



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

ENTERPRISE PRODUCTS OPERATING LLC

December 12, 2011

Return Receipt Requested  
7010 1870 0001 2945 4412

Mr. Cordell TeCube, Director  
Environmental Protection Office  
Jicarilla Apache Nation  
P.O. Box 507  
Dulce, NM 87528-0507

**RE: Enterprise Field Services, LLC - Lindrith Compressor Station  
Supplemental Environmental Site Investigation & Corrective Action Work Plan  
NE/4, SE/4, Section 18, Township 24, Range 5 West, NMPM  
NM Oil Conservation Division GW Discharge Permit No. GW-209  
Rio Arriba County, New Mexico**

Dear Mr. TeCube:

Enterprise Field Services, LLC (Enterprise) is submitting the enclosed *Supplemental Environmental Site Investigation & Corrective Action Work Plan*, dated November 30, 2011, for the facility referenced above. This work plan provides the results of a supplemental site investigation conducted during August, 2011 to complete delineation of soil and groundwater affected by historical facility operations. This supplemental investigation was performed in accordance with the July 27, 2011 *Supplemental Site Investigation Work Plan*, as submitted in correspondence to the Jicarilla Apache Nation Environmental Protection Office (JANEPO) dated July 28, 2011.

The enclosed report also provides recommendations for remedial actions in the vicinity of the former condensate storage tanks at this facility. The proposed remedial actions will utilize a mobile dual-phase extraction (MDPE) unit to recover non-aqueous phase liquids (NAPL) and vapor phase hydrocarbons from this area. This initial remediation effort will be conducted as a "pilot study" to determine the effectiveness of the system. During an estimated three month testing period, the effectiveness of the system will be evaluated. A feasibility study will be developed to determine the most effective method(s) to complete remedial actions for affected soil and groundwater at the facility. JANEPO approval of the feasibility study, and associated remedial action recommendations, will be obtained prior to implementation.

Enterprise will continue performing routine quarterly groundwater monitoring events to ensure that migration of affected groundwater does not occur from areas that have been delineated, and to evaluate the effectiveness of remedial actions in reducing groundwater constituent concentrations.

We would like to proceed with the proposed remedial actions described in the enclosed work plan as soon as possible, if the Jicarilla Environmental Protection Office has no objections or review comments. If you have any questions, or require additional information, please do not hesitate to contact me at (713) 381-2286 or [drsmith@eprod.com](mailto:drsmith@eprod.com).

Sincerely,



David R. Smith, P.G.  
Sr. Environmental Scientist



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/dep  
Enclosure

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SUPPLEMENTAL ENVIRONMENTAL SITE INVESTIGATION &  
CORRECTIVE ACTION WORK PLAN

Property:

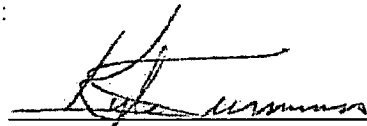
LINDRITH COMPRESSOR STATION (GW-209)  
Section 18, Township 24N, Range 5W  
Rio Arriba County, New Mexico

November 30, 2011  
SWG Project No. 0410006

Prepared for:

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SUPPLEMENTAL ENVIRONMENTAL SITE INVESTIGATION &  
CORRECTIVE ACTION WORK PLAN (GW-209)

LINDRITH COMPRESSOR STATION  
Section 18, Township 24N, Range 5W  
Rio Arriba County, New Mexico  
SWG Project No. 0410006

1.0 INTRODUCTION

1.1 SITE LOCATION AND HISTORY

The Lindrith Compressor Station is located off Jicarilla Road J-36, approximately 7.2 miles west of State Highway 537, in Section 8, Township 24N, Range 5W Rio Arriba County, Jicarilla Apache Nation, New Mexico, referred to hereinafter as the "Site" or "subject Site". The Site is a natural gas compressor station utilized to dehydrate and compress natural gas collected from production wells in the area for transportation via pipeline. The Site was constructed in the 1950s and currently includes three (3) compressor engines, a dehydration unit, a flare, one (1) bullet storage tank, a condensate storage tank battery, which includes eight (8) condensate storage tanks, two (2) below-grade tanks, inlet scrubbers, a water tower, and office/shop buildings.

On January 4, 2008, a natural gas condensate release (initially reported as 25 bbls) occurred within the containment berm at the former condensate storage tanks. The release penetrated the berm and flowed outside the south fence of the facility. The release was immediately reported the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division's (OCD) Aztec field office, and The OCD *Release Notification and Corrective Action* form (Form C-141) was submitted to the OCD. Initial response activities included the removal of some impacted soil, as well as soil boring sampling to evaluate the extent of impact (*Spill Cleanup Report Lindrith Compressor Station, Rio Arriba County, New Mexico*, September 2008). Supplemental excavation, delineation, and remediation activities were performed between November 2009 November 2010 (*Subsurface Investigation Report*, LTE, February 2011), resulting in the removal of approximately 4,182 cubic yards of affected soils, the advancement of twenty-nine (29) soil borings, and the installation and sampling of twelve (12) groundwater monitoring wells. The former condensate tanks and associated sump have been permanently removed from the facility. Based on the results of soil and groundwater sampling activities, constituent of concern (COC) concentrations were identified in soil above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (RALs) and in groundwater above the New Mexico Water Quality Control Commission (WQCC) *Groundwater Quality Standards* (GQSS).

The Site location is depicted on Figure 1 of Appendix A which was reproduced from a portion of the United States Geological Survey (USGS) 7.5-minute series topographic map. A Site Vicinity Map of the subject Site and adjoining properties is included as Figure 2 of Appendix A.

## 1.2 CHRONOLOGY OF EVENTS

Significant events and related activities associated with the Site, including the results of Site investigation activities and corrective action completed to date, are provided in the following table:

January 4, 2008	The release was discovered and reported to the OCD. Condensate penetrated the secondary containment berm and flowed outside the south fence of the facility. Initial response activities included the removal of some soil, and the advancement of soil borings.
September 2008	<i>Spill Cleanup Report Lindrieth Compressor Station, Rio Arriba County, New Mexico, September 2008.</i>
November 2009	LT Environmental, Inc. (LTE) oversaw the removal of an additional 3,200 cubic yards of hydrocarbon affected soil from the affected area. Apparent historically impacted soil was identified underlying the floor of the excavation, which extended to approximately 9 feet below ground surface (bgs).
December 2009	Six (6) soil borings were advanced in the immediate vicinity of the former condensate storage tanks. Three (3) of the soil borings were converted into groundwater monitoring wells. Groundwater impact was confirmed through laboratory analysis.
March 2010	Proposed <i>Delineation Work Plan</i> , (LTE) presented to the Jicarilla Apache Nation Environmental Protection Office (JANEPO) detailing the proposed subsurface investigation activities.
April 2010	<i>Supplemental Work Plan</i> , (LTE) presented to JANEPO describing proposed sump removal and remediation activities.
May 2010	Removal of the subgrade sump, as well as an additional 982 cubic yards of hydrocarbon affected soils.
June 2010	<i>Combined ORC Injection and Delineation Work Plan and Remediation Work Plan</i> (LTE) submitted to JANEPO. This work plan proposed in-situ treatment at the source and additional soil and groundwater delineation activities.
July-November 2010	Bureau of Indian Affairs (BIA) approves the combined work plans. ORC is introduced into the excavation floor, a drain/injection system is installed, and the excavation is backfilled. The ORC is hydrated immediately after the drain/injection system installation, and again in September, October and November 2010.
October 2010	LTE begins supplemental site delineation activities which included twenty (20) additional soil borings across the southern portion of the Site and adjacent property. Ten (10) of the soil borings are converted to groundwater monitoring wells, including the replacement of MW-1 with MW-1R.
February 2011	<i>Subsurface Investigation Report</i> (LTE) describes the results of the subsurface investigation activities. The investigation identifies NAPL in

association with the initial groundwater bearing unit, as well as identifying historical apparent impact from undetermined sources. Additional investigation will be required to further evaluate the extent of the NAPL and dissolve-phase groundwater COCs, as well as the historic soil impacts.

August 2011

Supplemental Site Investigation Work Plan submitted to JANEPO on August 1, 2011. Supplemental Site Investigation Work Plan approved by JANEPO on August 12, 2011.

August/September 2011

Southwest Geoscience (SWG) performs supplemental site investigation activities which included the advancement and sampling of thirteen (13) additional soil borings across the southern portion of the Site and adjacent property. Each of the soil borings were converted into groundwater monitoring wells which were sampled during the September 2011 groundwater sampling event.

### 1.3 CONSTITUENTS OF CONCERN

The soil and groundwater samples collected from *historically* installed soil borings/monitoring wells were analyzed for TPH utilizing EPA method SW-846 #8015M and BTEX using EPA SW-846 method #8021B. Additionally, one soil sample (B-21 @ 23') was analyzed for Glycols, and two soil samples (B-27 @ 12' and B-27@ 33') were analyzed for volatile organic compounds (VOCs) utilizing EPA method SW-846 #8260.

- Based on the laboratory analytical results from previous investigations, TPH GRO/DRO concentrations were identified in soil samples collected from borings B-3 (25'), B-11(35'), B-12 (33.5'), B-13 (30'), B-15 (33'), B-16 (32'), B-18 (33'), B-20 (30'), B-24 (29'), B-27 (12'), B-28 (30'), and B-29 (27') above the OCD *Remediation Action Level* of 100 mg/Kg.
- Based on the laboratory analytical results from previous investigations, total BTEX concentrations were identified in soil samples collected from borings B-13 (30') and B-20 (30') above the OCD *Remediation Action Level* of 50 mg/Kg.
- The soil samples analyzed for Glycols and VOCs did not exhibit elevated concentrations of these constituents.
- Based on the laboratory analytical results from the June 2011 groundwater sampling event, benzene concentrations were identified in groundwater samples collected from monitoring wells MW-3, MW-4, MW-6, and MW-12 above the NMWQCC *Water Quality Standard* of 10 µg/L.
- Based on the laboratory analytical results from the June 2011 groundwater sampling event, toluene concentrations were identified in groundwater samples collected from monitoring wells MW-3 and MW-4 above the NMWQCC *Water Quality Standard* of 750 µg /L.
- Based on the laboratory analytical results from the June 2011 groundwater sampling event, total xylenes concentrations were identified in groundwater

samples collected from monitoring wells MW-3, MW-4, and MW-6 above the NMWQCC Water Quality Standard of 620 µg /L.

- During the June 22, 2011 groundwater gauging event, non-aqueous phase liquid (NAPL) was identified in monitoring wells MW-1R, MW-2, and MW-9.

Soil and groundwater analytical results for the Site borings and monitoring wells from previous investigations are included in Tables 1 and 2, respectively.

#### 1.4 SITE RANKING AND PROPOSED CLEANUP GOALS

The Site is under the jurisdiction of the Jicarilla Apache Nation Environmental Protection Office (JANEPO). In the absence of published JANEPO regulatory guidance, SWG referenced the New Mexico OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically NMAC 19.15.30 *Remediation*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

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

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	20
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water source, or; <200 feet from private domestic water source.	Yes	20	20
	No	0	
Distance to Surface Water Body	<200 feet	20	0
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			40

Based on SWG's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 40. This ranking is based on the following:

- The depth to the initial groundwater-bearing zone is <50 feet bgs at the Site.
- A livestock water well is located upgradient (Southeast) of the facility.

Based on a Total Ranking Score of 40, cleanup goals for soil located at the Site include: 10 mg/Kg for benzene, 50 mg/Kg for total BTEX and 100 mg/Kg for TPH GRO/DRO.

In addition, cleanup goals for groundwater located at the Site include the NMWQCC *Water Quality Standards* of: 0.010 mg/L for benzene, 0.75 mg/L for toluene, 0.75 mg/L for ethylbenzene, and 0.62 mg/L for xylenes.

## 1.5 OBJECTIVES OF SUPPLEMENTAL SITE INVESTIGATION & CORRECTIVE ACTION

The primary objective of the supplemental site investigation activities was to further evaluate the magnitude and extent of NAPL and dissolved phase COCs in groundwater.

The primary objective of the proposed corrective actions is to recover NAPL from the initial groundwater-bearing unit to the extent practical.

## 2.0 SITE CHARACTERIZATION

### 2.1 GEOLOGY & HYDROGEOLOGY

According to the New Mexico Bureau of Geology and Mineral Resource (Geologic Map of New Mexico 2003), the Site overlies the San Jose geologic formation. The Eocene age San Jose geologic formation contains a mixture of clastic sedimentary rocks varying from siltstone to conglomerate, dominated by rocks containing sand-sized particles. The lithology encountered at the Site during boring activities are composed of Quaternary alluvial deposits derived from erosion of the parent San Jose sandstones and siltstones. Based on the data collected during the completion of soil borings, the alluvia generally consist of brown silty/clayey sands and weathered sandstones from the ground surface to at least 20 feet bgs.

The lithology observed during the advancement of soil boring MW-37 at the Site included a pale to moderate yellowish brown silty sand from the surface to approximately 15.0 feet bgs. The silty sand stratum was underlain by a moderate to dark yellowish brown fine sand from 15.0 feet bgs to 24.0 feet bgs. A moderate brown to dark gray weathered shaley sandstone was encountered from 24.0 feet bgs to 31.0 feet bgs. At approximately 31.0 feet bgs the color of the weathered sandstone changed to a moderate to pale yellowish brown until a depth of 39.5 feet at which point the color changed to a moderately dark to olive gray. The boring was terminated at 40 feet bgs. The lithologies observed in the remaining soil borings at the Site were generally similar to soil boring MW-37, with occasional clay stringers, and varying degrees of weathered sandstones. Detailed lithologic descriptions are presented on the soil borings logs included in Appendix C. Figure 3 of Appendix A is a Site Map which depicts the location of the soil borings and monitoring wells in relation to pertinent Site features. Approximated geologic cross-sections are provided as Figures 4A and 4B in Appendix A.

The first water-bearing unit at the site is a shallow unconfined aquifer observed in alluvium and weathered sandstone bedrock. The major aquifer underlying the Site vicinity is listed as the Colorado Plateaus Aquifer, which is made up of four smaller aquifers, the Uinta-Animas, the Mesa Verde, the Dakota-Glen, and the Coconino-De Chelly. The Uinta-Animas is the shallowest of these aquifers, and is present in the San Juan Basin. The general composition of the aquifers is moderately to well-consolidated

sedimentary rocks of an age ranging from Permian to Tertiary. There are countless streams, rivers, and lakes that overlay the Colorado Plateaus Aquifers. The surface water bodies in this region provide a place for the aquifers to discharge. Some of the high altitude rivers and lakes may also provide recharge.

The initial groundwater-bearing unit (GWBU) at the Site was encountered at depths ranging from approximately 25 to 35 feet bgs during the investigation activities.

#### 2.1.1 GROUNDWATER FLOW

Monitoring well top-of-casing (TOC) elevations were surveyed and referenced to Section corner benchmarks. Groundwater measurements were collected utilizing an interface probe capable of detecting the presence of light non-aqueous phase liquids (NAPL). NAPL was observed in monitoring wells MW-1R, MW-2, MW-3, MW-9, MW-30, MW-32, MW-37, and MW-39 during recent gauging activities.

Based on the groundwater elevations measured during the September 2011 monitoring event, the groundwater at the Site slopes generally to the west-southwest at an average gradient of 0.012 ft/ft. The observed gradient on the western portion of the site is considerably steeper than that observed on the central and eastern portion.

Figure 5 of Appendix A is a Groundwater Gradient Map which depicts the direction of groundwater flow at the Site based on September 2011 gauging data. Table 3 (Appendix B) includes the gauging date, depth to groundwater and groundwater elevations for the gauging event(s) performed at the Site.

#### 2.1.2 GROUNDWATER CLASSIFICATION

In accordance with 19.15.30 NMAC *Remediation*, a groundwater-bearing unit is classified as an "Underground Source of Drinking Water" provided the groundwater-bearing unit is capable of producing water for human consumption or that contains ground water having a total dissolved solids (TDS) concentration of 10,000 mg/l or less and that is not an exempted aquifer". Based on conductivity readings collected during quarterly sampling events (averaging 2.7 mS/cm), groundwater at the site is likely to exhibit TDS results of less than 2,200 mg/l.

#### 2.2 LAND USE & CLASSIFICATION

Due to the absence of land use classification guidelines in the OCD *Guidelines for Remediation of Leaks, Spills and Releases* and/or NMAC 19.15.30 *Remediation*, land use was determined by comparison of existing land use of the Site to the definitions for residential and non-residential land use published in the available New Mexico Environment Department (NMED) regulatory guidance. Based on the available NMED guidance, non-residential land use encompasses all commercial and industrial land uses.

The Site, and adjacent and surrounding (beyond adjacent) properties are currently utilized as undeveloped rangeland occasioned by oil and gas gathering facilities. Based on SWG's review of the available information and visual inspection of the Site and vicinity, the Site appears to meet the non-residential land use classification.

### 3.0 SUPPLEMENTAL SITE INVESTIGATION

During August 2011, SWG performed a Supplemental Site Investigation to further define impacts to soil and groundwater at the Site. As a result of this investigation, thirteen (13) additional soil borings were advanced utilizing a hollow-stem auger (HAS) drilling rig. Each of these soil borings were subsequently completed as permanent monitoring wells. A Site-wide groundwater sampling event was performed during September 2011.

#### 3.1 SOIL BORINGS & MONITORING WELLS

As part of the approved scope of work, thirteen (13) soil borings (MW-30 through MW-42) were advanced across the southwestern portion of the site and outside the fenced area. These soil borings were located to further evaluate the former condensate release, the former pond area, the former compressor area, and the subgrade tank located in the western corner of the facility.

Figure 3 of Appendix A is a Site Map which depicts the location of the soil borings in relation to pertinent Site features.

Soil samples were collected continuously, utilizing five-foot core barrel samplers to the termination depth 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. Soil samples were observed to document soil lithology, color, moisture content, and visual and olfactory evidence of petroleum hydrocarbons. Field headspace analysis was conducted by placing the portion of the soil sample designated for field screening into a plastic Ziplock® bag. The plastic bag was sealed, and the sample allowed to volatilize. 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.

Overall, PID readings ranged from zero (0) parts per million (ppm) to 676 ppm. Soil borings MW-30, MW-32, MW-36, MW-37, MW-38, MW-39, and MW-42 exhibited PID readings above 100 ppm near the apparent capillary fringe zone. Soil boring MW-32 also exhibited soil PID readings in excess of 100 ppm in shallower soils (16 feet bgs). Significant petroleum hydrocarbon vapors were not detected with the PID in soil samples collected from soil borings MW-31, MW-33, MW-34, MW-35, MW-40, and MW-41. Field screening results are presented on soil boring logs included in Appendix C.

Subsequent to advancement, each of the soil borings (MW-30 through MW-42) were converted to permanent groundwater monitoring wells. The monitoring wells were completed using the following methodology:

- Installation of 10 to 15 feet of 2-inch diameter, 0.010-inch machine slotted PVC well screen with a threaded bottom cap;



- Installation of 2-inch diameter, threaded flush joint PVC riser pipe to the ground surface;
- Addition of a pre-sieved 10/20 grade annular silica sand pack from the bottom of the soil boring to 2-feet above the top of the well screen;
- Addition of a hydrated bentonite seal above the sand pack filter zone;
- Addition of grout to the surface; and,
- Installation of a locking well cap and protective steel riser.

Monitoring well construction details are presented on the monitoring well logs provided in Appendix C.

### 3.2 INVESTIGATION SAMPLING PROGRAM

#### 3.2.1 SOIL SAMPLING PROGRAM

SWG's soil sampling program involved submitting one (1) or more soil sample(s) from each soil boring for laboratory analysis. 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.

Soil sample intervals are presented with the soil sample analytical results (Table 1) in Appendix B and are provided on the boring logs included in Appendix C.

#### 3.2.2 GROUNDWATER SAMPLING PROGRAM

During the most recent groundwater sampling event (September 2011), each of the monitoring wells not exhibiting NAPL were micro-purged and sampled utilizing low-flow sampling techniques. Low-flow refers to the velocity with which groundwater enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface which can be affected by flow regulators or restrictions. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective was to pump in a manner that minimizes stress (drawdown) to the system to the extent practical taking into account established site sampling objectives. Flow rates on the order of 0.1 to 0.5 L/min were maintained during the sampling activities using dedicated sampling equipment.

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

The monitoring wells were purged until produced groundwater was consistent in color, clarity, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), temperature, and conductivity prior to groundwater sample collection.

### 3.3 LABORATORY ANALYTICAL PROGRAM

The soil and groundwater samples collected during the Supplemental Site Investigation activities were analyzed for TPH GRO/DRO using EPA method SW-846 #8015B and BTEX using EPA method SW-846 method #8021B.

Laboratory results are summarized in the tables included in Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix D.

### 3.4 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

All non-disposable 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 and groundwater 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 Hall Environmental Analytical Laboratory (HEAL) in Albuquerque, New Mexico for standard turnaround.

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 the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. In addition, the data generated by 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.

### 3.5 DATA EVALUATION

The Site is under the jurisdiction of the JANEPO. In the absence of published JANEPO regulatory guidance, SWG referenced the New Mexico OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically NMAC 19.15.30 *Remediation*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

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 40 was determined for the Site. Consequently, the OCD's *Remediation Action Levels* for soils on sites having a total ranking score greater than 19 is 10 milligrams per kilogram (mg/Kg) benzene, 50 mg/Kg total BTEX and 100 mg/Kg TPH GRO/DRO. The

New Mexico WQCC *Groundwater Quality Standards* are: 10 µg/L for benzene, 750 µg/L for toluene, 750 µg/L for ethylbenzene, and 620 µg/L for total xylenes.

### 3.5.1 SOIL

SWG compared the TPH GRO/DRO and BTEX concentrations or practical quantitation limits (PQLs) associated with the soil samples to the OCD *Remediation Action Levels*.

#### Total Petroleum Hydrocarbons

Soil samples collected from soil borings B-3, B-11, B-12, B-13, B-15, B-16, B-18, B-20, B-24, B-27, BH-28, and BH-29, completed during previous investigation activities, and soil samples collected from soil borings MW-30, MW-32, MW-37, and MW-39 exhibited TPH GRO/DRO concentrations ranging from <110 mg/Kg to 11,250 mg/Kg, which exceed the OCD's *Remediation Action Level* of 100 mg/Kg.

The soil samples collected from the remaining soil borings did not exhibit TPH GRO/DRO concentrations above the OCD's *Remediation Action Level* of 100 mg/Kg.

#### Benzene

The soil sample collected from soil boring MW-39 exhibited a benzene concentration of 11 mg/Kg, which exceeds the OCD's *Remediation Action Level* of 10 mg/Kg.

The soil samples collected from the remaining soil borings exhibited benzene concentrations ranging from below the laboratory PQLs to 9.7 mg/Kg, which is below the OCD's *Remediation Action Level* of 10 mg/Kg.

#### Total BTEX

The soil samples collected from previous soil borings B-13 and B-20, and from soil borings MW-30, MW-32, MW-37, and MW-39 exhibited total BTEX concentrations ranging from 52.1 mg/Kg to 294 mg/Kg, which exceed the OCD's *Remediation Action Level* of 50 mg/Kg.

The soil samples collected from the remaining soil borings did not exhibit total BTEX concentrations above the laboratory PQLs, which are below the OCD's *Remediation Action Levels* of 50 mg/Kg.

The results of soil sample analyses are summarized in Table 1 of Appendix B. Figure 6 (Appendix A) details the OCD *Remediation Action Level* Exceedance Zone in soil.

### 3.5.2 GROUNDWATER

SWG compared BTEX concentrations or PQLs associated with the groundwater samples collected from the monitoring wells during the most recent sampling event to the New Mexico WQCC *Groundwater Quality Standards*.

The groundwater samples collected from monitoring wells MW-5, MW-7, MW-8, MW-10, MW-11, MW-31, MW-33, MW-34, MW-35, MW-36, and MW-40 did not exhibit benzene, toluene, ethylbenzene or xylenes concentrations above the respective WQCC *Groundwater Quality Standards*.

The groundwater samples collected from monitoring wells MW-4, MW-6, MW-12, MW-38, and MW-42 exhibited benzene concentrations ranging from 63 µg/L to 4,900 µg/L which exceeds the WQCC *Groundwater Quality Standard* of 10 µg/L.

The groundwater sample collected from monitoring well MW-4 exhibited a toluene concentration of 1,700 µg/L which exceeds the WQCC *Groundwater Quality Standard* of 750 µg/L.

The groundwater samples collected from monitoring wells MW-4, MW-6, and MW-38 exhibited xylene concentrations ranging from 1,700 µg/L to 1,800 µg/L, which exceed the WQCC *Groundwater Quality Standard* of 620 µg/L.

Groundwater samples were not collected from monitoring wells MW-1R, MW-2, MW-3, MW-9, MW-30, MW-32, MW-37 or MW-39, due to the presence of NAPL. Two previously unidentified NAPL plumes were identified during the investigation. One of these plumes is located near the subgrade tank in the west corner of the Site, and the other is located beneath the former ponds at the southeast corner of the Site.

The results of groundwater sample analyses are summarized in Table 2 of Appendix B. Figure 7 (Appendix A) details the NMWQCC *Groundwater Quality Standard* Exceedance Zone in groundwater.

#### 4.0 CORRECTIVE ACTION

Corrective actions completed at the Site to date include the excavation and removal of approximately 4,182 cubic yards of hydrocarbon impacted soil. Additionally, ORC® was introduced into the floor of the excavation utilizing four (4) trenches in an attempt to treat impacted soils below 20 feet bgs. Subsequently, a perforated drain system with riser pipes was installed prior to backfill activities to provide a mechanism for hydration of the ORC®. Pursuant to the initial hydration of the ORC® at the time of installation, the drain system was utilized on three separate occasions between September and November of 2010 to hydrate the former excavation floor.

ORC® is a formulation of phosphate-intercalated magnesium peroxide that, when hydrated, produces a controlled release of oxygen for periods of up to 12 months per application. ORC® injection is a passive remediation alternative designed to supply controlled-release molecular oxygen to the subsurface environment to enhance or accelerate the rate of naturally occurring aerobic contaminant biodegradation in groundwater and saturated soils.

#### 4.1 HIGH-VACUUM REMEDIATION

Enterprise proposes to implement hi-vacuum remediation (HVR) technology, also referred to as mobile dual-phase extraction (MDPE), at the Site. The mobile HVR system (Liquid Ring Pump and Internal Combustion Engine (ICE) system), which utilizes patent pending technical innovations, will be operated at the Site for approximately 90 days. The HVR system has been designed to recover NAPL and associated vapors, which have been identified in association with the initial groundwater-bearing unit in the vicinity of the former condensate storage tanks. The proposed HVR system will be tailored to the specific geology and hydrogeology of the site, and field modifications will be made to optimize system performance.

The system will consist of a single trailer mounted ICE unit incorporating proprietary fluid extraction/knockout/oil water separation technology with fluid storage tanks, vapor abatement, and data logging capabilities. A diagram of the proposed ICE unit is provided in Appendix E. The emissions leave the engine through a catalytic converter prior to release to the atmosphere. Natural gas or propane is utilized at "start-up" and as "make-up" or "assist" fuel if vapor concentrations drop below the ICE requirements. Water and NAPL recovery quantities will be quantified manually, and vapor phase utilization will be calculated in pounds and/or gallons.

Recovered groundwater and NAPL will be temporarily stored on site during the MDPE event for subsequent disposal as oil & gas waste or re-introduction into the product gathering system, in accordance with applicable state and federal regulations.

Prior to initiation and periodically during operation, each of the monitoring wells at the Site will be gauged to determine NAPL and water level measurements.

##### AIR PERMITTING AND SAMPLING

An air permit will be secured for the HVR system operating at the Site. Permit compliance will require periodic air sampling, beginning at start up, to measure pre-destruction volatile levels and to monitor post-abatement air emissions. Air samples will be collected utilizing tedlar bags, or other approved air sampling methods. Samples will be analyzed for BTEX concentrations at an approved laboratory.

##### 4.1.1 "PILOT STUDY" PHASE

During the "pilot study" phase of the HVR activities, vapors, NAPL, and a small amount of water will be recovered from monitoring wells located within the NAPL plume from the former condensate tanks release. Withdrawal from these monitoring wells will be alternated, based on performance, to maximize hydrocarbon recovery. The HVR activities are currently planned to occur over a three month timeframe, but constant evaluation of the results may alter that timeframe.

##### 4.1.2 NAPL REDUCTION PHASE

In the event the proposed HVR activities at the source significantly reduce the volume of NAPL in the vicinity of the source, further HVR may be planned for the former

condensate storage tanks release area and additional HVR activities may be scheduled for other areas at the site.

## 5.0 CORRECTIVE ACTION EFFECTIVENESS

The HVR activities are scheduled to occur over a three month time frame. To evaluate the effectiveness of the proposed corrective action, SWG will assess the volume of recovered hydrocarbons and NAPL thickness levels on the shallow aquifer, as well as the calculated mass of hydrocarbons removed after one month of operation. This information will be compared against the cost of operating the HVR system, to determine if activities should continue for the planned duration of the pilot test or be terminated prematurely due to inefficiency.

If the HVR system is operated beyond the first month, the mass recovery of hydrocarbon and NAPL measurements will continue to be tracked, and a feasibility study will be performed once the pilot test is complete. Subsequent quarterly monitoring results will also be evaluated to determine if the HVR produces a positive result in addressing dissolve-phase COC concentrations.

### 5.1 GROUNDWATER SAMPLING PROGRAM

Subsequent to the HVR pilot study, SWG's groundwater sampling program will be slightly modified to include natural attenuation parameters and will consist of the following:

1. Collection of one (1) groundwater sample from each monitoring well utilizing low-flow minimal drawdown sampling techniques during each of four (4) quarterly groundwater sampling events.

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

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

The monitoring wells will be purged until produced groundwater is consistent in color, clarity, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), temperature, and conductivity prior to groundwater sample collection.

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

The groundwater samples collected from the monitoring wells will be analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015M and BTEX utilizing EPA Method SW-846 #8021B. In addition, during two (2) of the groundwater sampling events, groundwater samples will be collected for select *Supplemental Geochemical Indicators of Groundwater COC Degradation* including alkalinity, nitrate, ferrous iron, total iron, sulfate, methane, manganese and carbon dioxide.

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

Analysis	Sample Type	EPA Method #
TPH GRO/DRO	Groundwater	SW-846#015M
BTEX	Groundwater	SW-846#8021B
Alkalinity	Groundwater	SM2320B
Nitrate	Groundwater	SW-846#9056
Ferrous Iron (Fe <sup>2+</sup> )	Groundwater	SW-846#6010B
Total Iron	Groundwater	SM 3500-Fe D.
Sulfate	Groundwater	SW-846#9056
Methane	Groundwater	RSK 175
Manganese	Groundwater	SW-846#6010B
Carbon Dioxide	Groundwater	SM 4500-CO2

## 6.0 CORRECTIVE ACTION REPORT

Subsequent to the completion of the source or "pilot study" phase of HVR corrective action activities, a report will be prepared that will include documentation of initial HVR and groundwater monitoring activities, a site plan detailing pertinent site features, laboratory analytical results, an evaluation of corrective action results and recommendations concerning further corrective measures for the Site.

## 7.0 SCHEDULE

The completion of the proposed pilot study phase of the HVR activities will require an estimated three (3) months after initiation; however, time estimations regarding the completion of corrective actions depend upon several factors, many of which cannot be pre-determined.

Provided the proposed "pilot study" phase of the HVR activities effectively reduces NAPL volumes groundwater in the vicinity of the source, a larger scale and longer term HVR event may be recommended.

## 8.0 FINDINGS AND RECOMMENDATIONS

The primary objective of the supplemental site investigation activities was to further evaluate the magnitude and extent of NAPL and dissolved phase COCs in groundwater.

The primary objective of the proposed corrective actions is to recover NAPL from the initial groundwater-bearing unit to the extent practical utilizing high-vacuum recovery.

- SWG installed thirteen (13) monitoring wells at the Lindrith Compressor Station utilizing a HSA drilling rig.
- Soil samples collected from soil borings MW-30, MW-32, MW-37, and MW-39 exhibited TPH GRO/DRO concentrations ranging from <110 mg/Kg to 11,250 mg/Kg, which exceed the OCD's *Remediation Action Level* of 100 mg/Kg.
- The soil sample collected from soil boring MW-39 exhibited a benzene concentration of 11 mg/Kg, which exceeds the OCD's *Remediation Action Level* of 10 mg/Kg.
- The soil samples collected from soil borings MW-30, MW-32, MW-37, and MW-39 exhibited total BTEX concentrations ranging from 52.1 mg/Kg to 294 mg/Kg, which exceed the OCD's *Remediation Action Level* of 50 mg/Kg.
- Groundwater samples were not collected from monitoring wells MW-1R, MW-2, MW-3, MW-9, MW-30, MW-32, MW-37 or MW-39, due to the presence of NAPL. Two additional NAPL plumes were identified during the investigation.
- The groundwater samples collected from monitoring wells MW-4, MW-6, MW-12, MW-38, and MW-42 exhibited benzene concentrations ranging from 63 µg/L to 4,900 µg/L which exceeds the WQCC *Groundwater Quality Standard* of 10 µg/L.
- The groundwater sample collected from monitoring well MW-4 exhibited a toluene concentration of 1,700 µg/L which exceeds the WQCC *Groundwater Quality Standard* of 750 µg/L.



- The groundwater samples collected from monitoring wells MW-4, MW-6, and MW-38 exhibited xylene concentrations ranging from 1,700 µg/L to 1,800 µg/L, which exceed the WQCC *Groundwater Quality Standard* of 620 µg/L.
- Based on the results of current and previous investigations at the Site, the following source areas are suspected as contributors to the identified soil and/or groundwater impact at the facility:
  - 1.) Former condensate storage tanks and sump in south central facility and possibly the former hydrocarbon tank located southwest of the water tower.
  - 2.) Former pond locations (possible burn pit location) in the southeastern portion of the facility in the vicinity of monitoring wells MW-30 and MW-32.
  - 3.) Subgrade tank in the northwest portion of the facility.
- Dissolve-phase COC groundwater impact in the vicinity of monitoring well MW-12 does not appear to be directly associated to an identified source, and may be the result of an unknown source that has been removed, or possibly the result of a much earlier release from the former condensate tank area.
- Enterprise proposes to implement HVR technology at the Site. The mobile HVR system will be operated at the Site for approximately 90 days. The HVR system has been designed to recover NAPL and associated vapors, which have been identified in association with the initial groundwater-bearing unit in the vicinity of the former condensate storage tanks. The proposed HVR system will be tailored to the specific geology and hydrogeology of the site, and field modifications will be made to optimize system performance.

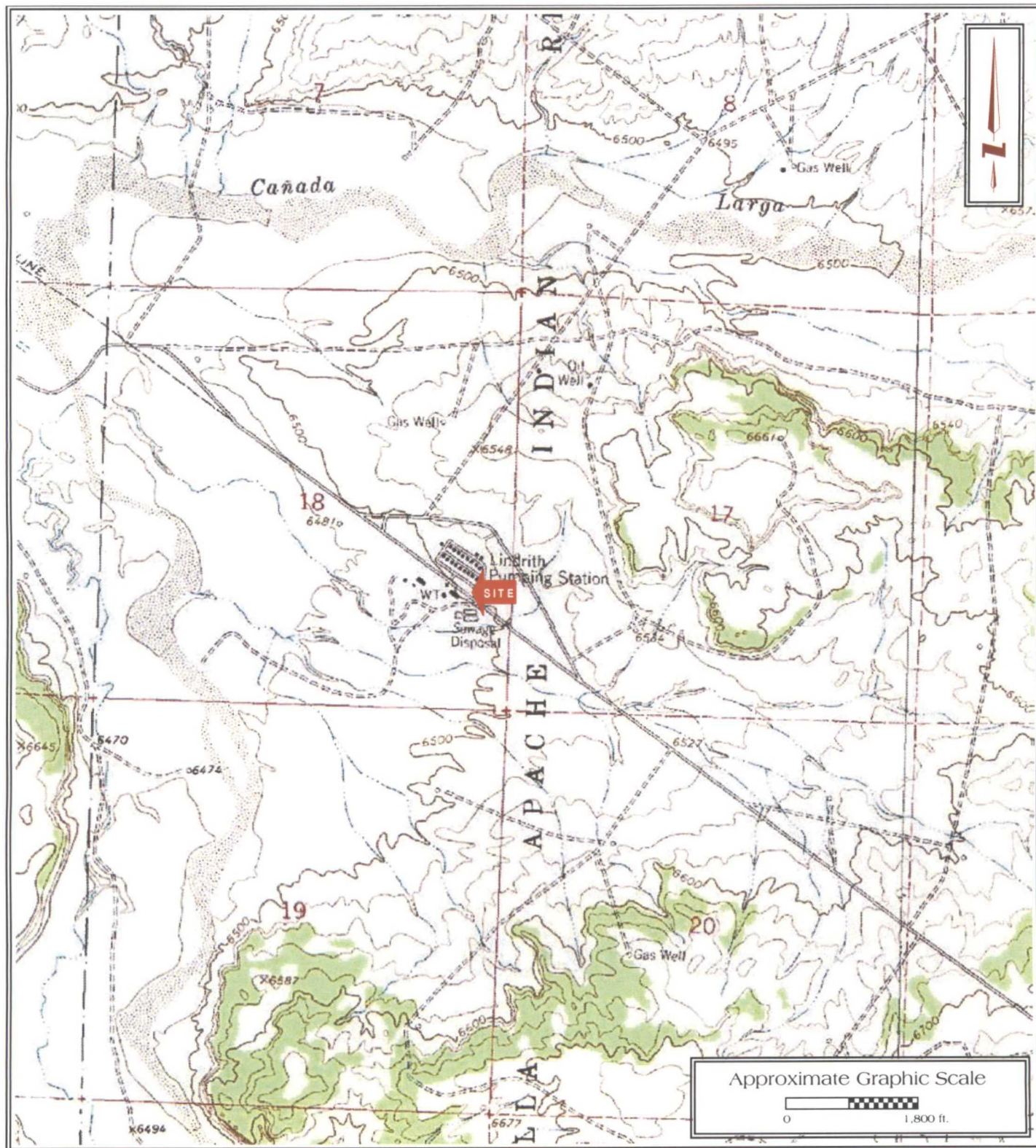
Based on the results of supplemental investigation and corrective action activities, SWG has the following recommendations:

- Report the results of the investigative and corrective actions to the JANEPO;
- Evaluate future quarterly sampling results and perform additional delineation activities as necessary to further evaluate the extent of the dissolve-phase COCs in groundwater; and,
- Perform "Pilot Study" HVR to evaluate NAPL removal feasibility in the vicinity of the former condensate storage tank release.

APPENDIX A

Figures

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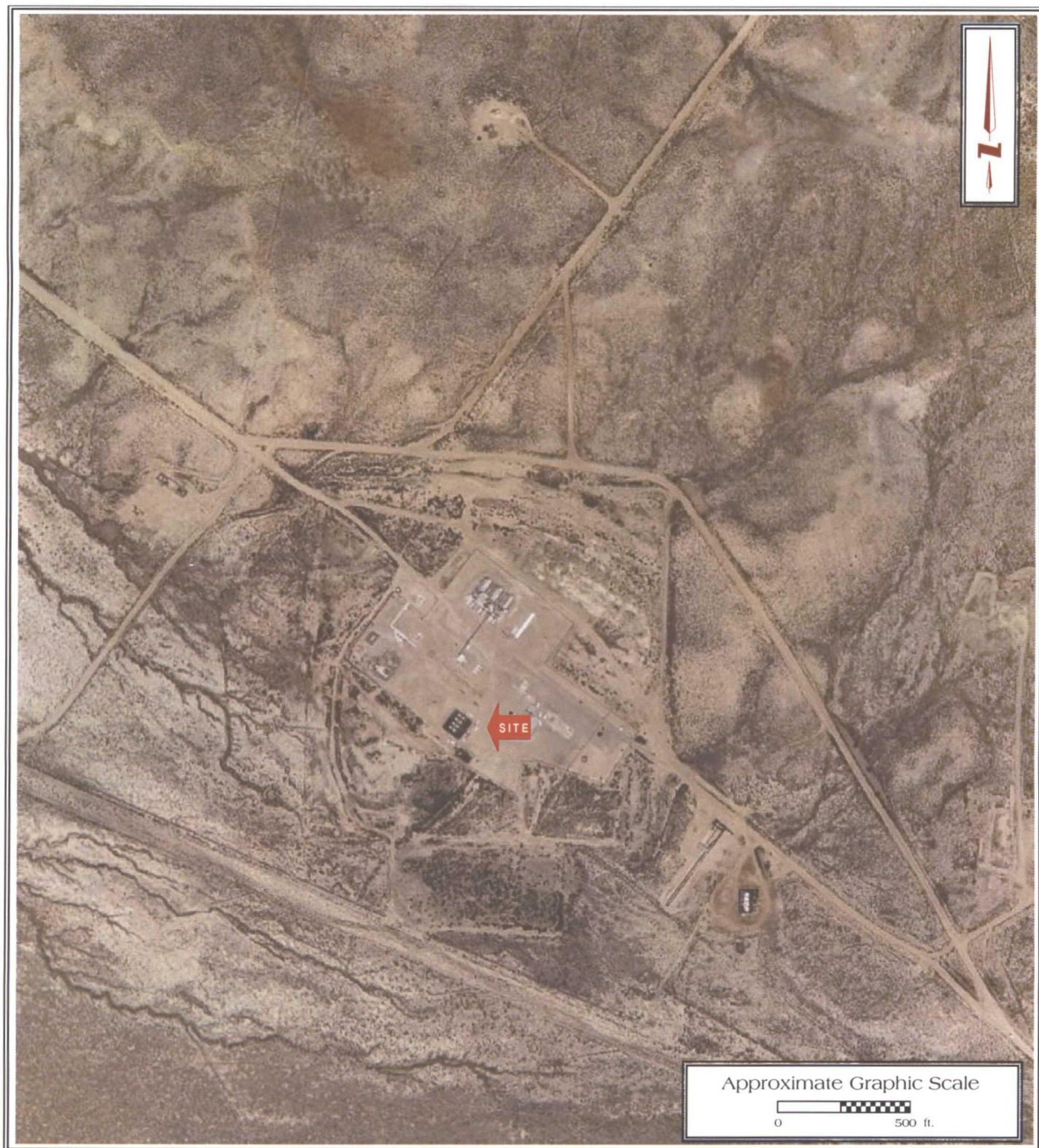
Lindrith Compressor Station  
 SE 1/4, S18 T24N R5W  
 N36° 18' 32.41"; W107° 23' 48.09"  
 Rio Arriba County, New Mexico

SWG Project No. 0410006

**Southwest**  
 GEOSCIENCE

**FIGURE 1**  
 Topographic Map  
 East Fork Kutz Canyon, NM Quad  
 Contour Interval - 10 Feet





Lindrith Compressor Station

SE 1/4, S18 T24N R5W

N36° 18' 32.41"; W107° 23' 48.09"

Rio Arriba County, New Mexico

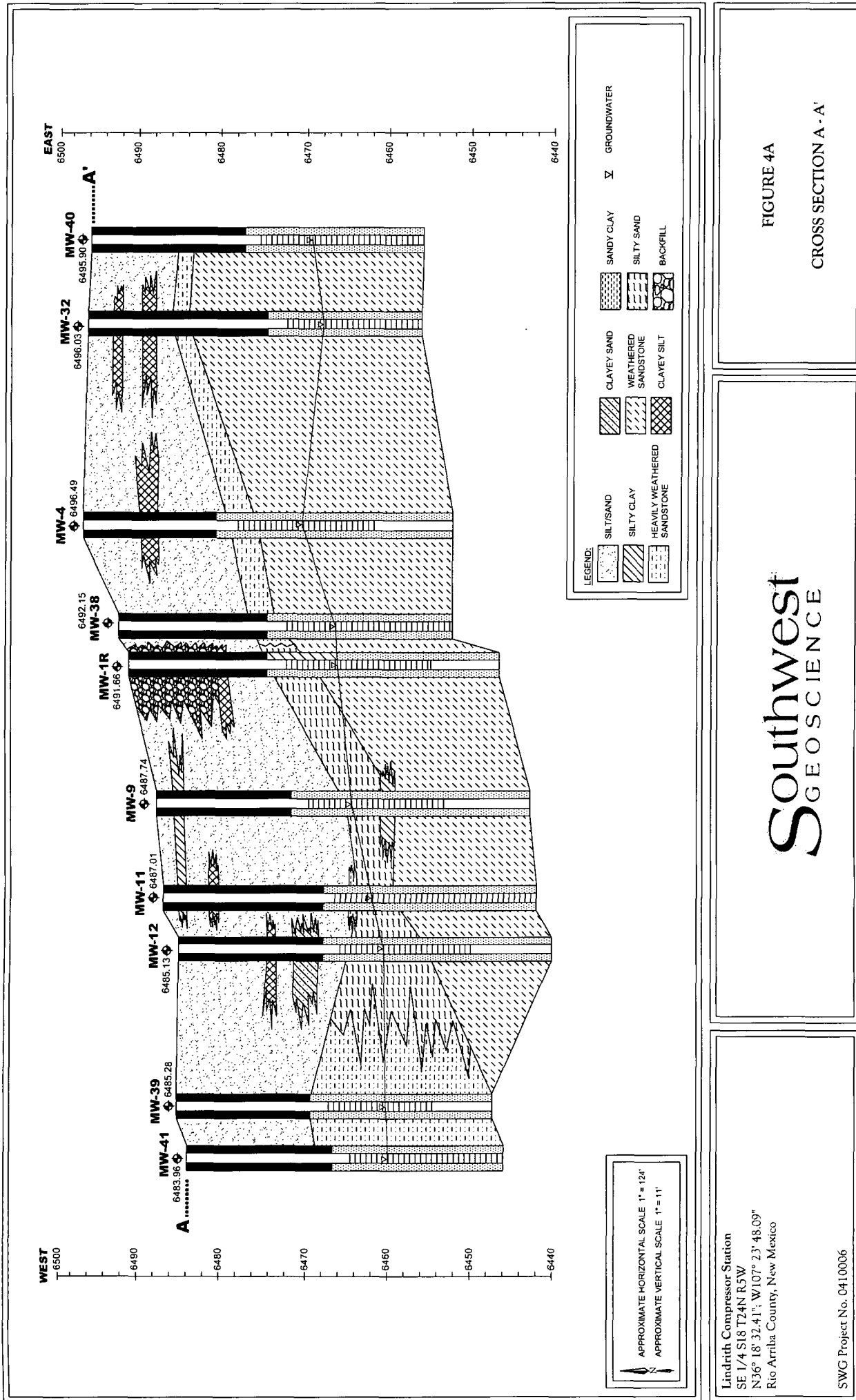
SWG Project No. 0410006

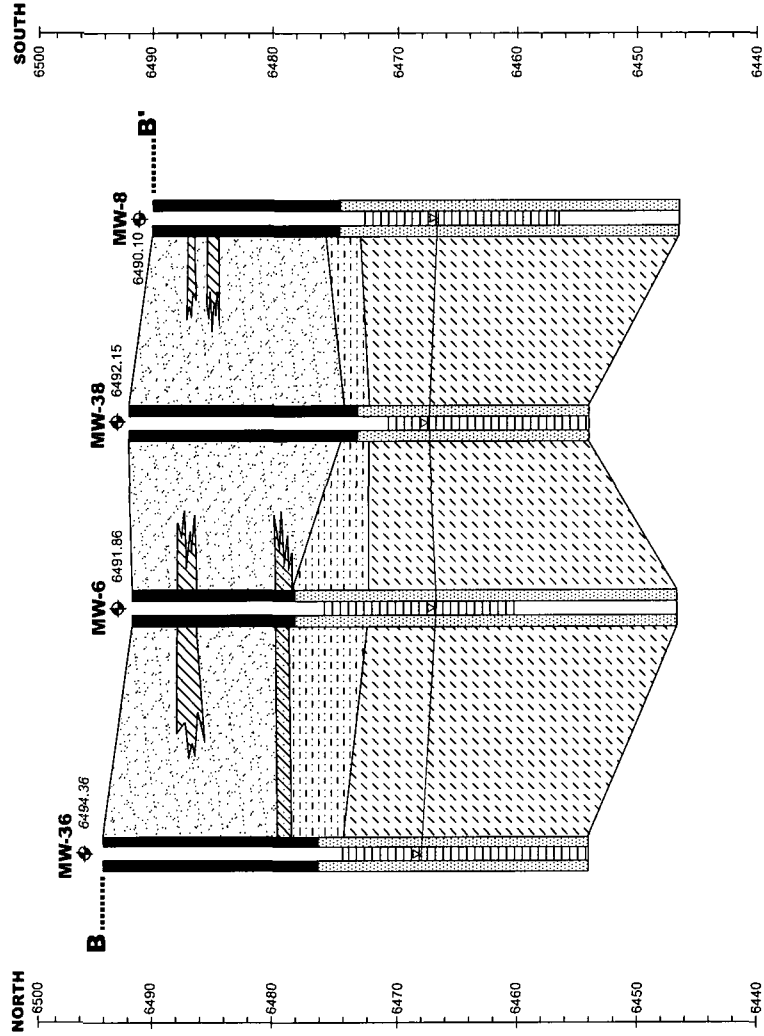
Southwest  
GEOSCIENCE

**FIGURE 2**  
Site Vicinity Map

2009 Aerial Photograph  
Source: Digital Globe







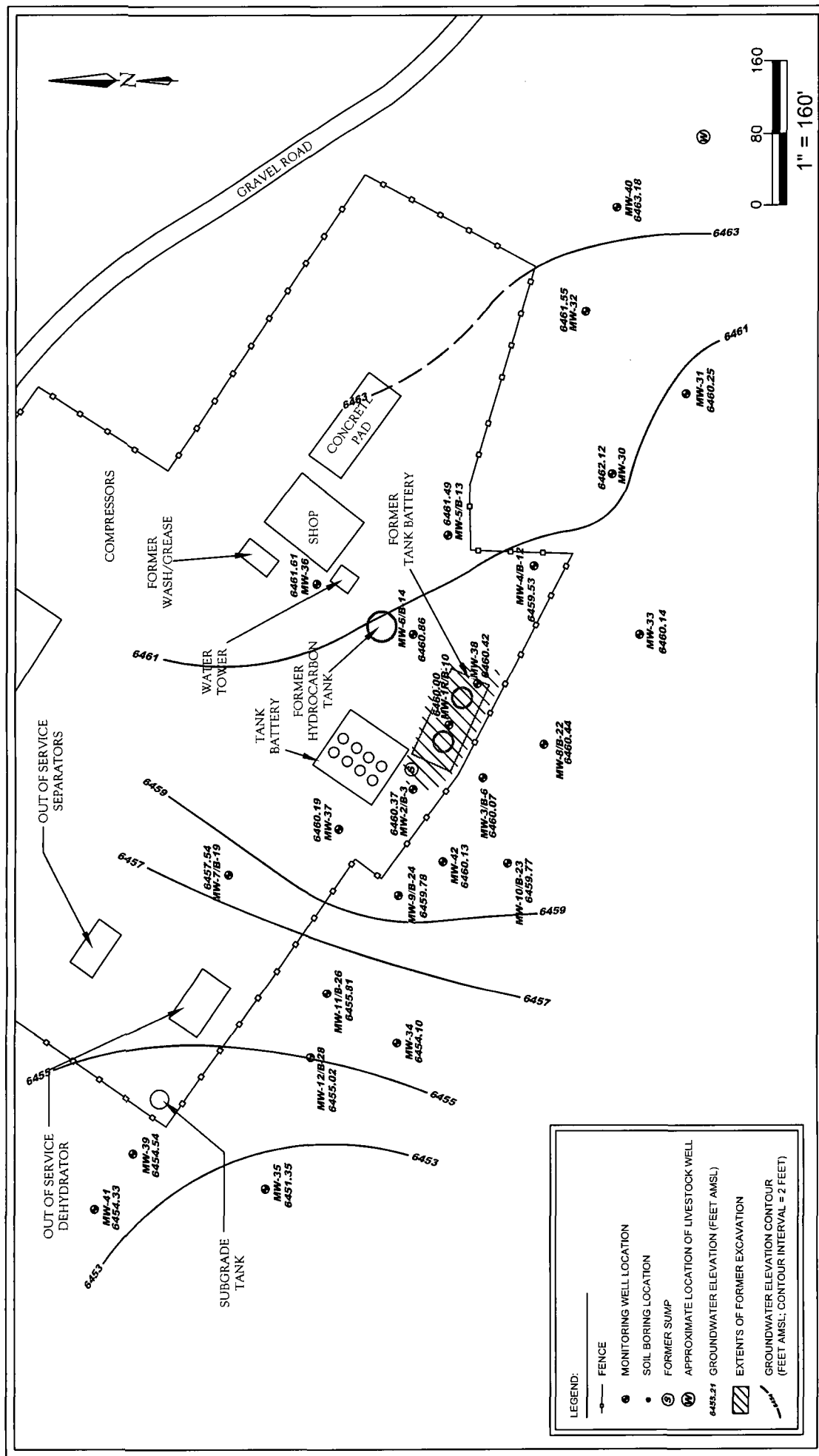
APPROXIMATE HORIZONTAL SCALE 1" = 62'  
 APPROXIMATE VERTICAL SCALE 1" = 11'

Lindrieth Compressor Station  
 SE 1/4 S18 T24N R5W  
 N36° 18' 32.41"; W107° 23' 48.09"  
 Rio Arriba County, New Mexico

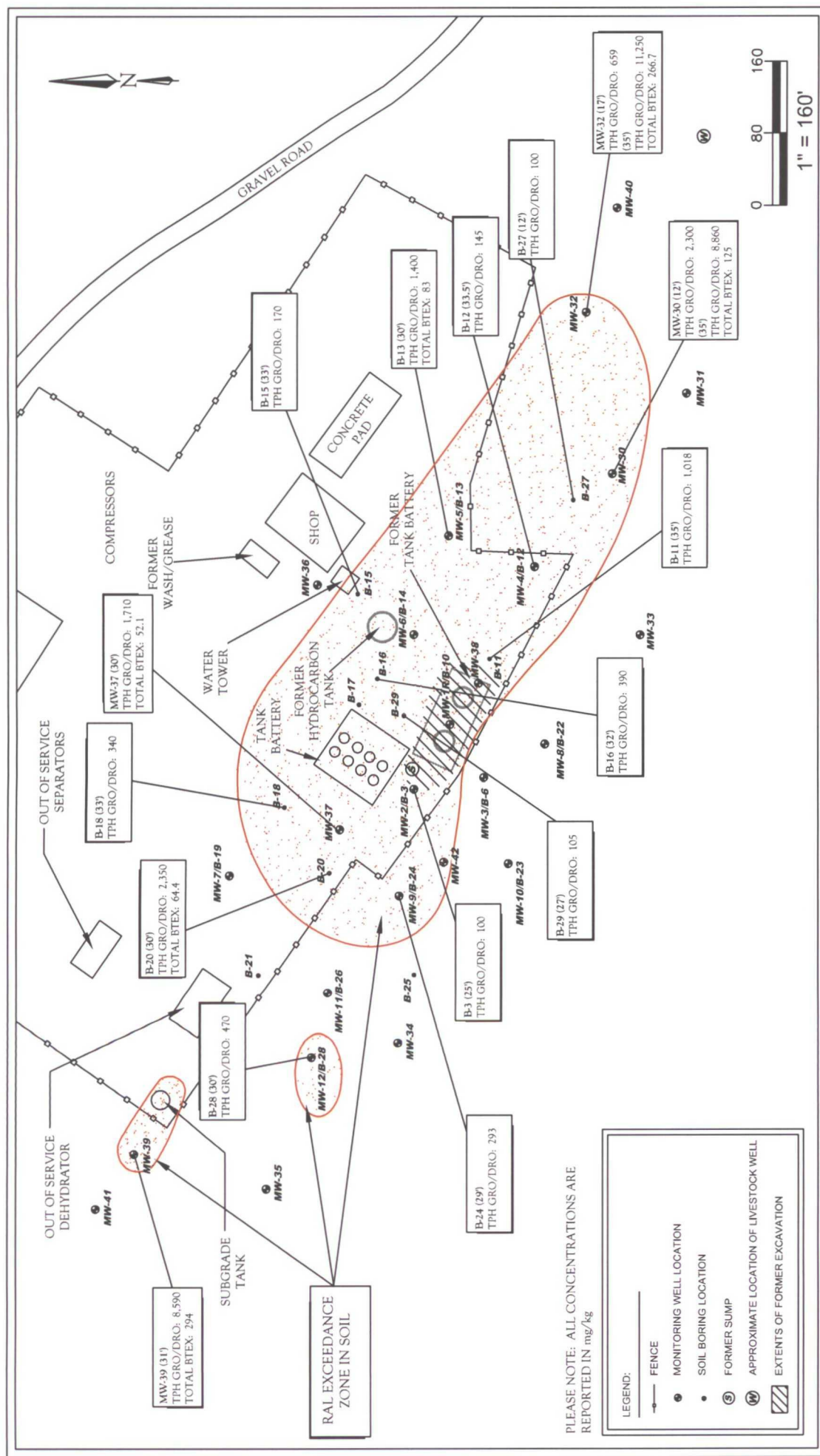
SWG Project No. 0410006

**Southwest**  
 GEOSCIENCE

**FIGURE 4B**  
 CROSS SECTION B - B'







Lindrith Compressor Station  
 SE 1/4 S18 T24N R5W  
 N36° 18' 32.41"; W107° 23' 48.09"  
 Rio Arriba County, New Mexico

SW/G Project No. 0410006

Southwest  
 GEOSCIENCE

FIGURE 6  
 REMEDIATION ACTION  
 LEVEL (RAL) EXCEEDANCE  
 ZONE IN SOIL



APPENDIX B

Tables

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TABLE 1  
Lindrieth Compressor Station - Soil Borings  
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH Total (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100			
Soil Boring Advanced by Lodestar/LTE											
B-1*	12.15.09	15.0	0.057	0.19	<0.5	0.22	<0.967	28	<10	NA	<38
B-1*	12.15.09	25.0	0.25	0.84	0.1	0.81	2	82	<10	NA	<92
B-2*	12.15.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	ND
B-3	12.17.09	25.0	0.27	1.2	0.24	2.2	3.91	100	<10	NA	<110
B-3	12.17.09	30.0	<0.05	0.36	0.11	1.0	<1.52	19	<10	NA	<29
B-3	12.17.09	35.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	ND
B-4*	12.17.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	ND
B-5*	12.17.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	ND
B-6	12.17.09	25-30	<0.05	0.06	<0.05	0.11	<0.27	8	<10	NA	<18
B-6	12.17.09	35.0	<0.05	0.15	<0.05	0.23	<0.48	12	<10	NA	<22
B-6	12.17.09	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	ND
B-10	10.18.10	22.0	<0.25	1.0	0.3	3.4	<4.95	64	<10	<50	<124
B-10	10.18.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-11	10.19.10	35.0	2.6	15	3.3	28	48.9	1,000	18	<50	<1068
B-11	10.19.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-12	10.20.10	33.5	0.31	1.8	0.75	5.4	8.26	130	15	<50	<195
B-12	10.20.10	48.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-13	10.20.10	30.0	<2.5	17	9.0	57	<85.5	1,000	400	810	2210
B-13	10.20.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-14	10.21.10	28.0	<0.05	0.067	<0.05	0.37	<0.537	13	30	74	117
B-14	10.21.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-15	10.22.10	33.0	<0.50	<0.50	<0.50	<1.0	ND	<50	170	210	<430
B-15	10.22.10	35.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-16	10.22.10	32.0	<0.50	2.9	1.6	13	<18	260	130	150	540
B-16	10.22.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-17	10.22.10	33.0	<0.10	<0.10	0.12	1.2	<1.52	31	51	78	160
B-17	10.22.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-18	10.25.10	33.0	<0.20	0.79	0.98	7.7	<9.67	230	110	120	460
B-18	10.25.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-19	10.25.10	33.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	<82
B-19	10.25.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-20	10.25.10	30.0	<1.0	7.9	6.5	50	<65.4	1,900	450	420	2770
B-20	10.26.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-21	10.26.10	23.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-21	10.27.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-22	10.27.10	24.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-22	10.28.10	42.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-23	10.29.10	33.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-23	10.29.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-24	10.29.10	29.0	<0.25	1.6	0.73	6.9	<9.48	230	63	210	503
B-24	10.29.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
BH25	11.01.10	39.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-26	11.02.10	29.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
B-26	11.02.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND

TABLE 1  
Lindrieth Compressor Station - Soil Borings  
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	TPH Total (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100			
B-27	11.02.10	12.0	<0.05	<0.05	<0.05	0.11	<0.26	<25	100	290	<415
B-27	11.02.10	33.0	<0.05	<0.05	<0.05	0.26	<0.41	30	33	98	161
BH-27	11.03.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
BH-28	11.03.10	30.0	<0.05	<0.05	0.22	2.4	<2.72	110	360	680	1150
BH-28	11.03.10	45.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	<50	ND
BH-29	11.04.10	27.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	100	130	<235
BH-29	11.04.10	40.0	<0.05	<0.05	<0.05	<0.10	ND	6.6	<10	<50	<66.6
Soil Boring Advanced by SWG											
MW-30	8.15.11	12.0	<0.47	<0.47	<0.47	<0.94	ND	<47	2,300	NA	<2347
MW-30	8.15.11	35.0	<0.48	7.0	18	100	125	8,500	360	NA	8,860
MW-31	8.15.11	16.0	<0.24	<0.24	<0.24	<0.47	ND	<24	<9.9	NA	ND
MW-31	8.15.11	37.0	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.6	NA	ND
MW-32	8.16.11	17.0	<0.50	1.2	2.4	16	19.6	640	19	NA	659
MW-32	8.16.11	35.0	9.7	34	33	190	266.7	11,000	250	NA	11,250
MW-33	8.16.11	35.0	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.8	NA	ND
MW-34	8.17.11	30.0	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<10	NA	ND
MW-35	8.17.11	30.0	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.9	NA	ND
MW-35	8.17.11	36.0	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<10	NA	ND
MW-36	8.18.11	30.0	<0.049	<0.049	<0.049	<0.098	ND	10	<10	NA	<20
MW-36	8.18.11	35.0	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10	NA	ND
MW-37	8.19.11	26.0	<0.049	<0.049	<0.049	<0.097	ND	<4.9	27	NA	<31.9
MW-37	8.19.11	30.0	1.2	5.7	5.2	40	52.1	1,400	310	NA	1,710
MW-38	8.19.11	34.0	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<10	NA	ND
MW-38	8.19.11	28.0	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<9.8	NA	ND
MW-39	8.22.11	31.0	11	18	35	230	294	7,600	990	NA	8,590
MW-40	8.23.11	32.0	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<9.8	NA	ND
MW-40	8.23.11	35.0	<0.047	<0.047	<0.047	<0.093	ND	<4.7	<10	NA	ND
MW-41	8.23.11	30.0	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.9	NA	ND
MW-42	8.23.11	27.0	<0.048	<0.048	0.058	0.85	0.908	15	12	NA	27

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

NA = Not Analyzed

NE = Not Established

NAPL = Non-aqueous phase liquid

\* = boring location from former condensate tank leak. Not shown on map due to scale.



TABLE 2  
Lindrieth Compressor Station  
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)	TPH MRO (mg/L)	pH (Standard Units)	Nitrate (mg/L)	Iron (mg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10	750	750	620	NE	NE	NE	6-9	10	1.0*
MW-1*	12.30.09	1,900	2,600	120	870	NA	NA	NA	NA	NA	NA
MW-1R	11.16.10	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-1R	6.24.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-1R	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-2	12.30.09	3,000	3,200	270	1,900	NA	NA	NA	NA	NA	NA
MW-2	11.16.10	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-2	6.24.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-2	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-3	12.30.09	130	370	76	530	NA	NA	NA	NA	NA	NA
MW-3	11.16.10	5,500	62	350	1,000	16	<1.0	<5.0	7.16	<1.0	210
MW-3	6.24.11	5,700	3,300	340	2,300	31	1.7	NA	NA	NA	NA
MW-3	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-4	11.16.10	2,600	1,600	280	1,700	0.35	3.1	<5.0	6.93	<1.0	470
MW-4	6.24.11	3,900	1,600	220	1,400	26	<1.0	NA	NA	NA	NA
MW-4	9.21.11	4,000	1,700	280	1,700	32	1.1	NA	NA	NA	NA
MW-5	11.15.10	4.4	<1.0	6.3	22	2.2	1.4	<5.0	6.82	<1.0	47
MW-5	6.24.11	1.2	<1.0	31	19	0.52	<1.0	NA	NA	NA	NA
MW-5	9.21.11	1.9	<1.0	3.8	9.7	0.62	1.1	NA	NA	NA	NA
MW-6	11.16.10	2,400	65	230	1,200	0.42	1.4	<5.0	6.57	<1.0	140
MW-6	6.24.11	4,500	68	1,200	1,200	25	<1.0	NA	NA	NA	NA
MW-6	9.21.11	4,900	67	330	1,800	32	1.4	NA	NA	NA	NA
MW-7	11.16.10	8.9	2.6	5.9	50	1.5	<1.0	<5.0	7.29	<1.0	53
MW-7	6.24.11	2.3	<1.0	<1.0	<2.0	0.35	<1.0	NA	NA	NA	NA
MW-7	9.21.11	3.3	<1.0	<1.0	4.9	0.57	<1.0	NA	NA	NA	NA
MW-8	11.15.10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0	7.36	<1.0	7.8
MW-8	6.24.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-8	9.20.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-9	11.16.10	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-9	6.24.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-9	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-10	11.15.10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0	7.57	<1.0	52
MW-10	6.24.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-10	9.20.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-11	11.16.10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0	7.09	<1.0	13
MW-11	6.24.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-11	9.20.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-12	11.15.10	23	16	13	84	1.3	<1.0	<5.0	7.28	<1.0	39
MW-12	6.24.11	27	<1.0	5.6	9.4	0.51	1.0	NA	NA	NA	NA
MW-12	9.21.11	63	<1.0	17	26	0.81	<1.0	NA	NA	NA	NA
MW-30	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-31	9.20.11	<1.0	1.2	1.1	7.4	0.23	<1.0	NA	NA	NA	NA
MW-32	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-33	9.20.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-34	9.20.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA

TABLE 2  
Lindriith Compressor Station  
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)	TPH MRO (mg/L)	pH (Standard Units)	Nitrate (mg/L)	Iron (mg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10	750	750	620	NE	NE	NE	6-9	10	1.0*
MW-35	9.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	NA	NA	NA	NA
MW-36	9.21.11	<1.0	<1.0	<1.0	<2.0	0.15	<1.0	NA	NA	NA	NA
MW-37	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-38	9.21.11	2,100	440	270	1,800	26	1.3	NA	NA	NA	NA
MW-39	9.21.11	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NAPL	NA	NA	NA
MW-40	9.20.11	<1.0	<1.0	<1.0	<2.0	0.21	<1.0	NA	NA	NA	NA
MW-41	9.20.11	<10.0	<10.0	<10.0	30	<0.50	2.4	NA	NA	NA	NA
MW-42	9.20.11	70	42	4.1	33	0.62	<1.0	NA	NA	NA	NA

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

NA = Not Analyzed

NE = Not Established

NAPL = Non-aqueous phase liquid

\* = Replaced by MW-1R

**TABLE 3**  
**Lindrith Compressor Station**  
**GROUNDWATER ELEVATIONS**

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-1R	11.11.10	31.73	33.29	1.56	6494.62	6462.31
MW-1R	11.15.10	31.93	32.86	0.93	6494.62	6462.35
MW-1R	6.22.11	32.57	35.50	2.93	6494.62	6460.97
MW-1R <sup>1</sup>	9.21.11	32.55	38.20	5.65	6494.64	6460.00
MW-2	11.11.10	30.12	30.15	0.03	6491.08	6460.95
MW-2	11.15.10	29.86	29.90	0.04	6491.08	6461.21
MW-2	6.22.11	30.64	30.73	0.09	6491.08	6460.41
MW-2	9.21.11	30.70	30.72	0.02	6491.08	6460.37
MW-3	11.11.10	ND	32.08	ND	6492.78	6460.70
MW-3	11.15.10	ND	32.96	ND	6492.78	6459.82
MW-3	6.22.11	ND	32.61	ND	6492.78	6460.17
MW-3	9.21.11	32.71	32.72	0.01	6492.78	6460.07
MW-4	11.11.10	ND	33.31	ND	6493.99	6460.68
MW-4	11.15.10	ND	33.10	ND	6493.99	6460.89
MW-4	6.22.11	ND	33.45	ND	6493.99	6460.54
MW-4	9.21.11	ND	34.46	ND	6493.99	6459.53
MW-5	11.11.10	ND	34.37	ND	6496.06	6461.69
MW-5	11.15.10	ND	35.64	ND	6496.06	6460.42
MW-5	6.22.11	ND	34.52	ND	6496.06	6461.54
MW-5	9.21.11	ND	34.57	ND	6496.06	6461.49
MW-6	11.11.10	ND	33.79	ND	6494.72	6460.93
MW-6	11.15.10	ND	33.63	ND	6494.72	6461.09
MW-6	6.22.11	ND	34.09	ND	6494.72	6460.63
MW-6	9.21.11	ND	33.86	ND	6494.72	6460.86
MW-7	11.11.10	ND	36.65	ND	6492.49	6455.84
MW-7	11.15.10	ND	34.70	ND	6492.49	6457.79
MW-7	6.22.11	ND	34.87	ND	6492.49	6457.62
MW-7	9.21.11	ND	34.95	ND	6492.49	6457.54
MW-8	11.11.10	ND	34.39	ND	6493.10	6458.71
MW-8	11.15.10	ND	32.16	ND	6493.10	6460.94
MW-8	6.22.11	ND	32.70	ND	6493.10	6460.40
MW-8	9.21.11	ND	32.66	ND	6493.10	6460.44
MW-9	11.11.10	29.46	30.34	0.88	6491.17	6461.38
MW-9	11.15.10	30.47	31.24	0.77	6491.17	6460.42
MW-9	6.22.11	30.76	32.14	1.38	6491.17	6459.90
MW-9	9.21.11	30.76	32.46	1.70	6491.17	6459.78
MW-10	11.11.10	ND	29.85	ND	6492.39	6462.54
MW-10	11.15.10	ND	31.83	ND	6492.39	6460.56
MW-10	6.22.11	ND	32.40	ND	6492.39	6459.99
MW-10	9.21.11	ND	32.62	ND	6492.39	6459.77
MW-11	11.11.10	ND	34.05	ND	6489.84	6455.79
MW-11	11.15.10	ND	35.05	ND	6489.84	6454.79
MW-11	6.22.11	ND	34.23	ND	6489.84	6455.61
MW-11	9.21.11	ND	34.03	ND	6489.84	6455.81



**TABLE 3**  
**Lindrith Compressor Station**  
**GROUNDWATER ELEVATIONS**

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-12	11.11.10	ND	32.04	ND	6487.95	6455.91
MW-12	11.15.10	ND	32.74	ND	6487.95	6455.21
MW-12	6.22.11	ND	32.73	ND	6487.95	6455.22
MW-12	9.21.11	ND	32.93	ND	6487.95	6455.02
MW-30	9.21.11	36.06	36.14	0.08	6498.21	6462.12
MW-31	9.21.11	ND	37.99	ND	6498.24	6460.25
MW-32	9.21.11	37.42	38.31	0.89	6499.30	6461.55
MW-33	9.21.11	ND	32.90	ND	6493.04	6460.14
MW-34	9.21.11	ND	34.50	ND	6488.60	6454.10
MW-35	9.21.11	ND	34.36	ND	6485.71	6451.35
MW-36	9.21.11	ND	35.16	ND	6496.77	6461.61
MW-37	9.21.11	32.58	33.10	0.52	6492.96	6460.19
MW-38	9.21.11	ND	34.68	ND	6495.10	6460.42
MW-39	9.21.11	31.83	33.12	1.29	6486.85	6454.54
MW-40	9.21.11	ND	35.47	ND	6498.65	6463.18
MW-41	9.21.11	ND	32.67	ND	6487.00	6454.33
MW-42	9.21.11	ND	29.97	ND	6490.10	6460.13

BTOC - below top of casing

AMSL - above mean sea level

TOC - top of casing

\* - corrected for presence of phase-separated hydrocarbon using a site-specific density correction factor of 0.63

NA - not applicable

1 - MW-1R re-surveyed 09/01/11

APPENDIX C

Monitoring Well Soil Boring Logs

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Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.15.11  
 Date Completed: 8.15.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Soil Boring: MW-30  
 Project #: 0410006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers

**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

Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES

### SOIL CLASSIFICATION

SURFACE ELEVATION:

SILTY SAND, Moderate Yellowish Brown, Dry, No Odor

CLAYEY SILT, Dark Yellowish Brown, Dry, Hard No Odor

SILTY SAND, Moderate Yellowish Brown, Dry, No Odor

SHALEY SAND, Pale Olive, Very Slight Moisture, Slight Petroleum Hydrocarbon Odor

SANDSTONE, Light Olive Gray to Yellowish Gray, Slight Moisture, Faint Petroleum Hydrocarbon Odor

0	0	0	0	0	0	0
1	0	0	0	0	0	0
2	16	46	-	-	5	-
3	-	-	-	-	-	-
4	-	-	-	-	10	-
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	-	-	-	-	-	-
15	-	-	-	-	-	-
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-
21	-	-	-	-	-	-
22	-	-	-	-	-	-
23	-	-	-	-	-	-
24	-	-	-	-	-	-
25	-	-	-	-	-	-
26	-	-	-	-	-	-
27	-	-	-	-	-	-
28	-	-	-	-	-	-
29	-	-	-	-	-	-
30	-	-	-	-	-	-
31	-	-	-	-	-	-
32	-	-	-	-	-	-
33	-	-	-	-	-	-
34	-	-	-	-	-	-
35	-	-	-	-	-	-
36	-	-	-	-	-	-
37	-	-	-	-	-	-
38	-	-	-	-	-	-
39	-	-	-	-	-	-
40	-	-	-	-	-	-
41	-	-	-	-	-	-
42	-	-	-	-	-	-
43	-	-	-	-	-	-
44	-	-	-	-	-	-
45	-	-	-	-	-	-
46	-	-	-	-	-	-
47	-	-	-	-	-	-
48	-	-	-	-	-	-
49	-	-	-	-	-	-
50	-	-	-	-	-	-

Too Hard  
Switch to Split Spoon

Staining and Odor @ 34'

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

**Southwest**  
GEOSCIENCE

Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.15.11  
 Date Completed: 8.15.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Soil Boring: MW-30 (continued)  
 Project #: 04-10006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers



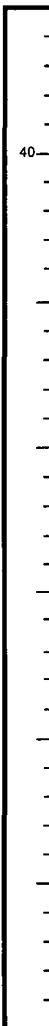












**BORING METHOD**  
 HSA - HOLLOW STEM AUGERS  
 CFA - CONTINUOUS FLIGHT AUGERS  
 GP - GEOPROBE  
 AR - AIR ROTARY

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

**GROUNDWATER DEPTH**  
 ∇ AT COMPLETION  
 ∇ AT WELL STABILIZATION

Well Diam: NA  
 Screen Size: NA  
 Screen Length: NA  
 Casing Length: NA

### BORING AND SAMPLING NOTES

Section Well Detail	SOIL CLASSIFICATION		Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/FID Readings (ppm)	BORING AND SAMPLING NOTES																																																																																																																																																																																																																																					
	SURFACE ELEVATION:																																																																																																																																																																																																																																														
	SANDSTONE, Light Olive, Gray to Yellowish Gray, Slight Moisture, Faint Petroleum Hydrocarbon Odor																																																																																																																																																																																																																																														

Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.15.11  
 Date Completed: 8.15.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Soil Boring: MW-31  
 Project #: 0410006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers

**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

Well Diam: NA  
 Screen Size: NA  
 Screen Length: NA  
 Casing Length: NA

Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES

Soil Classification
SURFACE ELEVATION:

Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
SILTY SAND, Moderate Yellowish Brown to Pale Yellowish, Dry, No Odor	5					5	
						1	
						1	
						1	
						0	
						0	
						0	
						0	
						0	
						0	
SILTY SAND with some GRAVEL, Moderate Yellowish Brown, Dry, Hard 5' - 6', No Odor	5					1	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
SILTY SAND, Pale Yellowish Brown to Moderate Yellowish Brown, Dry, No Odor	10					0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
SILTY SAND with CLAY, Moderate Yellowish Brown, Hard, Dry, Slight Petroleum Hydrocarbon Staining	15					1	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
SANDSTONE, Very Fine to Fine, Yellowish Gray to Pale Yellowish Brown, Dry No Odor	20					2	
						0	
						2	
						0	
						1	
						0	
						0	
						2	
						0	
						1	
	25					0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
	30					1	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	

SILTY SAND, Moderate Yellowish Brown to Pale Yellowish, Dry, No Odor

SILTY SAND with some GRAVEL, Moderate Yellowish Brown, Dry, Hard 5' - 6', No Odor

SILTY SAND, Pale Yellowish Brown to Moderate Yellowish Brown, Dry, No Odor

SILTY SAND with CLAY, Moderate Yellowish Brown, Hard, Dry, Slight Petroleum Hydrocarbon Staining

SANDSTONE, Very Fine to Fine, Yellowish Gray to Pale Yellowish Brown, Dry No Odor

- Moist @ 35'

After 15' - Too Hard  
Switch to Split Spoon

Fe Staining @ 35'

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

**Southwest**  
GEOSCIENCE

# MONITORING WELL LOG

Soil Boring: MW-31 (continued)

Project #: 0410006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers

## BORING AND SAMPLING NOTES

## SURFACE ELEVATION:

**End of Boring @ 40'**

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

# Southwest GEOSCIENCE

Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.16.11  
 Date Completed: 8.16.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Soil Boring: MW-32  
 Project #: 0410006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers

**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

Well Diam: NA  
 Screen Size: NA  
 Screen Length: NA  
 Casing Length: NA

### BORING AND SAMPLING NOTES

Well Depth	SOIL CLASSIFICATION		Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/FID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:									
	SILTY SAND, Moderate to Yellowish Brown, Dry, No Odor									
	CLAYEY SILT, Moderate Yellowish Brown to Dark Yellowish Brown, Dry, Hard, No Odor									
	SILTY SAND, Moderate Yellowish Tan, Dry, No Odor									
	SILT, Moderate to Dark Yellowish Brown, Dry, Hard, No Odor									
	SILTY SAND, Dark Yellowish Brown, Dry, Firm, No Odor									
	SAND, Moderate Yellowish Brown, Loose, Fine to Very Fine, Dry, No Odor									
	SILT/SAND, Moderate Yellowish Brown to Dusky Yellowish Brown, Dry, No Odor									
	SANDSTONE, Moderate Gray, Slightly Moist, No Odor, Possible Staining									
	SHALE/MUDSTONE, Moderate Dark Gray, Slightly Moist, Petroleum Hydrocarbon Odor									
	SANDSTONE, Moderate Gray, Slight Moisture, Hard, Petroleum Hydrocarbon Odor									
	SILTY SANDSTONE/SHALEY SANDSTONE, Light Brown to Moderate Gray, Iron Staining									

Core Refused @ 15'  
 Switch to Split Spoon

Not Enough to Sample  
 Wet @ 35'

Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

# MONITORING WELL LOG

## DRILLING & SAMPLING INFORMATION

Date Started: 8.16.11  
 Date Completed: 8.16.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Soil Boring: MW-32 (continued)  
 Project #: 0410006  
 Drawn By: Cristi Randolph  
 Approved By: Kyle Summers

Well Diam: NA  
 Screen Size: NA  
 Screen Length: NA  
 Casing Length: NA

**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

## BORING AND SAMPLING NOTES

## SOIL CLASSIFICATION

SURFACE ELEVATION:

End of Boring @ 40'

Stratum  
Depth

Depth  
Scale

Sample  
No.

Sample Interval

% Recovery

Groundwater Depth

FID/PID Readings (ppm)

453

260

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

Southwest  
GEOSCIENCE



Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.17.11  
 Date Completed: 8.17.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Monitoring Well Number: MW-33  
 Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

**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

Well Diam:  
 Screen Size: 0.01"  
 Screen Length: 10'  
 Casing Length: 30'

### BORING AND SAMPLING NOTES

Soil Description	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	Boring and Sampling Notes
<b>SOIL CLASSIFICATION</b> SURFACE ELEVATION:								
SILTY SAND, Moderate Yellowish Brown, Stiff, Dry, No Odor								
SILTY SAND, Moderate Yellowish Brown to Dark Yellowish Brown, Loose, Dry, No Odor								
SILTY SAND, Moderate Yellowish Brown to Pale Brown, Loose, Dry, No Odor								
SHALEY SAND, Pale Tan, Dry, No Odor								
SILTY SANDSTONE with some CLAY content, Pale Yellowish Brown to Moderate Yellowish Brown, Dark Iron Staining in Cracks, Moist @ 34', No Odor								
SHALEY SAND								

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

**Southwest**  
 GEOSCIENCE

Client: Enterprise Field Services, LLC  
 Project Name: Lindreth Compressor Station  
 Project Location: Rio Arriba County, NM  
 Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.17.11  
 Date Completed: 8.17.11  
 Drilling Company: Enviro-Drill  
 Driller: Rodney Hammer  
 Geologist: Kyle Summers, C.P.G.  
 Boring Method: HSA  
 Bore Hole Dia: 8"  
 Sampler OD: 3.5"

Monitoring Well Number: MW-33 (Continued)  
 Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

**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

Well Diam: \_\_\_\_\_  
 Screen Size: 0.01"  
 Screen Length: 10'  
 Casing Length: 30'

### BORING AND SAMPLING NOTES

### SOIL CLASSIFICATION

SURFACE ELEVATION: \_\_\_\_\_

SHALEY SAND (continued), Moderate Gray, Wet, No Odor

Bottom of Boring @ 40 ft bgs

Stratum

Depth Scale

Sample No.

Sample Interval

% Recovery

Groundwater Depth

FLUID/ID Readings (ppm)

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

**Southwest**  
 GEOSCIENCE

## MONITORING WELL LOG

Monitoring Well Number: MW-34

Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

BORING AND  
SAMPLING NOTES

Monitor Well Detail	SOIL CLASSIFICATION		Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater	FID/FID Rec
	SURFACE ELEVATION:								

				O	
				O	
				O	
				O	
5				O	
				O	
				I	
				O	
				O	
10				O	
				O	
				O	
				O	
15				O	
				O	
				O	
				O	
20				O	
				O	
				O	
				O	
25				O	
				-	
				O	Switch to Split Spoon @ 27 ft bgs
				I	
				-	
30	25' - 36'			19	
				-	
				I	
				-	
				-	
				I	

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

# Southwest GEOSCIENCE



Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.17.11  
Date Completed: 8.17.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-35  
Project #: 0410006  
Drawn By: RDH  
Approved By: Kyle Summers

**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

### BORING AND SAMPLING NOTES

Well Depth Feet	SOIL CLASSIFICATION		Stratum	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:									
	SILTY SAND, Moderate Yellowish Brown, Fairly Fine Grained, Dry, No Odor									
	SILTY SAND, Moderate Yellowish Brown, Fairly Loose, Dry, No Odor									
	SILTY SAND, Moderate Yellowish Brown to Pale Yellowish Brown, Loose, Firm @ 13 - 15.5 ft bgs, Dry, No Odor									
	SAND, Moderate Yellowish Brown, Fine Grained, Moist, No Odor									
	SAND, Moderate Yellowish Brown, Slightly Clayey, Moist, No Odor									
	SAND with CLAY, Yellowish Gray, Wet @ 34.5', No Odor									

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

Southwest  
GEOSCIENCE

Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.17.11  
Date Completed: 8.17.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-35 (Continued)  
Project #: 0410006  
Drawn By: RDH  
Approved By: Kyle Summers

**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

Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES

Soil Classification
SURFACE ELEVATION:

Soil Classification
<b>SAND with CLAY (continued)</b> SAND, Dusky Yellowish Brown, Dark Staining, Wet, No Odor Bottom of Boring @ 37 ft bgs

Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)
35 - 36					1
					2
40					
45					
50					
55					
60					
65					

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

**Southwest**  
GEOSCIENCE

## MONITORING WELL LOG

## DRILLING & SAMPLING INFORMATION

Date Started: 8.18.11  
Date Completed: 8.19.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G. Well Diam:  
Boring Method: HSA Screen Size:  
Bore Hole Dia: 8" Screen Length:  
Sampler OD: 3.5" Casing Length:

Monitoring Well Number: MW-36  
Project #: 0410006  
Drawn By: BDH  
Approved By: Kyle Summers

BORING METHOD	SAMPLER TYPE	GROUNDWATER DEPTH
HSA - HOLLOW STEM AUGERS	CB - FIVE FOOT CORE BARREL	▽ AT COMPLETION
CFA - CONTINUOUS FLIGHT AUGERS	SS - DRIVEN SPLIT SPOON	▽ AT WELL STABILIZATION
GP - GEOPROBE	ST - PRESSED SHELBY TUBE	
AR - AIR ROTARY		

BORING AND  
SAMPLING NOTES

SOIL CLASSIFICATION		Stratum Depth	Depth Scale	Sample No.	Sample Int.	% Recovery	Groundwater	FID/PID Reading
SURFACE ELEVATION:								
SILTY SAND & GRAVEL, Moderate Yellowish Brown, Dry, No Odor  Hand Dug			0					-
NO RECOVERY			5					-
SILTY SAND, Moderate to Dark Yellowish Brown, Dusky Yellow Brown @ 17 - 18 ft bgs, Fine to Very Fine Grained, Slightly Moist, No Odor			10					3
								2
								1
								0
								0
			15					0
								0
								0
								0
CLAYEY SAND, Moderate Yellowish Brown, Moist, No Odor			20					0
SAND, Moderate to Dark Yellowish Brown, Black @ 20 ft bgs, Fine to Very Fine Grained, Moist, No Odor								0
SAND, Pale Yellowish Brown, Fine to Very Fine Grained, Moist, No Odor								1
								1
								0
								0
SANDSTONE, Yellowish Gray, Slightly Moist, No Odor			25					2
								0
INTERBEDDED CLAY/MUDSTONE & SANDSTONE, Light Olive Gray Grading to Pale Yellowish Brown & Dark Yellowish Orange, Think Dark Organic Material @ 30 ft bgs. Moist, No Odor			30					2
								0
SAND, Black, Moist, No Odor								196
								1
								1
								2
								1
								4

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

# Southwest GEOSCIENCE

# MONITORING WELL LOG

Monitoring Well Number: MW-36 (Continued)

Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

Sample Interval	BORING AND SAMPLING NOTES
% Recovery	
Groundwater Depth	
FLU/PLD Readings (ppm)	

BORING METHOD	SAMPLER TYPE	GROUNDWATER DEPTH
HSA - HOLLOW STEM AUGERS	CB - FIVE FOOT CORE BARREL	▽ AT COMPLETION
CFA - CONTINUOUS FLIGHT AUGERS	SS - DRIVEN SPLIT SPOON	▽ AT WELL STABILIZATION
GP - GEOPROBE	ST - PRESSED SHELBY TUBE	
AR - AIR ROTARY		

[illegible]

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

# Southwest GEOSCIENCE





Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.19.11  
Date Completed: 8.19.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-37 (Continued)  
Project #: 0410006  
Drawn By: RDH  
Approved By: Kyle Summers

**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

Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES

SOIL CLASSIFICATION
SURFACE ELEVATION:

SOIL CLASSIFICATION
SILTY SAND (Continued)
Bottom of Boring @ 40 ft bgs

Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)
					102
					151
					167
					161
					43
40					
45					
50					
55					
60					
65					

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

Southwest  
GEOSCIENCE

Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.19.11  
Date Completed: 8.19.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-38  
Project #: 0410006  
Drawn By: RDH  
Approved By: Kyle Summers

**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

### BORING AND SAMPLING NOTES

Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)	BORING AND SAMPLING NOTES
<b>SOIL CLASSIFICATION</b>						
SURFACE ELEVATION:						
SILTY SAND						
SILTY SAND, Moderate to Pale Yellowish Brown, Moist, No Odor						
SANDY SILT, Dark Yellowish Brown, Moist, No Odor						
SILTY SAND, Moderate Yellowish Brown, Moist, No Odor						
WEATHERED SANDSTONE, Pale to Moderate Yellowish Brown with Black Spots						
SANDSTONE, Pale to Moderate Yellowish Brown with Black Spots, Iron Staining @ 28 - 35 ft bgs, Petroleum Hydrocarbon Odor @34'						
27' - 28'						
33' - 34'						
12						
450						
305						

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

Southwest  
GEOSCIENCE

## MONITORING WELL LOG

Monitoring Well Number: MW-38 (Continued)

Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

## BORING AND SAMPLING NOTES

Stratum  
DepthDepth  
Scale

					374
					388
					60
					37
					25

40  
45  
50  
55  
60  
65

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

# Southwest GEOSCIENCE

## MONITORING WELL LOG

Monitoring Well Number: MW-39

Project #: 0410006

Project #: 0410006

Drawn By: RDH

Approved By: Kyle Summers

Driller: Rodney Hammer

Geologist: Kyle Summers, C.P.G. Well Diam:

Boring Method: HSA Screen Size:

Bore Hole Dia: 8" Screen Length

Sampler OD: 3.5" Casing Length:

Well Diam:

Screen Size: 0.01"

Screen Length: 15'

Casing Length: 22'

## 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. BRESSED SHELF BY TUBE

ST - PRESSED SHELBY TUBE

GROUNDWATER DEPTH

▽ AT COMPLETION

$\bar{y}$  AT COMPLETION  
 $\bar{y}$  AT WELL STABILIZATION

### AT WELL STABILIZATION

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

Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.22.11  
Date Completed: 8.22.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-39 (Continued)  
Project #: 0410006  
Drawn By: BDH  
Approved By: Kyle Summers

**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

### BORING AND SAMPLING NOTES

SOIL CLASSIFICATION	Stratum Depth	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)
SURFACE ELEVATION:							

SANDSTONE (Continued)

Bottom of Boring @ 37 ft bgs

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

**Southwest**  
GEOSCIENCE

## MONITORING WELL LOG

## DRILLING & SAMPLING INFORMATION

Date Started: 8.23.11  
Date Completed: 8.23.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G. Well Diam:  
Boring Method: HSA Screen Size:  
Bore Hole Dia: 8" Screen Length:  
Sampler OD: 3.5" Casing Length:

Monitoring Well Number: MW-40  
Project #: 0410006  
Drawn By: RDH  
Approved By: Kyle Summers

## 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

## BORING AND SAMPLING NOTES

Soil Classification		Stratum	Depth Scale	Sample No.	Sample Int.	% Recovery	Groundwater	PHD/PID Res.
SURFACE ELEVATION:								
SANDY SILT, Moderate to Dark Yellowish Brown, Firm, Dry, No Odor								0
SILTY SAND, Pale Yellowish Brown, Loose to 8 ft bgs, Firm @ 8 - 13.5 ft bgs, Dry, No Odor								0
SAND, Moderate Yellowish Brown, Very Fine to to Fine Grained, Slight Silt, Dry, No Odor								0
SILTY SANDSTONE, Pale Yellowish Brown to Light Olive Brown, Firm, Dry, No Odor								0
SANDSTONE, Moderate Yellowish Brown, Very Fine to Fine Grained, Dry, No Odor								0
SANDSTONE, Brownish Black, Hard, Slightly Moist, No Odor								0
SAND STONE, Pale Yellowish Gray, Dry, No Odor								0
SANDSTONE, Pale Orange to Moderate Yellowish Orange, Moist, No Odor								0
SAND, Pale Yellowish Brown & Slight Olive Orange, Wet @ 32 ft bgs, No Odor								0
SAND, Grayish Black, Wet, No Odor								0

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

# Southwest GEOSCIENCE

# MONITORING WELL LOG

Monitoring Well Number: MW-40 (Continued)

Project #: 0410006  
 Drawn By: BDH  
 Approved By: Kyle Summers

Sample Interval	BORING AND SAMPLING NOTES
% Recovery	
Groundwater Depth	
Fluoride Headings (ppm)	

BORING AND  
SAMPLING NOTES

## SURFACE ELEVATION:

SANDY SHALE, Moderate Gray, Moist, No Odor  
Bottom of Boring @ 40 ft bgs

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

# Southwest GEOSCIENCE



Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.23.11  
Date Completed: 8.23.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-41  
Project #: 0410006  
Drawn By: BDH  
Approved By: Kyle Summers

**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

### BORING AND SAMPLING NOTES

Boring Well Depth	SOIL CLASSIFICATION		Stratum	Depth Scale	Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/ID Readings (ppm)	BORING AND SAMPLING NOTES
	SURFACE ELEVATION:									
	SILTY SAND, Moderate to Dark Yellowish Brown, Dry, Odor									
	SANDY SILT, Pale to Moderate Yellowish Brown, Dry, No Odor									
	SAND, Pale Yellowish Brown, Very Fine to Fine Grained, Slight Silt, Dry, No Odor									
	SILTY SAND, Pale Yellowish Brown, Firm, Dry, No Odor									
	SILTY SAND, Pale Yellowish Brown, Firm, Dry, No Odor									
	SANDY SANDSTONE, Moderate Yellowish Brown, Thin Dusky Brown Layers @ 27 - 29 ft bgs, Loose to Firm, Slightly Moist, Very Moist @ 30 ft bgs, No Odor									

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

Southwest  
GEOSCIENCE

## MONITORING WELL LOG

Monitoring Well Number: MW-41 (Continued)

Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

BORING AND  
SAMPLING NOTES

Monitor Well Detail		SOIL CLASSIFICATION		Stratum	Depth Scale	Sample No.	Sample Int.	% Recovery	Groundwat.	FID/1D Res.
		SURFACE ELEVATION:								
		SANDY SANDSTONE (Continued)								36 32 38
		Bottom of Boring @ 38 ft bgs								

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

Client: Enterprise Field Services, LLC  
Project Name: Lindreth Compressor Station  
Project Location: Rio Arriba County, NM  
Project Manager: Kyle Summers

## MONITORING WELL LOG

### DRILLING & SAMPLING INFORMATION

Date Started: 8.23.11  
Date Completed: 8.23.11  
Drilling Company: Enviro-Drill  
Driller: Rodney Hammer  
Geologist: Kyle Summers, C.P.G.  
Boring Method: HSA  
Bore Hole Dia: 8"  
Sampler OD: 3.5"

Monitoring Well Number: MW-42  
Project #: 0410006  
Drawn By: BDH  
Approved By: Kyle Summers

**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

### BORING AND SAMPLING NOTES

Stratum Depth	SOIL CLASSIFICATION		Sample No.	Sample Interval	% Recovery	Groundwater Depth	FID/PID Readings (ppm)
	SURFACE ELEVATION:						
	SANDY SILT, Moderate Yellowish Brown to Moderate Brown, Firm, Dry, No Odor						
	SILTY SAND, Pale to Moderate Yellowish Brown, Very Fine Grained, Loose, Increasing Firmness with Depth, Dry, No Odor						
	SAND, Pale Yellowish Brown, Very Fine to Fine Grained, Dry, No Odor						
	SILTY SAND, Moderate Yellowish Brown with Occasional Dark Brown Streak, Slightly Moist, No Odor						
	SAND/SANDSTONE, Pale to Dark Yellowish Orange, Iron Oxidation, Slightly Moist, No Odor						
	SHALEY SANDSTONE, Dark Yellowish Brown to Olive Gray, Slightly Moist, Hydrocarbon Odor						
	SHALEY SANDSTONE, Dark Yellowish Brown, Very Moist, Hydrocarbon Odor						
	SANDSTONE, Moderate Yellowish Brown, Moist, No Odor to Slight Hydrocarbon Odor						

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

Southwest  
GEOSCIENCE

## MONITORING WELL LOG

Monitoring Well Number: MW-42 (Continued)

Project #: 0410006  
 Drawn By: RDH  
 Approved By: Kyle Summers

BORING AND  
SAMPLING NOTES

## SURFACE ELEVATION:

CLAYEY SANDSTONE, Medium Gray, Slightly Moist,  
Slight Hydrocarbon Odor

Bottom of Boring @ 38 ft bgs

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

# Southwest GEOSCIENCE

APPENDIX D

Laboratory Data Reports & Chain of Custody  
Documentation

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## COVER LETTER

Friday, August 26, 2011

Kyle Summers  
Southwest Geoscience  
606 S. Rio Grande Unit A  
Aztec, NM 87410

TEL: (903) 821-5603  
FAX

RE: Lindrith CS

Order No.: 1108777

Dear Kyle Summers:

Hall Environmental Analysis Laboratory, Inc. received 10 sample(s) on 8/18/2011 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 26, 2011.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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,

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

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901  
AZ license # AZ0682

**Hall Environmental Analysis Laboratory, Inc.****Date: 26-Aug-11****Analytical Report****CLIENT:** Southwest Geoscience**Client Sample ID:** MW-30 (12')**Lab Order:** 1108777**Collection Date:** 8/15/2011 1:00:00 PM**Project:** Lindrith CS**Date Received:** 8/18/2011**Lab ID:** 1108777-01**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	2300	190		mg/Kg	20	8/23/2011 12:03:20 PM
Surr: DNOP	0	73.4-123	S	%REC	20	8/23/2011 12:03:20 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	47		mg/Kg	10	8/22/2011 4:12:16 PM
Surr: BFB	91.3	75.2-136		%REC	10	8/22/2011 4:12:16 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.47		mg/Kg	10	8/22/2011 4:12:16 PM
Toluene	ND	0.47		mg/Kg	10	8/22/2011 4:12:16 PM
Ethylbenzene	ND	0.47		mg/Kg	10	8/22/2011 4:12:16 PM
Xylenes, Total	ND	0.94		mg/Kg	10	8/22/2011 4:12:16 PM
Surr: 4-Bromofluorobenzene	92.5	90.3-115		%REC	10	8/22/2011 4:12:16 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-30 (35")

Lab Order: 1108777

Collection Date: 8/15/2011 2:00:00 PM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	360	9.7		mg/Kg	1	8/22/2011 12:53:59 PM
Surr: DNOP	95.3	73.4-123		%REC	1	8/22/2011 12:53:59 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	8500	480		mg/Kg	100	8/24/2011 3:19:46 PM
Surr: BFB	166	75.2-136	S	%REC	100	8/24/2011 3:19:46 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.48		mg/Kg	10	8/22/2011 4:41:07 PM
Toluene	7.0	0.48		mg/Kg	10	8/22/2011 4:41:07 PM
Ethylbenzene	18	0.48		mg/Kg	10	8/22/2011 4:41:07 PM
Xylenes, Total	100	0.96		mg/Kg	10	8/22/2011 4:41:07 PM
Surr: 4-Bromofluorobenzene	209	90.3-115	S	%REC	10	8/22/2011 4:41:07 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-31 (16')

Lab Order: 1108777

Collection Date: 8/15/2011 5:00:00 PM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-03

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/22/2011 1:28:56 PM
Surr: DNOP	78.8	73.4-123		%REC	1	8/22/2011 1:28:56 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	8/24/2011 4:17:31 PM
Surr: BFB	93.3	75.2-136		%REC	5	8/24/2011 4:17:31 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.24		mg/Kg	5	8/24/2011 4:17:31 PM
Toluene	ND	0.24		mg/Kg	5	8/24/2011 4:17:31 PM
Ethylbenzene	ND	0.24		mg/Kg	5	8/24/2011 4:17:31 PM
Xylenes, Total	ND	0.47		mg/Kg	5	8/24/2011 4:17:31 PM
Surr: 4-Bromofluorobenzene	93.8	80-120		%REC	5	8/24/2011 4:17:31 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-31 (37')

Lab Order: 1108777

Collection Date: 8/15/2011 5:30:00 PM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-04

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/22/2011 2:03:45 PM
Surr: DNOP	85.7	73.4-123		%REC	1	8/22/2011 2:03:45 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2011 4:46:28 PM
Surr: BFB	93.6	75.2-136		%REC	1	8/24/2011 4:46:28 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/24/2011 4:46:28 PM
Toluene	ND	0.048		mg/Kg	1	8/24/2011 4:46:28 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2011 4:46:28 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/24/2011 4:46:28 PM
Surr: 4-Bromofluorobenzene	97.2	80-120		%REC	1	8/24/2011 4:46:28 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-32 (17')

Lab Order: 1108777

Collection Date: 8/16/2011 10:00:00 AM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-05

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	19	10		mg/Kg	1	8/22/2011 2:38:37 PM
Surr: DNOP	83.4	73.4-123		%REC	1	8/22/2011 2:38:37 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	640	50		mg/Kg	10	8/22/2011 6:07:47 PM
Surr: BFB	191	75.2-136	S	%REC	10	8/22/2011 6:07:47 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.50		mg/Kg	10	8/22/2011 6:07:47 PM
Toluene	1.2	0.50		mg/Kg	10	8/22/2011 6:07:47 PM
Ethylbenzene	2.4	0.50		mg/Kg	10	8/22/2011 6:07:47 PM
Xylenes, Total	16	0.99		mg/Kg	10	8/22/2011 6:07:47 PM
Surr: 4-Bromofluorobenzene	103	90.3-115		%REC	10	8/22/2011 6:07:47 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 26-Aug-11

Analytical Report

<b>CLIENT:</b>	Southwest Geoscience	<b>Client Sample ID:</b>	MW-32 (35')
<b>Lab Order:</b>	1108777	<b>Collection Date:</b>	8/16/2011 11:10:00 AM
<b>Project:</b>	Lindrith CS	<b>Date Received:</b>	8/18/2011
<b>Lab ID:</b>	1108777-06	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	250	9.7		mg/Kg	1	8/22/2011 3:48:40 PM
Surr: DNOP	94.5	73.4-123		%REC	1	8/22/2011 3:48:40 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	11000	470		mg/Kg	100	8/24/2011 5:15:25 PM
Surr: BFB	167	75.2-136	S	%REC	100	8/24/2011 5:15:25 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	9.7	0.47		mg/Kg	10	8/22/2011 6:36:38 PM
Toluene	34	0.47		mg/Kg	10	8/22/2011 6:36:38 PM
Ethylbenzene	33	0.47		mg/Kg	10	8/22/2011 6:36:38 PM
Xylenes, Total	190	9.4		mg/Kg	100	8/24/2011 5:15:25 PM
Surr: 4-Bromofluorobenzene	244	90.3-115	S	%REC	10	8/22/2011 6:36:38 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

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-33 (35')

Lab Order: 1108777

Collection Date: 8/16/2011 3:20:00 PM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-07

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/22/2011 4:23:20 PM
Surr: DNOP	79.5	73.4-123		%REC	1	8/22/2011 4:23:20 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2011 6:13:11 PM
Surr: BFB	93.6	75.2-136		%REC	1	8/24/2011 6:13:11 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/24/2011 6:13:11 PM
Toluene	ND	0.048		mg/Kg	1	8/24/2011 6:13:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2011 6:13:11 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/24/2011 6:13:11 PM
Surr: 4-Bromofluorobenzene	96.8	80-120		%REC	1	8/24/2011 6:13:11 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-34 (30')

Lab Order: 1108777

Collection Date: 8/17/2011 10:40:00 AM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-08

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/22/2011 4:57:59 PM
Surr: DNOP	85.5	73.4-123		%REC	1	8/22/2011 4:57:59 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2011 6:42:04 PM
Surr: BFB	93.5	75.2-136		%REC	1	8/24/2011 6:42:04 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/24/2011 6:42:04 PM
Toluene	ND	0.048		mg/Kg	1	8/24/2011 6:42:04 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2011 6:42:04 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/24/2011 6:42:04 PM
Surr: 4-Bromofluorobenzene	98.0	80-120		%REC	1	8/24/2011 6:42:04 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108777  
Project: Lindrith CS  
Lab ID: 1108777-09

Client Sample ID: MW-35 (30')  
Collection Date: 8/17/2011 2:50:00 PM  
Date Received: 8/18/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/22/2011 5:32:37 PM
Surr: DNOP	87.6	73.4-123		%REC	1	8/22/2011 5:32:37 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/22/2011 8:03:24 PM
Surr: BFB	93.9	75.2-136		%REC	1	8/22/2011 8:03:24 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	8/22/2011 8:03:24 PM
Toluene	ND	0.049		mg/Kg	1	8/22/2011 8:03:24 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/22/2011 8:03:24 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/22/2011 8:03:24 PM
Surr: 4-Bromofluorobenzene	96.1	90.3-115		%REC	1	8/22/2011 8:03:24 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits



**Hall Environmental Analysis Laboratory, Inc.**

Date: 26-Aug-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-35 (36')

Lab Order: 1108777

Collection Date: 8/17/2011 3:10:00 PM

Project: Lindrith CS

Date Received: 8/18/2011

Lab ID: 1108777-10

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/22/2011 6:07:14 PM
Surr: DNOP	90.0	73.4-123		%REC	1	8/22/2011 6:07:14 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/22/2011 8:32:16 PM
Surr: BFB	93.1	75.2-136		%REC	1	8/22/2011 8:32:16 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/22/2011 8:32:16 PM
Toluene	ND	0.048		mg/Kg	1	8/22/2011 8:32:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/22/2011 8:32:16 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/22/2011 8:32:16 PM
Surr: 4-Bromofluorobenzene	96.3	90.3-115		%REC	1	8/22/2011 8:32:16 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Southwest Geoscience  
Project: Lindrith CS

Work Order: 1108777

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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## Method: EPA Method 8015B: Diesel Range Organics

Sample ID: MB-28127 MBLK Batch ID: 28127 Analysis Date: 8/22/2011 10:01:41 AM

Diesel Range Organics (DRO) ND mg/Kg 10

Motor Oil Range Organics (MRO) ND mg/Kg 50

Sample ID: LCS-28127 LCS Batch ID: 28127 Analysis Date: 8/22/2011 10:36:05 AM

Diesel Range Organics (DRO) 40.39 mg/Kg 10 50 0 80.8 66.7 119

Sample ID: LCSD-28127 LCSD Batch ID: 28127 Analysis Date: 8/22/2011 11:10:31 AM

Diesel Range Organics (DRO) 41.07 mg/Kg 10 50 0 82.1 66.7 119 1.67 18.9

## Method: EPA Method 8015B: Gasoline Range

Sample ID: MB-28120 MBLK Batch ID: 28120 Analysis Date: 8/22/2011 12:06:48 PM

Gasoline Range Organics (GRO) ND mg/Kg 5.0

Sample ID: LCS-28120 LCS Batch ID: 28120 Analysis Date: 8/22/2011 10:27:33 PM

Gasoline Range Organics (GRO) 28.59 mg/Kg 5.0 25 0 114 86.4 132

## Method: EPA Method 8021B: Volatiles

Sample ID: MB-28120 MBLK Batch ID: 28120 Analysis Date: 8/22/2011 12:06:48 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-28120 LCS Batch ID: 28120 Analysis Date: 8/22/2011 10:56:21 PM

Benzene 0.9498 mg/Kg 0.050 1 0 95.0 83.3 107

Toluene 0.9948 mg/Kg 0.050 1 0 99.5 74.3 115

Ethylbenzene 0.9945 mg/Kg 0.050 1 0 99.4 80.9 122

Xylenes, Total 3.101 mg/Kg 0.10 3 0 103 85.2 123

## Qualifiers:

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

# CHAIN OF CUSTODY RECORD

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants Office Location <u>A26c</u>		Laboratory: <u>Hall</u> Address: <u>Albuquerque</u> Contact: <u>Analy Freeman</u> Phone: <u>505 345 3975</u> POISO #: _____ Sampler's Signature: <u>[Signature]</u>		ANALYSIS REQUESTED <u>TPH GAD/DRD 8021</u> <u>BTEX 8021</u>		Lab use only Due Date: _____ Temp. of coolers when received (C°): 1 2 3 4 5 Page <u>1</u> of <u>1</u>	
Project Name <u>Lindville CS</u> Project No. <u>0410006</u>		No/Type of Containers VOA AG 250 ml P/O		Lab Sample ID (Lab Use Only)			
Matrix	Date	Time	Identifying Marks of Sample(s)	Depth	Depth	Depth	Lab Sample ID (Lab Use Only)
S	8/5/11	1300	X MW-30 (12')	11	12		1108777-1
		1400	MW-30 (35')	34	35		-2
		1700	MW-31 (16')	15	16		-3
		1730	MW-31 (37')	36	37		-4
	8/16/11	1000	MW-32 (17')	16	17		-5
		1110	MW-32 (35')	34	35		-6
	8/16/11	1520	MW-33 (35')	34	35		-7
	8/17/11	1040	MW-34 (30')	29	30		-8
		1450	MW-35 (30')	29	30		-9
		1510	MW-35 (36')	35	36		-10

Turn around time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush		NOTES:	
Relinquished by (Signature)	Date: <u>8/11/11</u>	Received by (Signature)	Date: <u>8/11/11</u>
Relinquished by (Signature)	Date: <u>8/11/11</u>	Received by (Signature)	Date: <u>8/11/11</u>
Relinquished by (Signature)	Date: <u>8/11/11</u>	Received by (Signature)	Date: <u>8/11/11</u>
Relinquished by (Signature)	Date: _____	Received by (Signature)	Date: _____



## COVER LETTER

Friday, September 09, 2011

Kyle Summers  
Southwest Geoscience  
606 S. Rio Grande Unit A  
Aztec, NM 87410

TEL: (903) 821-5603  
FAX

RE: Lindrith CS

Order No.: 1108B44


Dear Kyle Summers:

Hall Environmental Analysis Laboratory, Inc. received 11 sample(s) on 8/25/2011 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](http://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: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-01

Client Sample ID: MW-36 (30')  
Collection Date: 8/18/2011 12:30:00 PM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/2/2011 7:29:15 AM
Surr: DNOP	119	73.4-123		%REC	1	9/2/2011 7:29:15 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	10	4.9		mg/Kg	1	8/31/2011 4:10:20 PM
Surr: BFB	155	75.2-136	S	%REC	1	8/31/2011 4:10:20 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	8/31/2011 4:10:20 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2011 4:10:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2011 4:10:20 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/31/2011 4:10:20 PM
Surr: 4-Bromofluorobenzene	99.1	80-120		%REC	1	8/31/2011 4:10:20 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-02

Client Sample ID: MW-36 (35')  
Collection Date: 8/18/2011 12:50:00 PM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/1/2011 4:15:16 PM
Surr: DNOP	110	73.4-123		%REC	1	9/1/2011 4:15:16 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/31/2011 2:14:33 PM
Surr: BFB	94.8	75.2-136		%REC	1	8/31/2011 2:14:33 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.047		mg/Kg	1	8/31/2011 2:14:33 PM
Toluene	ND	0.047		mg/Kg	1	8/31/2011 2:14:33 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/31/2011 2:14:33 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/31/2011 2:14:33 PM
Surr: 4-Bromofluorobenzene	96.1	80-120		%REC	1	8/31/2011 2:14:33 PM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-03

Client Sample ID: MW-37 (26')  
Collection Date: 8/19/2011 10:30:00 AM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	27	9.9		mg/Kg	1	9/1/2011 4:50:11 PM
Surr: DNOP	108	73.4-123		%REC	1	9/1/2011 4:50:11 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2011 4:39:13 PM
Surr: BFB	130	75.2-136		%REC	1	8/31/2011 4:39:13 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	8/31/2011 4:39:13 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2011 4:39:13 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2011 4:39:13 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2011 4:39:13 PM
Surr: 4-Bromofluorobenzene	99.2	80-120		%REC	1	8/31/2011 4:39:13 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-04

Client Sample ID: MW-37 (30')  
Collection Date: 8/19/2011 11:00:00 AM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	310	100		mg/Kg	10	9/2/2011 12:15:20 AM
Surr: DNOP	0	73.4-123	S	%REC	10	9/2/2011 12:15:20 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	1400	97		mg/Kg	20	8/31/2011 3:12:31 PM
Surr: BFB	234	75.2-136	S	%REC	20	8/31/2011 3:12:31 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	1.2	0.97		mg/Kg	20	8/31/2011 3:12:31 PM
Toluene	5.7	0.97		mg/Kg	20	8/31/2011 3:12:31 PM
Ethylbenzene	5.2	0.97		mg/Kg	20	8/31/2011 3:12:31 PM
Xylenes, Total	40	1.9		mg/Kg	20	8/31/2011 3:12:31 PM
Surr: 4-Bromofluorobenzene	108	80-120		%REC	20	8/31/2011 3:12:31 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

Page 4 of 11



**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-38 (34')

Lab Order: 1108B44

Collection Date: 8/19/2011 2:30:00 PM

Project: Lindrith CS

Date Received: 8/25/2011

Lab ID: 1108B44-05

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/1/2011 5:24:51 PM
Surr: DNOP	107	73.4-123		%REC	1	9/1/2011 5:24:51 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2011 5:08:10 PM
Surr: BFB	99.8	75.2-136		%REC	1	8/31/2011 5:08:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	8/31/2011 5:08:10 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2011 5:08:10 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2011 5:08:10 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/31/2011 5:08:10 PM
Surr: 4-Bromofluorobenzene	96.9	80-120		%REC	1	8/31/2011 5:08:10 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-38 (28")

Lab Order: 1108B44

Collection Date: 8/19/2011 12:50:00 PM

Project: Lindrith CS

Date Received: 8/25/2011

Lab ID: 1108B44-06

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/1/2011 5:59:44 PM
Surr: DNOP	108	73.4-123		%REC	1	9/1/2011 5:59:44 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2011 5:37:03 PM
Surr: BFB	95.2	75.2-136		%REC	1	8/31/2011 5:37:03 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/31/2011 5:37:03 PM
Toluene	ND	0.048		mg/Kg	1	8/31/2011 5:37:03 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2011 5:37:03 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/31/2011 5:37:03 PM
Surr: 4-Bromofluorobenzene	96.0	80-120		%REC	1	8/31/2011 5:37:03 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

Page 6 of 11

# Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-07

Client Sample ID: MW-39 (31')  
Collection Date: 8/22/2011 1:00:00 PM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	990	99		mg/Kg	10	9/2/2011 12:49:28 AM
Surr: DNOP	0	73.4-123	S	%REC	10	9/2/2011 12:49:28 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	7600	230		mg/Kg	50	8/31/2011 6:05:52 PM
Surr: BFB	333	75.2-136	S	%REC	50	8/31/2011 6:05:52 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	11	2.3		mg/Kg	50	8/31/2011 6:05:52 PM
Toluene	18	2.3		mg/Kg	50	8/31/2011 6:05:52 PM
Ethylbenzene	35	2.3		mg/Kg	50	8/31/2011 6:05:52 PM
Xylenes, Total	230	4.7		mg/Kg	50	8/31/2011 6:05:52 PM
Surr: 4-Bromofluorobenzene	116	80-120		%REC	50	8/31/2011 6:05:52 PM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-08

Client Sample ID: MW-40 (32')  
Collection Date: 8/23/2011 9:20:00 AM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/1/2011 6:34:22 PM
Surr: DNOP	111	73.4-123		%REC	1	9/1/2011 6:34:22 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2011 7:03:45 PM
Surr: BFB	98.5	75.2-136		%REC	1	8/31/2011 7:03:45 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	8/31/2011 7:03:45 PM
Toluene	ND	0.048		mg/Kg	1	8/31/2011 7:03:45 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2011 7:03:45 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/31/2011 7:03:45 PM
Surr: 4-Bromofluorobenzene	99.0	80-120		%REC	1	8/31/2011 7:03:45 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-11

Analytical Report

<b>CLIENT:</b>	Southwest Geoscience	<b>Client Sample ID:</b>	MW-40 (35')
<b>Lab Order:</b>	1108B44	<b>Collection Date:</b>	8/23/2011 9:25:00 AM
<b>Project:</b>	Lindrith CS	<b>Date Received:</b>	8/25/2011
<b>Lab ID:</b>	1108B44-09	<b>Matrix:</b>	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/1/2011 7:08:45 PM
Surr: DNOP	108	73.4-123		%REC	1	9/1/2011 7:08:45 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2011 12:49:54 AM
Surr: BFB	96.2	75.2-136		%REC	1	9/1/2011 12:49:54 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.047		mg/Kg	1	9/1/2011 12:49:54 AM
Toluene	ND	0.047		mg/Kg	1	9/1/2011 12:49:54 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2011 12:49:54 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/1/2011 12:49:54 AM
Surr: 4-Bromofluorobenzene	98.0	80-120		%REC	1	9/1/2011 12:49:54 AM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
 E Estimated value  
 J Analyte detected below quantitation limits  
 NC Non-Chlorinated  
 PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1108B44  
Project: Lindrith CS  
Lab ID: 1108B44-10

Client Sample ID: MW-41 (30')  
Collection Date: 8/23/2011 12:20:00 PM  
Date Received: 8/25/2011  
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/1/2011 8:17:00 PM
Surr: DNOP	108	73.4-123		%REC	1	9/1/2011 8:17:00 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2011 1:18:44 AM
Surr: BFB	94.9	75.2-136		%REC	1	9/1/2011 1:18:44 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/1/2011 1:18:44 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2011 1:18:44 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2011 1:18:44 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/1/2011 1:18:44 AM
Surr: 4-Bromofluorobenzene	97.6	80-120		%REC	1	9/1/2011 1:18:44 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 09-Sep-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-42 (27')

Lab Order: 1108B44

Collection Date: 8/23/2011 2:45:00 PM

Project: Lindrith CS

Date Received: 8/25/2011

Lab ID: 1108B44-11

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JB
Diesel Range Organics (DRO)	12	10		mg/Kg	1	9/1/2011 8:51:21 PM
Surr: DNOP	119	73.4-123		%REC	1	9/1/2011 8:51:21 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	15	4.8		mg/Kg	1	9/1/2011 1:47:35 AM
Surr: BFB	134	75.2-136		%REC	1	9/1/2011 1:47:35 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/1/2011 1:47:35 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2011 1:47:35 AM
Ethylbenzene	0.058	0.048		mg/Kg	1	9/1/2011 1:47:35 AM
Xylenes, Total	0.85	0.096		mg/Kg	1	9/1/2011 1:47:35 AM
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/1/2011 1:47:35 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Southwest Geoscience

Project: Lindrith CS

Work Order: 1108B44

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-28267		MBLK				Batch ID: 28267	Analysis Date: 9/1/2011 2:30:32 PM				
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-28267		LCS				Batch ID: 28267	Analysis Date: 9/1/2011 3:05:27 PM				
Diesel Range Organics (DRO)	44.32	mg/Kg	10	50	0	88.6	66.7	119			
Sample ID: LCSD-28267		LCSD				Batch ID: 28267	Analysis Date: 9/1/2011 3:40:21 PM				
Diesel Range Organics (DRO)	45.97	mg/Kg	10	50	0	91.9	66.7	119	3.66	18.9	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-28256		MBLK				Batch ID: 28256	Analysis Date: 8/31/2011 12:45:23 PM				
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-28256		LCS				Batch ID: 28256	Analysis Date: 8/31/2011 11:47:36 AM				
Gasoline Range Organics (GRO)	25.62	mg/Kg	5.0	25	0	102	86.4	132			
Method: EPA Method 8021B: Volatiles											
Sample ID: 1108B44-01AMSD		MSD				Batch ID: 28256	Analysis Date: 8/31/2011 11:52:15 PM				
Benzene	0.9428	mg/Kg	0.047	0.939	0.0148	98.8	67.2	113	2.33	14.3	
Toluene	1.017	mg/Kg	0.047	0.939	0.0122	107	62.1	116	2.14	15.9	
Ethylbenzene	1.067	mg/Kg	0.047	0.939	0	114	67.9	127	0.654	14.4	
Xylenes, Total	3.265	mg/Kg	0.094	2.817	0.0719	113	60.6	134	0.0631	12.6	
Sample ID: MB-28256		MBLK				Batch ID: 28256	Analysis Date: 8/31/2011 12:45:23 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-28256		LCS				Batch ID: 28256	Analysis Date: 8/31/2011 12:16:30 PM				
Benzene	0.9598	mg/Kg	0.050	1	0.0156	94.4	83.3	107			
Toluene	0.9828	mg/Kg	0.050	1	0	98.3	74.3	115			
Ethylbenzene	0.9796	mg/Kg	0.050	1	0	98.0	80.9	122			
Xylenes, Total	2.975	mg/Kg	0.10	3	0	99.2	85.2	123			
Sample ID: 1108B44-01AMS		MS				Batch ID: 28256	Analysis Date: 8/31/2011 11:23:22 PM				
Benzene	0.9650	mg/Kg	0.048	0.963	0.0148	98.7	67.2	113			
Toluene	1.039	mg/Kg	0.048	0.963	0.0122	107	62.1	116			
Ethylbenzene	1.060	mg/Kg	0.048	0.963	0	110	67.9	127			
Xylenes, Total	3.263	mg/Kg	0.096	2.887	0.0719	111	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:

8/25/11  
8/29/2011

Work Order Number 1108B44

Received by: AMG

Checklist completed by:

Signature

8/25/11

Date

Sample ID labels checked by:

Initials

K S

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Container/Temp Blank temperature?

3.7°

<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

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants		Laboratory: <u>Hall</u> Address: <u>Albuquerque</u> Contact: <u>Andy Freeman</u> Phone: <u>505 345 3975</u> PO/SO #: _____ Sampler's Signature: <u>[Signature]</u>		ANALYSIS REQUESTED <u>TPH GRD/DD 8015</u> <u>PTX 8031</u>		Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>37</u> 1 2 3 4 5 Page <u>1</u> of <u>3</u>					
Project Manager: <u>Ryle Summers</u> Sample's Name: <u>Ryle Summers</u>		Project Name: <u>Lindri th C.S</u> No/Type of Containers: _____		Lab Sample ID (Lab Use Only): <u>1108B44-1</u>		2 3 4 5 6 7 8 9 10					
Matrix	Date	Time	C o m p	G I a b	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L	250 ml	P/O
S	8/18/11	1230	X		MW-36 (30')	29	30				1
	8/18/11	1250			MW-36 (35')	34	35				
	8/19/11	1030			MW-37 (26')	25	26				
		1100			MW-37 (30')	29	30				
		1430			MW-38 (34')	33	34				
		1250			MW-38 (28')	27	28				
	8/22/11	1300			MW-39 (31')	30	31				
	8/23/11	0920			MW-40 (32')	31	32				
		0925			MW-40 (35')	34	35				
		1220			MW-41 (30')	29	30				
Turn around time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush											
Relinquished by (Signature)			Date: <u>8/23/11</u> Time: <u>1745</u>			Received by: (Signature)			Date: <u>8/23/11</u> Time: <u>1745</u>		
Relinquished by (Signature)			Date: <u>8/24/11</u> Time: <u>1540</u>			Received by: (Signature)			Date: <u>8/25/11</u> Time: <u>1100</u>		
Relinquished by (Signature)			Date: _____ Time: _____			Received by: (Signature)			Date: _____ Time: _____		
Relinquished by (Signature)			Date: _____ Time: _____			Received by: (Signature)			Date: _____ Time: _____		
Matrix Container: <u>WW - Wastewater</u> <u>VOA - 40 ml vial</u> W - Water A/G - Amber / Or Glass 1 Liter S - Soil SD - Solid L - Liquid 250 ml - Glass wide mouth A - Air Bag C - Charcoal tube P/O - Plastic or other SL - sludge O - Oil											

# CHAIN OF CUSTODY RECORD

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants Office Location <u>Arlene</u> Project Manager <u>K. Summers</u> Sample Name <u>Kyle Summers</u>				Laboratory: <u>Hill</u> Address: <u>ABA</u> Contact: <u>Andy Freeman</u> Phone: <u>505 335 3975</u> PO/SO #: _____ Sample's Signature: _____				ANALYSIS REQUESTED <u>TPH &amp; BOD/DO 8015</u> <u>1200 8/23/11</u> <u>TPH &amp; BOD/DO 8015</u> <u>1200 8/23/11</u>		Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>37</u> 1 <u>2</u> 2 <u>3</u> 3 <u>4</u> 4 <u>5</u> 5 Page <u>2</u> of <u>2</u> <u>ice</u>																																							
				Project Name: <u>Lindrieth CS</u> No/Type of Containers: _____ Identifying Marks of Sample(s): <u>MW-42 (27)</u> G r a b a b C o m p Date: <u>8/23/11 1445</u> Time: _____ Matrix: <u>S</u>		No/Type of Containers: _____ VOA: _____ A/G: <u>1 L</u> 250 ml P/O: <u>1 X</u> Lab Sample ID (Lab Use Only): <u>1108B44-11</u>																																											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Turn around time</th> <th><input checked="" type="checkbox"/> Normal</th> <th><input type="checkbox"/> 25% Rush</th> <th><input type="checkbox"/> 50% Rush</th> <th><input type="checkbox"/> 100% Rush</th> <th colspan="2">NOTES:</th> </tr> <tr> <td>Relinquished by (Signature): <u>[Signature]</u></td> <td>Date: <u>8/23/11</u></td> <td>Time: <u>1745</u></td> <td colspan="3">Received by (Signature): <u>[Signature]</u></td> <td>Date: <u>8/23/11</u></td> <td>Time: <u>1745</u></td> </tr> <tr> <td>Relinquished by (Signature): <u>[Signature]</u></td> <td>Date: <u>8/24/11</u></td> <td>Time: <u>1540</u></td> <td colspan="3">Received by (Signature): <u>[Signature]</u></td> <td>Date: <u>8/23/11</u></td> <td>Time: <u>1700</u></td> </tr> <tr> <td>Relinquished by (Signature): _____</td> <td>Date: _____</td> <td>Time: _____</td> <td colspan="3">Received by (Signature): _____</td> <td>Date: _____</td> <td>Time: _____</td> </tr> <tr> <td>Relinquished by (Signature): _____</td> <td>Date: _____</td> <td>Time: _____</td> <td colspan="3">Received by (Signature): _____</td> <td>Date: _____</td> <td>Time: _____</td> </tr> </table>										Turn around time		<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> 25% Rush	<input type="checkbox"/> 50% Rush	<input type="checkbox"/> 100% Rush	NOTES:		Relinquished by (Signature): <u>[Signature]</u>	Date: <u>8/23/11</u>	Time: <u>1745</u>	Received by (Signature): <u>[Signature]</u>			Date: <u>8/23/11</u>	Time: <u>1745</u>	Relinquished by (Signature): <u>[Signature]</u>	Date: <u>8/24/11</u>	Time: <u>1540</u>	Received by (Signature): <u>[Signature]</u>			Date: <u>8/23/11</u>	Time: <u>1700</u>	Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____			Date: _____	Time: _____	Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____			Date: _____	Time: _____
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Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____			Date: _____	Time: _____																																										
Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____			Date: _____	Time: _____																																										
Matrix Container: <u>WW - Wastewater</u> <u>VOA - 40 ml vial</u>		<u>W - Water</u> <u>A/G - Amber / Or Glass 1 Liter</u>		<u>S - Soil</u> <u>SD - Solid</u>		<u>L - Liquid</u> <u>250 ml - Glass wide mouth</u>		<u>C - Charcoal tube</u> <u>P/O - Plastic or other</u>																																									



## COVER LETTER

Friday, October 07, 2011

Kyle Summers  
Southwest Geoscience  
606 S. Rio Grande Unit A  
Aztec, NM 87410

TEL: (903) 821-5603  
FAX

RE: Lindrith Compressor Station

Order No.: 1109901

Dear Kyle Summers:

Hall Environmental Analysis Laboratory, Inc. received 17 sample(s) on 9/23/2011 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](http://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,

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

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901  
AZ license # AZ0682

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-01

Client Sample ID: MW-40  
Collection Date: 9/20/2011 1:00:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/28/2011 9:45:28 PM
Surr: DNOP	122	81.1-147		%REC	1	9/28/2011 9:45:28 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.21	0.050		mg/L	1	10/1/2011 2:47:14 PM
Surr: BFB	99.3	65.4-141		%REC	1	10/1/2011 2:47:14 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 2:47:14 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 2:47:14 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 2:47:14 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 2:47:14 PM
Surr: 4-Bromofluorobenzene	92.0	76.5-115		%REC	1	10/1/2011 2:47:14 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-02

Client Sample ID: MW-31  
Collection Date: 9/20/2011 1:35:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/28/2011 10:20:07 PM
Surr: DNOP	131	81.1-147		%REC	1	9/28/2011 10:20:07 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.23	0.050		mg/L	1	10/1/2011 3:17:18 PM
Surr: BFB	93.4	65.4-141		%REC	1	10/1/2011 3:17:18 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 3:17:18 PM
Toluene	1.2	1.0		µg/L	1	10/1/2011 3:17:18 PM
Ethylbenzene	1.1	1.0		µg/L	1	10/1/2011 3:17:18 PM
Xylenes, Total	7.4	2.0		µg/L	1	10/1/2011 3:17:18 PM
Surr: 4-Bromofluorobenzene	90.5	76.5-115		%REC	1	10/1/2011 3:17:18 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-03

Client Sample ID: MW-33  
Collection Date: 9/20/2011 2:20:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/28/2011 10:54:48 PM
Surr: DNOP	123	81.1-147		%REC	1	9/28/2011 10:54:48 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 3:47:11 PM
Surr: BFB	91.7	65.4-141		%REC	1	10/1/2011 3:47:11 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 3:47:11 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 3:47:11 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 3:47:11 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 3:47:11 PM
Surr: 4-Bromofluorobenzene	89.9	76.5-115		%REC	1	10/1/2011 3:47:11 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-04

Client Sample ID: MW-8  
Collection Date: 9/20/2011 2:55:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/28/2011 11:29:28 PM
Surr: DNOP	133	81.1-147		%REC	1	9/28/2011 11:29:28 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 4:17:22 PM
Surr: BFB	90.1	65.4-141		%REC	1	10/1/2011 4:17:22 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 4:17:22 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 4:17:22 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 4:17:22 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 4:17:22 PM
Surr: 4-Bromofluorobenzene	85.8	76.5-115		%REC	1	10/1/2011 4:17:22 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits



**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-05

Client Sample ID: MW-10  
Collection Date: 9/20/2011 3:30:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 12:04:05 AM
Surr: DNOP	137	81.1-147		%REC	1	9/29/2011 12:04:05 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 4:47:32 PM
Surr: BFB	86.8	65.4-141		%REC	1	10/1/2011 4:47:32 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 4:47:32 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 4:47:32 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 4:47:32 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 4:47:32 PM
Surr: 4-Bromofluorobenzene	82.0	76.5-115		%REC	1	10/1/2011 4:47:32 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

Page 5 of 17

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-06

Client Sample ID: MW-42  
Collection Date: 9/20/2011 4:00:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 12:38:28 AM
Surr: DNOP	132	81.1-147		%REC	1	9/29/2011 12:38:28 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.62	0.050		mg/L	1	10/2/2011 2:01:25 PM
Surr: BFB	113	65.4-141		%REC	1	10/2/2011 2:01:25 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	70	1.0		µg/L	1	10/2/2011 2:01:25 PM
Toluene	42	1.0		µg/L	1	10/2/2011 2:01:25 PM
Ethylbenzene	4.1	1.0		µg/L	1	10/2/2011 2:01:25 PM
Xylenes, Total	33	2.0		µg/L	1	10/2/2011 2:01:25 PM
Surr: 4-Bromofluorobenzene	104	76.5-115		%REC	1	10/2/2011 2:01:25 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-07

Client Sample ID: MW-34  
Collection Date: 9/20/2011 4:35:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 1:12:37 AM
Surr: DNOP	116	81.1-147		%REC	1	9/29/2011 1:12:37 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 5:47:24 PM
Surr: BFB	88.5	65.4-141		%REC	1	10/1/2011 5:47:24 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 5:47:24 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 5:47:24 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 5:47:24 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 5:47:24 PM
Surr: 4-Bromofluorobenzene	86.8	76.5-115		%REC	1	10/1/2011 5:47:24 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-08

Client Sample ID: MW-11  
Collection Date: 9/20/2011 5:05:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 1:47:02 AM
Surr: DNOP	124	81.1-147		%REC	1	9/29/2011 1:47:02 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 6:17:30 PM
Surr: BFB	92.5	65.4-141		%REC	1	10/1/2011 6:17:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 6:17:30 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 6:17:30 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 6:17:30 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 6:17:30 PM
Surr: 4-Bromofluorobenzene	90.8	76.5-115		%REC	1	10/1/2011 6:17:30 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-09

Client Sample ID: MW-12  
Collection Date: 9/21/2011 8:30:00 AM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 2:55:20 AM
Surr: DNOP	129	81.1-147		%REC	1	9/29/2011 2:55:20 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.81	0.050		mg/L	1	10/1/2011 6:47:30 PM
Surr: BFB	144	65.4-141	S	%REC	1	10/1/2011 6:47:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	63	1.0		µg/L	1	10/1/2011 6:47:30 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 6:47:30 PM
Ethylbenzene	17	1.0		µg/L	1	10/1/2011 6:47:30 PM
Xylenes, Total	26	2.0		µg/L	1	10/1/2011 6:47:30 PM
Surr: 4-Bromofluorobenzene	106	76.5-115		%REC	1	10/1/2011 6:47:30 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-10

Client Sample ID: MW-35  
Collection Date: 9/21/2011 9:05:00 AM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 3:30:00 AM
Surr: DNOP	143	81.1-147		%REC	1	9/29/2011 3:30:00 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2011 7:17:29 PM
Surr: BFB	98.8	65.4-141		%REC	1	10/1/2011 7:17:29 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/1/2011 7:17:29 PM
Toluene	ND	1.0		µg/L	1	10/1/2011 7:17:29 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2011 7:17:29 PM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2011 7:17:29 PM
Surr: 4-Bromofluorobenzene	95.5	76.5-115		%REC	1	10/1/2011 7:17:29 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-11

Client Sample ID: MW-41  
Collection Date: 9/21/2011 9:35:00 AM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	2.4	1.0		mg/L	1	9/29/2011 4:04:25 AM
Surr: DNOP	138	81.1-147		%REC	1	9/29/2011 4:04:25 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.50		mg/L	10	10/2/2011 12:17:27 AM
Surr: BFB	96.4	65.4-141		%REC	10	10/2/2011 12:17:27 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	10		µg/L	10	10/2/2011 12:17:27 AM
Toluene	ND	10		µg/L	10	10/2/2011 12:17:27 AM
Ethylbenzene	ND	10		µg/L	10	10/2/2011 12:17:27 AM
Xylenes, Total	30	20		µg/L	10	10/2/2011 12:17:27 AM
Surr: 4-Bromofluorobenzene	94.7	76.5-115		%REC	10	10/2/2011 12:17:27 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-12

Client Sample ID: MW-7  
Collection Date: 9/21/2011 10:30:00 AM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 4:38:51 AM
Surr: DNOP	120	81.1-147		%REC	1	9/29/2011 4:38:51 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.57	0.050		mg/L	1	10/2/2011 1:19:20 AM
Surr: BFB	119	65.4-141		%REC	1	10/2/2011 1:19:20 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	3.3	1.0		µg/L	1	10/2/2011 1:19:20 AM
Toluene	ND	1.0		µg/L	1	10/2/2011 1:19:20 AM
Ethylbenzene	ND	1.0		µg/L	1	10/2/2011 1:19:20 AM
Xylenes, Total	4.9	2.0		µg/L	1	10/2/2011 1:19:20 AM
Surr: 4-Bromofluorobenzene	95.6	76.5-115		%REC	1	10/2/2011 1:19:20 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits



**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience

Client Sample ID: MW-36

Lab Order: 1109901

Collection Date: 9/21/2011 11:05:00 AM

Project: Lindrith Compressor Station

Date Received: 9/23/2011

Lab ID: 1109901-13

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/29/2011 5:13:18 AM
Surr: DNOP	124	81.1-147		%REC	1	9/29/2011 5:13:18 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.15	0.050		mg/L	1	10/2/2011 1:49:23 AM
Surr: BFB	107	65.4-141		%REC	1	10/2/2011 1:49:23 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/2/2011 1:49:23 AM
Toluene	ND	1.0		µg/L	1	10/2/2011 1:49:23 AM
Ethylbenzene	ND	1.0		µg/L	1	10/2/2011 1:49:23 AM
Xylenes, Total	ND	2.0		µg/L	1	10/2/2011 1:49:23 AM
Surr: 4-Bromofluorobenzene	94.6	76.5-115		%REC	1	10/2/2011 1:49:23 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

**Analytical Report**

**CLIENT:** Southwest Geoscience  
**Lab Order:** 1109901  
**Project:** Lindrith Compressor Station  
**Lab ID:** 1109901-14

**Client Sample ID:** MW-6  
**Collection Date:** 9/21/2011 11:45:00 AM  
**Date Received:** 9/23/2011  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	1.4	1.0		mg/L	1	9/29/2011 5:47:30 AM
Surr: DNOP	118	81.1-147		%REC	1	9/29/2011 5:47:30 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	32	0.50		mg/L	10	10/2/2011 2:49:28 AM
Surr: BFB	105	65.4-141		%REC	10	10/2/2011 2:49:28 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	4900	50		µg/L	50	10/2/2011 2:19:27 AM
Toluene	67	10		µg/L	10	10/2/2011 2:49:28 AM
Ethylbenzene	330	10		µg/L	10	10/2/2011 2:49:28 AM
Xylenes, Total	1800	20		µg/L	10	10/2/2011 2:49:28 AM
Surr: 4-Bromofluorobenzene	101	76.5-115		%REC	10	10/2/2011 2:49:28 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-15

Client Sample ID: MW-38  
Collection Date: 9/21/2011 12:20:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	1.3	1.0		mg/L	1	9/29/2011 6:21:44 AM
Surr: DNOP	125	81.1-147		%REC	1	9/29/2011 6:21:44 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	26	2.5		mg/L	50	10/2/2011 3:49:19 AM
Surr: BFB	96.9	65.4-141		%REC	50	10/2/2011 3:49:19 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	2100	50		µg/L	50	10/2/2011 3:49:19 AM
Toluene	440	50		µg/L	50	10/2/2011 3:49:19 AM
Ethylbenzene	270	50		µg/L	50	10/2/2011 3:49:19 AM
Xylenes, Total	1800	100		µg/L	50	10/2/2011 3:49:19 AM
Surr: 4-Bromofluorobenzene	97.7	76.5-115		%REC	50	10/2/2011 3:49:19 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-16

Client Sample ID: MW-5  
Collection Date: 9/21/2011 1:00:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	1.1	1.0		mg/L	1	9/29/2011 6:55:33 AM
Surr: DNOP	131	81.1-147		%REC	1	9/29/2011 6:55:33 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	0.62	0.050		mg/L	1	10/2/2011 3:01:17 PM
Surr: BFB	177	65.4-141	S	%REC	1	10/2/2011 3:01:17 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	1.9	1.0		µg/L	1	10/2/2011 3:01:17 PM
Toluene	ND	1.0		µg/L	1	10/2/2011 3:01:17 PM
Ethylbenzene	3.8	1.0		µg/L	1	10/2/2011 3:01:17 PM
Xylenes, Total	9.7	2.0		µg/L	1	10/2/2011 3:01:17 PM
Surr: 4-Bromofluorobenzene	112	76.5-115		%REC	1	10/2/2011 3:01:17 PM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Oct-11

Analytical Report

CLIENT: Southwest Geoscience  
Lab Order: 1109901  
Project: Lindrith Compressor Station  
Lab ID: 1109901-17

Client Sample ID: MW-4  
Collection Date: 9/21/2011 1:45:00 PM  
Date Received: 9/23/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JB
Diesel Range Organics (DRO)	1.1	1.0		mg/L	1	9/29/2011 7:29:58 AM
Surr: DNOP	137	81.1-147		%REC	1	9/29/2011 7:29:58 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: RAA
Gasoline Range Organics (GRO)	32	0.50		mg/L	10	10/2/2011 5:19:08 AM
Surr: BFB	94.9	65.4-141		%REC	10	10/2/2011 5:19:08 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	4000	50		µg/L	50	10/2/2011 4:49:06 AM
Toluene	1700	50		µg/L	50	10/2/2011 4:49:06 AM
Ethylbenzene	280	10		µg/L	10	10/2/2011 5:19:08 AM
Xylenes, Total	1700	20		µg/L	10	10/2/2011 5:19:08 AM
Surr: 4-Bromofluorobenzene	92.0	76.5-116		%REC	10	10/2/2011 5:19:08 AM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Southwest Geoscience  
 Project: Lindrith Compressor Station

Work Order: 1109901

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range											
Sample ID: MB-28573		MBLK									
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Sample ID: LCS-28573		LCS									
Diesel Range Organics (DRO)	5.495	mg/L	1.0	5	0	110	74	157			
Sample ID: LCSD-28573		LCSD									
Diesel Range Organics (DRO)	8.136	mg/L	1.0	5	0	123	74	157	11.0	23	

Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1109901-03A MSD		MSD									
Gasoline Range Organics (GRO)	0.5692	mg/L	0.050	0.5	0	114	66.1	127	5.08	15.5	
Sample ID: 5ML RB		MBLK									
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 5ML RB		MBLK									
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		LCS									
Gasoline Range Organics (GRO)	0.5368	mg/L	0.050	0.5	0	107	92.1	117			
Sample ID: 2.5UG GRO LCS		LCS									
Gasoline Range Organics (GRO)	0.5604	mg/L	0.050	0.5	0	112	92.1	117			
Sample ID: 1109901-03A MS		MS									
Gasoline Range Organics (GRO)	0.5410	mg/L	0.050	0.5	0	108	66.1	127			

## 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: Lindrith Compressor Station

Work Order: 1109901

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 1109901-04A MSD		MSD				Batch ID: R48113	Analysis Date: 10/1/2011 9:17:28 PM				
Benzene	21.77	µg/L	1.0	20	0.698	105	76.6	119	2.96	16.4	
Toluene	21.62	µg/L	1.0	20	0	108	77.3	118	4.73	13.9	
Ethylbenzene	21.98	µg/L	1.0	20	0	110	76.6	114	0.635	13.5	
Xylenes, Total	66.09	µg/L	2.0	60	0	110	82	113	1.46	12.9	
Sample ID: 5ML RB		MBLK				Batch ID: R48113	Analysis Date: 10/1/2011 11:15:37 AM				
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 5ML RB		MBLK				Batch ID: R48130	Analysis Date: 10/2/2011 10:30:47 AM				
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		LCS				Batch ID: R48113	Analysis Date: 10/1/2011 1:17:15 PM				
Benzene	20.57	µg/L	1.0	20	0	103	80	120			
Toluene	21.64	µg/L	1.0	20	0	108	80	120			
Ethylbenzene	21.69	µg/L	1.0	20	0	108	80	120			
Xylenes, Total	65.75	µg/L	2.0	60	0	110	80	120			
Sample ID: 100NG BTEX LCS		LCS				Batch ID: R48130	Analysis Date: 10/2/2011 1:01:19 PM				
Benzene	21.89	µg/L	1.0	20	0	109	80	120			
Toluene	22.11	µg/L	1.0	20	0	111	80	120			
Ethylbenzene	21.47	µg/L	1.0	20	0	107	80	120			
Xylenes, Total	65.25	µg/L	2.0	60	0	109	80	120			
Sample ID: 1109901-04A MS		MS				Batch ID: R48113	Analysis Date: 10/1/2011 8:47:22 PM				
Benzene	22.42	µg/L	1.0	20	0.698	109	76.6	119			
Toluene	22.66	µg/L	1.0	20	0	113	77.3	118			
Ethylbenzene	22.12	µg/L	1.0	20	0	111	76.6	114			
Xylenes, Total	67.07	µg/L	2.0	60	0	112	82	113			

## Qualifiers:

E Estimated value  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 NC Non-Chlorinated  
 R RPD outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name SOUTHWEST GEOSCIENCE

Date Received:

9/23/2011

Work Order Number 1109901

Received by: AMG

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Container/Temp Blank temperature?

3.3°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

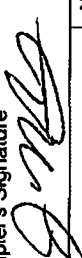

Corrective Action \_\_\_\_\_



# CHAIN OF CUSTODY RECORD

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants Office Location: <u>El Paso, AZ</u>		Laboratory: <u>PHASE Analytical</u> Address: <u>Albuquerque, NM</u> Contact: <u>Aditya Freeman</u> Phone: <u>(505) 345-3975</u> PO/SO #: _____		ANALYSIS REQUESTED <u>BTEX 0021 TPH GLO/DRO 0015</u>		Lab use only Due Date: _____ Temp. of coolers when received (C°): 1    2    3    4    5 Page <u>1</u> of <u>2</u>							
		Project Manager: <u>K. Summers</u> Sampler's Name: <u>J. Dubuison</u> Sampler's Signature: <u>[Signature]</u>		Project Name: <u>Lindrieth Compressor Station</u> No. Type of Containers: _____		Lab Sample ID (Lab Use Only)							
Matrix	Date	Time	Identifying Marks of Sample(s)	No. Type of Containers	VOA	A/G 1 L	250 ml	P/O	Lab Sample ID (Lab Use Only)				
W	9-20-11	1300	X MW-40	1	4				1109901-1				
↑	↑	1335	MW-31	↑	↑				-2				
		1420	MW-33						-3				
		1455	MW-8						-4				
		1530	MW-10						-5				
		1600	MW-42						-6				
		1635	MW-34						-7				
	9-20-11	1705	MW-11						-8				
	9-21-11	0830	MW-12						-9				
	↑	0905	MW-35						-10				
Turn around time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush													
Relinquished by (Signature)		Date: <u>9-21-11</u>		Time: <u>845</u>		Received by (Signature)		Date: <u>9/22/11</u>		Time: <u>845</u>		NOTES: <u>33</u>	
Relinquished by (Signature)		Date: <u>9/22/11</u>		Time: <u>810</u>		Received by (Signature)		Date: <u>9/23/11</u>		Time: <u>14:00</u>			
Relinquished by (Signature)		Date: _____		Time: _____		Received by (Signature)		Date: _____		Time: _____			
Relinquished by (Signature)		Date: _____		Time: _____		Received by (Signature)		Date: _____		Time: _____			
Matrix Container	WW - Wastewater VOA - 40 ml vial		W - Water A/G - Amber / Or Glass 1 Liter		S - Soil SD - Solid 250 ml - Glass wide mouth		L - Liquid 250 ml - Glass wide mouth		C - Charcoal tube P/O - Plastic or other		SL - sludge O - Oil		

# CHAIN OF CUSTODY RECORD

<b>Southwest GEOSCIENCE</b> Environmental & Hydrogeologic Consultants		Office Location <u>Artec, NM</u>		Laboratory: <u>Hall P.C.</u> Address: <u>Albuquerque, NM</u> Contact: <u>Andy Freeman</u> Phone: <u>(505) 345-3975</u> PO/ISO #: _____		ANALYSIS REQUESTED <u>BTEX 8021</u> <u>TPH GPO/DRO 8015</u>		Lab use only Due Date: _____ Temp. of coolers when received (C°): 1 2 3 4 5 Page <u>2</u> of <u>2</u>	
Project Manager <u>K. Summers</u> Sampler's Name <u>J. Dubuisson</u>		Project Name <u>Lindrieth Compressor</u>		Sampler's Signature 		No/Type of Containers _____		Lab Sample ID (Lab Use Only) <u>1169901-11</u> <u>-12</u> <u>-13</u> <u>-14</u> <u>-15</u> <u>-16</u> <u>-17</u>	
Proj. No.	0410006	Identifying Marks of Sample(s)	SG	Dep	Dep	VOA	AVG	250 ml	P/O
Matrix	Date	Time	G	a	b				
		0935							
		1030							
		1105							
		1145							
		1220							
		1300							
		1345							
									
Turn around time	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> 25% Rush	<input type="checkbox"/> 50% Rush	<input type="checkbox"/> 100% Rush					
Relinquished by (Signature)	Date: 9-2-11	Time: 845	Received by (Signature)	Date: 9/2/11	Time: 845	NOTES: 3.3.2			
Relinquished by (Signature)	Date: 9/23/11	Time: 810	Received by (Signature)	Date: 9/23/11	Time: 1400				
Relinquished by (Signature)	Date: _____	Time: _____	Received by (Signature)	Date: _____	Time: _____				
Relinquished by (Signature)	Date: _____	Time: _____	Received by (Signature)	Date: _____	Time: _____				

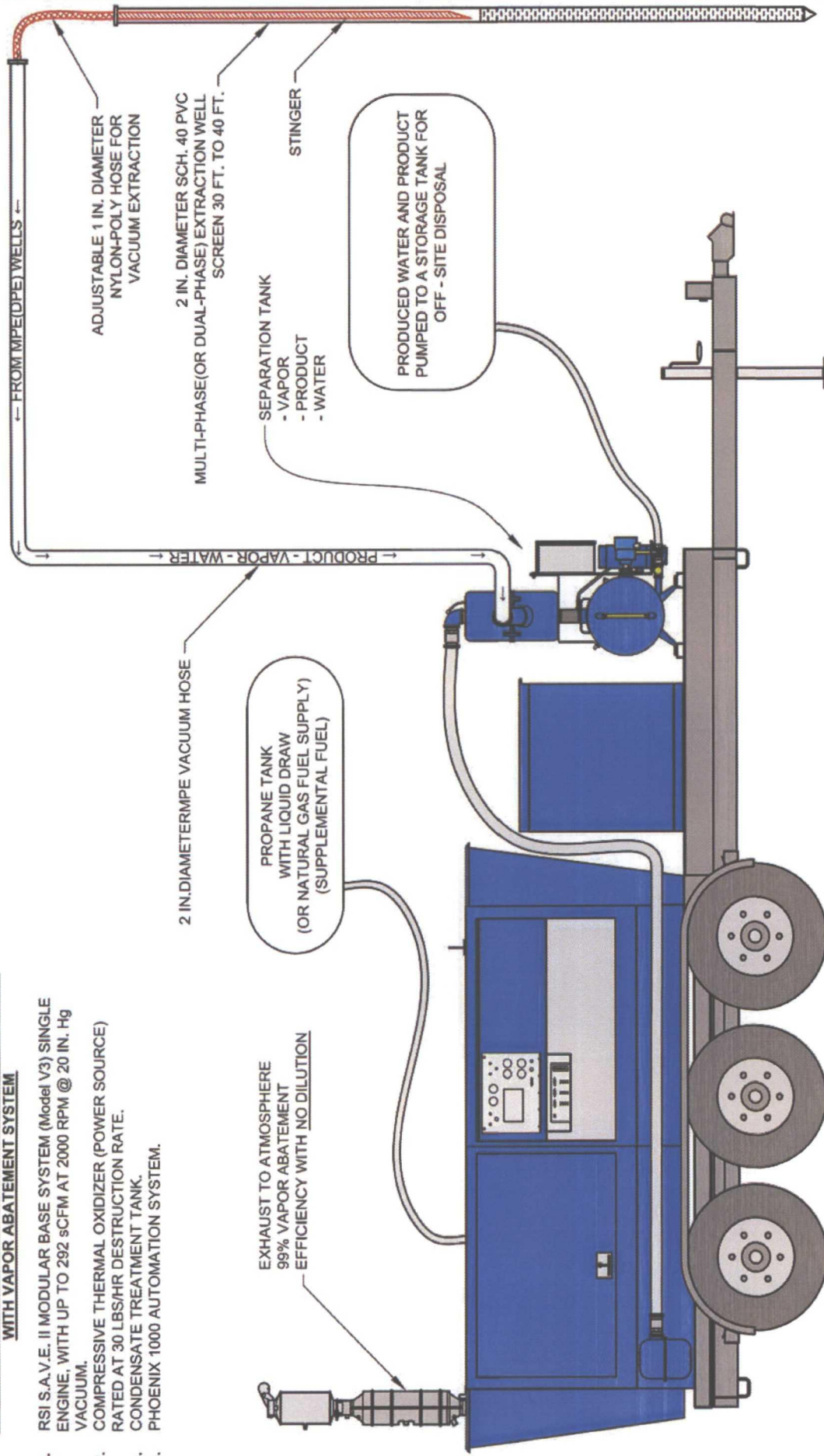
APPENDIX E

Remediation Technologies Information

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**MULTI-PHASE(OR DUAL-PHASE) VACUUM EXTRACTION UNIT  
WITH VAPOR ABATEMENT SYSTEM**

1. RSI S.A.V.E. II MODULAR BASE SYSTEM (Model V3) SINGLE ENGINE, WITH UP TO 292 SCFM AT 2000 RPM @ 20 IN. Hg VACUUM.
2. COMPRESSIVE THERMAL OXIDIZER (POWER SOURCE) RATED AT 30 LBS/HR DESTRUCTION RATE.
3. CONDENSATE TREATMENT TANK.
4. PHOENIX 1000 AUTOMATION SYSTEM.



Corrective Action Work Plan  
Lindrieth Compressor Station  
SE 1/4, S 18, T24N, R5W  
N 36° 18' 32.41; W 107° 23' 48.09"  
Rio Arriba County, New Mexico

SWG Project No. 0410006

**Southwest**  
GEO SCIENCE

HVR Unit Diagram