### 4.0 GROUNDWATER FLOW DIRECTION

The monitoring wells were historically surveyed for top-of-casing (TOC) elevations. Prior to sample collection, SWG gauged the depth to fluids in each monitoring well. The groundwater flow direction at the Site is generally towards the northwest, with a gradient that ranges from 0.002 ft/ft and 0.005 ft/ft across the Site.

Groundwater measurements collected during the most recent gauging event in January 2012 are presented with TOC elevations in Table 2, Appendix B. A groundwater gradient map for the January 2012 event is included as Figure 4 (Appendix A).

#### 5.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to crude oil/condensate related releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the EMNRD/OCD rules, specifically NMAC 19.15.30 Remediation. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 5.1 Groundwater Samples

SWG compared BTEX concentrations or practical quantitative limits (PQLs) associated with the groundwater samples collected from monitoring wells during the January 2012 sampling event to the New Mexico WQCC *Groundwater Quality Standards*; however, the New Mexico WQCC *Groundwater Quality Standards* may not be applicable since the initial groundwater-bearing unit would not be considered an "Underground Source of



Drinking Water" in accordance with 19.15.30 NMAC *Remediation*. The results of the groundwater sample analyses are summarized in Table 1 of Appendix B.

### Benzene, Toluene, Ethylbenzene, and Xylenes

Due to the presence of LNAPL hydrocarbons in association with the initial groundwaterbearing unit, monitoring wells MW-33, MW-35, and MW-37 were not sampled during the completion of field activities. Additionally, monitoring well MW-40 was effectively dry and was not sampled during the completion of sampling activities.

The groundwater samples collected from monitoring wells MW-7, MW-11, MW-15, MW-16, and MW-39 exhibited benzene concentrations ranging from 10 µg/L to 9,000 µg/L, which exceed the WQCC *Groundwater Quality Standard* of 10 µg/L.

The groundwater samples collected from the remaining monitoring wells did not exhibit benzene concentrations above the laboratory PQLs, which are below the WQCC *Groundwater Quality Standard* of  $10~\mu g/L$ .

The groundwater samples collected from monitoring wells MW-12 and MW-39 exhibited toluene concentrations of 62 µg/L and 48 µg/L respectively, which are below the WQCC *Groundwater Quality Standard* of 750 µg/L.

The groundwater samples collected from the remaining monitoring wells did not exhibit toluene concentrations above the laboratory PQLs, which are below the WQCC Groundwater Quality Standard of 750 µg/L.

The groundwater samples collected from monitoring wells MW-7, MW-11, MW-12, and MW-39 exhibited ethylbenzene concentrations ranging from 4.3 µg/L to 110 µg/L which are below the WQCC *Groundwater Quality Standard* of 750 µg/L.

The groundwater samples collected from the remaining monitoring wells did not exhibit ethylbenzene concentrations above the laboratory PQLs, which are below the WQCC *Groundwater Quality Standard* of 750 µg/L.

The groundwater sample collected from monitoring well MW-12 exhibited a xylene concentration of 1,500 µg/L, which exceeds the WQCC *Groundwater Quality Standard* of 620 µg/L. The groundwater sample collected from monitoring well MW-39 exhibited a xylene concentration of 79 µg/L, which is below the WQCC *Groundwater Quality Standard* of 620 µg/L.

The groundwater samples collected from the remaining monitoring wells did not exhibit xylene concentrations above the laboratory PQLs, which are below the WQCC Groundwater Quality Standard of 620 µg/L.

#### TPH Gasoline Range Organics/Diesel Range Organics

The groundwater samples collected from monitoring wells MW-3R, MW-7, MW-11, MW-12, MW-15, MW-16, MW-39, and MW-47 exhibited TPH GRO concentrations ranging from 0.096 mg/L to 21mg/L, and TPH DRO concentrations ranging from <1.0 mg/L to 11 mg/L. The highest GRO concentration during the January 2012 sampling event was observed in the groundwater sample from monitoring well MW-7 (21 mg/L) and the



highest DRO concentration was observed in the sample from MW-12 (11 mg/L).

The groundwater samples collected from monitoring wells MW-6, MW-8, MW-9, MW-13, MW-14, MW-32, MW-34, MW-36, MW-38, MW-41, MW-42, and MW-43 did not exhibit TPH GRO or DRO concentrations above the laboratory PQLs during the January 2012 sampling event.

#### 6.0 FINDINGS

During January 2012, SWG conducted a quarterly groundwater monitoring event at the Largo Compressor Station. The Site is a natural gas compressor station utilized to dehydrate and compress natural gas collected from production wells in the area for transportation via pipeline. The Site was constructed in the mid-1960s, and is located off of CR 379 in Section 15, Township 26N, Range 7W in Rio Arriba County, New Mexico. The objective of the groundwater monitoring event was to further evaluate the concentrations of COCs in groundwater.

- Prior to sample collection, SWG gauged the depth to fluids in each monitoring well.
   LNAPL was observed in monitoring wells MW-33, MW-35, and MW-37. Monitoring well MW-40 was effectively dry and was not sampled.
- During the completion of the sampling event, one (1) groundwater sample was collected from each monitoring well utilizing low-flow sampling techniques.
- The groundwater flow direction at the Site is generally towards the northwest, with a gradient that varies between 0.002 ft/ft and 0.005 ft/ft across the Site.
- The groundwater samples collected from monitoring wells MW-7, MW-11, MW-12, MW-15, MW-16, and MW-39 exhibited benzene concentrations ranging from 10 µg/L to 9,000 µg/L, which exceed the WQCC Groundwater Quality Standard of 10 µg/L. The analytical results from monitoring wells MW-7 and MW-39 indicate an increase in benzene concentrations when compared to the October 2011 analytical data, whereas the remaining monitoring well samples indicate a general decline.
- The groundwater sample collected from monitoring well MW-12 exhibited a xylene concentration of 1,500 μg/L, which exceeds the WQCC Groundwater Quality Standard of 620 μg/L.
- The groundwater samples collected from the remaining monitoring wells did not exhibit BTEX constituent concentrations above the WQCC Groundwater Quality Standards.
- The NAPL thicknesses measured in monitoring wells MW-33 and MW-35 appears to
  be strongly correlated with the fluctuations in the elevations of the groundwater
  table. As the elevation of the groundwater table rises, NAPL is often entrapped in
  the soil pore spaces, resulting in a reduction NAPL thickness. Conversely, as the
  groundwater table falls, NAPL entrapped in soil pore spaces is liberated, resulting in
  an increase in the measurable thickness of NAPL associated with the groundwater



bearing unit'.

#### 7.0 RECOMMENDATIONS

Based on the results of groundwater monitoring activities, SWG has the following recommendations:

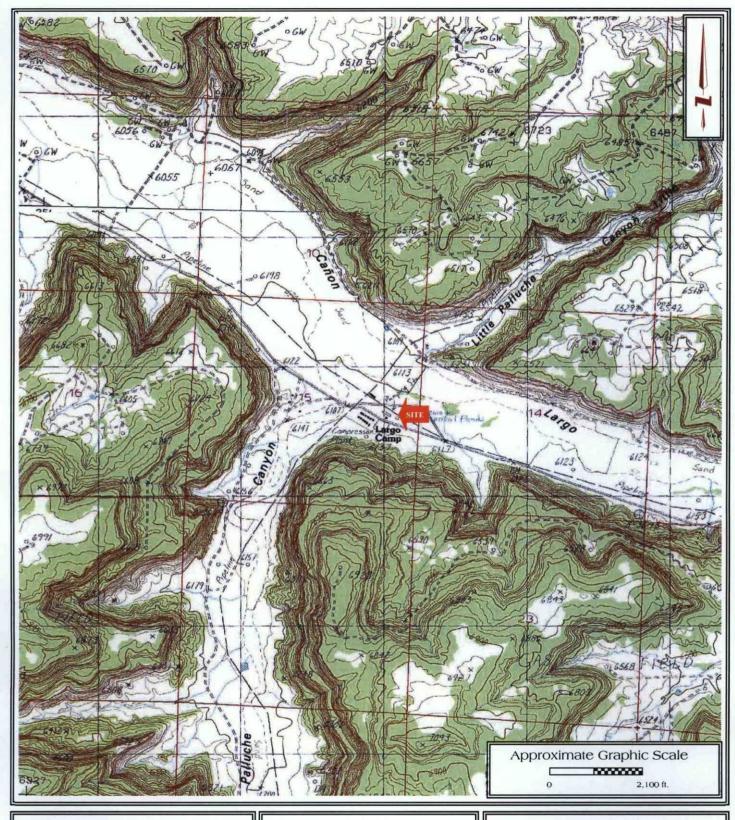
- Report the groundwater monitoring results to the OCD;
- Perform Supplemental Site Investigation activities to further evaluate the extent of COCs in groundwater in the vicinity of Area 3 and Area 4 (in accordance with the Proposed Supplemental Site Investigation Work Plan, as submitted to the OCD in correspondence dated March 2, 2012); and,
- Pursuant to the completion of supplemental site investigation activities, continue the evaluation and execution of corrective actions to: 1.) Remove LNAPL from groundwater at the Site to the extent practical; and 2.) Reduce the concentrations of COCs in soil to below the OCD Remediation Action Levels and groundwater to below the New Mexico WQCC Groundwater Quality Standards.

<sup>&</sup>lt;sup>1</sup> LNAPL Thickness in Monitoring Wells Considering Hysteresis and Entrapment, Fred Marinelli and Deana S. Durnford



APPENDIX A

Figures



## Largo Compressor Station

Condensate Storage Tank Battery SE1/4 of NE1/4, S15 T26N R7W Rio Arriba Co., New Mexico N36° 29' 12.63"; W107° 33' 27.79"

SWG Project No. 0410002



# FIGURE 1

Topographic Map Smouse Mesa & Gould Pass, NM Quadrangle Contour Interval – 20 Feet 1985



## Largo Compressor Station

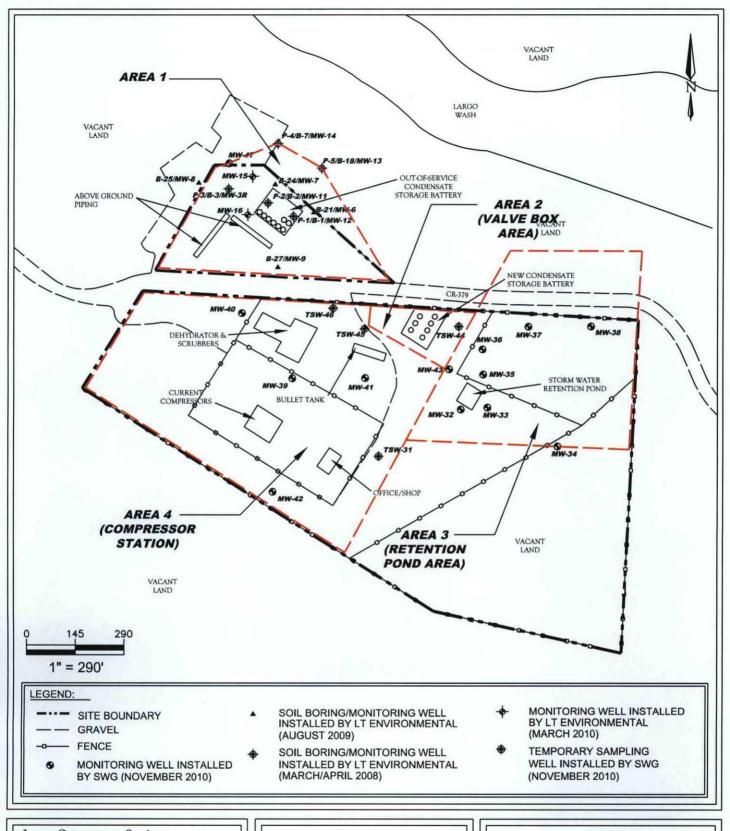
Condensate Storage Tank Battery SE1/4 of NE1/4, S15 T26N R7W Rio Arriba Co., New Mexico N36° 29' 12.63"; W107° 33' 27.79"

SWG Project No. 0410002

Southwest

# FIGURE 2

Site Vicinity Map 2010 Google Earth



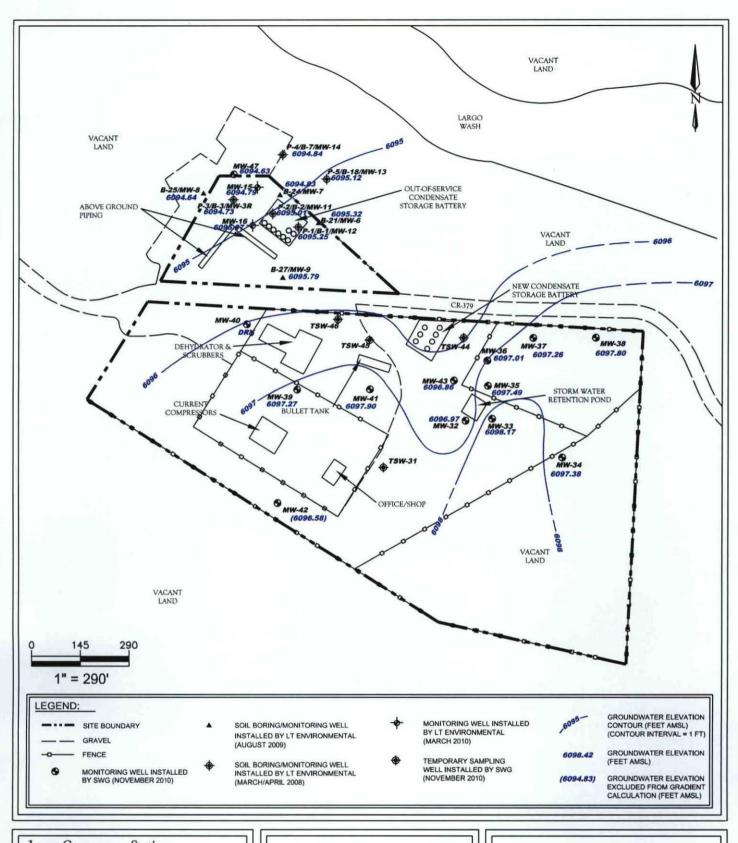
Largo Compressor Station SE1/4 of NE1/4, S15 T26N R7W Rio Arriba Co., New Mexico N36° 29' 12.63"; W107° 33' 27.79"

SWG Project No. 0410002



FIGURE 3

SITE MAP



Largo Compressor Station SE1/4 of NE1/4, S15 T26N R7W Rio Arriba Co., New Mexico N36° 29' 12.63"; W107° 33' 27.79"

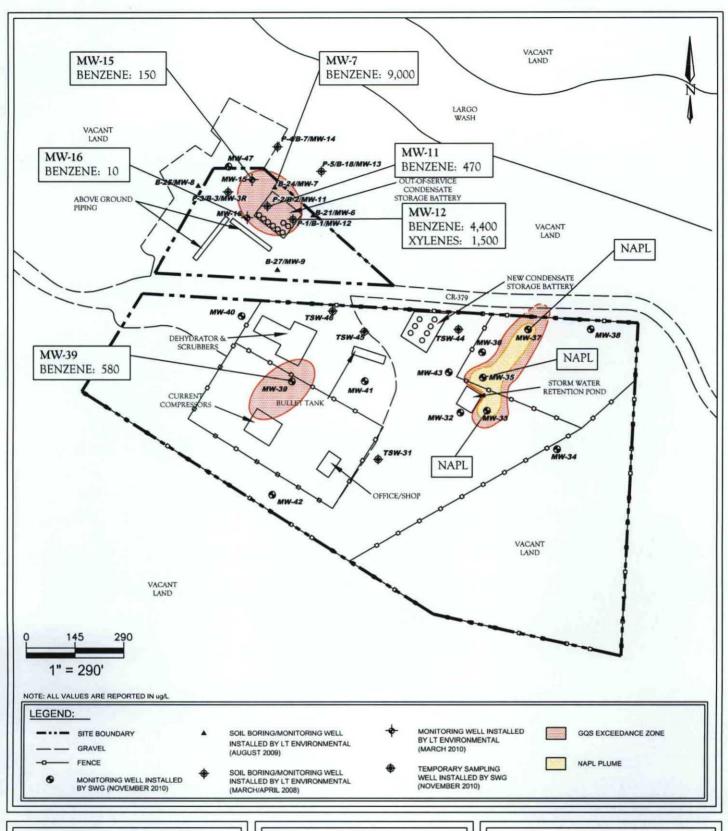
SWG Project No. 0410002

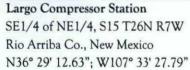
Southwest

FIGURE 4

GROUNDWATER GRADIENT MAP

JANUARY 26, 2012





SWG Project No. 0410002



## FIGURE 5

GROUNDWATER (GQS) EXCEEDANCE ZONE IN GROUNDWATER

**JANUARY 2012** 



APPENDIX B
Tables



Sample I.D.	Date	Total Dissolved Solids (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Wate Commrnission Gro Stand	undwater Quality	NE	10	750	750	620	NE	NE
				is installed by Lo		A 3 1/19		A 20 10
P-1	4.04.08	NA	5,700	2,200	310	5,500	53	<1.0
P-1	8.10.09	NA NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
P-1	11.24.09	NA NA	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL
MW-12 (P-1*)	4.05.10	NA NA	1,300	1,600	110	2,200	20	1.2
MW-12 (P-1*)	5.27.10	NA NA	3,300	1,800	180	3,200	NA NA	NA.
MW-12 (P-1*)	7.13.10	NA	2,900	330	140	1,700	22	1.0
MW-12 (P-1*)	8.26.10	NA	1,200	420	70	1,300	13	<1.0
MW-12 (P-1*)	11.18.10	NA	1,100	69	61	720	6.3	<1.0
MW-12 (P-1*)	2.4.11	NA	5,900	<50	470	1,600	24	<1.0
MW-12 (P-1*)	4.19.11	NA	4,200	190	<100	330	14	<1.0
MW-12 (P-1*)	5.19.11	NA	1,000	520	36	660	13	15
MW-12 (P-1*)	7.28.11	NA	12,000	2,300	320	3,200	54	3.9
MW-12 (P-1*)	10.28.11	NA	4,900	59	130	3,300	29	7.3
MW-12 (P-1*)	1.31.12	n	4,400	62	110	1,500	18	11
P-2	4.04.08	NA	15,000	2,100	380	4,600	120	6.8
P-2 P-2	8.10.09	NA	9,800	110	170	1,400	NA	NA
P-2	11.24.09 2.25.10	NA NA	21,000 19,000	360 380	460 380	2,700	NA NA	NA NA
MW-11 (P-2*)	4.05.10	NA NA	<1.0	<1.7	<1.0	3.3	0.22	<1.0
MW-11 (P-2*)	5.27.10	NA NA	4.4	<1.0	<1.0	<2.0	NA NA	NA.
MW-11 (P-2*)	7.13.10	NA NA	700	4.5	11	56	3.6	1.2
MW-11 (P-2*)	8.26.10	NA NA	86	<1.0	1.3	4.9	0.4	<1.0
MW-11 (P-2*)	11.18.10	NA	<1.0	<1.0	<1.0	<2.0	0.14	<1.0
MW-11 (P-2*)	2.4.11	NA	21	<1.0	<1.0	<1.0	0.075	<1.0
MW-11 (P-2*)	4.19.11	NA	96	12	1.2	27	0.39	<1.0
MW-11 (P-2*)	7.28.11	NA	46	<1.0	38	76	11	1.7
MW-11 (P-2*)	10.28.11	NA	1,600	<10	31	37	4.6	2.2
MW-11 (P-2*)	1.31.12	n	470	<10	12	<20	1.3	<1.0
P-3	4.04.08	NA	780	13	81	20	4.2	<1.0
P-3	8.10.09	NA	35	<1.0	3.8	<2.0	NA	NA
P-3	11.24.09	NA	1.4	<1.0	1.5	<2.0	NA	NA
P-3	2.25.10	NA	3.6	10	2	24	NA .	NA
MW-3R (P-3*)	4.05.10 5.27.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05 NA	<1.0 NA
MW-3R (P-3*) MW-3R (P-3*)	7.13.10	NA NA	13	<1.0	1.3	6.4	1.4	1
MW-3R (P-3*)	8.26.10	NA NA	5.0	<1.0	<1.0	2.3	0.46	<1.0
MW-3R (P-3*)	11.18.10	NA NA	3.9	<1.0	<1.0	<2.0	0.47	<1.0
MW-3R (P-3*)	2.1.11	NA.	2.0	<1.0	<1.0	<2.0	0.16	<1.0
MW-3R (P-3*)	4.18.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-3R (P-3*)	7.28.11	NA	1.5	<1.0	<1.0	7.1	1.50	<1.0
MW-3R (P-3*)	10.27.11	NA	1.1	<1.0	<1.0	<2.0	0.57	<1.0
MW-3R (P-3*)	1.30.12	NA	<1.0	<1.0	<1.0	<2.0	0.16	<1.0
P-4	4.04.08	NA	<1.0	<1.0	<1.0	<2.0	0.42	<1.0
P-4	8.10.09	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
P-4	11.24.09	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
P-4	2.25.10	NA NA	2.5	7.5	<1.0	14	NA <0.05	NA
MW-14 (P-4*) MW-14 (P-4*)	4.05.10 5.27.10	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.05 NA	<1.0 NA
MW-14 (P-4*)	7.13.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-14 (P-4*)	8.26.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-14 (P-4*)	11.18.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-14 (P-4*)	2.1.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-14 (P-4*)	4.19.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-14 (P-4*)	7.28.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-14 (P-4*)	10.27.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-14 (P-4*)	1.30.12	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0



Sample I.D.	Date	Total	Benzene	Toluene	Ethylbenzene	Xylenes	TPH	TPH
		Dissolved Solids	(µg/L)	(µg/L)	(µg/L)	(µg/L)	GRO	DRO
		(mg/L)			E97465 R = 1	Day Bridge	(mg/L)	(mg/L)
Commmission Gr	er Quality Control coundwater Quality dards	NE	10	750	750	620	NE	NE
P-5	4.04.08	NA	<1.0	<1.0	<1.0	<2.0	0.1	<1.0
P-5	8.10.09	NA	<1.0	<1.0	<1.0	<2.0	NA NA	NA
P-5 P-5	11.24.09 2.25.10	NA NA	<1.0 1.8	<1.0 6.1	<1.0 <1.0	<2.0	NA NA	NA NA
MW-13 (P-5*)	4.05.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-13 (P-5*)	5.27.10	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-13 (P-5*)	7.13.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-13 (P-5*) MW-13 (P-5*)	8.26.10 11.18.10	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0 <2.0	<0.05 <0.05	<1.0
MW-13 (P-5*)	2.3.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-13 (P-5*)	4.19.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-13 (P-5*)	7.28.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-13 (P-5*) MW-13 (P-5*)	10.27.11	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0 <2.0	<0.050 <0.050	<1.0
MW-6	8.10.09	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-6	11.24.09	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-6	2.25.10	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-6 MW-6	4.05.10 5.27.10	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.05 NA	<1.0 NA
MW-6	7.13.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-6	8.26.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.05	<1.0
MW-6	11.18.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.05	<1.0
MW-6	1.31.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-6 MW-6	4.19.11 7.28.11	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.050 <0.050	<1.0
MW-6	10.27.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-6	1.27.12	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-7	8.10.09	NA	15,000	<100	380	310	NA	NA
MW-7 MW-7	11.24.09	NA NA	13,000	<100 <10	150 40	<200	NA NA	NA NA
MW-7	4.05.10	NA NA	3,000 940	<10	<10	<20	4.2	1.3
MW-7	5.27.10	NA	700	<10	11	<20	NA	NA
MW-7	7.13.10	NA	15,000	<10	130	25	51	4.6
MW-7 MW-7	8.26.10	NA NA	5,300	<20	35	<40	18	1.7
MW-7	11.18.10	NA NA	3,700 1,800	<20 <1.0	62 10	<40 4.6	2.2	<1.0
MW-7	4.19.11	NA	250	<1.0	2.9	2.4	0.75	<1.0
MW-7	5.19.11	NA	1,400	<5.0	15.0	<10	4.0	<1.0
MW-7	7.28.11	NA	75	<5.0	200	62.0	45	2.7
MW-7 MW-7	10.28.11	NA NA	9,000	<10	140	<20	32 21	6.1 4.5
MW-8	8.10.09	NA NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-8	11.24.09	NA	<1.0	<1.0	<1.0	<2.0	NA	NΛ
MW-8	2.25.10	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-8 MW-8	4.05.10 5.27.10	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.05 NA	<1.0 NA
MW-8	7.13.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-8	8.26.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.05	<1.0
MW-8	11.18.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-8 MW-8	1.31.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050 <0.050	<1.0
MW-8	7.28.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-8	10.27.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-8	1.27.12	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-9 MW-9	8.10.09 11.24.09	NA NA	<1.0	<1.0	<1.0	<2.0	NA NA	NA NA
MW-9	2.25.10	NA NA	<1.0	<1.0	<1.0	<2.0	NA NA	NA NA
MW-9	4.05.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.05	<1.0
MW-9	5.27.10	NA NA	<1.0	<1.0	<1.0	<2.0	NA FO.05	NA
MW-9 MW-9	7.13.10 8.26.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05 <0.05	<1.0
MW-9	11.18.10	NA NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-9	1.31.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-9	4.19.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-9	7.29.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-9 MW-9	10.27,11	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.050 <0.050	<1.0
WIAL S	1.61.16	13/3	V1.0	VI.0	V1.0	\e.U	10,050	V1.0



Sample I.D.	Date	Total	Benzene	Toluene	Ethylbenzene	Xylenes	TPH	TPH
		Dissolved Solids (mg/L)	(µg/L)	(µg/L.)	(µg/L)	(µg/L)	GRO (mg/L)	DRO (mg/L)
Commmission G	iter Quality Control roundwater Quality indards	NE	10	750	750	620	NE	NE
MW-15	4.05.10	NA	1.1	<1.0	<1.0	<2.0	< 0.05	<1.0
MW-15	5.27.10	NA	<1.0	<1.0	<1.0	<2.0	<0.05	<1.0
MW-15 MW-15	7.13.10 8.26.10	NA NA	490 20	2.2 <1.0	7.2 <1.0	15 <2.0	3.2 0.095	<1.0
MW-15	11.18.10	NA NA	8.9	<1.0	<1.0	<2.0	0.19	<1.0
MW-15	2.1.11	NA	16	<1.0	<1.0	<2.0	0.06	<1.0
MW-15	4.18.11	NA	13	<1.0	<1.0	<2.0	0.14	<1.0
MW-15 MW-15	7.28.11	NA NA	1500 810	<1.0	19 <10	20 <20	6.7 2.2	<1.0
MW-15	1.30.12	NA NA	150	<10	<10	<20	0.51	<1.0
MW-16	4.05.10	NA	3.8	1.5	1.4	11	0.36	<1.0
MW-16	5.27.10	NA	<1.0	<1.0	<1.0	<2.0	NA	NA
MW-16	7.13.10	NA	47	<1.0	<1.0	<2.0	0.3	<1.0
MW-16 MW-16	8.26.10 11.18.10	NA NA	16 3.4	<1.0	<1.0 <1.0	<2.0	0.095	<1.0
MW-16	2.1.11	NA	61	<1.0	1.3	2.1	0.20	<1.0
MW-16	4.18.11	NA	34	<1.0	3.7	4.4	0.16	<1.0
MW-16 MW-16	7.28.11	NA NA	43	<1.0 <1.0	1.9	<2.0	0.29	<1.0
MW-16	1.30.12	NA NA	10	<1.0	<1.0	<2.0	0.096	<1.0
TSW-31	11.23.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-32	1.28.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-32	4.19.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-32 MW-32	7.29.11 10.26.11	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.050 <0.050	<1.0
MW-32	1.27.12	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-33	1.28.11	NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-33	4.20.11	NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-33	7.28.11	NA NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-33 MW-33	10.26.11	NA NA	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL
MW-34	1.28.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-34	4.19.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-34	7.29.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-34 MW-34	10.26.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050 <0.050	<1.0
MW-35	1.28.11	NA.	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-35	4.20.11	NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-35	7.28.11	NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-35 MW-35	10.26.11	NA NA	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL
MW-36	1.31.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-36	4.20.11	NA	<1.0	2.1	<1.0	<2.0	< 0.050	<1.0
MW-36	7.29.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-36 MW-36	10.27.11	NA NA	<1.0	<1.0	<1.0 <1.0	<2.0	<0.050 <0.050	<1.0
MW-37	2.4.11	NA NA	3,100	6,200	700	7,000	38	3.9
MW-37	4.20.11	NA	2,500	3,600	500	5,100	34	4.2
MW-37	7.28.11	NA NA	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL
MW-37 MW-37	10.26.11	NA NA	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL	NAPL NAPL
MW-38	1.26.11	NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-38	4.20.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-38	7.29.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-38 MW-38	10.27.11	NA NA	<1.0	<1.0 <1.0	<1.0 <1.0	<2.0	<0.050 <0.050	<1.0
MW-39	1.26,11	NA	1,200	730	37	570	11	<1.0
MW-39	4.19.11	NA	120	<1.0	1.6	5.9	0.33	<1.0
MW-39	7.29.11	NA NA	27	14	1.9	18	0.80	<1.0
MW-39 MW-39	10.27.11	NA NA	260 580	<1.0 48	1.2	3.5 79	0.44 1.80	<1.0
MW-40	1.28.11	NA NA	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
MW-40	4.20.11	NA	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0
MW-40	7,28,11	NA	Dry	Dry	Dry	Dry	Dry	Dry
MW-40 MW-40	10.26.11	NA NA	Dry Dry	Dry Dry	Dry Dry	Dry	Dry	Dry Dry
1111-40	1.61,14	14/1	Lity	Diy	Diy	Diy	Diy	Lity



Sample I.D.	Date	Total Dissolved Solids (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (μg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Wate Commmission Gro Stand	oundwater Quality	NE	10	750	750	620	NE	NE
MW-41	1.31.11	NA	<5.0	<5.0	<5.0	<10	< 0.25	<1.0
MW-41	4.18.11	NA	<5.0	<5.0	<5.0	<10	< 0.25	<1.0
MW-41	7.29.11	NA	<5.0	<5.0	<5.0	<10	< 0.050	<1.0
MW-41	10.27.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-41	1.27.12	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-42	2.4.11	NA	<5.0	<5.0	<5.0	<10	< 0.25	NA
MW-42	3.3.11	75,400	NA	NA	NA	NA	NA	NA
MW-42	4.19.11	NA	<5.0	<5.0	<5.0	<10	< 0.25	<1.0
MW-42	7.28.11	NA	Dry	Dry	Dry	Dry	Dry	Dry
MW-42	10.26.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-42	1.30.12	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-43	1.28,11	NA	<1.0	<1.0	<1.0	<2.0	0.06	<1.0
MW-43	4.19.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-43	7.29.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-43	10.26.11	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-43	1.27.12	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
TSW-44	11.18.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
TSW-45	11.18.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
TSW-46	11.23.10	NA	<1.0	<1.0	<1.0	<2.0	< 0.050	<1.0
MW-47	1.28.11	NA NA	<5.0	<5.0	<5.0	<10	1.3	2.5
MW-47	4.18.11	NA	<5.0	<5.0	<5.0	<10	2.0	1.2
MW-47	7.28.11	NA.	<5.0	<5.0	<5.0	27.0	6.6	1.1
MW-47	10.28.11	NA	<5.0	<5.0	<5.0	<10	1.4	2.7
MW-47	1.30.12	NA	<5.0	<5.0	<5.0	<10	2.6	2.5

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level NA = Not Analyzed

NE = Not Established

NAPL = Non-aqueous phase liquid

\* = piczometer well was replaced with associated monitoring well

		Top-of-Casing Elevation	Depth to PSH	Depth to Water	PSH Thickness	Corrected Groundwater
Monitoring Well ID	Measurement Date	(feet)	(feet)	(feet)	(feet)	Elevation
	4.5.10		None Observed	21.83	0.0	6095.64
	5.27.10		None Observed	21.82	0.0	6095.65
	6.25.10	1	None Observed	22.22	0.0	6095.25
	7.13.10		None Observed	22.47	0.0	6095.00
MWan	8.26.10	C11=1=	None Observed	22.24	0.0	6095.23
MW-3R	11.18.10	6117.47	None Observed	22.32	0.0	6095.15
	1.25.11		None Observed None Observed	22.13 21.99	0.0	6095.34
	4.22.11 7.27.11		None Observed	CHECK CO. C. CO. CO.	0.0	6095.48
	10.26.11	1	None Observed	22.81	0.0	6094.66
	1.26.12		None Observed	22.91 22.74	0.0	6094.56
	8.10.09					6094.73
	11.24.09		None Observed	20.28	0.0	6095.19
			None Observed None Observed	20.17	0.0	6095.30
	2.25.10 4.5.10	_	None Observed	19.54 19.11	0.0	6095.93
	5.27.10		None Observed	19.11	0.0	6096.36
	6.25.10		None Observed	19.28	0.0	6096.19
	7.13.10		None Observed	20.09	0.0	6095.60 6095.38
MW-6	8.26.10	6115.47	None Observed	19.68	0.0	6095.79
	11.18.10		None Observed	19.72	0.0	6095.79
	1.25.11		None Observed	19.72	0.0	6095.96
	4.22.11		None Observed	19.42	0.0	6096.05
	7.27.11		None Observed	20.4	0.0	6095.07
	10.26.11		None Observed	20.43	0.0	6095.04
	1.26.12		None Observed	20.15	0.0	6095.32
	8.10.09		None Observed	21.52	0.0	6095.13
	11.24.09		None Observed	21.73	0.0	6094.92
	2.25.10		None Observed	21.42	0.0	6095.23
	4.5.10		None Observed	20.96	0.0	6095.69
	5.27.10		None Observed	20.96	0.0	6095.69
	6.25.10		None Observed	21.32	0.0	6095.33
Value 1	7.13.10		None Observed	21.46	0.0	6095.19
MW-7	8.26.10	6116.65	None Observed	21.36	0.0	6095.29
1	11.18.10		None Observed	21.42	0.0	6095.23
100	1.25.11		None Observed	21.24	0.0	6095.41
. 1	4.22.11		None Observed	21.22	0.0	6095.43
	7.27.11		None Observed	21.8	0.0	6094.85
	10.26.11		None Observed	21.94	0.0	6094.71
	1.26.12	34	None Observed	21.82	0.0	6094.83
	8.10.09		None Observed	23.17	0.0	6095.11
Maria Indiana	11.24.09		None Observed	23.43	0.0	6094.85
134	2.25.10		None Observed	23.25	0.0	6095.03
	4.5.10		None Observed	22.97	0.0	6095.31
- Ibail	5.27.10		None Observed	22.85	0.0	6095.43
male and a second	6.25.10		None Observed	23.01	0.0	6095.27
and desired	7.13.10		None Observed	23.21	0.0	6095.07
MW-8	8.26.10	6118.28	None Observed			
	CHARLES CONTROL		A RESIDENCE OF THE PROPERTY OF	23.23	0.0	6095.05
	11.18.10		None Observed	23.3	0.0	6094.98
	1.25.11	N N	None Observed	23.1	0.0	6095.18
	4.22.11		None Observed	22.94	0.0	6095.34
	7.27.11		None Observed	23.56	0.0	6094.72
	10.26.11		None Observed	23.75	0.0	6094.53
	1.26.12		None Observed	23.64	0.0	6094.64

Monitoring Well ID	Measurement Date	Top-of-Casing Elevation (feet)	Depth to PSH (feet)	Depth to Water (feet)	PSH Thickness	Corrected Groundwater
MOINGING WON ID	8.10.09	(icci)	None Observed	21.95	(feet) 0.0	Elevation 6095.88
	11.24.09		None Observed	21.98	0.0	6095.85
	2.25.10	1	None Observed	21.51	0.0	6096.32
	4.5.10	1	None Observed	21	0.0	6096.83
	5.27.10	1	None Observed	21.1	0.0	6096.73
1	6.25.10	1	None Observed	21.56	0.0	6096.27
	7.13.10	1	None Observed	21.77	0.0	6096.06
MW-9	8.26.10	6117.83	None Observed	21.58	0.0	6096.25
	11.18.10	1	None Observed	21.61	0.0	6096.22
	1.25.11	1	None Observed	21.43	0.0	6096.40
July 1-19-74	4.22.11		None Observed	21.30	0.0	6096.53
	7.27.11	1	None Observed	22.15	0.0	6095.68
	10.26.11	1	None Observed	22.15	0.0	6095.58
	1.26.12		None Observed	22.04	0.0	6095.79
	4.5.10		None Observed	20.57	0.0	6096.08
	5.27.10		None Observed	20.75	0.0	6095.90
	6.25.10	1	None Observed	21.33	0.0	6095.32
	7.13.10	1	None Observed	21.54	0.0	6095.11
	8.26.10		None Observed	21.17	0.0	6095.48
MW-11	11.18.10	6116.65	None Observed	21.16	0.0	6095.49
	1.25.11		None Observed	21.02	0.0	6095.63
	4.22.11	T I	None Observed	20.91	0.0	6095.74
	7.27.11		None Observed	21.89	0.0	6094.76
	10.26.11		None Observed	21.94	0.0	6094.71
	1.26.12		None Observed	21.64	0.0	6095.01
	4.5.10		None Observed	14.88	0.0	6096.36
1	5.27.10		None Observed	15.11	0.0	6096.13
	6.25.10	6111.24	None Observed	15.67	0.0	6095.57
	7.13.10		None Observed	15.91	0.0	6095.33
10000	8.26.10		None Observed	15.55	0.0	6095.69
MW-12	11.18.10		None Observed	16.58	0.0	6094.66
	1.25.11		None Observed	15.73	0.0	6095.51
	4.22.11 7.27.11		None Observed None Observed	15.3 16.1	0.0	6095.94
Turney States	10.26.11		None Observed	16.21	0.0	6095.14 6095.03
	1.26.12		None Observed	15.99	0.0	6095.25
	4.5.10		None Observed	19.26	0.0	6096.20
	5.27.10		None Observed	19.47	0.0	6095.99
	6.25.10		None Observed	20.07	0.0	6095.39
	7.13.10		None Observed	20.28	0.0	6095.18
	8.26.10		None Observed	19.86	0.0	6095.60
MW-13	11.18.10	6115.46	None Observed	19.91	0.0	6095.55
40.00	1.25.11		None Observed	19.71	0.0	6095.75
1117	4.22.11		None Observed	19.65	0.0	6095.81
	7.27.11		None Observed	20.59	0.0	6094.87
	10.26.11		None Observed	20.62	0.0	6094.84
	1.26.12		None Observed	20.34	0.0	6095.12
	4.5.10		None Observed	20.09	0.0	6095.90
	5.27.10		None Observed	20.28	0.0	6095.71
	6.25.10		None Observed	20.94	0.0	6095.05
	7.13.10		None Observed	21.19	0.0	6094.80
	8.26.10	- Company Communication	None Observed	20.70	0.0	6095.29
MW-14	11,18.10	6115.99	None Observed	20.73	0.0	6095.26
	1.25.11		None Observed	20.52	0.0	6095.47
	4.22.11		None Observed	20.45	0.0	6095.54
	7.27.11	1 -	None Observed	21.47	0.0	6094.52
	10.26.11		None Observed	21.48	0.0	6094.51
Г	1.26.12		None Observed	21.15	0.0	6094.84

Monitoring Well ID	Measurement Date	Top-of-Casing Elevation (feet)	Depth to PSH (feet)	Depth to Water (feet)	PSH Thickness (feet)	Corrected Groundwater Elevation
Workering well its	4.5.10	(1001)	None Observed	20.66	0.0	6095.83
	5.27.10		None Observed	20.82	0.0	6095.67
	6.25.10		None Observed	21.43	0.0	
	7.13.10		None Observed	21.64	0.0	6095.06
	8.26.10		None Observed	21.25	0.0	6094.85
MW-15	W 70 PTS 10504	611640	THE RESERVE TO SERVE THE PARTY OF THE PARTY			6095.24
MIW-15	11.18.10	6116.49	None Observed	21.36	0.0	6095.13
	1.25.11		None Observed	21.07	0.0	6095.42
	4.22.11		None Observed	20.95	0.0	6095.54
	7.27.11		None Observed	21.95	0.0	6094.54
	10.26.11		None Observed	21.98	0.0	6094.51
	1.26.12		None Observed	21.70	0.0	6094.79
	4.5.10		None Observed	21.51	0.0	6096.06
	5.27.10		None Observed	51.59	0.0	6065.98
	6.25.10		None Observed	22.10	0.0	6095.47
	7.13.10 8.26.10		None Observed None Observed	22.29 22.05	0.0	6095.28 6095.52
MW-16	11.18.10	6117.57	None Observed	22.11	0.0	6095.46
	1.25.11	0111.01	None Observed	21.87	0.0	6095.70
	4.22.11		None Observed	21.76	0.0	6095.81
l i	7.27.11		None Observed	22.66	0.0	6094.91
	10.26.11		None Observed	22.71	0.0	6094.86
	1.26.12		None Observed	22.50	0.0	6095.07
	1.25.11		None Observed	12.67	0.0	6097.53
	4.22.11		None Observed	12.49	0.0	6097.71
MW-32	7.27.11	6110.2	None Observed	13.47	0.0	6096.73
	10.26.11		None Observed	13.56	0.0	6096.64
	1.26.12		None Observed	13.23	0.0	6096.97
	1.25.11*		16.08	16.44	0.36	6097.88
	4.22.11		16.59	16.60	0.01	6097.41
MW-33	7.27.11	6114	16.07	16.72	0.65	6097.85
	10.26.11		15.55	16.15	0.60	6098.38
	1.26.12		15.83	15.84	0.01	6098,17
	1.25.11		None Observed	17.38	0.0	6097.98
MW-34	4.22.11	6115.26	None Observed	17.20	0.0	6098.16
WW-34	7.27.11	6115.36	None Observed	18.23	0.0	6097.13
	10.26.11		None Observed None Observed	18.32 17.98	0.0	6097.04 6097.38
	1.25.11*			14.75	0.25	
	4.22.11		14.5 14.22	14.80	0.58	6097.68 6097.92
MW-35	7.27.11	6112.21	15.11	16.36	1.25	6096.95
	10.26.11	3112121	15.14	16.64	1.50	6096.89
	1.26.12		14.72	14.73	0.01	6097.49
	1.25.11		None Observed	13.80	0.0	6097.62
	4.22.11		None Observed	13.65	0.0	6097.77
MW-36	7.27.11	6111.42	None Observed	14.69	0.0	6096.73
	10.26.11		None Observed	14.45	0.0	6096.97
	1.26.12		None Observed	14.41	0.0	6097.01
	1.25.11	11	None Observed	12.91	sheen	6097.88
	4.22.11		None Observed	12.78	0.0	6098.01
MW-37	7.27.11	6110.79	13.81	13.84	0.03	6096.98
	10.26.11		13.88	13.92	0.04	6096.91
	1.26.12		13.54	13.54	0.01	6097.26
-	1.25.11		None Observed	12.06	0.0	6098.42
MW-20	4.22.11	6110.45	None Observed	11.87	0.0	6098.61
MW-38	7.27.11	6110.48	None Observed	13.01	0.0	6097.47
	10.26.11		None Observed None Observed	13.10 12.68	0.0	6097.38
	1.25.11		None Observed		0.0	6097.80
1				16.21		6097.63
MW-39	4.22.11	6112.94	None Observed	17.35	0.0	6096.49
MW-39	7.27.11	6113.84	None Observed	16.43	0.0	6097.41
Char	10.26.11		None Observed	16.52	0.0	6097.32
	1.26.12		None Observed	16.57	0.0	6097.27

Monitoring Well ID	Measurement Date	Top-of-Casing Elevation (feet)	Depth to PSH (feet)	Depth to Water (feet)	PSH Thickness (feet)	Corrected Groundwater
	1.25.11		None Observed	19.16	0.0	6096.53
	4.22.11		None Observed	dry	0.0	dry
MW-40	7.27.11	6115.69	None Observed	dry	0.0	dry
	10.26.11		None Observed	dry	0.0	dry
	1.26.12		None Observed	dry	0.0	dry
	1.25.11		None Observed	14.14	0.0	6097.96
	4.22.11	1	None Observed	14.18	0.0	6097.92
MW-41	7.27.11	6112.1	None Observed	14.08	0.0	6098.02
	10.26.11		None Observed	14.97	0.0	6097.13
	1.26.12		None Observed	14.20	0.0	6097.90
	1.25.11	6121.5	None Observed	24.88	0.0	6096.62
	4.22.11**		None Observed	errant gauge	0.0	errant gauge
MW-42	7.27.11		None Observed	dry	0.0	dry
	10.26.11		None Observed	25.16	0.0	6096.34
	1.26.12		None Observed	24.92	0.0	6096.58
	1.25.11		None Observed	15.41	0.0	6097.50
	4.22.11	]	None Observed	15.30	0.0	6097.61
MW-43	7.27.11	6112.91	None Observed	16.27	0.0	6096.64
	10.26.11		None Observed	16.35	0.0	6096.56
	1.26.12		None Observed	16.05	0.0	6096.86
	1.25.11		None Observed	19.22	0.0	6095.20
	4.22.11		None Observed	19.02	0.0	6095.40
MW-47	7.27.11		None Observed	19.69	0.0	6094.73
4	10.26.11		None Observed	19.86	0.0	6094.56
	1.26.12		None Observed	19.79	0.0	6094.63

<sup>\* -</sup> Regauged 1.31.11 to confirm product thickness

<sup>\*\* -</sup> Aberrant gauging data



APPENDIX C

Laboratory Data Reports & Chain of Custody Documentation



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

February 06, 2012

Kyle Summers Southwest Geoscience 606 S. Rio Grande Unit A Aztec, NM 87410 TEL: (214) 350-5469

RE: LARGO CS

FAX (214) 350-2914

OrderNo.: 1201895

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 10 sample(s) on 1/31/2012 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-38

Project: LARGO CS

Collection Date: 1/27/2012 9:40:00 AM

Lab ID: 1201895-001

Matrix: AQUEOUS

Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/1/2012 9:59:22 AM
Surr: DNOP	104	61.3-164		%REC	1	2/1/2012 9:59:22 AM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/1/2012 1:03:12 PM
Surr: BFB	93.7	69.3-120		%REC	1	2/1/2012 1:03:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/1/2012 1:03:12 PM
Toluene	ND	1.0		µg/L	1	2/1/2012 1:03:12 PM
Ethylbenzene	ND	1.0		µg/L	1	2/1/2012 1:03:12 PM
Xylenes, Total	ND	2.0		μg/L	1	2/1/2012 1:03:12 PM
Surr: 4-Bromofluorobenzene	98.3	76.5-115		%REC	1	2/1/2012 1:03:12 PM

Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-36

Project: LARGO CS Lab ID: 1201895-002 Collection Date: 1/27/2012 10:25:00 AM

Matrix: AQUEOUS Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/1/2012 10:21:00 AM
Sur: DNOP	100	61.3-164		%REC	1	2/1/2012 10:21:00 AM
EPA METHOD 8015B: GASOLINE R	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/1/2012 1:32:04 PM
Surr: BFB	95.3	69.3-120		%REC	1	2/1/2012 1:32:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/1/2012 1:32:04 PM
Toluene	ND	1.0		μg/L	1	2/1/2012 1:32:04 PM
Ethylbenzene	ND	1.0		µg/L	1	2/1/2012 1:32:04 PM
Xylenes, Total	ND	2.0		µg/L	1	2/1/2012 1:32:04 PM
Surr: 4-Bromofluorobenzene	101	76.5-115		%REC	1	2/1/2012 1:32:04 PM

Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: Southwest Geoscience** 

Client Sample ID: MW-34

Project: LARGO CS

Collection Date: 1/27/2012 11:30:00 AM

Lab ID: 1201895-003

Matrix: AQUEOUS

Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/1/2012 10:42:27 AM
Surr: DNOP	104	61.3-164		%REC	1	2/1/2012 10:42:27 AM
EPA METHOD 8015B: GASOLINE R	ANGE					Analyst RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/1/2012 2:00:52 PM
Surr: BFB	95.3	69.3-120		%REC	1	2/1/2012 2:00:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/1/2012 2:00:52 PM
Toluene	ND	1.0		μg/L	1	2/1/2012 2:00:52 PM
Ethylbenzene	ND	1.0		µg/L	1	2/1/2012 2:00:52 PM
Xylenes, Total	ND	2.0		μg/L	1	2/1/2012 2:00:52 PM
Surr: 4-Bromofluorobenzene	99.8	76.5-115		%REC	1	2/1/2012 2:00:52 PM

## Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level,
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Project: LARGO CS

Lab ID: 1201895-004

Client Sample ID: MW-43

Collection Date: 1/27/2012 12:25:00 PM

Matrix: AQUEOUS Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/1/2012 11:04:07 AM
Sur: DNOP	105	61.3-164	%REC	1	2/1/2012 11:04:07 AM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/1/2012 2:29:46 PM
Surr: BFB	95.1	69.3-120	%REC	1	2/1/2012 2:29:46 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	1.0	μg/L	1	2/1/2012 2:29:46 PM
Toluene	ND	1.0	μg/L	1	2/1/2012 2:29:46 PM
Ethylbenzene	ND	1.0	μg/L	1	2/1/2012 2:29:46 PM
Xylenes, Total	ND	2.0	μg/L	1.	2/1/2012 2:29:46 PM
Surr: 4-Bromofluorobenzene	99.6	76.5-115	%REC	1	2/1/2012 2:29:46 PM

### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
  - E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-41

Project: LARGO CS

Collection Date: 1/27/2012 1:15:00 PM

Lab ID: 1201895-005

Matrix: AQUEOUS

Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	SE.				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/1/2012 11:25:33 AM
Sur: DNOP	96.0	61.3-164	%REC	1	2/1/2012 11:25:33 AM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/1/2012 2:58:38 PM
Surr: BFB	95.7	69.3-120	%REC	1	2/1/2012 2:58:38 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	1.0	µg/L	1	2/1/2012 2:58:38 PM
Toluene	ND	1.0	µg/L	1	2/1/2012 2:58:38 PM
Ethylbenzene	ND	1.0	μg/L	1	2/1/2012 2:58:38 PM
Xylenes, Total	ND	2.0	µg/L	1	2/1/2012 2:58:38 PM
Surr: 4-Bromofluorobenzene	101	76.5-115	%REC	1	2/1/2012 2:58:38 PM

### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Project: LARGO CS

Lab ID: 1201895-006

Client Sample ID: MW-39

Collection Date: 1/27/2012 2:10:00 PM

Matrix: AQUEOUS Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL	Qual U	nits	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	n	ng/L	1	2/1/2012 11:47:24 AM
Sur: DNOP	103	61.3-164	9	%REC	1	2/1/2012 11:47:24 AM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	1.8	0.10	n	ng/L	2	2/1/2012 3:27:29 PM
Surr: BFB	97.9	69.3-120	9	%REC	2	2/1/2012 3:27:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	580	10	μ	ıg/L	10	2/2/2012 3:42:00 PM
Toluene	48	2.0	μ	ıg/L	2	2/1/2012 3:27:29 PM
Ethylbenzene	4.3	2.0	μ	ıg/L	2	2/1/2012 3:27:29 PM
Xylenes, Total	79	4.0	μ	ıg/L	2	2/1/2012 3:27:29 PM
Surr: 4-Bromofluorobenzene	105	76.5-115	9	6REC	2	2/1/2012 3:27:29 PM

### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-32

Project: LARGO CS

Collection Date: 1/27/2012 3:15:00 PM

Lab ID: 1201895-007

Matrix: AQUEOUS

Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/1/2012 12:08:52 PM
Sur: DNOP	111	61.3-164	%REC	1	2/1/2012 12:08:52 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/1/2012 3:56:16 PM
Surr: BFB	95.0	69.3-120	%REC	1	2/1/2012 3:56:16 PM
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: RAA
Benzene	ND	1.0	µg/L	1	2/1/2012 3:56:16 PM
Toluene	ND	1.0	µg/L	1	2/1/2012 3:56:16 PM
Ethylbenzene	ND	1.0	µg/L	1	2/1/2012 3:56:16 PM
Xylenes, Total	ND	2.0	μg/L	1	2/1/2012 3:56:16 PM
Surr: 4-Bromofluorobenzene	99.9	76.5-115	%REC	1	2/1/2012 3:56:16 PM

## Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

ence Client Sample ID: MW-8

Project: LARGO CS Lab ID: 1201895-008

Matrix: AQUEOUS Received Date: 1/31/2012 9:45:00 AM

Collection Date: 1/27/2012 4:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE	=					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/1/2012 12:52:13 PM
Sur: DNOP	107	61.3-164		%REC	1	2/1/2012 12:52:13 PM
EPA METHOD 8015B: GASOLINE RAI	NGE					Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/1/2012 4:25:06 PM
Surr: BFB	94.7	69.3-120		%REC	1	2/1/2012 4:25:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/1/2012 4:25:06 PM
Toluene	ND	1.0		µg/∟	1	2/1/2012 4:25:06 PM
Ethylbenzene	ND	1.0		μg/L	1	2/1/2012 4:25:06 PM
Xylenes, Total	ND	2.0		μg/L	1	2/1/2012 4:25:06 PM
Surr: 4-Bromofluorobenzene	99.3	76.5-115		%REC	1	2/1/2012 4:25:06 PM

# Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Client Sample ID: MW-9

Project: LARGO CS

Collection Date: 1/27/2012 4:45:00 PM

Lab ID: 1201895-009

Matrix: AQUEOUS Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE	13				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/1/2012 1:13:40 PM
Sur: DNOP	106	61.3-164		%REC	1	2/1/2012 1:13:40 PM
EPA METHOD 8015B: GASOLINE R	ANGE	-				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/1/2012 4:53:55 PM
Surr: BFB	94.5	69.3-120		%REC	1	2/1/2012 4:53:55 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/1/2012 4:53:55 PM
Toluene	ND	1.0		μg/L	1	2/1/2012 4:53:55 PM
Ethylbenzene	ND	1.0		μg/L	1	2/1/2012 4:53:55 PM
Xylenes, Total	ND	2.0		μg/L	1	2/1/2012 4:53:55 PM
Surr: 4-Bromofluorobenzene	100	76.5-115		%REC	1	2/1/2012 4:53:55 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1201895

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Client Sample ID: MW-6

Project: LARGO CS

Collection Date: 1/27/2012 5:30:00 PM

Lab ID: 1201895-010

Received Date: 1/31/2012 9:45:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/1/2012 1:34:51 PM
Surr: DNOP	107	61.3-164	%REC	1	2/1/2012 1:34:51 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/1/2012 5:22:40 PM
Surr: BFB	94.9	69.3-120	%REC	1	2/1/2012 5:22:40 PM
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: RAA
Benzene	ND	1.0	μg/L	1	2/1/2012 5:22:40 PM
Toluene	ND	1.0	µg/L	1	2/1/2012 5:22:40 PM
Ethylbenzene	ND	1.0	μg/L	1	2/1/2012 5:22:40 PM
Xylenes, Total	ND	2.0	μg/L	1	2/1/2012 5:22:40 PM
Surr: 4-Bromofluorobenzene	99.6	76.5-115	%REC	1	2/1/2012 5:22:40 PM

Matrix: AQUEOUS

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1201895

06-Feb-12

Client:

Southwest Geoscience

Project:

LARGO CS

Sample ID: MB-523	Samp	Type: MI	BLK	Tes	tCode: E	PA Method	8015B: Diese	I Range		
Client ID: PBW	Batc	h ID: <b>62</b>	3	F	RunNo: 6	79				
Prep Date: 1/31/2012	Analysis E	Date: 2/	1/2012	8	BeqNo: 1	9476	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Surr: DNOP	1.0		1.000		104	61.3	164			

Sample ID: LCS-523	SampT	ype: LC	S	Tes	TestCode: EPA Method 8015B: Diesel Range							
Client ID: LCSW	Batcl	n ID: 52	3	F	RunNo: 6	79						
Prep Date: 1/31/2012	Analysis D	)ate: 2/	1/2012		SeqNo: 1	9478	Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual		
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	74	157					
Surr: DNOP	0.52		0.5000		104	61.3	164					

Sample ID: LCSD-523	Samp?	ype: LC	SD	Tes	tCode: E	PA Method	8015B: Dies	el Range		
Client ID: LCSS02	Batc	h ID: 52	3	F	RunNo: 6	79				
Prep Date: 1/31/2012	Analysis [	Date: 2/	1/2012	8	SeqNo: 1	9486	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieset Range Organics (DRO)	5.3	1.0	5.000	0	106	74	157	2.96	23	
Surr: DNOP	0.52		0.5000		104	61.3	164	0	0	

#### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1201895

06-Feb-12

Qual

Client:

Southwest Geoscience

Project:

LARGO CS

Sample ID: 5ML-RB

SampType: MBLK

TestCode: EPA Method 8015B: Gasoline Range

69.3

Client ID: PBW

Batch ID: R713

RunNo: 713

Prep Date:

Analysis Date: 2/1/2012

SeqNo: 20355

Units: mg/L

Analyte

PQL

0.050

SPK value SPK Ref Val %REC

LowLimit

**HighLimit** 

Gasoline Range Organics (GRO)

ND

%RPD

**RPDLimit** 

19

20.00

94.1

120

Sur: BFB

SampType: LCS

TestCode: EPA Method 8015B: Gasoline Range

Sample ID: 2.5GRO LCS Client ID: LCSW

Batch ID: R713

RunNo: 713

Prep Date:

Analysis Date: 2/1/2012

SeqNo: 20359 %REC

Units: mg/L

**HighLimit** 

%RPD **RPDLImit** 

Analyte Gasoline Range Organics (GRO) Result PQL 0.57 0.050

20

SPK value SPK Ref Val 0.5000

20.00

20.00

114 81.8 101 69.3

LowLimit

120 120 Qual

Surr: BFB

Sample ID: 5ML-RB

SampType: MBLK

TestCode: EPA Method 8015B: Gasoline Range

Client ID: PBW

Sample ID: 2.5GRO LCS

Batch ID: R734

RunNo: 734

Prep Date:

Analysis Date: 2/2/2012

SeqNo: 21217

Units: %REC

**HighLimit** %RPD

Analyte

Result 18 PQL SPK value SPK Ref Val

%REC LowLimit

91.4

120

**RPDLimit** Qual

Surr. BFB

TestCode: EPA Method 8015B: Gasoline Range

69.3

Client ID: LCSW

SampType: LCS Batch ID: R734

RunNo: 734

Prep Date:

Analysis Date: 2/2/2012

SeqNo: 21221

Units: %REC

Qual

Analyte Sur: BFB 20

SPK value SPK Ref Val 20.00

%REC LowLimit 100 69.3

%RPD **RPDLimit** HighLimit

120

#### **Oualifiers:**

\*/X Value exceeds Maximum Contaminant Level.

Value above quantitation range

Analyte detected below quantitation limits RPD outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND Reporting Detection Limit

Page 12 of 13

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1201895

06-Feb-12

Client:

Southwest Geoscience

Project:

LARGO CS

Sample ID: 5ML-RB	Samp	Гуре: М	BLK	Tes						
Client ID: PBW	Batc	h ID: R7	13	F	RunNo: 7	13				
Prep Date:	Analysis [	Date: 2/	1/2012	8	SeqNo: 2	0448	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLImit</b>	Qual
Benzene	ND	1.0							2000	
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Kylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		99.9	76.5	115			

Sample ID: 100NG BTEX LCS	Samp1	ype: LC	s	Tes						
Client ID: LCSW	Batch	ID: R7	13	F	RunNo: 7	13				
Prep Date:	Analysis D	ate: 2/	1/2012	8	SeqNo: 2	0467	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	61	2.0	60.00	0	102	78.6	121			
Surr: 4-Bromofluorobenzene	20		20.00		102	76.5	115			

Sample ID: 5ML-RB	Samp	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBW	Batc	h ID: R7	34	F	RunNo: 7	34				
Prep Date:	Analysis [	Date: 2/	2/2012	8	SeqNo: 2	1241	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 4-Bromofluorobenzene	19		20.00		95.1	76.5	115			

Sample ID: 100NG BTEX LCS	SampT	ype: LC	:5	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSW	Batch	ID: R7	34	F	RunNo: 7	34				
Prep Date:	Analysis D	ate: 2/	2/2012	8	SeqNo: 2	1246	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		98.4	76.5	115			

#### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

Page 13 of 13



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87108 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Southwest Geoscience	w	ork On	der I	Number	1201895	
Received by/date: L M	1/21/12					
Logged By: Lindsay Mangin	1/31/2012 9:45:00 AM			0	they they	
Completed By: Lindsey Mangin	1/31/2012 3:13:46 PM				<del>- ymgo</del> <del>- ymgo</del>	
Reviewed By: 10 (/31/2012				V		
Chain of Custody						
1. Were seals intact?		Yes		No	Not Present ✔	
2. Is Chain of Custody complete?		Yes	•	No	Not Present	
3. How was the sample delivered?		Cour	ier			
Log In						
4. Coolers are present? (see 19. for cooler	specific information)	Yes	~	No	NA	
5. Was an attempt made to cool the sample	es?	Yes	~	No	NA	
6. Were all samples received at a tempera	ture of >0° C to 6.0°C	Yes	~	No	NA	
7. Sample(s) in proper container(s)?		Yes	4	No		
8. Sufficient sample volume for indicated to	est(s)?	Yes		No		
9. Are samples (except VOA and ONG) pro	operly preserved?	Yes	V	No		
10. Was preservative added to bottles?		Yes		No v	, NA	
11. VOA vials have zero headspace?		Yes	~	No	No VOA Vials	
12. Were any sample containers received by	roken?	Yes		No v		
<ol> <li>Does paperwork match bottle labels?</li> <li>(Note discrepancies on chain of custody)</li> </ol>	)	Yes	~	No	# of preserved bottles checked for pH:	
14. Are matrices correctly identified on Chair	n of Custody?	Yes	~	No		<2 or >12 unless noted)
15. Is it clear what analyses were requested	?	Yes	~	No	Adjusted?	
16. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	~	No	Checked b	y:
Special Handling (if applicable)	,					
. 17. Was client notified of all discrepancies w	vith this order?	Yes		No	NA 🗸	
Person Notified:	Date:	NIN PARTIE		THE REAL PROPERTY.	The state of the s	
By Whom:	Via:	eMa	il	Pho	ne Fax in Person	
Regarding:		W	Ewage	III. AUTO CONTRACTOR IN CO		DA-GUNEU
Client Instructions:			-			
18. Additional remarks:						
19. Cooler Information						
	Seal Intact   Seal No   S Yes	eal Da	te	Si	gned By	

													NA.				CHAIN OF CUSTODY RECORD
SC Environm	nental	& Hydroge	eolog	gic C	onsultants	Laboratory: Address: A						-		LYSIS QUESTEI			Lab use only Due Date:  Temp. of coolers ON (CE) when received (C'):  , 7
		-	10			Phone:	noy		-			-		/2			1  2  3  4  5   Page 1 of 1
Project Ma		er/h,	V 49	M	wers	PO/SO #:			_			_		5 B		111	/ / /
1 /	0	Sui				Sampler's Sign	attire/					_		EX PORO	///	/	/ / /
04/000	2.				TRGO				No/Ty	pe of C	Contain		H	E C	///		
Matrix Da	te	Time	CoEn	Grab			Start	End Depth	VOA	A/G	250 ml	P/O	Thy	10			Lab Sample ID (Lab Use Only)
W 1/2	7/2	0940		X	MW-	38			4			1	X	X			1201893-1
1 1		1025			mw.	-36			1				1	1			-2
111	7	1130		1	mw.	-34			1				1				-3
		1225		1	MW.	-43			1				T				-4
		1315		$\dagger$	mw-	-41			1						.		-5
		1410		1	MW.					-			TI				-10
		1515		1	mw.	-32							11				-7
		1600		I	mw-	8							1				-8
4		1645			MW.	-9			$\Box$				T				-9
WI	1	1730		Y	mw.	-6			¥				16	4			-10
Turn around		Dolors		_	25% Rush		100%			,							
Relinquishe	Oy (	Signature)	-	1	128/12 -	Time: Received	ved by:	(Signa	turn)	Ja.	1	Pate:	2	753	NOTES:		
Relinquishe	d by (	Signature)			Date:	Time: Recei	VICE VIE	(Şigy	hyter	I	7	31		Time:			
Relinquishe	d by	Signature)		-	30 12 17 Date:	Time: Hegel	yed by	Sign	ture Y	/		Date:	12	0945 Time:		-	
- Mildulano		Constitutio)				7 77	17	7	7	•			1				
Reilnquishe	d by (	Signature)			Date:	Time: Recei	ved by:	(Signs	ture)			Date		Time:	Parling.		
Matrix Container	VVV	V - Wastewat A - 40 mi vial	ter	_	W - Water A/G - Amber /	S Soli · SD - So Or Glass 1 Liter	olid L	- Liqui	d A	- Air B	ag outh			coal tube stic or other	SL - sludge	0 - OII	



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

February 06, 2012

Kyle Summers Southwest Geoscience 606 S. Rio Grande Unit A Aztec, NM 87410 TEL: (903) 821-5603

FAX

RE: Largo CS

OrderNo.: 1202038

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 10 sample(s) on 2/1/2012 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1202038

### Hall Environmental Analysis Laboratory, Inc. Date Reported: 2/6/2012

CLIENT: Southwest Geoscience

Client Sample ID: MW-42

Project: Largo CS

Collection Date: 1/30/2012 10:40:00 AM

Lab ID: 1202038-001

Matrix: AQUEOUS Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	SE .				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/2/2012 2:32:39 PM
Surr: DNOP	94.1	61.3-164	%REC	1	2/2/2012 2:32:39 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/2/2012 4:10:47 PM
Surr. BFB	96.6	69.3-120	%REC	1	2/2/2012 4:10:47 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	1.0	μg/L	1	2/2/2012 4:10:47 PM
Toluene	ND	1.0	μg/L	1	2/2/2012 4:10:47 PM
Ethylbenzene	ND	1.0	µg/L	1	2/2/2012 4:10:47 PM
Xylenes, Total	ND	2.0	μg/L	1	2/2/2012 4:10:47 PM
Surr: 4-Bromofluorobenzene	102	76.5-115	%REC	1	2/2/2012 4:10:47 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

### Analytical Report Lab Order 1202038

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/6/2012

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-47

Project: Largo CS

Collection Date: 1/30/2012 11:45:00 AM

Lab ID: 1202038-002

Matrix: AQUEOUS Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	SE .					Analyst: SCC
Diesel Range Organics (DRO)	2.5	1.0	1	mg/L	1	2/2/2012 2:54:21 PM
Surr: DNOP	95.3	61.3-164		%REC	1	2/2/2012 2:54:21 PM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	2.6	0.25	i	mg/L	5	2/2/2012 4:39:38 PM
Surr: BFB	192	69.3-120	S	%REC	5	2/2/2012 4:39:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	5.0	ĺ)	μg/L	5	2/2/2012 4:39:38 PM
Toluene	ND	5.0		µg/L	5	2/2/2012 4:39:38 PM
Ethylbenzene	ND	5.0		µg/L	5	2/2/2012 4:39:38 PM
Xylenes, Total	ND	10		μg/L	5	2/2/2012 4:39:38 PM
Surr: 4-Bromofluorobenzene	105	76.5-115		%REC	5	2/2/2012 4:39:38 PM

Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

Page 2 of 13

#### Lab Order 1202038

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Client Sample ID: MW-14

Project: Largo CS

Collection Date: 1/30/2012 12:25:00 PM

Lab ID: 1202038-003

Matrix: AQUEOUS

Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/2/2012 3:15:40 PM
Sur: DNOP	105	61.3-164	%REC	1	2/2/2012 3:15:40 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	2/2/2012 6:35:02 PM
Surr: BFB	95.2	69.3-120	%REC	1	2/2/2012 6:35:02 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	1.0	μg/L	1	2/2/2012 6:35:02 PM
Toluene	ND	1.0	μg/L	1	2/2/2012 6:35:02 PM
Ethylbenzene	ND	1.0	μg/L	1	2/2/2012 6:35:02 PM
Xylenes, Total	ND	2.0	μg/L	1	2/2/2012 6:35:02 PM
Surr: 4-Bromofluorobenzene	100	76.5-115	%REC	1	2/2/2012 6:35:02 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1202038

Date Reported: 2/6/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Project: Largo CS

Lab ID: 1202038-004

Client Sample ID: MW-13

Cheme Sample 10.1414-15

Collection Date: 1/30/2012 1:05:00 PM

Matrix: AQUEOUS Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	()	mg/L	1	2/2/2012 3:36:58 PM
Sur: DNOP	113	61.3-164		%REC	1	2/2/2012 3:36:58 PM
EPA METHOD 8015B: GASOLINE R	ANGE			36		Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/2/2012 8:30:19 PM
Surr: BFB	94.0	69.3-120		%REC	1	2/2/2012 8:30:19 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		μg/L	1	2/2/2012 8:30:19 PM
Toluene	ND	1.0		µg/L	1	2/2/2012 8:30:19 PM
Ethylbenzene	ND	1.0		µg/L	1	2/2/2012 8:30:19 PM
Xylenes, Total	ND	2.0		μg/L	1	2/2/2012 8:30:19 PM
Surr: 4-Bromofluorobenzene	98.1	76.5-115		%REC	1	2/2/2012 8:30:19 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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### Analytical Report Lab Order 1202038

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/6/2012

**CLIENT: Southwest Geoscience** 

Client Sample ID: MW-3R

Project: Largo CS

Collection Date: 1/30/2012 1:45:00 PM

Lab ID: 1202038-005

Matrix: AQUEOUS Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/2/2012 3:58:07 PM
Surr: DNOP	107	61.3-164		%REC	1	2/2/2012 3:58:07 PM
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: RAA
Gasoline Range Organics (GRO)	0.16	0.050		mg/L	1	2/2/2012 10:54:24 PM
Surr: BFB	123	69.3-120	S	%REC	1	2/2/2012 10:54:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	2/2/2012 10:54:24 PM
Toluene	ND	1.0		µg/L	1	2/2/2012 10:54:24 PM
Ethylbenzene	ND	1.0		μg/L	1	2/2/2012 10:54:24 PM
Xylenes, Total	ND	2.0		μg/L	1	2/2/2012 10:54:24 PM
Surr: 4-Bromofluorobenzene	102	76.5-115		%REC	1	2/2/2012 10:54:24 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1202038

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: MW-16

Project: Largo CS

Collection Date: 1/30/2012 2:30:00 PM

Lab ID: 1202038-006

CLIENT: Southwest Geoscience

Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN-	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/2/2012 4:19:37 PM
Surr: DNOP	104	61.3-164	%REC	1	2/2/2012 4:19:37 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	0.096	0.050	mg/L	1	2/2/2012 11:23:11 PM
Surr: BFB	104	69.3-120	%REC	1	2/2/2012 11:23:11 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	10	1.0	μg/L	1	2/2/2012 11:23:11 PM
Toluene	ND	1.0	µg/L	1	2/2/2012 11:23:11 PM
Ethylbenzene	ND	1.0	µg/L	1	2/2/2012 11:23:11 PM
Xylenes, Total	ND	2.0	µg/L	1	2/2/2012 11:23:11 PM
Surr: 4-Bromofluorobenzene	101	76.5-115	%REC	1	2/2/2012 11:23:11 PM

Matrix: AQUEOUS

Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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#### Lab Order 1202038

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-15

Project: Largo CS

Collection Date: 1/30/2012 3:15:00 PM

Lab ID: 1202038-007

Matrix: AQUEOUS Received Da

Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/2/2012 5:02:25 PM
Surr: DNOP	106	61.3-164	%REC	1	2/2/2012 5:02:25 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	0.51	0.50	mg/L	10	2/2/2012 11:52:00 PM
Surr: BFB	96.6	69.3-120	%REC	10	2/2/2012 11:52:00 PM
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	150	10	μg/L	10	2/2/2012 11:52:00 PM
Toluene	ND	10	μg/L	10	2/2/2012 11:52:00 PM
Ethylbenzene	ND	10	µg/L	10	2/2/2012 11:52:00 PM
Xylenes, Total	ND	20	μg/L	10	2/2/2012 11:52:00 PM
Surr: 4-Bromofluorobenzene	100	76.5-115	%REC	10	2/2/2012 11:52:00 PM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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### **Analytical Report** Lab Order 1202038

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/6/2012

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-7

Project: Largo CS

Collection Date: 1/31/2012 9:50:00 AM

Lab ID: 1202038-008

Matrix: AQUEOUS

Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	SE .					Analyst: SCC
Diesel Range Organics (DRO)	4.5	1.0		mg/L	1	2/2/2012 5:24:00 PM
Sur: DNOP	103	61.3-164		%REC	1	2/2/2012 5:24:00 PM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	21	0.50		mg/L	10	2/3/2012 12:49:35 AM
Surr: BFB	121	69.3-120	S	%REC	10	2/3/2012 12:49:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	9,000	200		μg/L	200	2/3/2012 12:20:48 AM
Toluene	ND	10		µg/L	10	2/3/2012 12:49:35 AM
Ethylbenzene	110	10		μg/L	10	2/3/2012 12:49:35 AM
Xylenes, Total	ND	20		μg/L	10	2/3/2012 12:49:35 AM
Surr: 4-Bromofluorobenzene	107	76.5-115		%REC	10	2/3/2012 12:49:35 AM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1202038

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Southwest Geoscience

Client Sample ID: MW-11

Project: Largo CS

Collection Date: 1/31/2012 10:40:00 AM

Lab ID: 1202038-009

Matrix: AQUEOUS

Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/2/2012 5:45:52 PM
Surr: DNOP	104	61.3-164		%REC	1	2/2/2012 5:45:52 PM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	1.3	0.50		mg/L	10	2/3/2012 2:15:48 AM
Surr: BFB	95.5	69.3-120		%REC	10	2/3/2012 2:15:48 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	470	10		µg/L	10	2/3/2012 2:15:48 AM
Toluene	ND	10		µg/L	10	2/3/2012 2:15:48 AM
Ethylbenzene	12	10		µg/L	10	2/3/2012 2:15:48 AM
Xylenes, Total	ND	20		µg/L	10	2/3/2012 2:15:48 AM
Surr: 4-Bromofluorobenzene	99.5	76.5-115		%REC	10	2/3/2012 2:15:48 AM

#### Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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Lab Order 1202038

Date Reported: 2/6/2012

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Project: Largo CS

Lab ID: 1202038-010

Client Sample ID: MW-12

Collection Date: 1/31/2012 11:40:00 AM

Matrix: AQUEOUS Received Date: 2/1/2012 9:30:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE				Analyst: SCC
Diesel Range Organics (DRO)	11	1.0	mg/L	1	2/3/2012 6:03:44 AM
Sur: DNOP	108	61.3-164	%REC	1	2/3/2012 6:03:44 AM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	18	2.5	mg/L	50	2/3/2012 3:13:26 AM
Surr: BFB	96.7	69.3-120	%REC	50	2/3/2012 3:13:26 AM
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: RAA
Benzene	4,400	50	µg/L	50	2/3/2012 3:13:26 AM
Toluene	62	50	μg/L	50	2/3/2012 3:13:26 AM
Ethylbenzene	110	50	μg/L	50	2/3/2012 3:13:26 AM
Xylenes, Total	1,500	100	µg/L	50	2/3/2012 3:13:26 AM
Surr: 4-Bromofluorobenzene	102	76.5-115	%REC	50	2/3/2012 3:13:26 AM

Qualifiers:

- \*/X Value exceeds Maximum Contaminant Level.
  - Value above quantitation range
- Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1202038

06-Feb-12

Client:

Southwest Geoscience

Project:

Largo CS

Sample	ID:	MB-546

SampType: MBLK

TestCode: EPA Method 8015B: Diesel Range

Client ID: PBW

Batch ID: 546

RunNo: 715

Units: mg/L

Prep Date: 2/2/2012

Analysis Date: 2/2/2012

SeqNo: 20553

Analyte

PQL ND 1.0

SPK value SPK Ref Val %REC LowLimit

HighLimit

164

**RPDLimit** %RPD Qual

Diesel Range Organics (DRO) Sur: DNOP

1.0

102

61.3

Sample ID: LCS-546

SampType: LCS

TestCode: EPA Method 8015B: Diesel Range

RunNo: 715

Batch ID: 546

1.0

%REC

Prep Date: 2/2/2012

Client ID: LCSW

Analysis Date: 2/2/2012

SeqNo: 20698

Units: mg/L

%RPD

Analyte Diesel Range Organics (DRO) Surr: DNOP

Result PQL 4.9 0.53

SPK value SPK Ref Val 5.000 0.5000

SPK value SPK Ref Val

1.000

98.9 107

LowLimit

LowLimit

74

61.3

HighLimit 157 164 **RPDLimit** 

Qual

Qual

Sample ID: LCSD-546

SampType: LCSD

PQL

TestCode: EPA Method 8015B: Diesel Range

157

164

Client ID: LCSS02

Batch ID: 546

RunNo: 715

Units: mg/L

Prep Date: 2/2/2012

Analysis Date: 2/2/2012

Result

5.7

0.54

SeqNo: 20786 %REC

**HighLimit** 

%RPD **RPDLimit** 

13.6 23 0

Diesel Range Organics (DRO) Sur: DNOP

Analyte

1.0 5.000 0.5000 113 107

74 61.3

0

#### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1202038

06-Feb-12

Client:

Southwest Geoscience

Project:

Largo CS

Sample ID: 5ML-RB

SampType: MBLK

TestCode: EPA Method 8015B: Gasoline Range

Client ID: PBW

Batch ID: R734

RunNo: 734

Analysis Date: 2/2/2012

SeqNo: 21217

Units: mg/L

Prep Date:

Analyte

PQL 0.050

Gasoline Range Organics (GRO)

ND

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

**RPDLImit** 

Qual

Surr: BFB

18

20.00

91.4

120

Sample ID: 2.5GRO LCS

Client ID: LCSW

SampType: LCS Batch ID: R734 TestCode: EPA Method 8015B: Gasoline Range RunNo: 734

69.3

SeqNo: 21221

Units: mg/L

Prep Date:

Analysis Date: 2/2/2012

%RPD

Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Analyte Gasoline Range Organics (GRO) 0.57 0.050 0.5000 81.8 120 114 Surr: BFB 20 20.00 100 69.3 120

\*/X Value exceeds Maximum Contaminant Level.

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

Not Detected at the Reporting Limit ND

Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1202038

06-Feb-12

Client:

Southwest Geoscience

Project:

Largo CS

Sample ID: 5ML-RB	Samp	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batc	h ID: <b>R7</b>	34	RunNo: 734						
Prep Date:	Analysis [	Date: 2/	2/2012		SeqNo: 2	1241	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		95.1	76.5	115			

Sample ID: 100NG BTEX LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles			
Client ID: LCSW	Batch	ID: R7	34	F	RunNo: 7	34					
Prep Date:	Analysis D	ate: 2/	2/2012	8	SeqNo: 2	1246	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	20	1.0	20.00	0	101	80	120				
Toluene	20	1.0	20.00	0	100	80	120				
Ethylbenzene	20	1.0	20.00	0	99.4	80	120				
Xylenes, Total	60	2.0	60.00	0	100	78.6	121				
Surr: 4-Bromofluorobenzene	20		20.00		98.4	76.5	115	20			

#### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

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Hall Environmental Analysis Laborator) 4901 Hawkins NE Albuquergue, NM 87105

TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.com

### Sample Log-In Check List

02/01/12 Received by/date: am Il Logged By: Anne Thorne 2/1/2012 9:30:00 AM Om Show Completed By: Anne Thome 2/1/2012 Reviewed By: Chain of Custody Yes V No Not Present 1. Were seals intact? Yes V No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courter Log In NA 🗆 Yes V No 🗆 4. Coolers are present? (see 19. for cooler specific information) Yes V No NA 🗆 5. Was an attempt made to cool the samples? NA 🗆 Yes 🗹 No 🗌 6. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 🗆 7 Sample(s) in proper container(s)? Yes V No 🗆 8. Sufficient sample volume for indicated test(s)? Yes V No 9. Are samples (except VOA and ONG) properly preserved? Yes No V NA [ 10. Was preservative added to bottles? Yes V No No VOA Vials 11. VOA vials have zero headspace? Yes 🗌 No 🗹 12. Were any sample containers received broken? # of preserved Yes V No 13. Does paperwork match bottle labels? bottles checked for pH: (Note discrepancies on chain of custody) Yes V No (<2 or >12 unless noted) 14. Are matrices correctly identified on Chain of Custody? Yes V No 🗆 Adjusted? 15. Is it clear what analyses were requested? Yes V No 16. Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (If applicable) Yes D No D NA V 17. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: ☐ eMail ☐ Phone ☐ Fax ☐ In Person Regarding: Client Instructions: 18. Additional remarks: 19. Cooler Information Cooler No Temp C Condition Seal Intact Seal No Seal Date Good Yes

				CHAIN OF CUSTODY RECORD
Southwest	Laboratory: Hol	1	ANALYSIS REQUESTED	Lab use only Due Date:
GEOSCIENCE  Environmental & Hydrogeologic Consultants	Address: Alkugue	erque	100	Temp. of coolers
Office Location Aztec	Contact: Andy		1 / / / / /	when received (C°); 2.3
Office Location 71210	Phone:		1 8	1 2 3 4 5 Page 1 of 1
Project Manager F. Summers	_ PO/SO #:		1 00 / / /	/ / / /
Samplers Named  Nyle Sum mers	Sampler's Signature		GRU/OR	
Proj. No. Project Name Largo	CS	No/Type of Containers		
	g Marks of Sample(s)	VOA A/G 250 P/C	F/60/ / / / / /	Lab Sample ID (Lab Use Only)
W 1/30/12 1040 X MV	V-42	3	XX	1202038 -1
	V-47	5		-2.
	V-14	5		-3
	-13	5		-9
	V-3R	5		-5
	V-16	5		-6
	1-15	5		-7
	V-7	5		-8
1 1040 MW		5		-9
V 1140 V MW		5	44	-10
Turn around time Normal 025% Rush Relinguished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Date:	Time: Received by: (Sign Time: Received by: (S	fature) Dat  Auture) Dat  Dat	1/12-0930 le: Time:	
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amb	S - Soil SD - Solid L - Liquer / Or Glass 1 Liter 250 ml		C - Charcoal tube SL - sludge O - Oil	