# 1R - 492

# GENERAL CORRESPONDENCE

# 2008

New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**
**Governor**

**Joanna Prukop**
Cabinet Secretary
**Reese Fullerton**
Deputy Cabinet Secretary

**Mark Fesmire**
Division Director
**Oil Conservation Division**

**April 25, 2008**

Mr. Dennis Newman
OXY USA, Inc.
P.O. Box 4294
Houston, TX 77210-4294

**RE: REQUIREMENT TO SUBMIT A REMEDIATION PLAN**
**OXY USA, INC. - E.C. HILL FEDERAL NO. 7 TANK BATTERY**
**SECTION 35, TOWNSHIP 23 SOUTH, RANGE 37 EAST**
**LEA COUNTY, NEW MEXICO**
**OCD CASE NO. 1R492**

Dear Mr. Newman:

The New Mexico Oil Conservation Division (OCD) has determined after reviewing the information submitted by OXY USA, Inc. (OXY) that it must submit a remediation plan to investigate the vadose zone and ground water contamination at its E.C. Hill Federal No. 7 Tank Battery located in Section 35, Township 23 South, Range 37 East, Lea County, New Mexico. OXY's analytical data documents that the chlorides concentration in the ground water in the temporary monitor well was 1220 mg/l, which exceeds the Water Quality Control Commission ground water standard of 250 mg/l.

OCD hereby requires OXY to submit a remediation plan pursuant to OCD Rule 116D; the workplan is due is due sixty (60) days from the receipt by OXY of this written notice. OXY's remediation plan must specify how it will investigate the extent of the contamination in both the vadose zone and in ground water. The workplan must also include a complete description of the site, including a site map, the site history including the nature of the release, and a summary of previous investigations. OXY must install as many soil borings and monitoring wells as necessary to delineate the extent of the contamination in both the vadose zone and ground water using an appropriate number of isoconcentration maps and cross sections. OXY's proposal must include the installation of at least one monitor well beneath the tank battery screened below the water table to determine whether "plume diving" is occurring.

After it has completely delineated the release, OCD will determine whether to require additional action from OXY. OXY should submit one paper copy and one electronic copy of all workplans and/or reports. Please refer to ***OCD Case No. 1R492*** on all future correspondence. If you have any questions, please contact Glenn von Gonten of my staff at (505) 476-3488.

Sincerely,

Glenn von Gonten

Wayne Price
Environmental Bureau Chief

WP/gvg

cc: Chris Williams
Larry Johnson

**Occidental Permian Ltd.**
A subsidiary of Occidental Petroleum Corporation

5 Greenway Plaza, Suite 110, Houston, Texas 77046-0521
P.O. Box 4294, Houston, Texas 77210-4294
Phone 713.215.7000
www.oxy.com



VIA REGULAR MAIL AND EMAIL

March 11, 2008

Mr. Glenn von Gonten
New Mexico Energy, Mineral and Natural Resources Department
Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

RE: Submission of Form C-141 – Release Notification and Corrective Action and OXY USA Inc. Authorized Representative
Todd ATB#1
State L-2 Tank Battery
E. M. Elliott Tank Battery
Todd Water Injection Station
Todd Hobbs R #10 Tank Battery
E. C. Hill "B" ATB at Well #24
E. C. Hill B-D Tank Battery
E. C. Hill Federal #7 Tank Battery

Dear Mr. von Gonton:

OXY USA Inc. ("Oxy") appreciates the time you and Wayne Price with the Oil Conservation Division ("OCD") spent meeting with Oxy representatives (Rick Passmore with Glenn Springs Holding, Inc., Tim Reed with Highlander Environmental, and myself) on February 27, 2008 to discuss Oxy's role as the new operator for the subject sites effective March 1, 2008.

Per your request, attached are Form C-141s for the eight (8) referenced sites. Note Rule 116 letter notifications for these sites were sent to the OCD on June 25, 2007 by Latigo Petroleum Inc. ("Latigo"). Pogo Producing ("Pogo") acquired Latigo in 2006 followed by Plains Exploration and Production ("PXP") acquiring Pogo in November 2007. Oxy has recently acquired majority interest in these sites from PXP and is the new operator.

OXY's remediation company, Glenn Springs Holding, Inc. ("GSH") will be responsible for managing the referenced sites; GSH is a subsidiary of Occidental Petroleum Corporation. OXY's authorized project manager for the referenced sites will be:

Mr. Rick Passmore
Glenn Springs Holding, Inc.
5005 LBJ Freeway, Suite 1350
Dallas Texas 75244
Office: 972-687-7504
Mobile: 859-221-7616
Rick_passmore@oxy.com

If you or District I have any questions concerning the C-141s for the referenced sites, please contact Mr. Passmore. Again, we thank you for your time meeting with us.

Sincerely,

Dennis L. Newman, P.E.

cc: New Mexico Energy, Mineral and Natural Resources Department
Oil Conservation Division
District I
1625 N. French Dr.
Hobbs, New Mexico 88240

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

# Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company OXY USA, Inc. | Contact Rick Passmore |
| Address P.O. Box 4294, Houston, Texas 77210-4294 | Telephone No. 972-687-7504 |
| Facility Name E.C. Hill Federal # 7 Tank Battery | Facility Type Tank Battery |

| Surface Owner | Mineral Owner | Lease No. |
|---|---|---|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 35 | 23 South | 37 East | | | | | Lea |

**Latitude** 32.26483 **Longitude** 103.14144

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Oil and /or produced water | Volume of Release Unknown | Volume Recovered None |
| Source of Release<br>Historic oil and produced water spills | Date and Hour of Occurrence<br>Unknown | Date and Hour of Discovery |
| Was Immediate Notice Given?<br>☐ Yes ☐ No ☒ Not Required | If YES, To Whom?<br>N/A | |
| By Whom? | Date and Hour N/A | |
| Was a Watercourse Reached?<br>☐ Yes ☒ No | If YES, Volume Impacting the Watercourse.<br>N/A | |

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Historic spills.

Latigo Petroleum, Inc. made initial notification to the NMOCD on June 25, 2007, based on due diligence. Latigo was bought by Pogo Producing in 2006. Plains Exploration and Production (PXP) bought Pogo Producing in 2007, and finally OXY, USA Inc. purchased a majority interest in the PXP New Mexico assets on February 29, 2008 and became the operator on March 1, 2008.

Describe Area Affected and Cleanup Action Taken.*

Site Investigation and Characterization is in progress.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

| | | |
|---|---|---|
| Signature: | OIL CONSERVATION DIVISION | |
| Printed Name: Dennis Newman | Approved by District Supervisor: | |
| Title: Senior Environmental Consultant | Approval Date: | Expiration Date: |
| E-mail Address: dennis_newman@oxy.com | Conditions of Approval: | Attached ☐ |
| Date: March 7, 2008 Phone: 713-366-5485 | | |

* Attach Additional Sheets If Necessary

1R492

# Highlander Environmental Corp.

*Midland, Texas*

February 18, 2008

Mr. Glenn von Gonten
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

**RE: Latigo Petroleum, Inc. – Project Summary**
**Hill, E.C. Federal #7 Tank Battery**
**Section 35, Township 23 South, Range 37 East**
**Lea County, New Mexico**
**32.26483° N, 103.14144° W**

Mr. von Gonten:

On behalf of Latigo Petroleum, Inc. (Latigo), Highlander Environmental Corp. (Highlander) performed a limited subsurface investigation at the Latigo Hill, E.C. Federal #7 Tank Battery, Section 35, Township 23 South, Range 37 East, Lea County, New Mexico. The site location is shown on Figure 1. The soil investigation consisted of placement of hand auger holes and boreholes to assess the subsurface soils. Based on the soil assessment, a well was installed to assess the groundwater qualities at the Site.

The impacted soils were found from the surface to a depth of 40 feet below surface in one of three soil borings placed in an area measuring 30' x 240', located south of the tank battery. The impacted soils exceeded the total petroleum hydrocarbons (TPH) RRAL. The hand auger and borehole locations are shown on Figure 2. The analytical results are shown in Table 1 and Table 2.

Based on the results, borehole (BH-1) was converted to a temporary 2-inch monitor well. Groundwater was encountered at approximately 78 feet below top of casing (TOC). On September 22, 2006 and May 16, 2007, Highlander purged and sampled the well per OCD guidelines for analyses of chlorides and BTEX. On the September 22, 2006 sampling event, the chloride and BTEX concentrations did not exceed the New Mexico Water Quality Control Commission (NMWQCC) standards. On the May 16, 2007 sampling event, the hydrocarbon constituents (BTEX) were below the NMWQCC action levels, however, the chloride exceeded the NMWQCC standard. The analytical results are shown in Table 3.

This site is adjacent to the E.C. Hill B-D tank battery. A total of six (6) monitor wells have been installed at these sites for delineation purposes, but have not yet been surveyed, gauged or sampled.

Should you have any questions or concerns regarding this site, please do not hesitate to contact me at (432) 682-4559.

Highlander Environmental Corp.

Ike Tavarez, P.G.
Sr. Geologist/Project Manager

# FIGURES

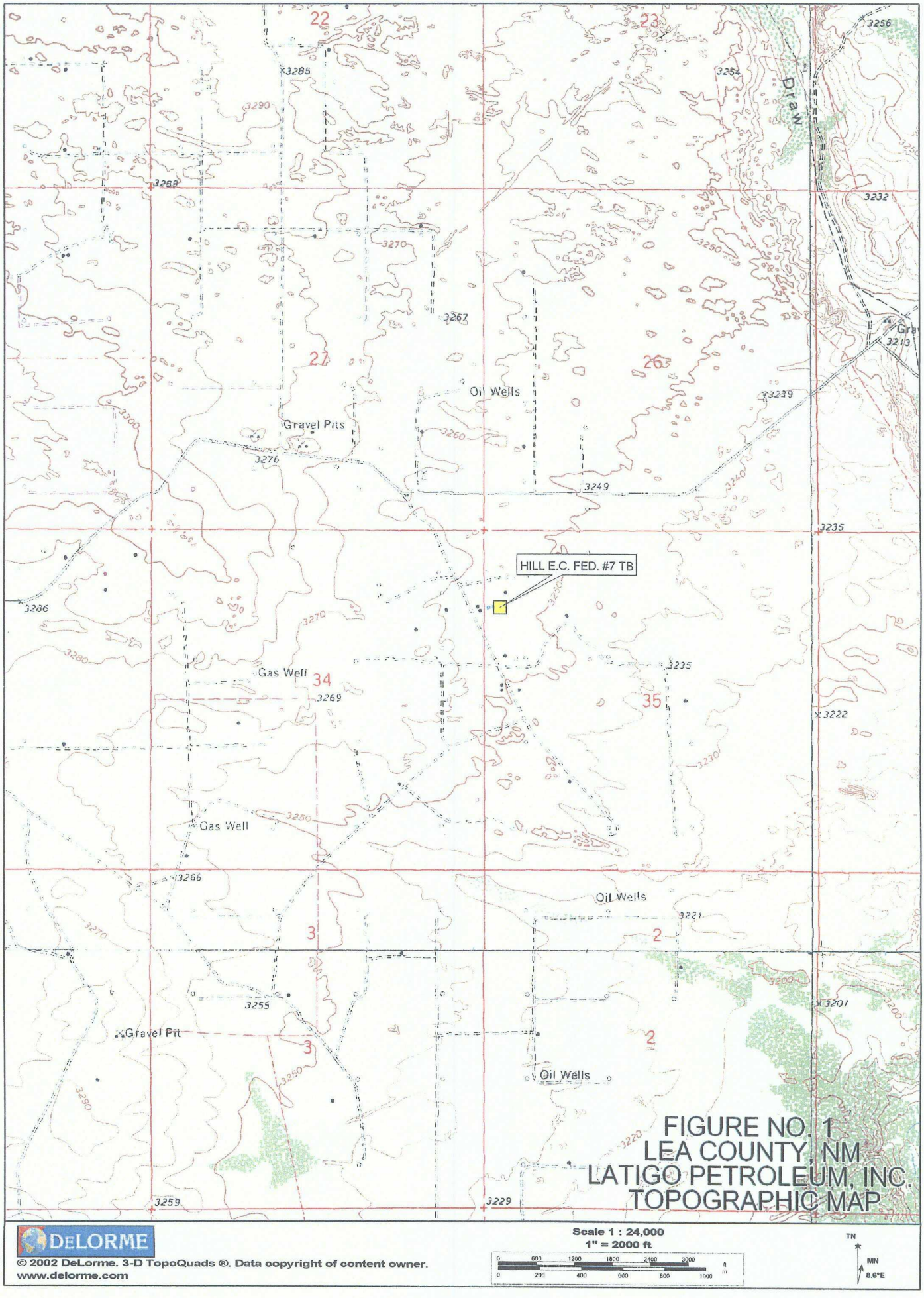
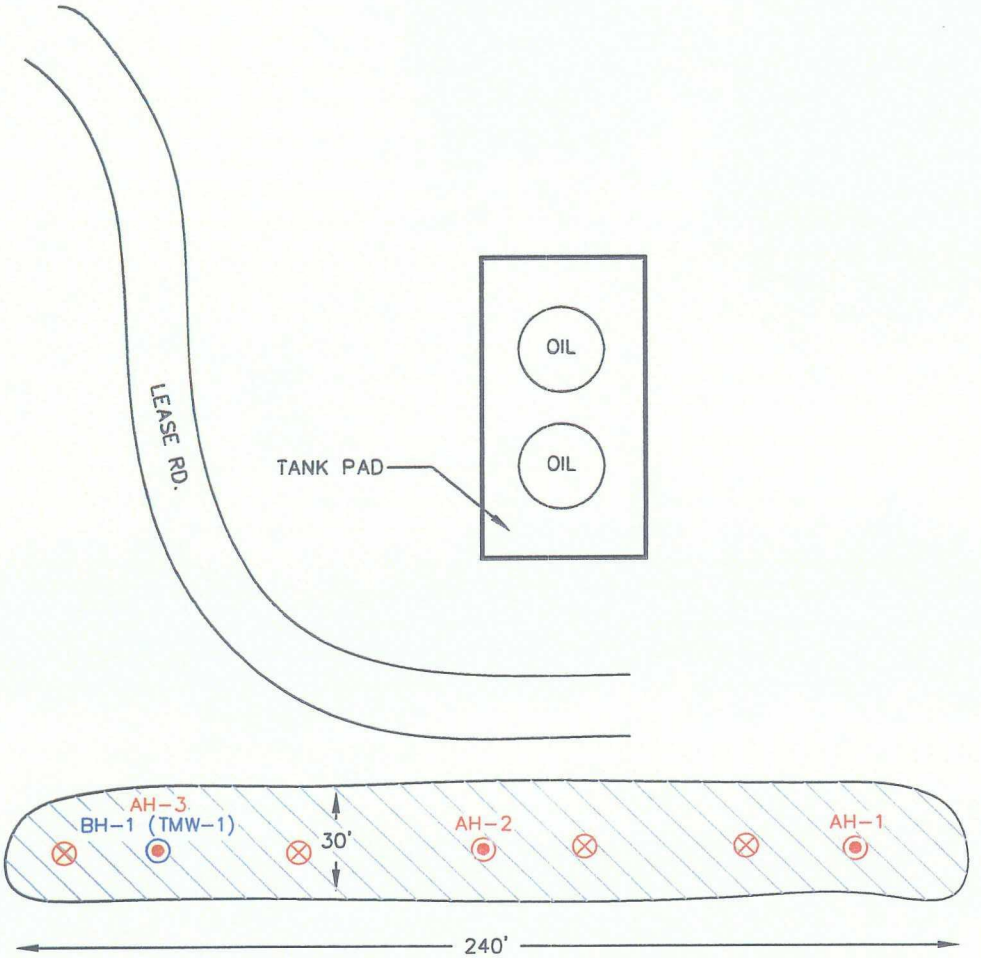



FIGURE NO. 1
LEA COUNTY, NM
LATIGO PETROLEUM, INC.
TOPOGRAPHIC MAP




BORE HOLE
SPILL AREA
SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

LATIGO PETROLEUM, INC.
HILL E.C. "B" FED. #7 TB

DATE: 9/28/06
DWN. BY: JJ
FILE: c:\POCO\2617\E.C. HILL FED. #7 TB

*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*

# TABLES

# Table 1
## Pogo Producing Company
## *E.C. HILL B FEDERAL #7 TANK BATTERY*
## Lea County, New Mexico

| Sample ID | Date Sampled | Sample Depth (ft) | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C6-C12 | C12-C35 | Total | | | | | |
| AH-1 | 8/9/2006 | 0-1' | <20.0 | **2640** | **2640** | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| | 8/9/2006 | 1-1.5' | <20.0 | <50.0 | <50.0 | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| | 8/9/2006 | 2-2.5' | **1.36** | <50.0 | **1.36** | - | - | - | - | <50.0 |
| | 8/9/2006 | 4-4.5' | <1.00 | <50.0 | <50.0 | - | - | - | - | <50.0 |
| AH-2 | 8/9/2006 | 0-1' | <20.0 | **2170** | **2170** | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| | 8/9/2006 | 1-1.5' | <20.0 | **2440** | **2440** | - | - | - | - | <50.0 |
| | 8/9/2006 | 2-2.5' | **190** | **21700** | **21890** | - | - | - | - | <50.0 |
| | 8/9/2006 | 4-4.5' | **46.6** | **21800** | **21846.6** | <0.200 | <0.200 | **0.622** | **1.25** | <50.0 |
| | 8/9/2006 | 6-6.5' | <20.0 | **241** | **241** | - | - | - | - | <50.0 |
| | 8/9/2006 | 8-8.5' | <20.0 | <50.0 | <50.0 | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| AH-3 | 8/9/2006 | 0-1' | <20.0 | **358** | **358** | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| | 8/9/2006 | 1-1.5' | <20.0 | **1580** | **1580** | - | - | - | - | <50.0 |
| | 8/9/2006 | 2-2.5' | <20.0 | **1240** | **1240** | - | - | - | - | <200 |
| | 8/9/2006 | 4-4.5' | <20.0 | **6080** | **6080** | <0.200 | <0.200 | <0.200 | <0.200 | <200 |
| | 8/9/2006 | 6-6.5' | <20.0 | **1110** | **1110** | - | - | - | - | <200 |
| | 8/9/2006 | 8-8.5' | <20.0 | **2240** | **2240** | - | - | - | - | <50.0 |
| | 8/9/2006 | 10-10.5' | <20.0 | **12200** | **12200** | <0.200 | <0.200 | <0.200 | <0.200 | <50.0 |
| AH-4 | 10/24/2007 | 0-1' | <1.00 | <50.0 | <50.0 | - | - | - | - | - |
| | 10/24/2007 | 2-2.5' | <1.00 | <50.0 | <50.0 | - | - | - | - | - |
| AH-5 | 10/24/2007 | 0-1' | <1.00 | **3370** | **3370** | - | - | - | - | - |

# Table 1
## Pogo Producing Company
## E.C. HILL B FEDERAL #7 TANK BATTERY
## Lea County, New Mexico

| Sample ID | Date Sampled | Sample Depth (ft) | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C6-C12 | C12-C35 | Total | | | | | |
| | 10/24/2007 | 2-2.5' | <1.00 | <50.0 | <50.0 | - | - | - | - | - |
| | | | | | | | | | | |
| AH-6 | 10/24/2007 | 0-1' | <1.00 | **1280** | **1280** | - | - | - | - | - |
| | 10/24/2007 | 2-2.5' | <1.00 | **1660** | **1660** | - | - | - | - | - |
| | 10/24/2007 | 4-4.5' | **2.15** | **6850** | **6852.15** | - | - | - | - | - |
| | 10/24/2007 | 6-6.5' | <1.00 | **114** | **114** | - | - | - | - | - |
| | 10/24/2007 | 8-8.5' | <10.0 | <50.0 | <50.0 | - | - | - | - | - |
| | | | | | | | | | | |
| AH-7 | 10/24/2007 | 0-1' | <1.00 | <50.0 | <50.0 | - | - | - | - | - |
| | 10/24/2007 | 2-2.5' | <1.00 | <50.0 | <50.0 | - | - | - | - | - |
| | 10/24/2007 | 4-4.5' | <1.00 | **1230** | **1230** | - | - | - | - | - |
| | 10/24/2007 | 6-6.5' | **3.04** | **169** | **172.04** | - | - | - | - | - |
| | 10/24/2007 | 8-8.5' | **6.24** | **87.70** | **93.94** | - | - | - | - | - |
| | 10/24/2007 | 10-10.5' | **19.80** | **762** | **781.80** | - | - | - | - | - |
| | | | | | | | | | | |

( - ) not analyzed

# Table 2
## Pogo Producing Company
## E.C. HILL B FEDERAL #7 TANK BATTERY
## Lea County, New Mexico

| Sample ID | Date Sampled | Sample Depth (ft) | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C6-C12 | C12-C35 | Total | | | | | |
| BH-1 | 9/12/2006 | 10-12' | **56.0** | **5290** | **5346** | - | - | - | - | - |
| | 9/12/2006 | 15-17' | **64.4** | **8820** | **8884** | <0.200 | <0.200 | <0.200 | **0.512** | - |
| | 9/12/2006 | 20-22' | **74.4** | **11000** | **11074.4** | - | - | - | - | - |
| | 9/12/2006 | 30-32' | <20.0 | **3770** | **3770** | - | - | - | - | - |
| | 9/12/2006 | 40-42' | <20.0 | **3030** | **3030** | - | - | - | - | - |
| | 9/12/2006 | 50-52' | <20.0 | **165** | **165** | - | - | - | - | - |
| | | | | | | | | | | |

( - ) not analyzed

**Table 3**
**Pogo Producing Company**
**E.C. HILL B FEDERAL #7 TANK BATTERY**
**Lea County, New Mexico**

| Sample ID | Date Sampled | Sample Number | TPH (mg/kg) | | | Benzene (mg/L) | Toluene (mg/L) | Ethlybenzene (mg/L) | Xylene (mg/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C6-C12 | C12-C35 | Total | | | | | |
| TMW-1 | 9/22/2006 | 104309 | - | - | - | <0.00100 | <0.00100 | <0.00100 | **0.0019** | <2.00 |
| | 5/16/2007 | - | - | - | - | <0.00100 | <0.00100 | <0.00100 | <0.00100 | **1220** |

( - ) not analyzed

SAMPLE LOG

# SAMPLE LOG

**Boring/Well:** MW-1
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** Hill Federal #7 Tank Battery
**Location:** Lea County, New Mexico
**Total Depth** 93
**Date Installed:** 09/21/06

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Dark brown silty sand |
| 5-6 | -- | Black silty sand |
| 6-10 | -- | Black and gray silty sand |
| 10-15 | -- | Gray silty sand |
| 15-20 | -- | Tan/gray silty fine grain sand |
| 20-25 | -- | Tan/brown silty fine grain sand |
| 25-30 | -- | Tan/brown silty fine grain sand |
| 30-35 | -- | Tan/brown silty fine grain sand with hard stringer |
| 35-40 | -- | Tan/reddish tan very fine grain sand |
| 40-55 | -- | Tan sand with sandstone |
| 55-65 | -- | Tan sand with sandstone |
| 65-70 | -- | Tan/gray silty fine grain sand |
| 70-75 | -- | Tan silty very fine grain sand |
| 75-93 | -- | Tan silty very fine grain sand |

Total Depth is 93 feet  Groundwater encountered at 78 feet below ground surface.

# SAMPLE LOG

**Boring/Well:** MW-1
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** Hill BD
**Location:** Lea County, New Mexico
**Total Depth** 98
**Date Installed:** 09/20/06

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Dark black hydrocarbon stained soil |
| 5-10 | -- | Dark black hydrocarbon stained soil |
| 10-15 | -- | Dark black hydrocarbon stained soil |
| 17-20 | -- | Brown/dark brown silty very fine grain sand with some staining |
| 30-35 | -- | Reddish brown very fine grain silty sand with no staining but strong odor |
| 35-40 | -- | Reddish brown very fine grain silty sand with no staining but strong odor |
| 40-45 | -- | Brown very fine grain silty sand with no staining but strong odor |
| 45-50 | -- | Tan sandstone very hard at 46 feet |
| 50-55 | -- | Very hard sandstone |
| 55-60 | -- | Buff silty very fine grain sand with sandstone |
| 60-65 | -- | Buff silty very fine grain sand with sandstone |
| 65-70 | -- | Tan very fine grain silty sand |
| 70-75 | -- | Tan very fine grain silty sand |
| 75-78 | -- | Tan very fine grain silty sand (wet at 78) |
| 80-85 | -- | Light brown silty very fine grain sand (wet) |
| 85-90 | -- | Light brown silty very fine grain sand (wet) |
| 90-98 | -- | Light brown silty very fine grain sand (wet) |

Total Depth is 98 feet  Groundwater encountered at 78 feet below ground surface.

# SAMPLE LOG

**Boring/Well:** MW-2
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** BD and Tank Battery Federal #7
**Location:** Lea County, New Mexico
**Total Depth** 90
**Date Installed:** 12/04/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Tan fine grain sand |
| 5-10 | -- | Tan fine grain sand |
| 10-15 | -- | White limestone with sand intermixed |
| 15-20 | -- | White limestone with sand intermixed |
| 20-25 | -- | Tan fine grain sand (loose sugar sand) |
| 25-30 | -- | Tan fine grain sand (loose sugar sand) |
| 30-35 | -- | Tan fine grain sand (loose sugar sand) |
| 35-40 | -- | Tan fine grain sand (loose sugar sand) |
| 40-45 | -- | Tan fine grain sand (loose sugar sand) |
| 45-50 | -- | Tan fine grain sand with some sandstone intermixed |
| 50-55 | -- | Tan fine grain sand with some white limestone |
| 55-60 | -- | Tan fine grain sand with some white limestone |
| 60-65 | -- | Tan fine grain sand with sandstone intermixed (loose) |
| 65-70 | -- | Tan fine grain sand with sandstone intermixed (loose) |
| 70-75 | -- | Tan fine grain sand with sandstone intermixed (loose) |
| 75-80 | -- | Tan fine grain sand with sandstone intermixed (loose) |
| 80-85 | -- | Tan fine grain sand with sandstone intermixed (loose) |
| 85-90 | -- | Tan fine grain sand with sandstone intermixed (loose) |

Total Depth is 90 feet  Groundwater encountered at 80 feet below ground surface.

# SAMPLE LOG

**Boring/Well:** MW-3
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** BD and Tank Battery Federal #7
**Location:** Lea County, New Mexico
**Total Depth** 90
**Date Installed:** 12/04/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Brown fine to medium grain sand |
| 5-10 | -- | White limestone with fine grain sand (loose) |
| 10-15 | -- | Tan fine grain sand (blow sand, loose) |
| 15-20 | -- | Tan fine grain sand (blow sand, loose) |
| 20-25 | -- | Tan fine grain sand (blow sand, loose) |
| 25-30 | -- | Tan fine grain sand (blow sand, loose) |
| 30-35 | -- | Tan fine grain reddish sand |
| 35-40 | -- | Tan fine grain reddish sand |
| 40-45 | -- | Tan fine grain reddish sand |
| 45-50 | -- | Tan fine grain reddish sand |
| 50-55 | -- | Light tan/white sand with limestone intermixed with some sandstone |
| 55-60 | -- | Light tan/white sand with limestone intermixed with some sandstone |
| 60-65 | -- | Tan sand with some gravel and sandstone intermixed |
| 65-70 | -- | Tan sand with some gravel and sandstone intermixed |
| 70-75 | -- | Tan sand with some gravel and sandstone intermixed |
| 75-80 | -- | Tan sand with some gravel and sandstone intermixed |
| 80-85 | -- | Tan sand with some gravel and sandstone intermixed |
| 85-90 | -- | Tan sand with some gravel and sandstone intermixed |
| 90-95 | -- | Tan sand with some gravel and sandstone intermixed |

Total Depth is 95 feet  Groundwater encountered at 80 feet below ground surface.

# SAMPLE LOG

**Boring/Well:** MW-4
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** BD and Tank Battery Federal #7
**Location:** Lea County, New Mexico
**Total Depth** 95
**Date Installed:** 12/05/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Tan/brown well sorted medium grain sand |
| 5-10 | -- | Tan/brown well sorted medium grain sand |
| 10-15 | -- | Buff fine grain calcareous sand |
| 15-20 | -- | Tan/buff slightly calcareous medium grain sand |
| 20-25 | -- | Tan/brown well sorted medium grain sand |
| 25-30 | -- | Tan/brown medium grain sand (beach sand) |
| 30-35 | -- | Tan/brown medium grain sand (beach sand) |
| 35-40 | -- | Tan/brown medium grain sand intermixed with some limestone |
| 40-45 | -- | Tan medium grain sand with some limestone intermixed |
| 45-50 | -- | Tan medium grain sand with some limestone intermixed |
| 50-55 | -- | Tan fine grain well sorted sand |
| 55-60 | -- | Tan fine grain well sorted sand |
| 60-65 | -- | Tan fine grain well sorted sand |
| 65-70 | -- | Tan fine grain well sorted sand |
| 70-75 | -- | Tan fine grain well sorted sand |
| 75-80 | -- | Tan fine grain well sorted sand |
| 80-85 | -- | Tan fine grain well sorted sand |
| 85-90 | -- | Tan fine grain well sorted sand |
| 90-95 | -- | Tan fine grain well sorted sand |

Total Depth is 95 feet  Groundwater encountered at 85 feet below ground surface.

# SAMPLE LOG

**Boring/Well:** MW-5
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** BD and Tank Battery Federal #7
**Location:** Lea County, New Mexico
**Total Depth** 92.5
**Date Installed:** 12/05/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Tan/brown well sorted medium grain sand |
| 5-10 | -- | Tan/brown well sorted medium grain sand |
| 10-15 | -- | Buff fine grain sandy limestone |
| 15-20 | -- | Tan/buff medium grain sand |
| 20-25 | -- | Tan medium grain calcareous sand |
| 25-30 | -- | Tan/brown medium grain sand (beach sand) |
| 30-35 | -- | Tan/brown medium grain sand (beach sand) |
| 35-40 | -- | Tan/brown medium grain sand (beach sand) |
| 40-45 | -- | Tan/brown medium grain sand (beach sand) |
| 45-50 | -- | Tan/brown medium grain sand with limestone intermixed |
| 50-55 | -- | Tan/brown medium grain sand |
| 55-60 | -- | Tan/brown medium grain sand (beach sand) |
| 60-65 | -- | Tan/brown medium grain sand (beach sand) |
| 65-70 | -- | Tan/brown medium grain sand (beach sand) |
| 70-75 | -- | Tan/brown medium grain sand (beach sand) |
| 75-80 | -- | Tan/brown medium grain sand (beach sand) |
| 80-85 | -- | Tan/brown medium grain sand (beach sand) |
| 85-90 | -- | Tan/brown medium grain sand (beach sand) |
| 90-95 | -- | Tan/brown medium grain sand (beach sand) |

Total Depth is 95 feet  Groundwater encountered at 83 feet below ground surface.

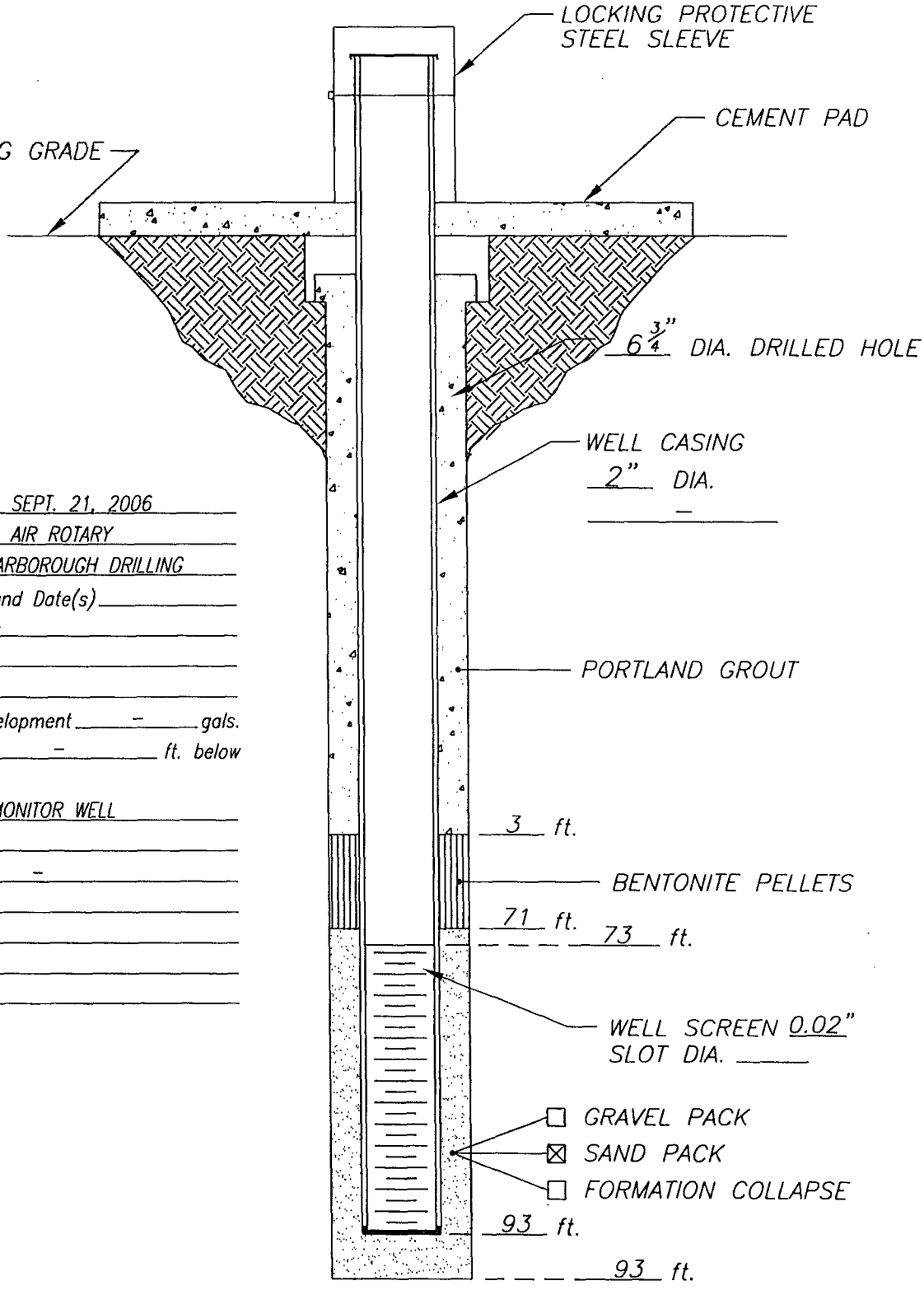
# SAMPLE LOG

**Boring/Well:** MW-6
**Project Number:** 2617
**Client:** Pogo Production Inc.
**Site Location:** BD and Tank Battery Federal #7
**Location:** Lea County, New Mexico
**Total Depth** 93
**Date Installed:** 12/11/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|---|---|---|
| 0-5 | -- | Tan/brown fine to medium grain sand |
| 5-10 | -- | Brown medium grain sand |
| 10-15 | -- | Buff/tan calcareous sand (50/50) |
| 15-20 | -- | Tan/buff calcareous sand (60S/40L) |
| 20-25 | -- | Buff/tan calcareous sand (50/50) |
| 25-30 | -- | Tan fine grain sand (beach sand) |
| 30-35 | -- | Tan fine grain sand (beach sand) |
| 35-40 | -- | Tan fine grain sand (beach sand) |
| 40-45 | -- | Tan fine grain sand (beach sand) |
| 45-50 | -- | Buff/tan calcareous sand (60S/40L) |
| 50-55 | -- | Buff/tan calcareous sand (60S/40L) |
| 55-60 | -- | Buff/tan calcareous sand (60S/40L) |
| 60-65 | -- | Buff/tan calcareous sand with sandstone intermixed |
| 65-70 | -- | Buff/tan calcareous sand with sandstone intermixed |
| 70-75 | -- | Tan/brown to buff calcareous sand |
| 75-80 | -- | Yellow calcareous medium grain sand |
| 80-85 | -- | Tan fine grain sand |
| 85-90 | -- | Tan fine grain sand |
| 90-95 | -- | Tan fine grain sand |

Total Depth is 95 feet  Groundwater encountered at 86 feet below ground surface.

# WELL CONSTRUCTION LOG



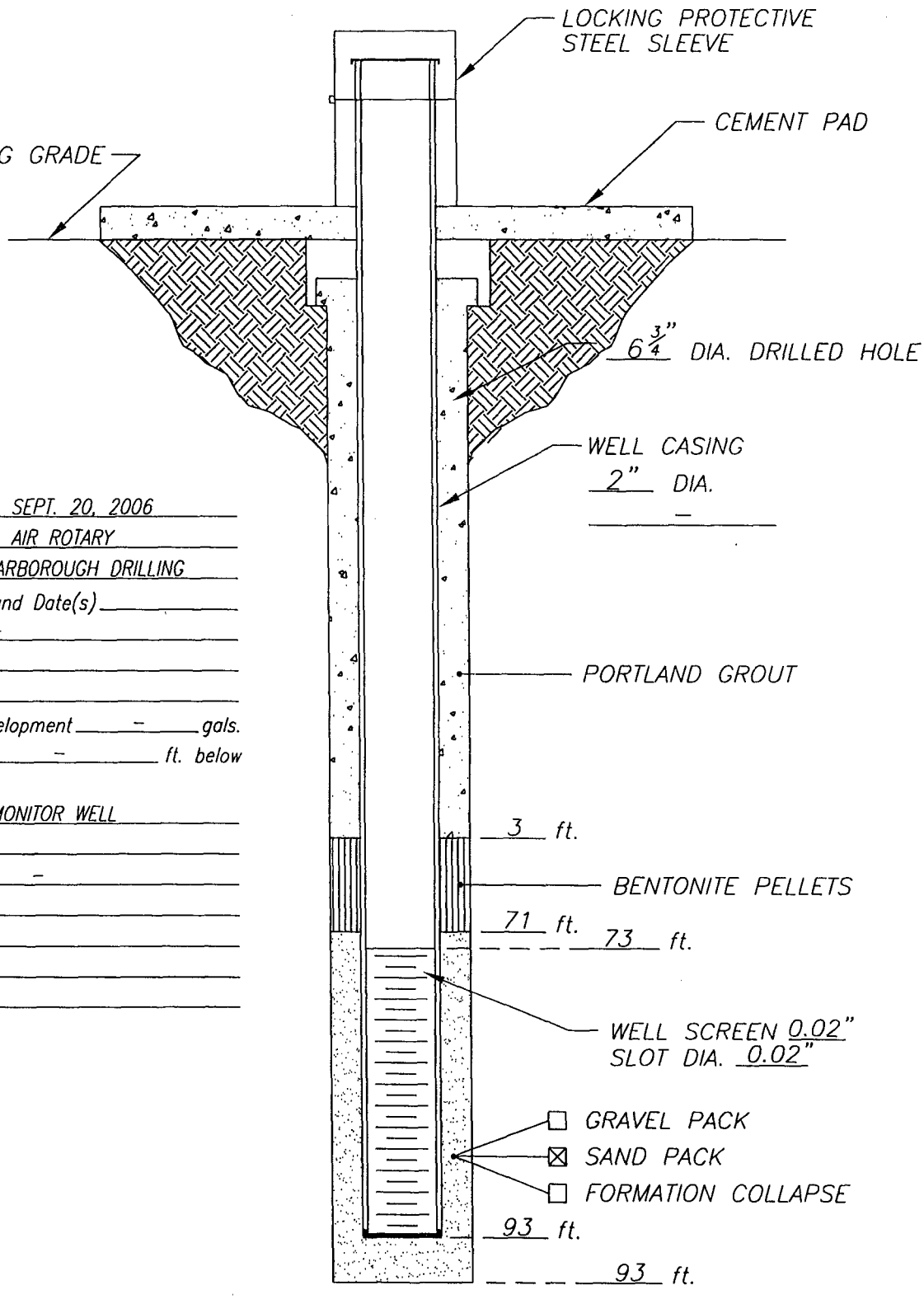

Installation Date(s) SEPT. 21, 2006
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) –

Water Removed During Development – gals.
Static Depth to Water – ft. below Ground Level
Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: SEPT. 21, 2006 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB | MW-1 |
| | LOCATION: LEA CO, NM | |

# WELL CONSTRUCTION LOG




Installation Date(s) SEPT. 20, 2006

Drilling Method AIR ROTARY

Drilling Contractor SCARBOROUGH DRILLING

Development Technique(s) and Date(s) –

Water Removed During Development – gals.

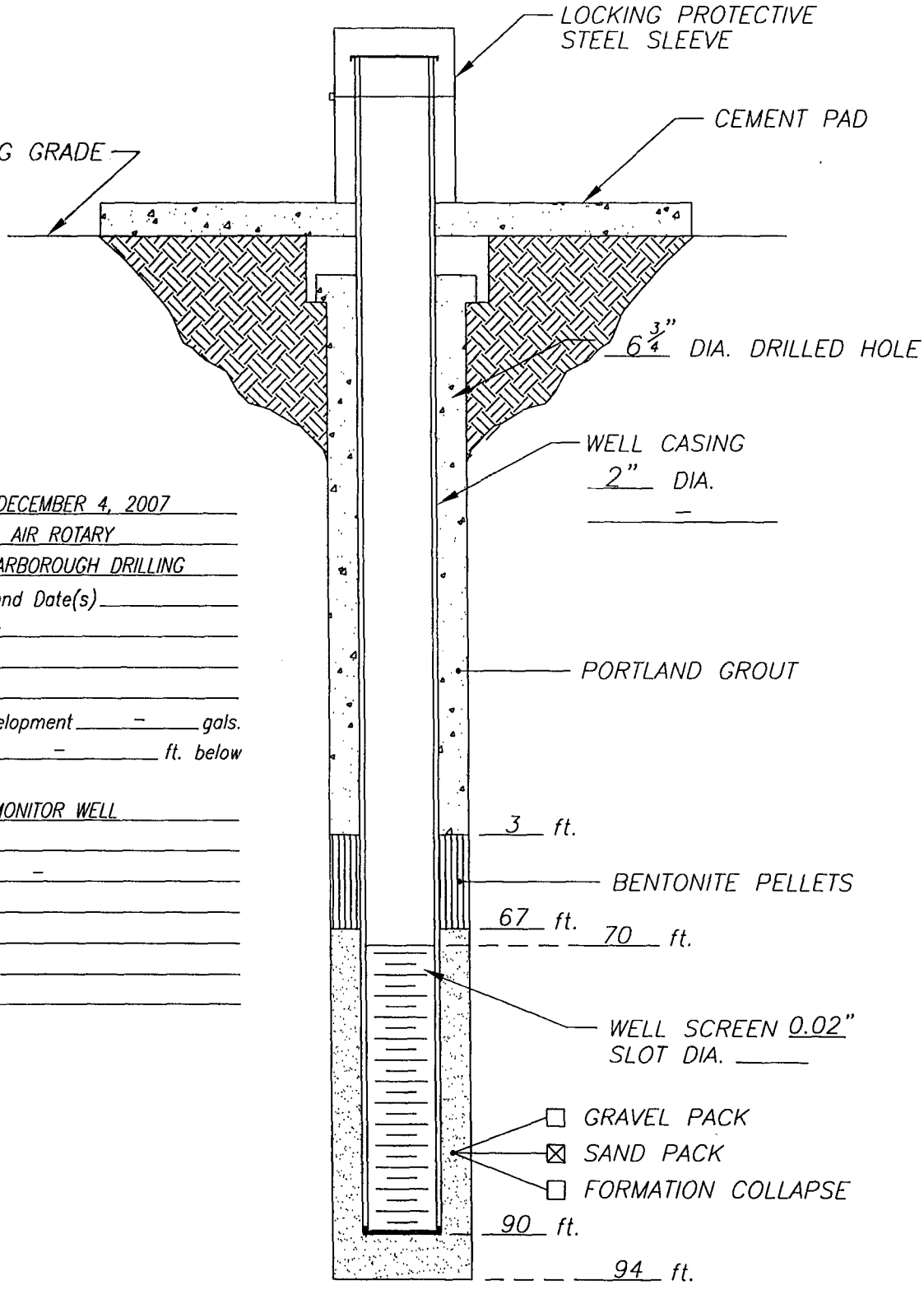
Static Depth to Water – ft. below Ground Level

Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: SEPT. 20, 2006 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: HILL BD | MW-1 |
| | LOCATION: LEA CO, NM | |

# WELL CONSTRUCTION LOG



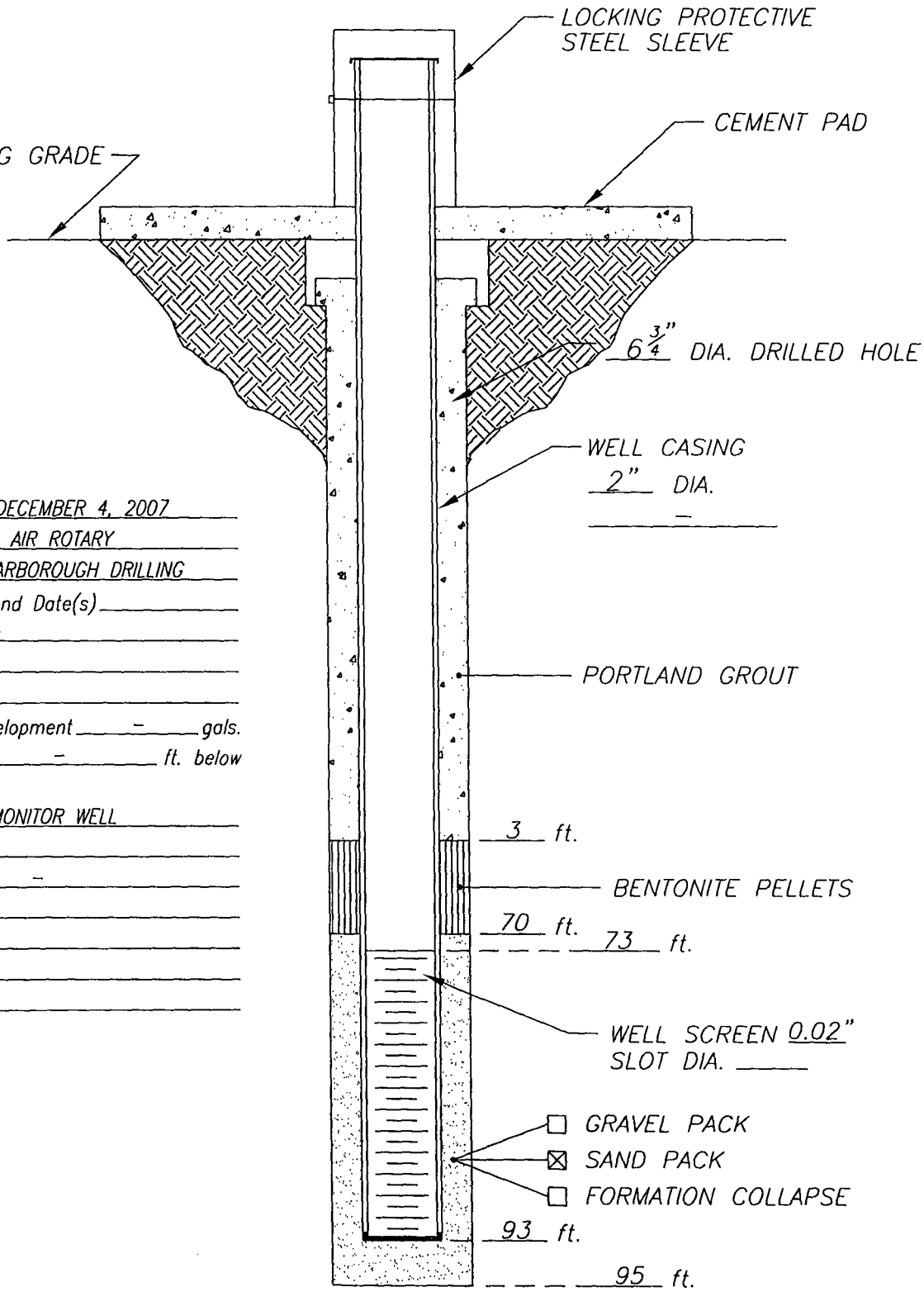

Installation Date(s) DECEMBER 4, 2007
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) –

Water Removed During Development – gals.
Static Depth to Water – ft. below Ground Level
Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: 12/10/07<br>**Highlander Environmental** | CLIENT: POGO PRODUCING INC<br>PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB<br>LOCATION: LEA CO, NM | WELL NO.<br>MW-2 |

# WELL CONSTRUCTION LOG




Installation Date(s) DECEMBER 4, 2007

Drilling Method AIR ROTARY

Drilling Contractor SCARBOROUGH DRILLING

Development Technique(s) and Date(s) –

Water Removed During Development – gals.

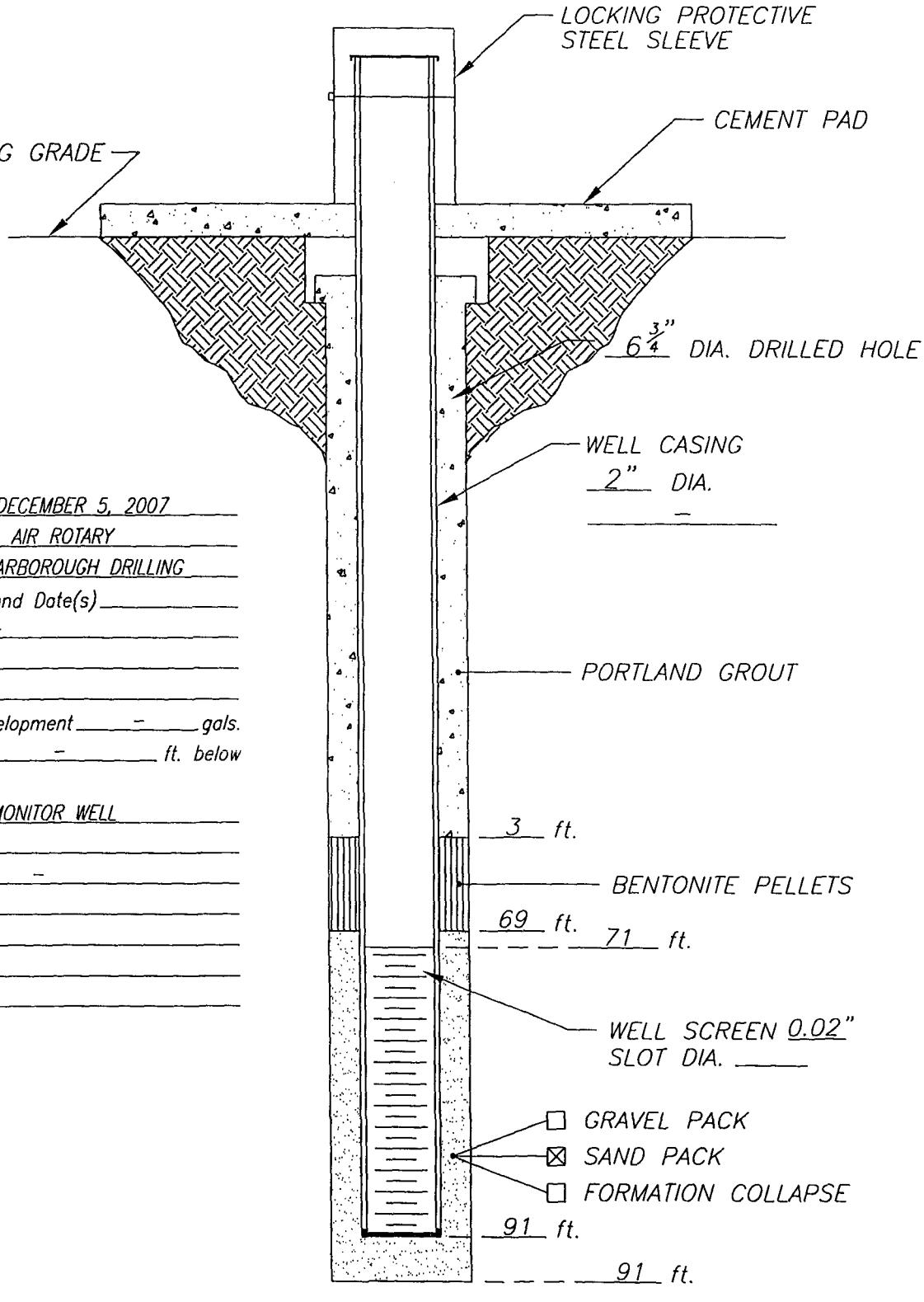
Static Depth to Water – ft. below Ground Level

Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: 12/10/07 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB | MW-3 |
| | LOCATION: LEA CO, NM | |

# WELL CONSTRUCTION LOG



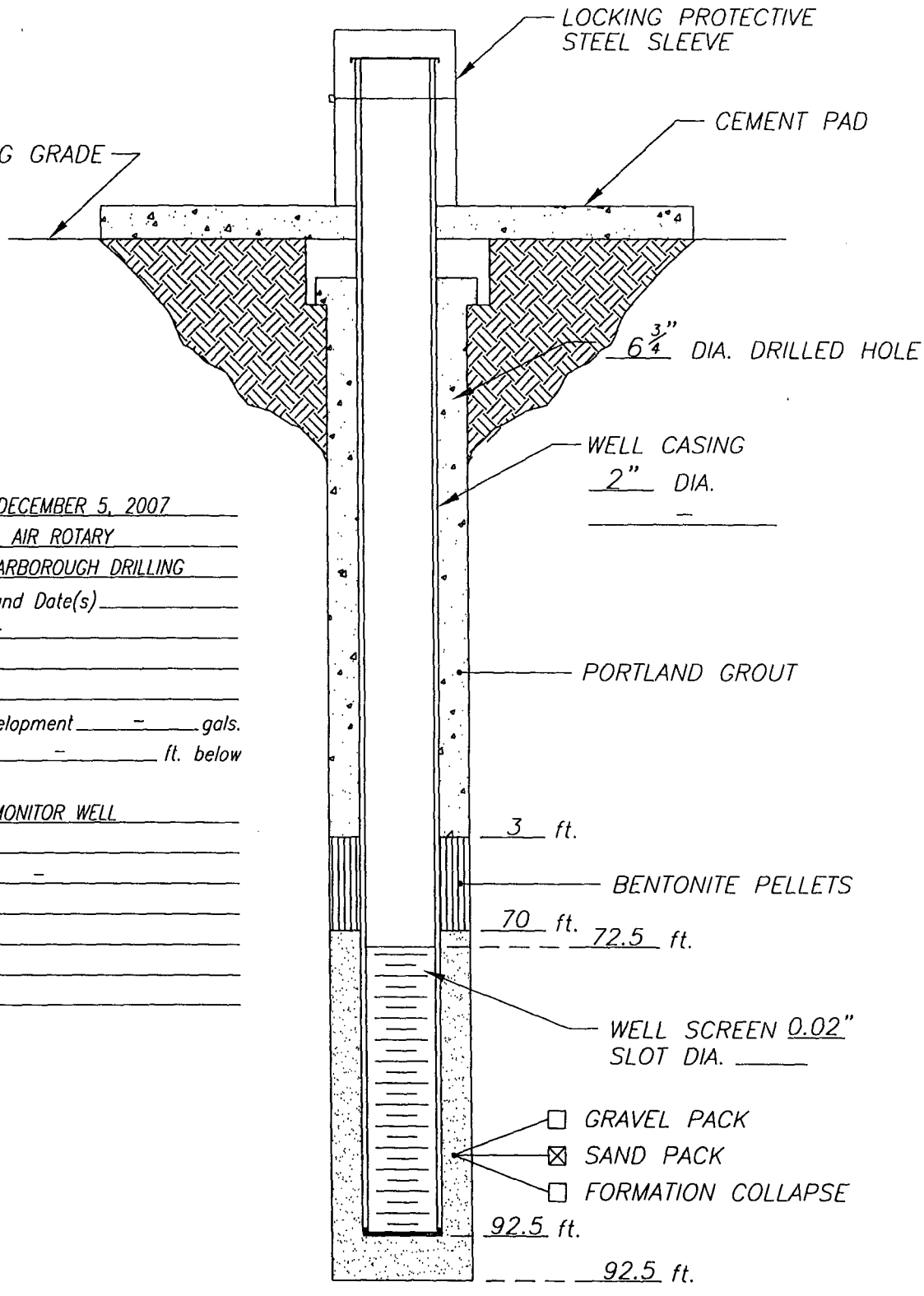

Installation Date(s) DECEMBER 5, 2007
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) –

Water Removed During Development – gals.
Static Depth to Water – ft. below Ground Level
Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: 12/10/07 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB | MW-4 |
| | LOCATION: LEA CO, NM | |

# WELL CONSTRUCTION LOG



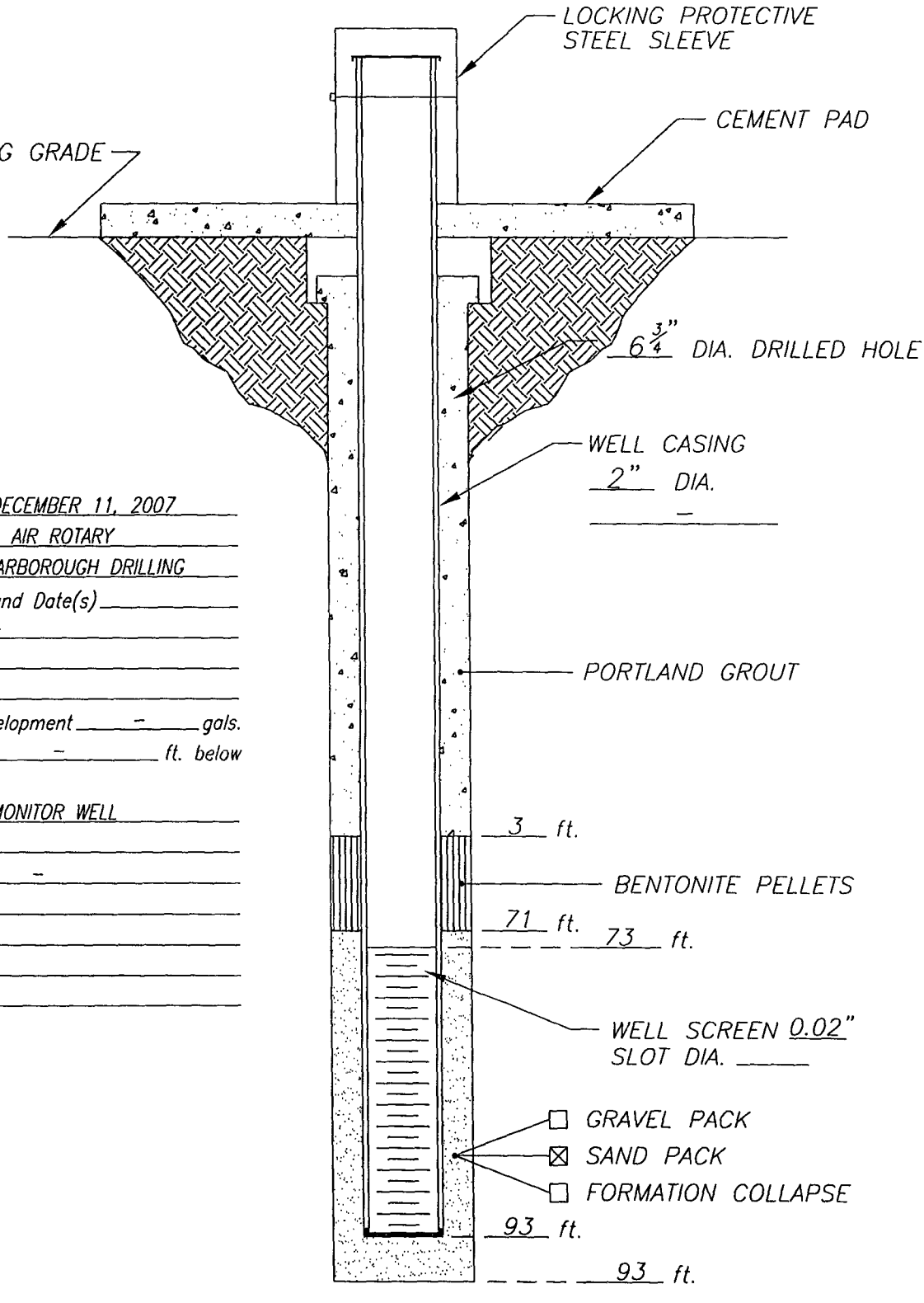

Installation Date(s) DECEMBER 5, 2007
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) –

Water Removed During Development – gals.
Static Depth to Water – ft. below Ground Level
Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: 12/10/07 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB | MW-5 |
| | LOCATION: LEA CO, NM | |

# WELL CONSTRUCTION LOG




Installation Date(s) DECEMBER 11, 2007
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) –

Water Removed During Development – gals.
Static Depth to Water – ft. below Ground Level
Well Purpose MONITOR WELL

Remarks –

| | | |
|---|---|---|
| DATE: 12/11/07 | CLIENT: POGO PRODUCING INC | WELL NO. |
| Highlander Environmental | PROJECT: TEAGUE FIELD, POGO.BD + FED #7 TB | MW-6 |
| | LOCATION: LEA CO, NM | |

# *Highlander Environmental Corp.*

*Midland, Texas*


**CERTIFIED MAIL**
**RETURN RECIEPT NO.** 7005 1160 0005 3780 6061

July 19, 2007

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

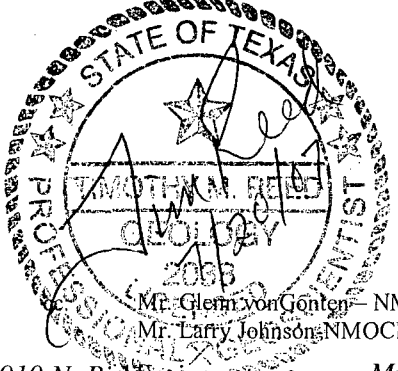
**RE: NOTIFICATION OF GROUNDWATER IMPACT**
**HILL, E.C. FEDERAL #7 TANK BATTERY**
**SECTION 35, TOWNSHIP 23 SOUTH, RANGE 37 EAST**
**LEA COUNTY, NEW MEXICO**

Mr. Price:

On behalf of Latigo Petroleum, Inc. (Latigo), Highlander Environmental Corp. (Highlander) notifies the Director of the New Mexico Oil Conservation Division (OCD), Environmental Bureau of groundwater impact at the above-referenced site in accordance with NM Rule 116.

Highlander of Midland, Texas was engaged to investigate this site. Highlander installed one soil boring at the site. The soils were found to be impacted from the surface to the vadose zone. Based on the results of the field sampling, the boring was converted to a temporary 2-inch monitor well. Groundwater was encountered at approximately 78 feet below ground surface (bgs). After appropriate development, the well was sampled pursuant to OCD guidelines by Highlander and submitted for analysis of chlorides and BTEX. Neither chloride nor BTEX concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standards. The monitor well was re-sampled on May 16, 2007. The hydrocarbon constituents (BTEX) were below the NMWQCC standards, however, the chloride exceeded the NMWQCC standard. Highlander will present a remedy for this site in the submission of a Corrective Action Plan.

Please accept this notification for the above-referenced site. Should you have any questions or concerns regarding this site, please do not hesitate to contact me at (432) 682-4559.




Highlander Environmental Corp.

Timothy M. Reed, P.G.
Vice President

cc: Mr. Glenn von Gonten – NMOCD, Santa Fe
Mr. Larry Johnson-NMOCD, Hobbs