# RECR - 17

# WORKPLANS AND BONDS

# YEAR(S): 2007-2011

# WORK PLAN FOR WELL SITE PIT CONTINUED ASSESSMENT, REMEDIATION, AND RECLAMATION BLACK OIL STATE CY LEASE LEA COUNTY, SOUTHEAST NEW MEXICO

PREPARED FOR:

**NEW MEXICO OIL CONSERVATION DIVISION**
**1200 SOUTH SAINT FRANCIS DRIVE**
**SANTA FE, NEW MEXICO**

ALB07PR093

PREPARED BY:

KLEINFELDER
8300 JEFFERSON NE, SUITE B
ALBUQUERQUE, NEW MEXICO 87113

July 31, 2007

KLEINFELDER
An employee owned company

July 31, 2007
Kleinfelder Proposal No : ALB07PR093

New Mexico Oil Conservation Division
1200 South St. Francis Drive
Santa Fe, New Mexico 87505

Attn: Mr. Wayne Price

**Subject:** **Work Plan for Well Site Pit**
**Continued Assessment, Remediation, and Reclamation**
**Black Oil State CY Lease**
**Lea County, Southeast New Mexico**

Dear Mr. Price:

Kleinfelder West, Inc., (Kleinfelder) is pleased to submit this work plan to the New Mexico Oil Conservation Division (Client) to provide continued Assessment, Remediation and Reclamation Services for the above-mentioned well pit site in southeast New Mexico. A cost breakdown of these services has been provided. Should questions arise concerning this work plan, we will be pleased to discuss them with you.

Respectfully submitted,
**KLEINFELDER WEST, INC.**

Justin D. Ball, P.G.
Project Manager

Reviewed by:

Fred T. Schelby, P.E.
Environmental Manager

JDB: FTS: ad

Attachments: Figure 1 – Site Location Map
Table 1 – Cost Breakdown
Resume – Justin D. Ball, P.G.





KLEINFELDER 8300 Jefferson NE Suite B Albuquerque NM 87113 (505) 344-7373 (505) 344-1711 fax

## 1.0 INTRODUCTION

The New Mexico Oil Conservation Division (NMOCD) has requested that Kleinfelder West, Inc. (Kleinfelder), develop a proposal to provide continued well site pit assessment, remediation and reclamation services at the Black Oil State CY Lease site. Previous activities performed onsite are discussed in section 2.2. Items needing further activities at the site include 1) the vertical and horizontal extent of petroleum and chloride impact to soil and groundwater, 2) the mitigation of Naturally Occurring Radioactive Material (NORM), and 3) the reclamation of the site. The objectives of the work plan are to (1) summarize recent assessment and remediation activities at the site, (2) detail a scope of work designed for the project objectives mentioned above, and (3) establish a schedule and budget for the proposed activities. The site descriptions, scope of work, project schedule, and project budget follow in Sections 2, 3, 4, and 5, respectively.

## 2.0 SITE DESCRIPTION

### 2.1 Site Location

The Black Oil State CY Lease is located on land owned by the State of New Mexico, in the Southwest ¼ of Section 30, Township 12 South, Range 34 East, in Lea County, New Mexico approximately 20 miles southwest of the town of Tatum. The Site consists of an abandoned, former workover or production pit. A combined site location map and site plan is shown on Figure 1.

### 2.2 Previous Investigation

Kleinfelder conducted assessment and remediation field work between May 31 and June 28, 2007. A complete description of initial assessment activities will be included in the final report. A brief summary of these activities is provided below:

- Results of our survey and confirmatory sampling event indicated NORM within the limits of the pit;

- Approximately 440 cubic yards (cyds) of NORM and petroleum impacted soils were excavated from the pit. Excavation and stockpiling of materials was focused on locations where NORM field screening levels were above the New Mexico Radiation Control Bureau (NMRCB) regulatory level of 50 microroengten per hour (μR/h).

- After stockpiling the material, one (1) composite sample was collected and submitted for analytical testing. Analytical results indicated that NORM concentrations within the stockpile materials were less than the NMRCB standards of 30 picocuries per gram (pCi/g) of radium and 150 pCi/g for the remaining radionuclides tested. Based on the results of the field screening and analytical testing of the stockpiled materials, a General License as a NORM Site was not required by the NMRCB;

- Approximately 440 cyds of petroleum impacted soil was transported and disposed of at the Gandy-Marly (Gandy) facility. On the return haul from the landfill, approximately 440 cyds of clean soils was transported to the site and stockpiled for future use as backfill;

- Two soil samples were collected from the bottom of the pit excavation and submitted for TPH, BTEX and chloride analytical testing. One sample was collected from the northeast portion of the pit, where screening levels were below the NMRCB standard of 50 μR/h. The second soil sample was collected from the southeast portion of the pit, where screening levels were above the NMRCB standard and where the excavation followed a vertical fissure of petroleum stained soil. Samples were analyzed and found to contain:

| | NE Sample | SE Sample | Regulatory Action Levels |
|---|---|---|---|
| Depth (ft) | 14 | 18 | |
| Benzene (ppm) | <0.050 | <0.50 | 5 |
| BTEX (ppm) | <0.25 | 4.6 | 10 |
| TPH (ppm) | 920 | **6400** | 1000 |
| Chloride (ppm) | 33 | 3.3 | TBD |
| NORM (µR/h) | < 50 | **70** | 50 |

- At the request of the NMOCD, Kleinfelder demobilized from the site to await additional site specific funding. The excavation was secured with fencing and a placard. Approximately 3 to 5 cyds of excavated, impacted soil remain at the site on bermed plastic.

## 3.0 PROPOSED SCOPE OF WORK

Our proposed scope of work has been divided into the following three tasks:

- Task 1: Project Preparation;
- Task 2: Continued Site Assessment, Remediation and Reclamation;
- Task 3: Reporting.

### 3.1 Task 1: Project Preparation

This task includes preparing and submitting this work plan and other project preparation activities that occur after work plan approval but before field work mobilization. After receiving authorization to proceed, Kleinfelder will:

- Prepare a job information management plan;
- Issue work orders for subcontractors;
- Issue work instructions for field personnel;
- Notify the Client, NMRCB and the NMSLO a minimum of 96 hours prior to field activities;
- Notify New Mexico One-Call for location of underground utilities; and,
- Update the Health and Safety Plan (HASP) to address the specified field work.

### 3.2 Task 2: Site Assessment, Remediation and Reclamation

**Regulatory Standards**

The NMRCB field screening standard for NORM is 50 µR/h or 30 pCi/g of radium and 150 pCi/g for other radionuclides as determined by analytical testing.

Based on the local depth of groundwater of 68 ft bgs, NMOCD ranking criteria indicates a site score of 10; and therefore Soil Remediation Levels of 10, 50 and 1,000 mg/Kg for benzene, BTEX and TPH, respectively are applicable to the site.

Chloride Soil Remediation Levels have not been established for the site. Kleinfelder suggests chloride levels be established and provided to Kleinfelder before we commence field activities.

## Remediation and Reclamation

Kleinfelder proposes to continue excavation activities at the site. The excavation program will include:

- Continued field screening for NORM, petroleum and chlorides to assist in determining excavation limits;
- Continued excavation of NORM, petroleum and chloride soils that are above regulatory standards. Kleinfelder estimates excavation of approximately 600 cyds of material will be required;
- Segregation and stockpiling of NORM material on a bermed, plastic liner;
- Segregation and stockpiling of non-NORM material, but petroleum and/or chloride impacted soils;
- Confirmatory composite sampling and analytical testing of the NORM stockpile at a rate of one sample per 400 cyds of excavated material. Kleinfelder estimates 2 samples collected and submitted for rush analytical analysis for NORM, TPH, BTEX and chloride. Kleinfelder does not anticipate that disposal of soils from this stockpile, as NORM material, will be required. If stockpiled material is below regulatory levels, it will be used to backfill the pit;
- Confirmatory composite sampling and analytical testing of the non-NORM stockpile at a rate of one sample per 400 cyds of excavated material. Kleinfelder estimated 2 samples will be collected and submitted for rush analytical analysis for TPH, BTEX and chloride. If stockpiled material is below regulatory levels, it will be used to backfill the pit;
- Confirmatory sampling along the sidewalls and bottom of the excavation. Confirmatory sample locations will be discussed with NMOCD personnel prior to collection. For budgetary purposes, Kleinfelder estimates 6 soil samples will be collected and submitted for rush analytical analysis;
- The excavation will be backfilled after receiving NMOCD approval. Should above standard levels of TPH, BTEX or chloride remain in the excavation (below economically feasible depths and as determined in consultation with NMOCD), a plastic liner will be installed in the bottom of the excavation and approximately 3 ft below the top of the backfill material. Reuse of the NORM stockpile liner is suggested; and
- Clean imported soil will be used to bring the pit area to surrounding grade and reseeded with a NMSLO-approved seed mixture.

**Soil and Groundwater Characterization**

Depending on the type, extent and concentration of contaminates associated with the identified vertical fissure, a soil and or groundwater characterization assessment at the site may be required. The need for any assessment work will be made in consultation with the NMOCD and after additional excavation work in the area of the fissure is complete.

### 3.3 Waste Management

Once stockpiled, Kleinfelder does not anticipate that soils will be classified as NORM. Therefore, we have not scoped and costed for disposal of excavated soils as NORM.

Kleinfelder does not anticipate that chloride concentrations in the excavated soils will exceed 1,000 mg/kg. Therefore, we have scoped and costed for the excavation of 600 cyds of soil to be land farmed at the Gandy facility.

### 3.4 Health and Safety Considerations

Kleinfelder will provide a HASP that will be reviewed and signed by on-site Kleinfelder personnel, subcontractors, and authorized visitors.

Field personnel will be trained to conduct NORM investigations. NORM activities will be conducted under the certification of Noel Savignoc, CHP, a NMRCB Qualified Expert.

### 3.5 Quality Assurance/Quality Control

Sampling will be completed in accordance with our standard Quality Assurance/Quality Control procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

### 3.6 Task 3: Reporting

A report summarizing our field activities and findings from the Site will be submitted to the NMOCD. The reports will include a site description, project history, description of data collection procedures, a discussion of results, and recommendations for additional work, if required. The report will additionally include:

- Results from the initial assessment activities;
- Tabulation of field screening and laboratory analytical test results for NORM, petroleum and chloride;
- A copy of the analytical test results;
- A description of the soil profile;

- Map depicting the lateral and vertical limits of the excavation area;
- Calibration records of equipment used for field screening;
- A copy of the field notes;
- A copy of the HASP signatory pages;
- Selected site photographs;
- A copy of the site access agreement;
- Waste transportation and disposal documentation; and,
- Recommendations for additional assessment and remediation will be provided, if necessary.

## 4.0 SCHEDULE

Kleinfelder will schedule and begin the project immediately upon receipt of your written authorization to proceed. Please note that this schedule is based on our current workload and is subject to change. Kleinfelder estimates the field program will be completed in one (1) to two (2) months after inception, the laboratory analyses will be completed two weeks after samples have been submitted to the laboratory, and the reporting will be completed 45 days after receiving the results of the laboratory testing or completion of the final field task.

## 5.0 ESTIMATED PROJECT BUDGET

A summary of our estimated time and materials fees for the described scope of services for the project is presented below. A detailed costs breakdown is attached (Table 1).

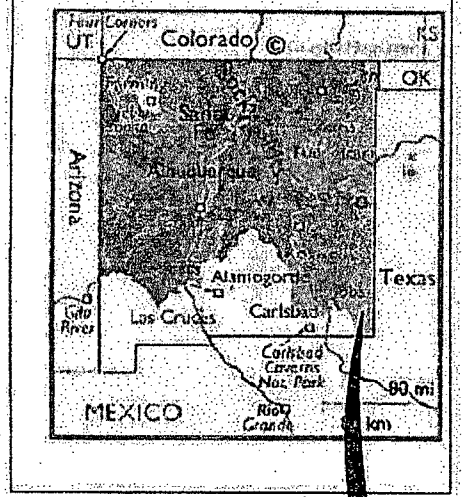
| Task No. | Task Description | Estimated Time & Material Fee | Estimated Time & Material Fee with NMGRT (6.875%) |
|---|---|---|---|
| 1 | Project Preparation, Management | $5,998.00 | $6,410.36 |
| 2 | Assessment, Remediation, and Reclamation | $60,172.30 | $64,309.15 |
| 3 | Reporting | $8,530.00 | $9,116.44 |
| | Total | $74,700.30 | $79,835.95 |

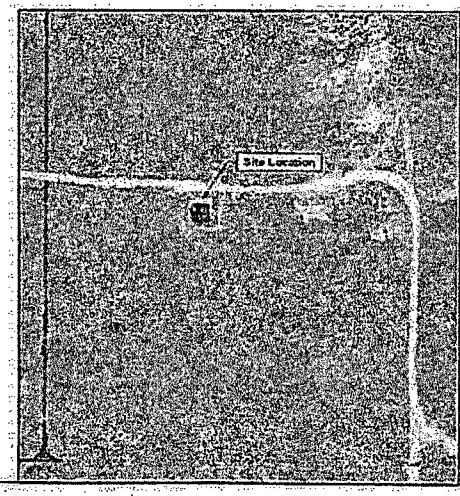
Our cost assumes the following; (1) rates used for the project budget are specified in the Kleinfelder's New Mexico General Services Division Price Agreement Contract #61-805-09-18553, Kleinfelder and it's subcontractors will adhere to the specified labor and equipment rates as they apply to services rendered, (2) a total of 600 cyds of impacted soil will be removed from the pit and disposed off site, (3) assessment, remediation, and reclamation costs assume that stockpiled materials will not be classified as NORM (4) Costs for remediation of soils assumes chloride concentrations are <1000 mg/kg, and (5) Additional fees are necessary to accomplish project objectives will be approved by the NMOCD prior to performing additional work.

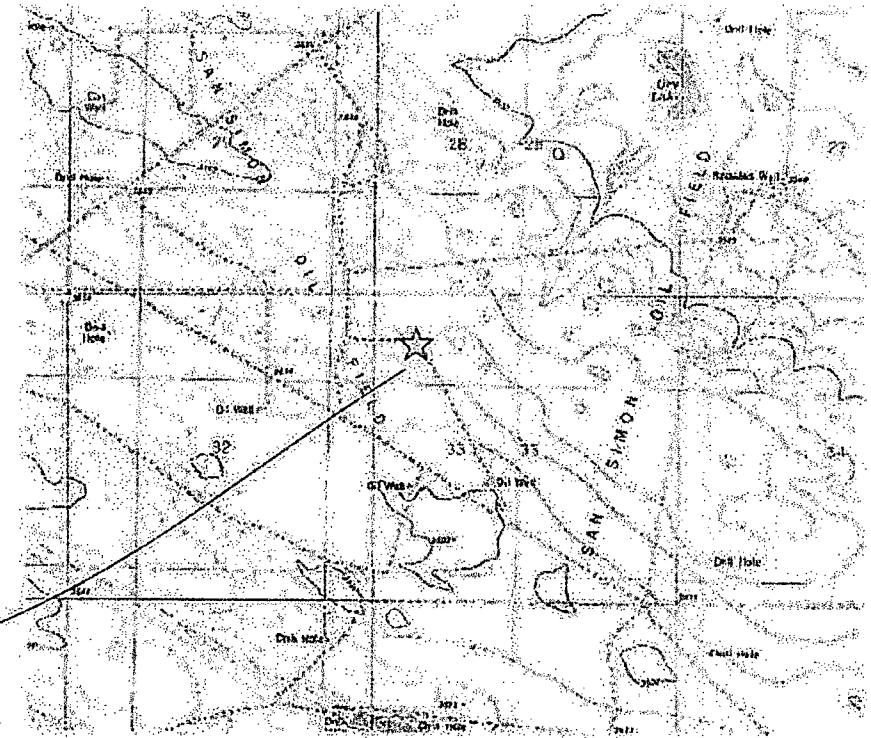
## 6.0 QUALIFICATIONS

The project manager for the proposed work is Justin D. Ball, P.G. A copy of Mr. Ball's resume is presented in Appendix A.

# FIGURES




**LEGEND**

☆ = Site Location

2000 0 1000 2000 ft

SCALE

NOTE: Based on map provided by TOPO! USGS Topo Maps.

| KLEINFELDER | | SITE LOCATION MAP<br>Black Oil State Cy Lease<br>Tatum, New Mexico | FIGURE<br>1 |
|---|---|---|---|
| Drawn By: PDan | Date: July 2007 | | |
| Project No.: 05901 | Filename: 05901_01_0.dwg | | |
| Scale: As Referenced | Drawing Category: A | | |

# TABLES

**TABLE 1**

**COST ESTIMATE BREAKDOWN (time and materials)**

**Assessment and Remediation**

**Black Oil State CY Lease (NMOCD)**

NMGRT 6.875%
10% Markup on outside services

**TASK 1: Project Preparation, Project Management**

| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST | |
|---|---|---|---|---|---|
| Principal | $ 125.00 | Hour | 4 | $ 500.00 | |
| Senior Scientist | $ 104.50 | Hour | 20 | $ 2,090.00 | |
| Project Scientist II | $ 90.00 | Hour | | $ - | |
| Project Scientist I | $ 78.00 | Hour | 20 | $ 1,560.00 | |
| Project Scientist I | $ 78.00 | Hour | 16 | $ 1,248.00 | |
| Secretary | $ 35.00 | Hour | | $ - | |
| Administrator | $ 50.00 | Hour | 12 | $ 600.00 | |
| CADD | $ 60.00 | Hour | | $ - | |
| Equipment Rental | $ 100.00 | day | | $ - | |
| Vehicle | $ 65.00 | day | | $ - | |
| Partial Day Per diem | $ 36.00 | day | | $ - | |
| Perdiem | $ 91.00 | day | | $ - | |
| Mileage | $ 0.65 | Per Mile | | $ - | |
| Subtotal | | | | $ 5,998.00 | $ 6,410.36 |
| TOTAL ALL PAGES | | | | $ 76,500.30 | $ 81,759.70 |

**TASK 2: Excavation and Backfill**

| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST | |
|---|---|---|---|---|---|
| **Remediation** | | | | | |
| Principal | $ 125.00 | Hour | 4 | $ 500.00 | |
| Senior Scientist | $ 104.50 | Hour | 30 | $ 3,135.00 | |
| Project Scientist II | $ 90.00 | Hour | 20 | $ 1,800.00 | |
| Project Scientist I | $ 78.00 | Hour | 60 | $ 4,680.00 | |
| Project Scientist I | $ 78.00 | Hour | 40 | $ 3,120.00 | |
| NORM Subcontractor | $ 104.50 | | 10 | $ 1,045.00 | |
| Perdiem | $ 91.00 | day | 10 | $ 910.00 | |
| Partial Day Per diem | $ 36.00 | day | 0 | $ - | |
| Mileage | $ 0.65 | Per Mile | 1600 | $ 1,040.00 | |
| Vehicle | $ 65.00 | day | 8 | $ 520.00 | |
| PID | $ 75.00 | day | 6 | $ 450.00 | |
| Chloride Field Kit (day) | $ 50.00 | day | 6 | $ 300.00 | |
| Chloride Field Kit (each) | $ 0.75 | each | 30 | $ 22.50 | |
| NORM Equipment | $ 130.00 | week | 1.1 | $ 143.00 | |
| Field Equipment (misc) | $ 75.00 | each | 6 | $ 450.00 | |
| **Excavation Subcontractor** | | | | | |
| Excavation and loading | $ 6.88 | cyds | 600 | $ 4,125.00 | |
| Transportation | $ 12.10 | cyds | 600 | $ 7,260.00 | |
| Landfarm Disposal (assumes non-NORM and < 1000 ppm chloride | $ 15.40 | cyds | 600 | $ 9,240.00 | |
| Clean backfill | $ 16.50 | cyds | 600 | $ 9,900.00 | |
| Backfill and compaction | $ 3,300.00 | unit | 1.1 | $ 3,630.00 | |
| Liner Installation (assumes reuse of NORM liner) | $ 500.00 | unit | 1.1 | $ 550.00 | |
| **Confirmatory Laboratory Soil Samples (Excavation, 24 hr RUSH)** | | | | | |
| EPA 6010 Chlorides (RUSH) | $ 37.40 | Per Sample | 6 | $ 224.40 | |
| EPA 8021 BTEX (RUSH) | $ 66.00 | Per Sample | 6 | $ 396.00 | |
| EPA 8015B GRO, DRO, ORO (RUSH) | $ 96.80 | Per Sample | 6 | $ 580.80 | |
| NORM (RUSH) | $ 275.00 | Per Sample | 0 | $ - | |
| **Confirmatory Laboratory Soil Samples (2 Stockpiles, 24 hr RUSH, 1 sample per 400 cyds)** | | | | | |
| EPA 6010 Chlorides (RUSH) | $ 37.40 | Per Sample | 4 | $ 149.60 | |
| EPA 8021 BTEX (RUSH) | $ 66.00 | Per Sample | 4 | $ 264.00 | |
| EPA 8015B GRO, DRO, ORO (RUSH) | $ 96.80 | Per Sample | 4 | $ 387.20 | |
| NORM (RUSH) | $ 275.00 | Per Sample | 2 | $ 550.00 | |
| **Reclaimation** | | | | | |
| Principal | $ 125.00 | Hour | 1 | $ 125.00 | |
| Senior Scientist | $ 104.50 | Hour | 4 | $ 418.00 | |
| Project Scientist II | $ 90.00 | Hour | | $ - | |
| Project Scientist I | $ 78.00 | Hour | 32 | $ 2,496.00 | |
| Staff Scientist | $ 66.00 | Hour | | $ - | |
| Perdiem | $ 91.00 | day | 3 | $ 273.00 | |
| Partial Day Per diem | $ 36.00 | day | 0 | $ - | |
| Mileage | $ 0.65 | Per Mile | 700 | $ 455.00 | |
| Vehicle | $ 65.00 | day | 3 | $ 195.00 | |
| PID | $ 75.00 | day | | $ - | |
| LEL Meter | $ 50.00 | day | | | |
| NORM Equipment | $ 100.00 | day | | $ - | |
| **Reseeding Contractor** | | | | | |
| B&T Farms | $ 2,398.00 | each | 1.1 | $ 2,637.80 | |
| Subtotal | | | | $ 61,972.30 | $ 66,232.90 |
| TOTAL ALL PAGES | | | | $ 76,500.30 | $ 81,759.70 |

**TASK 3: Report Preparation**

| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST | |
|---|---|---|---|---|---|
| Principal | $ 125.00 | Hour | 8 | $ 1,000.00 | |
| Senior Scientist | $ 104.50 | Hour | 40 | $ 4,180.00 | |
| Project Scientist II | $ 90.00 | Hour | | $ - | |
| Project Scientist I | $ 78.00 | Hour | 20 | $ 1,560.00 | |
| Staff Scientist | $ 66.00 | Hour | | $ - | |
| Administrator | $ 50.00 | Hour | 8 | $ 400.00 | |
| Word Processing | $ 35.00 | Hour | 12 | $ 420.00 | |
| CADD | $ 60.00 | Hour | 12 | $ 720.00 | |
| Report Supplies, Shipping, Postage | $ 250.00 | each | 1 | $ 250.00 | |
| Subtotal | | | | $ 8,530.00 | $ 9,116.44 |
| TOTAL ALL PAGES | | | | $ 76,500.30 | $ 81,759.70 |

# APPENDIX A

## Resumes

## Justin Ball

### Summary of Experience

Mr. Ball is a project manager in Kleinfelder's Albuquerque Office. He has over 8 years experience with various environmental projects. His primary focus with Kleinfelder is providing project management and technical support for the environmental group.

Mr. Ball has extensive experience with environmental projects. Early in his career in Pennsylvania, he provided oversight of soil boring and monitoring well installations utilizing direct push, hollow-stem auger, and cone penetrometer drilling platforms at various sites in Pennsylvania and Ohio. He also conducted Phase I Environmental Site Assessments; soil classification and hydrocarbon impact screening; discrete soil, gas, and groundwater sampling; and aquifer hydraulic testing. He prepared environmental reports of increasing complexity including Site Characterization, Baseline Risk Assessment, Tank Excavation Assessment, Phase I Environmental Site Assessment, Remedial Action Plans and UST "Fund" reimbursement application packages. Noteworthy accomplishments include installing 30 wells in a 4-month period investigating LNAPL from historical releases at a large pipeline pumping station. He also gained increasing levels of responsibility in coordination of materials, laboratories, subcontractors, personnel supervision, development of scopes of work/cost estimates and client consultation.

Since relocating to New Mexico, Mr. Ball has adding project management duties for various clients. He has managed activities at various facilities, including Petroleum Storage Tank, oil field pits, landfill gas assessment and refinery sites.

### Education

BS, Geology, University of Georgia, 1994

MS, Geology, Washington State University, 1998

### Registrations

Licensed Geologist (L.G.), No.1983, Board for Licensing of Geologists, NC, 2004

Licensed Geologist (L.G.), No.2387, Department of Labor, Licensing and Regulation, SC, 2005

Professional Geologist (P.G.), No.2801 001632, Virginia Board for Geology, VA, 2004

Professional Geologist (P.G.), No.PG 001758, Georgia State Board of Registration for Professional Geologists, GA, 2004

Professional Geologist (P.G.), No.PG004536, Bureau of Professional and Occupational Affairs, PA, 2004

### Certifications

OSHA 40-Hour HAZWOPER, 1998

**Select Project Experience**

The following is a representative selection of Justin Ball's project experience.

*Site Assessment, Former Aerex Refinery, Bloomfield, New Mexico*
Mr. Ball was the field manager for a site assessment for the former Aerex Refinery, which operated from the 1930s to the 1960s. He supervised all field activities during the investigation including direct push soil boring installation, groundwater monitoring well installation, and baseline groundwater monitoring and sampling for petroleum constituents and geochemical parameters. Mr. Ball also prepared the Phase I Subsurface Assessment Report and Remedial Action Plan. The client is the New Mexico Oil Conservation Division.

*Aquifer Pumping Test Design and Implementation, Governor Richardson's Water Innovation Fund,Veguita Groundwater Denitrification Project, Veguita, New Mexico*
Mr. Ball assisted in the design and implementation of a 24 hour aquifer pumping test for the project. Mr. Ball also assisted in the initial molasses injection and operation of the groundwater injection system.

*Site Assessment, Former Northstar Facility, Albuquerque, New Mexico*
Mr. Ball was the project manager for a site assessment at the former Northstar Research Facility. Based on the use of potential PCB containing transformer oil, a Phase I ESA was conducted at the site. A limited Phase II assesment was also conducted, which included the collection of asphalt, concrete, sediment and soil from interior and exterior locations.

*Groundwater Monitoring Well Installation, Caja del Rio Landfill, Santa Fe, New Mexico*
Mr. Ball provided oversight for the installation of a 340 ft groundwater monitoring well as a NMED Qualified Groundwater Scientist for the proposed expansion of the Caja del Rio Landfill. The boring was advanced using mud rotary techniques and mud coring prior to installing a 5" monitoring well.

*Underground Storage Tank Excavation, State Land Office, Vaughn, New Mexico*
Mr. Ball provided oversight during the excavation of three steel underground storage tanks abandoned from a 1950's era gas station. Mr. Ball authored the subsequent report for the site which was granted a No Further Action status.

*Secondary Investigation Report, Gallup, New Mexico*
Mr. Ball prepared the Secondary Investigation report for a PSTB site located in Gallup, New Mexico. A total of 48 direct push borings were advanced with soil screening and soil analytical data collected. Included in the report was an conceptual excavation plan that calculated both the volume of soil to excavated as well as the volume of overburden to be removed.

*Landfill Gas Assessment, Westlake Development Partners, Albuquerque, New Mexico*
Mr. Ball has been the Project Manager for a landfill gas assessment for a proposed 127,614 ft2 4-story building within a landfill buffer zone.

*Various Groundwater Monitoring Sites, Various Clients*
Mr. Ball has been the Project Manager for various groundwater monitoring projects for numerous clients in New Mexico.

*Site Assessment, Major Petroleum Company, Pennsylvania*
Mr. Ball prepared the workplan and cost estimate for an expedited site characterization and cost/benefit analysis for a traditional site characterization method. He conducted a weeklong field event, which included discrete vapor, groundwater, and soil sampling, in conjunction with cone penetrometer testing with continuous ultra violet induced fluorescence readings. He was able to identify affected geologic layers on site with great precision.

*Project Evaluation, Major Petroleum Company, Pennsylvania*
Mr. Ball evaluated historical environmental data for a petroleum distribution terminal and helped identify concerns arising from a previous consultant's work and communicated the resulting liability concerns to the client.

*Site Assessment and Closure, Major Pipeline Company, Ohio*
Mr. Ball developed concurrent scopes of work and cost estimates for evaluating releases from two separate pipeline sites. He also completed combined drilling events and subsequent reporting within budget and narrow client timeframe and exceeded client expectation. He was able to obtain site closures.

*Real Estate Transaction for Commercial/Industrial Properties, Major Oil Company, Pennsylvania, Ohio*
Mr. Ball was responsible for coordinating three geographically distant Phase I Environmental Site Assessments. He completed the investigations within a month and identified various sources of potential liability for the buyer client.

*Pre-Construction Plan of Action/Site Assessment, Major Pipeline Company, Ohio*
Mr. Ball developed concurrent scopes of work and cost estimates for evaluating potential historical releases along the proposed construction right of way. He completed combined drilling events and subsequent reporting within budget and tight client timeframe. He also used advanced field-screening techniques with laboratory analytical results to allow for field screening to only take place during construction.

*Risk Assessment and Closure, Regional Petroleum Distribution Company; Pennsylvania*
Mr. Ball evaluated current and future risks and impacts on soil and groundwater resulting from an overfill release of several hundred gallons of gasoline. He developed site-specific standards for groundwater both on- and off-site. He was able to obtain closure for the site.

*Remedial System Installation, Regional Petroleum Distribution Company, Pennsylvania*
Mr. Ball assisted in developing of an oxygen-injection remedial action plan for two sites with low-level groundwater impact. He developed a workplan for the installation of injection points and the oxygen delivery system and oversaw field installation and startup of oxygen injection system.

*Site Investigation, Major Pipeline Company, Ohio*
Mr. Ball was the lead scientist for an emergency assessment at a pumping station that has been in continuous operation since the early 1900s. In response to the potential seepage of LNAPL into local sensitive waterways, Mr. Ball prepared a GIS database including extensive historical site characterization data, wetland maps, site facility infrastructure data and groundwater analytical data. Mr. Ball developed and implemented work scopes for three rounds of boring and well installations, LNAPL recovery, and groundwater sampling. Mr. Ball also developed remedial action work plans for automated LANPL recovery and sheet wall installation to protect the waterways.

# WORK PLAN FOR WELL SITE SITE ASSESSMENT AND REMEDIATION BLACK OIL STATE CY LEASE, LEA COUNTY, SOUTHEAST NEW MEXICO

PREPARED FOR:

**NEW MEXICO OIL CONSERVATION DIVISION**
**1200 SOUTH SAINT FRANCIS DRIVE**
**SANTA FE, NEW MEXICO**

PREPARED BY:

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Environmental Manager

JDB: FTS: ylw

## 1.0 INTRODUCTION

The New Mexico Oil Conservation Division (NMOCD) has requested that Kleinfelder West, Inc. (Kleinfelder), develop a proposal to provide continued well site pit assessment and remediation services at the Black Oil State CY Lease site. Previous activities performed onsite are discussed in section 2.2. Items needing further activities at the site include 1) the vertical and horizontal extent of petroleum and chloride impact to soil and groundwater, 2) the mitigation of Naturally Occurring Radioactive Material (NORM), and 3) the reclamation of the site. The objectives of the work plan are to (1) summarize recent assessment and remediation activities at the site, (2) detail a scope of work designed for the project objectives mentioned above, and (3) establish a schedule and budget for the proposed activities. The site descriptions, scope of work, project schedule, and project budget follow in Sections 2, 3, 4, and 5, respectively.

## 2.0 SITE DESCRIPTIONS

### 2.1 Site Location

The Black Oil State CY Lease is located on land owned by the State of New Mexico, in the Southwest ¼ of Section 30 Township 12 South, Range 34 East, in Lea County, New Mexico approximately 20 miles southwest of the town of Tatum. The Site consists of an abandoned, former workover or production pit. A site location map is shown on Figure 1. An aerial photograph of the Site is shown on Figure 2.

### 2.2 Previous Investigation

Kleinfelder conducted assessment and remediation field work between May 31 and June 28, 2007. A complete description of initial assessment activities will be included in the final report. These activities included:

- Conducted a survey and confirmatory sampling, indicating NORM within the pit.
- Oversaw the excavation of 440 cubic yards (cyds) of NORM and petroleum impacted soil from the pit. Only NORM impacted material from the pit, which was then stockpiled on bermed plastic. NORM reading of in-place material in the pit was 110 microroengten per hour (µR/h) or less.
- Once stockpiled, field screening levels confirmed by analysis of a composite sample, were less than NORM standards. A General License was not required by the Radiation Control Bureau (RCB).
- The 440 cyds of petroleum impacted soil was transported and disposed of at the Gandy-Marly landfill. A total of 440 cyds of backfill was stockpiled onsite.
- Two soil samples were collected from the bottom of the excavation. One from the northeast section, where screenings levels indicated the removal of all NORM material. The second soil sample was collected from the SE portion of the pit, where at test pit following a vertical seam of petroleum stained soil was excavated. Samples were analyzed and found to contain:

| | NE | SE |
|---|---|---|
| Depth | 14 | 18 |
| Benzene | <0.050 | <0.50 |
| BTEX | <0.25 | 4.6 |
| TPH | 920 | **6400** |
| Chloride | 33 | 3.3 |
| NORM | removed | present |

- The pit was secured with a fence. Approximately 3-5 cyds of stockpiled soil remain on the bermed plastic.

## 3.0 SCOPE OF WORK

The scope of work has been divided into the following three tasks:

**Black Oil, State CY Lease**

- Task 1: Project Preparation
- Task 2: Site Assessment, Remediation and Reclamation
- Task 3: Reporting

### 3.1 Task 1: Project Preparation

This task includes preparing and submitting this work plan and other project preparation activities that occur after work plan approval but before field work mobilization. After receiving authorization to proceed, Kleinfelder will:

- Obtain copies of NMOCD files and research available Site information.
- Research available public records for regional groundwater data.
- Prepare a job information management plan
- Develop work orders for subcontractors.
- Develop work instructions for field personnel
- Notify the Client a minimum of 24 hours prior to the commencement of field and sampling activities.
- Notify New Mexico One-Call to facilitate location of underground utilities and pipelines; and,
- Update the Health and Safety Plan (HASP) that addresses field work specified in this work plan.

### 3.2 Task 2: Site Assessment and Remediation

**Regulatory Standards**

Due to the local depth of groundwater of 68 ft bgs, OCD ranking criteria indicates a site score of 10, and therefore Soil Remediation Levels of 10, 50 and 1000 mg/Kg for

benzene, BTEX and TPH, respectively. Chloride Soil Remediation Levels have not been set for the site.

**Remediation and Reclamation**

Kleinfelder proposes to excavate additional NORM and petroleum impacted material from the pit. The excavation program will include:

- Continued screening and excavation of NORM and petroleum impacted material in the southern portion of the pit. For the purpose of this proposal, Kleinfelder anticipates excavation of 600 cyds of material;
- Stockpiling NORM material on a bermed plastic liner;
- Screening of stockpiled NORM material. Confirmatory composite sampling of the stockpile at a rate of one per 400 cyrds of material;
- A calibrated photoionization detector will be utilized to screen soils to assist in determining excavation limits;
- Final sample locations within each excavation will be discussed with NMOCD personnel. For the purposes of this proposal, Kleinfelder will obtain 15 soil samples and be submitted for rush analytical analysis for BTEX, TPH and Chloride by EPA Methods 8021, 8015B and 6010B respectively;
- Due to the potential for hydrocarbon impact below economically feasible depths below the pit, Kleinfelder proposes to install a liner in the pit to prevent water infiltration.
- Excavation will not be backfilled until the NMOCD remediation guidelines are met and the NMOCD approves backfilling with clean imported fill to bring the pit area to surrounding grade;
- Upon backfilling, the pit will be reseeded with a State Land Office approved seed mixture.

**Soil Characterization**

Kleinfelder proposes to delineate the vertical and horizontal extent of the petroleum impacts at the pit by installing borings around the pit. The boring program will include:

- Three borings, located 10 feet from the center of each side of the pit or 10 ft off the NW, SE and SW corners of the pit, will be advanced into the water table (~80 ft bgs) and completed as monitoring wells as discussed below. Proposed boring locations are shown on Figure 3.
- Four borings, located 10 feet from the center of each side of the pit or 10 ft off the NW, SE and SW corners of the pit, will be advanced to 35 ft bgs.
- Continuous samples will be collected by split spoon and air coring sampling methods, as appropriate.
- Soil samples will be screened for NORM.
- Drilling equipment will be screened for NORM and decontaminated as appropriate.
- Soil samples will be field screened for petroleum and chloride impacts.

- Up to three samples from each boring will be submitted for analytical analysis for BTEX, TPH and Chloride by EPA Methods 8021, 8015B and 6010B respectively.

**Groundwater Characterization**

Kleinfelder proposes to delineate the horizontal extent of the petroleum, chloride and NORM impacts to shallow groundwater at the site. The groundwater program will include:

- Locate two monitoring wells down-gradient and one up-gradient of the pit, based upon regional groundwater flow direction as determined from available public records;
- The three borings will be completed with 2" monitoring wells of standard construction with flush mounded surface completions.
- Develop each monitoring well for up to 3 hours or until no longer turbid;
- Conduct a single groundwater monitoring and sampling event. Groundwater samples will be analyzed for for BTEX, TPH, Poly Aromatic Hydrocarbons (PAHs), dissolved metals, chloride and radioactivity by EPA Methods 8021, 8015B, 8310, 6010, 300.0 and E903.0/E904.0. A single sample will be selected for analysis of a list major anions, cations, and total dissolved solids.
- Survey of relevant site features by a NM licensed surveyor.

## 3.3 Waste Management

Soils excavated at the Site will be recycled at the Gandy Corporation (Gandy) or landfarm if chloride concentrations are <1,000 milligrams per kilogram (mg/kg). For the purposes of this proposal it is estimated that 600 cubic yards of soil will be excavated, hauled and disposed of from the site to the Gandy Landfill. The costs estimated for the remediation of soils assumes chloride concentrations are >1000 mg/kg.

If NORM material present in the excavation remains NORM material as stockpiled soil and requires General Licensing as NORM material by the RCB, disposal options will be reassessed in consultation with the OCD and RCB.

## 3.4 Health and Safety Considerations

Kleinfelder will provide a HASP that will be reviewed and signed by on-site Kleinfelder personnel, subcontractors, and authorized visitors.

## 3.5 Quality Assurance/Quality Control

Sampling will be completed in accordance with our standard Quality Assurance/Quality Control procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

### 3.6 Task 3: Reporting

A report summarizing our field activities and findings from the Site will be submitted to the NMOCD. The reports will include a site description, project history, description of data collection procedures, a discussion of results, and recommendations for additional work, if required. The report will additionally include:

- Results from the initial assessment activities;
- Results of the NORM surveys;
- Tabulation of field VOC screening results and laboratory analytical test results;
- Soil boring logs and monitoring well completion diagrams;
- A scaled site plan showing the locations of borings/monitoring well and identified utilities;
- A description of the soil profile and geologic cross section of the site;
- A map illustrating the distribution of petroleum hydrocarbon contaminants in soil;
- A map illustrating the distribution of petroleum hydrocarbon contaminants in groundwater;
- Map of the excavation area with depths;
- Disposition of the soils removed from each Site;
- In the event the horizontal and vertical delineation of the contamination cannot be determined by the scope of this project, recommendations for additional assessment and remediation will be provided, if necessary.

## 4.0 SCHEDULE

Kleinfelder will schedule and begin the project immediately upon receipt of your written authorization to proceed. Please note that this schedule is based on our current workload and is subject to change. Kleinfelder estimates the field program will be completed in two months after inception, the laboratory analyses will be completed two weeks after samples have been submitted to the laboratory, and the reporting will be completed 45 days after receiving the results of the laboratory testing or completion of the final field task.

## 5.0 PROJECT BUDGET

Our estimated time and materials fees for the described scope of services for the projects are as follows:

| Task No. | Task Description | Estimated Time & Material Fee | Estimated Time & Material Fee with NMGRT (6.875%) |
|---|---|---|---|
| 1 | Project Preparation, Management | $5,706.00 | $6,098.29 |
| 2 | Assessment, Remediation and Reclamation | $112,421.29 | $120,150.25 |
| 3 | Reporting | $8,088.00 | $8,644.05 |
| | Total | $126,215.29 | $134,892.59 |

The cost assumes (1) rates used for the project budget are specified in the Kleinfelder's New Mexico General Services Division Price Agreement Contract #61-805-09-18553, Kleinfelder and it's subcontractors will adhere to the specified labor and equipment rates as they apply to services rendered, (2) a total of 600 cyrd of impacted soil is removed from the pit and disposed off site, (3) Assessment, Remediation, and Reclamation costs assume that NORM-impacted materials in the pit will not be require a General Liscence as stockpiled material, (4) Costs for remediation of soils assumes chloride concentrations are >1000 mg/kg, and (5) Additional fees are necessary to accomplish project objectives will be approved by the NMOCD prior to performing additional work. A detailed costs breakdown is included as Table 1.

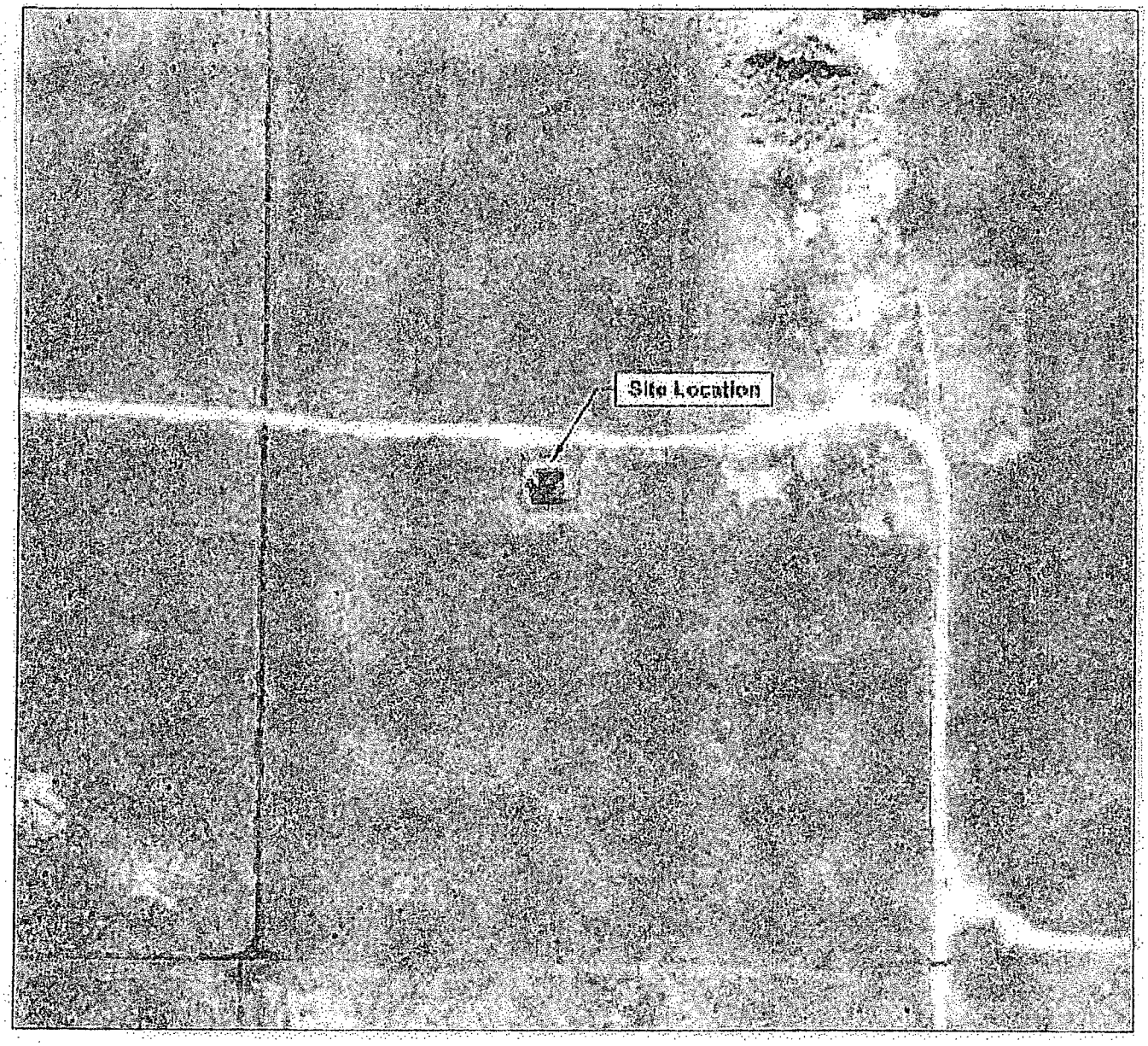
## 6.0 QUALIFICATIONS

The project manager for the proposed work is Justin D. Ball, P.G. A copy of Mr. Ball's resume is presented in Appendix A.

## 7.0 REFERENCES

New Mexico Oil Conservation Division (NMOCD), 1993. "Guidelines for Remediation of Spills, Leaks, and Releases"

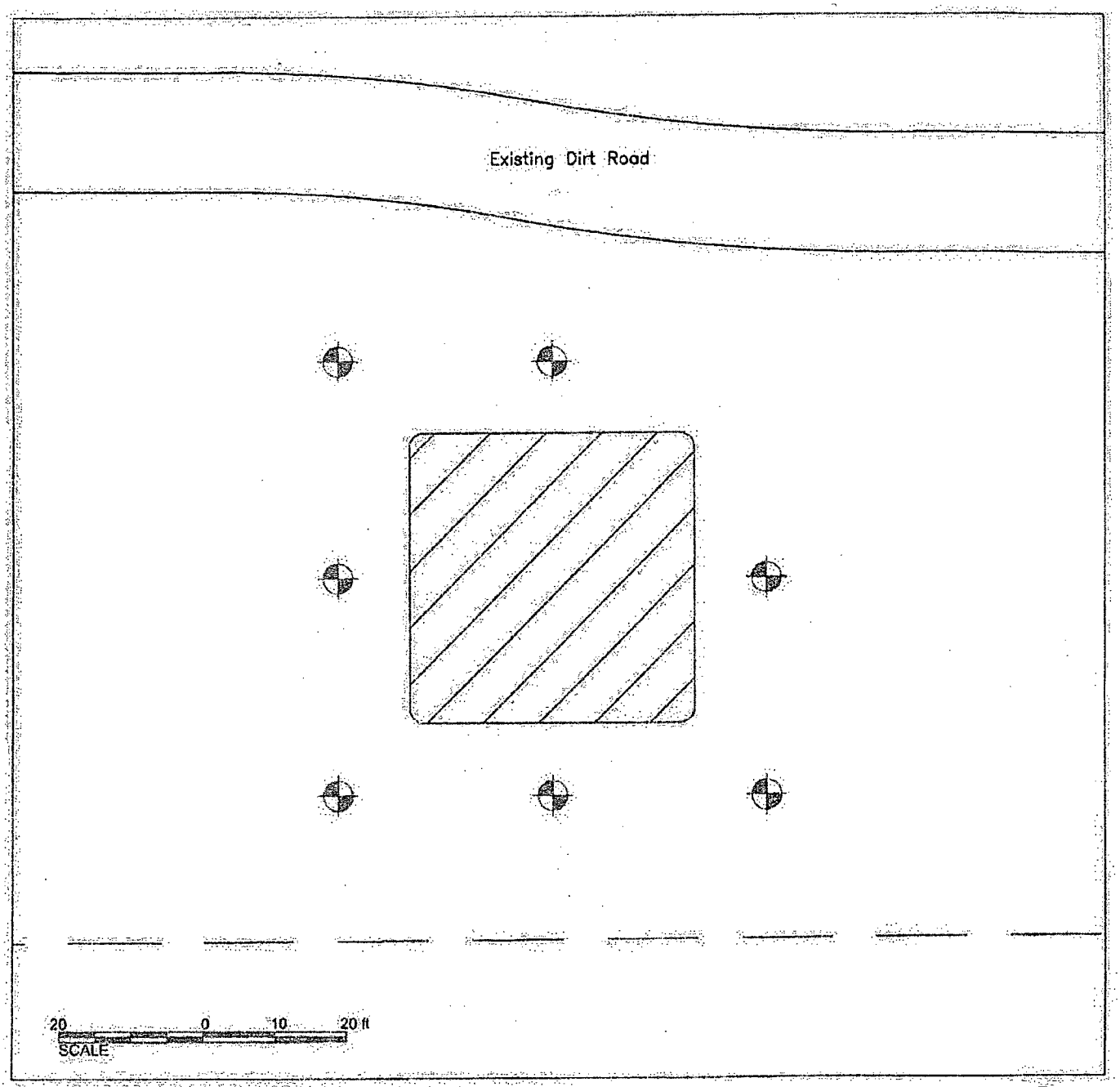
# FIGURES




Source: Goggle Earth

| KLEINFELDER | | BLACK OIL STATE CY LEASE<br>Aerial Photo<br>Lea County, NM | FIGURE<br>2 |
|---|---|---|---|
| Drawn By: PDan | Date: July 2007 | | |
| Project No.: 05901 | Drawing No: 05901_02_0 | | |
| Scale: none | Drawing Category: A | | |

# BLACK OIL STATE CY LEASE




LEGEND

= Proposed Boring Location

= Pit Location

---- = Underground Pipeline

| KLEINFELDER | | PROPOSED BORING LOCATION MAP<br>Black Oil State Cy Lease<br>Tatum, New Mexico | FIGURE<br>3 |
|---|---|---|---|
| Drawn By: PDan | Date: July 2007 | | |
| Project No.: 05901 | Filename: 05901_03_0.dwg | | |
| Scale: As Referenced | Drawing Category: A | | |

# TABLES

**TABLE 1**

**COST ESTIMATE BREAKDOWN**
**Assessment and Remediation**
**Black Oil State CY Lease**

**TASK 1: Project Preparation, Project Management**

| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST |
|---|---|---|---|---|
| Principal | $ 136.00 | Hour | 4 | $ 544.00 |
| Senior Scientist | $ 104.50 | Hour | 20 | $ 2,090.00 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 20 | $ 1,560.00 |
| Staff Scientist | $ 66.00 | Hour | 12 | $ 792.00 |
| Secretary | $ 35.00 | Hour | | $ - |
| Administrator | $ 50.00 | Hour | 12 | $ 600.00 |
| CADD | $ 60.00 | Hour | 2 | $ 120.00 |
| Equipment Rental | $ 100.00 | day | | $ - |
| Vehicle | $ 65.00 | day | | $ - |
| Partial Day Per diem | $ 36.00 | day | | $ - |
| Perdiem | $ 91.00 | day | | $ - |
| Mileage | $ 0.65 | Per Mile | | $ - |
| Subtotal | | | | $ 5,706.00 |
| TOTAL ALL PAGES | | | | $ 126,215.29 |

**TASK 2: Assessment, Remediation and Reclamation**

| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST |
|---|---|---|---|---|
| **Remediation** | | | | |
| Principal | $ 136.00 | Hour | 4 | $ 544.00 |
| Senior Scientist | $ 104.50 | Hour | 30 | $ 3,135.00 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 80 | $ 6,240.00 |
| Staff Scientist | $ 66.00 | Hour | | $ - |
| Perdiem | $ 91.00 | day | 7 | $ 637.00 |
| Partial Day Per diem | $ 36.00 | day | 4 | $ 144.00 |
| Mileage | $ 0.65 | Per Mile | 2050 | $ 1,332.50 |
| Vehicle | $ 65.00 | day | 8 | $ 520.00 |
| PID | $ 75.00 | day | 4 | $ 300.00 |
| Chloride Field Kit | $ 50.00 | day | 4 | $ 200.00 |
| Digital Camera | $ 25.00 | Day | 4 | $ 100.00 |
| NORM Equipment | $ 150.00 | week | 1.1 | $ 165.00 |
| Sampling Equipment | $ 300.00 | each | 2 | $ 600.00 |
| **Excavation Subcontractor** | | | | |
| NORM excavation | $ 4,000.00 | unit | 1.1 | $ 4,400.00 |
| Excavation and loading | $ 7.15 | cyds | 600 | $ 4,290.00 |
| Transportation | $ 12.10 | cyds | 600 | $ 7,260.00 |
| Landfill Disposal > 1000 ppm chlorides | $ 17.60 | cyds | 600 | $ 10,560.00 |
| Clean backfill | $ 16.50 | cyds | 600 | $ 9,900.00 |
| Backfill and compact | $ 3,300.00 | unit | 1.1 | $ 3,630.00 |
| Liner Installation | $ 500.00 | unit | 1.1 | $ 550.00 |
| **Laboratory (Soil samples)** | | | | |
| EPA 6010 Chlorides (RUSH) | $ 37.40 | Per Sample | 15 | $ 561.00 |
| EPA 8021 BTEX (RUSH) | $ 66.00 | Per Sample | 15 | $ 990.00 |
| EPA 8015B GRO, DRO, ORO (RUSH) | $ 96.80 | Per Sample | 15 | $ 1,452.00 |
| NORM (RUSH) | $ 275.00 | Per Sample | 2 | $ 550.00 |
| **Assessment (Well Installation)** | | | | |
| Principal | $ 136.00 | Hour | 2 | $ 272.00 |
| Senior Scientist | $ 104.50 | Hour | 16 | $ 1,672.00 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 65 | $ 5,070.00 |
| Staff Scientist | $ 66.00 | Hour | | $ - |
| Perdiem | $ 91.00 | day | 4 | $ 364.00 |
| Partial Day Per diem | $ 36.00 | day | 2 | $ 72.00 |
| Mileage | $ 0.65 | Per Mile | 750 | $ 487.50 |
| Vehicle | $ 65.00 | day | 5 | $ 325.00 |
| PID | $ 75.00 | day | 4 | $ 300.00 |
| LEL Meter | $ 50.00 | day | 4 | $ 200.00 |
| Chloride Field Kit | $ 50.00 | day | | $ - |
| Digital Camera | $ 25.00 | Day | 4 | $ 100.00 |
| NORM Equipment | $ 150.00 | week | 1.1 | $ 165.00 |
| Sampling Equipment | $ 300.00 | each | 1 | $ 300.00 |
| **Drilling Subcontractor** | | | | |
| Harrison & Cooper | $ 26,523.99 | unit | 1.1 | $ 29,176.39 |
| **Laboratory** | | | | |
| EPA 6010 Chlorides | $ 18.70 | Per Sample | 21 | $ 392.70 |
| EPA 8021 BTEX | $ 33.00 | Per Sample | 21 | $ 693.00 |
| EPA 8015B GRO, DRO, ORO | $ 48.40 | Per Sample | 21 | $ 1,016.40 |

| Assessment (Groundwater Sampling Event) | | | | |
|---|---|---|---|---|
| Principal | $ 136.00 | Hour | | $ - |
| Senior Scientist | $ 104.50 | Hour | 3 | $ 313.50 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 17 | $ 1,326.00 |
| Staff Scientist | $ 66.00 | Hour | | $ - |
| Perdiem | $ 91.00 | day | 1 | $ 91.00 |
| Partial Day Per diem | $ 36.00 | day | 1 | $ 36.00 |
| Mileage | $ 0.65 | Per Mile | 650 | $ 422.50 |
| Vehicle | $ 65.00 | day | 2 | $ 130.00 |
| PID | $ 75.00 | day | | $ - |
| Chloride Field Kit | $ 50.00 | day | | $ - |
| Digital Camera | $ 25.00 | Day | 1 | $ 25.00 |
| Interface Probe | $ 65.00 | Day | 1 | $ 65.00 |
| Multimeter | $ 50.00 | Day | 1 | $ 50.00 |
| Insitu DO Meter | $ 35.00 | Day | 1 | $ 35.00 |
| NORM Equipment | $ 150.00 | week | 1.1 | $ 165.00 |
| Bailers | $ 15.00 | each | 3 | $ 45.00 |
| **Survey Subcontractor** | | | | |
| Lynn Engineering | $ 2,300.00 | unit | 1.1 | $ 2,530.00 |
| **Laboratory** | | | | |
| EPA 6010 Chlorides | $ 18.70 | Per Sample | 3 | $ 56.10 |
| EPA 8021 BTEX | $ 33.00 | Per Sample | 3 | $ 99.00 |
| EPA 8015B GRO, DRO, ORO | $ 48.40 | Per Sample | 3 | $ 145.20 |
| EPA 8310 TPH | $ 143.00 | Per Sample | 3 | $ 429.00 |
| EPA XXX Dissolved Metals | $ 121.00 | Per Sample | 3 | $ 363.00 |
| EPA XXX Cations and Anions, TDS | $ 154.00 | Per Sample | 1 | $ 154.00 |
| EPA E903.0/E904.0 Radioactivity | $ 176.00 | Per Sample | 3 | $ 528.00 |
| **Reclaimation** | | | | |
| Principal | $ 136.00 | Hour | 1 | $ 136.00 |
| Senior Scientist | $ 104.50 | Hour | 4 | $ 418.00 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 21 | $ 1,638.00 |
| Staff Scientist | $ 66.00 | Hour | | $ - |
| Perdiem | $ 91.00 | day | 1 | $ 91.00 |
| Partial Day Per diem | $ 36.00 | day | 1 | $ 36.00 |
| Mileage | $ 0.65 | Per Mile | 650 | $ 422.50 |
| Vehicle | $ 65.00 | day | 2 | $ 130.00 |
| PID | $ 75.00 | day | | $ - |
| LEL Meter | $ 50.00 | day | | |
| Digital Camera | $ 25.00 | Day | 1 | $ 25.00 |
| NORM Equipment | $ 100.00 | day | | $ - |
| **Reseeding Contractor** | | | | |
| B&T Farms | $ 3,500.00 | each | 1.1 | $ 3,850.00 |
| Subtotal | | | | $ 112,421.29 |
| TOTAL ALL PAGES | | | | $ 126,215.29 |

| TASK 3: Report Preparation | | | | |
|---|---|---|---|---|
| PROFESSIONAL SERVICES LABOR CATEGORY | UNIT RATE | UNITS | NUMBER OF UNITS | TOTAL COST |
| Principal | $ 136.00 | Hour | 8 | $ 1,088.00 |
| Senior Scientist | $ 104.50 | Hour | 20 | $ 2,090.00 |
| Project Scientist II | $ 90.00 | Hour | | $ - |
| Project Scientist I | $ 78.00 | Hour | 40 | $ 3,120.00 |
| Staff Scientist | $ 66.00 | Hour | | $ - |
| Administrator | $ 50.00 | Hour | 8 | $ 400.00 |
| Word Processing | $ 35.00 | Hour | 12 | $ 420.00 |
| CADD | $ 60.00 | Hour | 12 | $ 720.00 |
| Report Supplies, Shipping, Postage | $ 250.00 | each | 1 | $ 250.00 |
| Subtotal | | | | $ 8,088.00 |
| TOTAL ALL PAGES | | | | $ 126,215.29 |

# APPENDIX A

## Resumes

## Justin Ball

### *Summary of Experience*

Mr. Ball is a project manager in Kleinfelder's Albuquerque Office. He has over 7 years experience with various environmental projects. His primary focus with Kleinfelder is providing technical support and project management for the environmental group.

Mr. Ball has extensive experience with environmental projects. Early in his career in Pennsylvania, he provided oversight of soil boring and monitoring well installations utilizing direct push, hollow-stem auger, and cone penetrometer drilling platforms at various Sites in Pennsylvania and Ohio. He also conducted Phase I Environmental Site Assessments; soil classification and hydrocarbon impact screening; discrete soil, gas, and groundwater sampling; and aquifer hydraulic testing. He prepared environmental reports of increasing complexity including Site Characterization, Baseline Risk Assessment, Tank Excavation Assessment, Phase I Environmental Site Assessment, Remedial Action Plans and UST "Fund" reimbursement application packages. Noteworthy accomplishments include installing 30 wells in a 4-month period investigating LNAPL from historical releases at a large pipeline pumping station. He also gained increasing levels of responsibility in coordination of materials, laboratories, subcontractors, personnel supervision, development of scopes of work/cost estimates and client consultation.

Since relocating to New Mexico, Mr. Ball has continued his extensive report writing activities as well as project management duties for specific tasks for PSTB Sites.

### *Education*

BS, Geology, University of Georgia, 1994

MS, Geology, Washington State University, 1998

### *Registrations*

Licensed Geologist (L.G.), No.1983, Board for Licensing of Geologists, NC, 2004

Licensed Geologist (L.G.), No.2387, Department of Labor, Licensing and Regulation, SC, 2005

Professional Geologist (P.G.), No.2801 001632, Virginia Board for Geology, VA, 2004

Professional Geologist (P.G.), No.PG 001758, Georgia State Board of Registration for Professional Geologists, GA, 2004

Professional Geologist (P.G.), No.PG004536, Bureau of Professional and Occupational Affairs, PA, 2004

### *Certifications*

OSHA 40-Hour HAZWOPER, 1998

***Select Project Experience***

The following is a representative selection of Justin Ball's project experience.

*Site Assessment, Major Petroleum Company, Pennsylvania* Mr. Ball prepared the workplan and cost estimate for an expedited Site characterization and cost/benefit analysis for a traditional Site characterization method. He conducted a weeklong field event, which included discrete vapor, groundwater, and soil sampling, in conjunction with cone penetrometer testing with continuous ultra violet induced fluorescence readings. He was able to identify affected geologic layers on Site with great precision.

*Project Evaluation, Major Petroleum Company, Pennsylvania* Mr. Ball evaluated historical environmental data for a petroleum distribution terminal and helped identify concerns arising from a previous consultant's work and communicated the resulting liability concerns to the client.

*Site Assessment and Closure, Major Pipeline Company, Ohio* Mr. Ball developed concurrent scopes of work and cost estimates for evaluating releases from two separate pipeline Sites. He also completed combined drilling events and subsequent reporting within budget and narrow client timeframe and exceeded client expectation. He was able to obtain Site closures.

*Real Estate Transaction for Commercial/Industrial Properties, Major Oil Company, Pennsylvania, Ohio* Mr. Ball was responsible for coordinating three geographically distant Phase I Environmental Site Assessments. He completed the investigations within a month and identified various sources of potential liability for the buyer client.

*Pre-Construction Plan of Action/Site Assessment, Major Pipeline Company, Ohio* Mr. Ball developed concurrent scopes of work and cost estimates for evaluating potential historical releases along the proposed construction right of way. He completed combined drilling events and subsequent reporting within budget and tight client timeframe. He also used advanced field-screening techniques with laboratory analytical results to allow for field screening to only take place during construction.

*Risk Assessment and Closure, Regional Petroleum Distribution Company, Pennsylvania* Mr. Ball evaluated current and future risks and impacts on soil and groundwater resulting from an overfill release of several hundred gallons of gasoline. He developed Site-specific standards for groundwater both on- and off-Site. He was able to obtain closure for the Site.

*Remedial System Installation, Regional Petroleum Distribution Company, Pennsylvania* Mr. Ball assisted in developing of an oxygen-injection remedial action plan for two Sites with low-level groundwater impact. He developed a workplan for the installation of injection points and the oxygen delivery system and oversaw field installation and startup of oxygen injection system.

*Site Investigation, Major Pipeline Company, Ohio* Mr. Ball was the lead scientist for an emergency assessment at a pumping station that has been in continuous operation since the early 1900s. In response to the potential seepage of LNAPL into local sensitive waterways, Mr. Ball prepared a GIS database including extensive historical

Site characterization data, wetland maps, Site facility infrastructure data and groundwater analytical data. Mr. Ball developed and implemented work scopes for three rounds of boring and well installations, LNAPL recovery, and groundwater sampling. Mr. Ball also developed remedial action work plans for automated LANPL recovery and sheet wall installation to protect the waterways.

*Aquifer Pumping Test Design and Implementation, Governor Richardson's Water Innovation Fund, Veguita, New Mexico* Mr. Ball assisted in the design and implementation of a 24 hour aquifer pumping test for the Veguita Groundwater Denitrification Project.

*Site Assessment, Former Aerex Refinery, Bloomfield, New Mexico* Mr. Ball was the field manager for a Site assessment for the former Aerex Refinery, which operated from the 1930s to the 1960s. He supervised all field activities during the investigation including direct push soil boring installation, groundwater monitoring well installation, and baseline groundwater monitoring and sampling for petroleum constituents and geochemical parameters. Mr. Ball also prepared the Phase I Subsurface Assessment Report and Remedial Action Plan. The client is the New Mexico Oil Conservation Division.

SMA Souder, Miller & Associates ♦ 401 North Seventeenth Street, Suite 4 ♦ Las Cruces, NM 88005-8131
(575) 647-0799 ♦ (800) 647-0799 ♦ fax (575) 647-0680

November 29, 2011 #5321437.1.1-3

Mr. Jim Griswold
Senior Hydrologist
EMNRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 476-3465
*jim.griswold@state.nm.us*

**RE: WORKPLAN FOR SITE INVESTIGATION, BLACKROCK OIL STATE CY LEASE SITE, NEAR TATUM, NEW MEXICO**

Dear Mr. Griswold:

Enclosed please find the workplan for additional investigation of the Blackrock Oil State CY Lease (Blackrock Oil) site located approximately 14 miles west of Tatum, New Mexico. This workplan for the Blackrock Oil site is being submitted at the request of the New Mexico Oil Conservation Division (NMOCD) and is in accordance with the State of New Mexico General Services Department Purchasing Division Price agreement #: 10-805-00-07208. The intent of this workplan is to further investigate the extent of petroleum contaminated soil and naturally occurring radioactive materials (NORM) at the Blackrock Oil site. Souder, Miller & Associates (SMA) appreciates this opportunity to provide environmental consulting services.

**Acceptance**
Please indicate your acceptance of this workplan by endorsing a copy of this letter and returning it to us. You may retain the original for your records. This workplan may be withdrawn, at the option of Souder, Miller & Associates, if it has not been accepted within 30 days of its date of issue. If you have any questions or comments concerning this workplan, please feel free to call me at (800) 647-0799 or contact me via e-mail.

Sincerely,
MILLER ENGINEERS, INC. D/B/A
SOUDER, MILLER & ASSOCIATES

K.E. Tonander

Karl E. Tonander, P.G., P.E.
Regional Manager
*karl.tonander@soudermiller.com*
*x1313*

ACCEPTED:

By:_____

Title:_____

Date:_____

# WORKPLAN & BUDGET
# SITE INVESTIGATION

## NEW MEXICO OIL CONSERVATION DIVISION
## BLACKROCK OIL STATE CY LEASE SITE
## NEAR TATUM, NEW MEXICO

November 29, 2011

**INTRODUCTION**

This workplan and budget is prepared by Souder, Miller & Associates (SMA) pursuant to the request from the New Mexico Oil Conservation Division (NMOCD) and is in accordance with the State of New Mexico General Services Department Purchasing Division Price Agreement #10-805-00-07208. The proposed scope of work shall include additional investigation and delineation of remaining petroleum and chloride impacted soil and naturally occurring radioactive materials (NORM) at the Blackrock Oil State CY Lease (Blackrock Oil) site. The Blackrock Oil site is located in the Southwest ¼ of Section 30, Township 12S, Range 34E in Lea County, New Mexico and is approximately 14 miles west of Tatum, New Mexico. Site location maps are provided as Figures 1 and 2.

Work previously completed at the site included the initial assessment and remediation of the site by Kleinfelder West, Inc. (Kleinfelder) between May 31, 2007 and June 28, 2007. At the time, approximately 440 cubic yards ($yd^3$) of petroleum, chloride and NORM impacted soil was excavated and disposed of at the Gandy-Marley, Inc. (Gandy-Marley) landfarm facility. The NORM impacted soil transported to the Gandy-Marley landfarm facility was determined to be below the applicable New Mexico Radiation Control Bureau (NMRCB) standard. Additionally, approximately 440 $yd^3$ of clean backfill material was transported to the site and stockpiled for future use as backfill material. Kleinfelder also collected two (2) soil samples from the bottom of the approximately 40 feet square by approximately 8 feet deep excavation. Results from the soil sample collected in the southeast portion of the pit, at a location where the field screening levels for NORM exceeded the NMRCB standard and where the excavation followed a vertical fissure of visibly petroleum stained soil, indicated total petroleum hydrocarbon (TPH) concentrations in excess of the applicable standard.

Costs for additional investigation and delineation of the contaminated soil remaining at the Blackrock Oil site are included in the table below and have been developed using both a lump sum format for subcontractor services (Gandy-Marley) and a time and materials basis for work performed directly by SMA per the State of New Mexico General Services Department Purchasing Division Price Agreement #10-805-00-07208. All invoices issued for work performed on a time and material basis will include an itemized breakdown of charges per the approved fee schedule. Karl E. Tonander, P.E, P.G., Principal Geoscientist for SMA and Clay F. Kiesling, P.G., Senior Geoscientist for SMA, will exercise direct supervisory control over the completion of this project. Meetings will be held with the NMOCD to discuss the scope of work, as necessary.

| Lump Sum/Time & Materials Payment Schedule | | |
|---|---|---|
| Task | Description | Task Subtotal *(inc. 7.5625% NMGRT)* |
| 1a* | Contaminated Soil Delineation *(lump sum)* | $3,100.00 |
| 1b | Oversight, Field Screening & Sampling Activities *(time & materials)* | $5,800.00 |
| 2 | Reporting *(time & materials)* | $3,100.00 |
| 3 | Performance Bond *(estimated 3% of project total, to be billed at cost)* | $360.00 |
| **Total Estimated Workplan Cost *(inc. 7.5625% NMGRT)*** | | **$12,360.00** |

** Includes all Gandy-Marley costs for mobilization/demobilization and one (1) day of excavation/pot-holing. Any additional days of excavation/pot-holing will be at a cost of $1,650.00 per day.*

**TASK 1A: CONTAMINATED SOIL DELINEATION**

In order to determine the vertical and horizontal extent of remaining soil contamination, a number of pot-holes will be excavated with SMA conducting field screening and soil sampling as pot-holing progresses. Gandy-Marley has been selected to perform all pot-hole excavation activities at the Blackrock Oil site. Due to the presence of caliche and based on previous experience and depth of contamination at the site, Gandy-Marley will pot-hole the site using an excavator. However, depending on the extent of contamination encountered, it might not be possible to access the vertical extent of soil contamination if it extends beyond the vertical reach of the excavator (approx. 17 ft.).

Utility clearances from New Mexico One-Call will be obtained prior to the start of pot-hole excavation activities. SMA will notify NMOCD a minimum of 96 hours before commencing field activities. A site specific health and safety plan (HASP), with emphasis on NORM, will be developed in accordance with OSHA regulations and the SMA Corporate Health & Safety Program and all site personnel will be briefed on the HASP prior to initiating field activities.

Pot-holing will begin at the southeast, and most contaminated, portion of the existing excavation and SMA will direct Gandy-Marley on the number, location and depth of additional potholes until visual and field screening results indicate that the horizontal and vertical extents of remaining soil contamination, to the extent practical, has been defined. While the amount of pot-holing required to define the remaining soil contamination is unknown, SMA anticipates one (1) day of pot-holing activities will be required. Should the extent of remaining soil contamination be such that additional days of pot-holing are required, NMOCD will be notified and a decision will be made regarding any additional work at the site.

**TASK 1B- OVERSIGHT, FIELD SCREENING & SAMPLING ACTIVITIES**

SMA will oversee all pot-hole excavation activities and will perform field screening and soil sampling activities to define the extent of soil contamination. Currently, SMA is anticipating one (1) day of excavation oversight. SMA will confer with NMOCD for authorization prior to

implementation of any additional days of oversight, if needed. In addition to visual observations during potholing, SMA will also perform the following in an attempt to define the extent of remaining soil contamination:

- Field screening of background radiation levels at the site using a Ludlum Model 19 Micro R Meter (scintillator)
- Field screenings of NORM at various depths in each pot-hole excavated (exact locations to be determined in the field)
- Field screenings for petroleum contamination using a photo-ionization detector (PID) in each pot-hole excavated (exact locations/depths to be determined in the field)
- Collection of eight (8) soil samples at total depth in various pot-hole locations for analysis of a variety of hydrocarbon constituents using EPA Method 8021B, for TPH (full range) using EPA Method 8015B and for chloride using EPA Method 300.0 (exact locations to be determined in the field)
- Collection of two (2) soil samples from locations with the highest scintillator readings for analysis of radionucleoids using EPA Method E903.0/E904.0

**TASK 2 – REPORTING**

A summary letter report documenting the results of the pot-holing and sampling activities will be submitted to NMOCD following receipt of laboratory analytical results. Figures included in the summary letter report will be as follows:

- Vicinity map based on a USGS Quad Map
- Site map with aerial photograph and utility locations (if any)
- Site sketch map of pot-hole locations, soil sample locations/depth and scintillator readings

Tables to be included in the summary letter report will include:

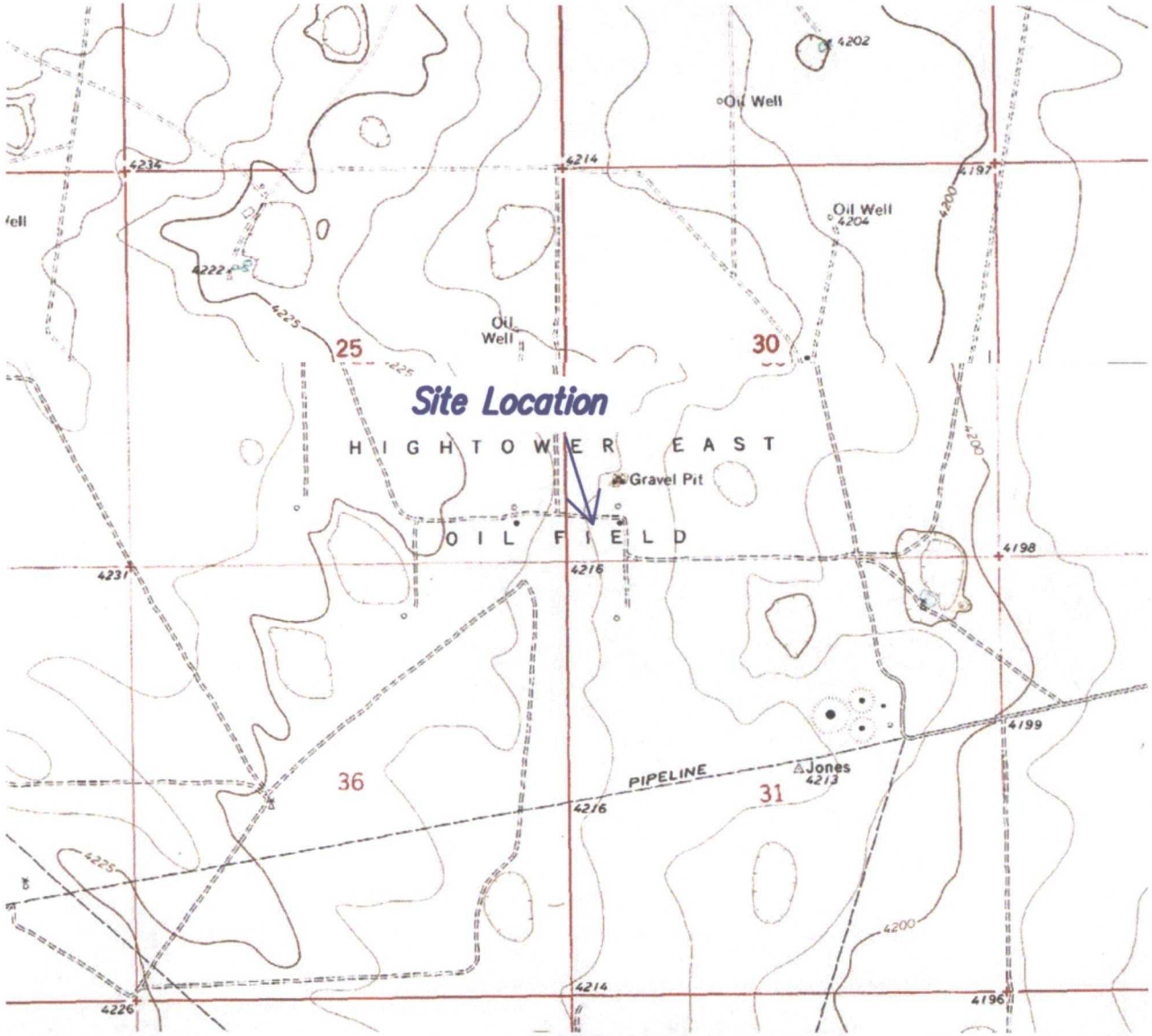
- Results of analytical soil testing
- Summary of field screening results

Appendixes to be included in the summary letter report will include:

- Laboratory analytical reports
- Photographic log of all pot-holing activities
- Field notes

**TASK 3 – PERFORMANCE BOND**

In compliance with the requirements of the State of New Mexico General Services Department Purchasing Division Price Agreement #10-805-00-07208, SMA will obtain a performance bond for the completion of the above-outlined scope of work. Costs for the bond will be billed at cost.




*Note:*
*Base maps are the Dallas Store & Frier Ranch, New Mexico USGS 7.5 minute series topographic maps (1978)*

**Blackrock Oil Site Location Map**
**14 Miles West of Tatum**
**Lea County, New Mexico**

**Figure 1**

#5321437
11/23/11

Revisions
By: _____ Date: _____ Descr.: _____
By: _____ Date: _____ Descr.: _____



Drawn CFK
Checked CFK
Approved KET

SMA
Engineering + Environmental Surveying

401 North Seventeenth Street, Suite 4
Las Cruces, New Mexico 88005-8131
(575) 647-0799 / 647-0680 (Fax)
www.soudermiller.com
Serving the Southwest & Rocky Mountains


N

Scale: Not to Scale

Legend

Approximate Site Boundary

**Blackrock Oil Site Map**
**14 Miles West of Tatum**
**Lea County, New Mexico**

**Figure 2**

#5321437
11/23/11

Revisions
By: _____ Date: _____ Descr.: _____
By: _____ Date: _____ Descr.: _____



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# State of New Mexico
# Purchase Order

PO Number to be on all Invoices and Correspondence

**Dispatch via Print**

| Purchase Order | Date | Revision | Page |
|---|---|---|---|
| 52100-0000033800 | 12/05/2011 | | 1 |
| **Payment Terms** | **Freight Terms** | | **Ship Via** |
| Pay Now | FOB Destination | | Best Way |
| **Buyer** | **Phone** | | |
| RACHEL D. HERRERA | 505/476-3311 | | |

## Energy, Minerals & Resources
1220 South St. Francis Drive
Santa Fe NM 87505
United States

**Vendor:** 0000048816
SOUDER MILLER & ASSOCIATES
1201 PARKWAY DR SUITE C
SANTA FE NM 87507

**Ship To:** 1220 South St. Francis Drive
Room 346
Santa Fe NM 87501
United States

**Bill To:** 1220 South St. Francis Drive
Room 346
Santa Fe NM 87501
United States

**Origin:** CON **Exc\Excl #:**

| Line-Sch | Item/Description | Mfg ID | Quantity UOM | PO Price | Extended Amt | Due Date |
|---|---|---|---|---|---|---|
| 1- 1 | Environmental investigation of soils at former Blackrock Oil State CY Lease - West of Tatum. | | 1.00 EA | 14,214.00 | 14,214.00 | 12/05/2011 |
| | 52100-31100-0710000000-535300- -0750- - -112-10000 | | | **Schedule Total** | 14,214.00 | |
| | Contract ID: 10-805-00-07208AG | | Contract Line: 0 | Release: 1 | | |
| | | | | **Item Total** | 14,214.00 | |

Price Agreement # 10-805-00-07208
Expires on 8/15/2012

**Total PO Amount** 14,214.00

Agency Approval - I certify that the proposed purchase represented by this document is authorized by and is made in accordance with all State (and if applicable Federal) legislation rules and regulation. I further certify that adequate unencumbered cash and budget expenditure authority exists for this proposed purchase and all other outstanding purchase commitments and accounts payable.

**Authorized Signature**

John H. Bemis

STATE OF NEW MEXICO SPD-101A (07/92)
GENERAL SERVICES DEPARTMENT- PURCHASING DIVISION
TERMS AND CONDITIONS UNLESS OTHERWISE SPECIFIED

1. GENERAL: When the State Purchasing Agent issues a purchase document in response to the Vendors bid, a binding contract is created.
2. VARIATION IN QUANTITY: No variation in the quantity of any item called for by this order will be accepted unless such variation has been caused by conditions of loading, shipping, packing or allowances in manufacturing process, and then only to the extent, if any, specified elsewhere in this order.
3. ASSIGNMENT:
   A: Neither the order, nor any interest therein, nor claim thereunder, shall be assigned or transferred by the Vendor, except as set forth in subparagraph 3B below or as expressly authorized in writing by the STATE PURCHASASING AGENTS OFFICE. No such assignment or transfer shall relieve the Vendor from the obligations and liabilities under this order.
   B: Vendor agrees that any and all claims for overcharge resulting from antitrust violations which are borne by the State as to goods, services, and materials purchased in connection with this bid are hereby assigned to the State.
4. STATE FURNISHED PROPERTY: State furnished property shall be returned to the state upon request in the same condition as received except for ordinary wear, tear, and modifications ordered hereunder.
5. DISCOUNTS: Prompt payment discounts will not be considered in computing the low bid. Discounts for payment within 20 days will be considered after the award of the contract. Discounted time will be computed from the date of receipt of the merchandise or invoice, whichever is later.
6. INSPECTION: Final inspection and acceptance will be made at the destination. Supplies rejected at the destination for non-conformance with specifications shall be removed, at the Vendors risk and expense, promptly after notice of rejection.
7. INSPECTION OF PLANT: The State Purchasing Agent may inspect, at any reasonable time, the part of the contractors, or any subcontractors plant or place of business, which is related to the performance of this contract.
8. COMMERCIAL WARARANTY: The Vendor agrees that the supplies or services furnished under this order shall be covered by the most favorable commercial warranties the Vendor gives to any customer for such supplies or services, and that the rights and remedies provided herein shall extend to the State and are in addition to and do not limit any rights afforded to the State by any other cause of this order. Vendor agrees not to disclaim warranties of fitness for a particular purpose or merchantability.
9. TAXES: The unit price shall exclude all State taxes.
10. PACKING, SHIPPING AND INVOICING:
    A: The States purchase document number and the Vendors name, users name and location shall be shown on each packing and delivery ticket, package, bill of lading and other correspondence in connection with the shipment. The users count will be accepted by the Vendor as final and conclusive on all shipments not accompanied by a packing ticket.
    B: The Vendors invoice shall be submitted in triplicate, duly certified and shall contain the following information: order number, description of supplies or services, quantities, unit prices and extended totals. Separate invoices shall be rendered for each and every complete shipment.
    C: Invoices must be submitted to the using agency and NOT THE STATE PURCHASING AGENT.
11. DEFAULT: The State reserves the right to cancel all or any part of this order without cost to the State, if the Vendor fails to meet the provisions of this order and, except as otherwise provided herein, to hold the Vendor liable for any excess cost occasioned by the State due to the Vendors default. The Vendor shall not be liable for any excess costs if failure to perform the order arises out of causes beyond the control and without the fault or negligence of the Vendor, such causes include, but are not restricted to, acts of God or of the public enemy, acts of the State or of the Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargos, unusually severe weather and defaults of subcontractors due to any of the above, unless the State shall determine that the supplies or services to be furnished by the subcontractor where obtainable from other sources in sufficient time to permit the Vendor to meet the required delivery scheduled. The rights and remedies of the State provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this order.
12. NON-COLLUSION: In signing this bid, the Vendor certifies he/she has not, either directly or indirectly, entered into action in restraint of free competitive bidding in connection with this proposal submitted to the State Purchasing Agent.
13. NON-DISCRIMINATION: Vendors doing business with the State of New Mexico must be in compliance with the Federal Civil Rights Act of 1964 and Title VII of that Act, Rev., 1979.
14. THE PROCUREMENT CODE: Sections 13-1-28 through 13-1-199 NMSA 1978 imposes civil and criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for bribes, gratuities and kickbacks.
15. All bid items are to be NEW and most current production, unless otherwise specified.
16. PAYMENT FOR PURCHASES: Except as otherwise agreed to: late payment charges may be assessed against the user state agency in the amount and under the conditions set forth in section 13-14158 NMSA 1978.
17. WORKERS COMPENSATION: The Contractor agrees to comply with state laws and rules pertaining to workers compensation benefits for its employees. If the Contractor fails to comply with Workers Compensation Act and applicable rules when required to do so, this (Agreement) may be terminated by the contracting agency.
18. PAY EQUITY RECORDING: The Contractor agrees to comply with New Mexico Pay Equity reporting requirements as detailed in Executive Order 2009-049 Implementation Guidance available at http://www.generalservices.state.nm.us/spd/guidance.pdf

# INVOICE

**Western Assurance Corp.**
3701 Paseo Del Norte NE
PO Box 94600
Albuquerque, NM 87199-4600

| | |
|---|---|
| Customer | Miller Engineers, Inc.<br>25656 |
| Date | 02/14/2012 |
| Customer Service | Ryan Scott<br>Mary Ann Padilla |
| Page | 1 of 1 |

| Payment Information | |
|---|---|
| Invoice Summary | 356.00 |
| Payment Amount | |
| Payment for: | Invoice#443317 |
| 1000819199 | |

Thank You

**Miller Engineers, Inc.**
**Souder Miller & Associates dba**
**1201 Parkway Drive**
**Santa Fe, NM 87505**

Please detach and return with payment

Customer: Miller Engineers, Inc.

| Invoice | Effective | Transaction | Description | Amount |
|---|---|---|---|---|
| 443317 | 12/05/2011 | New business | Policy #1000819199 12/05/2011-12/05/2012<br>U.S. Specialty Insurance Co<br>Payment & Performance Bon - New business | 356.00 |

| Total |
|---|
| 356.00 |

Thank You

| | | |
|---|---|---|
| Western Assurance Corp.<br>3701 Paseo Del Norte NE PO Box 94600<br>Albuquerque, NM 87199-4600 | (505)265-8481 | Date<br>02/14/2012 |

U. S. SPECIALTY INSURANCE COMPANY
601 S. Figueroa St. Suite 1600 Los Angeles CA 90017 (310) 649-0990 FAX (310) 649 0416

Bond No. 1000819199

# Performance Bond

The language in this document conforms to the language used in American Institute of Architects (AIA) Document A312, December, 1984 edition, Third Printing, March, 1987.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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CONTRACTOR (Name and Address):

Souder Miller & Associates
1201 Parkway Dr Suite C
Santa Fe, NM 87507

SURETY
U. S. SPECIALTY INSURANCE COMPANY

601 S. Figueroa St., Suite 1600
Los Angeles CA 90017

OWNER (Name and Address):

State of New Mexico
Energy, Minerals & Resources
1220 South St. Francis Drive
Santa Fe, NM 87505

CONSTRUCTION CONTRACT
Date: December 5, 2011
Amount: $14,214.00
Description (Name and Location): Environmental investigation of soils at former Blackrock Oil State Lease - Tatum

BOND
Date (Not earlier than Construction Contract Date): December 5, 2011
Amount: $14,214.00
Modifications to this Bond: ☑ None ☐ See Page 3

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)
Souder Miller & Associates

Signature: _____
Name and Title:

SURETY
Company: (Corporate Seal)
U. S. SPECIALTY INSURANCE COMPANY

Signature: Ricky D Lackey
Attorney-in-Fact

Ricky D Lackey

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(FOR INFORMATION ONLY - Name, Address and Telephone)
AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address shown on the cover page that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 If the Owner has satisfied the conditions of Paragraph, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiate proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

4.4.1 After investigation, determine the amount of which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefore to the Owner; or

4.4.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6 If the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1,4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or nonperformance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law,

the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit, shall be applicable.

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the cover page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

**12 DEFINITIONS**

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the cover page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

**MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:**

Any change which materially alters the contract or the contract price by more than 10% will require notice to the Bonding Company.

U. S. SPECIALTY INSURANCE COMPANY
601 S. Figueroa St., Suite 1600 Los Angeles CA 90017 (310) 649-0990 FAX (310) 649-0416

Bond No: 1000819199

# Payment Bond

The language in this document conforms to the language used in American Institute of Architects (AIA) Document A312, December, 1984 edition, Third Printing, March, 1987.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

Souder Miller & Associates
1201 Parkway Dr Suite C
Santa Fe, NM 87507

SURETY

U. S. SPECIALTY INSURANCE COMPANY
601 S. Figueroa St., Suite 1600
Los Angeles CA 90017

OWNER (Name and Address):

State of New Mexico - Energy Minerals & Resources
1220 South St. Francis Drive
Santa Fe, NM 87505

CONSTRUCTION CONTRACT
Date: 12/05/2011
Amount: $14,214.00
Description (Name and Location): Environmental investigation of soils at former Blackrock Oil State CY lease - West of Tatum

BOND
Date (Not earlier than Construction Contract Date): 12/05/2011
Amount: $14,214.00
Modifications to this Bond: ☑ None ☐ See Page 3

| CONTRACTOR AS PRINCIPAL | | SURETY | |
|---|---|---|---|
| Company: | (Corporate Seal) | Company: | (Corporate Seal) |
| Souder miller & Associates | | U.S. SPECIALTY INSURANCE COMPANY | |
| Signature: _____ | | Signature: Ricky D Lackey | |
| Name and Title: | | Ricky D Lackey Attorney-in-Fact | |

---

(FOR INFORMATION ONLY – Name, Address and Telephone)
AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall benull and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address on the cover page) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address on the cover page) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

4.2.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

4.2.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

4.2.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address on the cover page) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 If the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the cover page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the cover page.

13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the cover page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

**MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:**

Any change which materially alters the contract or the contract price by more than 10% will require notice to the Bonding Company.

# POWER OF ATTORNEY

## AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
## UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company of the State of California, a California corporation, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, A Texas corporation (collectively, the "Companies"), do by these presents make, constituted and appoint:

**Gordon D. Noonan, Cheryl Atkeisson, Leigh Ann Dons, Ricky D. Lackey, Charles O. Brown, or Christopher S. Williams of Albuquerque, New Mexico**

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** *****Three Million***** **Dollars ($** **3,000,000.00** **).**

This Power of Attorney shall expire without further action on December 8, 2012. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

*Be it Resolved*, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

*Attorney-In-Fact* may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

*Be it Resolved*, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 15th day of June, 2009.

**AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY**
**UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

Corporate Seals

By _____
**Daniel P. Aguilar, Vice President**

State of California
County of Los Angeles SS:

On this 15th day of June, 2009, before me, V. Wright, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Signature _____ (Seal)

V. WRIGHT
Commission # 1826140
Notary Public - California
Los Angeles County
My Comm. Expires Dec 8, 2012

I, Jeannie J. Kim, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 5th day of Dec, 2011.

Corporate Seals

Bond No. 1000819199
Agency No. 15173

_____
**Jeannie J. Kim, Assistant Secretary**