2R - 422

CORRECTIVE ACTION PLANS

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September 25, 2013

Enterprise Products Operating LLC
P.O. Box 4324
Houston, Texas 77210
Attention: Mr. David R. Smith, P.G.

Re: Supplemental Corrective Action Work Plan
S. Carlsbad Compressor Station (OCD Permit No. 2R-422)
NWC of Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico
SWG Project No.: 0210G003

Mr. Smith,

Southwest Geoscience (SWG) has prepared this Supplemental Corrective Action Work Plan (CAWP) for the Enterprise Products Operating LLC (Enterprise) S. Carlsbad Compressor Station located at the northwest corner of Carrasco Road and CR 710, approximately ten (10) miles southeast of Carlsbad in Eddy County, New Mexico (SE1/4 of SE1/4 of S12, T23S, R27E), referred to hereinafter as the "Site" or "subject Site." The Site is currently improved as a natural gas compressor station. A topographic map depicting the location of the Site is attached as Figure 1 and a Site Vicinity Map is attached as Figure 2 of Attachment A. In addition, a Site Map depicting the approximate location of pertinent structures and field investigation is included as Figure 3 of Attachment A.

Site History and Background

The Site formerly included a tank battery on the south/southwestern portion of the property which stored natural gas condensate or produced liquids separated from the natural gas stream which is processed at the Site. Enterprise personnel identified stained soils indicative of historical leakage prior to and during the decommissioning of the former on-Site tank battery. Initial site investigation activities were performed by SWG in November of 2009, which included the advancement of one (1) soil boring to a depth of 20 feet below ground surface (bgs). Two soil samples were collected from soil boring B-1 at 7 to 8 feet bgs and 19 to 20 feet bgs and submitted for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbon (TPH) gasoline range organics (GRO)/diesel range organics (DRO) analysis utilizing SW-846 #8021B utilizing EPA method SW-846 #8015M, respectively. Concentrations of constituents of concern (COC) were compared to the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division's (OCD) *Remediation Action Levels.* Based on the laboratory analytical results, the soil samples collected from soil boring B-1 did not exhibit benzene or total BTEX concentrations in exceedance of the OCD *Remediation Action Levels.* The soil sample collected from soil boring B-1 7 to 8 feet bgs exhibited a TPH GRO/DRO concentration of 980 mg/Kg, which exceeds the OCD *Remediation Action Level* of 100 mg/Kg. The soil sample collected form soil boring B-1 19 to 20 feet bgs did not exhibit TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels.* It should be noted that the soil samples collected from soil boring B-1 were previously reported as having TPH GRO/DRO concentrations below the OCD *Remediation Action Levels*, which has been revised based on the adjusted "ranking' of the Site. The results of the soil sample analysis and the OCD *Remediation Action Levels* are presented on Table 1 of Attachment B. The field screening results are presented on the soil boring logs of Attachment C.

SWG utilized the OCD *Guidelines for Remediation of Leaks, Spills and Release* to assess and establish the appropriate "ranking" or *Remediation Action Levels* for the Site. Based on a review of review of New Mexico Office of the State Engineer (OSE) water well records, the depth to groundwater in the vicinity of the Site is estimated to be approximately 56 feet bgs. A search of New Mexico water well records identified four (4) water wells within 1,000 feet of the Site. One (1) water well (point of diversion (POD) #C03053) was reportedly located approximately 60 feet west of the Site, or 400 feet northwest of the release source area; one (1) water well (POD #C03457) was reportedly located approximately 200 feet west of the Site, or 575 feet northwest of the release source area; one (1) water well (POD #C00069) was reportedly located approximately 350 feet east of the Site, or 850 feet east of the release source area; and one (1) water well (POD C00461) was reportedly located approximately 550 feet southeast of the Site, or 900 feet southeast of the release source area. SWG did not identify the water wells reported at POD location #C03053 or C03457. It is suspected that these wells may be located on farmsteads to the northwest or southwest of the Site. SWG observed an irrigation well near the reported POD location #00069, which was approximately 100 feet east of the Site, or 500 east of the release source area. This well is currently active and utilized to pump water into nearby irrigation canals. SWG observed an irrigation well near the reported POD location #C00461, which was approximately 600 feet southeast of the Site or 800 feet southeast of the release source area. This well appeared to be out of use. The hydrogeologic gradient at the Site was estimated based on the surface topography relief, which is generally to the northeast. A field survey identified one (1) down-gradient surface water feature within 1,000 feet of the Site. A concrete-lined irrigation canal which runs north and south was identified approximately 50 feet east of the Site. However, this feature was not included in the Site ranking based on the presence of a concrete lining. Based on SWG's review of Site characteristics (specifically: depth to groundwater, wellhead protection area and distance to surface water) an associated ranking score of forty (40) was determined for the Site in accordance with the OCD's *Guidelines for Remediation of Leaks, Spills and Releases*. The OCD's *Remediation Action Levels* for sites with a total ranking score of >19 is 10 milligrams per kilogram (mg/Kg) benzene, 50 mg/Kg total BTEX, and 100 mg/Kg TPH GRO/DRO. It should be noted that the Site was previously reported to have a total ranking score of ten (10). This has since been revised based on the review of additional well logs and visual observations. A copy of the New Mexico OSE water well records and location summary map is in Attachment E. It should be noted that the water well locations for POD #00069 and #C00461 were adjusted based on observations made during the field survey.

A CAWP was issued for the Site on July 6, 2010, which was reviewed and approved by the OCD. As part of the CAWP, excavation activities were performed in vicinity of the former storage tank battery in October of 2010. An approximate total of 600 in-place cubic yards (cy) of petroleum hydrocarbon impacted soil was excavated from the Site. The excavations continued horizontally and vertically with final dimensions of approximately 60 feet long by 25 feet wide and depths ranging from 12 to 15 feet deep. During the excavation activities, SWG encountered silty clays, clayey silts, and silty sands to approximately 8 feet bgs followed by a weathered sandstone to the terminus depth of the excavation where competent sandstone was encountered. Subsequent to the completion of excavation activities soil confirmation samples were collected from the final extents of each of the excavation sidewalls and floor and submitted for BTEX and TPH GRO/DRO analysis. Based on the laboratory analytical results, the final excavation confirmation soil sample collected from the north, east, and southeast portion of the excavation sidewalls (EC-1(R), EC-2(R), and EC-3(R)A) exhibited a total BTEX and/or TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels*. The remaining excavation confirmation soil samples did not exhibit benzene, total BTEX, or TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels*. To further evaluate the identified TPH concentrations at the Site, SWG submitted soil samples EC-1(R) and EC-2(R) for TPH speciation analysis utilizing TCEQ method TX1006. SWG utilized the published American

Petroleum Institute (API) Spreadsheet for Calculating Risk-Based Screening Levels (RBSL) and the inverse weighted average (TPH Mass Fractions of aliphatic and aromatic hydrocarbons) to establish a Site Specific RBSL for the complete TPH mixture (i.e., the whole product). The calculated TPH RBSL for soil at the Site utilizing the EC-1(R) soil sample is 5,000 mg/Kg. The calculated TPH RBSL for soil at the Site utilizing the EC-2(R) soil sample is 5,200 mg/Kg. In order to be conservative, SWG utilized TPH RBSL of 5,000 mg/Kg for soil at the Site. Soil confirmation samples EC-1(R), EC-2(R), and EC-3A(R) did not exhibit TPH GRO/DRO concentration in exceedance of the calculated API Site-Specific TPH RBSLs for Residential Soils.

Subsequent to the completion of excavation activities, the excavation was backfilled using imported fill. The excavated soils were placed within two landfarm treatment cells constructed on the northwest and southwest portion of the Site. The soils were spread and tilled or raked to enhance aeration of petroleum hydrocarbon COCs. In addition, a bioremediation agent (Remedy) was applied which includes nonpathogenic bacterial strains which assist in degradation and metabolism of petroleum hydrocarbons. Subsequent to proposed aeration and attenuation schedules, confirmation soil samples were collected from 20 sampling points within the landfarm treatment cells and submitted for TPH GRO/DRO, BTEX, and chlorides analysis. Some of the sampling points within the landfarm treatment cell were resampled for one or more COCs. Based on the laboratory analytical results, the most recent confirmation soil samples collected from the landfarm treatment cell did not exhibit chlorides, benzene, total BTEX, and/or TPH GRO/DRO concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards*. Photographic documentation of corrective action activities is available as Attachment D.

The soils within and below the landfarm treatment cells were treated such that chlorides, benzene, total BTEX, and TPH GRO/DRO concentrations were below the NMAC *Small Landfarm Closure Performance Standards.* As a result, the treated soils were stockpiled on the northwest portion of the Site pending OCD approval for future on-site and/or off-site reuse. Vadose zone samples VZ-1 and VZ-2 were collected from below each landfarm treatment cell which did not exhibit chlorides, benzene, total BTEX, and/or TPH GRO/DRO, concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards,* with one exception. Vadose zone soil sample VZ-2 exhibited chlorides concentration in exceedance of the NMAC *Small Landfarm Closure Performance Standards*. However, based on the predominately low levels of chlorides concentration previously observed within the confirmation soil samples collected from the landfarm treatment cells, it is possible that the exceedance may be attributed to naturally occurring chlorides in the native soil at the Site.

Supplemental site investigation activities were conducted in the vicinity of the former tank battery in February 2011 to further evaluate the magnitude and extent of COC concentrations in the on-site soils within in the vicinity of the former tank battery. The supplemental site investigation activities included the advancement of eight (8) additional soil borings to a refusal depth of 8 feet bgs in the area north, east, and south of the former tank battery. The soil borings were advanced utilizing direct-push technology under the supervision of a New Mexico licensed water well driller. The soil cores were collected continuously utilizing a split-spoon sampler via Geoprobe® to the terminus depth of each soil boring. The lithology encountered during the advancement of the supplemental soil borings included a silty clay, clayey silt, or silty sand. Petroleum hydrocarbon odors were detected in the soil cores collected from soil borings B-2 through B-8. SWG screened the soil core samples with a photoionization detector (PID) for the presence of volatile organic compounds (VOCs). The PID readings from soil borings B-2 through B-9 ranged from zero (0) to 384 ppm. The highest PID reading was observed in the soil sample collected from soil boring B-2 at a depth of 5 to 6 feet bgs. SWG's soil sampling program involved submitting up to two (2) soil samples from soil borings B-3 through B-9. The soil samples were collected from the zone exhibiting the highest PID reading, from a change in lithology,

and/or from the bottom of the boring, based on the field professional's judgment. A soil sample from soil boring B-2 was not submitted for laboratory analysis. Based on the laboratory analytical results, soil samples collected from the supplemental soil borings B-3 and B-6, which were advanced to the northeast and east of the former tank battery, exhibited total BTEX and TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils. The remaining soil samples collected from the supplemental soil borings did not exhibit benzene, total BTEX, or TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils. Field screening results are presented on soil boring logs included in Attachment C.

A Corrective Action Report was issued for the Site in May of 2012, which documented the findings of on-site investigation and corrective action activities. Soils remained on-site with TPH GRO/DRO and/or total BTEX concentrations in exceedance of the OCD *Remediation Action Levels*, which were identified in soil confirmation sample EC-1(R) and soil borings B-3 and B-6. It is anticipated that the area of affected soil was primarily limited to the upper 8 to 9 feet of surface soils, based on the established presence of a sandstone formation encountered near this depth. Thus, it is believed that petroleum hydrocarbon COCs migrated horizontally in the upper 15 feet of surface soils as evidenced by previous field screening data and the laboratory analytical results of the soil samples collected from the on-site excavation confirmation samples and soil borings. It is believed that the corrective actions addressed source area soils, which were most heavily impacted as a result of historic leakage originating from the former on-site tank battery. In addition, it is believed that the affected soils are likely limited to the area north, northeast, and east of the former storage tank battery. Numerous aboveground and/or underground appurtenances related to natural gas processing operations exist within these areas. Thus, excavation activities in the vicinity of the affected soils which remain in-place would not be feasible. In accordance with NMAC 19.15.30.9, a variance of alternative abatement requirements or standards may be requested from the OCD based on the technical infeasible access of surface soils in on-site operations area. The Corrective Action Report recommended that the OCD be informed of the intent to close the small landfarms, reuse the treated soils, and petition the director of the OCD for alternative abatement standards.

The New Mexico OCD reviewed the Corrective Action Report and responded with conclusions/recommendations in a correspondence email issued on July 17, 2012. The OCD requested the submission of the C-137EZ form for closure of the former on-site landfarms treatment cells; resampling of the vadose zone below the former southwest landfarm for chlorides analysis; advancement of an additional soil borings in the vicinity of B-1 and B-2 to groundwater, conversion of the additional soil boring to a 2-inch monitoring well if phase-separated hydrocarbons are identified in the vadose zone or groundwater bearing unit, and delineation of the area to the north, northeast, and east of the former excavation. SWG issued a letter response to the Corrective Action Report review on September 10, 2012. The letter response proposed the collection of three (3) additional soil samples from the vadose zone below the former southwest landfarm treatment cell to further evaluate chlorides concentrations in the vadose zone below the former southwest landfarm area. The soil samples were proposed to be submitted for chlorides analysis utilizing EPA method 300.0. A Form C-137EZ was proposed for completion subsequent to the completion of vadose zone sampling activities and attainment of the NMAC *Small Landfarm Closure Performance Standards*. Additional soil borings were not proposed citing the results of previously documented field screening data, soil sampling data, and site lithology. The OCD replied by phone on October 4, 2012. Mr. Carl Chavez of the OCD agreed with the proposed additional corrective actions with one exception. Additional investigation and/or response action activities were requested in the area east and northeast of the former on-Site excavation, near soil borings B-2 and B-3.

Proposed Corrective Actions

Based on the results of the corrective action and supplemental site investigation activities, petroleum hydrocarbon affected soils with COC concentrations in exceedance of the OCD *Remediation Action Levels* are known to remain at the Site in the areas north, northeast, and east of the former excavation, referred to as the "project area" hereinafter. Numerous aboveground and/or underground appurtenances, including piping and electric conduit, related to natural gas processing operations exist within these areas. The direction in which much of the underground infrastructure traverses the Site in unknown; it is anticipated to be intermingled in an unsystematic manner. In addition, the facility operations building is in close proximity east of the former on-site excavation. The removal of affected soils within the project area would be extremely hazardous and highly cost prohibitive. In accordance with NMAC 19.15.30.9, a variance of alternative abatement requirements or standards may be requested from the OCD based on the technical infeasible access of surface soils in the on-site operations area. SWG proposes to file for a variance of alternative abatement standards which would allow the affected surface soils to be left in place subsequent to delineating the vertical and horizontal extent of COCs remaining in surface soils to the OCD *Remediation Action Levels*.

It is believed that the vertical extent of affected soils with COCs concentrations in exceedance of the OCD *Remediation Action Levels* is confined to the upper 15 feet of surface soils in the project area. The objective of the supplemental site investigation activities will be to further delineate the vertical and horizontal extent of affected soils which are known to remain in place in the project area. Based on the October 4, 2012 phone conversation with Mr. Carl Chavez of the OCD, field screening and sampling data which indicates unaffected soil for at least 10 feet beyond the affected soils left in-place will sufficiently demonstrate confinement to the upper 15 feet and protection of the underlying groundwater unit.

SWG proposes to advance five (5) soil borings to total depth of 25 feet bgs. One soil boring will be advanced east of the former excavation in the vicinity of soil boring B-3, one soil boring will be advanced north of the excavation in the vicinity of soil boring B-7, one soil boring will be advanced northeast of the excavation in the vicinity of soil boring B-6, one soil boring will be advanced east of soil boring B-5 and north of the facility operations building, and one soil boring will be advanced east of soil boring B-4 and the facility operations building. The exact location of the proposed soil borings may require adjustment in the field should subsurface pipeline or electric conduit interference be anticipated. The locations of the proposed soil borings are depicted on the attached Figure 3.

The soil borings will be completed utilizing an air rotary drilling rig. Sampling and drilling equipment will be decontaminated by high pressure cleaning prior to commencement of the project and between the advancement of each soil boring. Soil samples will be collected continuously from soil cuttings in one-foot intervals to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a PID for the presence of VOCs. SWG's soil sampling program will involve submitting up to two (2) soil samples from each soil boring for TPH GRO/DRO and BTEX analysis utilizing EPA method SW-846 #8015M and SW-846 #8021B, respectively. Soil samples will be collected from the zone exhibiting the highest PID reading, from a change in lithology, or from the bottom of the boring, based on the field professional's judgment.

Three (3) additional soil borings will be advanced with a hand auger within the former southwest landfarm area. One (1) vadose zone soil sample will be collected from each hand auger boring between 3 and 3.5 feet bgs or auger refusal, whichever is shallower.

Each of the soil samples collected from the hand auger borings will be submitted for chlorides analysis utilizing EPA method 300.0.

A letter report will be issued subsequent to completion of the supplemental site investigation activities. The results of the soil sample analysis will be compared to the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSL for Residential Soils. Surface soils (0-15 feet) will be considered vertically delineated and protective of groundwater provided that field screening and laboratory analytical results indicate that the lower 10 feet of each soil column is not affected with COC concentrations in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils. Investigation derived waste, including soil boring cuttings, will be stored in 55-gallon drums pending waste characterization. The results of the vadose zone soil samples will be compared to the NMAC *Small Landfarm Closure Performance Standards*.

The letter report will include a request for closure of the Site in accordance with NMAC 19.15.30.9. provided that the supplemental site investigation activities delineate the extent of affected soils which remain in place within the project area. In addition, the C-137EZ Form will be completed, provided that the vadose zone soil samples collected from the former southwest landfarm indicate chlorides concentrations below the NMAC *Small Landfarm Closure Performance Standards*. In addition, a request for reuse of the treated soils for future on-Site and/or off-Site use will be made subsequent to the vadose zone resampling activities.

Should you have any questions or concerns regarding this work plan or otherwise, please contact either of the undersigned at your earliest convenience.

Sincerely,

Joseph W. Martinez
Project Manager

B. Chris Mitchell, P. G.
Principal Geoscientist

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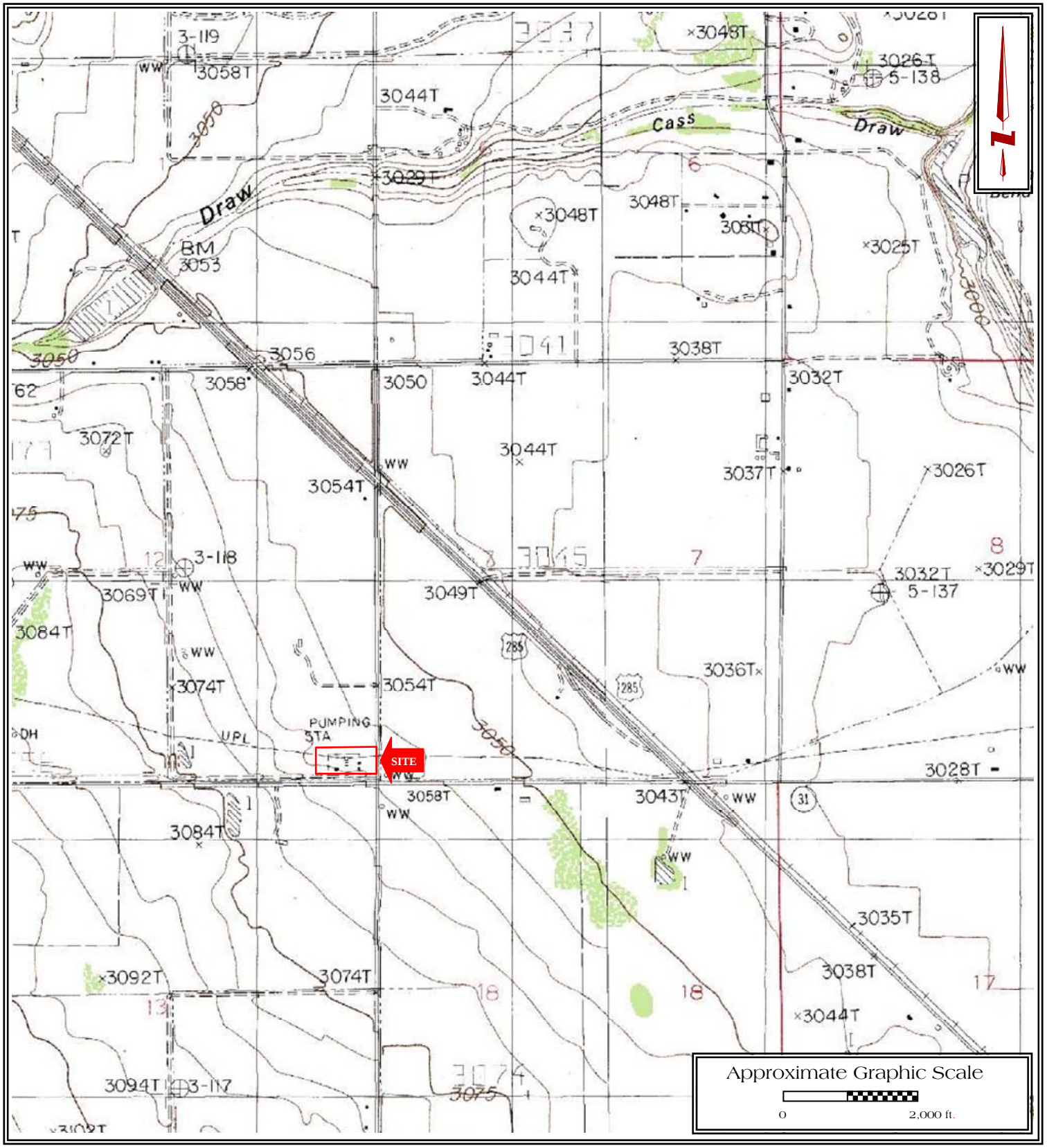
ATTACHMENT A

Figures



Supplemental CAWP
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico

SWG Project No. 0210G003

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FIGURE 1

Topographic Map
Otis, NM Quadrangle
Contour Interval – 10 Feet

Supplemental CAWP
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico

SWG Project No. 0210G003

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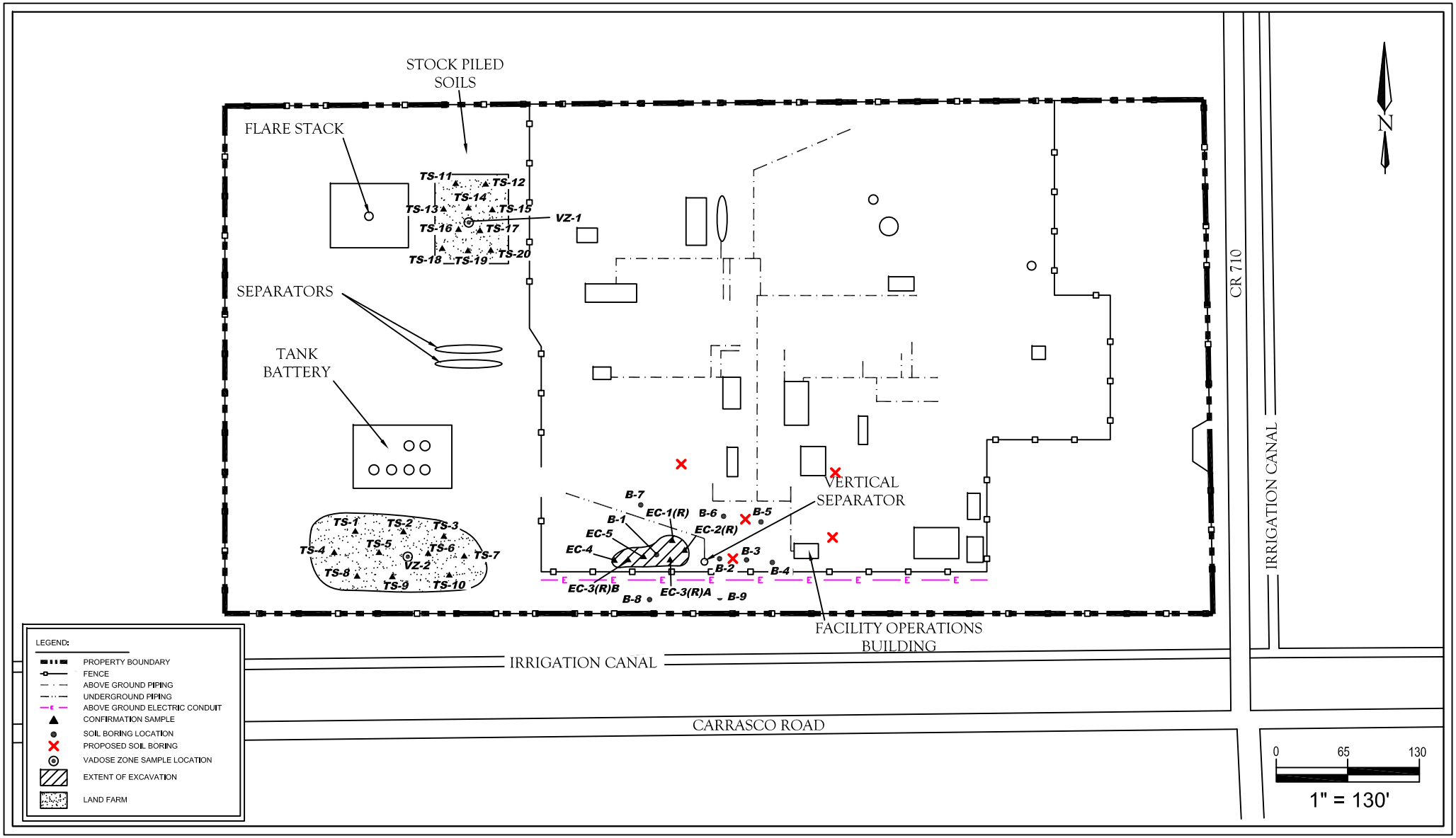
FIGURE 2

Site Vicinity Map

Google Earth 2013



Supplemental CAWP
S. Carlsbad Compressor Station
Carrasco Road & CR 710
Carlsbad, Eddy County, New Mexico

SWG Project No. 0210G003

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FIGURE 3

SITE MAP

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ATTACHMENT B

Tables

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TABLE 1
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - SOIL BORING and EXCAVATION CONFIRMATION SAMPLES

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	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, Minerals & Natural Resources Department, Oil Conservation Division, Remediation Action Level			NE	10	NE	NE	NE	50	100	
API Site-Specific TPH Risk Based Screening Level for Residential Soils			NE	NE	NE	NE	NE	50	5,000	
B-1 (7-8)	11/5/2009	7 to 8	NA	0.34	7.1	1.5	31	39.94	**270**	**710**
B-1 (19-20)	11/5/2009	19 to 20	NA	<0.0021	<0.0022	<0.0024	0.036	0.036	0.15	24
B-2	2/25/2011	Soil Samples Not Collected								
B-3 (6-7)	2/25/2011	6 to 7	NA	0.0091	56.8	13.1	224	**293.9091**	**2,070**	**4,830**
B-4 (3-4)	2/25/2011	3 to 4	NA	<0.00131	<0.00131	<0.00131	<0.00394	<0.00787	<0.0657	4.17
B-4 (5-6)	2/25/2011	5 to 6	NA	<0.00133	0.00316	<0.00133	0.0198	0.02562	3.75	368
B-5 (4-5)	2/25/2011	4 to 5	NA	<0.00125	7.62	0.00991	29.4	37.03116	**1,540**	**2,520**
B-6 (4-5)	2/25/2011	4 to 5	NA	<0.00122	0.00847	<0.00122	0.0147	0.02561	1.12	25.5
B-6 (7-8)	2/25/2011	7 to 8	NA	<0.00128	7.17	4.15	46.3	**57.62128**	**1,930**	**2,210**
B-7 (2-3)	2/25/2011	2 to 3	NA	<0.00122	<0.00122	<0.00122	<0.00366	0.00732	<0.0612	7.98
B-7 (5-6)	2/25/2011	5 to 6	NA	<0.0012	2.23	2.28	10.5	15.0112	**960**	**1,480**
B-8 (4-5)	2/25/2011	4 to 5	NA	<0.00135	6.93	2.93	17.8	27.66135	**2,100**	**1,920**
B-8 (7-8)	2/25/2011	7 to 8	NA	<0.00119	<0.00119	<0.00119	<0.00358	<0.00715	<0.0597	199
B-9 (4-5)	2/25/2011	4 to 5	NA	<0.0012	0.00416	<0.0012	<0.00359	<0.01015	<0.0598	4.5
B-9 (7-8)	2/25/2011	7 to 8	NA	<0.00186	<0.00186	<0.00186	<0.00558	<0.01116	<0.0929	8.98
EC-1	1/31/2011	8 to 9	NA	<0.0125	13	9.23	103	125.2425	903	6,040
EC-1(R)	2/24/2011	8 to 9	NA	<0.0123	13.1	2.62	50.1	**65.8323**	**569**	**1,250**
EC-2	1/31/2011	8 to 9	NA	<0.00611	0.214	0.240	16.8	17.26011	1.34	4,530
EC-2(R)	2/24/2011	8 to 9	NA	<0.0127	7.98	0.836	25.4	34.2287	6,980	674
EC-2(R)*	2/24/2011	8 to 9	NA	NA	NA	NA	NA	NA	**835**	**2,050**
EC-3	1/31/2011	8 to 9	NA	<0.00128	0.00713	<0.00128	59.4	59.40969	1,260	5,200
EC-3(R)A	2/24/2011	8 to 9	NA	<0.0126	4.22	1.26	12.3	17.7926	**515**	**640**
EC-3(R)B	2/24/2011	8 to 9	NA	<0.00135	0.00204	<0.00135	<0.00406	0.0088	0.545	14.9
EC-4	1/31/2011	8 to 9	NA	<0.00126	<0.00126	<0.00126	<0.00379	<0.00757	0.722	44
EC-5	1/31/2011	14 to 15	NA	<0.0013	0.0156	0.04	0.123	0.1799	0.836	692

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level
Note: Concentrations in **bold** and orange exceed the applicable calcualted EPA API TPH RBSLs.
Note: Excavation confirmation samples shaded indicates the area was overexcavated or sample was resubmitted for analysis.
* Indicates analysis of a new extraction from sample
NA = Not Analyzed
ND = Not Detected
NE = Not Established

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TABLE 2
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - TREATED SOILS

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
NMAC Small Landfarm *Closure Performance Standards*			500	0.2	NE	NE	NE	50	500	
TS-1	3/24/2011	0 to 0.5	410	<0.19	<0.23	<0.23	<0.69	<1.34	**140 (j)**	**1,600**
TS-1 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**81 (j)**	**1,800**
TS-1 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**570**
TS-1 (R3)	11/3/2011	0 to 0.5	120	NA	NA	NA	NA	NA	<9.8	440
TS-2	3/24/2011	0 to 0.5	310	<0.019	<0.023	<0.023	<0.069	<0.134	**8.3 (j)**	**770**
TS-2 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**560**
TS-2 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<16	470
TS-3	3/24/2011	0 to 0.5	**600**	<0.19	<0.23	<0.23	0.83 (j)	1.48	**<80**	**1,700**
TS-3 (R)	6/20/2011	0 to 0.5	290	NA	NA	NA	NA	NA	**<30**	**1,400**
TS-3 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**1,200**
TS-3 (R3)	11/3/2011	0 to 0.5	120	NA	NA	NA	NA	NA	**<24**	**1,200**
TS-3 (R4)	12/6/2011	0.5 to 1	NA	NA	NA	NA	NA	NA	<4.8	270
TS-4	3/24/2011	0 to 0.5	270	<0.019	<0.023	<0.023	0.14 (j)	0.205	**17 (j)**	**1,300**
TS-4 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<15**	**820**
TS-4 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<7.5	250
TS-5	3/24/2011	0 to 0.5	440	<0.019	<0.023	<0.023	<0.069	<0.134	**<8.0**	**1,300**
TS-5 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	1.6 (j)	14
TS-6	3/24/2011	0 to 0.5	190	**<0.37**	<0.46	<0.45	1.6 (j)	2.88	**<160**	**2,000**
TS-6 (R)	6/20/2011	0 to 0.5	NA	<0.018	<0.022	<0.021	<0.065	<0.126	<7.6	230
TS-7	3/24/2011	0 to 0.5	260	<0.019	<0.023	0.023 (j)	0.25 (j)	0.315	**20 (j)**	**1,500**
TS-7 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	56
TS-8	3/24/2011	0 to 0.5	350	<0.019	0.039 (j)	0.069 (j)	0.09	0.217	**47**	**1,500**
TS-8 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	<3.5
TS-9	3/24/2011	0 to 0.5	410	<0.019	<0.023	0.023 (j)	<0.069	0.134	**<8.0**	**650**
TS-9 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<8.0	270
TS-10	3/24/2011	0 to 0.5	110	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,000**
TS-10 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<8.4	250

Note: Concentrations in **bold** and yellow exceed the applicable NMAC *Small Landfarm Closure Performance Standards*
(j) indicates that the analyte was reported at or above the Method Detection Limit and below the Practical Quantitation Limit
NA = Not Analyzed
NE = Not Established

TABLE 2 (Cont.)
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - TREATED SOILS and VADOSE ZONE SAMPLES

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
NMAC Small Landfarm *Closure Performance Standards*			500	0.2	NE	NE	NE	50	500	
TS-11	3/24/2011	0 to 0.5	160	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,800**
TS-11 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**790**
TS-11 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.5	350
TS-12	3/24/2011	0 to 0.5	160	<0.19	<0.23	<0.23	<0.69	<1.34	<80	1,400
TS-12 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<15	440
TS-13	3/24/2011	0 to 0.5	100	**<0.37**	<0.46	<0.45	<1.4	2.68	**<160**	**1,900**
TS-13 (R)	6/20/2011	0 to 0.5	NA	**<0.24**	<0.24	<0.24	<0.24	<0.48	<7.7	290
TS-14	3/24/2011	0 to 0.5	210	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,100**
TS-14 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<15	500
TS-15	3/24/2011	0 to 0.5	210	<0.19	<0.23	<0.23	<0.69	<1.34	**160 (j)**	**2,400**
TS-15 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	17 (j)	430
TS-16	3/24/2011	0 to 0.5	230	<0.19	<0.23	<0.23	<0.69	<1.34	**210 (j)**	**1,900**
TS-16 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.5	73
TS-17	3/24/2011	0 to 0.5	320	<0.037	<0.046	<0.045	<0.14	<0.268	**<16**	**1,200**
TS-17 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	3.3 (j)	99
TS-18	3/24/2011	0 to 0.5	280	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,800**
TS-18 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	63
TS-19	3/24/2011	0 to 0.5	290	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,700**
TS-19 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**790**
TS-19 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<7.5	330
TS-20	3/24/2011	0 to 0.5	230	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,200**
TS-20 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	72
VZ-1	3/3/2012	3 to 3.25	460	<0.0047	<0.0081	<0.0039	<0.0160	<0.0327	<1.4	<5.4
VZ-2	3/3/2012	3 to 3.25	**1,300**	<0.0046	<0.0079	<0.0038	<0.0160	<0.0323	<1.3	<5.4

Note: Concentrations in **bold** and yellow exceed the applicable NMAC *Small Landfarm Closure Performance Standards*
(j) indicates that the analyte was reported at or above the Method Detection Limit and below the Practical Quantitation Limit
NA = Not Analyzed
NE = Not Established

API Site-Specific TPH RBSLs in Soil

Main Menu | Input TPH Soil Concentrations

Site-Specific TPH RBSLs in Soil

Residential Soil RBSLs

Pathway:	Surface Soil Ingestion, dermal contact, and inhalation pathways mg/kg	Soil Leaching to GW (receptor located beneath source) Tier 1 mg/kg	Soil Leaching to GW (receptor located downgradient) Tier 2 mg/kg	Surface Soil to Outdoor Air
RBSL for TPH (mg/kg)	5.0E+03	Soil res	Soil res	Soil Res

Non-Residential Soil RBSLs

Pathway:	Surface Soil Ingestion, dermal contact, and inhalation pathways mg/kg	Soil Leaching to GW (receptor located beneath source) Tier 1 mg/kg	Soil Leaching to GW (receptor located downgradient) Tier 2 mg/kg	Surface Soil to Outdoor Air
RBSL for TPH (mg/kg)	5.3E+04	Soil res	Soil res	Soil Res

"Soil Res" indicates that the target hazard index could not be reached at any concentration for this mixture.

Main Menu | Site-Specific TPH RBSLs in Soil | Crude Oils and Condensates Database

Select Sample Type:
- ☐ Oil
- ◉ Soil

Clear Concentrations

Site-Specific TPH Data in Soil
Site Description:

TPH Fractions	Concentration (mg/kg soil)	Fraction of Total TPH	Adjusted Mass Fraction	Mass Fraction$_i$ / Mole Fraction$_i$	Mole Fraction$_i$ (adj. for mass balance), X_i
Aliphatics:					
>6-8 C aliphatics	6.1E+01	7.9E-02	7.9E-02	7.9E-04	1.1E-01
>8-10 C aliphatics	3.2E+02	4.1E-01	4.1E-01	3.1E-03	4.5E-01
>10-12 C aliphatics	1.6E+02	2.0E-01	2.0E-01	1.3E-03	1.8E-01
>12-16 C aliphatics	1.0E+02	1.3E-01	1.3E-01	6.5E-04	9.4E-02
>16-44 C aliphatics	5.0E+01	6.5E-02	6.5E-02	2.4E-04	3.5E-02
Aromatics:					
>7-8 C Aromatics	3.6E+00	4.7E-03	4.7E-03	5.1E-05	7.3E-03
>8-10 C aromatics	4.9E+01	6.4E-02	6.4E-02	5.3E-04	7.6E-02
>10-12 C aromatics	1.7E+01	2.2E-02	2.2E-02	1.7E-04	2.4E-02
> 12-16 C aromatics	1.1E+01	1.4E-02	1.4E-02	9.1E-05	1.3E-02
> 16-21 C aromatics	2.9E+00	3.7E-03	3.7E-03	2.0E-05	2.8E-03
> 21-44 C aromatics	4.8E+00	6.2E-03	6.2E-03	2.3E-05	3.3E-03
Sum of >C6 to <C44		**1.0E+00**	**1.0E+00**	**7.0E-03**	**1.0E+00**
> 44 C	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Totals for all TPH fractions	**7.72E+02**	**1.0E+00**	**1.0E+00**	**7.0E-03**	**1.0E+00**

Total TPH (mg/kg)	**7.72E+02**
Mass Balance Error:	**0.00E+00**

Note: Data calculated using TX1006 data from excavation confirmation sample EC-1(R)

Southwest GEOSCIENCE

ATTACHMENT C

Soil Boring Logs

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: B. Chris Mitchell, P.G.

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: November 5, 2009
Date Completed: November 5, 2009
Drilling Company: Straub Corporation
Driller: Marty Straub
Geologist: BCM
Boring Method: AR
Bore Hole Dia: 6-Inch

Soil Boring Number: B-1
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY SAND, Gray, Dry, Petroleum Hydrocarbon Odor		5	7-8		100 %		205 228 150 329 324	
								194 280 341	
	SANDY SILT, Pale Brown, Dry, Petroleum Hydrocarbon Odor		10			100 %		339 244 92 103 65	
	SILTY SAND, Brown, Dry, No Odor		15	19-20		100 %		111 109 35 53 47	
	BOTTOM OF BORING		20					0 0	
			25						
			30						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-2
Project #: 02106003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY CLAY with Sand, Gray, Dry, Petroleum Hydrocarbon Odor							0	
								16	
								89	
			5					139	
								171	
								384	
								122	
								63	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-3
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor							113	
								196	
								219	
								146	
			5					227	
				6' - 7'				187	
								287	
								106	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-4
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor			3' - 4'				0	
								0	
								0	
			5					0	
				5' - 6'				155	
								107	
	Refusal @ 8'							67	
			10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-5
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan and Gray, Dry, Petroleum Hydrocarbon Odor							0	
								18	
								30	
								38	
			5	4' - 5'				186	
								130	
								108	
								67	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-6
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY CLAY, Dark Brown, Dry, No Odor							0	
								0	
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor							44	
								82	
			5	4' - 5'				140	
								100	
								119	
				7' - 8'				67	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-7
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan and Gray, Dry, No Odor to Petroleum Hydrocarbon Odor			2' - 3'				0	
								0	
								0	
								0	
			5	5' - 6'				57	
								137	
								118	
								67	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-8
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan, Dry, No Odor							0	
								0	
								0	
								0	
	SILTY CLAY, Gray, Dry, Petroleum, Hydrocarbon Odor		5	4' - 5'				212	
								157	
	SILTY SAND, Tan, Dry, No Odor			7' - 8'				0	
								0	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-9
Project #: 0210G003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan, Dry, No Odor							0	
								0	
								0	
								0	
			5	4' - 5'				0	
								0	
	SANDY SILT, Tan, Dry, No Odor			7' - 8'				0	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

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ATTACHMENT D

Photographic Documentation

1.) View from east portion of excavation, looking west.

2.) View from west portion of excavation, looking east.

3.) View of landfarm treatment cell on northern portion of Site, looking east.

4.) View of landfarm treatment cell on south portion of the Site, looking west.

5.) View of landfarm treatment activities on northern portion of Site, looking east.

6.) View of landfarm treatment activities on south portion of Site, looking west.

7.) View landfarm tilling/raking activities on southern portion of Site, looking east.

8.) View landfarm treatment activities on north portion of Site, looking east.

9.) View of excavation backfill activities, looking west.

10.) View of excavation backfill activities, looking west/northwest.

11.) View of area near soil borings B-3 and B-6, looking northwest.

12.) View of treated soils stockpiled on northwest portion of the Site.

Southwest GEOSCIENCE

ATTACHMENT E

Supporting Documentation

Supplemental CAWP
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico

SWG Project No. 0210G003

Southwest GEOSCIENCE

Water Well Location Summary Map

Google Earth 2013

Note: Locations adjusted based on field survey observations

New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-basin Code	County	Source	q 6416	q 4	q 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 03053	C	ED	Shallow	3	4	4	12	23S	27E	581122	3575505*	164	03/16/2004	03/17/2004	04/12/2004	94	14		1348

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 581286.13 **Northing (Y):** 3575508.46 **Radius:** 450

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer
Wells Without Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number	POD Code	Subbasin	County	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance
C 03457		C	ED		3	4	4	12	23S	27E	581081	3575530	206
C 00069			ED	Shallow	3	3	3	07	23S	28E	581526	3575510*	239
C 00461			ED	Shallow	1	1	1	18	23S	28E	581526	3575307*	313

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 581286.13 **Northing (Y):** 3575508.46 **Radius:** 450

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C 03053	3	4	4	12	23S	27E	581122	3575505*

Driller License: TAYLOR WATER WELL SERVICE
Driller Name:

Drill Start Date:	03/16/2004	**Drill Finish Date:**	03/17/2004	**Plug Date:**	
Log File Date:	04/12/2004	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	5
Casing Size:	5.00	**Depth Well:**	94 feet	**Depth Water:**	14 feet

Water Bearing Stratifications:	Top	Bottom	Description
	56	94	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	54	94

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer
Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
POD Number		**Q64**	**Q16**	**Q4**	**Sec**	**Tws**	**Rng**	**X**	**Y**
C	03457	3	4	4	12	23S	27E	581081	3575530

Driller License:

Driller Name:

Drill Start Date:		**Drill Finish Date:**		**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	7.00	**Depth Well:**	200 feet	**Depth Water:**	

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

POD Number	Q64	Q16	Q4	Sec	Twns	Rng	X	Y
C 00069	3	3	3	07	23S	28E	581526	3575510*

Driller License:
Driller Name:

Drill Start Date:		**Drill Finish Date:**		**Plug Date:**	
Log File Date:		**PCW Rcv Date:**	02/16/1949	**Source:**	Shallow
Pump Type:	TURBIN	**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	18.00	**Depth Well:**		**Depth Water:**	

***UTM location was derived from PLSS - see Help**

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New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
C 00461	1	1	1	18	23S	28E	581526	3575307*

Driller License:
Driller Name: J.R. JOLLEY

Drill Start Date:		**Drill Finish Date:**		**Plug Date:**	
Log File Date:		**PCW Rcv Date:**	06/07/1956	**Source:**	Shallow
Pump Type:	TURBIN	**Pipe Discharge Size:**		**Estimated Yield:**	100
Casing Size:		**Depth Well:**		**Depth Water:**	

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Enterprise Products

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

ENTERPRISE PRODUCTS OPERATING LLC

May 9, 2012

RECEIVED OCD

2012 MAY 11 A 10:40

Return Receipt Requested
7010 1870 0001 2945 3057

Mr. Mike Bratcher
New Mexico Oil Conservation Division - District 2
811 S. First Street
Artesia, New Mexico 88210

RE: Corrective Action Report
Enterprise S. Carlsbad Compressor Station
SE ¼ of SE ¼ in S12, T23S, R27E
Carlsbad, Eddy County, New Mexico

Dear Mr. Bratcher:

Enterprise Products Operating LLC (Enterprise) is submitting the enclosed *Corrective Action Report* dated May 1, 2012 for the Enterprise S. Carlsbad Compressor Station (referred to as the "Site" hereinafter). The Site is located at the northwest intersection of Carrasco Road and CR 710, approximately ten (10) miles southeast of Carlsbad, in Eddy County, New Mexico [SE ¼, SE ¼, Section 12, Township 23S, and Range 27E]. The Site is currently operating as natural gas compressor station operated by Enterprise. The purpose of the *Corrective Action Report* is to provide documentation of investigation and corrective action activities performed at the Site as a result of identified historical petroleum hydrocarbons liquids leakage.

Based on the results of the investigation and corrective action activities, it is believed that the source area has been delineated horizontally for petroleum hydrocarbon COCs with the exception of the area to the immediately north, northeast, and east of the former tank battery. Based on laboratory analytical results of the soil confirmation sample collected from the excavation floor, the soil samples collected from the initial soil boring, and the lithology encountered at the Site, it is believed that the source area has been vertically delineated. It is anticipated that the area of affected soils left in-place is primarily limited to the upper 8 or 9 feet of surface soils, based on the established presence of a sandstone formation encountered near this depth. Thus, it is believed that petroleum hydrocarbon COCs spread out horizontally from the source area after encountering the sandstone unit.

It is believed that the corrective actions documented herein have addressed soils which were most heavily impacted as a result of historic leakage originating from the former on-Site tank battery. Numerous aboveground and/or underground appurtenances related to natural gas streaming and/or refining operations exist within these areas. Thus, excavation activities in the vicinity of the affected soils remaining in place would not be feasible.

Based on the results of the corrective actions, Enterprise formerly request closure of the small landfarm permit issued for the Site and authorization for reuse of the treated soils, on or off-Site. Enterprise has proposed to request a variance of alternative abatement requirements or standards from the OCD, in accordance with NMAC 19.15.30.9, based on the technical infeasible access of surface soils in the vicinity of soil borings B-3 and B-6 and excavation confirmation soil sample EC-1(R). Should the OCD conclude that no further action is required at the Site or closure of the small landfarm permit is appropriate, Enterprise respectfully requests a written response which documents the decision. Should you have any questions, comments or concerns, or need additional information, please feel free to contact me at 713-381-6629.

P. O. BOX 4324
HOUSTON, TX 77210-4324
713.381.6500

1100 LOUISIANA STREET
HOUSTON, TX 77002-5227
www.epplp.com

Sincerely,

Rodney M. Sartor, REM
Manager, Remediation

cc: James Heap, Enterprise Products
Joseph Martinez, Southwest Geoscience

CORRECTIVE ACTION REPORT

Property:

S. Carlsbad Compressor Station
NWC of Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico
(OCD Permit No. 2R-422)

May 1, 2012
SWG Project No. 0210003

Prepared for:

Enterprise Products Operating LLC
1100 Louisiana Street, Suite 1000
Houston, Texas 77002
Attention: Mr. Rodney Sartor

Prepared by:

Joseph W. Martinez
Manager, South Texas

B. Chris Mitchell, P.G.
Principal Geoscientist

Southwest
GEOSCIENCE
8829 Tradeway Street
San Antonio, Texas 78217
Phone: (210) 804-9922
Fax: (210) 804-9944

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S. Carlsbad Compressor Station
NWC of Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico
(OCD Permit No. 2R-422)

SWG Project No. 0210003

1.0 INTRODUCTION

1.1 Site Description & Background

Southwest Geoscience (SWG) has completed a Corrective Action Report for the Enterprise Products Operating LLC (Enterprise) S. Carlsbad Compressor Station located at northwest corner of Carrasco Road and CR 710, approximately ten (10) miles southeast of Carlsbad in Eddy County, New Mexico (SE1/4 of SE1/4 of S12, T23S, R27E), referred to hereinafter as the "Site" or "subject Site." The Site is currently improved as a natural gas compressor station.

A topographic map depicting the location of the Site is included as Figure 1 and a site vicinity map is included as Figure 2 of Appendix A. A site map depicting on-site improvements and the location of investigation and corrective action activities, described herein, is included as Figure 3 in Appendix A.

Natural gas condensate and produced water are separated from the natural gas stream which is processed at the Site. The liquids separated from the natural gas stream are stored in on-site storage tanks pending off-site disposal. The Site is currently improved with a tank battery on the western portion of the Site that includes six (6) above-ground storage tanks (ASTs) with approximate 90 to 300 barrel (bbl) storage capacities. The existing tank battery was constructed subsequent to the 2007 decommissioning and removal of the historic tank battery formerly located on the south/southwest portion of the Site. Field operations personnel identified stained soils indicative of historical leakage prior to and during the decommissioning of the former on-Site tank battery.

Initial site investigation activities were conducted at the Site by SWG in November of 2009 to evaluate the presence of petroleum hydrocarbons in surface and subsurface soils as a result of historical petroleum hydrocarbon liquids storage and processing activities in the vicinity of the former on-site tank battery. The initial site investigation activities included the advancement of one (1) soil boring (B-1) to a depth of 20 feet below ground surface (bgs). Two soil samples were collected from soil boring B-1 and submitted for total petroleum hydrocarbon (TPH) gasoline range organics (GRO)/diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX) analysis utilizing EPA method SW-846 #8015M and SW-846 #8021B, respectively. Based on the laboratory analytical results, the soil sample collected from soil boring B-1 did not exhibit TPH GRO/DRO, benzene, or total BTEX concentrations in exceedance of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division's (OCD) *Remediation Action Levels*. The results of the soil sample analysis along with the respective OCD *Remediation Action Levels* are presented on Table 1 of Appendix D.

1.2 Site Ranking

SWG referenced guidance and regulations published by the OCD to estimate the environmental sensitivity of the site. 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	10
	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	0
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			10

Based on area water well database records obtained through the New Mexico State Office of the Engineer, the depth to groundwater in the vicinity of the Site is estimated to be 78 feet bgs. In addition, the water well database records did not identify water wells within 1,000 feet of the Site. A concrete-lined irrigation canal was identified approximately 75 feet south of the source area. However, this feature was not included in the Site ranking given the presence of an engineering control (i.e.: concrete lining) which would prevent infiltration of COCs originating from the former on-site tank battery.

Based on SWG's review of Site characteristics (specifically: depth to groundwater, wellhead protection area and distance to surface water) an associated ranking score of ten (10) was determined for the Site in accordance with the OCD's *Guidelines for Remediation of Leaks, Spills and Releases*. Consequently, the OCD's *Remediation Action Levels* for the on-Site soils are 10 milligrams per kilogram (mg/Kg) benzene, 50 mg/Kg total BTEX and 1,000 mg/Kg TPH GRO/DRO.

1.3 Project Objective

SWG performed supplemental site investigation activities to further evaluate the presence of petroleum hydrocarbons in the vicinity of the former tank battery as a result of historical petroleum hydrocarbon liquids storage and processing activities. In addition, corrective action activities were performed at the Site to reduce concentrations of petroleum hydrocarbon COCs in on-site soil below the OCD *Remediation Action Levels*.

1.4 Standard of Care & Limitations

The findings and recommendations contained in this report represent SWG's professional opinions based upon information derived from the on-Site activities and other services performed under this scope of work and were prepared in accordance with currently acceptable professional standards. The findings were

based upon analytical results provided by an independent laboratory. Evaluations of the 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 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 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 it's subsidiaries, 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 SITE INVESTIGATION

2.1 Soil Borings

In February of 2011, supplemental site investigation activities were conducted in the vicinity of the former tank battery to further to evaluate the magnitude and extent of petroleum hydrocarbons in the on-site soils as a result of historical petroleum hydrocarbon liquids storage and processing activities. The supplemental site investigation activities were conducted by B. Chris Mitchell, P.G., a SWG environmental professional. As part of the approved scope of work, eight (8) additional soil borings (B-2 through B-9) were advanced to a refusal depth of 8 feet bgs. The soil borings were advanced utilizing direct-push technology under the supervision of a New Mexico licensed water well driller. The soil cores were collected continuously utilizing a split-spoon sampler via Geoprobe® to the terminus depth of each soil boring. Soil borings B-2, B-3, and B-4 were advanced east of the former tank battery and vertical separator; soil borings B-5 and B-6 were advanced northeast of the former tank battery; soil boring B-7 was advanced north of the former tank battery; soil boring B-8 was advanced south of the former tank battery; and soil boring B-9 was advanced southeast of the former tank battery. Figure 3 is a site map which indicates the approximate location of the soil borings in relation to pertinent land features and on-site improvements (Appendix A). Photographic documentation of field investigation activities is available in Appendix B.

Soil core samples were observed to document soil lithology, color, moisture content, and visual and olfactory evidence of petroleum hydrocarbons. Upon retrieval of each sample from the borehole, each soil sample was immediately divided into portions designated for field screening or laboratory analysis. Field headspace analysis was conducted by placing the portion of the soil sample designated for field screening into a plastic Ziploc® bag. The plastic bag was sealed and then placed in a warm area to promote volatilization. The air above the sample, the headspace, was then evaluated using a photoionization detector (PID) capable of detecting volatile organic compounds (VOCs). The PID was calibrated utilizing an isobutylene standard prior to use in the field.

During the completion of each soil boring, an on-site geoscientist documented the lithology encountered and constructed a continuous profile of the soil column from the surface to the boring terminus. Undisturbed soil samples from each soil boring location were visually inspected and logged in the field. The lithology encountered

during the advancement of soil boring B-2 included a gray silty clay with sand from the ground surface to a refusal depth of approximately 8.0 feet bgs. The lithology encountered in soil borings B-3 through B-9 included a gray clayey silt, a dark brown silty clay, a tan silty sand, or other lithology similar to that observed in soil boring B-2. Soil borings B-3 through B-9 were advanced to a refusal depth of 8.0 feet bgs. Groundwater was not observed in the soil borings advanced at the Site. Detailed lithologic descriptions and field screening results are presented on the soil boring logs included in Appendix C.

Petroleum hydrocarbon odors were detected in the field in soil cores collected from soil borings B-2 through B-8. The PID readings from soil borings B-2 through B-9 ranged from zero (0) to 384 ppm. The highest PID reading was observed in the soil sample collected from soil boring B-2 at a depth of 5 to 6 feet bgs. Field screening results are presented on soil boring logs included in Appendix C.

2.2 Soil Sampling Program

SWG's soil sampling program involved submitting up to two (2) soil samples from soil borings B-3 through B-9. The soil samples were collected from the zone exhibiting the highest PID reading, from a change in lithology, or from the bottom of the boring, based on the field professional's judgment. A soil sample was not collected from soil boring B-2. Soil sample intervals are presented with the soil sample analytical results (Table 1) in Appendix D and are provided on the soil boring logs included in Appendix C.

2.3 Laboratory Analytical Methods

The soil samples collected from the soil borings were analyzed for TPH GRO/DRO and BTEX utilizing EPA SW-846 method #8015M and EPA SW-846 method #8021B, respectively. Laboratory analytical results are summarized in the tables included in Appendix D. The executed chain-of-custody form and laboratory data sheets are provided in Appendix E.

Sampling equipment was cleaned using an Alconox® wash and potable water rinse prior to the beginning of the project and before the collection of each sample. Soil samples were collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler, which was secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to ERMI Environmental Laboratories (ERMI) in Allen, Texas on standard turnaround.

ERMI performed the analyses of samples under an adequate and documented quality assurance program to meet the project and data quality objectives. The laboratory's quality assurance program is generally consistent the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. In addition, the data generated by ERMI meets the intralaboratory performance standards for the selected analytical method and the performance standards are sufficient to meet the bias, precision, sensitivity, representativeness, comparability, and completeness, as specified in the project data quality objectives.

2.4 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 OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the 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. SWG compared the TPH GRO/DRO, benzene, and total BTEX concentrations or sample reporting limits (SRLs) associated with the soil samples collected from the soil borings to the OCD *Remediation Action Levels*. The results of the soil sample analysis along with the respective OCD *Remediation Action Levels* for the soil samples collected from soil borings B-3 through B-9 is provided in Table 1 of Appendix D.

Total Petroleum Hydrocarbons

The soil samples collected from soil borings B-3 (6-7), B-5 (4-5), B-6 (7-8), B-7 (5-6), and B-8 (4-5) exhibited TPH GRO/DRO concentrations ranging from 2,440 mg/Kg to 6,900 mg/Kg, which exceed the OCD *Remediation Action Level* of 1,000 mg/Kg. The remaining soil samples collected from the soil borings at the Site did not exhibit TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels*.

Benzene and total BTEX

The soil samples collected from soil borings B-3 through B-9 did not exhibit benzene concentrations in exceedance of the OCD *Remediation Action Levels*.

The soil samples collected from soil boring B-3 (6-7) and B-6 (7-8) exhibited total BTEX concentrations in exceedance of the OCD *Remediation Actions Levels*. The remaining soil samples collected from the soil borings at the Site did not exhibit total BTEX concentrations in exceedance of the OCD *Remediation Action Levels*.

3.0 CORRECTIVE ACTIONS

3.1 Excavation and Treatment Activities

Corrective actions for the Site were approved by the OCD on July 13, 2010 in accordance with the Corrective Action Work Plan (CAWP) issued on July 6, 2010. Corrective actions were initiated at the Site on October 25, 2010. As part of the approved scope of work, excavation activities were conducted in vicinity of the former on-site tank battery. Excavation activities continued horizontally and vertically with final dimensions of up to 60 feet long by 25 feet wide and depths ranging from 12 to 15 feet deep. Approximately 500 in-place cubic yards (cy) of petroleum hydrocarbon impacted soil was excavated from the Site. SWG directed the over excavation of 50 cy of soil on January 31, 2011 and an additional 50 cy of soil on February 24, 2011 from various portions of the excavation sidewalls exhibiting the highest degree of petroleum hydrocarbons impact for an approximate total of 600 cubic yards of excavated soil. The excavation activities were performed by Lighthouse Environmental Services (Lighthouse) and James Hamilton Construction. The approximate limits of the excavation are depicted on Figure 3 of Appendix A.

The Site was approved by the OCD for use as a small landfarm, in accordance with the CAWP, to remediate soils excavated at the Site with COC concentrations in exceedance of the OCD *Remediation Action Levels*. Two (2) landfarm treatment cells were constructed on the far northwestern and southwestern portions of the Site utilizing unaffected soils to construct containment berms to prevent stormwater runon and stormwater runoff. The excavated soils were placed in the treatment

cells and spread and tilled/raked into an approximate 12-inch lift. Subsequent to tilling/raking of the soil, the soils were treated utilizing the direct application of a bioremediation agent (Remedy®). Remedy introduces nonpathogenic bacterial strains designed to enhance natural attenuation of the petroleum hydrocarbons, stimulate naturally occurring bacteria in the on-site soils, and introduce additional nonpathogenic bacterial strains designed to metabolize petroleum hydrocarbons. The bioremediation agent/water mixture was topically applied to the affected media utilizing a trailer mounted tank and motorized water pump. The soils within the treatment cells were retreated with non-potable water, Remedy® agent, and/or re-tilled/raked to enhance the rate and thoroughness of petroleum hydrocarbon degradation on October 27, 2010, February 24, 2011, April 27, 2011, May 24, 2011 and July 27, 2011. The approximate footprints of the landfarm treatment cells are depicted on Figure 3 of Appendix A. Photographic documentation of field excavation, backfill, and treatment activities are available in Appendix B.

3.2 Confirmation Soil Sampling

Upon completion of the initial excavation activities, five (5) initial confirmation soil samples were collected from the excavation sidewalls and floor on October 27, 2010 and submitted for TPH GRO/DRO and BTEX analysis. Based on the laboratory analytical results, SWG directed the over excavation of soils from the excavation sidewalls and floor exhibiting the highest degree of petroleum hydrocarbon impact. Five (5) additional confirmation soil samples (EC-1, EC-2, EC-3, EC-4, and EC-5) were collected from the excavation sidewalls and floor on January 31, 2011 and submitted for TPH GRO/DRO and BTEX analysis. The additional confirmation soil samples EC-1, EC-2, EC-3, EC-4, and EC-5 were collected from the north, east, south, and west excavation sidewalls and the excavation floor, respectively. Based on the laboratory analytical results from the additional confirmation soil samples, SWG directed the over excavation of the north, east, and south, excavation sidewalls which exhibited the greatest degree of petroleum hydrocarbon impact. Four (4) supplementary confirmation soil samples (EC-1(R), EC-2(R), EC-3(R)A, and EC-3(R)B) were collected from the north, east, southeast, and southwest excavation sidewalls, respectively, on February 24, 2011 and submitted for TPH GRO/DRO and BTEX analysis. The supplementary confirmation soil samples EC-1(R), EC-2(R), EC-3(R)A, and EC-3(R)B were collected from the north, east, southeast, and southwest portions of the excavation sidewalls, respectively.

Following the proposed aeration and attenuation schedule, twenty (20) confirmation soil samples (TS-1 through TS-20) were collected from the treated soils on March 24, 2011 and submitted for TPH GRO/DRO, BTEX, and chlorides analysis. The soil samples were collected from locations within the treatment cell at evenly spaced intervals. Areas within the landfarm treatment cell which exhibited TPH GRO/DRO or chlorides concentration in exceedance of the NMAC *Small Landfarm Closure Performance Standards* were resampled on June 20, 2011, August 24, 2011, November 3, 2011, and/or December 6, 2011.

A site map indicating the location of the excavation confirmation soil samples as well as the landfarm treatment cell confirmation soil samples is included as Figure 3 in Appendix A. The laboratory analytical results from the excavation confirmation soil samples collected in January and February 2011 are summarized in Table 1 of Appendix D. Table 1 does not include the laboratory analytical results for the initial excavation confirmation soil samples, collected in October of 2011, as a result of over excavation activities required for each respective area. The laboratory analytical results from the treated soils confirmation soil samples are summarized in Table 2 of Appendix D.

3.3 Laboratory Analytical Methods

The soil samples collected from the excavation and landfarm treatment cell were analyzed for TPH GRO/DRO utilizing SW-846 #8015M, BTEX utilizing EPA method SW-846 #8021B, and chlorides utilizing EPA method 300.0. The analytical results for the soil sampling activities completed at the Site are summarized in the tables included in Appendix D. The executed chain-of-custody form and laboratory data sheets are provided in Appendix E.

Sampling equipment was cleaned using an Alconox® wash and potable water rinse prior to the beginning of the project and before the collection of each sample. Soil samples were collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler, which was secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to ERMI's analytical laboratory in Allen, Texas or Hall Environmental Analytical Laboratory (HEAL) in Albuquerque, New Mexico.

ERMI and HEAL performed the analyses of samples under an adequate and documented quality assurance program to meet the project and data quality objectives. The laboratory's quality assurance program is generally consistent with the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. In addition, the data generated by ERMI and HEAL meet the intralaboratory performance standards for the selected analytical method and the performance standards are sufficient to meet the bias, precision, sensitivity, representativeness, comparability, and completeness, as specified in the project data quality objectives.

3.4 Data Evaluation

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the 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 remedial action requirements for sites subject to reporting and/or corrective action.

The Site was approved for use as a small landfarm to remediate soils with identified COC concentrations in exceedance of the OCD *Remediation Action Levels* in accordance with the CAWP prepared for the Site and approved by the OCD on July 13, 2010. The small landfarm operations were approved under the rules provided in NMAC 19.15.36 and comparison of treated soils to the NMAC *Small Landfarm Closure Performance Standards*.

3.4.1 Tier 1 Evaluation

SWG compared the TPH GRO/DRO, benzene, and total BTEX concentrations or SRLs or practical quantitation limits (PQLs) associated with the confirmation soil samples collected from the excavation sidewalls and floor to the OCD *Remediation Action Levels*. It should be noted that the excavation confirmation soil samples were not analyzed for chlorides based on the absence of requirements under the OCD *Guidelines for Remediation of Leaks, Spills, and Releases* document. SWG compared the TPH GRO/DRO, benzene, total BTEX, and chlorides concentrations or

PQLs associated with the landfarm confirmation soil samples to the NMAC *Small Landfarm Closure Performance Standards*.

Total Petroleum Hydrocarbons

The excavation confirmation soil samples collected from the final extents of the north, east, and southeast portion of the excavation sidewalls (i.e.: EC-1(R), EC-2(R), and EC-3(R)A, respectively) exhibited TPH GRO/DRO concentrations ranging from 1,155 mg/Kg to 2,885 mg/Kg, which exceeds the OCD *Remediation Action Level* of 1,000 mg/Kg. The excavation confirmation soil samples collected from the final extents of the southwest and west portion of the excavation sidewalls and the excavation floor (i.e.: EC-3(R)B, EC-4, and EC-5, respectively) exhibited TPH GRO/DRO concentrations ranging from 15.45 mg/Kg to 692.84 mg/Kg, which do not exceed the OCD *Remediation Action Level* of 1,000 mg/Kg.

The most recent landfarm confirmation soil samples collected from each sampling area for TPH GRO/DRO analysis (i.e.: TS-1(R3), TS-2(R2), TS-3(R4), TS-4(R2), TS-5(R), TS-6(R), TS-7(R), TS-8(R), TS-9(R), TS-10(R), TS-11(R2), TS-12(R), TS-13(R), TS-15(R), TS-16(R), TS-17(R), TS-18(R), and TS-19(R2), TS-20(R)) exhibited TPH GRO/DRO concentrations ranging from below the laboratory PQLs to 486 mg/Kg, which is below the NMAC *Small Landfarm Closure Performance Standards* of 500 mg/Kg. Confirmation soil sample TS-14(R) exhibited a TPH DRO of 500 mg/Kg; a TPH GRO concentration was not reported above the laboratory PQL, which was 15 mg/Kg. Based on the absence of a "j" flag for the sample data, a TPH GRO concentration is not likely present. Therefore, the soil confirmation sample TS-14(R) is not considered to exhibit TPH GRO/DRO concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards* of 500 mg/Kg.

The results of the soil sample analyses of TPH GRO/DRO for confirmation soil samples collected from the excavation or landfarm treatment cells are summarized in Table 1 and Table 2 of Appendix D.

Benzene

The excavation confirmation soil samples collected from the final extents of the excavation sidewalls and floor (i.e.: EC-1(R), EC-2(R), EC-3(R)A, EC-3(R)B, EC-4, and EC-5) did not exhibit benzene concentrations in exceedance of the laboratory PQLs, which are below the OCD *Remediation Action Level* of 10 mg/Kg.

The most recent landfarm confirmation soil samples collected from each sampling area for benzene analysis (i.e.: TS-1, TS-2, TS-3, TS-4, TS-5, TS-7, TS-8, TS-9, TS-10, TS-11, TS-12, TS-14, TS-15, TS-16, TS-17, TS-18, TS-19, TS-20) did not exhibit benzene concentrations in exceedance of the laboratory PQLs, which are below the NMAC *Small Landfarm Closure Performance Standards* of 0.2 mg/Kg. The landfarm confirmation soil sample TS-13(R) did not exhibit benzene concentration in exceedance of the laboratory PQLs, which was 0.24 mg/Kg. Based on the absence of a "j" flag for the sample data, a benzene concentration is not likely present. Therefore, the landfarm confirmation soil sample TS-13(R) is not considered to exhibit a benzene concentration in exceedance of the NMAC *Small Landfarm Closure Performance Standard* of 0.2 mg/Kg.

The results of the soil sample analyses of BTEX for confirmation soil samples collected from the excavation or landfarm treatment cells are summarized in Table 1 and Table 2 of Appendix D.

Total BTEX

The excavation confirmation soil samples collected from the final extent of the northern excavation wall (EC-1(R)) exhibited a total BTEX concentration of 65.8323 mg/Kg, which exceeds the OCD *Remediation Action Level* of 50 mg/Kg. The excavation confirmation soil samples collected from the final extents of the east, southeast, southwest, and west excavation wall and the excavation floor (i.e.: EC-2(R), EC-3(R)A, EC-3(R)B, EC-4, and EC-5, respectively) exhibited total BTEX concentrations ranging from below the laboratory PQLs to 34.2287 mg/Kg, which are below the OCD *Remediation Action Level* of 50 mg/Kg.

The most recent landfarm confirmation soil samples collected from each sampling area for BTEX analysis (i.e.: TS-1, TS-2, TS-3, TS-4, TS-5, TS-6(R), TS-7, TS-8, TS-9, TS-10, TS-11, TS-12, TS-13(R), TS-14, TS-15, TS-16, TS-17, TS-18, TS-19, TS-20) exhibited total BTEX concentrations ranging from below the laboratory PQLs to 2.68 mg/Kg, which are below the NMAC *Small Landfarm Closure Performance Standards* of 50 mg/Kg.

The results of the soil sample analyses of total BTEX for confirmation soil samples collected from the excavation or landfarm treatment cells are summarized in Table 1 and Table 2 of Appendix D.

Chlorides

The most recent landfarm confirmation soil samples collected from each sampling area for chlorides analysis (i.e.: TS-1(R3), TS-2, TS-3(R3), TS-4, TS-5, TS-6, TS-7, TS-8, TS-9, TS-10, TS-11, TS-12, TS-13, TS-14, TS-15, TS-16, TS-17, TS-18, TS-19, TS-20) exhibited chlorides concentrations ranging from 110 mg/Kg to 440 mg/kg, which are below the NMAC *Small Landfarm Closure Performance Standards* of 500 mg/Kg.

The results of the soil sample analyses of chlorides for confirmation soil samples collected from the landfarm treatment cells are summarized in Table 2 of Appendix D.

3.4.2 Tier 2 Evaluation

SWG resubmitted excavation confirmation soil samples EC-1(R) and EC-2(R) for TPH speciation utilizing TCEQ method TX1006. To further evaluate the identified TPH concentrations at the Site, SWG utilized the published American Petroleum Institute (API) Spreadsheet for Calculating Risk-Based Screening Levels (RBSL) and the inverse weighted average (TPH Mass Fractions of aliphatic and aromatic hydrocarbons) to establish a Site Specific RBSL for the complete TPH mixture (i.e., the whole product). The calculated TPH RBSL derived from excavation confirmation soil samples EC-1(R) and EC-2(R) are 5,000 mg/Kg and 5,300 mg/Kg, respectively. To be more conservative, SWG utilized 5,000 mg/Kg as the API Calculated Site-Specific TPH RBSL for Residential Soils on-site.

Excavation confirmation soil samples EC-1(R), EC-2(R), and EC-3(R)A exhibited TPH GRO/DRO concentrations ranging from 1,155 mg/Kg to 2,885 mg/Kg, which exceed the OCD *Remediation Action Level* of 1,000 mg/Kg. However, these excavation confirmation samples did not exhibit TPH GRO/DRO concentrations in exceedance of the API Site-Specific TPH RBSLs for Residential Soils on-site of 5,000 mg/Kg.

The soil samples collected from soil borings B-3 (6-7), B-5 (4-5), B-6 (7-8), B-7 (5-6), and B-8 (4-5) exhibited TPH GRO/DRO concentrations ranging from 2,440 mg/kg to

6,900 mg/Kg, which exceed the OCD Remediation Action Levels of 1,000 mg/Kg. However, soil samples B-5 (4-5), B-6 (7-8), B-7 (5-6), and B-8 (4-5) exhibited TPH GRO/DRO concentrations ranging from 2,440 mg/Kg to 4,140 mg/Kg, which are below the API Site-Specific TPH RBSLs for Residential Soils on-site of 5,000 mg/Kg. The soil sample collected from soil boring B-3 (6-7) exhibited a TPH GRO/DRO concentration of 6,900 mg/Kg, which also exceeds the EPA API Site-Specific TPH RBSLs for Soil on-site of 5,000 mg/Kg.

The laboratory analytical results of the excavation and landfarm confirmation soil samples collected from the Site are summarized in Table 1 and Table 2 of Appendix D.

3.5 Closure Activities

On April 27, 2011, the excavation was backfilled with approximately 600 cubic yards of imported soils. Excavation backfill activities were performed by Lighthouse Environmental.

Approximately 600 cy of treated soil remained in the on-site landfarm treatment cell subsequent to backfill activities. Soil confirmation sampling was conducted at twenty (20) sampling points within the landfarm treatment cell. The landfarm confirmation soil samples and/or resamples were collected from sampling points TS-1 through TS-20 and submitted for TPH GRO/DRO, BTEX, and chlorides analysis. Based on the laboratory analytical results, the most recent confirmation soil samples collected from each landfarm sampling point did not exhibit TPH GRO/DRO, benzene, total BTEX, and/or chlorides concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards*.

On March 22, 2012, the landfarmed soils, approximately 600 cy total, were stockpiled on the northwestern portion of the Site for future on-site or off-site use, as needed by Enterprise. The landfarm containment berms have been removed and the Site has been restored to its previous grade. Photographic documentation of closure activities is included in Appendix B.

SWG collected two (2) vadose zone soil samples VZ-1A and VZ-2A from the center of the former north and south landfarm treatment cells, respectively. The vadose zone soil samples were collected utilizing hand tools and on-site equipment from approximately 3 to 3.25 feet bgs. The vadose zone soil samples were submitted for TPH GRO/DRO, BTEX, and chlorides analysis. Based on the laboratory analytical results, vadose zone soil samples VZ-1 and VZ-2 did not exhibit TPH GRO/DRO, benzene, or total BTEX concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards*. In addition, vadose zone sample VZ-1 did not exhibit chlorides concentration in exceedance of the NMAC *Small Landfarm Closure Performance Standards*. Vadose zone sample VZ-2 exhibited a chlorides concentration of 1,300 mg/Kg, which exceeds the NMAC *Small Landfarm Closure Performance Standards* of 500 mg/Kg. However, the chlorides concentrations observed in confirmation soil samples collected from 20 sampling locations within the landfarm treatment cells ranged from 100 mg/Kg to 600 mg/Kg. Therefore, the elevated chlorides concentration observed in vadose sample VZ-2 may be attributed to naturally occurring chlorides in the native soil at the Site. The laboratory analytical results from the vadose zone soil samples are summarized in Table 2 of Appendix D. The executed chain-of-custody form and laboratory data sheets are provided in Appendix E.

Soil samples collected from soil borings B-3 and B-6 and excavation confirmation soil sample EC-1(R) exhibited TPH GRO/DRO and/or total BTEX concentrations in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils on-site. These samples were collected in areas of the Site which include numerous aboveground and/or underground appurtenances related to natural gas streaming and/or processing operations; therefore, excavation of impacted media in the vicinity of these soil samples locations would not be feasible. It is believed that the corrective actions documented herein have addressed soils which were most heavily impacted as a result of historic leakage originating from the former on-site tank battery. A variance of alternative abatement requirements or standards may be requested from the OCD, in accordance with NMAC 19.15.30.9 based on the technical infeasible access of surface and subsurface soils in the vicinity of soil borings B-3 and B-6 and excavation confirmation soil sample EC-1(R).

4.0 FINDINGS AND RECOMMENDATIONS

The Site formerly included a tank battery on the south/southwestern portion of the property which stored natural gas condensate or produced liquids. Field operations personnel identified stained soils indicative of historical leakage prior to and during the decommissioning of the former on-Site tank battery. Initial site investigation activities performed by SWG did not identify TPH GRO/DRO, benzene, or total BTEX concentration in exceedance of the OCD *Remediation Action Levels.*

Supplemental site investigation activities included the advancement of eight (8) additional soil borings to a refusal depth of 8 feet bgs in the area north, east, and south of the former tank battery. The lithology encountered during the advancement of the supplemental soil borings included a silty clay, clayey silt, or silty sand. SWG collected up to 2 soil samples from seven (7) of the eight (8) supplemental soil borings and submitted them for TPH GRO/DRO and BTEX analysis. Based on the laboratory analytical results, soil samples collected from the supplemental soil borings advanced to the northeast and east of the former tank battery (B-3 and B-6) exhibited total BTEX concentrations in exceedance of the OCD *Remediation Action Levels.* In addition, a soil sample collected from a supplemental soil boring advanced to east of the former tank battery (B-3) exhibited TPH GRO/DRO concentration in exceedance of the OCD *Remediation Action Levels* and the API Site-Specific TPH RBSLs for Residential Soils on-Site. The remaining soil samples collected from the supplemental soil borings did not exhibit benzene, total BTEX, or TPH GRO/DRO concentration in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils.

As part of the CAWP approved by the OCD, excavation activities were conducted in vicinity of the former storage tank battery. An approximate total of 600 in-place cy of petroleum hydrocarbon impacted soil was excavated from the Site. The excavations continued horizontally and vertically with final dimensions of approximately 60 feet long by 25 feet wide and depths ranging from 12 to 15 feet deep. During the excavation activities, SWG encountered silty clays, clayey silts, and silty sands to approximately 8 feet bgs followed by a weathered sandstone to the terminus depth of the excavation. Subsequent to the completion of excavation activities soil confirmation samples were collected from the final extents of each of the sidewalls and floor and submitted for TPH GRO/DRO and BTEX analysis. Based on the laboratory analytical results, the final excavation confirmation soil sample collected from the north excavation sidewall (EC-1(R)) exhibited total BTEX and TPH GRO/DRO concentrations in exceedance of the OCD *Remediation Action Levels.*

However, the final excavation confirmation soil sample collected from the north excavation sidewall did not exhibit TPH GRO/DRO concentration in exceedance of the API Site-Specific TPH RBSLs for Residential Soils. The remaining excavation confirmation soil samples did not exhibit benzene, total BTEX, or TPH GRO/DRO concentration in exceedance of the OCD *Remediation Action Levels* and/or the API Site-Specific TPH RBSLs for Residential Soils on-Site.

Subsequent to the completion of excavation activities, the excavation was backfilled using imported fill. The excavated soils were placed within two landfarm treatment cells constructed on the northwest and southwest portion of the Site. The soils were spread and tilled or raked to enhance aeration of petroleum hydrocarbon COCs. In addition, a bioremediation agent (Remedy) was applied which includes nonpathogenic bacterial strains which assist in degradation and metabolism of petroleum hydrocarbons. Subsequent to proposed aeration and attenuation schedules, confirmation soil samples were collected from 20 sampling points within the landfarm treatment cells and submitted for TPH GRO/DRO, BTEX, and chlorides analysis. Some of the sampling points within the landfarm treatment cell were resampled for one or more COCs. Based on the laboratory analytical results, the most recent confirmation soil samples collected from the landfarm treatment cell did not exhibit chlorides, benzene, total BTEX, and TPH GRO/DRO concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards*.

The soils within and below the landfarm treatment cells were treated such that chlorides, benzene, total BTEX, and TPH GRO/DRO concentrations were below the NMAC *Small Landfarm Closure Performance Standards*. As a result, the treated soils were stockpiled on the northwest portion of the Site pending OCD approval for future on-site and/or off-site reuse. Vadose zone samples VZ-1 and VZA-2 were collected from below each landfarm treatment cell and did not exhibit chlorides, benzene, total BTEX, or TPH GRO/DRO, concentrations in exceedance of the NMAC *Small Landfarm Closure Performance Standards* with one exception. Vadose zone soil sample VZ-2 exhibited chlorides concentration in exceedance of the NMAC *Small Landfarm Closure Performance Standards*. However, based on the predominately low levels of chlorides concentration previously observed within the confirmation soil samples collected from the landfarm treatment cells, it is possible that the exceedance may be attributed to naturally occurring chlorides in the native soil at the Site.

Based on the results of the investigation and corrective action activities, it is believed that the source area has been delineated horizontally for petroleum hydrocarbon COCs with the exception of the area to the immediately north, northeast, and east of the former tank battery. Based on laboratory analytical results of the soil confirmation samples collected from the excavation floor, the soil samples collected from the initial soil boring, and the lithology encountered at the Site, it is believed that the source area has been vertically delineated. It is anticipated that the area of impact was primarily limited to the upper 8 or 9 feet of surface soils, based on the established presence of a sandstone formation encountered near this depth. Thus, it is believed that petroleum hydrocarbon COCs spread out vertically from the source area after encountering the sandstone unit.

It is believed that the corrective actions documented herein have addressed soils which were most heavily impacted as a result of historic leakage originating from the former on-site tank battery. In addition, it is believed that the affected soils remaining in this area are likely limited in extent to an area to the north/northwest/west of the former storage tank battery, which underlies the current processing area, with vertical migration inhibited by the presence of an impermeably

sandstone unit at a depth of approximately 10 feet bgs. Numerous aboveground and/or underground appurtenances related to natural gas streaming and/or processing operations exist within these areas. Thus, excavation activities in the vicinity of the affected soils remaining in place would not be feasible. It is believed the COCs remaining on-site to not pose significant risk to human health or the environment; therefore, a variance of alternative abatement requirements or standards may be requested from the OCD, in accordance with NMAC 19.15.30.9 based on the technical infeasible access of surface soils in the vicinity of soil borings B-3 and B-6 and excavation confirmation soil sample EC-1(R).

Based on the results of the corrective actions, it is recommended that the OCD be notified of the intent to close the small landfarm permit issued for the Site and request for authorization to reuse the treated soils, on or off-Site. In addition, a proposal should be prepared for the director of the OCD to petition for alternative abatement requirements or standards based on the technical infeasible access of surface and subsurface soils in the vicinity of soil borings B-3 and B-6 and excavation confirmation soil sample EC-1(R).

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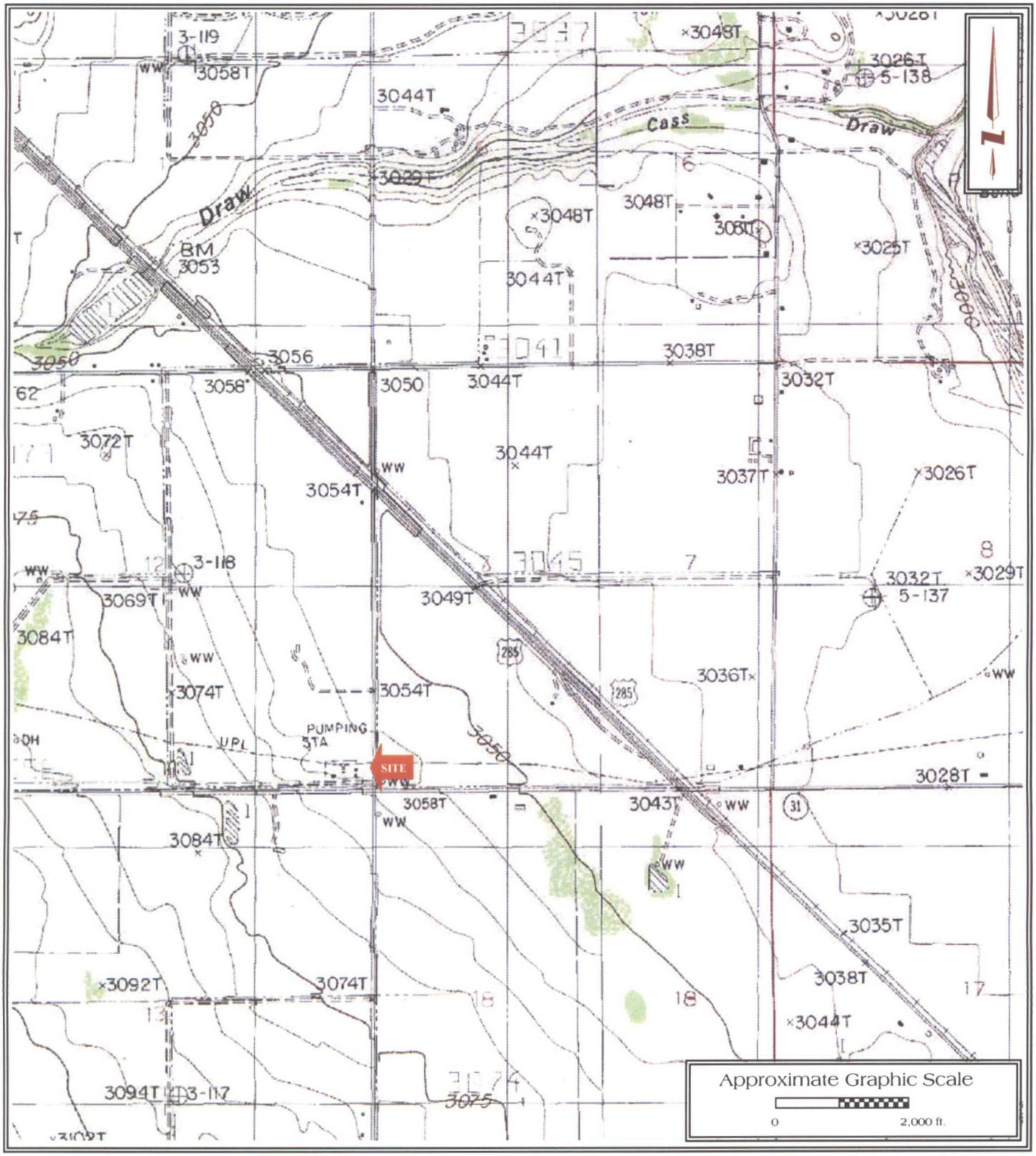
APPENDIX A

Figures



Corrective Action Report
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico

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FIGURE 1
Topographic Map
Otis, NM Quadrangle
Contour Interval – 10 Feet

Corrective Action Report
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road and CR 710
Carlsbad, Eddy County, New Mexico

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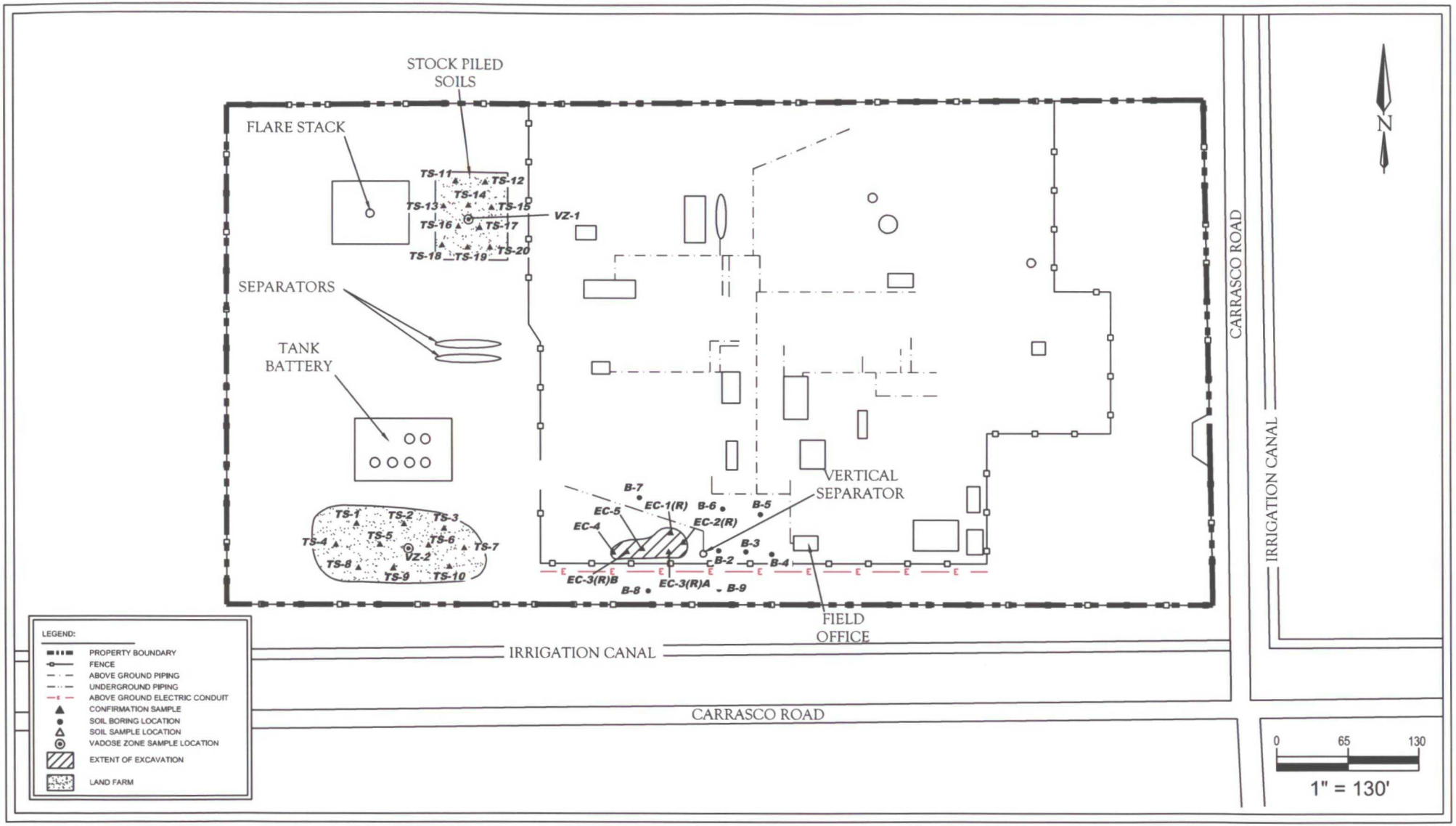
FIGURE 2
Site Vicinity Map
2009 Aerial Photograph



Corrective Action Report
Enterprise Products Operating LLC
S. Carlsbad Compressor Station
Carrasco Road & CR 710
Carlsbad, Eddy County, New Mexico

SWG Project No. 0210003

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FIGURE 3

SITE MAP

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APPENDIX B

Photographic Documentation

1.) View from east portion of excavation, looking west.

2.) View from west portion of excavation, looking east.

3.) View of landfarm treatment cell on northern portion of Site, looking east.

4.) View of landfarm treatment cell on south portion of the Site, looking west.

5.) View of landfarm treatment activities on northern portion of Site, looking east.

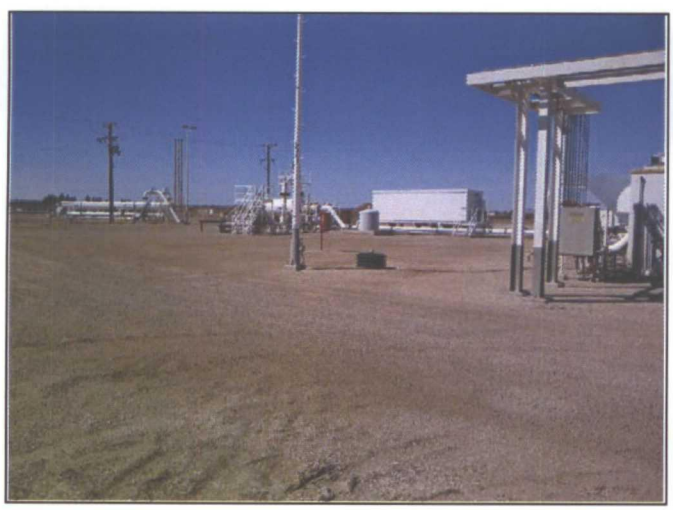
6.) View of landfarm treatment activities on south portion of Site, looking west.

7.) View landfarm tilling/raking activities on southern portion of Site, looking east.

8.) View landfarm treatment activities on north portion of Site, looking east.

9.) View of excavation backfill activities, looking west.

10.) View of excavation backfill activities, looking west/northwest.



11.) View of area near soil borings B-3 and B-6, looking northwest.

12.) View of treated soils stockpiled on northwest portion of the Site.

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APPENDIX C

Soil Borings Logs

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: B. Chris Mitchell, P.G.

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: November 5, 2009
Date Completed: November 5, 2009
Drilling Company: Straub Corporation
Driller: Marty Straub
Geologist: BCM
Boring Method: AR
Bore Hole Dia: 6-Inch

Soil Boring Number: B-1
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Lithology Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY SAND, Gray, Dry, Petroleum Hydrocarbon Odor		5	B-1		100 %		205	
								228	
								150	
								329	
								324	
						100 %		194	
								280	
			10					341	
								339	
								244	
						100 %		92	
	SANDY SILT, Pale Brown, Dry, Petroleum Hydrocarbon Odor							103	
								65	
								111	
			15					109	
						100 %		35	
	SILTY SAND, Brown, Dry, No Odor			B-1				53	
								47	
								0	
	BOTTOM OF BORING		20					0	
			25						
			30						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-2
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY CLAY with Sand, Gray, Dry, Petroleum Hydrocarbon Odor							0	
								16	
								89	
			5					139	
								171	
								384	
								122	
	Refusal @ 8'		10					63	

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Soil Boring Number: B-3
Date Started: 2.25.2011
Project #: 0210003
Date Completed: 2.25.2011
Drawn By: JWM
Drilling Company: Earth Worx
Approved By: BCM
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Well Diam: N/A
Boring Method: Geoprobe
Screen Size: N/A
Bore Hole Dia: 6-Inch
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor		5	6'-7'				113 196 219 146 227 187 287 106	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-4
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor			3'-4'				0	
								0	
								0	
			5					0	
				5'-6'				0	
								155	
								107	
	Refusal @ 8'							67	
			10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd. Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-5
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan and Gray, Dry, Petroleum Hydrocarbon Odor							0	
								18	
								30	
								38	
			5	4'-5'				186	
								130	
								108	
								67	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-6
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	SILTY CLAY, Dark Brown, Dry, No Odor							0	
	CLAYEY SILT with Sand, Gray, Dry, Petroleum Hydrocarbon Odor							0	
								44	
			5	4'-5'				82	
								140	
				7'-8'				100	
								119	
	Refusal @ 8'		10					67	

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Soil Boring Number: B-7
Date Started: 2.25.2011
Project #: 0210003
Date Completed: 2.25.2011
Drawn By: JWM
Drilling Company: Earth Worx
Approved By: BCM
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Well Diam: N/A
Boring Method: Geoprobe
Screen Size: N/A
Bore Hole Dia: 6-Inch
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR RotARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan and Gray, Dry, No Odor to Petroleum Hydrocarbon Odor			2'-3'				0	
								0	
								0	
			5	5'-6'				0	
								57	
								137	
								118	
	Refusal @ 8'		10					67	

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd, Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-Inch

Soil Boring Number: B-8
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan, Dry, No Odor							0	
	SILTY CLAY, Gray, Dry, Petroleum, Hydrocarbon Odor							0	
								0	
								0	
			5	4'-5'				212	
	SILTY SAND, Tan, Dry, No Odor							157	
				7'-8'				0	
	Refusal @ 8'							0	
			10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Client: Enterprise Products Operating, LLC
Project Name: S. Carlsbad Compressor Station
Project Location: Off S. Carassco Rd. Carlsbad, NM
Project Manager: Joseph Martinez

SOIL BORING LOG

DRILLING & SAMPLING INFORMATION

Date Started: 2.25.2011
Date Completed: 2.25.2011
Drilling Company: Earth Worx
Driller: Louis Trujillo
Geologist: B. Chris Mitchell
Boring Method: Geoprobe
Bore Hole Dia: 6-inch

Soil Boring Number: B-9
Project #: 0210003
Drawn By: JWM
Approved By: BCM

Well Diam: N/A
Screen Size: N/A
Screen Length: N/A
Casing Length: N/A

BORING METHOD
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
GP - GEOPROBE
AR - AIR ROTARY

SAMPLER TYPE
CB - FIVE FOOT CORE BARREL
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH
▽ AT COMPLETION
▼ AT WELL STABILIZATION

Monitor Well Detail	SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:								
	CLAYEY SILT with Sand, Tan, Dry, No Odor							0	
								0	
								0	
								0	
			5	4' - 5'				0	
								0	
	SANDY SILT, Tan, Dry, No Odor			7' - 8'				0	
								.0	
	Refusal @ 8'		10						

Note: This log is not to be used outside the original report.

Southwest GEOSCIENCE

Southwest GEOSCIENCE

APPENDIX D

Tables

Southwest GEOSCIENCE

TABLE 1
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - SOIL BORING and EXCAVATION CONFIRMATION SAMPLES

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	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, Minerals & Natural Resources Department, Oil Conservation Division, Remediation Action Level			NE	10	NE	NE	NE	50	1,000	
API Site-Specific TPH Risk Based Screening Level for Residential Soils			NE	NE	NE	NE	NE	50	5,000	
B-1 (7-8)	11/5/2009	7 to 8	NA	0.34	7.1	1.5	31	39.94	270	710
B-1 (19-20)	11/5/2009	19 to 20	NA	<0.0021	<0.0022	<0.0024	0.036	0.036	0.15	24
B-2	2/25/2011	Soil Samples Not Collected								
B-3 (6-7)	2/25/2011	6 to 7	NA	0.0091	56.8	13.1	224	**293.9091**	**2,070**	**4,830**
B-4 (3-4)	2/25/2011	3 to 4	NA	<0.00131	<0.00131	<0.00131	<0.00394	<0.00787	<0.0657	4.17
B-4 (5-6)	2/25/2011	5 to 6	NA	<0.00133	0.00316	<0.00133	0.0198	0.02562	3.75	368
B-5 (4-5)	2/25/2011	4 to 5	NA	<0.00125	7.62	0.00991	29.4	37.03116	**1,540**	**2,520**
B-6 (4-5)	2/25/2011	4 to 5	NA	<0.00122	0.00847	<0.00122	0.0147	0.02561	1.12	25.5
B-6 (7-8)	2/25/2011	7 to 8	NA	<0.00128	7.17	4.15	46.3	**57.62128**	**1,930**	**2,210**
B-7 (2-3)	2/25/2011	2 to 3	NA	<0.00122	<0.00122	<0.00122	<0.00366	0.00732	<0.0612	7.98
B-7 (5-6)	2/25/2011	5 to 6	NA	<0.0012	2.23	2.28	10.5	15.0112	**960**	**1,480**
B-8 (4-5)	2/25/2011	4 to 5	NA	<0.00135	6.93	2.93	17.8	27.66135	**2,100**	**1,920**
B-8 (7-8)	2/25/2011	7 to 8	NA	<0.00119	<0.00119	<0.00119	<0.00358	<0.00715	<0.0597	199
B-9 (4-5)	2/25/2011	4 to 5	NA	<0.0012	0.00416	<0.0012	<0.00359	<0.01015	<0.0598	4.5
B-9 (7-8)	2/25/2011	7 to 8	NA	<0.00186	<0.00186	<0.00186	<0.00558	<0.01116	<0.0929	8.98
EC-1	1/31/2011	8 to 9	NA	<0.0125	13	9.23	103	125.2425	903	6,040
EC-1(R)	2/24/2011	8 to 9	NA	<0.0123	13.1	2.62	50.1	**65.8323**	**569**	**1,250**
EC-2	1/31/2011	8 to 9	NA	<0.00611	0.214	0.240	16.8	17.26011	1.34	4,530
EC-2(R)	2/24/2011	8 to 9	NA	<0.0127	7.98	0.836	25.4	34.2287	6,980	674
EC-2(R)*	2/24/2011	8 to 9	NA	NA	NA	NA	NA	NA	**835**	**2,050**
EC-3	1/31/2011	8 to 9	NA	<0.00128	0.00713	<0.00128	59.4	59.40969	1,260	5,200
EC-3(R)A	2/24/2011	8 to 9	NA	<0.0126	4.22	1.26	12.3	17.7926	**515**	**640**
EC-3(R)B	2/24/2011	8 to 9	NA	<0.00135	0.00204	<0.00135	<0.00406	0.0088	0.545	14.9
EC-4	1/31/2011	8 to 9	NA	<0.00126	<0.00126	<0.00126	<0.00379	<0.00757	0.722	44
EC-5	1/31/2011	14 to 15	NA	<0.0013	0.0156	0.04	0.123	0.1799	0.836	692

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level
Note: Concentrations in **bold** and orange exceed the applicable calculated EPA API TPH RBSLs.
Note: Excavation confirmation samples shaded indicates the area was overexcavated or sample was resubmitted for analysis.
* Indicates analysis of a new extraction from sample
NA = Not Analyzed
ND = Not Detected
NE = Not Established

Southwest GEOSCIENCE

TABLE 2
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - TREATED SOILS

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
NMAC Small Landfarm *Closure Performance Standards*			500	0.2	NE	NE	NE	50	500	
TS-1	3/24/2011	0 to 0.5	410	<0.19	<0.23	<0.23	<0.69	<1.34	**140 (j)**	**1,600**
TS-1 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**81 (j)**	**1,800**
TS-1 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**570**
TS-1 (R3)	11/3/2011	0 to 0.5	120	NA	NA	NA	NA	NA	<9.8	440
TS-2	3/24/2011	0 to 0.5	310	<0.019	<0.023	<0.023	<0.069	<0.134	**8.3 (j)**	**770**
TS-2 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**560**
TS-2 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<16	470
TS-3	3/24/2011	0 to 0.5	**600**	<0.19	<0.23	<0.23	0.83 (j)	1.48	**<80**	**1,700**
TS-3 (R)	6/20/2011	0 to 0.5	290	NA	NA	NA	NA	NA	**<30**	**1,400**
TS-3 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**1,200**
TS-3 (R3)	11/3/2011	0 to 0.5	120	NA	NA	NA	NA	NA	**<24**	**1,200**
TS-3 (R4)	12/6/2011	0.5 to 1	NA	NA	NA	NA	NA	NA	<4.8	270
TS-4	3/24/2011	0 to 0.5	270	<0.019	<0.023	<0.023	0.14 (j)	0.205	**17 (j)**	**1,300**
TS-4 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<15**	**820**
TS-4 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<7.5	250
TS-5	3/24/2011	0 to 0.5	440	<0.019	<0.023	<0.023	<0.069	<0.134	**<8.0**	**1,300**
TS-5 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	1.6 (j)	14
TS-6	3/24/2011	0 to 0.5	190	**<0.37**	<0.46	<0.45	1.6 (j)	2.88	**<160**	**2,000**
TS-6 (R)	6/20/2011	0 to 0.5	NA	<0.018	<0.022	<0.021	<0.065	<0.126	<7.6	230
TS-7	3/24/2011	0 to 0.5	260	<0.019	<0.023	0.023 (j)	0.25 (j)	0.315	**20 (j)**	**1,500**
TS-7 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	56
TS-8	3/24/2011	0 to 0.5	350	<0.019	0.039 (j)	0.069 (j)	0.09	0.217	**47**	**1,500**
TS-8 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	<3.5
TS-9	3/24/2011	0 to 0.5	410	<0.019	<0.023	0.023 (j)	<0.069	0.134	**<8.0**	**650**
TS-9 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<8.0	270
TS-10	3/24/2011	0 to 0.5	110	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,000**
TS-10 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<8.4	250

Note: Concentrations in **bold** and yellow exceed the applicable NMAC *Small Landfarm Closure Performance Standards*

(j) Indicates that the analyte was reported at or above the Method Detection Limit and below the Practical Quantitation Limit

NA = Not Analyzed

NE = Not Established

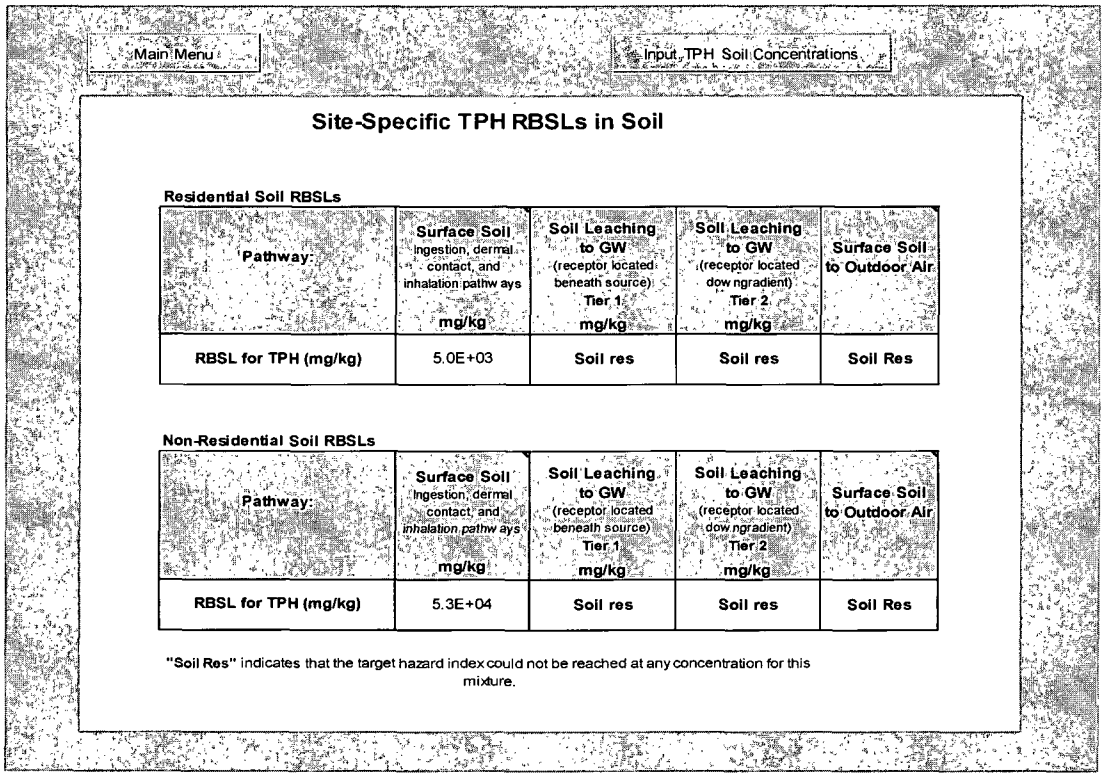
Southwest GEOSCIENCE

TABLE 2 (Cont.)
S. CARLSBAD COMPRESSOR STATION
SOIL ANALYTICAL RESULTS - TREATED SOILS and VADOSE ZONE SAMPLES

Sample I.D.	Date	Sample Depth (feet)	Chlorides (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
NMAC Small Landfarm *Closure Performance Standards*			500	0.2	NE	NE	NE	50	500	
TS-11	3/24/2011	0 to 0.5	160	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,800**
TS-11 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**790**
TS-11 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.5	350
TS-12	3/24/2011	0 to 0.5	160	<0.19	<0.23	<0.23	<0.69	<1.34	<80	1,400
TS-12 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<15	440
TS-13	3/24/2011	0 to 0.5	100	**<0.37**	<0.46	<0.45	<1.4	2.68	**<160**	**1,900**
TS-13 (R)	6/20/2011	0 to 0.5	NA	**<0.24**	<0.24	<0.24	<0.24	<0.48	<7.7	290
TS-14	3/24/2011	0 to 0.5	210	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**1,100**
TS-14 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<15	500
TS-15	3/24/2011	0 to 0.5	210	<0.19	<0.23	<0.23	<0.69	<1.34	**160 (j)**	**2,400**
TS-15 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	17 (j)	430
TS-16	3/24/2011	0 to 0.5	230	<0.19	<0.23	<0.23	<0.69	<1.34	**210 (j)**	**1,900**
TS-16 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.5	73
TS-17	3/24/2011	0 to 0.5	320	<0.037	<0.046	<0.045	<0.14	<0.268	**<16**	**1,200**
TS-17 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	3.3 (j)	99
TS-18	3/24/2011	0 to 0.5	280	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,800**
TS-18 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	63
TS-19	3/24/2011	0 to 0.5	290	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,700**
TS-19 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	**<16**	**790**
TS-19 (R2)	8/24/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<7.5	330
TS-20	3/24/2011	0 to 0.5	230	<0.19	<0.23	<0.23	<0.69	<1.34	**<80**	**2,200**
TS-20 (R)	6/20/2011	0 to 0.5	NA	NA	NA	NA	NA	NA	<1.6	72
VZ-1	3/3/2012	3 to 3.25	460	<0.0047	<0.0081	<0.0039	<0.0160	<0.0327	<1.4	<5.4
VZ-2	3/3/2012	3 to 3.25	1,300	<0.0046	<0.0079	<0.0038	<0.0160	<0.0323	<1.3	<5.4

Note: Concentrations in **bold** and yellow exceed the applicable NMAC *Small Landfarm Closure Performance Standards*
(j) indicates that the analyte was reported at or above the Method Detection Limit and below the Practical Quantitation Limit
NA = Not Analyzed
NE = Not Established

API Site-Specific TPH RBSLs in Soil



Main Menu | Input TPH Soil Concentrations

Site-Specific TPH RBSLs in Soil

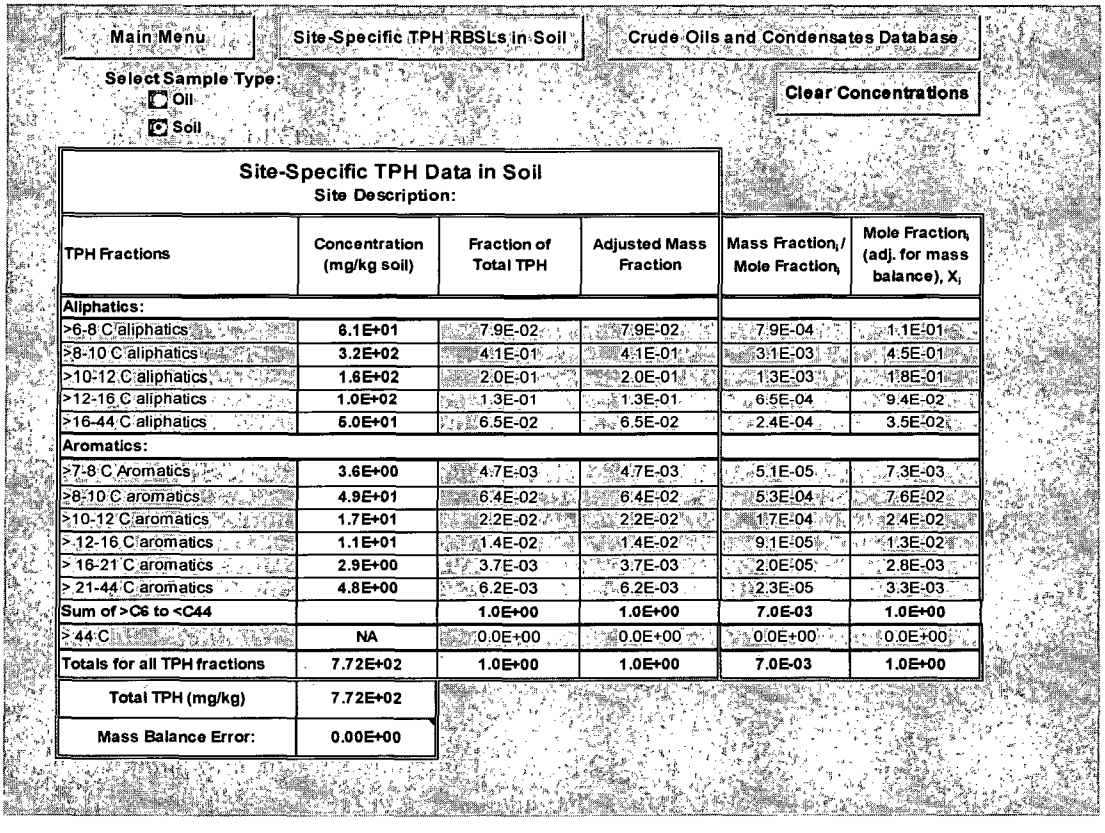
Residential Soil RBSLs

Pathway:	Surface Soil Ingestion, dermal contact, and inhalation pathw ays mg/kg	Soil Leaching to GW (receptor located beneath source) Tier 1 mg/kg	Soil Leaching to GW (receptor located dow ngradient) Tier 2 mg/kg	Surface Soil to Outdoor Air
RBSL for TPH (mg/kg)	5.0E+03	Soil res	Soil res	Soil Res

Non-Residential Soil RBSLs

Pathway:	Surface Soil Ingestion, dermal contact, and inhalation pathw ays mg/kg	Soil Leaching to GW (receptor located beneath source) Tier 1 mg/kg	Soil Leaching to GW (receptor located dow ngradient) Tier 2 mg/kg	Surface Soil to Outdoor Air
RBSL for TPH (mg/kg)	5.3E+04	Soil res	Soil res	Soil Res

"Soil Res" indicates that the target hazard index could not be reached at any concentration for this mixture.



Main Menu | Site-Specific TPH RBSLs in Soil | Crude Oils and Condensates Database

Select Sample Type: ○ Oil ◉ Soil

Clear Concentrations

Site-Specific TPH Data in Soil

Site Description:

TPH Fractions	Concentration (mg/kg soil)	Fraction of Total TPH	Adjusted Mass Fraction	Mass Fraction$_i$ / Mole Fraction$_i$	Mole Fraction$_i$ (adj. for mass balance), X_i
Aliphatics:					
>6-8 C aliphatics	6.1E+01	7.9E-02	7.9E-02	7.9E-04	1.1E-01
>8-10 C aliphatics	3.2E+02	4.1E-01	4.1E-01	3.1E-03	4.5E-01
>10-12 C aliphatics	1.6E+02	2.0E-01	2.0E-01	1.3E-03	1.8E-01
>12-16 C aliphatics	1.0E+02	1.3E-01	1.3E-01	6.5E-04	9.4E-02
>16-44 C aliphatics	5.0E+01	6.5E-02	6.5E-02	2.4E-04	3.5E-02
Aromatics:					
>7-8 C Aromatics	3.6E+00	4.7E-03	4.7E-03	5.1E-05	7.3E-03
>8-10 C aromatics	4.9E+01	6.4E-02	6.4E-02	5.3E-04	7.6E-02
>10-12 C aromatics	1.7E+01	2.2E-02	2.2E-02	1.7E-04	2.4E-02
>12-16 C aromatics	1.1E+01	1.4E-02	1.4E-02	9.1E-05	1.3E-02
> 16-21 C aromatics	2.9E+00	3.7E-03	3.7E-03	2.0E-05	2.8E-03
> 21-44 C aromatics	4.8E+00	6.2E-03	6.2E-03	2.3E-05	3.3E-03
Sum of >C6 to <C44		**1.0E+00**	**1.0E+00**	**7.0E-03**	**1.0E+00**
> 44 C	NA	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Totals for all TPH fractions	**7.72E+02**	**1.0E+00**	**1.0E+00**	**7.0E-03**	**1.0E+00**

Total TPH (mg/kg)	**7.72E+02**
Mass Balance Error:	**0.00E+00**

Note: Data calculated using TX1006 data from excavation confirmation sample EC-1(R)

Southwest GEOSCIENCE

APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

State Certifications
Arkansas: 88-0647
Oklahoma: 8727
Louisiana: 02007
Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

Sample Identification

Laboratory ID #	Client Sample ID	Matrix	Sampled Date/Time	Received Date/Time
1102038-01	EC-1	Solid	01/31/11 11:00	02/03/11 12:28
1102038-02	EC-2	Solid	01/31/11 11:10	02/03/11 12:28
1102038-03	EC-3	Solid	01/31/11 11:20	02/03/11 12:28
1102038-04	EC-4	Solid	01/31/11 11:30	02/03/11 12:28
1102038-05	EC-5	Solid	01/31/11 11:40	02/03/11 12:28

Case Narrative

This project does not require TRRP specifications.

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Report of Sample Analysis

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8829 Tradeway Street
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ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown
President

Environmental Laboratories
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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Laboratory ID #: 1102038-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: Joseph W. Martinez
Customer
Sample Description: EC-1
Sample Date/Time: 01/31/11 1100

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										**R-01**
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1B07008	02/07/11 0852	TK	
TPH Diesel	**6040**	181	2.9	mg/kg dry	49.94	EPA 8015B mod	1B07008	02/08/11 1926	PMS	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*35.8 mg/kg dry*			*3.89 mg/kg dry*		*920 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)			*0.945 mg/kg dry*			*3.57 mg/kg dry*		*26 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**903**	31.2	0.05	mg/kg dry	500.00	EPA 8015B mod	1B07005	02/09/11 1238	ZT	R-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0827 mg/kg dry*			*0.0625 mg/kg dry*		*132 %*	*55-140*	
BTEX										**R-01**
Benzene	**ND**	12.5	1	ug/kg dry	10.00	EPA 8021B	1B07005	02/08/11 1716	ZT	Q-01
Ethyl Benzene	**9230**	625	1	ug/kg dry	500.00	EPA 8021B	1B07005	02/09/11 1238	ZT	
Toluene	**13000**	625	1	ug/kg dry	500.00	EPA 8021B	1B07005	02/09/11 1238	ZT	
Xylenes (total)	**103000**	1880	3	ug/kg dry	500.00	EPA 8021B	1B07005	02/09/11 1238	ZT	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*274 ug/kg dry*			*625 ug/kg dry*		*44 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)			*45.0 ug/kg dry*			*62.5 ug/kg dry*		*72 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**80**	0.20	0.2	%	1.00	SM 2540G	1B04017	02/04/11 1655	ANH	

Local: (972) 727-1123 **Long Distance: (800) 228-ERMI** **FAX: (972) 727-1175**

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Laboratory ID #: 1102038-02
Sample Type: Grab
Matrix: Solid
Sample Collected By: Joseph W. Martinez
Customer
Sample Description: EC-2
Sample Date/Time: 01/31/11 1110

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1B07008	02/07/11 0852	TK	
TPH Diesel	**4530**	177	2.9	mg/kg dry	50.00	EPA 8015B mod	1B07008	02/08/11 1954	PMS	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*8.29 mg/kg dry*		*3.81 mg/kg dry*		*218 %*	*10-112*		Q-29
Triacontane (EPA 8015B mod)			*0.484 mg/kg dry*		*3.49 mg/kg dry*		*14 %*	*10-140*		
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**1.34**	0.0611	0.05	mg/kg dry	1.00	EPA 8015B mod	1B07005	02/07/11 2015	ZT	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.0593 mg/kg dry*		*0.0611 mg/kg dry*		*97 %*	*55-140*		
BTEX										R-01
Benzene	**ND**	6.11	1	ug/kg dry	5.00	EPA 8021B	1B07005	02/08/11 1948	ZT	Q-01
Ethyl Benzene	**240**	12.2	1	ug/kg dry	10.00	EPA 8021B	1B07005	02/09/11 1339	ZT	
Toluene	**214**	12.2	1	ug/kg dry	10.00	EPA 8021B	1B07005	02/09/11 1339	ZT	
Xylenes (total)	**16800**	183	3	ug/kg dry	50.00	EPA 8021B	1B07005	02/09/11 1439	ZT	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8021B)			*586 ug/kg dry*		*306 ug/kg dry*		*192 %*	*10-140*		Q-29
4-Bromofluorobenzene (EPA 8021B)			*814 ug/kg dry*		*611 ug/kg dry*		*133 %*	*10-140*		
4-Bromofluorobenzene (EPA 8021B)			*74.7 ug/kg dry*		*61.1 ug/kg dry*		*122 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	**82**	0.20	0.2	%	1.00	SM 2540G	1B04017	02/04/11 1655	ANH	

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Laboratory ID #: 1102038-03
Sample Type: Grab
Matrix: Solid
Sample Collected By: Joseph W. Martinez
Customer
Sample Description: EC-3
Sample Date/Time: 01/31/11 1120

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1B07008	02/07/11 0852	TK	
TPH Diesel	**5200**	187	2.9	mg/kg dry	49.86	EPA 8015B mod	1B07008	02/08/11 2021	PMS	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*31.5 mg/kg dry*			*4.01 mg/kg dry*		*787 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)			*1.65 mg/kg dry*			*3.68 mg/kg dry*		*45 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**1260**	32.3	0.05	mg/kg dry	500.00	EPA 8015B mod	1B07005	02/09/11 1510	ZT	R-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.156 mg/kg dry*			*0.0645 mg/kg dry*		*241 %*	*55-140*	Q-29
BTEX										
Benzene	**ND**	1.28	1	ug/kg dry	0.99	EPA 8021B	1B07005	02/07/11 2045	ZT	
Ethyl Benzene	**ND**	1.28	1	ug/kg dry	0.99	EPA 8021B	1B07005	02/07/11 2045	ZT	
Toluene	**7.13**	1.28	1	ug/kg dry	0.99	EPA 8021B	1B07005	02/07/11 2045	ZT	
Xylenes (total)	**59400**	1920	3	ug/kg dry	497.02	EPA 8021B	1B07005	02/09/11 1510	ZT	R-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*49.1 ug/kg dry*			*64.1 ug/kg dry*		*77 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)			*160 ug/kg dry*			*64.1 ug/kg dry*		*250 %*	*10-140*	Q-29
Conventional Chemistry Parameters										
% Solids	**78**	0.20	0.2	%	1.00	SM 2540G	1B04017	02/04/11 1655	ANH	

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Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Laboratory ID #: 1102038-04
Sample Type: Grab
Matrix: Solid
Sample Collected By: Joseph W. Martinez — Customer
Sample Description: EC-4
Sample Date/Time: 01/31/11 1130

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1B07008	02/07/11 0852	TK	
TPH Diesel	**44.0**	3.66	2.9	mg/kg dry	1.00	EPA 8015B mod	1B07008	02/09/11 1040	PMS	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*2.21 mg/kg dry*			*3.93 mg/kg dry*		*56 %*	*10-112*	
Triacontane (EPA 8015B mod)			*2.91 mg/kg dry*			*3.61 mg/kg dry*		*81 %*	*10-140*	Q-11
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**0.722**	0.0632	0.05	mg/kg dry	1.00	EPA 8015B mod	1B07005	02/08/11 1918	ZT	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.102 mg/kg dry*			*0.0632 mg/kg dry*		*162 %*	*55-140*	Q-29
BTEX										
Benzene	**ND**	1.26	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/08/11 1918	ZT	
Ethyl Benzene	**ND**	1.26	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/08/11 1918	ZT	
Toluene	**ND**	1.26	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/08/11 1918	ZT	
Xylenes (total)	**ND**	3.79	3	ug/kg dry	1.00	EPA 8021B	1B07005	02/08/11 1918	ZT	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*77.4 ug/kg dry*			*63.2 ug/kg dry*		*122 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**79**	0.20	0.2	%	1.00	SM 2540G	1B04018	02/04/11 1730	ANH	

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Laboratory ID #: 1102038-05
Sample Type: Grab
Matrix: Solid
Sample Collected By: Joseph W. Martinez — Customer
Sample Description: EC-5
Sample Date/Time: 01/31/11 1140

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	0.99	EPA 3550B	1B07008	02/07/11 0852	TK	
TPH Diesel	**692**	37.5	2.9	mg/kg dry	9.92	EPA 8015B mod	1B07008	02/09/11 0408	PMS	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
a-Pinene (EPA 8015B mod)	*3.71 mg/kg dry*	*4.03 mg/kg dry*	*92 %*	*10-112*
Triacontane (EPA 8015B mod)	*4.09 mg/kg dry*	*3.69 mg/kg dry*	*111 %*	*10-140*

Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**0.836**	0.0649	0.05	mg/kg dry	1.00	EPA 8015B mod	1B07005	02/07/11 2146	ZT	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
4-Bromofluorobenzene (EPA 8015B mod)	*0.0638 mg/kg dry*	*0.0649 mg/kg dry*	*98 %*	*55-140*

BTEX										
Benzene	**ND**	1.30	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/07/11 2146	ZT	
Ethyl Benzene	**40.0**	1.30	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/07/11 2146	ZT	
Toluene	**15.6**	1.30	1	ug/kg dry	1.00	EPA 8021B	1B07005	02/07/11 2146	ZT	
Xylenes (total)	**123**	3.90	3	ug/kg dry	1.00	EPA 8021B	1B07005	02/07/11 2146	ZT	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
4-Bromofluorobenzene (EPA 8021B)	*54.1 ug/kg dry*	*64.9 ug/kg dry*	*83 %*	*10-140*

Conventional Chemistry Parameters										
% Solids	**77**	0.20	0.2	%	1.00	SM 2540G	1B04018	02/04/11 1730	ANH	

Local: (972) 727-1123 **Long Distance: (800) 228-ERMI** **FAX: (972) 727-1175**

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Total Petroleum Hydrocarbons - DRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1B07008 - EPA 3550B Sonication Extraction										
Blank (1B07008-BLK1) Prepared & Analyzed: 02/07/11 08:52										
Ultrasonic Extraction	**Completed**	N/A	N/A							
TPH Diesel	**ND**	2.89	mg/kg wet							
Surrogate: a-Pinene	**2.48**		mg/kg wet	3.11		80	10-109			
Surrogate: Triacontane	**2.67**		mg/kg wet	2.85		94	10-140			
Laboratory Control Sample (1B07008-BS1) Prepared & Analyzed: 02/07/11 08:52										
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0			
TPH Diesel	**24.3**	2.90	mg/kg wet	28.6		85	43-120			
Surrogate: a-Pinene	**2.15**		mg/kg wet	3.11		69	10-109			
Surrogate: Triacontane	**1.65**		mg/kg wet	2.86		58	10-140			
Laboratory Control Sample Duplicate (1B07008-BSD1) Prepared & Analyzed: 02/07/11 08:52										
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0		0	
TPH Diesel	**25.1**	2.90	mg/kg wet	28.5		88	43-120	4	20	
Surrogate: a-Pinene	**2.19**		mg/kg wet	3.11		70	10-109			
Surrogate: Triacontane	**2.04**		mg/kg wet	2.85		72	10-140			
Matrix Spike (1B07008-MS1) Prepared & Analyzed: 02/07/11 08:52					**Source: 1102035-01RE1**					
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0			
TPH Diesel	**1020**	145	mg/kg wet	28.5	295	2530	1-150			Q-02, R-01
Surrogate: a-Pinene	**3.39**		mg/kg wet	3.11		109	1-109			R-01
Surrogate: Triacontane	**0.0142**		mg/kg wet	2.85		0	1-170			Q-30, R-01
Matrix Spike Duplicate (1B07008-MSD1) Prepared & Analyzed: 02/07/11 08:52					**Source: 1102035-01RE1**					
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0		0	
TPH Diesel	**1930**	145	mg/kg wet	28.6	295	5730	1-150	62	43	Q-02, Q-04, R-01
Surrogate: a-Pinene	**0.330**		mg/kg wet	3.12		11	1-109			R-01
Surrogate: Triacontane	**0.722**		mg/kg wet	2.86		25	1-170			R-01

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Report of Sample Analysis

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8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Total Petroleum Hydrocarbons - GRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1B07005 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1B07005-BLK1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 11:17										
TPH Gasoline	**ND**	0.0500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	**0.0564**		mg/kg wet	0.0500		113	55-140			
Laboratory Control Sample (1B07005-BS1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 11:47										
TPH Gasoline	**0.457**	0.0500	mg/kg wet	0.500		91	64-117			
Surrogate: 4-Bromofluorobenzene	**0.0564**		mg/kg wet	0.0500		113	15-212			
Laboratory Control Sample Duplicate (1B07005-BSD1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 12:18										
TPH Gasoline	**0.462**	0.0500	mg/kg wet	0.500		92	64-117	0.9	18	
Surrogate: 4-Bromofluorobenzene	**0.0566**		mg/kg wet	0.0500		113	15-212			
Matrix Spike (1B07005-MS1) Prepared: 02/07/11 09:03 Analyzed: 02/08/11 11:08					**Source: 1102035-03RE2**					
TPH Gasoline	**161**	5.00	mg/kg wet	50.0	20.0	283	4-163			Q-02, R-01
Surrogate: 4-Bromofluorobenzene	**0.159**		mg/kg wet	0.500		32	15-212			
Matrix Spike Duplicate (1B07005-MSD1) Prepared: 02/07/11 09:03 Analyzed: 02/08/11 11:39					**Source: 1102035-03RE2**					
TPH Gasoline	**88.9**	5.00	mg/kg wet	50.0	20.0	138	4-163	58	46	Q-04, R-01
Surrogate: 4-Bromofluorobenzene	**0.129**		mg/kg wet	0.500		26	15-212			

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

State Certifications
Arkansas: 88-0647
Oklahoma: 8727
Louisiana: 02007
Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1B07005 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1B07005-BLK1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 11:17										
Benzene	**ND**	1.00	ug/kg wet							
Ethyl Benzene	**ND**	1.00	ug/kg wet							
Toluene	**ND**	1.00	ug/kg wet							
Xylenes (total)	**ND**	3.00	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	**59.4**		ug/kg wet	50.0		119	18-140			
Laboratory Control Sample (1B07005-BS1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 11:47										
Benzene	**52.0**	1.00	ug/kg wet	50.0		104	76-118			
Ethyl Benzene	**46.6**	1.00	ug/kg wet	50.0		93	68-124			
Toluene	**45.3**	1.00	ug/kg wet	50.0		91	76-120			
Xylenes (total)	**136**	3.00	ug/kg wet	150		90	70-123			
Surrogate: 4-Bromofluorobenzene	**54.9**		ug/kg wet	50.0		110	18-198			
Laboratory Control Sample Duplicate (1B07005-BSD1) Prepared: 02/07/11 09:03 Analyzed: 02/07/11 12:18										
Benzene	**52.2**	1.00	ug/kg wet	50.0		104	76-118	0.3	12	
Ethyl Benzene	**47.2**	1.00	ug/kg wet	50.0		94	68-124	1	14	
Toluene	**45.6**	1.00	ug/kg wet	50.0		91	76-120	0.6	13	
Xylenes (total)	**134**	3.00	ug/kg wet	150		89	70-123	1	13	
Surrogate: 4-Bromofluorobenzene	**54.2**		ug/kg wet	50.0		108	18-198			
Matrix Spike (1B07005-MS1) Prepared: 02/07/11 09:03 Analyzed: 02/08/11 11:08					**Source: 1102035-03RE2**					**R-01**
Benzene	**5590**	100	ug/kg wet	5000	ND	112	21-150			
Ethyl Benzene	**5970**	100	ug/kg wet	5000	318	113	3-169			
Toluene	**5520**	100	ug/kg wet	5000	9.07	110	28-150			
Xylenes (total)	**20900**	300	ug/kg wet	15000	737	134	10-140			
Surrogate: 4-Bromofluorobenzene	**862**		ug/kg wet	500		172	18-198			

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1B07005 - Purge-and-Trap and Extraction-VOCs in Soil (continued)										
Matrix Spike Duplicate (1B07005-MSD1) Prepared: 02/07/11 09:03 Analyzed: 02/08/11 11:39					**Source: 1102035-03RE2**					**R-01**
Benzene	**5300**	100	ug/kg wet	5000	ND	106	21-150	5	29	
Ethyl Benzene	**5010**	100	ug/kg wet	5000	318	94	3-169	17	52	
Toluene	**4660**	100	ug/kg wet	5000	9.07	93	28-150	17	33	
Xylenes (total)	**15900**	300	ug/kg wet	15000	737	101	10-140	27	52	
Surrogate: 4-Bromofluorobenzene	**609**		ug/kg wet	500		122	18-198			

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1B04017										
Blank (1B04017-BLK1) Prepared & Analyzed: 02/04/11 16:55										
% Solids	**ND**	0.20	%							
Duplicate (1B04017-DUP1) Prepared & Analyzed: 02/04/11 16:55					**Source: 1101579-01**					
% Solids	**83**	0.20	%		83			0	4	
Duplicate (1B04017-DUP2) Prepared & Analyzed: 02/04/11 16:55					**Source: 1102036-02**					
% Solids	**97**	0.20	%		96			0.6	4	
Batch 1B04018										
Blank (1B04018-BLK1) Prepared & Analyzed: 02/04/11 17:30										
% Solids	**ND**	0.20	%							
Duplicate (1B04018-DUP1) Prepared & Analyzed: 02/04/11 17:30					**Source: 1102038-04**					
% Solids	**79**	0.20	%		79			0.3	4	

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

Q-01	The recovery of the internal standard(s) was outside the acceptable range in this sample due to matrix interference. No target compounds were identified in the sample, therefore, this has no effect on the results presented.
Q-02	The recovery of this analyte in the MS was outside the acceptable range due to interference, large dilutions required for analysis or a combination of these factors. The recovery of this analyte in the LCS(s) was within the acceptable range.
Q-04	The RPD of this analyte between the MS(s) was outside of the acceptable range. The RPD of this same analyte between the LCS(s) was within the acceptable range.
Q-11	The recovery of the calibration check standard for this analyte was lower than the acceptable range. This may indicate a low bias to the result presented.
Q-29	The recovery of the surrogate in this sample was higher than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a high bias to the compounds in the sample that this surrogate represents.
Q-30	The recovery of the surrogate in this sample was lower than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a low bias to the compounds in the sample that this surrogate represents.
R-01	The higher reporting limit is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad C.S.
Project #: 0210003
Print Date/Time: 02/10/11 16:54

MRL	Method Reporting Limit
naa	This analysis/parameter is not accreditable under the current NELAP program

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martinez

Laboratory: ERMI
Address:
Contact:
Phone:
PO/SO #:

Sampler's Name: Joseph Martinez
Sampler's Signature: [signature]

Lab use only
Due Date:
Temp. of coolers when received (C°): 0.2°C (IR)
1 2 3 4 5
Page ___ of ___

Proj. No.: 0210003
Project Name: S. Carlsbad CS

ANALYSIS REQUESTED: TPH GRO/DRO (SW-846 #8015B); BTEX (SW-846 #8021B); Chlorides (EPA 300.0); Hold

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO/DRO	BTEX	Chlorides	Hold		Lab Sample ID (Lab Use Only)
S	1.31.11	1100		✓	EC-1	8'	9'				1	X	X		✓	Normal TAT	1102038-01
↓	↓	1110		↓	EC-2	↓	↓				↓	X	X		↓	per Joseph M	1102038-02
		1120			EC-3							X	X			2/3/11 LM	1102038-03
		1130			EC-4							X	X				1102038-04
		1140			EC-5							X	X				1102038-05
		1700			TS-1	0.5'	1'										
		1705			TS-2	↓	↓										
		1710			TS-3												
		1715			TS-4												
↓	↓	1720		↓	TS-5	↓	↓				↓				↓		

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	2.1.11	1200	FedEx		
			Melissa McGlory [signature]	2-3-11	1228

NOTES:

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 ___

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martinez

Laboratory: ERMI
Address:
Contact:
Phone:
PO/SO #:

ANALYSIS REQUESTED: TPH GRO DRO (SW846 #8015B) / BTEX (SW846 #8021B) / Chlorides (EPA 300.0) / Hold

Lab use only
Due Date:
Temp. of coolers when received (°C): 0.2°C
Page ___ of ___

Sampler's Name: Joseph W Martinez
Sampler's Signature: [signature]

Proj. No.: 820 003
Project Name: S Carlsbad CS

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO DRO	BTEX	Chlorides	Hold	Lab Sample ID (Lab Use Only)
S	1.31.11	1725		✓	TS-6	0.5'	1'				1				✓	
		1730			TS-7										✓	
		1735			TS-8										✓	
		1740			TS-9							✓	✓	✓		
		1745			TS-10							✓	✓	✓		
		1750			TS-11										✓	
		1755			TS-12										✓	
		1800			TS-13							✓	✓	✓		
		1805			TS-14										✓	
		1810			TS-15										✓	
		1815			TS-16										✓	
		1820			TS-17							✓	✓	✓		
		1825			TS-18										✓	
		1830			TS-19										✓	
		1835			TS-20										✓	

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
			Melissa McElloyd [signature]	2-3-11	1228

NOTES:
3 Day TAT

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 ______

1102032

FedEx Express US Airbill

FedEx Tracking Number 8747 7752 8570

1 From This portion can be removed for Recipient's records.

Date 2/1/11 FedEx Tracking Number 874777528570

Sender's Name TRISH MOORE Phone 214 350-3469

Company SOUTHWEST GEOSCIENCE

Address 2551 W NORTHWEST HWY STE 3321

City DALLAS State TX ZIP 75220-8409

2 Your Internal Billing Reference 0210002

3 To

Recipient's Name Lalie Underwood Phone 972 727 - 1123

Company ERMI

Address 400 W. Bethany #~~111~~ 190

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Allen State TX ZIP 75013

0430025347

8747 7752 8570

4a Express Package Service * To most locations.

- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service * To most locations.

- [ ] FedEx 1Day Freight — Next business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected. Next-Day Freight Box required.
- [ ] FedEx 2Day Freight — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 Packaging * Declared value limit $500.

- [x] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [ ] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment Bill to:

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party — Enter FedEx Acct. No. or Credit Card No. below.
- [ ] Credit Card
- [ ] Cash/Check

Obtain recip. Acct. No. [ ]

Total Packages 1 Total Weight 40 lbs. Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

605

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RECIPIENT: PEEL HERE

Received at ERMI
Melissa McCullough 1228
2-3-11

Lab Number(s): 1102038

ERMI

Sample Preservation Documentation*

On Ice (Circle One): YES OR NO (check if on Dry Ice_____)

Parameters	Containers #	Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals	—		pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	Checked At Analysis
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine □yes □no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)			Cool, pH < 2 Zero Head Space	40 ml VOA vial	DO NOT OPEN
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials_____	40 ml VOA vial	DO NOT OPEN
Phos., NO_3/NO_2, NH_3N, COD, TKN,TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO_4, Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, TPH-DRO			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	pH < 2
Oil & Grease, TPH (by 1664a)			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	DO NOT Check pH
Cyanide			Cool, pH >12	Glass or Plastic	pH > 12 Chlorine □yes □no Sulfide □yes □no □na
Sulfide		—	Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
Soil, Sludge, Solid, Oil, Liquid	5	4oz	Cool Note: please check if collected in pre-weighed vials_____	9 lar	

Metals Preserved By Login □yes □no Trip Blanks Received □yes □no

COMMENTS:_____

*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

**Cool means cooled to ≤6°C but not frozen.

Preservation Checked By _____ 2-3-11 Date 1515 Time

1000.0-3.2 2/17/09

kdy 7/10/08

Q:\Form Masters\1000.0-3.2 Sample Preservation Form

Environmental Laboratories
Bethany Tech Center • Suite 190
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State Certifications
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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Page: Page 1 of 13
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

Sample Identification

Laboratory ID #	Client Sample ID	Matrix	Sampled Date/Time	Received Date/Time
1102642-01	EC-1 (R)	Solid	02/24/11 09:35	02/28/11 12:24
1102642-02	EC-2 (R)	Solid	02/24/11 09:40	02/28/11 12:24
1102642-03	EC-3 (R)A	Solid	02/24/11 09:45	02/28/11 12:24
1102642-04	EC-3 (R)B	Solid	02/24/11 09:50	02/28/11 12:24

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown
President

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Laboratory ID #: 1102642-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-1 (R)
Sample Date/Time: 02/24/11 0935

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C01001	03/01/11 0758	BMW	
TPH Diesel	1250	34.9	2.9	mg/kg dry	9.96	EPA 8015B mod	1C01001	03/02/11 0437	PMS	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*12.8 mg/kg dry*			*3.74 mg/kg dry*		*341 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)			*4.44 mg/kg dry*			*3.43 mg/kg dry*		*129 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	569	60.3	0.05	mg/kg dry	1,000.00	EPA 8015B mod	1C01025	03/01/11 2056	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0699 mg/kg dry*			*0.0603 mg/kg dry*		*116 %*	*55-140*	
BTEX										R-01
Benzene	ND	12.3	1	ug/kg dry	10.20	EPA 8021B	1C01025	03/01/11 2003	TA	Q-13
Ethyl Benzene	2620	603	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2030	TA	
Toluene	13100	603	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2030	TA	
Xylenes (total)	50100	1810	3	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2030	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*144 ug/kg dry*			*615 ug/kg dry*		*23 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)			*44.9 ug/kg dry*			*60.3 ug/kg dry*		*74 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	83	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	Q-26

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Laboratory ID #: 1102642-02
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: EC-2 (R)
Sample Date/Time: 02/24/11 0940

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C01001	03/01/11 0758	BMW	
TPH Diesel	**674**	41.1	2.9	mg/kg dry	9.98	EPA 8015B mod	1C01001	03/02/11 0557	PMS	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)				*7.65 mg/kg dry*		*4.41 mg/kg dry*		*173 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)				*4.47 mg/kg dry*		*4.05 mg/kg dry*		*110 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	**6980**	317	0.05	mg/kg dry	4,464.29	EPA 8015B mod	1C01025	03/01/11 2148	TA	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)				*1.46 mg/kg dry*		*0.634 mg/kg dry*		*230 %*	*55-140*	Q-29
BTEX										R-01
Benzene	**ND**	12.7	1	ug/kg dry	8.93	EPA 8021B	1C01025	03/01/11 2122	TA	Q-01
Ethyl Benzene	**836**	710	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2148	TA	
Toluene	**7980**	710	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2148	TA	
Xylenes (total)	**25400**	2130	3	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2148	TA	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)				*469 ug/kg dry*		*634 ug/kg dry*		*74 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)				*85.5 ug/kg dry*		*71.0 ug/kg dry*		*120 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**70**	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
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ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Laboratory ID #: 1102642-03
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-3 (R)A
Sample Date/Time: 02/24/11 0945

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C01001	03/01/11 0758	BMW	
TPH Diesel	**640**	38.8	2.9	mg/kg dry	9.99	EPA 8015B mod	1C01001	03/02/11 0717	PMS	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)				*6.91 mg/kg dry*		*4.17 mg/kg dry*		*166 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)				*4.98 mg/kg dry*		*3.83 mg/kg dry*		*130 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	**515**	33.5	0.05	mg/kg dry	500.00	EPA 8015B mod	1C01025	03/01/11 2307	TA	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)				*0.116 mg/kg dry*		*0.0670 mg/kg dry*		*174 %*	*55-140*	Q-29
BTEX										R-01
Benzene	**ND**	12.6	1	ug/kg dry	9.43	EPA 8021B	1C01025	03/01/11 2241	TA	Q-01
Ethyl Benzene	**1260**	670	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2307	TA	
Toluene	**4220**	670	1	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2307	TA	
Xylenes (total)	**12300**	2010	3	ug/kg dry	500.00	EPA 8021B	1C01025	03/01/11 2307	TA	
Surrogate				**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)				*360 ug/kg dry*		*632 ug/kg dry*		*57 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)				*70.5 ug/kg dry*		*67.0 ug/kg dry*		*105 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**75**	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Laboratory ID #: 1102642-04
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: EC-3 (R)B
Sample Date/Time: 02/24/11 0950

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C01001	03/01/11 0758	BMW	
TPH Diesel	**14.9**	3.96	2.9	mg/kg dry	1.00	EPA 8015B mod	1C01001	03/02/11 0815	PMS	Q-22
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*2.34 mg/kg dry*			*4.26 mg/kg dry*		*55 %*	*10-112*	
Triacontane (EPA 8015B mod)			*3.40 mg/kg dry*			*3.91 mg/kg dry*		*87 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**0.545**	0.0677	0.05	mg/kg dry	0.99	EPA 8015B mod	1C01025	03/01/11 1937	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.112 mg/kg dry*			*0.0677 mg/kg dry*		*165 %*	*55-140*	Q-29
BTEX										
Benzene	**ND**	1.35	1	ug/kg dry	0.99	EPA 8021B	1C01025	03/01/11 1937	TA	
Ethyl Benzene	**ND**	1.35	1	ug/kg dry	0.99	EPA 8021B	1C01025	03/01/11 1937	TA	
Toluene	**2.04**	1.35	1	ug/kg dry	0.99	EPA 8021B	1C01025	03/01/11 1937	TA	
Xylenes (total)	**ND**	4.06	3	ug/kg dry	0.99	EPA 8021B	1C01025	03/01/11 1937	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*71.4 ug/kg dry*			*67.7 ug/kg dry*		*105 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**73**	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	

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Report of Sample Analysis

Southwest Geoscience
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ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Total Petroleum Hydrocarbons - DRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01001 - EPA 3550B Sonication Extraction										
Blank (1C01001-BLK1) Prepared & Analyzed: 03/01/11 07:58										
Ultrasonic Extraction	Completed	N/A	N/A							
TPH Diesel	ND	2.90	mg/kg wet							
Surrogate: a-Pinene	1.79		mg/kg wet	3.11		57	10-109			
Surrogate: Triacontane	2.29		mg/kg wet	2.85		80	10-140			
Laboratory Control Sample (1C01001-BS1) Prepared & Analyzed: 03/01/11 07:58										
Ultrasonic Extraction	Completed	N/A	N/A				0-0			
TPH Diesel	28.5	2.90	mg/kg wet	28.6		100	43-120			
Surrogate: a-Pinene	2.05		mg/kg wet	3.11		66	10-109			
Surrogate: Triacontane	2.54		mg/kg wet	2.86		89	10-140			
Laboratory Control Sample Duplicate (1C01001-BSD1) Prepared & Analyzed: 03/01/11 07:58										
Ultrasonic Extraction	Completed	N/A	N/A				0-0		0	
TPH Diesel	28.2	2.89	mg/kg wet	28.5		99	43-120	0.8	20	
Surrogate: a-Pinene	2.01		mg/kg wet	3.11		65	10-109			
Surrogate: Triacontane	2.55		mg/kg wet	2.85		89	10-140			
Matrix Spike (1C01001-MS1) Prepared & Analyzed: 03/01/11 07:58					**Source: 1102642-04RE1**					**R-01**
Ultrasonic Extraction	Completed	N/A	N/A		ND		0-0			
TPH Diesel	96.2	39.7	mg/kg dry	391	ND	25	10-140			
Surrogate: a-Pinene	2.64		mg/kg dry	4.26		62	10-109			
Surrogate: Triacontane	4.08		mg/kg dry	3.91		104	10-140			
Matrix Spike Duplicate (1C01001-MSD1) Prepared & Analyzed: 03/01/11 07:58					**Source: 1102642-04RE1**					**R-01**
Ultrasonic Extraction	Completed	N/A	N/A		ND		0-0		0	
TPH Diesel	73.9	39.6	mg/kg dry	390	ND	19	10-140	26	20	Q-04
Surrogate: a-Pinene	2.99		mg/kg dry	4.25		70	10-109			
Surrogate: Triacontane	4.29		mg/kg dry	3.90		110	10-140			

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Report of Sample Analysis

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Total Petroleum Hydrocarbons - GRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01025 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1C01025-BLK1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 16:33										
TPH Gasoline	**ND**	0.0499	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	**0.0529**		mg/kg wet	0.0499		106	55-140			
Laboratory Control Sample (1C01025-BS1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:00										
TPH Gasoline	**0.422**	0.0497	mg/kg wet	0.497		85	66-117			
Surrogate: 4-Bromofluorobenzene	**0.0513**		mg/kg wet	0.0497		103	55-140			
Laboratory Control Sample Duplicate (1C01025-BSD1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:26										
TPH Gasoline	**0.436**	0.0498	mg/kg wet	0.498		88	66-117	3	18	
Surrogate: 4-Bromofluorobenzene	**0.0517**		mg/kg wet	0.0498		104	55-140			
Matrix Spike (1C01025-MS1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:52					**Source: 1102530-14RE1**					**R-01**
TPH Gasoline	**4.70**	0.510	mg/kg wet	5.10	0.637	80	10-140			
Surrogate: 4-Bromofluorobenzene	**0.516**		mg/kg wet	0.510		101	55-140			
Matrix Spike Duplicate (1C01025-MSD1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 18:18					**Source: 1102530-14RE1**					**R-01**
TPH Gasoline	**4.84**	0.481	mg/kg wet	4.81	0.637	87	10-140	3	38	
Surrogate: 4-Bromofluorobenzene	**0.490**		mg/kg wet	0.481		102	55-140			

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BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01025 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1C01025-BLK1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 16:33										
Benzene	**ND**	0.998	ug/kg wet							
Ethyl Benzene	**ND**	0.998	ug/kg wet							
Toluene	**ND**	0.998	ug/kg wet							
Xylenes (total)	**ND**	2.99	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	**56.7**		ug/kg wet	49.9		114	18-198			
Laboratory Control Sample (1C01025-BS1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:00										
Benzene	**46.8**	0.994	ug/kg wet	49.7		94	76-118			
Ethyl Benzene	**48.9**	0.994	ug/kg wet	49.7		98	68-124			
Toluene	**48.9**	0.994	ug/kg wet	49.7		98	76-120			
Xylenes (total)	**144**	2.98	ug/kg wet	149		96	70-123			
Surrogate: 4-Bromofluorobenzene	**53.5**		ug/kg wet	49.7		108	18-198			
Laboratory Control Sample Duplicate (1C01025-BSD1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:26										
Benzene	**46.8**	0.996	ug/kg wet	49.8		94	76-118	0.06	12	
Ethyl Benzene	**51.2**	0.996	ug/kg wet	49.8		103	68-124	5	14	
Toluene	**50.5**	0.996	ug/kg wet	49.8		101	76-120	3	13	
Xylenes (total)	**149**	2.99	ug/kg wet	149		100	70-123	4	13	
Surrogate: 4-Bromofluorobenzene	**54.4**		ug/kg wet	49.8		109	18-198			
Matrix Spike (1C01025-MS1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 17:52					**Source: 1102530-14RE1**					**R-01**
Benzene	**462**	10.2	ug/kg wet	510	ND	90	21-140			
Ethyl Benzene	**486**	10.2	ug/kg wet	510	ND	95	10-140			
Toluene	**487**	10.2	ug/kg wet	510	15.9	92	28-140			
Xylenes (total)	**1450**	30.6	ug/kg wet	1530	ND	95	13-140			
Surrogate: 4-Bromofluorobenzene	**527**		ug/kg wet	510		103	18-140			

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Report of Sample Analysis

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Project: S. Carlsbad Comp
Project #: 0210003
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BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01025 - Purge-and-Trap and Extraction-VOCs in Soil (continued)										
Matrix Spike Duplicate (1C01025-MSD1) Prepared: 03/01/11 15:35 Analyzed: 03/01/11 18:18					**Source: 1102530-14RE1**					**R-01**
Benzene	**489**	9.62	ug/kg wet	481	ND	102	21-140	6	29	
Ethyl Benzene	**514**	9.62	ug/kg wet	481	ND	107	10-140	6	27	
Toluene	**503**	9.62	ug/kg wet	481	15.9	101	28-140	3	32	
Xylenes (total)	**1490**	28.8	ug/kg wet	1440	ND	103	13-140	3	40	
Surrogate: 4-Bromofluorobenzene	**514**		ug/kg wet	481		107	18-140			

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Report of Sample Analysis

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01024										
Blank (1C01024-BLK1)										
Prepared & Analyzed: 03/01/11 15:30										
% Solids	**ND**	0.20	%							
Duplicate (1C01024-DUP1)					**Source: 1102642-01**					
Prepared & Analyzed: 03/01/11 15:30										
% Solids	**76**	0.20	%		83			9	4	Q-26

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Report of Sample Analysis

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ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

Q-01	The recovery of the internal standard(s) was outside the acceptable range in this sample due to matrix interference. No target compounds were identified in the sample, therefore, this has no effect on the results presented.
Q-04	The RPD of this analyte between the MS(s) was outside of the acceptable range. The RPD of this same analyte between the LCS(s) was within the acceptable range.
Q-13	The recovery of the internal standard used to quantify this result was higher than the acceptable range due to matrix interference. This causes a low bias to the result presented.
Q-22	The RPD between the MS(s) sample analyses was outside the acceptable range. This indicates the result was not as precise as expected.
Q-26	The RPD between duplicate analyses was outside of the acceptable range. This indicates the result was not as precise as expected.
Q-29	The recovery of the surrogate in this sample was higher than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a high bias to the compounds in the sample that this surrogate represents.
R-01	The higher reporting limit is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit
MRL	Method Reporting Limit

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Arkansas: 88-0647
Oklahoma: 8727
Louisiana: 02007
Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/02/11 15:21

naa This analysis/parameter is not accreditable under the current NELAP program

Local: (972) 727-1123 **Long Distance: (800) 228-ERMI** **FAX: (972) 727-1175**

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: SAN ANTONIO

Project Manager: J. MARTINEZ

Laboratory: ERMI
Address: 400 W. BETHANY #190
ALLEN TX 75013
Contact:
Phone: (972) 727-1123
PO/SO #:

Sampler's Name: B. CHRIS MITCHELL
Sampler's Signature: [signature]

Proj. No.: 0210003
Project Name: S. CARLSBAD COMP

Analysis Requested: TPH GRO/DRO (SW-846 #8015B); BTEX (SW-846 #8021B)

Lab use only
Due Date:
Temp. of coolers when received (C°): IR01 Temp
1: 4.4°C | 2 | 3 | 4 | 5

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO/DRO (SW-846 #8015B)	BTEX (SW-846 #8021B)	Lab Sample ID (Lab Use Only)
S	2.24.11	935		✓	EC-1(R)						1	✓	✓	1102642-01
S	2.24.11	940		✓	EC-2(R)						1	✓	✓	1102642-02
S	2.24.11	945		✓	EC-3(R)A						1	✓	✓	1102642-03
S	2.24.11	950		✓	EC-3(R)B						1	✓	✓	1102642-04

NO FURTHER ENTRIES [initials]

Turn around time: ☐ Normal ☐ 25% Rush ☒ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
B. Chris [signature]	2/28/11	11:52	William Truscott	2/28/11	11:52
William Truscott	2/28/11	12:24	Leslie Underwood (ERMI)	2/28/11	1224

NOTES:

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 ______

1102642

Falcon X-Press We Deliver

P.O. BOX 940303
PLANO, TX 75094-0303
(972) 881-7577

NOTARY SERVICE AVAILABLE

No.

SHIPPER	NAME Southwest Geoscience		DATE 2/28/11
	ADDRESS	SUITE	
	CITY		
	REFERENCE NO.		
CONSIGNEE	NAME Ermi		
	ADDRESS 400 W. Bethany	SUITE 190	
	CITY Allen		
	ATTN:		

Falcon Charges	Type of Delivery
☐ PREPAID	☐ X-Press
☐ COLLECT	☐ 2 HOUR
☐ ROUND TRIP	☐ 4 HOUR
☐ NIGHT-WEEKEND	☐ NEXT DAY

NO. PCS.	DESCRIPTION AND REMARKS	WEIGHT	CHARGES	
	Samples		WEIGHT CHARGE	
			WAITING TIME CHG	
			DELIVERY CHARGE	
			TOTAL CHARGES	

WAITING TIME

NOT RESPONSIBLE FOR FREIGHT CLAIMS AFTER 72 HRS. NOT RESPONSIBLE FOR CONCEALED DAMAGE, DUE AND PAYABLE PLANO, COLLIN COUNTY, TEXAS

$50 DECLARED VALUE UNLESS SPECIFIED HERE $

DRIVER NAME & NO.	DRIVER NAME & NO.	TIME OF DEL.	RECEIVED BY	RECEIVED BY
William Tausch		11:52 / 12:24	X Leslie Underwood / Leslie Underwood	X

Custody Seal

ERMI

Sample I.D. No. [redacted]21003 Date [redacted]

Signature [redacted]

ERMI

X-484

Lab Number(s): 1102642

ERMI

Sample Preservation Documentation*

On Ice (Circle One): YES OR NO (check if on Dry Ice_____)

Parameters	Containers #	Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals			pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine ☐yes ☐no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)			Cool, pH < 2 Zero Head Space	40 ml VOA vial	
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials_____	40 ml VOA vial	
Phos., NO_3/NO_2, NH_3N, COD, TKN,TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO_4, Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, TPH-DRO			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	pH < 2
Oil & Grease, TPH (by 1664a)			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	
Cyanide			Cool, pH >12	Glass or Plastic	pH > 12 Chlorine ☐yes ☐no Sulfide ☐yes ☐no ☐na
Sulfide			Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
(Soil), Sludge, Solid, Oil, Liquid	4	402	(Cool) Note: please check if collected in pre-weighed vials_____	Glass	

Metals Preserved By Login ☐yes ☐no Trip Blanks Received ☐yes ☐no

COMMENTS:_____

*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

**Cool means cooled to ≤6°C but not frozen.

Preservation Checked By _____ 2/28/11 Date 1420 Time

TC

1000.0-3.2 2/17/09

kdy 7/10/08

Q:\Form Masters\1000.0-3.2 Sample Preservation Form

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Page: Page 1 of 8
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/10/11 14:28

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

Sample Identification

Laboratory ID #	Client Sample ID	Matrix	Sampled Date/Time	Received Date/Time
1103182-01	EC-2 (R)	Solid	02/24/11 09:40	03/07/11 16:33

Case Narrative

This project does not require TRRP specifications.

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Print Date/Time: 03/10/11 14:28

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown

Kendall K. Brown
President

Environmental Laboratories
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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/10/11 14:28

Laboratory ID #: 1103182-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-2 (R)
Sample Date/Time: 02/24/11 0940

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										**R-01**
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.74	EPA 3550B	1C09007	03/09/11 0848	TK	
TPH Diesel	**2050**	71.8	2.9	mg/kg dry	17.44	EPA 8015B mod	1C09007	03/10/11 0948	PMS	Q-21, Q-22
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*14.9 mg/kg dry*			*7.71 mg/kg dry*		*193 %*	*10-112*	Q-10, Q-29
Triacontane (EPA 8015B mod)			*7.09 mg/kg dry*			*7.08 mg/kg dry*		*100 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**835**	35.5	0.05	mg/kg dry	500.00	EPA 8015B mod	1C08011	03/08/11 2000	ZT	R-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.174 mg/kg dry*			*0.0710 mg/kg dry*		*245 %*	*55-140*	Q-29
Conventional Chemistry Parameters										
% Solids	**70**	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/10/11 14:28

Total Petroleum Hydrocarbons - DRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C09007 - EPA 3550B Sonication Extraction										
Blank (1C09007-BLK1) Prepared & Analyzed: 03/09/11 08:48										
Ultrasonic Extraction	**Completed**	N/A	N/A							
TPH Diesel	**ND**	2.89	mg/kg wet							
Surrogate: a-Pinene	**1.67**		mg/kg wet	3.10		54	10-109			
Surrogate: Triacontane	**2.47**		mg/kg wet	2.85		87	10-140			
Laboratory Control Sample (1C09007-BS1) Prepared & Analyzed: 03/09/11 08:48										
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0			
TPH Diesel	**26.9**	2.89	mg/kg wet	28.5		94	43-120			
Surrogate: a-Pinene	**1.69**		mg/kg wet	3.11		54	10-109			
Surrogate: Triacontane	**2.40**		mg/kg wet	2.85		84	10-140			
Laboratory Control Sample Duplicate (1C09007-BSD1) Prepared & Analyzed: 03/09/11 08:48										
Ultrasonic Extraction	**Completed**	N/A	N/A				0-0		0	
TPH Diesel	**30.1**	2.88	mg/kg wet	28.4		106	43-120	11	20	
Surrogate: a-Pinene	**1.95**		mg/kg wet	3.10		63	10-109			
Surrogate: Triacontane	**2.58**		mg/kg wet	2.84		91	10-140			
Matrix Spike (1C09007-MS1) Prepared & Analyzed: 03/09/11 08:48					**Source: 1103182-01**					**R-01**
Ultrasonic Extraction	**Completed**	N/A	N/A		ND		0-0			
TPH Diesel	**1540**	71.9	mg/kg dry	709	2050	-71	10-140			Q-02, R-01
Surrogate: a-Pinene	**11.9**		mg/kg dry	7.73		154	10-109			Q-10, Q-29, R-01
Surrogate: Triacontane	**5.54**		mg/kg dry	7.09		78	10-140			R-01
Matrix Spike Duplicate (1C09007-MSD1) Prepared & Analyzed: 03/09/11 08:48					**Source: 1103182-01**					**R-01**
Ultrasonic Extraction	**Completed**	N/A	N/A		ND		0-0		0	
TPH Diesel	**1200**	71.6	mg/kg dry	706	2050	-120	10-140	25	20	Q-02, Q-04, R-01
Surrogate: a-Pinene	**10.4**		mg/kg dry	7.69		135	10-109			Q-10, Q-29, R-01
Surrogate: Triacontane	**6.33**		mg/kg dry	7.06		90	10-140			R-01

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Print Date/Time: 03/10/11 14:28

Total Petroleum Hydrocarbons - GRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C08011 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1C08011-BLK1) Prepared: 03/08/11 10:32 Analyzed: 03/08/11 11:40										
TPH Gasoline	**ND**	0.0500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	**0.0527**		mg/kg wet	0.0500		105	55-140			
Laboratory Control Sample (1C08011-BS1) Prepared: 03/08/11 10:32 Analyzed: 03/08/11 12:06										
TPH Gasoline	**0.477**	0.0500	mg/kg wet	0.500		95	66-117			
Surrogate: 4-Bromofluorobenzene	**0.0535**		mg/kg wet	0.0500		107	55-140			
Laboratory Control Sample Duplicate (1C08011-BSD1) Prepared: 03/08/11 10:32 Analyzed: 03/08/11 12:32										
TPH Gasoline	**0.482**	0.0500	mg/kg wet	0.500		96	66-117	1	18	
Surrogate: 4-Bromofluorobenzene	**0.0537**		mg/kg wet	0.0500		107	55-140			
Matrix Spike (1C08011-MS1) Prepared: 03/08/11 10:32 Analyzed: 03/08/11 18:15					**Source: 1103182-01RE1**					
TPH Gasoline	**1050**	35.5	mg/kg dry	355	835	60	10-140			R-01
Surrogate: 4-Bromofluorobenzene	**0.190**		mg/kg dry	0.0710		267	55-140			Q-29
Matrix Spike Duplicate (1C08011-MSD1) Prepared: 03/08/11 10:32 Analyzed: 03/08/11 18:42					**Source: 1103182-01RE1**					
TPH Gasoline	**961**	35.5	mg/kg dry	355	835	36	10-140	9	38	R-01
Surrogate: 4-Bromofluorobenzene	**0.184**		mg/kg dry	0.0710		260	55-140			Q-29

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Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01024										
Blank (1C01024-BLK1) Prepared & Analyzed: 03/01/11 15:30										
% Solids	**ND**	0.20	%							
Duplicate (1C01024-DUP1) Prepared & Analyzed: 03/01/11 15:30					**Source: 1102642-01**					
% Solids	**76**	0.20	%		83			9	4	Q-26
Duplicate (1C01024-DUP2) Prepared & Analyzed: 03/01/11 15:30					**Source: 1103136-01**					
% Solids	**76**	0.20	%		83			9	4	Q-26

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Project #: 0210003
Print Date/Time: 03/10/11 14:28

Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

Q-02	The recovery of this analyte in the MS was outside the acceptable range due to interference, large dilutions required for analysis or a combination of these factors. The recovery of this analyte in the LCS(s) was within the acceptable range.
Q-04	The RPD of this analyte between the MS(s) was outside of the acceptable range. The RPD of this same analyte between the LCS(s) was within the acceptable range.
Q-10	The recovery of the calibration check standard for this analyte was higher than the acceptable range. This may indicate a high bias to the result presented.
Q-21	The recovery of this analyte in the MS was lower than the acceptable range. This indicates a low bias to the result presented.
Q-22	The RPD between the MS(s) sample analyses was outside the acceptable range. This indicates the result was not as precise as expected.
Q-26	The RPD between duplicate analyses was outside of the acceptable range. This indicates the result was not as precise as expected.
Q-29	The recovery of the surrogate in this sample was higher than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a high bias to the compounds in the sample that this surrogate represents.
R-01	The higher reporting limit is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit

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MRL	Method Reporting Limit
naa	This analysis/parameter is not accreditable under the current NELAP program

Customer Service

From: Shelly Connelly
Sent: Monday, March 07, 2011 4:33 PM
To: Customer Service Department
Subject: RE: Rush Report: S. Carlsbad Comp - 1102642

1103182-01 KL

Please re-log sample 1102642-02 for TPH GRO/TPH-DRO to be due EOD Thursday.

All other statements about extracting and holding noted below have been cancelled until further notice.

Shelly

From: Joseph Martinez [mailto:Joseph.Martinez@southwestgeoscience.com]
Sent: Monday, March 07, 2011 2:43 PM
To: 'ERMI Environmental Services'
Cc: 'Chris Mitchell'
Subject: RE: Rush Report: S. Carlsbad Comp - 1102642

Please rerun soil sample EC-2(R) for TPH GRO/DRO using EPA #8015B using 100% TAT. The concentration percentage of TPH GRO to DRO on the previous results appeared to be inverted compared to the other samples on this job, as well as previous samples.

In addition, please start the extraction process for the soil samples that were sent for the same project, collected on 2.25.11, with the following IDs: B-3 (6-7), B-4 (3-4), B-4 (5-6), B-5 (4-5), B-6 (4-5), B-6 (7-8), B-7 (2-3), B-7 (5-6), B-8 (4-5), B-8 (7-8), B-9 (4-5), and B-9 (7-8). We will be in touch at a later date as to whether we will need them analyzed.

Thanks,

Joseph

From: ERMI Environmental Services [mailto:custserv@ermilab.com]
Sent: Wednesday, March 02, 2011 5:30 PM
To: Joseph Martinez
Subject: Rush Report: S. Carlsbad Comp - 1102642

Attached are your results. We appreciate your business.

Our goal is to provide 100% customer satisfaction. Please click on the link and let us know how we performed for you, Customer Satisfaction Survey.

Leslie Underwood
Customer Service
ERMI Environmental Laboratories
Phone: (972) 727-1123
Fax: (972) 727-1175
E-Mail: custserv@ermilab.com

Celebrating 27 Years Serving You!

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Page: Page 1 of 13
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Sample Identification

Laboratory ID #	Client Sample ID	Matrix	Sampled Date/Time	Received Date/Time
1103136-01	EC-1 (R)	Solid	02/24/11 09:35	03/04/11 13:38
1103136-02	EC-2 (R)	Solid	02/24/11 09:40	03/04/11 13:38

Local: (972) 727-1123 **Long Distance: (800) 228-ERMI** **FAX: (972) 727-1175**

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Louisiana: 02007
Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/09/11 17:30

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown
President

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/09/11 17:30

Laboratory ID #: 1103136-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-1 (R)
Sample Date/Time: 02/24/11 0935

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Conventional Chemistry Parameters										
% Solids	**83**	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	Q-26
Total Petroleum Hydrocarbon Fractions Extraction										
TPH 1006 Prep Extraction	**Completed**	N/A	N/A	N/A	1.00	TX-1005	1C07017	03/07/11 1130	PMS	
TPH (C6-C12)	**781**	14.5	12	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1247	PMS	Q-22, Q-34
TPH (>C12-C28)	**235**	7.23	6	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1247	PMS	Q-21, Q-22
TPH (>C28-C35)	**ND**	2.41	2	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1247	PMS	Q-21
TPH (C6-C35)	**1020**	24.1	20	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1247	PMS	Q-21, Q-22
Total Petroleum Hydrocarbon Fractions										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A	N/A	1.00	TX-1006	1C07026	03/07/11 1548	TK	naa
Aliphatic C6	**16.6**	3.62	3	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa,C-01
Aliphatic >C6-C8	**60.8**	4.82	4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Aliphatic >C8-C10	**315**	6.03	5	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Aliphatic >C10-C12	**157**	12.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Aliphatic >C12-C16	**101**	2.41	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Aliphatic >C16-C21	**28.7**	2.41	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Aliphatic >C21-C35	**21.6**	14.5	12	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa
Total Aliphatic C6-C35	**701**	24.1	20	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1433	PMS	naa,Q-20, Q-22
Aromatic >C7-C8	**ND**	3.62	3	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa
Aromatic >C8-C10	**49.4**	12.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa
Aromatic >C10-C12	**16.8**	12.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa
Aromatic >C12-C16	**10.5**	2.41	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa
Aromatic >C16-C21	**ND**	2.89	2.4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/09/11 17:30

Laboratory ID #: 1103136-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-1 (R)
Sample Date/Time: 02/24/11 0935

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbon Fractions, (continued)										
Aromatic >C21-C35	**ND**	4.82	4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa
Total Aromatic C7-C35	**79.2**	20.5	17	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1743	PMS	naa

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/09/11 17:30

Laboratory ID #: 1103136-02
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: EC-2 (R)
Sample Date/Time: 02/24/11 0940

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Conventional Chemistry Parameters										
% Solids	70	0.20	0.2	%	1.00	SM 2540G	1C01024	03/01/11 1530	RA	
Total Petroleum Hydrocarbon Fractions Extraction										
TPH 1006 Prep Extraction	Completed	N/A	N/A	N/A	1.00	TX-1005	1C07017	03/07/11 1130	PMS	
TPH (C6-C12)	1050	17.0	12	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1323	PMS	
TPH (>C12-C28)	509	8.48	6	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1323	PMS	
TPH (>C28-C35)	ND	2.83	2	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1323	PMS	
TPH (C6-C35)	1560	28.3	20	mg/kg dry	1.00	TX-1005	1C07017	03/09/11 1323	PMS	
Total Petroleum Hydrocarbon Fractions										
TPH 1006 Fractionation Extraction	Completed	N/A	N/A	N/A	1.00	TX-1006	1C07026	03/07/11 1548	TK	naa
Aliphatic C6	18.3	4.24	3	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa,C-01
Aliphatic >C6-C8	41.1	5.65	4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aliphatic >C8-C10	453	7.07	5	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aliphatic >C10-C12	440	14.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aliphatic >C12-C16	427	2.83	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aliphatic >C16-C21	68.5	2.83	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aliphatic >C21-C35	35.7	17.0	12	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Total Aliphatic C6-C35	1480	28.3	20	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1509	PMS	naa
Aromatic >C7-C8	ND	4.24	3	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa
Aromatic >C8-C10	38.2	14.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa
Aromatic >C10-C12	20.7	14.1	10	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa
Aromatic >C12-C16	12.3	2.83	2	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa
Aromatic >C16-C21	ND	3.39	2.4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa

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Laboratory ID #: 1103136-02
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: EC-2 (R)
Sample Date/Time: 02/24/11 0940

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbon Fractions, (continued)										
Aromatic >C21-C35	**20.6**	5.65	4	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa
Total Aromatic C7-C35	**92.4**	24.0	17	mg/kg dry	1.00	TX-1006	1C07026	03/08/11 1818	PMS	naa

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Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C01024										
Blank (1C01024-BLK1) Prepared & Analyzed: 03/01/11 15:30										
% Solids	**ND**	0.20	%							
Duplicate (1C01024-DUP1) Prepared & Analyzed: 03/01/11 15:30					**Source: 1102642-01**					
% Solids	**76**	0.20	%		83			9	4	Q-26
Duplicate (1C01024-DUP2) Prepared & Analyzed: 03/01/11 15:30					**Source: 1103136-01**					
% Solids	**76**	0.20	%		83			9	4	Q-26

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Total Petroleum Hydrocarbon Fractions Extraction - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C07017-1006TX-Prep										
Blank (1C07017-BLK1)										
Prepared & Analyzed: 03/07/11 11:30										
TPH 1006 Prep Extraction	**Completed**	N/A	N/A							
TPH (C6-C12)	**ND**	11.9	mg/kg wet							
TPH (>C12-C28)	**ND**	5.97	mg/kg wet							
TPH (>C28-C35)	**ND**	1.99	mg/kg wet							
TPH (C6-C35)	**ND**	19.9	mg/kg wet							
Laboratory Control Sample (1C07017-BS1)										
Prepared & Analyzed: 03/07/11 11:30										
TPH 1006 Prep Extraction	**Completed**	N/A	N/A				0-0			
TPH (C6-C12)	**188**	12.0	mg/kg wet	200		94	75-125			
TPH (>C12-C28)	**87.2**	6.01	mg/kg wet	100		87	75-125			
TPH (>C28-C35)	**27.7**	2.00	mg/kg wet	33.3		83	75-125			
TPH (C6-C35)	**303**	20.0	mg/kg wet	333		91	75-125			
Laboratory Control Sample Duplicate (1C07017-BSD1)										
Prepared & Analyzed: 03/07/11 11:30										
TPH 1006 Prep Extraction	**Completed**	N/A	N/A				0-0		0	
TPH (C6-C12)	**174**	12.0	mg/kg wet	200		87	75-125	8	17	
TPH (>C12-C28)	**85.3**	5.99	mg/kg wet	99.9		85	75-125	2	19	
TPH (>C28-C35)	**26.2**	2.00	mg/kg wet	33.2		79	75-125	6	18	
TPH (C6-C35)	**286**	20.0	mg/kg wet	332		86	75-125	6	20	
Matrix Spike (1C07017-MS1)					**Source: 1103136-01**					
Prepared & Analyzed: 03/07/11 11:30										
TPH 1006 Prep Extraction	**Completed**	N/A	N/A		ND		0-0			
TPH (C6-C12)	**869**	14.4	mg/kg dry	240	781	37	75-125			Q-02
TPH (>C12-C28)	**206**	7.21	mg/kg dry	120	235	-25	75-125			Q-02
TPH (>C28-C35)	**30.5**	2.40	mg/kg dry	39.9	ND	76	75-125			
TPH (C6-C35)	**1110**	24.0	mg/kg dry	399	1020	22	75-125			Q-02

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Total Petroleum Hydrocarbon Fractions Extraction - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C07017-1006TX-Prep (continued)										
Matrix Spike Duplicate (1C07017-MSD1) Prepared & Analyzed: 03/07/11 11:30					**Source: 1103136-01**					
TPH 1006 Prep Extraction	***Completed***	N/A	N/A		ND		0-0		0	
TPH (C6-C12)	**1170**	14.5	mg/kg dry	241	781	162	75-125	30	20	Q-02, Q-04
TPH (>C12-C28)	**307**	7.24	mg/kg dry	121	235	59	75-125	40	20	Q-02, Q-04
TPH (>C28-C35)	**26.3**	2.41	mg/kg dry	40.1	ND	66	75-125	15	20	Q-02
TPH (C6-C35)	**1500**	24.1	mg/kg dry	401	1020	122	75-125	31	20	Q-04

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Total Petroleum Hydrocarbon Fractions - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C07026 - TNRCC 1006										
Blank (1C07026-BLK1) Prepared & Analyzed: 03/07/11 15:48										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A							
Aliphatic C6	**11.9**	2.99	mg/kg wet							C-01
Aliphatic >C6-C8	**ND**	3.98	mg/kg wet							
Aliphatic >C8-C10	**ND**	4.98	mg/kg wet							
Aliphatic >C10-C12	**ND**	9.95	mg/kg wet							
Aliphatic >C12-C16	**ND**	1.99	mg/kg wet							
Aliphatic >C16-C21	**ND**	1.99	mg/kg wet							
Aliphatic >C21-C35	**ND**	11.9	mg/kg wet							
Total Aliphatic C6-C35	**ND**	19.9	mg/kg wet							
Aromatic >C7-C8	**ND**	2.99	mg/kg wet							
Aromatic >C8-C10	**ND**	9.95	mg/kg wet							
Aromatic >C10-C12	**ND**	9.95	mg/kg wet							
Aromatic >C12-C16	**ND**	1.99	mg/kg wet							
Aromatic >C16-C21	**ND**	2.39	mg/kg wet							
Aromatic >C21-C35	**ND**	3.98	mg/kg wet							
Total Aromatic C7-C35	**ND**	16.9	mg/kg wet							
TPH (C6-C35)	**ND**	19.9	mg/kg wet							
Laboratory Control Sample (1C07026-BS1) Prepared & Analyzed: 03/07/11 15:48										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A				0-0			
TPH (C6-C35)	**285**	20.0	mg/kg wet	333		86	60-140			
Laboratory Control Sample Duplicate (1C07026-BSD1) Prepared & Analyzed: 03/07/11 15:48										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A				0-0		0	
TPH (C6-C35)	**278**	20.0	mg/kg wet	332		84	60-140	3	20	

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Total Petroleum Hydrocarbon Fractions - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C07026 - TNRCC 1006 (continued)										
Matrix Spike (1C07026-MS1)					**Source: 1103136-01**					
Prepared & Analyzed: 03/07/11 15:48										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A		ND		0-0			
TPH (C6-C35)	**1280**	24.0	mg/kg dry	399	780	125	60-140			
Matrix Spike Duplicate (1C07026-MSD1)					**Source: 1103136-01**					
Prepared & Analyzed: 03/07/11 15:48										
TPH 1006 Fractionation Extraction	**Completed**	N/A	N/A		ND		0-0		0	
TPH (C6-C35)	**1640**	24.1	mg/kg dry	401	780	213	60-140	25	20	Q-02, Q-04

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Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

C-01	The elevated levels in the C6 range are possibly due to trace levels of hexane in the laboratory air.
Q-02	The recovery of this analyte in the MS was outside the acceptable range due to interference, large dilutions required for analysis or a combination of these factors. The recovery of this analyte in the LCS(s) was within the acceptable range.
Q-04	The RPD of this analyte between the MS(s) was outside of the acceptable range. The RPD of this same analyte between the LCS(s) was within the acceptable range.
Q-20	The recovery of this analyte in the MS was higher than the acceptable range. This indicates a high bias to the result presented.
Q-21	The recovery of this analyte in the MS was lower than the acceptable range. This indicates a low bias to the result presented.
Q-22	The RPD between the MS(s) sample analyses was outside the acceptable range. This indicates the result was not as precise as expected.
Q-26	The RPD between duplicate analyses was outside of the acceptable range. This indicates the result was not as precise as expected.
Q-34	The accuracy of this analysis as indicated by matrix spike recovery is inconclusive since both high and low recoveries were observed. No statement in regard to bias can be made.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit
MRL	Method Reporting Limit

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Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/09/11 17:30

naa This analysis/parameter is not accreditable under the current NELAP program

Customer Service

1103136

From: Joseph Martinez [Joseph.Martinez@southwestgeoscience.com]
Sent: Friday, March 04, 2011 1:38 PM
To: 'ERMI Environmental Services'
Subject: RE: Rush Report: S. Carlsbad Comp - 1102642

Sorry, please use 100% turnaround time.

Thanks,

Joseph

From: ERMI Environmental Services [mailto:custserv@ermilab.com]
Sent: Friday, March 04, 2011 1:37 PM
To: 'Joseph Martinez'
Subject: RE: Rush Report: S. Carlsbad Comp - 1102642

Joseph,

We will process this under a normal TAT unless you need results faster.

Leslie Underwood
Customer Service
ERMI Environmental Laboratories
Phone: (972) 727-1123
Fax: (972) 727-1175
E-Mail: custserv@ermilab.com
Celebrating 27 Years Serving You!

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From: Joseph Martinez [mailto:Joseph.Martinez@southwestgeoscience.com]
Sent: Friday, March 04, 2011 1:34 PM
To: 'ERMI Environmental Services'
Subject: RE: Rush Report: S. Carlsbad Comp - 1102642

Leslie,

Please run TPH TX1006 on the soil samples EC-1(R) and EC-2(R) for this job.

1103136-01 1103136-02 KW

Thanks,

Joseph

From: ERMI Environmental Services [mailto:custserv@ermilab.com]

1102136

Sent: Wednesday, March 02, 2011 5:30 PM
To: Joseph Martinez
Subject: Rush Report: S. Carlsbad Comp - 1102642

Attached are your results. We appreciate your business.

Our goal is to provide 100% customer satisfaction. Please click on the link and let us know how we performed for you, Customer Satisfaction Survey.

Leslie Underwood
Customer Service
ERMI Environmental Laboratories
Phone: (972) 727-1123
Fax: (972) 727-1175
E-Mail: *custserv@ermilab.com*
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Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Page: Page 1 of 21
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

Sample Identification

Laboratory ID #	Client Sample ID	Matrix	Sampled Date/Time	Received Date/Time
1103275-01	B-3 (6-7)	Solid	02/25/11 08:45	03/09/11 14:46
1103275-02	B-4 (3-4)	Solid	02/25/11 08:55	03/09/11 14:46
1103275-03	B-4 (5-6)	Solid	02/25/11 09:00	03/09/11 14:46
1103275-04	B-5 (4-5)	Solid	02/25/11 09:10	03/09/11 14:46
1103275-05	B-6 (4-5)	Solid	02/25/11 09:25	03/09/11 14:46
1103275-06	B-6 (7-8)	Solid	02/25/11 09:30	03/09/11 14:46
1103275-07	B-7 (2-3)	Solid	02/25/11 09:35	03/09/11 14:46
1103275-08	B-7 (5-6)	Solid	02/25/11 09:40	03/09/11 14:46
1103275-09	B-8 (4-5)	Solid	02/25/11 10:10	03/09/11 14:46
1103275-10	B-8 (7-8)	Solid	02/25/11 10:15	03/09/11 14:46
1103275-11	B-9 (4-5)	Solid	02/25/11 10:25	03/09/11 14:46
1103275-12	B-9 (7-8)	Solid	02/25/11 10:30	03/09/11 14:46

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Page: Page 2 of 21
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

The analytical data and results contained in this report, as well as their supporting data, conform with Texas Risk Reduction Program (TRRP), 30 TAC, Section 350, requirements and are of sufficient and documented quality to meet both TRRP objectives, TCEQ regulatory guidance No. RG-366/TRRP-13 and the project-based objective of achieving the lowest method detection limit (i.e., the TRRP Critical PCL where reasonably achievable or, if not reasonably achievable, the MQL). All information concerning analytical parameters, methods and protocols that might bear upon or otherwise affect the accuracy of the analytical data in this report have been provided or otherwise disclosed herein. The data were obtained using applicable and appropriate EPA SW-846 or Texas Commission on Environmental Quality approved analytical protocols, methodologies and quality assurance/quality control standards. **ERMI Environmental Laboratories** certifies that its quality control program is substantially and materially consistent with the International Organization for Standardization "Guide 25: General Requirements the Competence of Calibration and Testing Laboratories (ISO 25 3rd Edition, 1990)," as amended or the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. The entire analytical data package for this report, including the supporting quality control data, will be retained and maintained for at least five (5) years (or such longer period of time as may be required by TRRP) from the report date at the offices of **ERMI Environmental Laboratories, 400 W. Bethany, Suite 190, Allen, Texas 75013.**

I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown
President

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-01
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-3 (6-7)
Sample Date/Time: 02/25/11 0845

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**4830**	421	3	mg/kg dry	100.00	EPA 8015B mod	1C11002	03/21/11 1226	PMS	Q-21
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*35.1 mg/kg dry*		*4.37 mg/kg dry*		*803 %*	*10-112*		Q-29
Triacontane (EPA 8015B mod)			*ND mg/kg dry*		*4.01 mg/kg dry*			*10-140*		Q-30
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	**2070**	140	0.05	mg/kg dry	2,000.00	EPA 8015B mod	1C10010	03/11/11 1050	TA	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.0985 mg/kg dry*		*0.0701 mg/kg dry*		*140 %*	*55-140*		
BTEX										
Benzene	**9.10**	1.41	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0158	TA	Q-13
Ethyl Benzene	**13100**	2810	1	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1050	TA	R-01
Toluene	**56800**	2810	1	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1050	TA	R-01
Xylenes (total)	**224000**	8420	3	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1050	TA	R-01
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8021B)			*11.0 ug/kg dry*		*70.3 ug/kg dry*		*16 %*	*10-140*		
4-Bromofluorobenzene (EPA 8021B)			*54.3 ug/kg dry*		*70.1 ug/kg dry*		*77 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	**71**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-02
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-4 (3-4)
Sample Date/Time: 02/25/11 0855

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**4.17**	3.97	3	mg/kg dry	1.00	EPA 8015B mod	1C11002	03/18/11 1737	PMS	C-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*1.96 mg/kg dry*			*4.12 mg/kg dry*		*48 %*	*10-112*	
Triacontane (EPA 8015B mod)			*2.77 mg/kg dry*			*3.78 mg/kg dry*		*73 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**ND**	0.0657	0.05	mg/kg dry	0.99	EPA 8015B mod	1C10010	03/10/11 2320	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0640 mg/kg dry*			*0.0657 mg/kg dry*		*97 %*	*55-140*	
BTEX										
Benzene	**ND**	1.31	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/10/11 2320	TA	
Ethyl Benzene	**ND**	1.31	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/10/11 2320	TA	
Toluene	**ND**	1.31	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/10/11 2320	TA	
Xylenes (total)	**ND**	3.94	3	ug/kg dry	0.99	EPA 8021B	1C10010	03/10/11 2320	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*64.6 ug/kg dry*			*65.7 ug/kg dry*		*98 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**76**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

Local: (972) 727-1123 **Long Distance: (800) 228-ERMI** **FAX: (972) 727-1175**

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-03
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: B-4 (5-6)
Sample Date/Time: 02/25/11 0900

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**368**	40.0	3	mg/kg dry	10.00	EPA 8015B mod	1C11002	03/21/11 1253	PMS	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
a-Pinene (EPA 8015B mod)	*0.922 mg/kg dry*	*4.15 mg/kg dry*	*22 %*	*10-112*
Triacontane (EPA 8015B mod)	*3.69 mg/kg dry*	*3.81 mg/kg dry*	*97 %*	*10-140*

Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**3.75**	0.0664	0.05	mg/kg dry	1.00	EPA 8015B mod	1C10010	03/11/11 0039	TA	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits	
4-Bromofluorobenzene (EPA 8015B mod)	*0.233 mg/kg dry*	*0.0664 mg/kg dry*	*351 %*	*55-140*	Q-29

BTEX										
Benzene	**ND**	1.33	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0039	TA	
Ethyl Benzene	**ND**	1.33	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0039	TA	
Toluene	**3.16**	1.33	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0039	TA	
Xylenes (total)	**19.8**	3.98	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0039	TA	

Surrogate	Result	Spike Conc.	Recovery	Rec. Limits
4-Bromofluorobenzene (EPA 8021B)	*88.9 ug/kg dry*	*66.4 ug/kg dry*	*134 %*	*10-140*

Conventional Chemistry Parameters										
% Solids	**75**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-04
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-5 (4-5)
Sample Date/Time: 02/25/11 0910

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**2520**	378	3	mg/kg dry	100.00	EPA 8015B mod	1C11002	03/19/11 0457	PMS	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*32.4 mg/kg dry*		*3.93 mg/kg dry*		*824 %*	*10-112*		Q-29
Triacontane (EPA 8015B mod)			*ND mg/kg dry*		*3.60 mg/kg dry*			*10-140*		Q-30
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	**1540**	63.1	0.05	mg/kg dry	1,000.00	EPA 8015B mod	1C10010	03/11/11 1116	TA	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.109 mg/kg dry*		*0.0631 mg/kg dry*		*174 %*	*55-140*		Q-29
BTEX										
Benzene	**ND**	1.25	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/11/11 0343	TA	Q-01
Ethyl Benzene	**9.91**	1.25	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/11/11 0343	TA	Q-13
Toluene	**7620**	1260	1	ug/kg dry	1,000.00	EPA 8021B	1C10010	03/11/11 1116	TA	R-01
Xylenes (total)	**29400**	3780	3	ug/kg dry	1,000.00	EPA 8021B	1C10010	03/11/11 1116	TA	R-01
Surrogate			***Result***		***Spike Conc.***		***Recovery***	***Rec. Limits***		
4-Bromofluorobenzene (EPA 8021B)			*7.52 ug/kg dry*		*62.7 ug/kg dry*		*12 %*	*10-140*		
4-Bromofluorobenzene (EPA 8021B)			*65.6 ug/kg dry*		*63.1 ug/kg dry*		*104 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	**79**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
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ATTN: Joseph W. Martinez

Page: Page 7 of 21
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-05
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-6 (4-5)
Sample Date/Time: 02/25/11 0925

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**25.5**	3.67	3	mg/kg dry	1.00	EPA 8015B mod	1C11002	03/18/11 1900	PMS	C-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*2.59 mg/kg dry*			*3.81 mg/kg dry*		*68 %*	*10-112*	
Triacontane (EPA 8015B mod)			*3.41 mg/kg dry*			*3.50 mg/kg dry*		*97 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										**R-01**
TPH Gasoline	**1.12**	0.278	0.05	mg/kg dry	4.55	EPA 8015B mod	1C10010	03/11/11 1245	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.365 mg/kg dry*			*0.278 mg/kg dry*		*131 %*	*55-140*	
BTEX										
Benzene	**ND**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0105	TA	
Ethyl Benzene	**ND**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0105	TA	
Toluene	**8.47**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0105	TA	
Xylenes (total)	**14.7**	3.67	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0105	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*36.1 ug/kg dry*			*61.2 ug/kg dry*		*59 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**82**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Page: Page 8 of 21
Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #	Sample Type	Matrix	Sample Collected By	
1103275-06	Grab	Solid	B. Chris Mitchell	Customer

Sample Description: B-6 (7-8)
Sample Date/Time: 02/25/11 0930

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	2210	383	3	mg/kg dry	100.00	EPA 8015B mod	1C11002	03/19/11 0553	PMS	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*33.5 mg/kg dry*			*3.98 mg/kg dry*		*843 %*	*10-112*	Q-29
Triacontane (EPA 8015B mod)			*ND mg/kg dry*			*3.65 mg/kg dry*			*10-140*	Q-30
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	1930	128	0.05	mg/kg dry	2,000.00	EPA 8015B mod	1C10010	03/11/11 1143	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0972 mg/kg dry*			*0.0639 mg/kg dry*		*152 %*	*55-140*	Q-29
BTEX										
Benzene	ND	1.28	1	ug/kg dry	1.01	EPA 8021B	1C10010	03/11/11 0501	TA	Q-01
Ethyl Benzene	4150	2550	1	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1143	TA	R-01
Toluene	7170	2550	1	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1143	TA	R-01
Xylenes (total)	46300	7660	3	ug/kg dry	2,000.00	EPA 8021B	1C10010	03/11/11 1143	TA	R-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*10.4 ug/kg dry*			*64.2 ug/kg dry*		*16 %*	*10-140*	
4-Bromofluorobenzene (EPA 8021B)			*65.8 ug/kg dry*			*63.9 ug/kg dry*		*103 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	78	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-07
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: B-7 (2-3)
Sample Date/Time: 02/25/11 0935

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**7.98**	3.66	3	mg/kg dry	1.00	EPA 8015B mod	1C11002	03/19/11 0334	PMS	C-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*1.65 mg/kg dry*			*3.80 mg/kg dry*		*43 %*	*10-112*	
Triacontane (EPA 8015B mod)			*2.68 mg/kg dry*			*3.48 mg/kg dry*		*77 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**ND**	0.0612	0.05	mg/kg dry	1.00	EPA 8015B mod	1C10010	03/11/11 1439	ZT	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0803 mg/kg dry*			*0.0612 mg/kg dry*		*131 %*	*55-140*	
BTEX										
Benzene	**ND**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 1439	ZT	
Ethyl Benzene	**ND**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 1439	ZT	
Toluene	**ND**	1.22	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 1439	ZT	
Xylenes (total)	**ND**	3.66	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 1439	ZT	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*71.6 ug/kg dry*			*61.0 ug/kg dry*		*117 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**82**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-08
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-7 (5-6)
Sample Date/Time: 02/25/11 0940

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										**R-01**
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**1480**	362	3	mg/kg dry	100.00	EPA 8015B mod	1C11002	03/19/11 0648	PMS	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*ND mg/kg dry*		*3.76 mg/kg dry*			*10-112*		Q-30
Triacontane (EPA 8015B mod)			*ND mg/kg dry*		*3.45 mg/kg dry*			*10-140*		Q-30
Total Petroleum Hydrocarbons - GRO										**R-01**
TPH Gasoline	**960**	60.4	0.05	mg/kg dry	1,000.00	EPA 8015B mod	1C10010	03/11/11 1209	TA	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.101 mg/kg dry*		*0.0604 mg/kg dry*		*168 %*	*55-140*		Q-29
BTEX										
Benzene	**ND**	1.20	1	ug/kg dry	0.99	EPA 8021B	1C10010	03/11/11 0620	TA	Q-01
Ethyl Benzene	**2280**	121	1	ug/kg dry	100.00	EPA 8021B	1C10010	03/11/11 0712	TA	R-01
Toluene	**2230**	121	1	ug/kg dry	100.00	EPA 8021B	1C10010	03/11/11 0712	TA	R-01
Xylenes (total)	**10500**	362	3	ug/kg dry	100.00	EPA 8021B	1C10010	03/11/11 0712	TA	R-01
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8021B)			*33.7 ug/kg dry*		*60.0 ug/kg dry*		*56 %*	*10-140*		
4-Bromofluorobenzene (EPA 8021B)			*68.0 ug/kg dry*		*60.4 ug/kg dry*		*113 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	**83**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-09
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-8 (4-5)
Sample Date/Time: 02/25/11 1010

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**1920**	405	3	mg/kg dry	100.00	EPA 8015B mod	1C11002	03/19/11 0743	PMS	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*0.131 mg/kg dry*		*4.20 mg/kg dry*		*3 %*	*10-112*		Q-30
Triacontane (EPA 8015B mod)			*ND mg/kg dry*		*3.86 mg/kg dry*			*10-140*		Q-30
Total Petroleum Hydrocarbons - GRO										R-01
TPH Gasoline	**2100**	67.5	0.05	mg/kg dry	1,000.00	EPA 8015B mod	1C10010	03/11/11 1347	ZT	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.149 mg/kg dry*		*0.0675 mg/kg dry*		*221 %*	*55-140*		Q-29
BTEX										
Benzene	**ND**	1.35	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 1320	ZT	Q-01
Ethyl Benzene	**2930**	1350	1	ug/kg dry	1,000.00	EPA 8021B	1C10010	03/11/11 1347	ZT	R-01
Toluene	**6930**	1350	1	ug/kg dry	1,000.00	EPA 8021B	1C10010	03/11/11 1347	ZT	R-01
Xylenes (total)	**17800**	4050	3	ug/kg dry	1,000.00	EPA 8021B	1C10010	03/11/11 1347	ZT	R-01
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8021B)			*69.9 ug/kg dry*		*67.5 ug/kg dry*		*104 %*	*10-140*		
4-Bromofluorobenzene (EPA 8021B)			*90.1 ug/kg dry*		*67.5 ug/kg dry*		*133 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	**74**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-10
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell
Customer
Sample Description: B-8 (7-8)
Sample Date/Time: 02/25/11 1015

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										R-01
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	199	35.8	3	mg/kg dry	10.00	EPA 8015B mod	1C11002	03/19/11 0429	PMS	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
a-Pinene (EPA 8015B mod)			*0.703 mg/kg dry*		*3.72 mg/kg dry*		*19 %*	*10-112*		
Triacontane (EPA 8015B mod)			*2.27 mg/kg dry*		*3.41 mg/kg dry*		*66 %*	*10-140*		
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	ND	0.0597	0.05	mg/kg dry	1.00	EPA 8015B mod	1C10010	03/10/11 2254	TA	Q-22
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8015B mod)			*0.0626 mg/kg dry*		*0.0597 mg/kg dry*		*105 %*	*55-140*		
BTEX										
Benzene	ND	1.19	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2254	TA	
Ethyl Benzene	ND	1.19	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2254	TA	
Toluene	ND	1.19	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2254	TA	
Xylenes (total)	ND	3.58	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2254	TA	
Surrogate			**Result**		**Spike Conc.**		**Recovery**	**Rec. Limits**		
4-Bromofluorobenzene (EPA 8021B)			*59.8 ug/kg dry*		*59.7 ug/kg dry*		*100 %*	*10-140*		
Conventional Chemistry Parameters										
% Solids	84	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-11
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-9 (4-5)
Sample Date/Time: 02/25/11 1025

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**4.50**	3.59	3	mg/kg dry	1.00	EPA 8015B mod	1C11002	03/18/11 2145	PMS	C-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*1.58 mg/kg dry*			*3.73 mg/kg dry*		*42 %*	*10-112*	
Triacontane (EPA 8015B mod)			*2.49 mg/kg dry*			*3.42 mg/kg dry*		*73 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**ND**	0.0598	0.05	mg/kg dry	1.00	EPA 8015B mod	1C10010	03/10/11 2347	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0603 mg/kg dry*			*0.0598 mg/kg dry*		*101 %*	*55-140*	
BTEX										
Benzene	**ND**	1.20	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2347	TA	
Ethyl Benzene	**ND**	1.20	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2347	TA	
Toluene	**4.16**	1.20	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2347	TA	
Xylenes (total)	**ND**	3.59	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/10/11 2347	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*62.1 ug/kg dry*			*59.8 ug/kg dry*		*104 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**84**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Laboratory ID #: 1103275-12
Sample Type: Grab
Matrix: Solid
Sample Collected By: B. Chris Mitchell — Customer
Sample Description: B-9 (7-8)
Sample Date/Time: 02/25/11 1030

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Total Petroleum Hydrocarbons - DRO										
Ultrasonic Extraction	Completed	N/A	N/A	N/A	1.00	EPA 3550B	1C11002	03/11/11 0808	BMW	
TPH Diesel	**8.98**	5.58	3	mg/kg dry	1.00	EPA 8015B mod	1C11002	03/19/11 0239	PMS	C-01
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
a-Pinene (EPA 8015B mod)			*3.34 mg/kg dry*			*5.79 mg/kg dry*		*58 %*	*10-112*	
Triacontane (EPA 8015B mod)			*4.92 mg/kg dry*			*5.31 mg/kg dry*		*93 %*	*10-140*	
Total Petroleum Hydrocarbons - GRO										
TPH Gasoline	**ND**	0.0929	0.05	mg/kg dry	1.00	EPA 8015B mod	1C10010	03/11/11 0013	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8015B mod)			*0.0923 mg/kg dry*			*0.0929 mg/kg dry*		*99 %*	*55-140*	
BTEX										
Benzene	**ND**	1.86	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0013	TA	
Ethyl Benzene	**ND**	1.86	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0013	TA	
Toluene	**ND**	1.86	1	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0013	TA	
Xylenes (total)	**ND**	5.58	3	ug/kg dry	1.00	EPA 8021B	1C10010	03/11/11 0013	TA	
Surrogate			**Result**			**Spike Conc.**		**Recovery**	**Rec. Limits**	
4-Bromofluorobenzene (EPA 8021B)			*97.8 ug/kg dry*			*92.9 ug/kg dry*		*105 %*	*10-140*	
Conventional Chemistry Parameters										
% Solids	**54**	0.20	0.2	%	1.00	SM 2540G	1C10028	03/10/11 1815	KTF	S-14

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
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ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Total Petroleum Hydrocarbons - DRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C11002 - EPA 3550B Sonication Extraction										
Blank (1C11002-BLK1) Prepared & Analyzed: 03/11/11 08:08										
Ultrasonic Extraction	Completed	N/A	N/A							
TPH Diesel	ND	3.00	mg/kg wet							
Surrogate: a-Pinene	1.72		mg/kg wet	3.11		55	1-109			
Surrogate: Triacontane	2.90		mg/kg wet	2.86		102	1-170			
Laboratory Control Sample (1C11002-BS1) Prepared & Analyzed: 03/11/11 08:08										
Ultrasonic Extraction	Completed	N/A	N/A				0-0			
TPH Diesel	28.6	3.00	mg/kg wet	28.6		100	43-138			
Surrogate: a-Pinene	1.69		mg/kg wet	3.11		54	1-109			
Surrogate: Triacontane	2.75		mg/kg wet	2.86		96	1-170			
Laboratory Control Sample Duplicate (1C11002-BSD1) Prepared & Analyzed: 03/11/11 08:08										
Ultrasonic Extraction	Completed	N/A	N/A				0-0		0	
TPH Diesel	29.1	3.00	mg/kg wet	28.6		102	43-138	2	24	
Surrogate: a-Pinene	1.71		mg/kg wet	3.11		55	1-109			
Surrogate: Triacontane	2.84		mg/kg wet	2.86		100	1-170			
Matrix Spike (1C11002-MS1) Prepared & Analyzed: 03/11/11 08:08					**Source: 1103275-01**					**R-01**
Ultrasonic Extraction	Completed	N/A	N/A		ND		0-0			
TPH Diesel	2830	421	mg/kg dry	4010	4830	-50	10-140			Q-02
Surrogate: a-Pinene	16.7		mg/kg dry	4.37		382	10-109			Q-29
Surrogate: Triacontane	ND		mg/kg dry	4.01		0	10-140			Q-30
Matrix Spike Duplicate (1C11002-MSD1) Prepared & Analyzed: 03/11/11 08:08					**Source: 1103275-01**					**R-01**
Ultrasonic Extraction	Completed	N/A	N/A		ND		0-0		0	
TPH Diesel	3230	421	mg/kg dry	4010	4830	-40	10-140	13	20	Q-02
Surrogate: a-Pinene	34.1		mg/kg dry	4.37		782	10-109			Q-29
Surrogate: Triacontane	ND		mg/kg dry	4.01		0	10-140			Q-30

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Total Petroleum Hydrocarbons - GRO - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C10010 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1C10010-BLK1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 21:10										
TPH Gasoline	**ND**	0.0500	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	**0.0496**		mg/kg wet	0.0500		99	55-140			
Laboratory Control Sample (1C10010-BS1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 21:36										
TPH Gasoline	**0.409**	0.0500	mg/kg wet	0.500		82	66-117			
Surrogate: 4-Bromofluorobenzene	**0.0502**		mg/kg wet	0.0500		100	55-140			
Laboratory Control Sample Duplicate (1C10010-BSD1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 22:02										
TPH Gasoline	**0.457**	0.0500	mg/kg wet	0.500		91	66-117	11	18	
Surrogate: 4-Bromofluorobenzene	**0.0510**		mg/kg wet	0.0500		102	55-140			
Matrix Spike (1C10010-MS1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 22:28					**Source: 1103275-10**					
TPH Gasoline	**0.524**	0.0597	mg/kg dry	0.597	ND	88	10-140			
Surrogate: 4-Bromofluorobenzene	**0.0622**		mg/kg dry	0.0597		104	55-140			
Matrix Spike Duplicate (1C10010-MSD1) Prepared: 03/10/11 09:29 Analyzed: 03/11/11 02:24					**Source: 1103275-10**					
TPH Gasoline	**0.826**	0.0597	mg/kg dry	0.597	ND	138	10-140	45	38	Q-04
Surrogate: 4-Bromofluorobenzene	**0.0785**		mg/kg dry	0.0597		131	55-140			

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Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C10010 - Purge-and-Trap and Extraction-VOCs in Soil										
Blank (1C10010-BLK1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 21:10										
Benzene	**ND**	1.00	ug/kg wet							
Ethyl Benzene	**ND**	1.00	ug/kg wet							
Toluene	**ND**	1.00	ug/kg wet							
Xylenes (total)	**ND**	3.00	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	**54.0**		ug/kg wet	50.0		108	18-140			
Laboratory Control Sample (1C10010-BS1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 21:36										
Benzene	**44.6**	1.00	ug/kg wet	50.0		89	80-118			
Ethyl Benzene	**46.6**	1.00	ug/kg wet	50.0		93	77-123			
Toluene	**45.3**	1.00	ug/kg wet	50.0		91	79-118			
Xylenes (total)	**134**	3.00	ug/kg wet	150		89	80-121			
Surrogate: 4-Bromofluorobenzene	**48.6**		ug/kg wet	50.0		97	18-140			
Laboratory Control Sample Duplicate (1C10010-BSD1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 22:02										
Benzene	**43.2**	1.00	ug/kg wet	50.0		86	80-118	3	10	
Ethyl Benzene	**51.7**	1.00	ug/kg wet	50.0		103	77-123	10	11	
Toluene	**50.6**	1.00	ug/kg wet	50.0		101	79-118	11	11	
Xylenes (total)	**150**	3.00	ug/kg wet	150		100	80-121	11	11	
Surrogate: 4-Bromofluorobenzene	**50.4**		ug/kg wet	50.0		101	18-140			
Matrix Spike (1C10010-MS1) Prepared: 03/10/11 09:29 Analyzed: 03/10/11 22:28					**Source: 1103275-10**					
Benzene	**58.8**	1.19	ug/kg dry	59.7	ND	98	21-140			
Ethyl Benzene	**57.5**	1.19	ug/kg dry	59.7	ND	96	10-140			
Toluene	**56.5**	1.19	ug/kg dry	59.7	ND	95	28-140			
Xylenes (total)	**165**	3.58	ug/kg dry	179	ND	92	13-140			
Surrogate: 4-Bromofluorobenzene	**60.3**		ug/kg dry	59.7		101	18-140			

Environmental Laboratories
Bethany Tech Center • Suite 190
400 W. Bethany Rd. • Allen, Texas 75013

State Certifications
Arkansas: 88-0647
Oklahoma: 8727
Louisiana: 02007
Kansas: E-10388
Texas: T104704232-10-1

Report of Sample Analysis

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BTEX - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C10010 - Purge-and-Trap and Extraction-VOCs in Soil (continued)										
Matrix Spike Duplicate (1C10010-MSD1) Prepared: 03/10/11 09:29 Analyzed: 03/11/11 02:24					**Source: 1103275-10**					
Benzene	**55.9**	1.19	ug/kg dry	59.7	ND	94	21-140	5	29	
Ethyl Benzene	**51.4**	1.19	ug/kg dry	59.7	ND	86	10-140	11	27	
Toluene	**59.9**	1.19	ug/kg dry	59.7	ND	100	28-140	6	32	
Xylenes (total)	**153**	3.58	ug/kg dry	179	ND	85	13-140	8	40	
Surrogate: 4-Bromofluorobenzene	**58.5**		ug/kg dry	59.7		98	18-140			

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
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ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 1C10028										
Blank (1C10028-BLK1) Prepared & Analyzed: 03/10/11 18:15										
% Solids	**ND**	0.20	%							
Duplicate (1C10028-DUP1) Prepared & Analyzed: 03/10/11 18:15					**Source: 1103275-01**					
% Solids	**72**	0.20	%		71			0.3	4	
Duplicate (1C10028-DUP2) Prepared & Analyzed: 03/10/11 18:15					**Source: 1103275-11**					
% Solids	**83**	0.20	%		84			0.2	4	

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Texas: T104704232-10-1

Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

C-01	The sample contains a single peak not indicative of a diesel pattern which contributes to the total concentration.
Q-01	The recovery of the internal standard(s) was outside the acceptable range in this sample due to matrix interference. No target compounds were identified in the sample, therefore, this has no effect on the results presented.
Q-02	The recovery of this analyte in the MS was outside the acceptable range due to interference, large dilutions required for analysis or a combination of these factors. The recovery of this analyte in the LCS(s) was within the acceptable range.
Q-04	The RPD of this analyte between the MS(s) was outside of the acceptable range. The RPD of this same analyte between the LCS(s) was within the acceptable range.
Q-13	The recovery of the internal standard used to quantify this result was higher than the acceptable range due to matrix interference. This causes a low bias to the result presented.
Q-21	The recovery of this analyte in the MS was lower than the acceptable range. This indicates a low bias to the result presented.
Q-22	The RPD between the MS(s) sample analyses was outside the acceptable range. This indicates the result was not as precise as expected.
Q-29	The recovery of the surrogate in this sample was higher than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a high bias to the compounds in the sample that this surrogate represents.
Q-30	The recovery of the surrogate in this sample was lower than the acceptable range due to matrix interference and/or large dilutions required for analysis. This may indicate a low bias to the compounds in the sample that this surrogate represents.
R-01	The higher reporting limit is due to dilutions required for analysis as a result of a high concentration of target and/or non-target parameters in this sample.
S-14	This analysis was performed outside the recommended holding time. This analysis is used only for dry weight calculation and is representative of the total solids present in the sample at the time the dry weight corrected analyses were performed.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
mg/kg	milligrams per kilogram
mg/l	milligrams per liter

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Report of Sample Analysis

Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
ATTN: Joseph W. Martinez

Project: S. Carlsbad Comp
Project #: 0210003
Print Date/Time: 03/21/11 16:23

ug/kg	micrograms per kilogram
ug/l	micrograms per liter
exc	Not covered under scope of NELAP accreditation.
F*	Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
Anlst	Analyst Initials
SRL	Sample Reporting Limit
MRL	Method Reporting Limit
naa	This analysis/parameter is not accreditable under the current NELAP program

1103225

Shelly Connelly

From: Joseph Martinez [Joseph.Martinez@southwestgeoscience.com]
Sent: Wednesday, March 09, 2011 2:46 PM
To: ERMI Environmental Services
Cc: chris.mitchell@southwestgeoscience.com
Subject: 0210003 S. Carlsbad CS

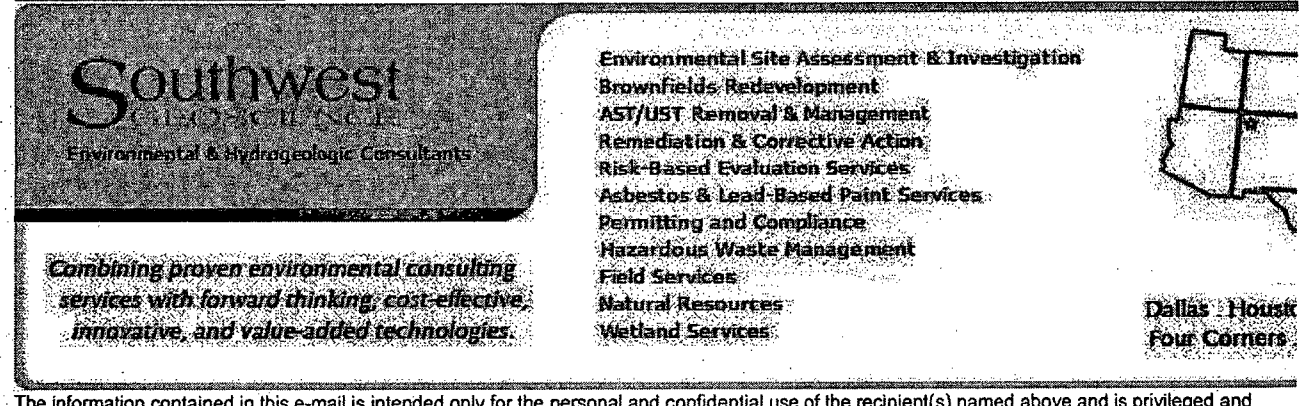
Please analyze the following soil samples with the following IDs for BTEX (8021B) and TPH GRO (8015M) which were collected on 2.25.11 for the above project: B-3 (6-7), B-4 (3-4), B-4 (5-6), B-5 (4-5), B-6 (4-5), B-6 (7-8), B-7 (2-3), B-7 (5-6), B-8 (4-5), B-8 (7-8), B-9 (4-5), and B-9 (7-8). We will be in touch at a later date as to whether we will need them analyzed. Also, please start the TPH DRO (8015M) extraction process for the same soil samples. Please use standard turnaround time.

Thanks,

Joseph W. Martinez | Project Manager
Southwest Geoscience

8829 Tradeway Street | San Antonio, Texas 78217
☎ 210.804.9922 | 🖷 210.804.9944 | c 210.355.6280

www.southwestgeoscience.com



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CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio

Project Manager: J. Martinez

Laboratory: ERMI
Address: 400 W. Bethany #190
Allen TX 75013
Contact:
Phone: (972) 727-1123
PO/SO #:

Sampler's Name: B. Chris Mitchell
Sampler's Signature: [signature]

Proj. No.: 0210003
Project Name: S. Carlsbad Comp.

Analysis Requested: TPH GRO/DRO (SW-846 8015M); BTEX (SW-846 8021B); Hold

Lab use only
Due Date:
Temp. of coolers when received (C°): [illegible]
1: 2.4 | 2 | 3 | 4 | 5

Page 1 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO/DRO	BTEX	Hold	Lab Sample ID (Lab Use Only)
S	2.25.11	845		✓	B-3 (6-7)	6	7				1		✓		1103275-01
S	2.25.11	855		✓	B-4 (3-4)	3	4				1		✓		1103275-02
S	2.25.11	900		✓	B-4 (5-6)	5	6				1		✓		1103275-03
S	2.25.11	910		✓	B-5 (4-5)	4	5				1		✓		1103275-04
S	2.25.11	925		✓	B-6 (4-5)	4	5				1		✓		1103275-05
S	2.25.11	930		✓	B-6 (7-8)	7	8				1		✓		1103275-06
S	2.25.11	935		✓	B-7 (2-3)	2	3				1		✓		1103275-07
S	2.25.11	940		✓	B-7 (5-6)	5	6				1		✓		1103275-08
S	2.25.11	1010		✓	B-8 (4-5)	4	5				1		✓		1103275-09
S	2.25.11	1015		✓	B-8 (7-8)	7	8				1		✓		1103275-10

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

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	2/28/11	11:52	William Truscott	2/28/11	11:52
William Truscott	2/28/11	12:24	Leslie Underwood ERMI	2/28/11	1224

NOTES:

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

SOUTHWEST GEOSCIENCE • 2351 W. Northwest Hwy., Suite 3321 • Dallas, Texas 75220 • Office: 214-350-5469 • Fax 214-350-2914

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: SAN ANTONIO
Project Manager: J. MARTINEZ

Laboratory: ERMI
Address: 400 W. BETHANY #190 ALLEN TX 75013
Contact:
Phone: (972) 727-1123
PO/SO #:

Sampler's Name: B. CHRIS MITCHELL
Sampler's Signature:

Proj. No.: 0210003
Project Name: S. CARLSBAD COMP.

Lab use only
Due Date:

Temp. of coolers when received (C°): IR-01 Temp
1 | 2 | 3 | 4 | 5

Page 2 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	ANALYSIS REQUESTED: TPH GRO/DRO (SW-846 8015A) BTEX (SW-846 # 8021B) HOLD	Lab Sample ID (Lab Use Only)
S	2.25.11	1025		/	B-9 (4-5)	4	5				1	/	110327-11
S	2.25.11	1030		/	B-9 (7-8)	7	8				1	/	110327-12

No 1

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

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2/28/11	11:52	William Truscott	2/28/11	11:52
William Truscott	2/28/11	12:24	Julie Lindgren ERMI	2/28/11	1224

NOTES:

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

1103275

Falcon X-Press
We Deliver

P.O. BOX 940303
PLANO, TX 75094-0303
(972) 881-7577

NOTARY SERVICE AVAILABLE

No.

SHIPPER
NAME Southwest Geoscience
ADDRESS SUITE
CITY
REFERENCE NO.

CONSIGNEE
NAME Ermi
ADDRESS 400 W. Bethany SUITE 190
CITY Allen
ATTN:

DATE 2/28/11

Falcon Charges	Type of Delivery
☐ PREPAID	☐ X-Press
☐ COLLECT	☐ 2 HOUR
☐ ROUND TRIP	☐ 4 HOUR
☐ NIGHT-WEEKEND	☐ NEXT DAY

NO. PCS.	DESCRIPTION AND REMARKS	WEIGHT	CHARGES	
	Samples		WEIGHT CHARGE	
			WAITING TIME CHG	
			DELIVERY CHARGE	
			TOTAL CHARGES	

WAITING TIME

NOT RESPONSIBLE FOR FREIGHT CLAIMS AFTER 72 HRS. NOT RESPONSIBLE FOR CONCEALED DAMAGE. DUE AND PAYABLE PLANO, COLLIN COUNTY, TEXAS

$50 DECLARED VALUE UNLESS SPECIFIED HERE $

DRIVER NAME & NO.	DRIVER NAME & NO.	TIME OF DEL	RECEIVED BY	RECEIVED BY
William Tarrant		11:57 / 12:24	X Leslie Underwood (Leslie Underwood)	X

Custody Seal

ERMI

Sample I.D. No. [redacted]2b003 Date [redacted]

Signature

ERMI

X-484

Lab Number(s): 110327 5 3/10/11

ERMI

Sample Preservation Documentation*

On Ice (Circle One): (YES) OR NO (check if on Dry Ice_____)

Parameters	Containers #	Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals			pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine ☐yes ☐no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)			Cool, pH < 2 Zero Head Space	40 ml VOA vial	DO NOT OPEN
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials_____	40 ml VOA vial	DO NOT OPEN
Phos., NO_3/NO_2, NH_3N, COD, TKN,TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO_4, Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, TPH-DRO			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	pH < 2
Oil & Grease, TPH (by 1664a)			Cool, pH < 2	Glass only Teflon lid____ Foil lid_____	DO NOT Check pH
Cyanide			Cool, pH >12	Glass or Plastic	pH > 12 Chlorine ☐yes ☐no Sulfide ☐yes ☐no ☐na
Sulfide			Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
Soil, Sludge, Solid, Oil, Liquid	12	4oz	Cool Note: please check if collected in pre-weighed vials_____	Glass	

Metals Preserved By Login ☐yes ☐no **Trip Blanks Received** ☐yes ☒no

COMMENTS:_____

*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

**Cool means cooled to ≤6°C but not frozen.

Preservation Checked By _____ mm 3-9-11 (Date) 1802 (Time)

1000.0-3.2 2/17/09

kdy 7/10/08

Q:\Form Masters\1000.0-3.2 Sample Preservation Form

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 06, 2011

Joseph Martinez
Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217

TEL: (210) 804-9922
FAX (210) 804-9944

RE: S. Carlsbad Compressor Station

Order No.: 1103962

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory, Inc. received 20 sample(s) on 3/25/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc. **Date:** *06-Apr-11*

CLIENT: Southwest Geoscience
Project: S. Carlsbad Compressor Station
Lab Order: 1103962

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable, or elevated, due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-1
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:10:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-01	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	410		7.9	30	mg/Kg	20	4/1/2011 3:28:27 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1600		43	100	mg/Kg	10	3/31/2011 8:50:20 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	3/31/2011 8:50:20 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	140	J	80	250	mg/Kg	50	3/30/2011 3:10:57 PM
460-00-4	Surr: BFB	87.8	S	0	89.7-125	%REC	50	3/30/2011 3:10:57 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/30/2011 3:10:57 PM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/30/2011 3:10:57 PM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/30/2011 3:10:57 PM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/30/2011 3:10:57 PM
460-00-4	Surr: 4-Bromofluorobenzene	103		0	85.3-139	%REC	50	3/30/2011 3:10:57 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-2
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:15:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-02	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	310		7.9	30	mg/Kg	20	4/1/2011 8:07:00 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	770		43	100	mg/Kg	10	3/31/2011 9:24:42 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	3/31/2011 9:24:42 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	8.3	J	8.0	25	mg/Kg	5	3/30/2011 3:39:49 PM
460-00-4	Surr: BFB	92.0		0	89.7-125	%REC	5	3/30/2011 3:39:49 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 3:39:49 PM
108-88-3	Toluene	ND		0.023	0.25	mg/Kg	5	3/30/2011 3:39:49 PM
100-41-4	Ethylbenzene	ND		0.023	0.25	mg/Kg	5	3/30/2011 3:39:49 PM
1330-20-7	Xylenes, Total	ND		0.069	0.50	mg/Kg	5	3/30/2011 3:39:49 PM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	5	3/30/2011 3:39:49 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-3
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:20:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-03	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	600		7.9	30	mg/Kg	20	4/1/2011 8:41:49 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1700		43	100	mg/Kg	10	3/31/2011 9:58:52 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	3/31/2011 9:58:52 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/30/2011 4:08:43 PM
460-00-4	Surr: BFB	93.8		0	89.7-125	%REC	50	3/30/2011 4:08:43 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/30/2011 4:08:43 PM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/30/2011 4:08:43 PM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/30/2011 4:08:43 PM
1330-20-7	Xylenes, Total	0.83	J	0.69	5.0	mg/Kg	50	3/30/2011 4:08:43 PM
460-00-4	Surr: 4-Bromofluorobenzene	105		0	85.3-139	%REC	50	3/30/2011 4:08:43 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-4
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:25:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-04	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	270		7.9	30	mg/Kg	20	4/1/2011 9:16:38 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1300		43	100	mg/Kg	10	3/31/2011 10:33:02 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	3/31/2011 10:33:02 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	17	J	8.0	25	mg/Kg	5	3/30/2011 4:37:33 PM
460-00-4	Surr: BFB	107		0	89.7-125	%REC	5	3/30/2011 4:37:33 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 4:37:33 PM
108-88-3	Toluene	ND		0.023	0.25	mg/Kg	5	3/30/2011 4:37:33 PM
100-41-4	Ethylbenzene	ND		0.023	0.25	mg/Kg	5	3/30/2011 4:37:33 PM
1330-20-7	Xylenes, Total	0.14	J	0.069	0.50	mg/Kg	5	3/30/2011 4:37:33 PM
460-00-4	Surr: 4-Bromofluorobenzene	107		0	85.3-139	%REC	5	3/30/2011 4:37:33 PM

Qualifiers:

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- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-5
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:30:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-05	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	440		7.9	30	mg/Kg	20	4/1/2011 4:38:05 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1300		43	100	mg/Kg	10	3/31/2011 11:06:51 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	3/31/2011 11:06:51 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		8.0	25	mg/Kg	5	3/30/2011 5:06:31 PM
460-00-4	Surr: BFB	93.7		0	89.7-125	%REC	5	3/30/2011 5:06:31 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 5:06:31 PM
108-88-3	Toluene	ND		0.023	0.25	mg/Kg	5	3/30/2011 5:06:31 PM
100-41-4	Ethylbenzene	ND		0.023	0.25	mg/Kg	5	3/30/2011 5:06:31 PM
1330-20-7	Xylenes, Total	ND		0.069	0.50	mg/Kg	5	3/30/2011 5:06:31 PM
460-00-4	Surr: 4-Bromofluorobenzene	107		0	85.3-139	%REC	5	3/30/2011 5:06:31 PM

Qualifiers:

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- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-6
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:35:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-06	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	190		7.9	30	mg/Kg	20	4/1/2011 5:12:54 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	2000		43	100	mg/Kg	10	4/1/2011 12:49:11 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 12:49:11 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		160	500	mg/Kg	100	3/30/2011 5:35:29 PM
460-00-4	Surr: BFB	94.1		0	89.7-125	%REC	100	3/30/2011 5:35:29 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.37	5.0	mg/Kg	100	3/30/2011 5:35:29 PM
108-88-3	Toluene	ND		0.46	5.0	mg/Kg	100	3/30/2011 5:35:29 PM
100-41-4	Ethylbenzene	ND		0.45	5.0	mg/Kg	100	3/30/2011 5:35:29 PM
1330-20-7	Xylenes, Total	1.6	J	1.4	10	mg/Kg	100	3/30/2011 5:35:29 PM
460-00-4	Surr: 4-Bromofluorobenzene	105		0	85.3-139	%REC	100	3/30/2011 5:35:29 PM

Qualifiers:

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- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-7
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:40:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-07	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	260		7.9	30	mg/Kg	20	4/1/2011 5:47:43 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1500		43	100	mg/Kg	10	4/1/2011 1:23:20 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 1:23:20 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	20	J	8.0	25	mg/Kg	5	3/30/2011 6:04:23 PM
460-00-4	Surr: BFB	113		0	89.7-125	%REC	5	3/30/2011 6:04:23 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 6:04:23 PM
108-88-3	Toluene	ND		0.023	0.25	mg/Kg	5	3/30/2011 6:04:23 PM
100-41-4	Ethylbenzene	0.023	J	0.023	0.25	mg/Kg	5	3/30/2011 6:04:23 PM
1330-20-7	Xylenes, Total	0.25	J	0.069	0.50	mg/Kg	5	3/30/2011 6:04:23 PM
460-00-4	Surr: 4-Bromofluorobenzene	107		0	85.3-139	%REC	5	3/30/2011 6:04:23 PM

Qualifiers:

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- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-8
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:50:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-08	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	350		7.9	30	mg/Kg	20	4/1/2011 6:57:22 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1500		43	100	mg/Kg	10	4/1/2011 1:57:28 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 1:57:28 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	47		8.0	25	mg/Kg	5	3/30/2011 6:33:19 PM
460-00-4	Surr: BFB	157	S	0	89.7-125	%REC	5	3/30/2011 6:33:19 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 6:33:19 PM
108-88-3	Toluene	0.039	J	0.023	0.25	mg/Kg	5	3/30/2011 6:33:19 PM
100-41-4	Ethylbenzene	0.069	J	0.023	0.25	mg/Kg	5	3/30/2011 6:33:19 PM
1330-20-7	Xylenes, Total	0.90		0.069	0.50	mg/Kg	5	3/30/2011 6:33:19 PM
460-00-4	Surr: 4-Bromofluorobenzene	112		0	85.3-139	%REC	5	3/30/2011 6:33:19 PM

Qualifiers:

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- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-9
Lab Order:	1103962	**Collection Date:**	3/24/2011 8:55:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-09	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	410		7.9	30	mg/Kg	20	4/1/2011 7:32:11 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	650		43	100	mg/Kg	10	4/1/2011 2:31:36 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 2:31:36 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		8.0	25	mg/Kg	5	3/30/2011 7:02:09 PM
460-00-4	Surr: BFB	95.8		0	89.7-125	%REC	5	3/30/2011 7:02:09 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.019	0.25	mg/Kg	5	3/30/2011 7:02:09 PM
108-88-3	Toluene	ND		0.023	0.25	mg/Kg	5	3/30/2011 7:02:09 PM
100-41-4	Ethylbenzene	0.023	J	0.023	0.25	mg/Kg	5	3/30/2011 7:02:09 PM
1330-20-7	Xylenes, Total	ND		0.069	0.50	mg/Kg	5	3/30/2011 7:02:09 PM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	5	3/30/2011 7:02:09 PM

Qualifiers:

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- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-10
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:00:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-10	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	110		7.9	30	mg/Kg	20	4/1/2011 10:26:17 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1000		43	100	mg/Kg	10	4/1/2011 3:05:45 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 3:05:45 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/30/2011 7:31:01 PM
460-00-4	Surr: BFB	89.9		0	89.7-125	%REC	50	3/30/2011 7:31:01 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/30/2011 7:31:01 PM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/30/2011 7:31:01 PM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/30/2011 7:31:01 PM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/30/2011 7:31:01 PM
460-00-4	Surr: 4-Bromofluorobenzene	105		0	85.3-139	%REC	50	3/30/2011 7:31:01 PM

Qualifiers:

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- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-11
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:25:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-11	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	160		7.9	30	mg/Kg	20	4/1/2011 11:01:05 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1800		43	100	mg/Kg	10	4/1/2011 3:39:53 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 3:39:53 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 1:17:15 AM
460-00-4	Surr: BFB	89.6	S	0	89.7-125	%REC	50	3/31/2011 1:17:15 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 1:17:15 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 1:17:15 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 1:17:15 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 1:17:15 AM
460-00-4	Surr: 4-Bromofluorobenzene	109		0	85.3-139	%REC	50	3/31/2011 1:17:15 AM

Qualifiers:

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- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-12
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:30:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-12	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	160		7.9	30	mg/Kg	20	4/1/2011 11:35:54 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1400		43	100	mg/Kg	10	4/1/2011 4:14:01 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 4:14:01 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 1:46:11 AM
460-00-4	Surr: BFB	89.1	S	0	89.7-125	%REC	50	3/31/2011 1:46:11 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 1:46:11 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 1:46:11 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 1:46:11 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 1:46:11 AM
460-00-4	Surr: 4-Bromofluorobenzene	106		0	85.3-139	%REC	50	3/31/2011 1:46:11 AM

Qualifiers:

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- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-13
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:35:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-13	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	100		7.9	30	mg/Kg	20	4/2/2011 12:10:42 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1900		43	100	mg/Kg	10	4/1/2011 4:47:55 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 4:47:55 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		160	500	mg/Kg	100	3/31/2011 2:15:06 AM
460-00-4	Surr: BFB	88.8	S	0	89.7-125	%REC	100	3/31/2011 2:15:06 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.37	5.0	mg/Kg	100	3/31/2011 2:15:06 AM
108-88-3	Toluene	ND		0.46	5.0	mg/Kg	100	3/31/2011 2:15:06 AM
100-41-4	Ethylbenzene	ND		0.45	5.0	mg/Kg	100	3/31/2011 2:15:06 AM
1330-20-7	Xylenes, Total	ND		1.4	10	mg/Kg	100	3/31/2011 2:15:06 AM
460-00-4	Surr: 4-Bromofluorobenzene	107		0	85.3-139	%REC	100	3/31/2011 2:15:06 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-14
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:45:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-14	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	210		7.9	30	mg/Kg	20	4/3/2011 8:31:19 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1100		43	100	mg/Kg	10	4/1/2011 5:21:49 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 5:21:49 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 2:43:57 AM
460-00-4	Surr: BFB	89.4	S	0	89.7-125	%REC	50	3/31/2011 2:43:57 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 2:43:57 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 2:43:57 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 2:43:57 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 2:43:57 AM
460-00-4	Surr: 4-Bromofluorobenzene	109		0	85.3-139	%REC	50	3/31/2011 2:43:57 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-15
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:50:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-15	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	210		7.9	30	mg/Kg	20	4/2/2011 1:55:10 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	2400		43	100	mg/Kg	10	4/1/2011 8:14:53 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 8:14:53 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	160	J	80	250	mg/Kg	50	3/31/2011 3:12:44 AM
460-00-4	Surr: BFB	90.3		0	89.7-125	%REC	50	3/31/2011 3:12:44 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 3:12:44 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 3:12:44 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 3:12:44 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 3:12:44 AM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	50	3/31/2011 3:12:44 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-16
Lab Order:	1103962	**Collection Date:**	3/24/2011 9:55:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-16	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	230		7.9	30	mg/Kg	20	4/2/2011 2:29:59 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1900		43	100	mg/Kg	10	4/1/2011 3:54:49 PM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 3:54:49 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	210	J	80	250	mg/Kg	50	3/31/2011 3:41:35 AM
460-00-4	Surr: BFB	89.1	S	0	89.7-125	%REC	50	3/31/2011 3:41:35 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 3:41:35 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 3:41:35 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 3:41:35 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 3:41:35 AM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	50	3/31/2011 3:41:35 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-17
Lab Order:	1103962	**Collection Date:**	3/24/2011 10:00:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-17	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	320		7.9	30	mg/Kg	20	4/2/2011 3:04:48 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1200		43	100	mg/Kg	10	4/1/2011 8:49:17 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 8:49:17 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	50	mg/Kg	10	3/31/2011 4:10:26 AM
460-00-4	Surr: BFB	90.5		0	89.7-125	%REC	10	3/31/2011 4:10:26 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.037	0.50	mg/Kg	10	3/31/2011 4:10:26 AM
108-88-3	Toluene	ND		0.046	0.50	mg/Kg	10	3/31/2011 4:10:26 AM
100-41-4	Ethylbenzene	ND		0.045	0.50	mg/Kg	10	3/31/2011 4:10:26 AM
1330-20-7	Xylenes, Total	ND		0.14	1.0	mg/Kg	10	3/31/2011 4:10:26 AM
460-00-4	*Surr: 4-Bromofluorobenzene*	107		0	85.3-139	%REC	10	3/31/2011 4:10:26 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-18
Lab Order:	1103962	**Collection Date:**	3/24/2011 10:05:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-18	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	280		7.9	30	mg/Kg	20	4/2/2011 3:39:37 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	2800		43	100	mg/Kg	10	4/1/2011 9:23:40 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 9:23:40 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 10:22:41 AM
460-00-4	Surr: BFB	90.6		0	89.7-125	%REC	50	3/31/2011 10:22:41 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 10:22:41 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 10:22:41 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 10:22:41 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 10:22:41 AM
460-00-4	Surr: 4-Bromofluorobenzene	110		0	85.3-139	%REC	50	3/31/2011 10:22:41 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-19
Lab Order:	1103962	**Collection Date:**	3/24/2011 10:10:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-19	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	290		7.9	30	mg/Kg	20	4/2/2011 4:14:26 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	2700		43	100	mg/Kg	10	4/1/2011 9:58:20 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 9:58:20 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 10:51:36 AM
460-00-4	Surr: BFB	90.5		0	89.7-125	%REC	50	3/31/2011 10:51:36 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 10:51:36 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 10:51:36 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 10:51:36 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 10:51:36 AM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	50	3/31/2011 10:51:36 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Apr-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-20
Lab Order:	1103962	**Collection Date:**	3/24/2011 10:15:00 AM
Project:	S. Carlsbad Compressor Station	**Date Received:**	3/25/2011
Lab ID:	1103962-20	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	230		7.9	30	mg/Kg	20	4/5/2011 5:10:43 AM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	2200		43	100	mg/Kg	10	4/1/2011 10:32:45 AM
117-84-0	Surr: DNOP	0	S	0	81.8-129	%REC	10	4/1/2011 10:32:45 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **NSB**
TPH-GRO	Gasoline Range Organics (GRO)	ND		80	250	mg/Kg	50	3/31/2011 11:20:28 AM
460-00-4	Surr: BFB	90.0		0	89.7-125	%REC	50	3/31/2011 11:20:28 AM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **NSB**
71-43-2	Benzene	ND		0.19	2.5	mg/Kg	50	3/31/2011 11:20:28 AM
108-88-3	Toluene	ND		0.23	2.5	mg/Kg	50	3/31/2011 11:20:28 AM
100-41-4	Ethylbenzene	ND		0.23	2.5	mg/Kg	50	3/31/2011 11:20:28 AM
1330-20-7	Xylenes, Total	ND		0.69	5.0	mg/Kg	50	3/31/2011 11:20:28 AM
460-00-4	Surr: 4-Bromofluorobenzene	108		0	85.3-139	%REC	50	3/31/2011 11:20:28 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S. Carlsbad Compressor Station **Work Order:** 1103962

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-26170		*MBLK*				**Batch ID: 26170**		**Analysis Date: 3/30/2011 7:34:25 PM**			
Chloride	ND	mg/Kg	1.5								
Sample ID: MB-26181		*MBLK*				**Batch ID: 26181**		**Analysis Date: 4/1/2011 1:05:26 PM**			
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-26170		*LCS*				**Batch ID: 26170**		**Analysis Date: 3/30/2011 7:51:50 PM**			
Chloride	14.08	mg/Kg	1.5	15	0	93.9	90	110			
Sample ID: LCS-26181		*LCS*				**Batch ID: 26181**		**Analysis Date: 4/1/2011 1:22:50 PM**			
Chloride	13.79	mg/Kg	1.5	15	0	91.9	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-26156		*MBLK*				**Batch ID: 26156**		**Analysis Date: 3/31/2011 7:07:40 PM**			
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-26156		*LCS*				**Batch ID: 26156**		**Analysis Date: 4/1/2011 2:58:54 PM**			
Diesel Range Organics (DRO)	38.38	mg/Kg	10	50	0	76.8	66.2	120			
Sample ID: LCSD-26156		*LCSD*				**Batch ID: 26156**		**Analysis Date: 4/1/2011 3:30:28 PM**			
Diesel Range Organics (DRO)	42.74	mg/Kg	10	50	0	85.5	66.2	120	10.7	14.3	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-26152		*MBLK*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 10:53:08 PM**			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-26152		*LCS*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 10:24:19 PM**			
Gasoline Range Organics (GRO)	27.12	mg/Kg	5.0	25	2.52	98.4	88.8	124			
Method: EPA Method 8021B: Volatiles											
Sample ID: 1103962-04AMSD		*MSD*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 9:26:31 PM**			
Benzene	1.017	mg/Kg	0.25	1	0	102	67.2	113	5.02	14.3	
Toluene	1.053	mg/Kg	0.25	1	0	105	62.1	116	0.0190	15.9	
Ethylbenzene	1.070	mg/Kg	0.25	1	0	107	67.9	127	1.77	14.4	
Xylenes, Total	3.410	mg/Kg	0.50	3	0.1429	109	60.6	134	0.861	12.6	
Sample ID: MB-26152		*MBLK*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 10:53:08 PM**			
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-26152		*LCS*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 9:55:25 PM**			
Benzene	0.9810	mg/Kg	0.050	1	0.0137	96.7	83.3	107			
Toluene	1.075	mg/Kg	0.050	1	0.0099	106	74.3	115			
Ethylbenzene	1.133	mg/Kg	0.050	1	0.0056	113	80.9	122			
Xylenes, Total	3.428	mg/Kg	0.10	3	0	114	85.2	123			
Sample ID: 1103962-04AMS		*MS*				**Batch ID: 26152**		**Analysis Date: 3/30/2011 8:57:36 PM**			
Benzene	0.9669	mg/Kg	0.25	1	0	96.7	67.2	113			
Toluene	1.053	mg/Kg	0.25	1	0	105	62.1	116			
Ethylbenzene	1.089	mg/Kg	0.25	1	0	109	67.9	127			
Xylenes, Total	3.440	mg/Kg	0.50	3	0.1429	110	60.6	134			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SOUTHWEST GEOSCIENCE | Date Received: 3/25/2011

Work Order Number 1103962 | Received by: LNM

Checklist completed by: Signature | Date 3/25/11 | Sample ID labels checked by: Initials MG

Matrix: | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ✔	No	Not Present	
Custody seals intact on shipping container/cooler?	Yes ✔	No	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes	No	N/A ✔	
Chain of custody present?	Yes ✔	No		
Chain of custody signed when relinquished and received?	Yes ✔	No		
Chain of custody agrees with sample labels?	Yes ✔	No		
Samples in proper container/bottle?	Yes ✔	No		
Sample containers intact?	Yes ✔	No		
Sufficient sample volume for indicated test?	Yes ✔	No		
All samples received within holding time?	Yes ✔	No		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ✔	Yes	No	
Water - Preservation labels on bottle and cap match?	Yes	No	N/A ✔	
Water - pH acceptable upon receipt?	Yes	No	N/A ✔	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	5.6°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding:

Comments:

Corrective Action

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio, TX
Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins NE, Ste D Albuquerque, NM
Contact:
Phone: 505-345-3975
PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5 — 5.6°

Page 1 of 2

Sampler's Name: Jordan Dubuisson
Sampler's Signature: J. Dubuisson

Proj. No.: 0210003
Project Name: S. Carlsbad Compressor Station
No/Type of Containers

ANALYSIS REQUESTED: Chlorides (EPA 300.0) | TPH GRO/DRO (SW-846 #8015M) | BTEX (SW-846 8021B)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	Chlorides	TPH	BTEX	Lab Sample ID (Lab Use Only)
S	3-24-11	0810		X	TS-1	0	6"				1	X	X	X	103962-1
		0815			TS-2										-2
		0820			TS-3										-3
		0825			TS-4										-4
		0830			TS-5										-5
		0835			TS-6										-6
		0840			TS-7										-7
		0850			TS-8										-8
		0855			TS-9										-9
S	3-24-11	0900		X	TS-10	0	6"				1	X	X	X	-10

Turn around time: [X] Normal [ ] 25% Rush [ ] 50% Rush [ ] 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
J. Dubuisson	3-24-11	1470		3-25-11	0900
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Tracking # 8744 7939 5452

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 _____

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio, TX
Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins NE, Ste D Albuquerque, NM
Contact:
Phone: 505-345-3975
PO/SO #:

Sampler's Name: Jordan Dubuisson
Sampler's Signature: J. Dubuisson

Proj. No.: 0210003
Project Name: S. Carlsbad Compressor Stat'n
No/Type of Containers

ANALYSIS REQUESTED: Chlorides (EPA 300.0) | TPH GRO/DRO (SW-846 #8015M) | BTEX (SW-846 8021B)

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5 — 5.6°

Page 2 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	Chlorides	TPH GRO/DRO	BTEX	Lab Sample ID (Lab Use Only)
S	3-24-11	0925		X	TS-11	0	6"				1	X	X	X	1103962-11
		0930			TS-12										-12
		0935			TS-13										-13
		0945			TS-14										-14
		0950			TS-15										-15
		0955			TS-16										-16
		1000			TS-17										-17
		1005			TS-18										-18
		1010			TS-19										-19
S	3-24-11	1015		X	TS-20	0	6"				1	X	X	X	-20

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
J. Dubuisson	3-24-11	1430		3/25/11	930
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Tracking # 8744 7939 5452

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, July 06, 2011

Joseph Martinez
Southwest Geoscience
8829 Tradeway
San Antonio, TX 78217

TEL: (210) 804-9922
FAX (210) 804-9944

RE: S Carlsbad CS

Order No.: 1106995

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory, Inc. received 20 sample(s) on 6/23/2011 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 5, 2011.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc. Date: *06-Jul-11*

CLIENT: Southwest Geoscience
Project: S Carlsbad CS
Lab Order: 1106995

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-1 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:02:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-01	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1800		36	100	mg/Kg	10	6/29/2011 1:16:33 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 1:16:33 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	81	J	30	94	mg/Kg	20	6/29/2011 2:40:58 PM
460-00-4	Surr: BFB	80.6		0	75.2-136	%REC	20	6/29/2011 2:40:58 PM

Qualifiers:

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- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-2 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:05:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-02	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	560		3.4	9.9	mg/Kg	1	6/28/2011 5:10:51 PM
117-84-0	Surr: DNOP	106		0	73.4-123	%REC	1	6/28/2011 5:10:51 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	49	mg/Kg	10	7/1/2011 1:39:14 AM
460-00-4	Surr: BFB	91.3		0	75.2-136	%REC	10	7/1/2011 1:39:14 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-3 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:08:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-03	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	290		7.9	30	mg/Kg	20	6/29/2011 2:36:57 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1400		36	100	mg/Kg	10	6/29/2011 11:02:17 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 11:02:17 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		30	93	mg/Kg	20	7/1/2011 2:09:17 AM
460-00-4	Surr: BFB	89.8		0	75.2-136	%REC	20	7/1/2011 2:09:17 AM

Qualifiers:

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- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-4 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:21:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-04	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	820		3.4	9.9	mg/Kg	1	6/28/2011 6:20:54 PM
117-84-0	Surr: DNOP	106		0	73.4-123	%REC	1	6/28/2011 6:20:54 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		15	47	mg/Kg	10	6/29/2011 4:11:23 PM
460-00-4	Surr: BFB	78.1		0	75.2-136	%REC	10	6/29/2011 4:11:23 PM

Qualifiers:

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- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-5 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:17:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-05	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	14		3.4	9.8	mg/Kg	1	6/28/2011 6:55:50 PM
117-84-0	Surr: DNOP	96.7		0	73.4-123	%REC	1	6/28/2011 6:55:50 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	1.6	J	1.5	4.8	mg/Kg	1	6/29/2011 4:41:30 PM
460-00-4	Surr: BFB	91.6		0	75.2-136	%REC	1	6/29/2011 4:41:30 PM

Qualifiers:

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- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-6 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:14:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-06	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	230		34	97	mg/Kg	10	6/29/2011 1:50:41 AM
117-84-0	Surr: DNOP	79.4		0	73.4-123	%REC	10	6/29/2011 1:50:41 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		7.6	24	mg/Kg	5	6/29/2011 5:11:37 PM
460-00-4	Surr: BFB	90.5		0	75.2-136	%REC	5	6/29/2011 5:11:37 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **RAA**
71-43-2	Benzene	ND		0.018	0.24	mg/Kg	5	6/29/2011 5:11:37 PM
108-88-3	Toluene	ND		0.022	0.24	mg/Kg	5	6/29/2011 5:11:37 PM
100-41-4	Ethylbenzene	ND		0.021	0.24	mg/Kg	5	6/29/2011 5:11:37 PM
1330-20-7	Xylenes, Total	ND		0.065	0.47	mg/Kg	5	6/29/2011 5:11:37 PM
460-00-4	Surr: 4-Bromofluorobenzene	102		0	92-130	%REC	5	6/29/2011 5:11:37 PM

Qualifiers:

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- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-7 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:11:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-07	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	56		3.5	9.9	mg/Kg	1	6/28/2011 7:30:44 PM
117-84-0	Surr: DNOP	101		0	73.4-123	%REC	1	6/28/2011 7:30:44 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.6	5.0	mg/Kg	1	6/29/2011 5:41:48 PM
460-00-4	Surr: BFB	105		0	75.2-136	%REC	1	6/29/2011 5:41:48 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-8 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:24:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-08	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	ND		3.5	10	mg/Kg	1	6/28/2011 9:14:54 PM
117-84-0	Surr: DNOP	102		0	73.4-123	%REC	1	6/28/2011 9:14:54 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.6	5.1	mg/Kg	1	6/29/2011 6:11:54 PM
460-00-4	Surr: BFB	90.6		0	75.2-136	%REC	1	6/29/2011 6:11:54 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-9 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:27:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-09	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	270		35	100	mg/Kg	10	6/29/2011 2:24:47 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 2:24:47 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		8.0	25	mg/Kg	5	6/29/2011 6:42:07 PM
460-00-4	Surr: BFB	87.0		0	75.2-136	%REC	5	6/29/2011 6:42:07 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-10 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 4:30:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-10	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	250		36	100	mg/Kg	10	6/29/2011 4:07:07 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 4:07:07 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		8.4	26	mg/Kg	5	6/29/2011 7:12:13 PM
460-00-4	Surr: BFB	91.1		0	75.2-136	%REC	5	6/29/2011 7:12:13 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-11 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:05:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-11	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	790		34	99	mg/Kg	10	6/29/2011 4:41:16 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 4:41:16 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	50	mg/Kg	10	6/29/2011 7:42:13 PM
460-00-4	Surr: BFB	87.1		0	75.2-136	%REC	10	6/29/2011 7:42:13 PM

Qualifiers:

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- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-12 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:08:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-12	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	440		34	97	mg/Kg	10	6/29/2011 5:15:09 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 5:15:09 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		15	48	mg/Kg	10	6/29/2011 8:12:15 PM
460-00-4	Surr: BFB	92.3		0	75.2-136	%REC	10	6/29/2011 8:12:15 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-13 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:11:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-13	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							**Analyst: JB**
TPH-DRO	Diesel Range Organics (DRO)	290		3.5	10	mg/Kg	1	6/28/2011 9:49:32 PM
117-84-0	Surr: DNOP	117		0	73.4-123	%REC	1	6/28/2011 9:49:32 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			**Analyst: RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		7.7	24	mg/Kg	5	6/29/2011 8:42:28 PM
460-00-4	Surr: BFB	97.9		0	75.2-136	%REC	5	6/29/2011 8:42:28 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			**Analyst: RAA**
71-43-2	Benzene	ND		0.018	0.24	mg/Kg	5	6/29/2011 8:42:28 PM
108-88-3	Toluene	ND		0.022	0.24	mg/Kg	5	6/29/2011 8:42:28 PM
100-41-4	Ethylbenzene	ND		0.022	0.24	mg/Kg	5	6/29/2011 8:42:28 PM
1330-20-7	Xylenes, Total	ND		0.066	0.48	mg/Kg	5	6/29/2011 8:42:28 PM
460-00-4	Surr: 4-Bromofluorobenzene	106		0	92-130	%REC	5	6/29/2011 8:42:28 PM

Qualifiers:

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- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-14 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:14:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-14	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							**Analyst: JB**
TPH-DRO	Diesel Range Organics (DRO)	500		35	100	mg/Kg	10	6/29/2011 5:49:02 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	6/29/2011 5:49:02 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			**Analyst: RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		15	48	mg/Kg	10	6/29/2011 9:12:34 PM
460-00-4	Surr: BFB	82.7		0	75.2-136	%REC	10	6/29/2011 9:12:34 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-15 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:17:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-15	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	430		3.6	10	mg/Kg	1	6/28/2011 10:24:24 PM
117-84-0	Surr: DNOP	110		0	73.4-123	%REC	1	6/28/2011 10:24:24 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	17	J	7.3	23	mg/Kg	5	6/30/2011 1:42:47 AM
460-00-4	Surr: BFB	86.2		0	75.2-136	%REC	5	6/30/2011 1:42:47 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanlitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-16 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:20:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-16	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	73		3.4	9.8	mg/Kg	1	6/28/2011 10:59:00 PM
117-84-0	Surr: DNOP	105		0	73.4-123	%REC	1	6/28/2011 10:59:00 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.5	4.6	mg/Kg	1	6/30/2011 2:12:49 AM
460-00-4	Surr: BFB	95.3		0	75.2-136	%REC	1	6/30/2011 2:12:49 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-17 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:23:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-17	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	99		3.5	10	mg/Kg	1	6/29/2011 10:27:52 AM
117-84-0	Surr: DNOP	98.8		0	73.4-123	%REC	1	6/29/2011 10:27:52 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	3.3	J	1.5	4.7	mg/Kg	1	6/30/2011 2:42:47 AM
460-00-4	Surr: BFB	105		0	75.2-136	%REC	1	6/30/2011 2:42:47 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-18 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:26:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-18	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: JB
TPH-DRO	Diesel Range Organics (DRO)	63		3.4	9.7	mg/Kg	1	6/28/2011 11:33:23 PM
117-84-0	Surr: DNOP	105		0	73.4-123	%REC	1	6/28/2011 11:33:23 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: RAA
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.6	5.1	mg/Kg	1	6/30/2011 3:12:54 AM
460-00-4	Surr: BFB	82.7		0	75.2-136	%REC	1	6/30/2011 3:12:54 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-19 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:29:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-19	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	790		3.4	9.8	mg/Kg	1	6/29/2011 12:07:46 AM
117-84-0	Surr: DNOP	115		0	73.4-123	%REC	1	6/29/2011 12:07:46 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	49	mg/Kg	10	6/30/2011 3:42:55 AM
460-00-4	Surr: BFB	89.6		0	75.2-136	%REC	10	6/30/2011 3:42:55 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jul-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-20 (R)
Lab Order:	1106995	**Collection Date:**	6/20/2011 3:29:00 PM
Project:	S Carlsbad CS	**Date Received:**	6/23/2011
Lab ID:	1106995-20	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							**Analyst: JB**
TPH-DRO	Diesel Range Organics (DRO)	72		3.5	10	mg/Kg	1	6/29/2011 12:42:10 AM
117-84-0	Surr: DNOP	100		0	73.4-123	%REC	1	6/29/2011 12:42:10 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			**Analyst: RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.6	5.1	mg/Kg	1	6/30/2011 4:12:54 AM
460-00-4	Surr: BFB	94.9		0	75.2-136	%REC	1	6/30/2011 4:12:54 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S Carlsbad CS **Work Order:** 1106995

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-27417		*MBLK*				**Batch ID: 27417**		**Analysis Date: 6/29/2011 12:00:12 PM**			
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-27417		*LCS*				**Batch ID: 27417**		**Analysis Date: 6/29/2011 12:17:37 PM**			
Chloride	14.46	mg/Kg	1.5	15	0	96.4	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-27380		*MBLK*				**Batch ID: 27380**		**Analysis Date: 6/28/2011 3:26:09 PM**			
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-27380		*LCS*				**Batch ID: 27380**		**Analysis Date: 6/28/2011 4:00:50 PM**			
Diesel Range Organics (DRO)	54.24	mg/Kg	10	50	0	108	66.7	119			
Sample ID: LCSD-27380		*LCSD*				**Batch ID: 27380**		**Analysis Date: 6/28/2011 4:35:47 PM**			
Diesel Range Organics (DRO)	54.58	mg/Kg	10	50	0	109	66.7	119	0.623	18.9	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-27379		*MBLK*				**Batch ID: 27379**		**Analysis Date: 6/29/2011 2:14:40 AM**			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-27379		*LCS*				**Batch ID: 27379**		**Analysis Date: 6/29/2011 1:14:28 AM**			
Gasoline Range Organics (GRO)	30.45	mg/Kg	5.0	25	0	122	88.8	124			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-27379		*MBLK*				**Batch ID: 27379**		**Analysis Date: 6/29/2011 2:14:40 AM**			
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-27379		*LCS*				**Batch ID: 27379**		**Analysis Date: 6/30/2011 5:43:17 AM**			
Benzene	1.035	mg/Kg	0.050	1	0	104	83.3	107			
Toluene	0.9420	mg/Kg	0.050	1	0	94.2	74.3	115			
Ethylbenzene	1.020	mg/Kg	0.050	1	0	102	80.9	122			
Xylenes, Total	3.195	mg/Kg	0.10	3	0	107	85.2	123			
Sample ID: LCSD-27379		*LCSD*				**Batch ID: 27379**		**Analysis Date: 6/30/2011 6:13:13 AM**			
Benzene	1.045	mg/Kg	0.050	1	0	104	83.3	107	0.885	15.6	
Toluene	0.9512	mg/Kg	0.050	1	0	95.1	74.3	115	0.972	19.2	
Ethylbenzene	1.018	mg/Kg	0.050	1	0	102	80.9	122	0.235	19.5	
Xylenes, Total	3.175	mg/Kg	0.10	3	0	106	85.2	123	0.628	17	

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martinez

Laboratory: H EAL
Address: 4901 Hawkins, STE D, Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5 — 1.0°

Page 1 of 2

Sampler's Name: Joseph W. Martinez
Sampler's Signature: Joseph W. Martinez

Proj. No.: 07.10093
Project Name: S. Carlsbad CS

ANALYSIS REQUESTED: TPH GRO/DRO (SW-846 #8015M); BTEX (SW-846 # 8021B); Chlorides (EPA 300.0)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt	250 ml	P/O											Lab Sample ID (Lab Use Only)
S	6/20/11	1602		✓	TS-1 (R)	0.5'	0.75'				1	✓										1106995-1
		1605			TS-2 (R)							✓										-2
		1608			TS-3 (R)							✓		✓								-3
		1621			TS-4 (R)							✓										-4
		1617			TS-5 (R)							✓										-5
		1614			TS-6 (R)							✓	✓									-6
		1611			TS-7 (R)							✓										-7
		1624			TS-8 (R)							✓										-8
		1627			TS-9 (R)							✓										-9
		1630			TS-10 (R)							✓										-10

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Joseph W Martinez	6/20/11		Fed Ex		
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				06/23/11	0930
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:

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

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio

Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins, ste D
Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

ANALYSIS REQUESTED: TPH GRO/DRO (SW-846 # 8015M); BTEX (SW-846 # 8021B)

Lab use only
Due Date:
Temp. of coolers when received (C°): 1 2 3 4 5
Page 2 of 2

1.0°

Sampler's Name: Joseph W. Martinez
Sampler's Signature: Joseph W. Martinez

Proj. No.: 0210003
Project Name: S. Carlsbad CS

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO/DRO	BTEX	Lab Sample ID (Lab Use Only)
S	6/20/11	1505		✓	TS-11 (R)	0.5'	0.75'				1	✓		1106995-11
↓	↓	1508		↓	TS-12 (R)	↓	↓				↓	✓		-12
		1511			TS-13 (R)							✓	✓	-13
		1514			TS-14 (R)							✓		-14
		1517			TS-15 (R)							✓		-15
		1520			TS-16 (R)							✓		-16
		1523			TS-17 (R)							✓		-17
		1526			TS-18 (R)							✓		-18
		1529			TS-19 (R)							✓		-19
↓	↓	1532		↓	TS-20 (R)	↓	↓				↓	✓		-20

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Joseph W. Martinez	6/22/11		FedEx		
			[signature]	6/23/11	0930

NOTES:

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, September 12, 2011

Joseph Martinez
Southwest Geoscience
8829 Tradeway
San Antonio, TX 78217

TEL: (210) 804-9922
FAX (210) 804-9944

RE: S. Carlsbad CS

Order No.: 1108B03

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 8/27/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-1 (R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 4:15:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-01	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							**Analyst: JB**
TPH-DRO	Diesel Range Organics (DRO)	570		3.6	10	mg/Kg	1	8/31/2011 5:24:59 AM
117-84-0	Surr: DNOP	121		0	73.4-123	%REC	1	8/31/2011 5:24:59 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			**Analyst: RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	50	mg/Kg	10	8/30/2011 4:12:33 PM
460-00-4	Surr: BFB	93.4		0	75.2-136	%REC	10	8/30/2011 4:12:33 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-2(R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 4:10:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-02	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	470		35	99	mg/Kg	10	8/31/2011 8:10:22 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	8/31/2011 8:10:22 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	50	mg/Kg	10	8/30/2011 4:41:25 PM
460-00-4	Surr: BFB	93.7		0	75.2-136	%REC	10	8/30/2011 4:41:25 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-3(R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 4:05:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-03	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	1200		36	100	mg/Kg	10	8/31/2011 8:44:31 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	8/31/2011 8:44:31 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		16	50	mg/Kg	10	8/30/2011 5:10:18 PM
460-00-4	Surr: BFB	94.4		0	75.2-136	%REC	10	8/30/2011 5:10:18 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-4(R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 4:20:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-04	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	250		3.5	10	mg/Kg	1	8/31/2011 5:59:21 AM
117-84-0	Surr: DNOP	123		0	73.4-123	%REC	1	8/31/2011 5:59:21 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		7.5	23	mg/Kg	5	8/30/2011 5:39:16 PM
460-00-4	Surr: BFB	93.1		0	75.2-136	%REC	5	8/30/2011 5:39:16 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-11(R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 3:45:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-05	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	350		3.6	10	mg/Kg	1	8/31/2011 7:36:30 AM
117-84-0	Surr: DNOP	120		0	73.4-123	%REC	1	8/31/2011 7:36:30 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.5	4.8	mg/Kg	1	8/30/2011 6:08:05 PM
460-00-4	Surr: BFB	93.7		0	75.2-136	%REC	1	8/30/2011 6:08:05 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-19(R2)
Lab Order:	1108B03	**Collection Date:**	8/24/2011 3:50:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-06	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	330		34	98	mg/Kg	10	8/31/2011 9:18:46 AM
117-84-0	Surr: DNOP	0	S	0	73.4-123	%REC	10	8/31/2011 9:18:46 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		7.5	23	mg/Kg	5	8/30/2011 6:37:05 PM
460-00-4	Surr: BFB	94.2		0	75.2-136	%REC	5	8/30/2011 6:37:05 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	VZ-1
Lab Order:	1108B03	**Collection Date:**	8/24/2011 3:58:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-07	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	290		9.8	30	mg/Kg	20	9/8/2011 4:10:35 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	55		3.5	10	mg/Kg	1	9/8/2011 11:44:33 AM
117-84-0	Surr: DNOP	110		0	73.4-123	%REC	1	9/8/2011 11:44:33 AM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.5	4.7	mg/Kg	1	9/7/2011 4:15:57 PM
460-00-4	Surr: BFB	94.3		0	75.2-136	%REC	1	9/7/2011 4:15:57 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **RAA**
71-43-2	Benzene	ND		0.0035	0.047	mg/Kg	1	9/7/2011 4:15:57 PM
108-88-3	Toluene	ND		0.0043	0.047	mg/Kg	1	9/7/2011 4:15:57 PM
100-41-4	Ethylbenzene	ND		0.0043	0.047	mg/Kg	1	9/7/2011 4:15:57 PM
1330-20-7	Xylenes, Total	ND		0.013	0.095	mg/Kg	1	9/7/2011 4:15:57 PM
460-00-4	Surr: 4-Bromofluorobenzene	96.5		0	80-120	%REC	1	9/7/2011 4:15:57 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Sep-11*

CLIENT:	Southwest Geoscience	**Client Sample ID:**	VZ-2
Lab Order:	1108B03	**Collection Date:**	8/24/2011 4:33:00 PM
Project:	S. Carlsbad CS	**Date Received:**	8/27/2011
Lab ID:	1108B03-08	**Matrix:**	SOIL

Analyses		Result	Qual	MDL	PQL	Units	DF	Date Analyzed
CAS #	**EPA METHOD 300.0: ANIONS**							Analyst: **SRM**
16887-00-6	Chloride	510		9.8	30	mg/Kg	20	9/9/2011 9:27:20 PM
CAS #	**EPA METHOD 8015B: DIESEL RANGE ORG**							Analyst: **JB**
TPH-DRO	Diesel Range Organics (DRO)	4.8	J	3.4	9.8	mg/Kg	1	9/8/2011 12:29:22 PM
117-84-0	Surr: DNOP	117		0	73.4-123	%REC	1	9/8/2011 12:29:22 PM
CAS #	**EPA METHOD 8015B: GASOLINE RANGE**				**(SW5035)**			Analyst: **RAA**
TPH-GRO	Gasoline Range Organics (GRO)	ND		1.6	4.9	mg/Kg	1	9/7/2011 4:44:50 PM
460-00-4	Surr: BFB	94.0		0	75.2-136	%REC	1	9/7/2011 4:44:50 PM
CAS #	**EPA METHOD 8021B: VOLATILES**				**(SW5035)**			Analyst: **RAA**
71-43-2	Benzene	ND		0.0036	0.049	mg/Kg	1	9/7/2011 4:44:50 PM
108-88-3	Toluene	ND		0.0045	0.049	mg/Kg	1	9/7/2011 4:44:50 PM
100-41-4	Ethylbenzene	ND		0.0044	0.049	mg/Kg	1	9/7/2011 4:44:50 PM
1330-20-7	Xylenes, Total	ND		0.013	0.098	mg/Kg	1	9/7/2011 4:44:50 PM
460-00-4	Surr: 4-Bromofluorobenzene	95.4		0	80-120	%REC	1	9/7/2011 4:44:50 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S. Carlsbad CS **Work Order:** 1108B03

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-28356		*MBLK*				Batch ID:	**28356**	Analysis Date:		9/8/2011 1:33:52 PM	
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-28356		*LCS*				Batch ID:	**28356**	Analysis Date:		9/8/2011 1:51:17 PM	
Chloride	14.04	mg/Kg	1.5	15	0	93.6	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-28229		*MBLK*				Batch ID:	**28229**	Analysis Date:		8/30/2011 7:26:35 AM	
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Sample ID: MB-28334		*MBLK*				Batch ID:	**28334**	Analysis Date:		9/8/2011 9:27:39 AM	
Diesel Range Organics (DRO)	3.507	mg/Kg	10								J
Sample ID: LCS-28229		*LCS*				Batch ID:	**28229**	Analysis Date:		8/30/2011 8:00:43 AM	
Diesel Range Organics (DRO)	49.91	mg/Kg	10	50	0	99.8	66.7	119			
Sample ID: LCS-28334		*LCS*				Batch ID:	**28334**	Analysis Date:		9/8/2011 10:01:46 AM	
Diesel Range Organics (DRO)	47.52	mg/Kg	10	50	3.507	88.0	66.7	119			
Sample ID: LCSD-28229		*LCSD*				Batch ID:	**28229**	Analysis Date:		8/30/2011 8:35:04 AM	
Diesel Range Organics (DRO)	45.86	mg/Kg	10	50	0	91.7	66.7	119	8.48	18.9	
Sample ID: LCSD-28334		*LCSD*				Batch ID:	**28334**	Analysis Date:		9/8/2011 10:36:11 AM	
Diesel Range Organics (DRO)	44.83	mg/Kg	10	50	3.507	82.6	66.7	119	5.82	18.9	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-28242		*MBLK*				Batch ID:	**28242**	Analysis Date:		8/30/2011 1:19:05 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: MB-28320		*MBLK*				Batch ID:	**28320**	Analysis Date:		9/7/2011 1:21:31 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-28242		*LCS*				Batch ID:	**28242**	Analysis Date:		8/30/2011 12:21:19 PM	
Gasoline Range Organics (GRO)	27.11	mg/Kg	5.0	25	0	108	86.4	132			
Sample ID: LCS-28320		*LCS*				Batch ID:	**28320**	Analysis Date:		9/7/2011 12:23:44 PM	
Gasoline Range Organics (GRO)	28.99	mg/Kg	5.0	25	0	116	86.4	132			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S. Carlsbad CS **Work Order:** 1108B03

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-28242		*MBLK*				**Batch ID: 28242**		**Analysis Date:**	8/30/2011 1:19:05 PM		
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10								
Benzene	0.01800	mg/Kg	0.050								J
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: MB-28320		*MBLK*				**Batch ID: 28320**		**Analysis Date:**	9/7/2011 1:21:31 PM		
Benzene	0.01481	mg/Kg	0.050								J
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-28242		*LCS*				**Batch ID: 28242**		**Analysis Date:**	8/30/2011 12:50:14 PM		
Methyl tert-butyl ether (MTBE)	0.7279	mg/Kg	0.10	1	0	72.8	65.5	229			
Benzene	0.9453	mg/Kg	0.050	1	0.018	92.7	83.3	107			
Toluene	0.9752	mg/Kg	0.050	1	0	97.5	74.3	115			
Ethylbenzene	0.9760	mg/Kg	0.050	1	0	97.6	80.9	122			
Xylenes, Total	2.988	mg/Kg	0.10	3	0	99.6	85.2	123			
Sample ID: LCS-28320		*LCS*				**Batch ID: 28320**		**Analysis Date:**	9/7/2011 12:52:38 PM		
Benzene	0.9209	mg/Kg	0.050	1	0.0148	90.6	83.3	107			
Toluene	0.9500	mg/Kg	0.050	1	0	95.0	74.3	115			
Ethylbenzene	0.9600	mg/Kg	0.050	1	0	96.0	80.9	122			
Xylenes, Total	2.926	mg/Kg	0.10	3	0	97.5	85.2	123			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SOUTHWEST GEOSCIENCE | Date Received: 8/27/2011

Work Order Number 1108B03 | Received by: AMF

Checklist completed by: Signature 8/27/11 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: fedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?		*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martiner

Laboratory: HEAL
Address: 4901 Hawkins, Ste D
Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Page 1 of 1

Sampler's Name: Joseph W Martiner
Sampler's Signature: Joseph W. Martiner

Proj. No.: 021D003
Project Name: S. Carlsbad CS

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH (SW-846 #8015M)	BTEX (SW-846 #8021B) Gas	Hold	Lab Sample ID (Lab Use Only)
S	~~8/24/11~~ ~~(8:29:11)~~ 8/30/11	KMS 1615		✓	TS-1 (R2)	0.5'	0.75'				1	✓			1108B03-1
S		1610			TS-2 (R2)							✓			2
S		1605			TS-3 (R2)							✓			3
S		1620			TS-4 (R2)							✓			4
S		1545			TS-11 (R2)							✓			5
S		1550			TS-19 (R2)							✓			6
S		1558			VZ-1	2'	2.5'					✓		✓	7
S		1633			VZ-2	1.5	2'					✓		✓	8

FEDEX

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
Joseph W Martiner	~~8/25/11~~ 8/25/11	1900	FedEx		
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
				8/27/11	11:00
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time

NOTES:
New Mexico
per Joseph Analyze the hold samples for 8015 GRO 8021, Cl

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 _____

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, November 14, 2011

Joseph Martinez
Southwest Geoscience
8829 Tradeway
San Antonio, TX 78217

TEL: (210) 804-9922
FAX (210) 804-9944

RE: S. Carlsbad CS

Order No.: 1111342

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 11/5/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *14-Nov-11*
Analytical Report

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-1 (R3)
Lab Order:	1111342	**Collection Date:**	11/3/2011 3:00:00 PM
Project:	S. Carlsbad CS	**Date Received:**	11/5/2011
Lab ID:	1111342-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	440	100		mg/Kg	10	11/8/2011 8:14:11 PM
Surr: DNOP	0	73.4-123	S	%REC	10	11/8/2011 8:14:11 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	9.8		mg/Kg	2	11/9/2011 4:40:28 PM
Surr: BFB	99.6	75.2-136		%REC	2	11/9/2011 4:40:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	120	30		mg/Kg	20	11/10/2011 3:02:28 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *14-Nov-11*

Analytical Report

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-3 (R3)
Lab Order:	1111342	**Collection Date:**	11/3/2011 3:10:00 PM
Project:	S. Carlsbad CS	**Date Received:**	11/5/2011
Lab ID:	1111342-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	1200	100		mg/Kg	10	11/9/2011 9:19:41 AM
Surr: DNOP	0	73.4-123	S	%REC	10	11/9/2011 9:19:41 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	11/9/2011 5:09:17 PM
Surr: BFB	100	75.2-136		%REC	5	11/9/2011 5:09:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	120	30		mg/Kg	20	11/10/2011 3:37:17 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *14-Nov-11*
Analytical Report

CLIENT:	Southwest Geoscience	**Client Sample ID:**	VZ-2 (R)
Lab Order:	1111342	**Collection Date:**	11/3/2011 3:25:00 PM
Project:	S. Carlsbad CS	**Date Received:**	11/5/2011
Lab ID:	1111342-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	34	10		mg/Kg	1	11/8/2011 5:21:50 PM
Surr: DNOP	114	73.4-123		%REC	1	11/8/2011 5:21:50 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2011 5:38:07 PM
Surr: BFB	96.5	75.2-136		%REC	1	11/9/2011 5:38:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	100	30		mg/Kg	20	11/14/2011 12:19:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S. Carlsbad CS **Work Order:** 1111342

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-29255		*MBLK*				Batch ID:	**29255**	Analysis Date:	11/8/2011 8:04:17 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-29255		*LCS*				Batch ID:	**29255**	Analysis Date:	11/8/2011 8:38:54 AM		
Diesel Range Organics (DRO)	52.07	mg/Kg	10	50	0	104	66.7	119			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-29254		*MBLK*				Batch ID:	**29254**	Analysis Date:	11/8/2011 1:06:47 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-29254		*LCS*				Batch ID:	**29254**	Analysis Date:	11/8/2011 12:08:59 PM		
Gasoline Range Organics (GRO)	29.76	mg/Kg	5.0	25	0	119	86.4	132			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SOUTHWEST GEOSCIENCE | Date Received: 11/5/2011

Work Order Number 1111342 | Received by: AMF

Checklist completed by: Signature 11/8/11 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	<2 >12 unless noted below.
Container/Temp Blank temperature?	3.0°	<6° C Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins, Ste D
Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

Sampler's Name: Aaron Bentley
Sampler's Signature: Aaron Bentley

Proj. No.: 0210003
Project Name: S. Carlsbad CS

ANALYSIS REQUESTED: Chlorides (EPA Method 300.0), TPH (DRO and GRO)

Lab use only
Due Date:
Temp. of coolers when received (C°): 3°C
1 | 2 | 3 | 4 | 5
Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	P/O	Chlorides	TPH	Lab Sample ID (Lab Use Only)
S	11/3/11	1500		✓	TS-1 (R3)	0'	½'	0.5 oz				✓	✓	1111342-1
S	11/3/11	1510		✓	TS-3 (R3)	0'	½'	0.5 oz				✓	✓	2
S	11/3/11	1525		✓	VZ-2 (R)	2'	3'					✓		3

No Further Entry AB

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Aaron Bentley	11/4/11	1315		11/4/11	1316
	11/4/11	1658	FedEx		
				11/5/11	11:00

NOTES: New Mexico 3°C

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, December 13, 2011

Joseph Martinez
Southwest Geoscience
8829 Tradeway
San Antonio, TX 78217

TEL: (210) 804-9922
FAX (210) 804-9944

RE: S Carlsbad CS

Order No.: 1112379

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 12/8/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc. **Date:** *13-Dec-11*

CLIENT:	Southwest Geoscience
Project:	S Carlsbad CS
Lab Order:	1112379

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO_S, SAMPLE 1112379-01A: DNOP not recovered due to dilution

Hall Environmental Analysis Laboratory, Inc.

Date: *13-Dec-11*
Analytical Report

CLIENT:	Southwest Geoscience	**Client Sample ID:**	TS-3 (R4)
Lab Order:	1112379	**Collection Date:**	12/6/2011 12:45:00 PM
Project:	S Carlsbad CS	**Date Received:**	12/8/2011
Lab ID:	1112379-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	270	98		mg/Kg	10	12/11/2011 3:40:40 PM
Surr: DNOP	0	77.4-131	S	%REC	10	12/11/2011 3:40:40 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/12/2011 2:22:22 PM
Surr: BFB	111	69.7-121		%REC	1	12/12/2011 2:22:22 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Southwest Geoscience
Project: S Carlsbad CS **Work Order:** 1112379

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-29685		*MBLK*				Batch ID: **29685**		Analysis Date: 12/10/2011 10:29:02 PM			
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-29685		*LCS*				Batch ID: **29685**		Analysis Date: 12/10/2011 11:02:48 PM			
Diesel Range Organics (DRO)	47.66	mg/Kg	10	50	0	95.3	62.7	139			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1112379-01AMSD		*MSD*				Batch ID: **29680**		Analysis Date: 12/12/2011 11:58:40 PM			
Gasoline Range Organics (GRO)	28.41	mg/Kg	4.8	24.02	0	118	72.4	149	0.495	19.2	
Sample ID: MB-29680		*MBLK*				Batch ID: **29680**		Analysis Date: 12/12/2011 11:49:58 AM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-29680		*LCS*				Batch ID: **29680**		Analysis Date: 12/12/2011 11:19:43 AM			
Gasoline Range Organics (GRO)	29.03	mg/Kg	5.0	25	0	116	86.4	132			
Sample ID: 1112379-01AMS		*MS*				Batch ID: **29680**		Analysis Date: 12/12/2011 11:28:26 PM			
Gasoline Range Organics (GRO)	28.27	mg/Kg	4.8	23.83	0	119	72.4	149			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SOUTHWEST GEOSCIENCE | Date Received: 12/8/2011

Work Order Number 1112379 | Received by: LNM

Checklist completed by: Signature 12/8/11 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3.8°	<6° C Acceptable		

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio

Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins St. D
Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

Lab use only
Due Date:

Temp. of coolers when received (C°): 3,8

1	2	3	4	5

Page 1 of 1

Sampler's Name: Aaron Bentley
Sampler's Signature: Aaron Bentley

Proj. No.: 021008
Project Name: S. Carlsbad CS

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	P/O	ANALYSIS REQUESTED: TPH (DRO and GRO)	Lab Sample ID (Lab Use Only)
S	12/6/11	1245		/	TS-3 (R4)	0.5'	1'				1	/	1112379-1

No Further Entry AB

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Aaron Bentley	12/7/11	830		12/8/11	1100
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: New Mexico

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 _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 03, 2012

Joseph Martinez
Southwest Geoscience
8829 Tradeway Street
San Antonio, TX 78217
TEL: (210) 804-9922
FAX (210) 804-9944

RE: S Carlsbad CS OrderNo.: 1203889

Dear Joseph Martinez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/23/2012 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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1203889**
Date Reported: **4/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Southwest Geoscience
Project: S Carlsbad CS
Lab ID: 1203889-001 **Matrix:** SOIL

Client Sample ID: VZ-1
Collection Date: 3/22/2012 9:50:00 AM
Received Date: 3/23/2012 9:25:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS							Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.40000	13		mg/Kg-d	1	3/25/2012 7:33:29 PM
Surr: DNOP	92.3	0.00000	77.4-131		%REC	1	3/25/2012 7:33:29 PM
EPA METHOD 8015B: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	1.40000	6.1		mg/Kg-d	1	3/29/2012 3:50:54 AM
Surr: BFB	90.0	0.00000	69.7-121		%REC	1	3/29/2012 3:50:54 AM
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.00470	0.061		mg/Kg-d	1	3/29/2012 3:50:54 AM
Toluene	ND	0.00810	0.061		mg/Kg-d	1	3/29/2012 3:50:54 AM
Ethylbenzene	ND	0.00390	0.061		mg/Kg-d	1	3/29/2012 3:50:54 AM
Xylenes, Total	ND	0.01600	0.12		mg/Kg-d	1	3/29/2012 3:50:54 AM
Surr: 4-Bromofluorobenzene	86.9	0.00000	80-120		%REC	1	3/29/2012 3:50:54 AM
PERCENT MOISTURE							Analyst: **NSB**
Percent Moisture	20	1.00000	1.0		wt%	1	3/29/2012
EPA METHOD 300.0: ANIONS							Analyst: **BRM**
Chloride	460	6.20000	37		mg/Kg-d	20	3/26/2012 3:08:25 PM

Qualifiers:

*/X	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
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
Project: S Carlsbad CS
Lab ID: 1203889-002 **Matrix:** SOIL

Client Sample ID: VZ-2
Collection Date: 3/22/2012 10:10:00 AM
Received Date: 3/23/2012 9:25:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS							Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.40000	13		mg/Kg-d	1	3/25/2012 7:55:16 PM
Surr: DNOP	91.4	0.00000	77.4-131		%REC	1	3/25/2012 7:55:16 PM
EPA METHOD 8015B: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	1.30000	6.0		mg/Kg-d	1	3/29/2012 4:48:21 AM
Surr: BFB	91.5	0.00000	69.7-121		%REC	1	3/29/2012 4:48:21 AM
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.00460	0.060		mg/Kg-d	1	3/29/2012 4:48:21 AM
Toluene	ND	0.00790	0.060		mg/Kg-d	1	3/29/2012 4:48:21 AM
Ethylbenzene	ND	0.00380	0.060		mg/Kg-d	1	3/29/2012 4:48:21 AM
Xylenes, Total	ND	0.01600	0.12		mg/Kg-d	1	3/29/2012 4:48:21 AM
Surr: 4-Bromofluorobenzene	89.2	0.00000	80-120		%REC	1	3/29/2012 4:48:21 AM
PERCENT MOISTURE							Analyst: **NSB**
Percent Moisture	21	1.00000	1.0		wt%	1	3/29/2012
EPA METHOD 300.0: ANIONS							Analyst: **BRM**
Chloride	1,300	6.30000	38		mg/Kg-d	20	3/26/2012 3:33:14 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203889**

03-Apr-12

Client: Southwest Geoscience

Project: S Carlsbad CS

Sample ID	MB-1232	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48046	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-1232	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48047	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID	1203906-002BMS	SampType:	MS		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48057	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	910	30	15.00	699.1	1,390	74.6	118			S

Sample ID	1203906-002BMSD	SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48058	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	930	30	15.00	699.1	1,560	74.6	118	2.83	20	S

Sample ID	1203754-001AMS	SampType:	MS		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48085	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	15	15.00	4.302	80.1	74.6	118			

Sample ID	1203754-001AMSD	SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC	Batch ID:	1232		RunNo:	1705				
Prep Date:	3/26/2012	Analysis Date:	3/26/2012		SeqNo:	48091	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	15	15.00	4.302	80.3	74.6	118	0.253	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203889**

03-Apr-12

Client: Southwest Geoscience

Project: S Carlsbad CS

Sample ID **MB-1227**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1227**	RunNo: **1666**
Prep Date: **3/24/2012**	Analysis Date: **3/25/2012**	SeqNo: **47119** 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	9.2		10.00		91.9	77.4	131			

Sample ID **LCS-1227**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1227**	RunNo: **1666**
Prep Date: **3/24/2012**	Analysis Date: **3/25/2012**	SeqNo: **47120** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	62.7	139			
Surr: DNOP	4.3		5.000		85.7	77.4	131			

Sample ID **1203865-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **1227**	RunNo: **1666**
Prep Date: **3/24/2012**	Analysis Date: **3/25/2012**	SeqNo: **47122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	83	9.9	49.26	36.48	94.5	57.2	146			
Surr: DNOP	4.9		4.926		99.6	77.4	131			

Sample ID **1203865-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **1227**	RunNo: **1666**
Prep Date: **3/24/2012**	Analysis Date: **3/25/2012**	SeqNo: **47123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	9.9	49.50	36.48	68.6	57.2	146	16.4	26.7	
Surr: DNOP	4.9		4.950		99.1	77.4	131	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203889**

03-Apr-12

Client: Southwest Geoscience

Project: S Carlsbad CS

Sample ID **MB-1222**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **1222**	RunNo: **1770**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49724** 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	920		1,000		92.1	69.7	121			

Sample ID **LCS-1222**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **1222**	RunNo: **1770**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49725** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	98.5	133			
Surr: BFB	1,100		1,000		112	69.7	121			

Sample ID **1203871-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1222**	RunNo: **1770**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49744** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.41	0	101	85.4	147			
Surr: BFB	940		976.6		96.1	69.7	121			

Sample ID **1203871-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1222**	RunNo: **1770**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49745** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.72	0	101	85.4	147	3.60	19.2	
Surr: BFB	930		948.8		97.6	69.7	121	0	0	

Sample ID **1203961-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1266**	RunNo: **1805**
Prep Date: **3/27/2012**	Analysis Date: **3/29/2012**	SeqNo: **50508** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1,000		993.0		100	69.7	121			

Sample ID **1203961-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1266**	RunNo: **1805**
Prep Date: **3/27/2012**	Analysis Date: **3/29/2012**	SeqNo: **50509** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		947.9		101	69.7	121	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203889**

03-Apr-12

Client: Southwest Geoscience
Project: S Carlsbad CS

Sample ID **MB-1222**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **1222**	RunNo: **1771**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49749** 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	0.0068	0.050								J
Xylenes, Total	0.020	0.10								J
Surr: 4-Bromofluorobenzene	0.91		1.000		91.4	80	120			

Sample ID **LCS-1222**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **1222**	RunNo: **1771**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49750** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.4	83.3	107			
Toluene	0.94	0.050	1.000	0	94.0	74.3	115			
Ethylbenzene	0.93	0.050	1.000	0	93.5	80.9	122			
Xylenes, Total	2.8	0.10	3.000	0	93.6	85.2	123			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.0	80	120			

Sample ID **1203865-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **1222**	RunNo: **1771**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49763** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.092	0.9242	0.6709	71.7	67.2	113			
Toluene	2.6	0.092	0.9242	1.664	98.6	62.1	116			
Ethylbenzene	1.4	0.092	0.9242	0.6888	81.6	67.9	127			
Xylenes, Total	9.8	0.18	2.773	7.386	88.3	60.6	134			
Surr: 4-Bromofluorobenzene	2.0		1.848		109	80	120			

Sample ID **1203865-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **1222**	RunNo: **1771**
Prep Date: **3/23/2012**	Analysis Date: **3/28/2012**	SeqNo: **49764** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.7	0.092	0.9208	0.6709	111	67.2	113	23.9	14.3	R
Toluene	3.7	0.092	0.9208	1.664	222	62.1	116	36.0	15.9	SR
Ethylbenzene	1.9	0.092	0.9208	0.6888	134	67.9	127	28.5	14.4	SR
Xylenes, Total	14	0.18	2.762	7.386	234	60.6	134	33.8	12.6	SR
Surr: 4-Bromofluorobenzene	2.2		1.842		117	80	120	0	0	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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 San Antonio Work Order Number: 1203889

Received by/date: AG 03/23/12

Logged By: Anne Thorne 3/23/2012 9:25:00 AM

Completed By: Anne Thorne 3/23/2012

Reviewed By: AT 03/23/12

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? FedEx

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. 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)

17. 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: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			

CHAIN OF CUSTODY RECORD

Southwest GEOSCIENCE
Environmental & Hydrogeologic Consultants

Office Location: San Antonio
Project Manager: J. Martinez

Laboratory: HEAL
Address: 4901 Hawkins, Ste D
Albuquerque, NM 87109
Contact: Andy Freeman
Phone: 505-345-3975
PO/SO #:

Lab use only
Due Date:
Temp. of coolers when received (C°): 1.2
1 | 2 | 3 | 4 | 5
Page 1 of 1

Sampler's Name: Joseph W Martinez
Sampler's Signature: Joseph W. Martinez

Proj. No.: 0210003
Project Name: S. Carlsbad GS

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	P/O	TPH GRO/DRO (SW-846 #8015M)	BTEX (SW-846 #8021B)	Chlorides EPA 300.0	Lab Sample ID (Lab Use Only)
S	3.22.12	0950		✓	VZ-1	3'	—				2	✓	✓	✓	1203889-001
S	3.22.12	1010		✓	VZ-2	3'	—				2	✓	✓	✓	-002

NFF

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Joseph W Martinez	3.22.12	1130	Fed Ex		
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				03/23/12	0925
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
New Mexico
Report in dry wt w/j flags

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