

3R-1001

**Remediation Plan
Corrective Action
Status Report**

Date:

5/14/2014

54



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

May 15, 2014

District Copy
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Return Receipt Requested
7011 3500 0002 5551 0249

Mr. Jim Griswold, Senior Hydrologist
Environmental Bureau
ENMRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

MAY 19 2014

RE: **Remediation Plan (Corrective Action Status Report)**
Largo Compressor Station
Enterprise Field Services LLC
OCD GW Discharge Permit Number: 3RP-1001 / GW-211
Rio Arriba County, New Mexico

Attn: Glenn Von Gonten

Dear Mr. Griswold,

Enterprise Field Services LLC (Enterprise) is submitting the enclosed *Remediation Plan (Corrective Action Status Report)* dated March 19, 2014 for the facility referenced above.

This Remediation Plan (Corrective Action Status Report) describes the excavation and on-site treatment of petroleum hydrocarbon affected soils at the Largo Compressor Station from the area designated as Area 1 (Former Condensate Storage Tank Area) in previous reporting. Following construction of the approximately six acre treatment area consisting of four treatment cells, an estimated volume of 6,000 yards of petroleum hydrocarbon impacted soil was excavated and transported directly to the treatment cells.

Confirmation samples collected from the Area 1 excavation did not exhibit concentrations above the Oil Conservation Division (OCD) *Remediation Action Levels*. The Area 1 excavation was backfilled with the on-site derived unaffected soils, compacted with on-site equipment and contoured to approximate former grade. Two interim evaluation samples collected from the soils currently undergoing treatment show that petroleum hydrocarbon constituent concentrations have been significantly reduced during the initial treatment activities; however, the samples exhibited TPH GRO/DRO concentrations above OCD *Remediation Action Levels*.

Enterprise will continue treatment activities and perform periodic groundwater monitoring at the facility in accordance with the *Corrective Action Work Plan (Area 1 and Area 3 - Soils)* dated March 11, 2013.

If you have any questions, or require additional information, please do not hesitate to contact me at (713) 381-2286, or drsmith@eprod.com.

Southwest GEOSCIENCE

606 S. Rio Grande Avenue, Suite A
Aztec, New Mexico 87410
Ph: (505) 334-5200
Fax: (505) 334-5204

March 19, 2014

Enterprise Field Services, LLC
P.O. Box 4324
Houston, Texas 77210-4324
Attn: Mr. David Smith

Re: Remediation Plan (Corrective Action Status Report)
Largo Compressor Station
GW-211, 3RP-1001
SE ¼ of NE ¼, Section 15, Township 26N, Range 7W
Rio Arriba County, New Mexico
SWG Project No. 0410G002

OIL CONS. DIV DIST. 3
MAY 19 2014

Dear Mr. Smith:

Southwest Geoscience (SWG) appreciates the opportunity to submit this status report detailing the corrective actions completed during the fall of 2013 at the above-referenced facility (hereinafter, the Site). The scope of work is based on SWG's *Corrective Action Work Plan*, dated March 11, 2013 and New Mexico Administrative Code (NMAC) 19.15.29.

SITE LOCATION AND HISTORY

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, 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 condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the 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.

The Site location is depicted on Figure 1 of Attachment 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 Attachment 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. This Remediation Plan (Corrective Action Status Report (CASR)) addresses petroleum hydrocarbon impacted

soils from Area 1 (Former Condensate Storage Tanks). Area 1 is briefly described below:

Area 1(Former Condensate Storage Tank Area)

Area 1 is defined as the northwestern portion of the Site and includes the former 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)*.

CHEMICALS OF CONCERN

The soil samples collected during previous site investigation activities were analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015 and BTEX using EPA SW-846 method #8021.

Summary of Historical Soil Exceedances

- Based on the laboratory analytical results, TPH GRO/DRO concentrations were identified in soil samples collected from borings B-1(4'), B-2(12.5'), B-5 (17.5'), B-14(17.5') (*Geoprobe Investigation at Largo Compressor Station, Lodestar - May 16, 2009*); B-22(15.0'), B-23(15.0'), B-24(15.0'), B-29(18.0'), hand auger-2(14.0') (*Report of Subsurface Investigation at Largo Compressor Station, Lodestar - November 30, 2009*); MW-33(7.5'), MW-35(9.5'), MW-37(11.5') (*Environmental Site Investigation, SWG – March 24, 2011*); SB-59(15.0') (*Supplemental Site Investigation (November 2012 and January 2013) (SWG – February 22, 2013)*); and Area 3 excavation samples "BWT" and "NE Wall" (*General Report EPCO Largo Station Summary, SMA - 2009*) above the OCD Remediation Action Level of 100 mg/Kg.
- Based on the laboratory analytical results, benzene concentrations were identified in soil samples collected from borings MW-35(9.5') (*Environmental Site Investigation, SWG – March 24, 2011*), and Area 3 excavation sample "BWT" (see *General Report EPCO Largo Station Summary, SMA - 2009*) above the OCD Remediation Action Level of 10 mg/Kg.
- Based on the laboratory analytical results, the total BTEX concentrations identified in soil samples collected from borings B-22(15.0'), B-23(15.0') (*Report of Subsurface Investigation at Largo Compressor Station, Lodestar - November 30, 2009*); MW-33(7.5'), MW-35(9.5'), MW-37(11.5') (*Environmental Site Investigation, SWG – March 24, 2011*); SB-59(15.0') (*Supplemental Site Investigation (November 2012 and January 2013) (SWG – February 22, 2013)*); and excavation samples "BWT" and "NE Wall" (see *General Report EPCO Largo Station Summary, SMA - 2009*) were above the OCD Remediation Action Level of 50 mg/Kg.

Figure 3 indicates the approximate locations of the borings/piezometers/monitoring wells completed at the Site in relation to pertinent Site features and general Site boundaries. Figure 4 details the OCD Remediation Action Level Exceedance Zone in soil.

SITE RANKING & PROPOSED CLEANUP GOALS

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the 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.

In accordance with the OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, SWG utilized the general site characteristics to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the table below:

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	20
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water source, or; <200 feet from private domestic water source.	Yes	20	0
	No	0	
Distance to Surface Water Body	<200 feet	20	10
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			30

Based on SWG's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 30. This ranking is based on the following:

- The depth to the initial groundwater-bearing zone is <50 feet at the Site.
- Nearby drinking water sources were not identified within 1,000 feet of the Site.
- Largo wash, which is approximate 425 feet north of the Site, is the nearest surface water feature.
- Two (2) Out of Service water wells are located up- and/or cross-gradient from the areas of impact, greater than 200 feet from delineated impact.

Based on a Total Ranking Score of 30, cleanup goals for soils remaining in place at Area 1 and Area 3 include: 10 mg/Kg for benzene, 50 mg/Kg for total BTEX, 100 mg/Kg for TPH GRO/DRO.

Proposed cleanup goals for the treated soils removed from Areas 1 and 3 include: 0.2 mg/kg for benzene, 50 mg/kg for total BTEX, 2,500 mg/kg total TPH, 500 mg/kg for TPH GRO and DRO fractions, and 500 mg/kg for chlorides.

Based on the absence of beneficial use of the initial groundwater-bearing unit in the Site vicinity and the presence of elevated TDS concentrations in several of the apparently

unaffected monitoring wells across the site, the initial groundwater-bearing unit should not be considered an "Underground Source of Drinking Water" in accordance with 19.15.30 NMAC *Remediation*.

BACKGROUND SAMPLING

Prior to the initiation of corrective action activities, background sampling was performed within the proposed treatment area to evaluate the proposed backfill material and determine soil conditions on the floor of the proposed treatment cells. Background sampling results are presented in the letter report "*Largo Compressor Station - Background Sampling*" dated June 18, 2013.

OBJECTIVES OF CORRECTIVE ACTION

The primary objective of the completed corrective actions was to reduce the concentrations of COCs in soil in Area 1, which are a result of historic operations, through excavation and on-site treatment.

TREATMENT CELL & BACKFILL MATERIAL

Prior to the initiation of corrective action activities, an approximate six (6) acre treatment area was constructed on the southeast portion of the Site. A containment berm, ranging from 2 feet to 5 feet high and 4 feet to 8 feet wide, was constructed along the perimeter of each of the four (4) treatment cells within the treatment area utilizing unaffected surface soils from the treatment cell construction. Silt fencing was installed around the perimeter of the treatment area as a best management practice.

To enhance containment as well as generate unaffected soils suitable for backfill, Enterprise obtained the unaffected backfill material from the treatment cell construction area. Unaffected soils, as determined during the background sampling described in the letter report "*Largo Compressor Station - Background Sampling*" dated June 18, 2013, were excavated during treatment cell construction to an average depth of (3) feet below grade (refer to the "Treatment Cells" depicted on Figure 3 in Attachment A). The actual depth of backfill excavation varied based on depth to bedrock, and the actual locations of buried utilities (no closer than 20-foot encroachment). This material was stockpiled for use as backfill material for Areas 1 and 3.

The treatment cell area is located completely within the fenced facility boundary, in an upgradient portion of the facility (both topographically and hydrogeologically).

Based on available data, the depth to the initial groundwater bearing unit in the treatment cell area ranges from approximately 15 feet bgs north of the elevated on-site road that traverses the site, to ≥ 25 feet bgs in the southern and more elevated areas. Soil boring data indicates a fine-grained (typically silty clay or clay) sediment is present at the top of the potentiometric surface in the areas south of the elevated road, ranging in thickness from four (4) to six (6) feet.

Based on the absence of beneficial use of the initial groundwater-bearing unit in the Site vicinity and the presence of elevated TDS concentrations in several of the apparently unaffected monitoring wells across the site, the initial groundwater-bearing unit should not be considered an "Underground Source of Drinking Water" in accordance with 19.15.30 NMAC *Remediation*.

EXCAVATION AND TREATMENT

Area 1 (Former Condensate Storage Tank Area)

Excavation activities were initiated in the vicinity of the former condensate storage tanks and proceeded horizontally and vertically to remove soils in exceedance of the OCD *Remediation Action Levels*. A pre-calculated volume (estimated of 6,000 cubic yards (in-place)) of soils affected by historical condensate releases from gathering operations were excavated from the condensate storage tank area during the course of corrective actions. Unaffected overburden soils, excavated during corrective actions were segregated to the extent practical and utilized as berm material adjacent to the excavation pending reuse.

The excavated petroleum hydrocarbon impacted soils were transported directly from the excavation and placed in the treatment cells in shallow (approximately 8-inch) lifts. Saturated soils were allowed to completely drain in the polyethylene-lined temporary containment cell prior to transfer to the treatment area. Soils removed from Area 1 were periodically subjected to field chloride tests (field test strips) prior to loading into trucks for transport to the treatment cells. Field tests indicated chloride levels ranging from 100 to 200 mg/Kg.

Once the petroleum hydrocarbon affected soils were spread within the treatment cell, the soils were tilled or agitated utilizing mechanical means (earth moving/tilling equipment) to increase oxygen availability to and stimulate naturally occurring bacteria in the soils which can metabolize organics including petroleum hydrocarbons. Soils in the treatment cell are periodically being monitored by PID headspace readings, and will ultimately be sampled for laboratory analysis to determine treatment progress. Two (2) interim evaluation samples were collected during January 2014, and are discussed herein.

CORRECTIVE ACTION EFFECTIVENESS

Subsequent to the completion of excavation and treatment activities, SWG will evaluate the effectiveness of the soil treatment actions utilizing a confirmation sample program designed to verify the attainment of cleanup goals in the treated soils, and ensure COCs did not migrate to unaffected soils underlying the treatment area. SWG has already collected two (2) interim evaluation samples from the treated soils, which are discussed herein. SWG will also collect confirmation samples from the excavation limits at Area 1 and Area 3 to document any COC concentrations which remain in-place in place. Confirmation samples have already been collected from the Area 1 excavation and are discussed in this document.

To evaluate the effectiveness of the proposed treatment action, Enterprise will continue to periodically perform PID monitoring of the treated soils until the clean-up goals have apparently been met, at which time confirmation samples will be collected for laboratory analysis.

In addition, Enterprise will collect one (1) vadose zone sample (between 3 feet and 4 feet beneath the treatment zone) in each treatment cell. These samples will be analyzed for TPH, BTEX, and chlorides. If soils affected in excess of the proposed cleanup goals are encountered, the affected soils will be treated to meet the cleanup goals or removed for proper offsite disposal.

CONFIRMATION SOIL SAMPLING

Area 1 Excavation

The extent of excavation in Area 1 was guided by visual, olfactory and PID evidence of impairment. Subsequent to the completion of excavation activities, confirmation samples (A1-SW, A1-SE, A1-NW, A1-NE, A1-W, A1-E, A1-Floor 1 and A1-Floor 2) were collected from the sidewalls and floor of each excavation and submitted for laboratory analyses.

Non-disposable sampling equipment was decontaminated using an Alconox® wash and potable water rinse prior to commencement of the project and between the collection of each sample.

The soil samples collected from the excavation were analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015 and BTEX using EPA SW-846 #8021. A summary of the analyses, sample type, and EPA-approved methods for samples collected from the excavation within Area 1 are presented in the following table:

Analysis	Sample Type	Number of Samples	Method
TPH GRO/DRO	Soil	8	SW-846 #8015
BTEX	Soil	8	SW-846 #8021

Treatment Area Soils

Subsequent to the completion of treatment activities, up to ten (10) discrete soil samples (one sample per 1,000 cubic yards) will be collected from the treated soils. The treated soils will be evaluated for potential reuse at the Site based on the laboratory analytical results and OCD approval. The soil samples collected from the treated soils will be analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015, TPH utilizing EPA method 418.1, chlorides utilizing EPA method 300.1 (or equivalent), and BTEX using EPA SW-846 #8021. A summary of the analyses, sample type, and EPA-approved methods are presented in the following table:

Analysis	Sample Type	Number of Samples	Method
TPH GRO/DRO	Soil	10	SW-846 #8015
BTEX	Soil	10	SW-846 #8021
TPH	Soil	10	EPA 418.1
Chlorides	Soil	10	EPA 300.1 or equivalent

In addition, subsequent to the completion of treatment activities, Enterprise will collect one (1) vadose zone sample (between 3 feet and 4 feet beneath the treatment zone) in each treatment cell. Soil borings will be advanced through the treated soils into the underlying native soils utilizing a direct-push drilling rig to evaluate if underlying soils

were impacted during the completion of treatment activities. These borings will be located in the center of each treatment cell, or in an area where water collected.

Soil samples will be collected using core barrels or split spoon samplers.

The soil samples will be collected in laboratory prepared glassware and placed on ice in a cooler, which will be secured with a custody seal. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form.

The soil samples collected from the confirmation soil borings will be analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015, TPH utilizing EPA method 418.1, chlorides utilizing EPA method 300.1 (or equivalent), and BTEX using EPA SW-846 #8021. A summary of the analysis, sample type, and EPA-approved methods are presented below:

Analysis	Sample Type	Number of Samples	Method
TPH GRO/DRO	Soil	4	SW-846 #8015
BTEX	Soil	4	SW-846 #8021
TPH	Soil	4	EPA 418.1
Chloride	Soil	4	EPA 300.1 or equivalent

Data Evaluation

SWG compared the TPH GRO/DRO and BTEX concentrations or laboratory reporting limits (RLs) associated with the confirmation and evaluation soil samples collected from the Area 1 excavation and the treated soils to the OCD *Remediation Action Levels*. The results of the soil sample analyses are summarized in Table 1 and Table 2 included in Attachment B. Laboratory data sheets and chain-of-custody documentation is provided in Attachment D.

Total Petroleum Hydrocarbons

The confirmation soil samples collected from the Area 1 excavation did not exhibit TPH GRO/DRO concentrations above the laboratory RLs, which are below the OCD's *Remediation Action Level* of 100 mg/Kg.

Soil samples Eval-1 and Eval-2 collected from the soils currently undergoing treatment exhibited TPH GRO concentrations of 86 mg/Kg and 980 mg/Kg, respectively and TPH DRO concentrations of 57 mg/Kg and 440 mg/Kg, respectively. Soil samples Eval-1 and Eval-2 also exhibited total TPH values of 290 mg/Kg and 1,400 mg/Kg utilizing EPA Method 418.1. The petroleum hydrocarbon constituent concentrations have been significantly reduced during the initial treatment activities; however, the identified TPH values in the soils undergoing treatment are currently above the OCD's *Remediation Action Level* of 100 mg/Kg in the areas tested. Therefore, treatment activities will continue until the OCD *Remediation Action Levels* are attained.

Benzene

The confirmation soil samples collected from the Area 1 excavation did not exhibit benzene concentrations above the laboratory RLs, which are below the OCD's *Remediation Action Level* of 10 mg/Kg.

The soil samples collected from the soils undergoing treatment did not exhibit benzene concentrations above the laboratory RLs, which are below the OCD's *Remediation Action Level* of 10 mg/Kg.

Total BTEX

The confirmation soil samples collected from the Area 1 excavation did not exhibit total BTEX concentrations above the laboratory RLs, which are below the OCD's *Remediation Action Level* of 50 mg/Kg.

Soil sample Eval-2 from the soils undergoing treatment exhibited a total BTEX concentration of 50 mg/Kg, which is equal to the OCD's *Remediation Action Level* of 50 mg/Kg.

Soil Sample Eval-1 exhibited a total BTEX concentration of 1.3 mg/Kg, which is below the OCD's *Remediation Action Levels* of 50 mg/Kg.

Chlorides

Soil Samples Eval-1 and Eval-2 from the soils undergoing treatment exhibited chloride concentrations of 98 mg/Kg and 180 mg/Kg, respectively.

Site Restoration

Subsequent to the attainment of the OCD *Remediation Action Levels*, the treated soils will remain in-place within the treatment area or with OCD approval, a portion of the treated soils may be utilized for backfill at Area 3.

The Area 1 excavation was backfilled with the on-site unaffected soils and compacted with on-site equipment. The excavation was then contoured to approximate former grade (including berm removal), and sloped to drain, and was incorporated into the surrounding informal driving surface in the vicinity of the pig-launching station.

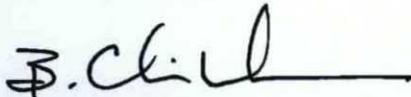
SWG appreciates the opportunity to provide the initial results of the corrective actions completed at the Site and look forward to working with you on this project. If you should have any questions or comments regarding this proposal, please contact the undersigned.

Sincerely,

Southwest
GEOSCIENCE



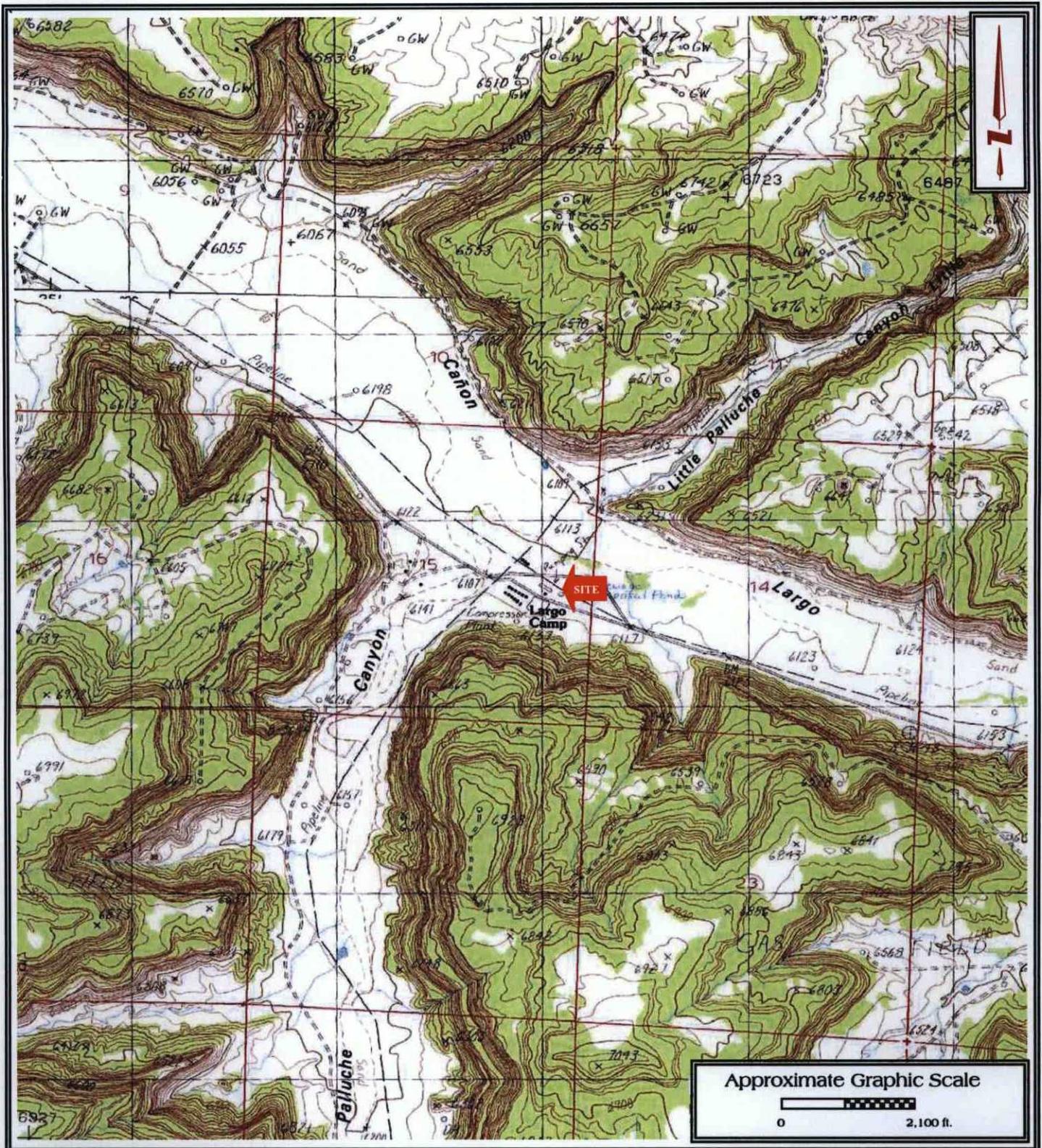
Kyle Summers, CPG
Manager, Four Corners/
Senior Geologist



B. Chris Mitchell, P.G.
Principal Geoscientist

ATTACHMENT A

Figures

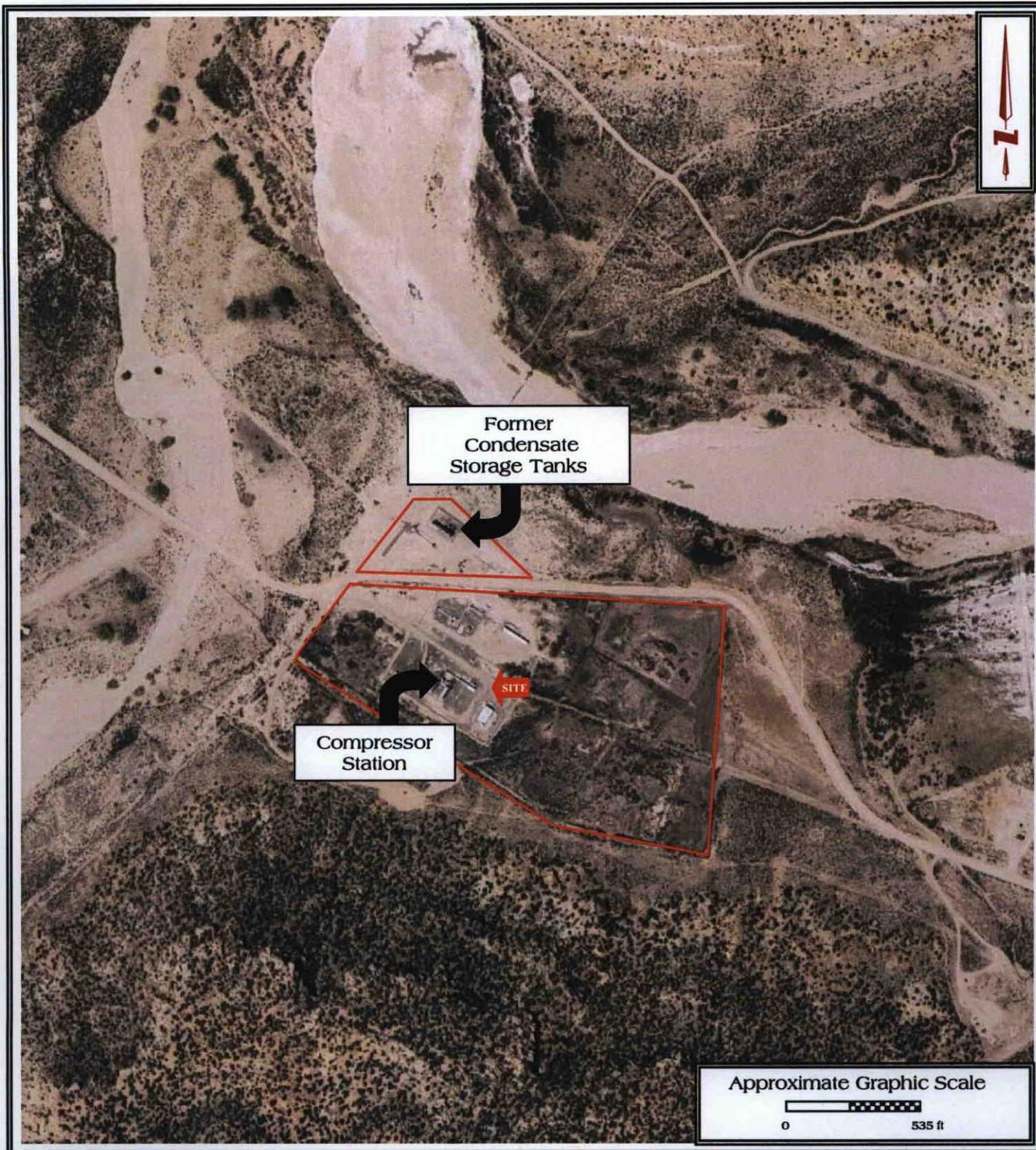


Largo Compressor Station
 SE1/4 of NE1/4, S15 T26N R7W
 Rio Arriba Co., New Mexico
 N36° 29' 12.63"; W107° 33' 27.79"

SWG Project No. 0410002

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FIGURE 1
 Topographic Map
 Smouse Mesa & Gould Pass,
 NM Quadrangle
 Contour Interval - 20 Feet
 1985

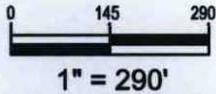
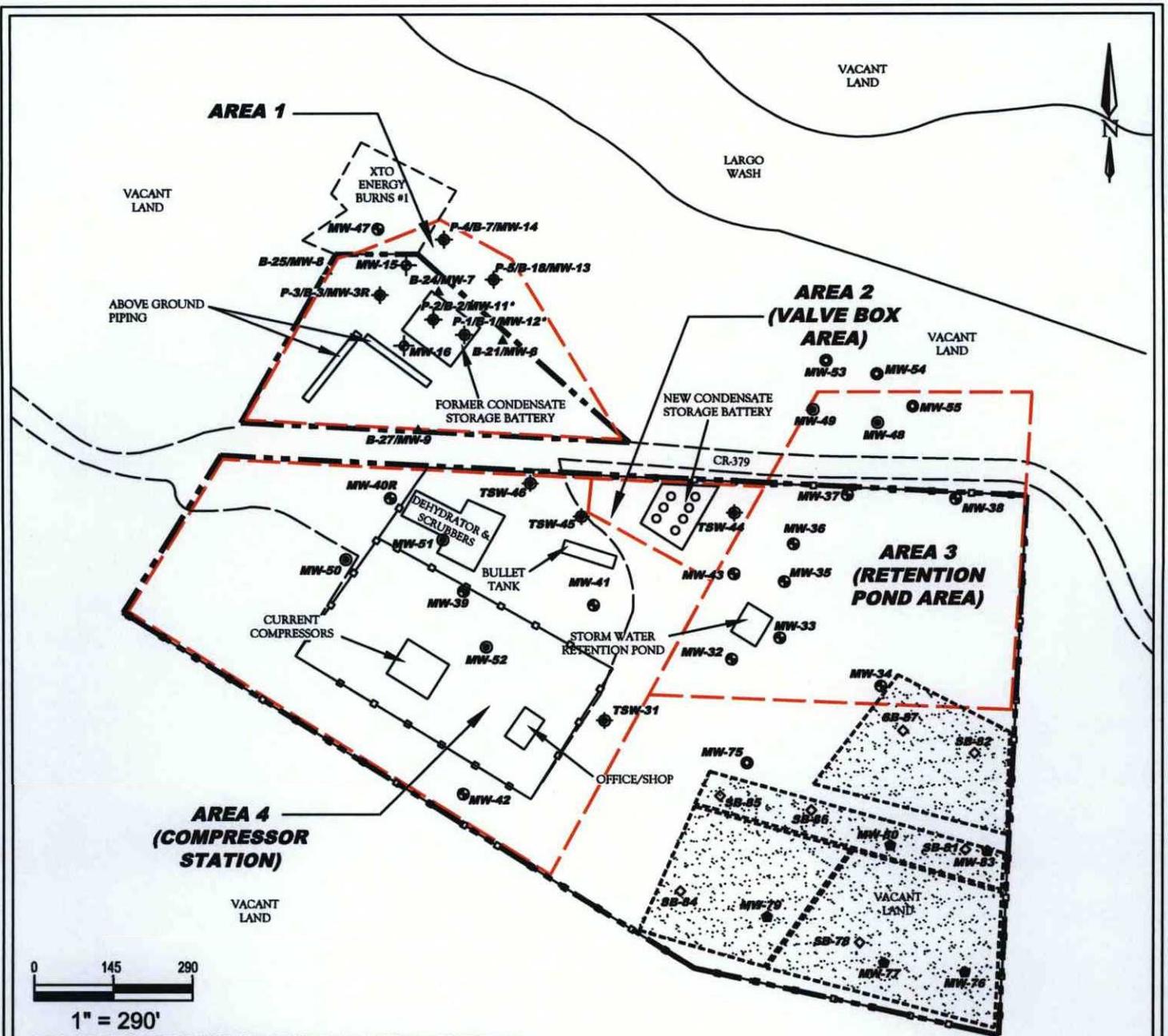


Largo Compressor Station
 SE1/4 of NE1/4, S15 T26N R7W
 Rio Arriba Co., New Mexico
 N36° 29' 12.63"; W107° 33' 27.79"

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FIGURE 2
 Site Vicinity Map
 2010 Google Earth

SWG Project No. 0410002



NOTE: DNC DENOTES GROUNDWATER GAUGING DATA THAT IS NOT CONSISTENT AND SUBSEQUENTLY WAS NOT USED TO CREATE THE GROUNDWATER ELEVATION CONTOURS
 * DENOTES PLUGGED AND ABANDONED WELLS ON SEPTEMBER 2013

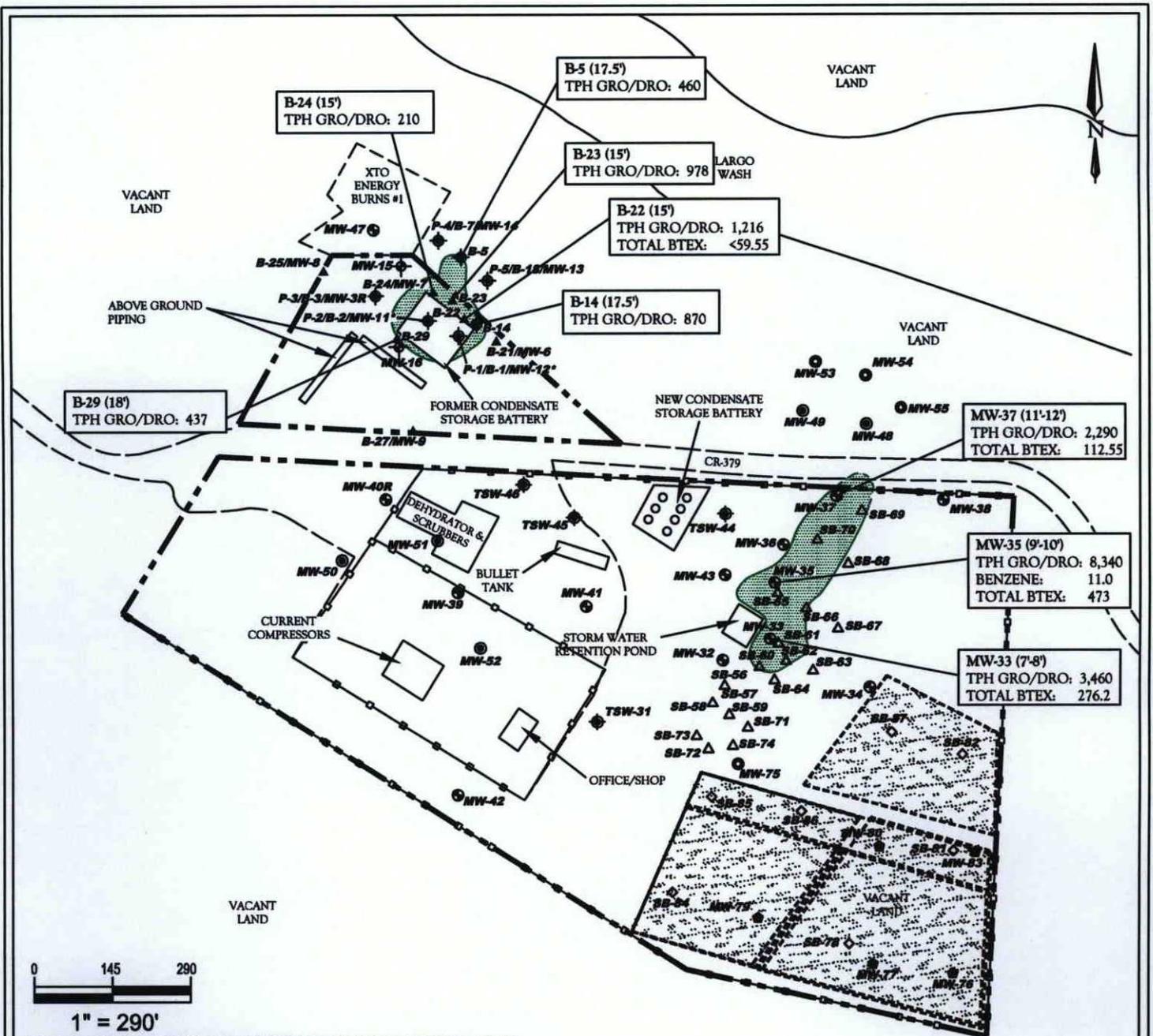
LEGEND:	
	SITE BOUNDARY
	GRAVEL
	FENCE
	BERM
	TREATMENT AREA
	SOIL BORING INSTALLED BY SWG (MAY 2013)
	MONITORING WELL INSTALLED BY SWG (MAY 2013)
	MONITORING WELL INSTALLED BY SWG (NOVEMBER 2012/ JANUARY 2013)
	MONITORING WELL INSTALLED BY SWG (APRIL 2012)
	MONITORING WELL INSTALLED BY SWG (NOVEMBER 2010)
	SOIL BORING/MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (AUGUST 2009)
	SOIL BORING/MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (MARCH/APRIL 2008)
	MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (MARCH 2010)
	TEMPORARY SAMPLING WELL INSTALLED BY SWG (NOVEMBER 2010)

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



0 145 290
 1" = 290'

NOTE: DNC DENOTES GROUNDWATER GAUGING DATA THAT IS NOT CONSISTENT AND SUBSEQUENTLY WAS NOT USED TO CREATE THE GROUNDWATER ELEVATION CONTOURS
 * DENOTES PLUGGED AND ABANDONED WELLS ON SEPTEMBER 2013

NOTE: ALL VALUES ARE REPORTED IN mg/kg

LEGEND:

- | | | | |
|--|--|--|-----------------------|
| --- SITE BOUNDARY | ▲ SOIL BORING/MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (AUGUST 2009) | ◆ MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (MARCH 2010) | ■ RAL EXCEEDANCE ZONE |
| --- GRAVEL | ◆ SOIL BORING/MONITORING WELL INSTALLED BY LT ENVIRONMENTAL (MARCH/APRIL 2008) | ◆ TEMPORARY SAMPLING WELL | |
| □ FENCE | | | |
| ● MONITORING WELL INSTALLED BY SWG (NOVEMBER 2010) | | | |

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

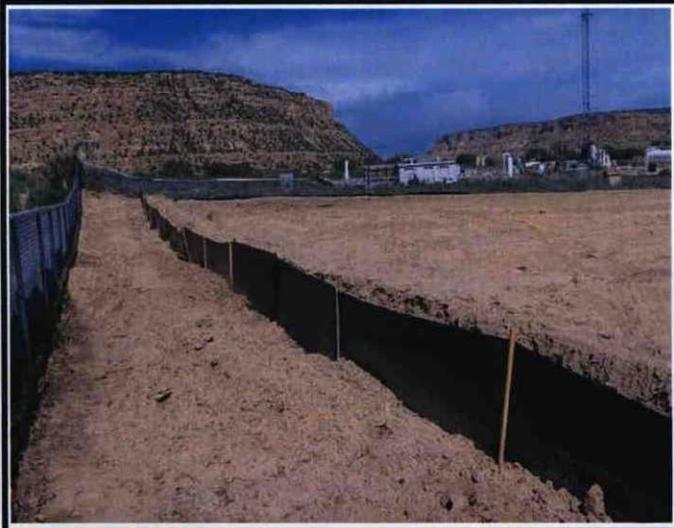
SWG Project No. 0410002

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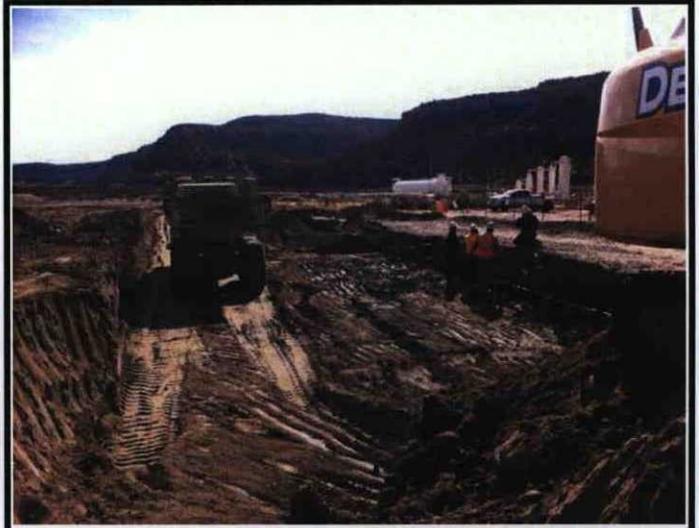
FIGURE 4
 REMEDIATION ACTION
 LEVEL (RAL) EXCEEDANCE
 ZONE IN SOIL

ATTACHMENT B

Photographic Documentation



1.) General view of the construction of the treatment cells and surrounding silt fence.



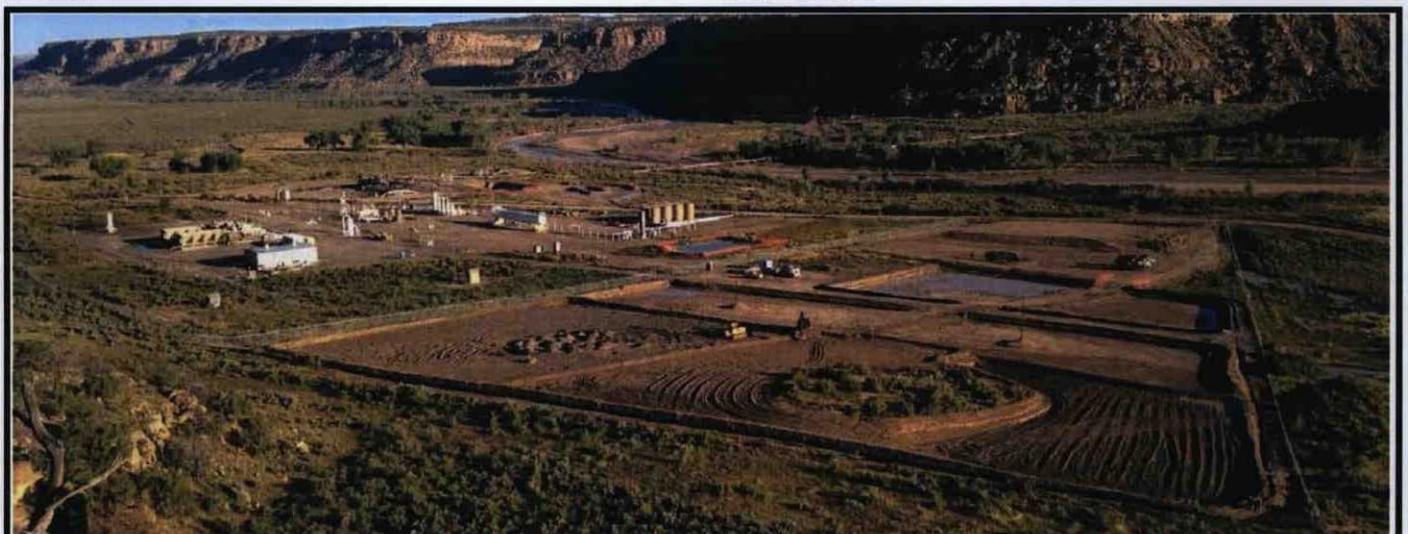
2.) Representative view of the excavation of affected soils from Area 1.



3.) Representative view of the excavation of affected soils from Area 1,



4.) Representative view of the backfilling of Area 1 with unaffected soil.



5.) Representative view of the excavated soils being spread in the treatment cells.

ATTACHMENT C

Tables

TABLE 1
Area 1 Confirmation Samples
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level										
A1 Floor 1	9.26.2013	G	19	<0.049	<0.049	<0.049	<0.049	ND	<4.9	<10
A-1 Floor 2	10.31.2013	G	19	<0.047	<0.047	<0.047	<0.047	ND	<4.7	<10
A1-NW	10.2.2013	G	10	<0.050	<0.050	<0.050	<0.099	ND	<5.0	<10
A1-NE	10.2.2013	G	10	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10
A1-W	10.2.2013	G	10	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<10
A1-E	10.2.2013	G	10	<0.050	<0.050	<0.050	<0.099	ND	<5.0	<10
A1-SW	11.4.2013	G	12	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<10
A1-SE	11.4.2013	G	12	<0.047	<0.047	<0.047	<0.094	ND	<4.7	52

Note: Concentrations in bold and yellow exceed the applicable OCD Remediation Action Level
NE = Not Established

TABLE 2
Treatment Area Interim Evaluation Samples
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH 418.1 mg/kg	Chlorides mg/kg
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level				10	NE	NE	NE	50	100	100	100	NE
Eval-1	1.21.2014	G	2	<0.050	<0.050	<0.050	1.3	1.3	86	57	290	98
Eval-2	1.21.2014	G	2	<0.49	<0.98	<0.98	50	50	980	440	1400	180

Note: Concentrations in bold and yellow exceed the applicable OCD Remediation Action Level
NE = Not Established

ATTACHMENT D

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

October 07, 2013

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

RE: Largo CS

OrderNo.: 1309E34

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/28/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1309E34
 Date Reported: 10/7/2013

CLIENT: Southwest Geoscience
 Project: Largo CS
 Lab ID: 1309E34-001

Client Sample ID: A1 Floor 1
 Collection Date: 9/26/2013 3:00:00 PM
 Received Date: 9/28/2013 11:10:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/4/2013 7:25:01 PM	9604
Surr: DNOP	94.0	63-147		%REC	1	10/4/2013 7:25:01 PM	9604
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/2/2013 11:12:32 AM	9584
Surr: BFB	99.8	80-120		%REC	1	10/2/2013 11:12:32 AM	9584
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	10/2/2013 11:12:32 AM	9584
Toluene	ND	0.049		mg/Kg	1	10/2/2013 11:12:32 AM	9584
Ethylbenzene	ND	0.049		mg/Kg	1	10/2/2013 11:12:32 AM	9584
Xylenes, Total	ND	0.097		mg/Kg	1	10/2/2013 11:12:32 AM	9584
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	10/2/2013 11:12:32 AM	9584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309E34

07-Oct-13

Client: Southwest Geoscience

Project: Largo CS

Sample ID	MB-9604	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	9604	RunNo:	13768					
Prep Date:	10/2/2013	Analysis Date:	10/2/2013	SeqNo:	392849	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.3		10.00		92.6	63	147			

Sample ID	LCS-9604	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	9604	RunNo:	13768					
Prep Date:	10/2/2013	Analysis Date:	10/2/2013	SeqNo:	392992	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	79.0	77.1	128			
Surr: DNOP	4.9		5.000		98.3	63	147			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1309E34
07-Oct-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID	MB-9584	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	9584	RunNo:	13779					
Prep Date:	10/1/2013	Analysis Date:	10/2/2013	SeqNo:	393846	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	80	120			

Sample ID	LCS-9584	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	9584	RunNo:	13779					
Prep Date:	10/1/2013	Analysis Date:	10/2/2013	SeqNo:	393847	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.1	74.5	126			
Surr: BFB	1100		1000		108	80	120			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1309E34
 07-Oct-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID	MB-9584	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	9584	RunNo:	13779					
Prep Date:	10/1/2013	Analysis Date:	10/2/2013	SeqNo:	393969	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		114	80	120			

Sample ID	LCS-9584	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	9584	RunNo:	13779					
Prep Date:	10/1/2013	Analysis Date:	10/2/2013	SeqNo:	393970	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	94.4	80	120			
Toluene	0.95	0.050	1.000	0	94.9	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Southwest Geoscience A

Work Order Number: 1309E34

RcptNo: 1

Received by/date: AF 09/28/13

Logged By: Anne Thorne 9/28/2013 11:10:00 AM *Anne Thorne*

Completed By: Anne Thorne 10/1/2013 *Anne Thorne*

Reviewed By: *clm 10/1/13*

Chain of Custody

1. Custody seals intact on sample bottles? Yes No Not Present
2. Is Chain of Custody complete? Yes No Not Present
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes No NA
5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
6. Sample(s) in proper container(s)? Yes No
7. Sufficient sample volume for indicated test(s)? Yes No
8. Are samples (except VOA and ONG) properly preserved? Yes No
9. Was preservative added to bottles? Yes No NA
10. VOA vials have zero headspace? Yes No No VOA Vials
11. Were any sample containers received broken? Yes No
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
13. Are matrices correctly identified on Chain of Custody? Yes No
14. Is it clear what analyses were requested? Yes No
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
By Whom: _____ Via: eMail Phone Fax In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

CHAIN OF CUSTODY RECORD

<h1 style="margin: 0;">Southwest</h1> <h2 style="margin: 0;">GEOSCIENCE</h2> <p style="margin: 0; font-size: small;">Environmental & Hydrogeologic Consultants</p>		Laboratory: <u>Hall</u> Address: <u>ABB</u>		ANALYSIS REQUESTED <div style="font-size: 2em; transform: rotate(-45deg); opacity: 0.5; position: absolute; top: 50%; left: 50%;">BTEX 8021 TPH GAO DRD 8011</div>										Lab use only Due Date:																							
		Office Location: <u>Aztec</u> Contact: <u>Freeman</u> Phone: _____ Project Manager: <u>Dr. Summers</u> PO/SO #: <u>04106002</u>												Temp. of coolers when received (C°): <u>4.1</u> Page <u>1</u> of <u>1</u>																							
Sampler's Name: <u>Kyle Summers</u> Sampler's Signature: <u>[Signature]</u>		Proj. No.: <u>04106002</u> Project Name: <u>Largo CS</u> No/Type of Containers: _____		Lab Sample ID (Lab Use Only) <u>1309 E34-001</u>																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Matrix</th> <th>Date</th> <th>Time</th> <th>Comp</th> <th>Grab</th> <th>Identifying Marks of Sample(s)</th> <th>Start Depth</th> <th>End Depth</th> <th>VOA</th> <th>A/G 1 Lt.</th> <th>250 ml</th> <th>P/O</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>9/26/13</td> <td>1500</td> <td></td> <td>X</td> <td>A1-Floor 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1 XX</td> </tr> <tr> <td colspan="12" style="text-align: center; height: 100px;"> <div style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg); position: absolute; top: 50%; left: 50%;">NFS RJS</div> </td> </tr> </tbody> </table>		Matrix	Date											Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	S	9/26/13	1500		X	A1-Floor 1						1 XX	<div style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg); position: absolute; top: 50%; left: 50%;">NFS RJS</div>	
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O																										
S	9/26/13	1500		X	A1-Floor 1						1 XX																										
<div style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg); position: absolute; top: 50%; left: 50%;">NFS RJS</div>																																					
Turn around time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush																																					
Relinquished by (Signature): <u>[Signature]</u> Date: <u>9/27/13</u> Time: <u>1515</u>		Received by (Signature): <u>Christine Weeler</u> Date: <u>9/27/13</u> Time: <u>1515</u>		NOTES:																																	
Relinquished by (Signature): <u>Christine Weeler</u> Date: <u>9/27/13</u> Time: <u>1724</u>		Received by (Signature): <u>[Signature]</u> Date: <u>9/28/13</u> Time: <u>18:10</u>																																			
Relinquished by (Signature): _____ Date: _____ Time: _____		Received by (Signature): _____ Date: _____ Time: _____																																			
Relinquished by (Signature): _____ Date: _____ Time: _____		Received by (Signature): _____ Date: _____ Time: _____																																			

Matrix Container: WW - Wastewater, VOA - 40 ml vial, W - Water, A/G - Amber / Or Glass 1 Liter, S - Soil, SD - Solid, L - Liquid, A - Air Bag, 250 ml - Glass wide mouth, C - Charcoal tube, P/O - Plastic or other, SL - sludge, O - Oil



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

October 07, 2013

Kyle Summers
Southwest Geoscience
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (903) 821-5603
FAX: (214) 350-2914

RE: Largo CS

OrderNo.: 1310195

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/3/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1310195
 Date Reported: 10/7/2013

CLIENT: Southwest Geoscience

Client Sample ID: A1-NW

Project: Largo CS

Collection Date: 10/2/2013 2:10:00 PM

Lab ID: 1310195-001

Matrix: SOIL

Received Date: 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2013 12:38:40 PM	9653
Surr: DNOP	106	63-147		%REC	1	10/7/2013 12:38:40 PM	9653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2013 3:21:29 AM	9636
Surr: BFB	101	80-120		%REC	1	10/5/2013 3:21:29 AM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/5/2013 3:21:29 AM	9636
Toluene	ND	0.050		mg/Kg	1	10/5/2013 3:21:29 AM	9636
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2013 3:21:29 AM	9636
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2013 3:21:29 AM	9636
Surr: 4-Bromofluorobenzene	113	80-120		%REC	1	10/5/2013 3:21:29 AM	9636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1310195

Date Reported: 10/7/2013

CLIENT: Southwest Geoscience

Client Sample ID: A1-NE

Project: Largo CS

Collection Date: 10/2/2013 2:05:00 PM

Lab ID: 1310195-002

Matrix: SOIL

Received Date: 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2013 1:09:51 PM	9653
Surr: DNOP	102	63-147		%REC	1	10/7/2013 1:09:51 PM	9653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2013 3:51:53 AM	9636
Surr: BFB	101	80-120		%REC	1	10/5/2013 3:51:53 AM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/5/2013 3:51:53 AM	9636
Toluene	ND	0.050		mg/Kg	1	10/5/2013 3:51:53 AM	9636
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2013 3:51:53 AM	9636
Xylenes, Total	ND	0.10		mg/Kg	1	10/5/2013 3:51:53 AM	9636
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	10/5/2013 3:51:53 AM	9636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1310195

Date Reported: 10/7/2013

CLIENT: Southwest Geoscience

Client Sample ID: A1-W

Project: Largo CS

Collection Date: 10/2/2013 2:15:00 PM

Lab ID: 1310195-003

Matrix: SOIL

Received Date: 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2013 1:41:02 PM	9653
Surr: DNOP	93.6	63-147		%REC	1	10/7/2013 1:41:02 PM	9653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/5/2013 4:22:02 AM	9636
Surr: BFB	101	80-120		%REC	1	10/5/2013 4:22:02 AM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	10/5/2013 4:22:02 AM	9636
Toluene	ND	0.049		mg/Kg	1	10/5/2013 4:22:02 AM	9636
Ethylbenzene	ND	0.049		mg/Kg	1	10/5/2013 4:22:02 AM	9636
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2013 4:22:02 AM	9636
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	10/5/2013 4:22:02 AM	9636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1310195
 Date Reported: 10/7/2013

CLIENT: Southwest Geoscience

Client Sample ID: A1-E

Project: Largo CS

Collection Date: 10/2/2013 2:20:00 PM

Lab ID: 1310195-004

Matrix: SOIL

Received Date: 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2013 2:12:13 PM	9653
Surr: DNOP	94.5	63-147		%REC	1	10/7/2013 2:12:13 PM	9653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2013 4:52:06 AM	9636
Surr: BFB	101	80-120		%REC	1	10/5/2013 4:52:06 AM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/5/2013 4:52:06 AM	9636
Toluene	ND	0.050		mg/Kg	1	10/5/2013 4:52:06 AM	9636
Ethylbenzene	ND	0.050		mg/Kg	1	10/5/2013 4:52:06 AM	9636
Xylenes, Total	ND	0.099		mg/Kg	1	10/5/2013 4:52:06 AM	9636
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	10/5/2013 4:52:06 AM	9636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1310195
 07-Oct-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID: MB-9653	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch ID: 9653	RunNo: 13829								
Prep Date: 10/4/2013	Analysis Date: 10/4/2013	SeqNo: 395809	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.4		10.00		93.6	63	147			

Sample ID: LCS-9653	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 9653	RunNo: 13829								
Prep Date: 10/4/2013	Analysis Date: 10/4/2013	SeqNo: 395810	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	103	77.1	128			
Surr: DNOP	5.1		5.000		102	63	147			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310195
07-Oct-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID: MB-9636	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 9636	RunNo: 13860								
Prep Date: 10/3/2013	Analysis Date: 10/4/2013	SeqNo: 396249	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	80	120			

Sample ID: LCS-9636	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 9636	RunNo: 13860								
Prep Date: 10/3/2013	Analysis Date: 10/4/2013	SeqNo: 396250	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.5	74.5	126			
Surr: BFB	1100		1000		106	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1310195
 07-Oct-13

Client: Southwest Geoscience
 Project: Largo CS

Sample ID: MB-9636	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 9636	RunNo: 13860								
Prep Date: 10/3/2013	Analysis Date: 10/4/2013	SeqNo: 396276	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		115	80	120			

Sample ID: LCS-9636	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 9636	RunNo: 13860								
Prep Date: 10/3/2013	Analysis Date: 10/4/2013	SeqNo: 396277	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.4	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Southwest Geoscience

Work Order Number: 1310195

RcptNo: 1

Received by/date: LM 10/03/13

Logged By: **Michelle Garcia** 10/3/2013 10:00:00 AM *Michelle Garcia*

Completed By: **Michelle Garcia** 10/3/2013 11:51:42 AM *Michelle Garcia*

Reviewed By: AT 10/03/13

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Courier

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

CHAIN OF CUSTODY RECORD

Southwest
GEOSCIENCE
 Environmental & Hydrogeologic Consultants

Laboratory: HALL
 Address: ABQ
 Contact: FREEMAN
 Phone: _____
 PO/SO #: 041067002

Office Location AZTEC NM

Project Manager KYLE SUMMERS

Sampler's Name AARON BRYANT Sampler's Signature [Signature]

Proj. No. 041067002 Project Name LARINO CS No/Type of Containers _____

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1Lt	250 ml	P/O	Lab Sample ID (Lab Use Only)
S	10-2-13	1410		X	A1-NW		10ft				1 XX	1310195-001
S	↓	1405		X	A1-NE		10ft				↓ ↓ ↓	-002
S	↓	1415		X	A1-W		10ft				↓ ↓ ↓	-003
S	↓	1420		X	A1-E		10ft				↓ ↓ ↓	-004
NFS AB												

ANALYSIS REQUESTED

BTEX 5021
 TPH (GRY) DRG 5015

Lab use only
 Due Date: _____
 Temp. of coolers when received (C°): 1.0
 Page 1 of 1

Turn around time Normal 25% Rush 50% Rush 100% Rush

Relinquished by (Signature) <u>[Signature]</u>	Date: <u>10-2-13</u> Time: <u>1420</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>10/2/13</u> Time: <u>1420</u>
Relinquished by (Signature) <u>[Signature]</u>	Date: <u>10-2-13</u> Time: <u>1800</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>10/3/13</u> Time: <u>1000</u>
Relinquished by (Signature) _____	Date: _____ Time: _____	Received by (Signature) _____	Date: _____ Time: _____
Relinquished by (Signature) _____	Date: _____ Time: _____	Received by (Signature) _____	Date: _____ Time: _____

NOTES:

Matrix Container: WW - Wastewater, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil
 VOA - 40 ml vial, A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other



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

November 08, 2013

Kyle Summers
Southwest Geoscience
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (903) 821-5603
FAX (214) 350-2914

RE: Largo CS

OrderNo.: 1311052

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/2/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1311052

Date Reported: 11/8/2013

CLIENT: Southwest Geoscience

Client Sample ID: A-1 Floor 2

Project: Largo CS

Collection Date: 10/31/2013 12:30:00 PM

Lab ID: 1311052-001

Matrix: SOIL

Received Date: 11/2/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/6/2013 11:46:33 AM	10163
Surr: DNOP	83.7	66-131		%REC	1	11/6/2013 11:46:33 AM	10163
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2013 2:38:56 PM	10164
Surr: BFB	91.9	74.5-129		%REC	1	11/5/2013 2:38:56 PM	10164
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	11/5/2013 2:38:56 PM	10164
Toluene	ND	0.047		mg/Kg	1	11/5/2013 2:38:56 PM	10164
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2013 2:38:56 PM	10164
Xylenes, Total	ND	0.094		mg/Kg	1	11/5/2013 2:38:56 PM	10164
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	11/5/2013 2:38:56 PM	10164

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311052
 08-Nov-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID MB-10163	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: PBS	Batch ID: 10163		RunNo: 14582							
Prep Date: 11/4/2013	Analysis Date: 11/6/2013		SeqNo: 420234		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.6		10.00		96.0	66	131			

Sample ID LCS-10163	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 10163		RunNo: 14582							
Prep Date: 11/4/2013	Analysis Date: 11/6/2013		SeqNo: 420235		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.2	62.1	127			
Surr: DNOP	4.8		5.000		97.0	66	131			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311052
 08-Nov-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID MB-10164	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 10164		RunNo: 14590							
Prep Date: 11/4/2013	Analysis Date: 11/5/2013		SeqNo: 419236		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	74.5	129			

Sample ID LCS-10164	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 10164		RunNo: 14590							
Prep Date: 11/4/2013	Analysis Date: 11/5/2013		SeqNo: 419237		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.4	74.5	126			
Surr: BFB	990		1000		98.7	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311052
 08-Nov-13

Client: Southwest Geoscience
 Project: Largo CS

Sample ID	MB-10164	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	10164	RunNo:	14590					
Prep Date:	11/4/2013	Analysis Date:	11/5/2013	SeqNo:	419305	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID	LCS-10164	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	10164	RunNo:	14590					
Prep Date:	11/4/2013	Analysis Date:	11/5/2013	SeqNo:	419311	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	99.0	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Southwest Geoscience Work Order Number: 1311052 RcptNo: 1

Received by/date: *AF* *11/02/13*
 Logged By: Lindsay Mangin 11/2/2013 10:00:00 AM *[Signature]*
 Completed By: Lindsay Mangin 11/4/2013 10:10:39 AM *[Signature]*
 Reviewed By: *AF 11/04/13*

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Courier

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels?
 (Note discrepancies on chain of custody) Yes No # of preserved bottles checked for pH: (<2 or >12 unless noted)
- 13. Are matrices correctly identified on Chain of Custody? Yes No Adjusted?
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met?
 (If no, notify customer for authorization.) Yes No Checked by:

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

CHAIN OF CUSTODY RECORD

<h1 style="margin: 0;">Southwest</h1> <h2 style="margin: 0;">GEOSCIENCE</h2> <p style="margin: 0; font-size: small;">Environmental & Hydrogeologic Consultants</p>		Laboratory: <u>Hall</u> Address: <u>ABQ</u>		ANALYSIS REQUESTED TPH GRAD/DRO 8015 BTEX 8021		Lab use only Due Date:											
		Office Location: <u>Aztec</u>				Contact: <u>Freeman</u>		Temp. of coolers when received (C°): <u>36°c</u>									
Project Manager: <u>Summers</u>		Phone: _____ PO/SO #: <u>04106002</u>				<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">4</td> <td style="width: 20px;">5</td> </tr> <tr> <td colspan="5">Page <u>1</u> of <u>1</u></td> </tr> </table>		1	2	3	4	5	Page <u>1</u> of <u>1</u>				
1	2	3	4			5											
Page <u>1</u> of <u>1</u>																	
Sampler's Name: <u>Kyle Summers</u>		Sampler's Signature: <u>[Signature]</u>															
Proj. No: <u>04106002</u>		Project Name: <u>Largo CS</u>		No/Type of Containers: _____													
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1Lt.	250 ml	P/O	Lab Sample ID (Lab Use Only)					
S	10/31/13	1230	X		A-1 Floor 2						1 X X	1311052 -001					
NFI K.S.																	
Turn around time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush																	
Relinquished by (Signature): <u>[Signature]</u>		Date: <u>10/31/13</u> Time: <u>1709</u>		Received by (Signature): <u>[Signature]</u>		Date: <u>10/31/13</u> Time: <u>1709</u>		NOTES:									
Relinquished by (Signature): <u>[Signature]</u>		Date: <u>11/1/13</u> Time: <u>1725</u>		Received by (Signature): <u>[Signature]</u>		Date: <u>11/2/13</u> Time: <u>10:00</u>											
Relinquished by (Signature): _____		Date: _____ Time: _____		Received by (Signature): _____		Date: _____ Time: _____											
Relinquished by (Signature): _____		Date: _____ Time: _____		Received by (Signature): _____		Date: _____ Time: _____											

Matrix Container: WW - Wastewater, VOA - 40 ml vial, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil
 A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other



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

November 13, 2013

Kyle Summers
Southwest Geoscience
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (903) 821-5603
FAX (214) 350-2914

RE: Largo CS

OrderNo.: 1311250

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/6/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1311250

Date Reported: 11/13/2013

CLIENT: Southwest Geoscience

Client Sample ID: A1-SW

Project: Largo CS

Collection Date: 11/4/2013 11:00:00 AM

Lab ID: 1311250-001

Matrix: SOIL

Received Date: 11/6/2013 10:17:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/8/2013 1:39:43 PM	10226
Surr: DNOP	94.6	66-131		%REC	1	11/8/2013 1:39:43 PM	10226
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/11/2013 3:30:29 PM	10237
Surr: BFB	92.3	74.5-129		%REC	1	11/11/2013 3:30:29 PM	10237
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	11/11/2013 3:30:29 PM	10237
Toluene	ND	0.049		mg/Kg	1	11/11/2013 3:30:29 PM	10237
Ethylbenzene	ND	0.049		mg/Kg	1	11/11/2013 3:30:29 PM	10237
Xylenes, Total	ND	0.098		mg/Kg	1	11/11/2013 3:30:29 PM	10237
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	11/11/2013 3:30:29 PM	10237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience

Client Sample ID: A1-SE

Project: Largo CS

Collection Date: 11/4/2013 11:15:00 AM

Lab ID: 1311250-002

Matrix: SOIL

Received Date: 11/6/2013 10:17:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	52	10		mg/Kg	1	11/8/2013 3:43:38 PM	10226
Surr: DNOP	97.5	66-131		%REC	1	11/8/2013 3:43:38 PM	10226
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/8/2013 5:13:23 PM	10237
Surr: BFB	93.2	74.5-129		%REC	1	11/8/2013 5:13:23 PM	10237
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	11/8/2013 5:13:23 PM	10237
Toluene	ND	0.047		mg/Kg	1	11/8/2013 5:13:23 PM	10237
Ethylbenzene	ND	0.047		mg/Kg	1	11/8/2013 5:13:23 PM	10237
Xylenes, Total	ND	0.094		mg/Kg	1	11/8/2013 5:13:23 PM	10237
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	11/8/2013 5:13:23 PM	10237

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311250
 13-Nov-13

Client: Southwest Geoscience
 Project: Largo CS

Sample ID MB-10226	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch ID: 10226	RunNo: 14634								
Prep Date: 11/7/2013	Analysis Date: 11/8/2013	SeqNo: 422737	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.9		10.00		98.9	66	131			

Sample ID LCS-10226	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 10226	RunNo: 14634								
Prep Date: 11/7/2013	Analysis Date: 11/8/2013	SeqNo: 422738	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	10	50.00	0	71.3	62.1	127			
Surr: DNOP	4.9		5.000		98.7	66	131			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311250

13-Nov-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID MB-10237	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 10237		RunNo: 14664							
Prep Date: 11/7/2013	Analysis Date: 11/8/2013		SeqNo: 422516		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.8	74.5	129			

Sample ID LCS-10237	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 10237		RunNo: 14664							
Prep Date: 11/7/2013	Analysis Date: 11/8/2013		SeqNo: 422517		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.4	74.5	126			
Surr: BFB	1000		1000		102	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- 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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1311250
 13-Nov-13

Client: Southwest Geoscience
Project: Largo CS

Sample ID MB-10237	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 10237		RunNo: 14664							
Prep Date: 11/7/2013	Analysis Date: 11/8/2013		SeqNo: 422537		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID LCS-10237	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 10237		RunNo: 14664							
Prep Date: 11/7/2013	Analysis Date: 11/8/2013		SeqNo: 422538		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
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- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit



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

Sample Log-In Check List

Client Name: Southwest Geoscience

Work Order Number: 1311250

RcptNo: 1

Received by/date:

[Signature]

11/06/13

Logged By: Ashley Gallegos

11/6/2013 10:17:00 AM

[Signature]

Completed By: Ashley Gallegos

11/7/2013 9:17:51 AM

[Signature]

Reviewed By:

[Signature]

11/07/13

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Courier

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
- 13. Are matrices correctly identified on Chain of Custody? Yes No Adjusted?
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes No Checked by: _____

Special Handling (If applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

CHAIN OF CUSTODY RECORD

<h1 style="margin: 0;">Southwest</h1> <h2 style="margin: 0;">GEOSCIENCE</h2> <p style="margin: 0; font-size: small;">Environmental & Hydrogeologic Consultants</p>		Laboratory: <u>Hall</u> Address: <u>ABA</u>		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> BTEX 8021 TPH GROHRO 8015 </div>				Lab use only Due Date: _____										
		Office Location: <u>Aatec</u> Contact: <u>Freeman</u> Phone: _____						Project Manager: <u>Summers</u> PO/SO #: <u>0410G002</u>		Temp. of coolers when received (C°): <u>1</u>								
Sample's Name: <u>Kyle Summers</u> Sample's Signature: <u>[Signature]</u>		Project No.: <u>0410G002</u> Project Name: <u>Largo CS</u> No/Type of Containers: _____		Page <u>1</u> of <u>1</u>														
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1L	250 ml	P/O	Lab Sample ID (Lab Use Only)						
S	11/4/13	1100		X	A1-SW						1	X	X	1311250-001				
S	11/4/13	1115		X	A1-SE						1	X	X	-002				
<div style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg);">NFS</div>																		
Turn around time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush																		
Relinquished by (Signature): <u>[Signature]</u> Date: <u>11/5/13</u> Time: <u>920</u>			Received by (Signature): <u>Christine Walker</u> Date: <u>11/5/13</u> Time: <u>920</u>			NOTES:												
Relinquished by (Signature): <u>Christine Walker</u> Date: <u>11/5/13</u> Time: <u>1719</u>			Received by (Signature): <u>[Signature]</u> Date: <u>10/06/13</u> Time: <u>1017</u>															
Relinquished by (Signature): _____ Date: _____ Time: _____			Received by (Signature): _____ Date: _____ Time: _____															
Relinquished by (Signature): _____ Date: _____ Time: _____			Received by (Signature): _____ Date: _____ Time: _____															

Matrix: WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil
 Container: VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other