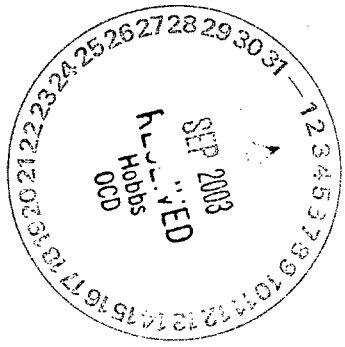
# *Highlander Environmental Corp.*

*Midland, Texas*


August 29, 2003




Mr. Paul Sheeley
Environmental Bureau
New Mexico Oil Conservation Division
1625 N. French Drive
P.O. Box 1980
Hobbs, New Mexico 88240

**RE: Response Letter and Work Plan for Spills located at the Arch Petroleum, Inc. E.C. Hill "A, B and C" Tank Battery, Section 27, Township 23 South, Range 37 East, Lea County, New Mexico,**

Dear Mr. Sheeley:

Highlander Environmental Corp. (Highlander) has prepared a work plan for the spills, which occurred at the E.C. Hill "A, B and C" Tank Battery in Lea County, New Mexico. The Site is located in Section 27, Township 23 South, Range 37 East. Highlander submitted a work plan, dated July 23, 2003, to the New Mexico Oil Conservation Division (NMOCD) in Hobbs, New Mexico. The work plan is presented in Appendix A. The NMOCD response letter, dated August 14, 2003, was presented to Arch approving the work plan with some specific conditions. This letter summarizes the additional requirements including a work plan for the proposed activities. The NMOCD response letter, dated August 14, 2003 is enclosed on Appendix B. The responses to NMOCD request for additional information are included below.

Item 1: See attached Work Plan.

Item 2: As requested, the copies of all the C-141 spill reports from the location are shown in Appendix C.

Item 3: See attached Work Plan.

Item: 4: Arch uses this fenced facility as a storage yard of oil field equipment and stores the equipment until proper disposal can be arranged. Arch will remove all junk and trash from the facility and provide proper disposal. Once removed, these areas will be evaluated (per guidelines).

Item 5: See attached Work Plan.

Item 6: See attached Work Plan.

Item 7: Arch will exploit standard secondary containment at the new facility

Item 8: Arch Petroleum, Inc is a wholly owned subsidiary of Pogo Producing Company and operates legally under the name of Arch Petroleum, Inc.

Item 9: Arch will notify NMOCD at least 48 hours in advance of activities involving sampling, backfilling and closure activities.

Item 10: A Work Plan, dated June 16, 2000, was a response to a spill, which occurred at the tank battery. Highlander presented a generic work plan to delineate and evaluate the spill area according to the NMOCD spill guidelines. During the inspection, it was observed that the spill had occurred over older spills at the facility. Highlander did attempt to define the extents of the impact using a stainless steel bucket-type hand auger. As discussed, a shallow, dense, caliche layer has been encountered from 6" to 1.0' below surface, which causes auger refusal. In addition, the spill area was not accessible to equipment, such as a backhoe or drilling rig. Based on the findings, no documentation was submitted to the NMOCD and Arch proposed to defer all assessment and major cleanup activities until abandonment of the tank battery.

**Work Plan**

As discussed in the Work Plan, Arch had proposed to remediate the accessible impacted soil around the production equipment. Arch is now proposing to construct a new tank battery at the facility and address the impacted soil in the existing facility area. Currently, Arch is permitting this new facility. Once approval, Arch will then remove all production equipment and lines and perform an environmental assessment to vertically define the extents and properly address the impacted soil at the facility.

Subsurface Investigation

Several boreholes are proposed to properly define the extent of the impact at the Site. Based on the results and field observation, the number and location of the perimeter boreholes will be determined during the evaluation.

An air rotary drilling rig will be used to collect soil samples. Splitspoon or core-barrel samples will be collected continuously on the center boreholes. Once the depth of contamination has been vertically defined, the perimeter boreholes will be installed. Based on the field observations, the sampling frequency on the perimeter boreholes will be determined. Drill cuttings will be visually inspected between intervals for lithologic or organic vapor shifts. All vadose zone samples will be inspected for lithologic characteristics and field screened with an organic vapor meter. A headspace gas survey will be performed by collecting discrete soil samples and placing a portion of the sample in a clean plastic sample bag, leaving a vacant headspace in the top of the bag. The bag is sealed and after approximately fifteen minutes at ambient temperature storage, the concentration of organic vapors in the sample bag headspace is measured using a Thermo Environmental Industries, Inc., Model 580 B, Organic Vapor Meter (OVM).

All downhole equipment (i.e., drill rods, drill bits, etc.) will be thoroughly decontaminated between each borehole with a high-pressure hot water wash and rinse. Soil cuttings from drilling will be stockpiled adjacent to the well until disposal is arranged. Once the boreholes are completed, the boreholes will be grouted to surface.

**Soil Sampling and Analysis**

Based on the OVM evaluation, a minimum of two samples will be collected from each borehole. The samples selected will be determined from field observation and OVM readings. All samples will be collected and preserved in laboratory prepared sample containers with standard QA/QC procedures. All samples will be shipped under proper chain-of-custody control and analyzed within the standard holding times. The soil samples will be analyzed for Total Petroleum Hydrocarbon (TPH) by method modified 8015 DRO/GRO, Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by method SW 846 5030/8020 and chloride by method SW846-9252.

**Reporting**

Once the analytical data has been received from the laboratory, a subsurface investigation report will be prepared to include field observations, boring logs with lithologic descriptions, OVM readings, plats and sample analyses. In addition, a work plan will be submitted to the NMOCD for the removal and disposition of the impacted soil at the Site.

If you require any additional information or have any questions or comments concerning the work plan, please call.

Very truly yours,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs – Pogo Producing Co.
Rex Jasper – Pogo Producing Co.

*Highlander Environmental Corp.*

*Midland, Texas*

July 23, 2003

Mr. Larry Johnson
Environmental Bureau
New Mexico Oil Conservation Division
1625 N. French Drive
P.O. Box 1980
Hobbs, New Mexico 88240

**RE: Work Plan for Spills located at the Pogo E.C. Hill "A, B and C" Tank Battery, Lea County, New Mexico, Section 27, Township 23 South, Range 37 East**

Dear Mr. Johnson,

Highlander Environmental Corp. (Highlander) was contacted to prepare a work plan for the spills, which occurred at the E.C. Hill "A, B and C" Tank Battery in Lea County, New Mexico. The Site is located at Section 27, Township 23 South, Range 37 East. The Site location is shown in Figure 1. The tank battery facility is shown in Figure 2. The E.C. Hill "A and B" Tank Battery is an old battery, which has had numerous of spills from previous operators. Prior to Pogo Producing Company, the tank battery was previously operated by Chevron and Midcontinent.

Under Pogo Producing, several documented spills have occurred over older spills at the facility. The majority of the spills have occurred around production equipment and active underground lines. Several attempts have been made define the extents of the impact using a stainless steel bucket-type hand auger. A shallow, dense, caliche layer has been encountered from 6" to 1.0' below surface, which causes auger refusal and these spill areas are not accessible for equipment, such as a backhoe or drilling rig. Due to the caliche layer and active production equipment and lines, proper delineation of the impact cannot be completed at this time. Any removal of impacted soil, near to production equipment and lines, would require the removal of the production equipment. At this time, the surface impact at the facility will be maintained to reduce the hydrocarbon levels at the surface to the top of the caliche layer.

Pogo Producing Company has and will continue cleanup activities to accessible surface impacts around the production equipment and has built a berm around the production tanks and vessels at the facility. This will eliminate any offsite migration, if additional spills occur at the facility. Pogo will continue to report them to the NMOCD. If accessible, the impacted soil will be scraped or remediate in place.

Pogo Producing Company proposes to defer all inaccessible assessment and major cleanup activities until abandonment of the tank battery. Once the tank battery is inactive, Pogo will then remove all production equipment and lines, perform an environmental assessment to vertically define the extents, and properly address the impacted soil at the facility.

If you require any additional information or have any questions or comments concerning the work plan, please call.

Very truly yours,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs – Pogo Producing Co.
Rex Jasper – Pogo Producing Co.

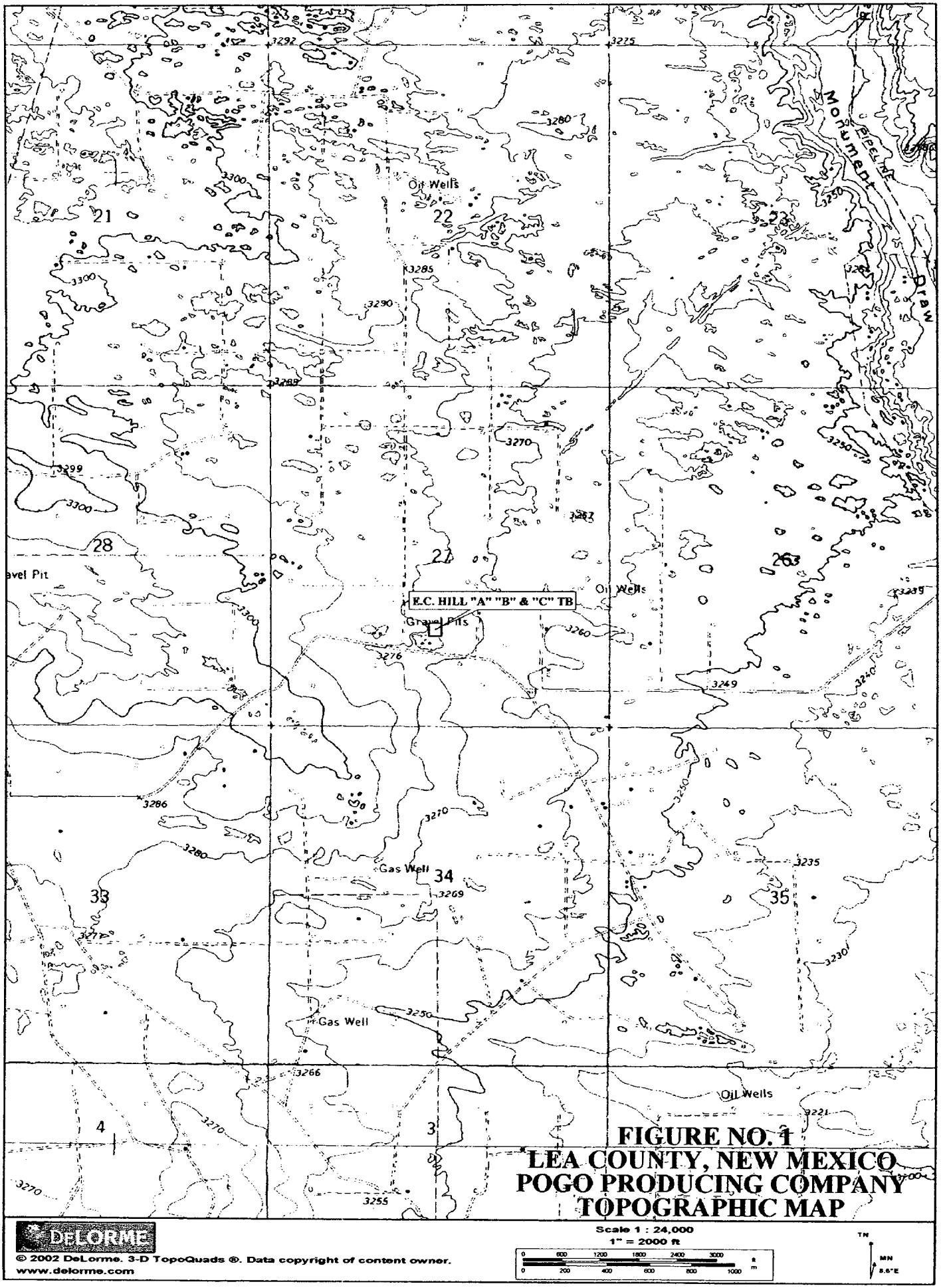



**FIGURE NO. 1**
**LEA COUNTY, NEW MEXICO**
**POGO PRODUCING COMPANY**
**TOPOGRAPHIC MAP**

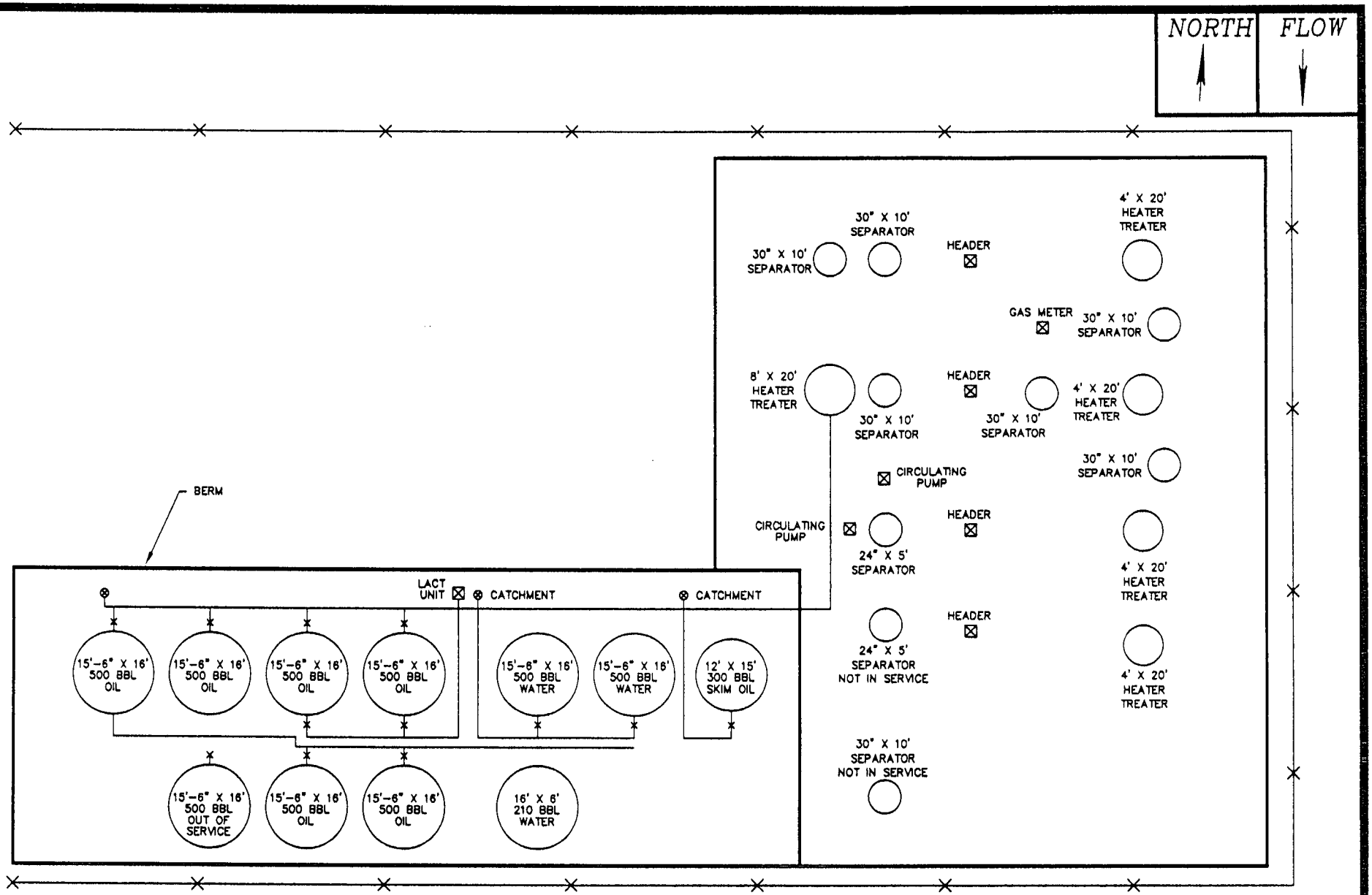



FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

E.C. HILL "A" "B" & "C" TB

*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*

DATE: 8/16/01

DWG. BY: JDA

FILE: G:\POGO\1999\HILL_A-B

*NOT TO SCALE*

# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**
Governor
**Joanna Prukop**
Cabinet Secretary

**Lori Wrotenbery**
Director
**Oil Conservation Division**

August 14, 2003

Highlander Environmental Corp.
Attn: Ike Tavarez
1910 N. Big Spring
Midland, TX 79705

Re: Investigation and Remediation Proposal, E. C. Hill "A, B, C" Tank Battery
Pogo Producing Company (Pogo)
Site Location: UL-_Sec 27-T23S-R37E
Dated: July 23, 2003

The investigation proposal referenced above submitted to the New Mexico Oil Conservation Division (OCD) Highlander Environmental Corp., for Pogo is **hereby approved** with the following requirements.

1. Pogo is responsible for historic pollution.
2. Pogo shall submit a copy of all C-141 Spill reports from this location in the last two years by **August 31, 2003.**
3. Pogo shall submit a detailed proposal of how: "The surface impact will be maintained to reduce the hydrocarbon levels at the surface to the top of the layer" by **August 31, 2003.**
4. Pogo shall remove all junk, trash and out of service hardware.
5. Pogo shall delineate and remediate, (per the "Guidelines"), all Hydrocarbon and Chloride contamination under out service or stored production hardware and junk .
6. Pogo shall remove all contaminated soils in "inaccessible" areas down to the caliche layer and propose a sampling plan for documenting contamination levels proposed to be left in place until final clean-up and closure of the facility by September 19, 2003.
7. Pogo shall exploit standard secondary containment practices.
8. Pogo shall immediately correct the **Rule 310B violation, (Proper Signage).**
9. Pogo shall notify OCD, (preferably email) at least 48-hr before sampling and backfilling and include that notification in a statement in the remediation closure.
10. Pogo shall submit closure documentation for the work approved in November 2001 by **August 31, 2003.** See attached letter.

November 14, 2001

Highlander Environmental Corp.
1910 N. Big Spring
Midland, TX 79705

Re: Investigation and Proposal, E. C. Hill "B" Lease
Pogo Producing Company (Pogo)
Site Location: UL-_, Sec 27-T23S-R37E
Dated: June 16, 2000

The investigation proposal referenced above submitted to the New Mexico Oil Conservation Division (OCD) Highlander Environmental Corp., for Pogo is **hereby approved.**

Please be advised that OCD approval of this plan does not relieve Pogo of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Pogo of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please feel free to write or call me at (505) 393-6161, x113 or email psheeeley@state.nm.us

Sincerely,

Paul Sheeley-Environmental Engineer
Cc: Roger Anderson - Environmental Bureau Chief
Chris Williams - District I Supervisor
Bill Olson - Hydrologist
Larry Johnson - Environmental Engineer

Please be advised that OCD approval of this plan does not relieve Pogo of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Pogo of responsibility for compliance with any other federal, state, or local laws and/or regulations.

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Sincerely,

Paul Sheeley-Environmental Engineer

Cc: Roger Anderson - Environmental Bureau Chief
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