



Enterprise Products™

June 29, 2010

ENTERPRISE PRODUCTS PARTNERS LP  
ENTERPRISE PRODUCTS OPERATING LLC

ENTERPRISE PRODUCTS GP, LLC, GENERAL PARTNER  
ENTERPRISE PRODUCTS OLPGP, INC., SOLE MANAGER

Return Receipt Requested – 7009 2820 0002 5082 5125

Mr. Kurt Sandoval  
Petroleum Engineer Technician  
Bureau of Indian Affairs -  
Jicarilla Apache Nation  
P.O. Box 167  
120 Seneca Drive  
Dulce, NM 87528

RECEIVED OGD  
2010 JUL -1 P 2:28

**RE: Enterprise Field Services, LLC  
Lindrith Compressor Station – Delineation and Remediation 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. Sandoval:

I enjoyed meeting with you and your staff on May 25, 2010 to discuss the remedial actions currently being performed by Enterprise Field Services, LLC (Enterprise) at our Lindrith Compressor Station. These remedial actions are being performed to treat soil and groundwater affected by the historical operation of former condensate storage tanks at the facility. In accordance with our discussions during this meeting, Enterprise has combined the delineation and remediation work plans previously submitted to Mr. Dixon Sandoval at the Jicarilla Nation Environmental Protection Office to expedite review by the Bureau of Indian Affairs (BIA). The enclosed report also provides additional details regarding the proposed insitu treatment of affected soil and groundwater at the site.

Also, as discussed during the meeting, we are currently evaluating water wells that are located at the station, and if concrete rubble is present from former facility operations that can be removed as part of these remedial actions. Our findings are currently being finalized, and will be submitted to your office later this week.

Enterprise believes our proposed actions will complete the delineation of affected soil and groundwater at the release site, effectively remediate affected soil and groundwater, and prevent migration of affected groundwater from the release area. We wish to proceed as soon as possible with these actions, and request approval by the BIA to proceed with the recommendations in enclosed report. 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).

Mr. Kurt Sandoval  
June 29, 2010  
Page 2

Sincerely,  
**Enterprise Field Services, LLC**



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

/bjm  
Enclosure

cc: w/ Enclosure  
Dixon Sandoval  
Jicarilla Environmental Protection Office  
P.O. Box 507  
Dulce, NM 87528-0507

Brandon Powell  
New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, NM 87410

Jim Griswold  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

w/o Enclosure  
Rex Meyer, GeoMonitoring Services  
Ashley Ager, LT Environmental



June 21, 2010

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

**RE: Combined ORC Injection and Delineation Work Plan and Remediation Work Plan  
Lindrith Compressor Station  
NE/4, SE/4, Section 18, Township 24N, Range 5W NMPM  
Rio Arriba County, New Mexico**

Dear Mr. Smith:

Enterprise Field Services, LLC (Enterprise) is remediating the former location of two condensate storage tanks and an associated subsurface sump at the Lindrith Compressor Station (Site) following a condensate release on January 4, 2008. To date, Enterprise has excavated 4,182 cubic yards of soil from the Site and transported it off site for proper disposal. Remedial actions continue in order to address historical releases that have impacted underlying soil and groundwater.

Following initial excavation of impacted soils, a proposed *Delineation Work Plan* dated March 2, 2010 was submitted to the Jicarilla Environmental Protection Office (JEPO) describing a subsurface investigation to delineate affected soil and groundwater at the Site. In addition, a *Supplemental Work Plan* dated April 19, 2010 was submitted describing remedial actions to perform during removal of a subsurface condensate storage sump. The sump and impacted soil that can be practically excavated have been removed. During a meeting held at Enterprise's office in Farmington, New Mexico on May 25, 2010, representatives of JEPO, Bureau of Indian Affairs (BIA), Enterprise, and LTE met to discuss how to best proceed with completion of remedial actions at the Site. In accordance with this meeting, the following report provides a summary of proposed *in-situ* treatment and delineation investigation objectives for review and approval by BIA. This information has been provided in the previously referenced work plans to JEPO.

## **Background**

On January 4, 2008, a condensate release occurred at the Site. In response to this release, Enterprise excavated and disposed of 3,200 cubic yards of soil between November 18, 2009 and November 25, 2009. On December 15, 2009 and December 16, 2009, Enterprise drilled six boreholes and installed three groundwater monitoring wells to identify total depth of impacted soil and potential impacts to groundwater outside of the excavation. Locations of boreholes and groundwater monitoring wells are shown on Figure 1. Soil sampled from the boreholes indicates lateral impacts to the vadose zone are limited (Table 1). However, groundwater samples



collected from monitoring wells contain concentrations of benzene, toluene, ethyl-benzene, and total xylenes (BTEX) above New Mexico Water Quality Control Commission (NMWQCC) standards, indicating dissolved phase migration of contaminants has occurred (Table 2).

Subsequently, the sump located west of the excavation was removed and an additional 982 cubic yards of soil were excavated from the Site through May 20, 2010. Currently, the open excavation is approximately 125 feet by 60 feet (Figure 1). Confirmation samples collected in May 2010 from the north wall and east wall are below New Mexico Oil Conservation Division (NMOCD) soil standards; however, impacted soil remains west and south of the excavation, as well as vertically beneath the existing excavation exceeding 20 feet below ground surface. Laboratory results from samples collected inside the excavation are shown on Figure 1 and are summarized in Table 1. Results from borehole samples are also shown.

Continued excavation of impacted soil will pose potential safety issues, will not completely address the known historical soil and groundwater impacts at the Site, and is not practical since it may require moving the new condensate tank battery to allow for additional excavation to 35 feet below grade. As discussed during the May 25, 2010 meeting and as presented in previous recommendations, an alternative remediation strategy is proposed consisting of an extensive delineation of subsurface impacts and application of Oxygen Release Compound (ORC) to the floor of the excavation prior to backfilling.

### **Proposed Oxygen Release Compound Remediation**

Taking advantage of the open excavation, remaining impacts on the floor will be treated with ORC. LTE will dig and pack trenches with a thick layer of ORC along the floor of the excavation prior to backfilling. ORC is a proprietary formulation of magnesium peroxide intercalated with food-grade phosphate that stimulates aerobic bioremediation in the oxygen-limited subsurface. ORC is environmentally safe and time releases oxygen when hydrated for six months to one year. A Material Safety Data Sheet (MSDS) is attached for reference. Once applied to the trenches, the ORC will be hydrated with water. A perforated drain system with riser pipes will also be installed in the trenches to allow for future additions of ORC and water in the impacted areas (Figure 3).

Once the above actions are completed, the following remediation actions will take place:

- Water will be injected into the drain system into the former excavation on a monthly basis;
- Six months after backfilling the excavation, additional aqueous ORC will be added through drain riser pipes;
- Six months after the aqueous ORC injections, six borings will be completed within the former excavation based on an equally spaced grid pattern. Borings will be to 35 feet below grade;
- A soil sample will be collected from each boring between 20 and 35 feet. Exact intervals will be based on the highest measurements recorded by a photoionization detector (PID). The six soil samples will be tested for BTEX and (total petroleum hydrocarbons ) TPH;



- Installed borings will be converted into piezometers to allow for additional ORC and water injection points as necessary;
- Results will be compared to NMOCD soil standards and a summary report will be submitted to JEPO, BIA, and NMOCD. Based on the findings LTE will recommend additional ORC injectors or develop a supplemental work plan for additional remediation; and
- A supplemental work plan will be developed if soil levels are not showing a 50% reduction in average concentrations based on historical sample results. The contingency plan will propose to increase ORC injection rates and may include converting the piezometers into compressed air injection points for bioventing.

### **Proposed Combined Delineation Work Plan**

Enterprise would like to proceed as soon as possible with a delineation investigation of the Site as originally proposed in the March 2, 2010 *Delineation Work Plan*. The delineation investigation, summarized below, will establish the extent of soil and groundwater impacts from historical facility operations.

A subsurface investigation will accurately define the vertical and lateral extent of the impacted soil and groundwater, and provide a more complete description of subsurface soil properties so *in-situ* remediation can be properly designed and implemented. For this investigation, LTE proposes a hollow-stem auger soil-boring and sampling program using a CME 75 drill rig. Continuous samples will be collected using a 5-foot split spoon sampler. The intervals from immediately beneath the ground surface and then every two feet thereafter will be screened for volatile aromatic hydrocarbons. In addition, soil that is stained or has a hydrocarbon odor will also be screened. Screening will be conducted with a PID according to the NMOCD's *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. Each borehole will be terminated at 10 feet below the water table (approximately 45 feet below ground surface), unless surrounding conditions warrant further sampling. The exact location and number of boreholes and wells will be determined in the field; however, Figure 2 shows a general plan for placement.

Samples from the highest field screening result and the sample from the bottom of the borehole will be submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis of BTEX and TPH using U.S. Environmental Protection Agency (USEPA) Methods 8021B and 8015M, respectively. The samples will be placed in pre-cleaned glass jars supplied by the laboratory, and immediately placed on ice. Samples will be labeled with location, date, time, sample technician, and method of analysis. Some geotechnical analyses to determine permeability and/or density may also be completed on pervasive clays or sands.

LTE will complete all work in accordance with industry-accepted practices. All down-hole drilling equipment will be thoroughly decontaminated prior to each use at a lined Decontamination Area. If impacted soil is identified within a borehole, cuttings will be drummed and transported to a proper disposal facility upon completion of drilling. Boreholes will be grouted following completion.



New groundwater monitoring wells will be installed as necessary. Wells will be constructed of schedule 40, 2-inch diameter polyvinyl-chloride (PVC) and will include fifteen feet of 0.01-inch machine slotted flush-threaded PVC well screen. Ten feet of screen will be set beneath the water table and five feet above to allow for seasonal fluctuations. A clean 10-20 grade silica sand gravel pack will be placed from the bottom of the boring to three feet above the top of the screen. Two feet of three-eighths inch natural bentonite chips will be set above the gravel pack followed by a neat cement slurry, containing a minimum of five percent powdered bentonite, to the surface and completed with a locking protective steel casing. Wells located within or near vehicle right-of-ways will be surrounded by three protective posts to prevent vehicle impact to the well. The new wells will be surveyed after construction. Top-of-casing elevations will be determined to an accuracy of no less than plus or minus 0.01 feet.

Following installation of monitoring wells, each new well will be developed utilizing a clean, disposable PVC bailer. LTE will purge fluid until the pH, specific conductivity and temperature are stabilized and turbidity is reduced to the greatest extent possible. All purge water will be collected and disposed of on site. The wells will be allowed to recharge a minimum of 24 hours and sampled. Depth to water and total depth of the wells will be measured with a Keck oil-water interface probe. The interface probe will be decontaminated with Aloconox™ soap and rinsed with de-ionized water prior to each measurement. At least three casing volumes will be removed from each well while pH, specific conductivity and temperature are monitored for stabilization. Once these parameters stabilize, the wells will be sampled by filling three pre-cleaned and pre-preserved 40 milliliter (ml) glass vials with zero headspace to prevent degradation of the sample. The groundwater samples will be shipped on ice to HEAL and analyzed for BTEX according to USEPA Method 8021B. Strict chain-of-custody procedures will be followed during transport of the samples to the laboratory.

It is anticipated that the field work associated with the site delineation investigation, application of *in-situ* treatment chemicals and backfilling of the existing excavation will take at least ten days to complete. Prior to initiation of this project, LTE will prepare a site-specific health and safety plan in compliance with OSHA 1920.120. Following completion of field activities, LTE will prepare a report describing methods used to complete this project and present analytical results and maps documenting the activities. LTE will provide adequate notification to the BIA, JEPO, and NMOCD in advance of all field activities. Should you have any questions, please do not hesitate to contact me at 970-385-1096.

Sincerely,  
LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Ashley L. Ager". The signature is written in a cursive, flowing style.

Ashley L. Ager  
Senior Geologist/Office Manager

ATTACHMENTS



**Tables**

**Table 1 – Soil Laboratory Analytical Results**

**Table 2 – Groundwater Laboratory Analytical Results**

**Figures**

**Figure 1 – Site Map with Soil and Groundwater Analytical Results**

**Figure 2 – Proposed Placement of Boreholes and Monitoring Wells**

**Figure 3 – Proposed ORC Remedial Design**

**ORC MSDS**

## TABLES

TABLE 1  
EXCAVATION & BOREHOLE SOIL ANALYTICAL RESULTS  
LINDRITH COMPRESSOR STATION  
ENTERPRISE FIELD SERVICES, LLC

Sample ID	Date Sampled	Field Headspace Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	GRO (mg/kg)
<b>Excavation Composite Sample</b>									
North Wall Composite	12/3/2009	1,012	<0.05	<0.05	<0.05	0.16	13	<50	8.3
New North Wall Composite	5/12/2010	73	<0.05	<0.05	<0.05	<0.10	<10	<50	<5
South Wall Composite	12/3/2009	2,197	0.11	1.8	0.12	8.6	200	170	220
New South Wall Composite	5/12/2010	1,606	0.63	6.2	1.4	14	290	300	250
East Wall Composite	12/3/2009	120	<0.05	0.057	<0.05	0.12	<10	<50	5.3
West Wall Composite	12/3/2009	1,499	0.67	14	3.3	33	51	<50	550
West Wall Contamination (discrete sample of stained soil at 15' deep)	5/12/2010	750	<0.05	<0.05	<0.05	<0.10	<10	<50	<5
New West Wall Composite	5/12/2010	1,710	<0.05	<0.05	<0.05	<0.10	57	130	<5
Floor Composite (20' deep)	12/3/2009	2,178	<0.25	3.9	0.71	12	130	150	200
Floor Contamination Point	5/12/2010	2,316	2	16	2.1	18	120	140	590
(Short Duration Excavation to 35' deep)	5/19/2010	18.3	<0.05	<0.05	<0.05	<0.10	<10	<50	<5
Hand Auger Floor S1 (30' deep)	5/19/2010	20.3	<0.05	<0.05	<0.05	<0.10	<10	<50	<5
Hand Auger Floor S2 (30' deep)	5/19/2010	20.3	<0.05	<0.05	<0.05	<0.10	<10	<50	<5
<b>Borehole Soil Sample</b>									
B-1 15'	12/15/2009	1,313	0.057	0.19	<0.05	0.22	<10	<50	28
B-1 25'	12/15/2009	370	0.25	0.84	0.10	0.81	<10	<50	82
B-2 20'	12/15/2009	12.1	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
B-3 25'	12/17/2009	1,627	0.27	1.20	0.24	2.2	<10	<50	100
B-3 30'	12/17/2009	226	<0.05	0.36	0.11	1.0	<10	<50	19
B-3 35'	12/17/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
B-4 20'	12/17/2009	23	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
B-5 20'	12/17/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
B-6 25-30'	12/17/2009	325	<0.05	0.06	<0.05	0.11	<10	<50	8
B-6 35'	12/17/2009	405	<0.05	0.15	<0.05	0.23	<10	<50	12
B-6 40'	12/17/2009	6	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
Hand Auger S1 - 6'	11/19/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
Hand Auger S2 - 6'	11/19/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
Hand Auger S3 - 6'	11/19/2009	328	<0.05	<0.05	<0.05	<0.10	370	520	<5.0
Hand Auger S4 - 6'	11/19/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
Hand Auger S5 - 6'	11/19/2009	0	<0.05	<0.05	<0.05	<0.10	<10	<50	<5.0
<b>NMOC Standard</b>									
10									
Combined to 100									

Notes:  
ppm - parts per million  
mg/kg - milligrams per kilogram  
DRO - Diesel Range Organics  
MRO - Motor Oil Range Organics  
GRO - Gasoline Range Organics  
NMOC - New Mexico Oil Conservation Division  
TPH analyzed by EPA Modified Method 8015  
BTEX analyzed by EPA Method 8021  
Bold font indicates sample results exceed applicable standards



**TABLE 2**

**GROUNDWATER ANALYTICAL RESULTS  
LINDRITH COMPRESSOR STATION  
ENTERPRISE FIELD SERVICES LLC**

<b>Sample ID (Depth in feet)</b>	<b>Date Sampled</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethylbenzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>
MW-1	12/30/2009	<b>1,900</b>	<b>2,600</b>	120	<b>870</b>
MW-2	12/30/2009	<b>3,000</b>	<b>3,200</b>	270	<b>1,900</b>
MW-3	12/30/2009	<b>130</b>	370	76	530
<b>NMWQCC Standard</b>		<b>10</b>	<b>750</b>	<b>750</b>	<b>620</b>

**Notes:**

ug/kg - micrograms per liter

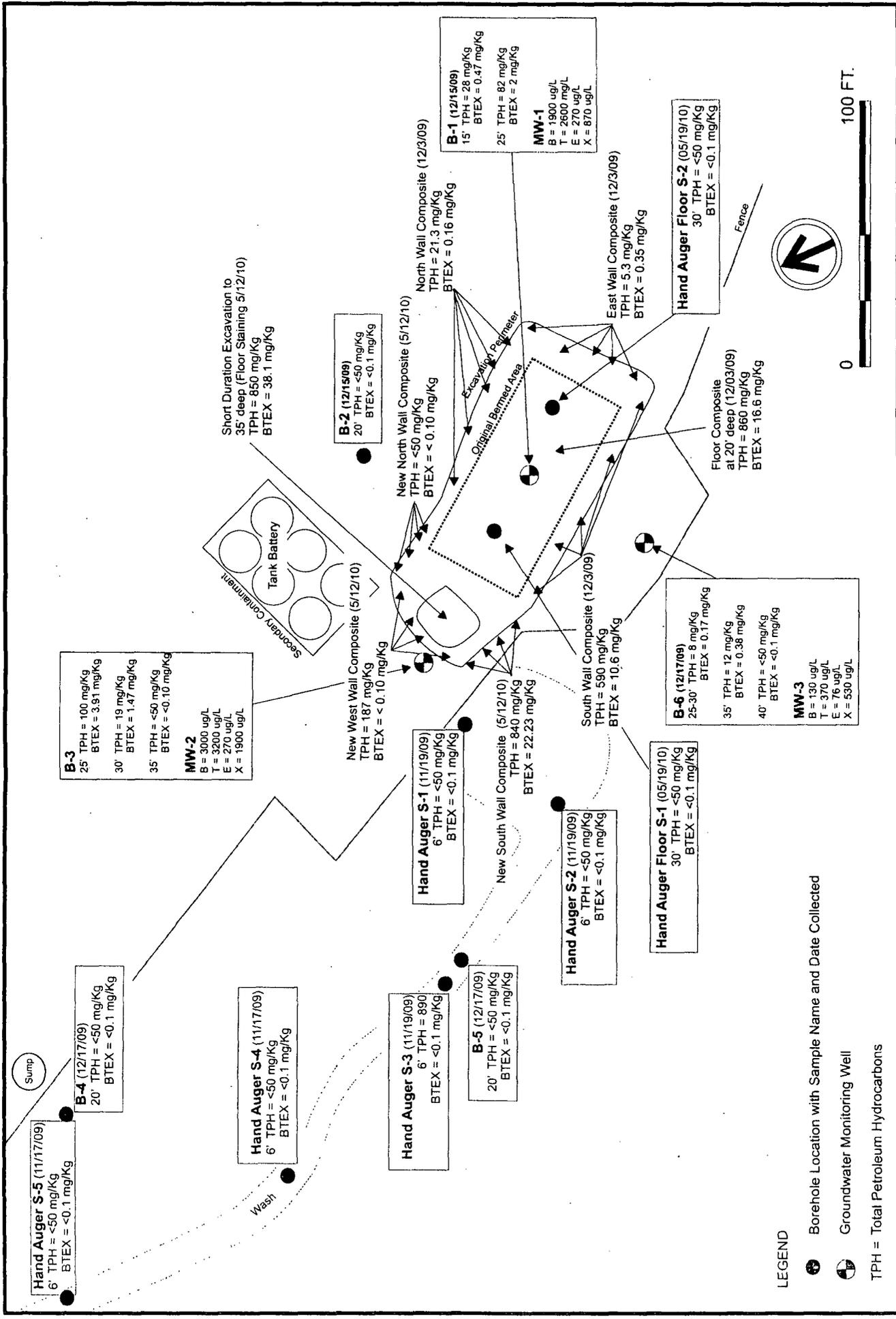
NMWQCC - New Mexico Water Quality Control Commission

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8021.

Bold font indicates sample results exceed applicable standards.



## **FIGURES**



**LEGEND**

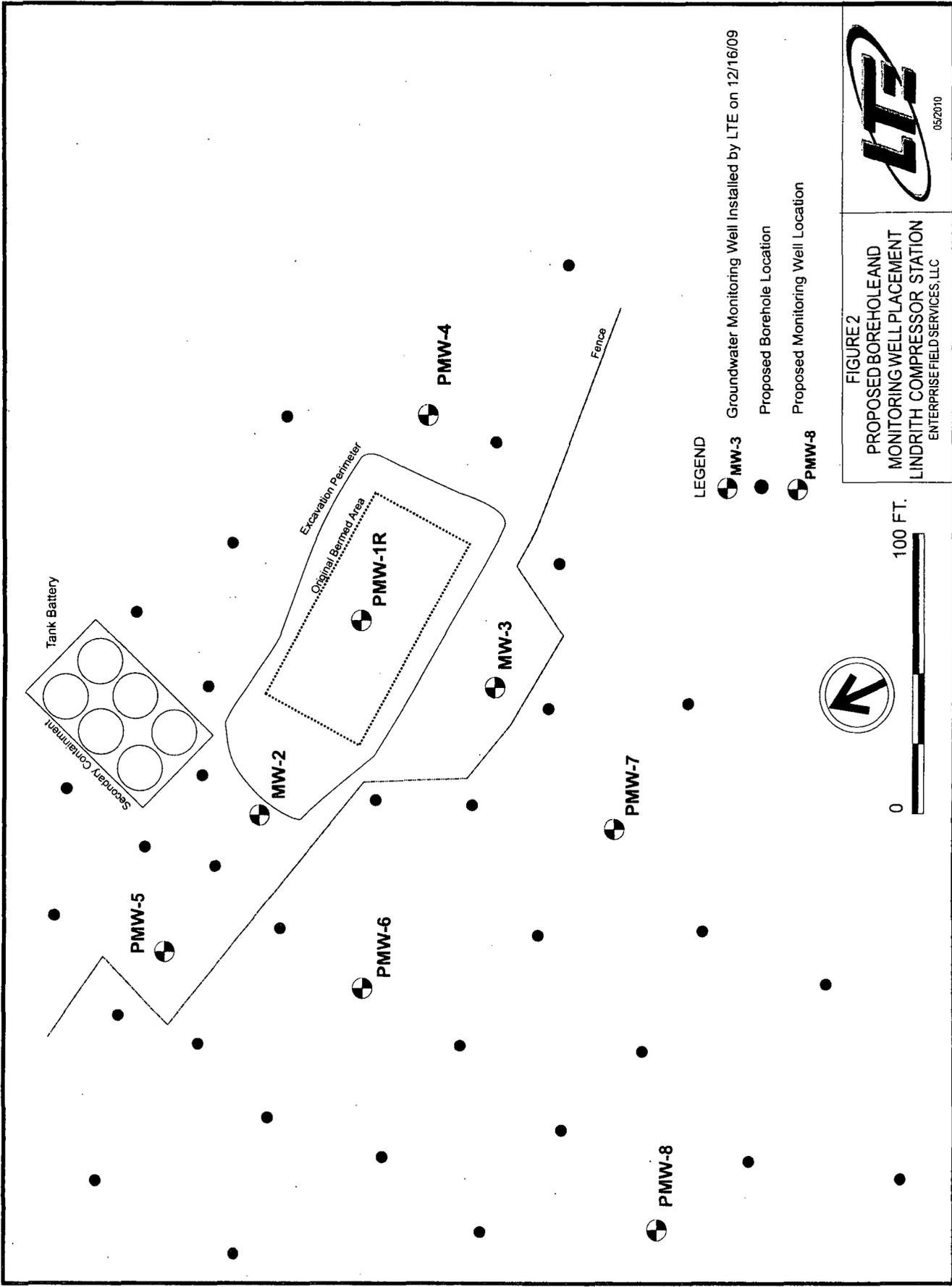
- Borehole Location with Sample Name and Date Collected
- Groundwater Monitoring Well
- TPH = Total Petroleum Hydrocarbons
- BTEX = Benzene, Toluene, Ethyl-Benzene, Total Xylenes
- mg/Kg = milligrams per Kilogram
- ug/L = micrograms per Liter

**FIGURE 1**  
EXCAVATOR PERIMETER AND ANALYTICAL RESULTS  
LINDRITH COMPRESSOR STATION  
ENTERPRISE FIELD SERVICES, LLC



05/20/10



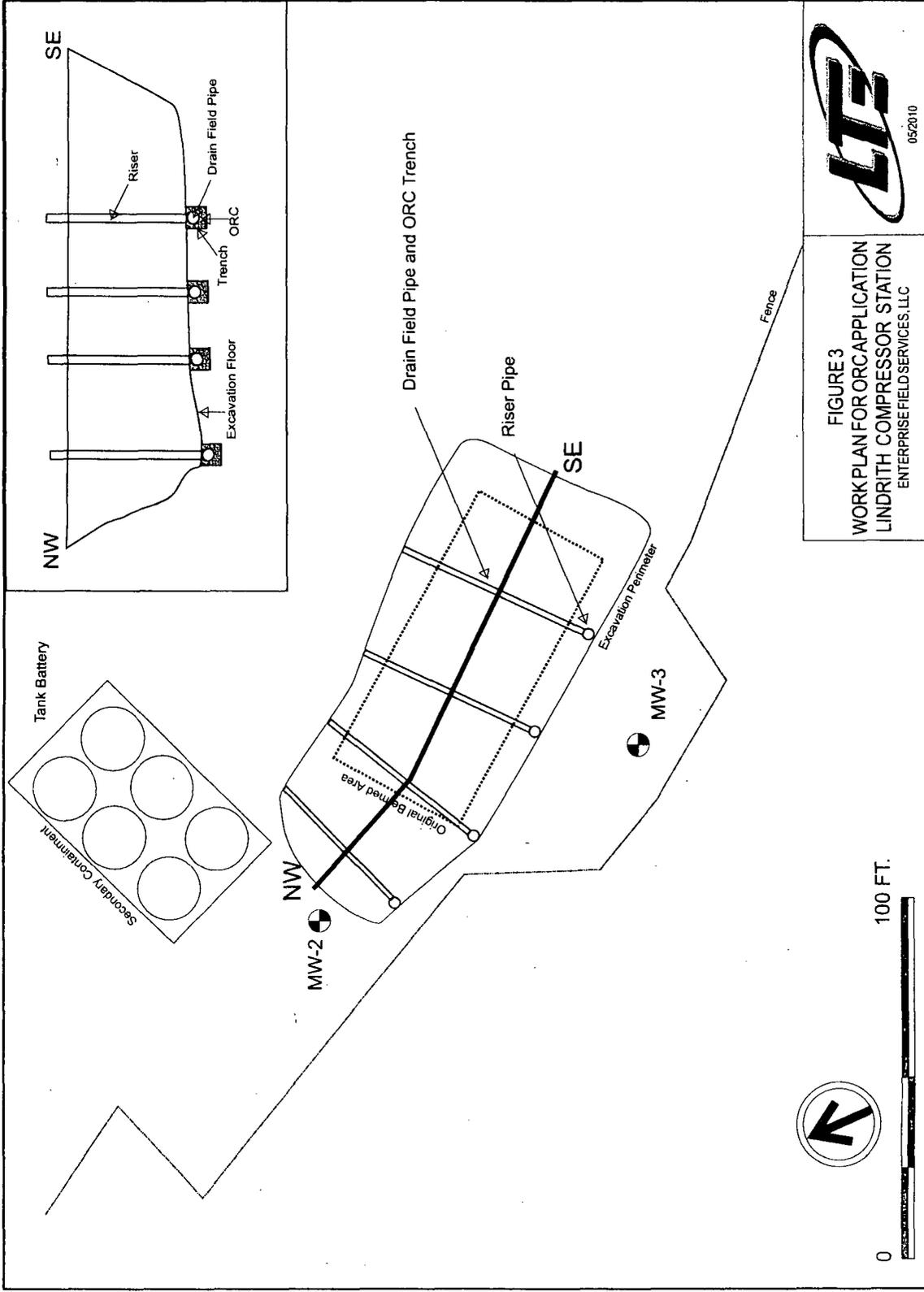


LEGEND

-  MW-3 Groundwater Monitoring Well Installed by LTE on 12/16/09
-  Proposed Borehole Location
-  PMW-8 Proposed Monitoring Well Location



FIGURE 2  
 PROPOSED BOREHOLE AND  
 MONITORING WELL PLACEMENT  
 LINDRITH COMPRESSOR STATION  
 ENTERPRISE FIELD SERVICES, LLC



052010

**FIGURE 3**  
**WORK PLAN FOR ORCA APPLICATION**  
**LINDRITH COMPRESSOR STATION**  
 ENTERPRISE FIELD SERVICES, LLC

**ATTACHMENT**  
**ORC MATERIAL SAFETY DATA SHEET**

Oxygen Release Compound (ORC<sup>®</sup>)  
MATERIAL SAFETY DATA SHEET (MSDS)

Last Revised: October 18, 2005

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Section 1 - Material Identification

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Supplier:



## REGENESIS

1011 Calle Sombra  
San Clemente, CA 92673

Phone: 949.366.8000

Fax: 949.366.8090

E-mail: [info@regenesisc.com](mailto:info@regenesisc.com)

**Chemical Description:** A mixture of Magnesium Peroxide (MgO<sub>2</sub>), Magnesium Oxide (MgO), and Magnesium Hydroxide [Mg(OH)<sub>2</sub>]

**Chemical Family:** Inorganic Chemical

**Trade Name:** Oxygen Release Compound (ORC<sup>®</sup>)

**Product Use:** Used to remediate contaminated soil and groundwater (environmental applications)

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Section 2 – Chemical Identification

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<u>CAS#</u>	<u>Chemical</u>
14452-57-4	Magnesium Peroxide (MgO <sub>2</sub> )
1309-48-4	Magnesium Oxide (MgO)
1309-42-8	Magnesium Hydroxide [Mg(OH) <sub>2</sub> ]
7758-11-4	Dipotassium Phosphate (HK <sub>2</sub> O <sub>4</sub> P)
7778-77-0	Monopotassium Phosphate (H <sub>2</sub> KO <sub>4</sub> P)
Assay:	25-35% Magnesium Peroxide (MgO <sub>2</sub> )

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**Section 3 - Physical Data**

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<b>Melting Point:</b>	<b>Not Determined (ND)</b>
<b>Boiling Point:</b>	<b>ND</b>
<b>Flash Point:</b>	<b>Not Applicable (NA)</b>
<b>Self-Ignition Temperature:</b>	<b>NA</b>
<b>Thermal Decomposition:</b>	<b>Spontaneous Combustion possible at <math>\approx 150^{\circ}\text{C}</math></b>
<b>Density:</b>	<b>0.6 – 0.8 g/cc</b>
<b>Solubility:</b>	<b>Reacts with Water</b>
<b>pH:</b>	<b>Approximately 10 in saturated solution</b>
<b>Appearance:</b>	<b>White Powder</b>
<b>Odor:</b>	<b>None</b>
<b>Vapor Pressure:</b>	<b>None</b>
<b>Hazardous Decomposition Products:</b>	<b>Not Known</b>
<b>Hazardous Reactions:</b>	<b>Hazardous Polymerization will not occur</b>
<b>Further Information:</b>	<b>Non-combustible, but will support combustion</b>

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**Section 4 – Reactivity Data**

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<b>Stability:</b>	<b>Product is stable unless heated above <math>150^{\circ}\text{C}</math>. Magnesium Peroxide reacts with water to slowly release oxygen. Reaction by product is Magnesium Hydroxide</b>
<b>Conditions to Avoid:</b>	<b>Heat above <math>150^{\circ}\text{C}</math>. Open Flames.</b>
<b>Incompatibility:</b>	<b>Strong Acids. Strong Chemical Agents.</b>
<b>Hazardous Polymerization:</b>	<b>None known.</b>

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**Section 5 - Regulations**

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**Permissible Exposure Limits in Air**                      **Not Established. Should be treated as a nuisance dust.**

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**Section 6 – Protective Measures, Storage and Handling**

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**Technical Protective Measures**

**Storage:**                                      **Keep in tightly closed container. Keep away from combustible material.**

**Handling:**                                      **Use only in well ventilated areas.**

**Personal Protective Equipment (PPE)**

**Respiratory Protection:**                      **Recommended (HEPA Filters)**

**Hand Protection:**                              **Wear suitable gloves.**

**Eye Protection:**                              **Use chemical safety goggles.**

**Other:**    **NA**

**Industrial Hygiene:**                              **Avoid contact with skin and eyes**

**Protection Against Fire & Explosion:**                      **NA**

**Disposal:**                                      **Dispose via sanitary landfill per state/local authority**

**Further Information:**                              **Not flammable, but may intensify a fire**

**After Spillage/Leakage/Gas Leakage:**                              **Collect in suitable containers. Wash remainder with copious quantities of water.**

**Extinguishing Media:**                              **NA**

**Suitable:**                                      **Carbon Dioxide, dry chemicals, foam**

**Further Information:**                              **Self contained breathing apparatus or approved gas mask should be worn due to small particle size. Use extinguishing media appropriate for surrounding fire.**

**First Aid:**                                      **After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.**

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**Section 7 – Information on Toxicology**

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**Toxicity Data:**                      **Not Available**

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**Section 8 – Information on Ecology**

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**Water Pollution Hazard  
Rating (WGK):**                      **0**

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**Section 9 – Further Information**

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After the reaction of magnesium peroxide with water to form oxygen, the resulting material, magnesium hydroxide, is mildly basic. The amounts of magnesium oxide (magnesia) and magnesium hydroxide in the initial product have an effect similar to lime, but with lower alkalinity.

The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information become available.



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

ENTERPRISE PRODUCTS OPERATING LLC

July 28, 2011

Return Receipt Requested  
7010 1870 0001 2945 2098

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  
Proposed Supplemental Site Investigation 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 Site Investigation Work Plan*, dated July 27, 2011, for the facility referenced above. This work plan provides recommendations for the installation of additional soil borings and monitor wells at this facility to complete delineation of soil and groundwater that have been affected by hydrocarbon releases during historical facility operations. The site investigations proposed in the enclosed report supplement a previous site investigation which was reported in the report entitled: *Subsurface Investigation Report* (dated February 2011), submitted to your office on March 28, 2011. This report provided the results of an initial site soil and groundwater investigation, and provided recommendations for the additional investigations that are proposed in this report.

Enterprise is currently conducting remedial actions at this facility in accordance with approvals from the Jicarilla Bureau of Indian Affairs (BIA) during June 2010. These remedial actions are being modified based on the recent site investigations that have identified free-phase hydrocarbon (PSH) present on the water table surface at the facility. A revised Corrective Action Plan (CAP) is currently being prepared to include additional remedial actions for locations where PSH has been identified.

We would like to proceed with the additional site investigations recommended in the enclosed report, if the Jicarilla Environmental Protection Office has no objections or review comments. A start date of August 15, 2011 is planned based on driller availability. 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

Rodney M. Sartor, REM  
Manager, Remediation

/dep  
Enclosure  
P. O. BOX 4324  
HOUSTON, TX 77210-4324  
713.381.6500

1100 LOUISIANA STREET  
HOUSTON, TX 77002-5227  
[www.epplp.com](http://www.epplp.com)

Mr. Cordell TeCube, Director  
Jicarilla EPO  
July 28, 2011  
Page 2

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SUPPLEMENTAL SITE  
INVESTIGATION WORK PLAN

Property:

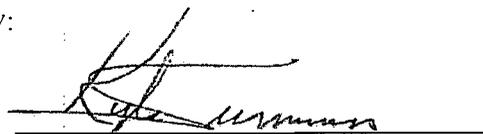
LINDRITH COMPRESSOR STATION  
Section 18, Township 24N, Range 5W  
Rio Arriba County, New Mexico

July 27, 2011  
SWG Project No. 0410006

Prepared for:

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SUPPLEMENTAL SITE INVESTIGATION WORK PLAN

LINDRITH COMPRESSOR STATION

Section 18, Township 24N, Range 5W  
Rio Arriba County, New Mexico

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 and 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 test hole 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 4,200 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.

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 (East Fork Kutz Canyon). 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 test holes.
- September 2008 *Spill Cleanup Report Lindrith Compressor Station, Rio Arriba County, New Mexico, September 2008.*
- 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 below 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 *Delineation Work Plan*, (LTE) presented to the Jicarilla Apache Nation Environmental Protection Office (JANEPO) detailing the proposed subsurface investigation activities.
- The municipal solid waste was removed from the wash located to the northeast of the Lindrith Compressor Station and disposed in accordance with applicable local, state and federal regulations.
- April 2010 *Supplemental Work Plan*, (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 *Combined ORC Injection and Delineation Work Plan and Remediation Work Plan (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 *Subsurface Investigation Report* (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.
-

### 1.3 CHEMICALS OF CONCERN

The soil and groundwater samples collected from the soil borings/monitoring wells during previous site investigation activities were analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015M and BTEX using EPA SW-846 method #8021B.

- Based on the laboratory analytical results, 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, the 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.
- Based on the laboratory analytical results from the most recent groundwater sampling events (November 15, 2010), 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 0.010 mg/L.
- Based on the laboratory analytical results from the most recent groundwater sampling events (November 15, 2010), toluene concentrations were identified in groundwater samples collected from monitoring well MW-4 above the NMWQCC *Water Quality Standard* of 0.750 mg/L.
- Based on the laboratory analytical results from the most recent groundwater sampling events (November 15, 2010), 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 0.620 mg/L.
- During the most recent groundwater gauging event, non-aqueous phase liquid (NAPL) was identified in monitoring wells MW-1R, MW-2, and MW-9.

Figure 3 indicates the approximate locations of the borings/monitoring wells completed at the Site in relation to pertinent Site features and general Site boundaries. Figure 4 is a Groundwater Gradient Map which depicts the direction of groundwater flow at the Site. Figures 5 and 6 detail the OCD *Remediation Action Level* Exceedance Zone in soil and NMWQCC *Groundwater Quality Standard* Exceedance Zone in groundwater, respectively.

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

### 1.4 SITE RANKING & PROPOSED CLEANUP GOALS

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.

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

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

Based on SWG's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 20. This ranking is based on the following:

- The depth to the initial groundwater-bearing zone is <50 feet at the Site.

Based on a Total Ranking Score of 20, 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.

## 2.0 SUPPLEMENTAL SITE INVESTIGATION

The primary objective of the proposed supplemental site investigation activities is to further evaluate the magnitude and extent of COCs in soil and groundwater at the Site.

### 2.1 SOIL BORING AND MONITORING WELL INSTALLATION

Ten (10) soil borings will be advanced on-site utilizing a hollow-stem auger drilling rig under the supervision of a New Mexico Office of the State Engineer-licensed driller. The soil borings will be advanced at select locations hydrogeologically up-, cross- and down-gradient from the existing monitoring well network. The soil borings will be

advanced to a maximum depth of approximately 40 feet bgs, five feet below the initial water table, or auger refusal, whichever is more shallow.

Reusable sampling and drilling equipment will be decontaminated using an Alconox® wash and potable water rinse prior to commencement of the project and between the advancement of each soil boring.

Soil samples will be collected continuously using core barrels or split spoon samplers to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a photoionization detector (PID) for the presence of volatile organic compounds (VOCs).

Subsequent to the completion of the soil borings, each soil boring will be converted to a groundwater monitoring well to further evaluate the initial groundwater-bearing unit on the Site. The monitoring wells will be completed as follows:

- Installation of 10 to 15 feet of 2-inch diameter, machine slotted PVC well screen assembly with a threaded bottom plug;
- Installation of riser pipe to surface;
- Addition of graded silica sand for annular sand pack around the well screen from the bottom of the well to two feet above the top of the screen;
- Placement of 2 feet of hydrated bentonite pellets above the sand pack;
- Addition of cement/bentonite slurry to the surface; and
- Installation of a locking well cap and circular, bolt-down, flush mount well cover or above-grade steel riser.

## 2.2 SAMPLING PROGRAM

SWG's groundwater sampling program will consist of the following:

- 1) Collection of up to two (2) soil samples from each soil boring from any of the following locations:
  - a) the zone exhibiting the highest concentration of VOC's based on visual, olfactory or PID evidence,
  - b) from the capillary fringe zone,
  - c) from a change in lithology, or
  - d) from the bottom of the boring.
- 2) Collection of one (1) groundwater sample from each existing monitoring well and each proposed monitoring well.

Prior to sample collection, each monitoring well will be micro-purged utilizing low-flow sampling techniques. Low-flow refers to the velocity with which groundwater enters the peristaltic 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 pumped 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, temperature and conductivity.

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.

### 2.3 LABORATORY ANALYTICAL PROGRAM

The soil and groundwater samples collected from the soil borings/monitoring wells will be analyzed for TPH GRO/DRO utilizing EPA SW-846 Method 8015B and BTEX utilizing EPA SW-846 Method 8021B.

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

Analysis	Sample Type	No. of Samples	EPA Method
TPH GRO/DRO	Soil	14	SW-846 8015B
BTEX	Soil	14	SW-846 8021B
TPH GRO/DRO	Groundwater	10	SW-846 8015B
BTEX	Groundwater	10	SW-846 8021B

### 2.4 TOP-OF-CASING SURVEY

Subsequent to the completion of supplemental site investigation activities, a geospatial survey of the monitoring well network will be performed to identify the top-of-casing elevations to accurately determine the groundwater gradient for the initial groundwater-bearing unit at the facility. The survey will be performed by professional licensed surveyor, and tied to known landmarks or benchmarks. If a benchmark cannot be located nearby, one will be set at the facility as a point of reference.

### 3.0 SUPPLEMENTAL SITE INVESTIGATION REPORT

Upon completion of the supplemental site investigation activities, a final report will be prepared that will include documentation of field investigation activities, a site plan detailing pertinent site features, logs of subsurface exploration, laboratory analytical results, an evaluation of investigation results and recommendations concerning corrective actions.

### 4.0 SCHEDULE

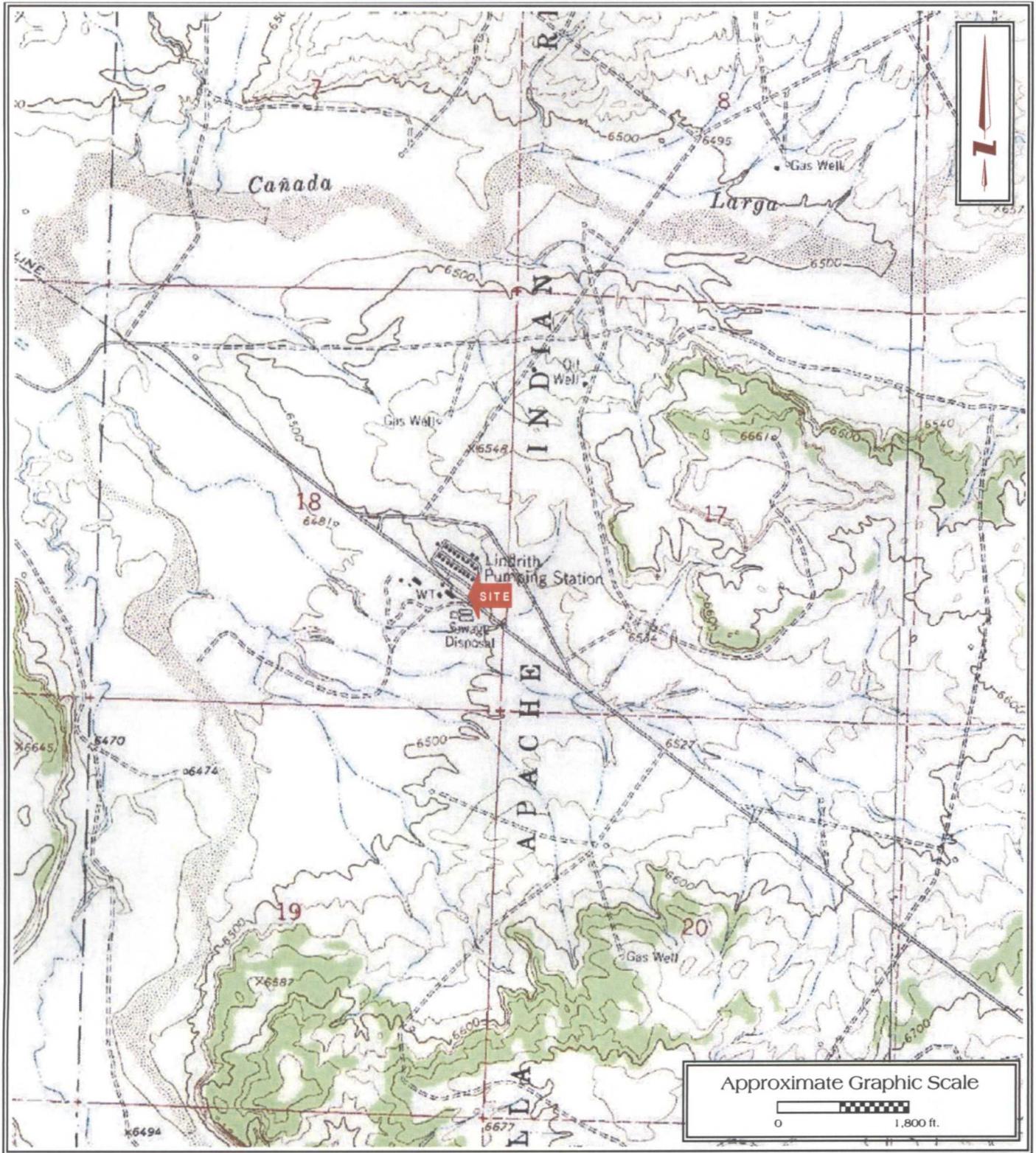
The completion of the proposed supplemental site investigation activities will require an estimated two (2) months; however, time estimations regarding the completion of field activities depend upon several factors, many of which cannot be pre-determined.

Variables which may impact the estimated time required to attain project objectives include, inclement weather, the number of soil borings/monitoring wells necessary to delineate the extent of COC concentrations in soils and groundwater to below the proposed cleanup goals, and laboratory analytical turn-around time.

APPENDIX A

Figures

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Lindreth 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



Lindreth 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

2005 Aerial Photograph  
Source: Google Earth

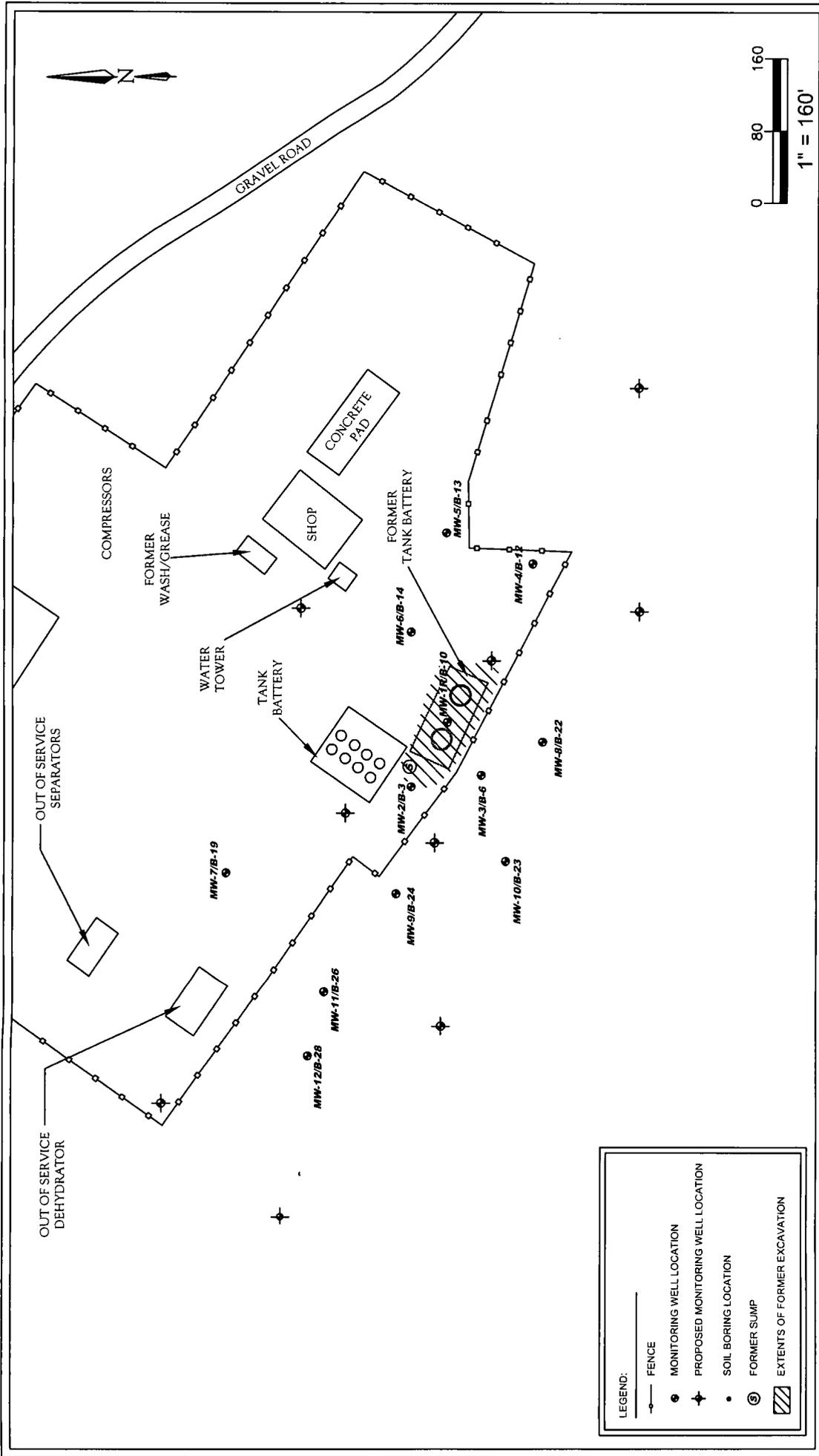


FIGURE 3  
SITE MAP

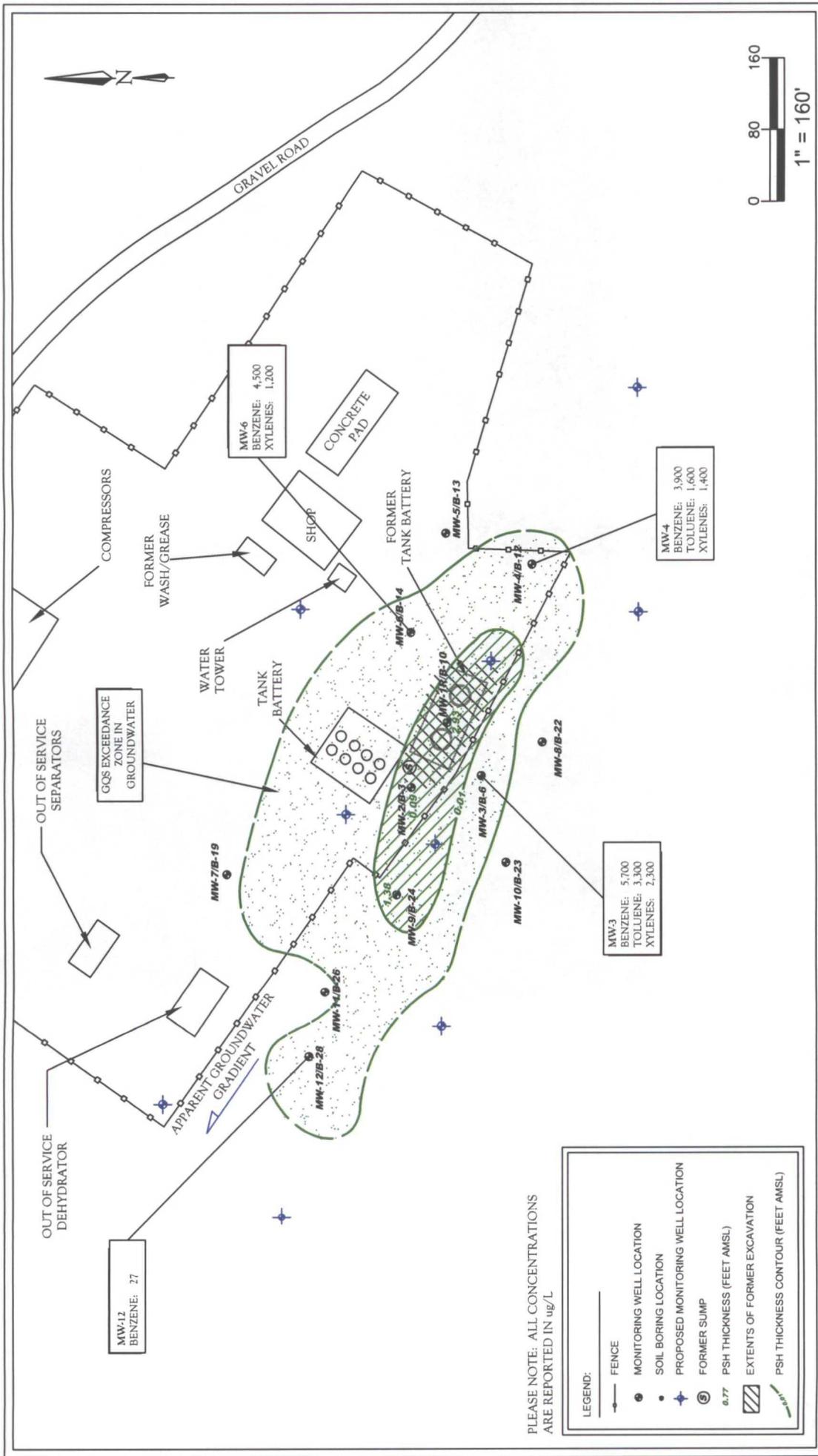


Supplemental Site Investigation Work Plan  
Lindrith Compressor Station  
SE 1/4 S18 T24N R5W  
N36° 18' 32.41", W107° 23' 48.09"  
Rio Arriba County, New Mexico

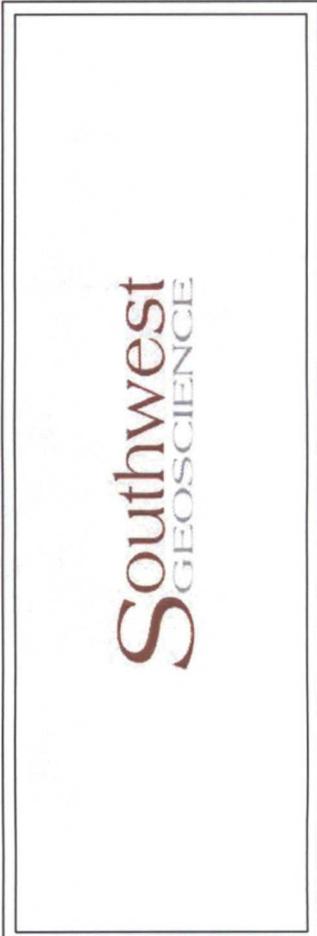
SWG Project No. 0410006







**FIGURE 6**  
**GROUNDWATER QUALITY**  
**STANDARD (GQS)**  
**EXCEEDANCE ZONE**  
**SAMPLE DATE:**  
**JUNE 22, 2011**



**Supplemental Site Investigation Work Plan**  
**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

APPENDIX B

Tables

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TABLE 1  
Lindrith Compressor Station - Soil Borings  
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH	TPH	TPH	TPH
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	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	28
	12.15.09	25.0	0.25	0.84	0.1	0.81	2	82	<10	NA	82
B-2*	12.15.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	<15
	12.17.09	25.0	0.27	1.2	0.24	2.2	3.91	100	<10	NA	100
B-3	12.17.09	30.0	<0.05	0.36	0.11	1.0	<1.52	19	<10	NA	19
	12.17.09	35.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	<15
B-4*	12.17.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	<15
B-5*	12.17.09	20.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	<15
B-6	12.17.09	25-30	<0.05	0.06	<0.05	0.11	<0.27	8	<10	NA	<10
	12.17.09	35.0	<0.05	0.15	<0.05	0.23	<0.48	12	<10	NA	12
B-10	12.17.09	40.0	<0.05	<0.05	<0.05	<0.10	ND	<5.0	<10	NA	<15
	10.18.10	22.0	<0.25	1.0	0.3	3.4	<4.95	64	<10	<50	<124
B-11	10.18.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.19.10	35.0	2.6	15	3.3	28	48.9	1,000	18	<50	<1068
B-12	10.19.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.20.10	33.5	0.31	1.8	0.75	5.4	8.26	130	15	<50	<195
B-13	10.20.10	48.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.20.10	30.0	<2.5	17	9.0	57	<85.5	1,000	400	810	2210
B-14	10.20.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.21.10	28.0	<0.05	0.067	<0.05	0.37	<0.537	13	30	74	117
B-15	10.21.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.22.10	33.0	<0.50	<0.50	<0.50	<1.0	<0.25	<50	170	210	<430
B-16	10.22.10	35.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.22.10	32.0	<0.50	2.9	1.6	13	<18	260	130	150	540
B-17	10.22.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.22.10	33.0	<0.10	<0.10	0.12	1.2	<1.52	31	51	78	160
B-18	10.22.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.25.10	33.0	<0.20	0.79	0.98	7.7	<9.67	230	110	120	460
B-19	10.25.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.25.10	33.0	<0.05	<0.05	<0.05	<0.10	<0.25	14	18	<50	<82
B-20	10.25.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.25.10	30.0	<1.0	7.9	6.5	50	<65.4	1,900	450	420	2770
B-21	10.26.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.26.10	23.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
B-22	10.27.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.27.10	24.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
B-23	10.28.10	42.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.29.10	33.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
B-24	10.29.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	10.29.10	29.0	<0.25	1.6	0.73	6.9	<9.48	230	63	210	503
B-25	10.29.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	11.01.10	39.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
B-26	11.02.10	29.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	11.02.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
B-27	11.02.10	12.0	<0.05	<0.05	<0.05	0.11	<0.26	<25	100	290	<415
	11.02.10	33.0	<0.05	<0.05	<0.05	0.26	<0.41	30	33	98	161
B-28	11.03.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	11.03.10	30.0	<0.05	<0.05	0.22	2.4	<2.72	110	360	680	1150
B-29	11.03.10	45.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	<10	<50	<65
	11.04.10	27.0	<0.05	<0.05	<0.05	<0.10	<0.25	<5.0	100	130	<235
B-29	11.04.10	40.0	<0.05	<0.05	<0.05	<0.10	<0.25	6.6	<10	<50	<66.6

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  
Lindrith Compressor Station  
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (µg/L)	TPH DRO (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards							
MW-1*	12.30.09	1900	2600	120	870	NA	NA
MW-1R	11.16.10						
	6.24.11						
MW-2	12.30.09	3000	3200	270	1900	NA	NA
	11.16.10						
MW-3	6.24.11						
	12.30.09	130	370	76	530	NA	NA
MW-4	11.16.10	5500	62	350	1000	0.016	<0.001
	6.24.11	5700	3300	340	2300	0.031	0.0017
MW-5	11.16.10	2600	1600	280	1700	0.00035	0.0031
	6.24.11	3900	1600	220	1400	0.026	<0.001
MW-6	11.15.10	4.4	<1.0	6.3	22	0.0022	0.0014
	6.24.11	1.2	<1.0	31	19	0.00052	<0.001
MW-7	11.16.10	2400	65	230	1200	0.00042	0.0014
	6.24.11	4500	68	230	1200	0.025	<0.001
MW-8	11.16.10	8.9	2.6	5.9	50	0.0015	<0.001
	6.24.11	2.3	<1.0	<1.0	<2.0	0.00035	<0.001
MW-9	11.15.10	<1.0	<1.0	<1.0	<2.0	<0.00005	<0.001
	6.24.11	<1.0	<1.0	<1.0	<2.0	<0.00005	<0.001
MW-10	11.16.10						
	6.24.11						
MW-11	11.15.10	<1.0	<1.0	<1.0	<2.0	<0.00005	<0.001
	6.24.11	<1.0	<1.0	<1.0	<2.0	<0.00005	<0.001
MW-12	11.15.10	23	16	13	84	0.0013	<0.005
	6.24.11	27	<1.0	5.6	9.4	0.00051	<0.001

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**  
**Lindrieth Compressor Station**  
**NATURAL ATTENUATION PARAMETERS**

Sample I.D.	Date	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Conductivity (mS/cm)	Nitrate (mg/L)	Iron (mg/L)
MW-1*	12.30.09	NA	NA	NA	NA	NA	NA	NA
MW-1R	11.16.10	NA	NA	NA	NA	NA	NA	NA
	6.24.11	NA	NA	NA	NA	NA	NA	NA
MW-2	12.30.09	NA	NA	NA	NA	NA	NA	NA
	11.16.10	NA	NA	NA	NA	NA	NA	NA
	6.24.11	NA	NA	NA	NA	NA	NA	NA
MW-3	12.30.09	NA	NA	NA	NA	NA	NA	NA
	11.16.10	14.5	6.94	NA	NA	2.68	<1.0	210
	6.24.11	19.63	7.53	0.79	-130.0	3.346	NA	NA
MW-4	11.16.10	13.6	6.80	NA	NA	2.42	<1.0	470
	6.24.11	23.40	7.45	1.07	-115.7	2.360	NA	NA
MW-5	11.15.10	12.9	6.84	NA	NA	4.58	<1.0	47
	6.24.11	23.82	7.29	1.46	-109.4	5.749	NA	NA
MW-6	11.16.10	14.0	6.52	NA	NA	3.11	<1.0	140
	6.24.11	20.01	7.23	1.11	-108.0	3.109	NA	NA
MW-7	11.16.10	14.1	7.09	NA	NA	1.95	<1.0	53
	6.24.11	21.94	7.40	0.74	-131.1	1.862	NA	NA
MW-8	11.15.10	12.6	7.17	NA	NA	2.92	<1.0	7.8
	6.24.11	17.14	7.13	0.79	-51.2	2.880	NA	NA
MW-9	11.16.10	NA	NA	NA	NA	NA	NA	NA
	6.24.11	NA	NA	NA	NA	NA	NA	NA
MW-10	11.15.10	13.1	7.47	NA	NA	3.92	<1.0	52
	6.24.11	18.92	7.18	0.61	-47.0	3.488	NA	NA
MW-11	11.16.10	13.5	6.96	NA	NA	2.89	<1.0	13
	6.24.11	19.54	6.97	2.09	-36.6	2.725	NA	NA
MW-12	11.15.10	14.4	7.33	NA	NA	2.68	7.28	39
	6.24.11	19.82	7.27	0.98	-89.2	2.640	NA	NA

NA = Not Analyzed  
\* = Relocated by MW-1R

**TABLE 4**  
**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
	11.15.10	31.93	32.86	0.93	6494.62	6462.35
	6.22.11	32.57	35.50	2.93	6494.62	6460.97
MW-2	11.11.10	30.12	30.15	0.03	6491.08	6460.95
	11.15.10	29.86	29.90	0.04	6491.08	6461.21
	6.22.11	30.64	30.73	0.09	6491.08	6460.41
MW-3	11.11.10	ND	32.08	ND	6492.78	6460.70
	11.15.10	ND	32.96	ND	6492.78	6459.82
	6.22.11	ND	32.61	ND	6492.78	6460.17
MW-4	11.11.10	ND	33.31	ND	6493.99	6460.68
	11.15.10	ND	33.10	ND	6493.99	6460.89
	6.22.11	ND	33.45	ND	6493.99	6460.54
MW-5	11.11.10	ND	34.37	ND	6496.06	6461.69
	11.15.10	ND	35.64	ND	6496.06	6460.42
	6.22.11	ND	34.52	ND	6496.06	6461.54
MW-6	11.11.10	ND	33.79	ND	6494.72	6460.93
	11.15.10	ND	33.63	ND	6494.72	6461.09
	6.22.11	ND	34.09	ND	6494.72	6460.63
MW-7	11.11.10	ND	36.65	ND	6492.49	6455.84
	11.15.10	ND	34.70	ND	6492.49	6457.79
	6.22.11	ND	34.87	ND	6492.49	6457.62
MW-8	11.11.10	ND	34.39	ND	6493.10	6458.71
	11.15.10	ND	32.16	ND	6493.10	6460.94
	6.22.11	ND	32.70	ND	6493.10	6460.40
MW-9	11.11.10	29.46	30.34	0.88	6491.17	6461.38
	11.15.10	30.47	31.24	0.77	6491.17	6460.42
	6.22.11	30.76	32.14	1.38	6491.17	6459.90
MW-10	11.11.10	ND	29.85	ND	6492.39	6462.54
	11.15.10	ND	31.83	ND	6492.39	6460.56
	6.22.11	ND	32.40	ND	6492.39	6459.99
MW-11	11.11.10	ND	34.05	ND	6489.84	6455.79
	11.15.10	ND	35.05	ND	6489.84	6454.79
	6.22.11	ND	34.23	ND	6489.84	6455.61
MW-12	11.11.10	ND	32.04	ND	6487.95	6455.91
	11.15.10	ND	32.74	ND	6487.95	6455.21
	6.22.11	ND	32.73	ND	6487.95	6455.22

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

ND - None Detected