

30-015-35800

ATS-07-514

E-07-1005

Form 3100-5  
(November 1983)  
(formerly 9-1000)

R-111-POTASH OCD-ARTESIA

SUBMIT IN TRI "ATE"  
(Other instructions on reverse side)Form approved  
Budget Bureau No. 1004-0136  
Expires August 31, 1985UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL WELL ☒GAS WELL ☐

OTHER

SINGLE ZONE ☒MULTIPLE ZONE ☐

## 2. NAME OF OPERATOR

POGO PRODUCING COMPANY

## 3. ADDRESS OF OPERATOR

P.O. BOX 10340, MIDLAND, TEXAS 79702

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface

660' FNL AND 990' FEL OF SECTION 28

At proposed prod. zone

FARM ROAD CONTROLLED WATER BASIN

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

18 MILES EAST OF LOVING, NEW MEXICO

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

660'

## 16. NO. OF ACRES IN LEASE

640

## 18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

1320'

## 19. PROPOSED DEPTH

8300'

## 17. NO. OF ACRES ASSIGNED TO THIS WELL

40 WYB 000 238

## 20. ROTARY OR CABLE TOOLS

ROTARY

## 21. ELEVATIONS (Show whether DF, ET, GR, etc.)

3365' GR

## 22. APPROX. DATE WORK WILL START

UPON APPROVAL

## 23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT                  |
|--------------|----------------|-----------------|---------------|-------------------------------------|
| 17-1/2"      | 13-3/8"        | 54.5#           | 550' CAN      | SUFFICIENT TO CIRCULATE/WITNESS     |
| 11"          | 8-5/8"         | 24# & 32#       | 4100'         | SUFFICIENT TO CIRCULATE/WITNESS     |
| 7-7/8"       | 5-1/2"         | 15.5# & 17#     | 8300'         | SUFFICIENT TO CIRCULATE (SEE STIPS) |

AFTER SETTING PRODUCTION CASING, PAY ZONE WILL BE PERFORATED AND STIMULATED AS NECESSARY.

SEE ATTACHED FOR: SUPPLEMENTAL DRILLING DATA  
BOP SKETCH  
SURFACE USE AND OPERATIONS PLANSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

RECEIVED  
FEB 22 8 13 AM '93  
OCD-ARTESIA

RECEIVED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

## 24.

SIGNED

Richard L. Wright

TITLE Division Operations Supr.

DATE February 16, 1993

(This space for Federal or State office use)

NOS REC'D: 2/5/93

PERMIT NO.

APPROVAL DATE

APPROVED BY

Jesse J. Aien

TITLE STATE DIRECTOR

DATE

9-5-07

CONDITIONS OF APPROVAL IF ANY:

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS

APPROVAL FOR TWO YEARS

\*See Instructions On Reverse Side

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONSATTACHED and to NMCD's R-111-P  
Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the State false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

## State of New Mexico

## DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Revised October 12, 2005  
Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

|                                   |                                                |                                               |
|-----------------------------------|------------------------------------------------|-----------------------------------------------|
| API Number<br><b>30 015 35800</b> | Pool Code<br><b>53815</b>                      | Pool Name<br><b>Sand Dunes; Delawan, West</b> |
| Property Code<br><b>367 35</b>    | Property Name<br><b>PURE GOLD D</b>            | Well Number<br><b>13</b>                      |
| OGRID No.<br><b>233194</b>        | Operator Name<br><b>POGO PRODUCING COMPANY</b> | Elevation<br><b>3367'</b>                     |

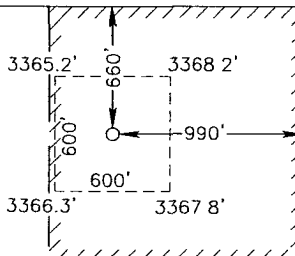
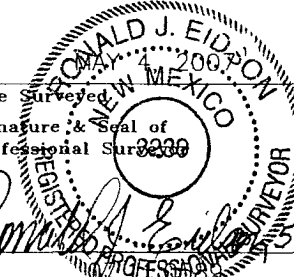
## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| A             | 28      | 23-S     | 31-E  |         | 660           | NORTH            | 990           | EAST           | EDDY   |

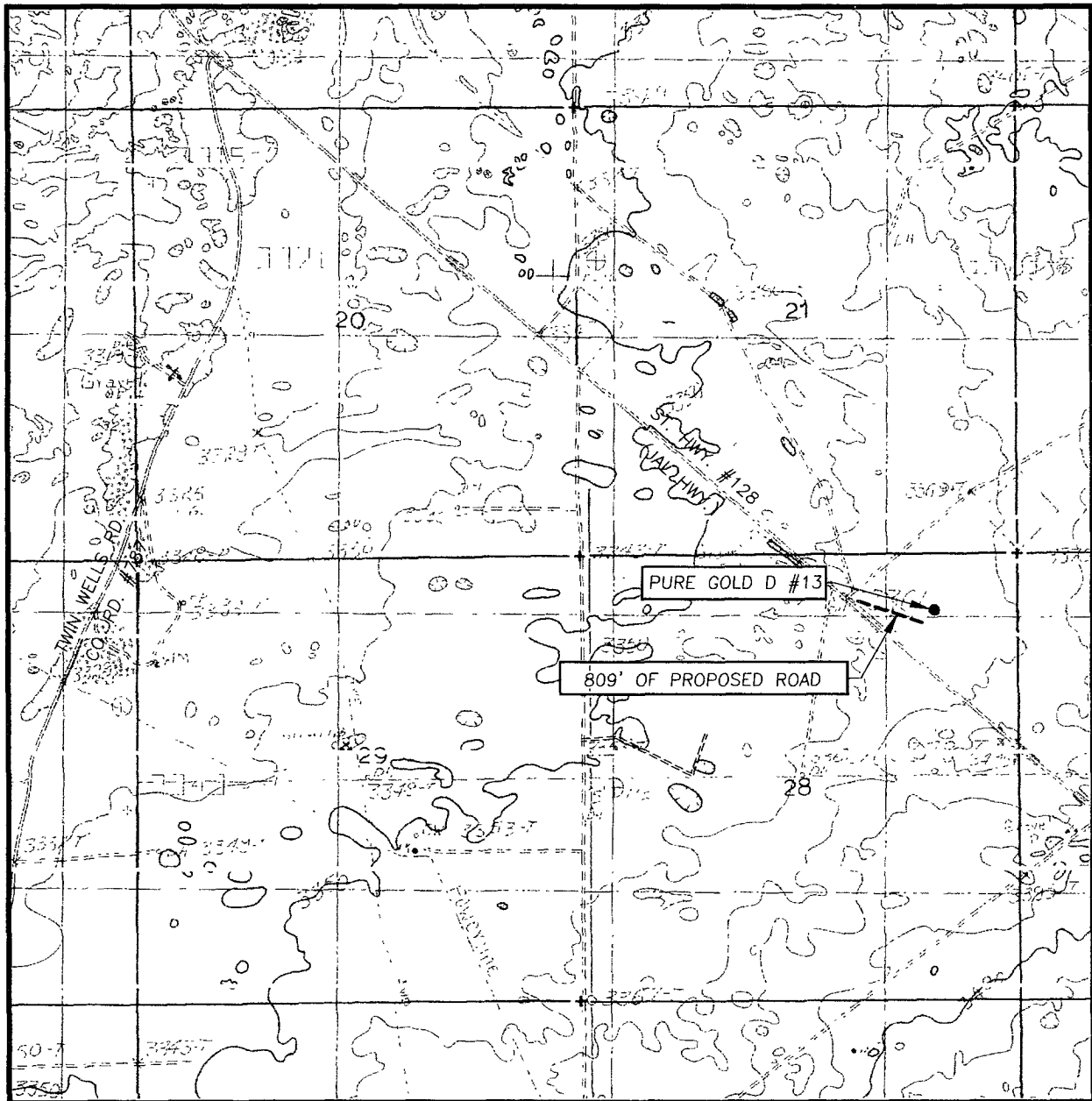
## Bottom Hole Location If Different From Surface

| UL or lot No.                | Section         | Township           | Range     | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|------------------------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| 40                           |                 |                    |           |         |               |                  |               |                |        |
| Dedicated Acres<br><b>40</b> | Joint or Infill | Consolidation Code | Order No. |         |               |                  |               |                |        |

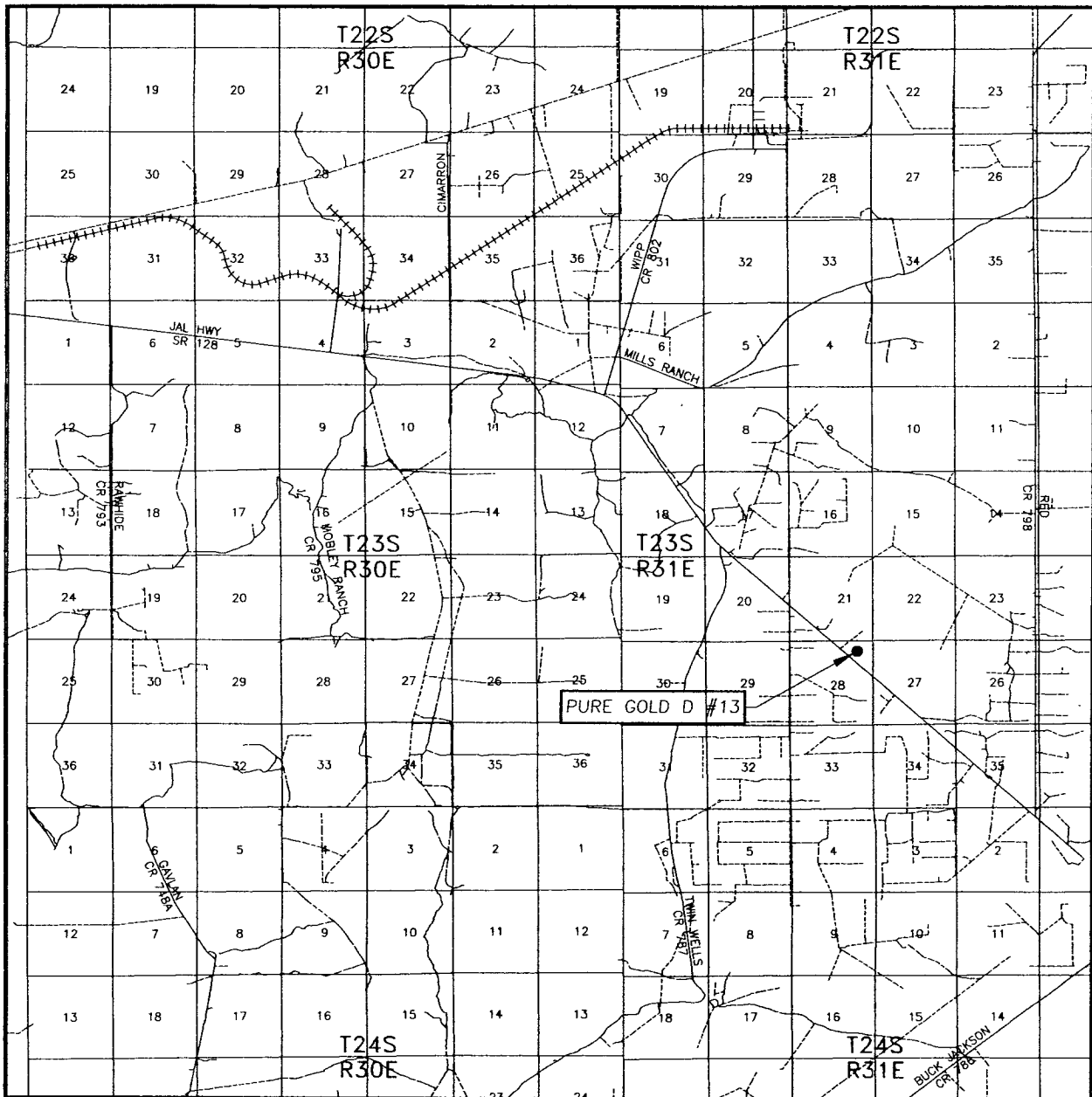
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|                                                                                     |                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | GEODETIC COORDINATES<br>NAD 27 NME<br><br>Y=466304.1 N<br>X=671955.8 E<br><br>LAT.=32.280761° N<br>LONG.=103.776929° W                                                                                                                             |  | <b>OPERATOR CERTIFICATION</b><br><br>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.<br><br><i>[Signature]</i> 6/12/07<br>Signature Date<br><i>R. Scott McAdams</i><br>Printed Name |
|                                                                                     | <b>SURVEYOR CERTIFICATION</b><br><br>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                     | Date Surveyed: 5/16/07<br>Signature & Seal of Professional Surveyor: <i>[Signature]</i>                                                                                                                                                            |  | Certificate No. GARY EIDSON 12641<br>RONALD J. EIDSON 3239                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                     |                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

# LOCATION VERIFICATION MAP



# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 23-S RGE. 31-E

SURVEY N.M.P.M.

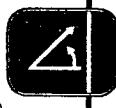
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 660' FNL & 990' FEL

ELEVATION 3367'

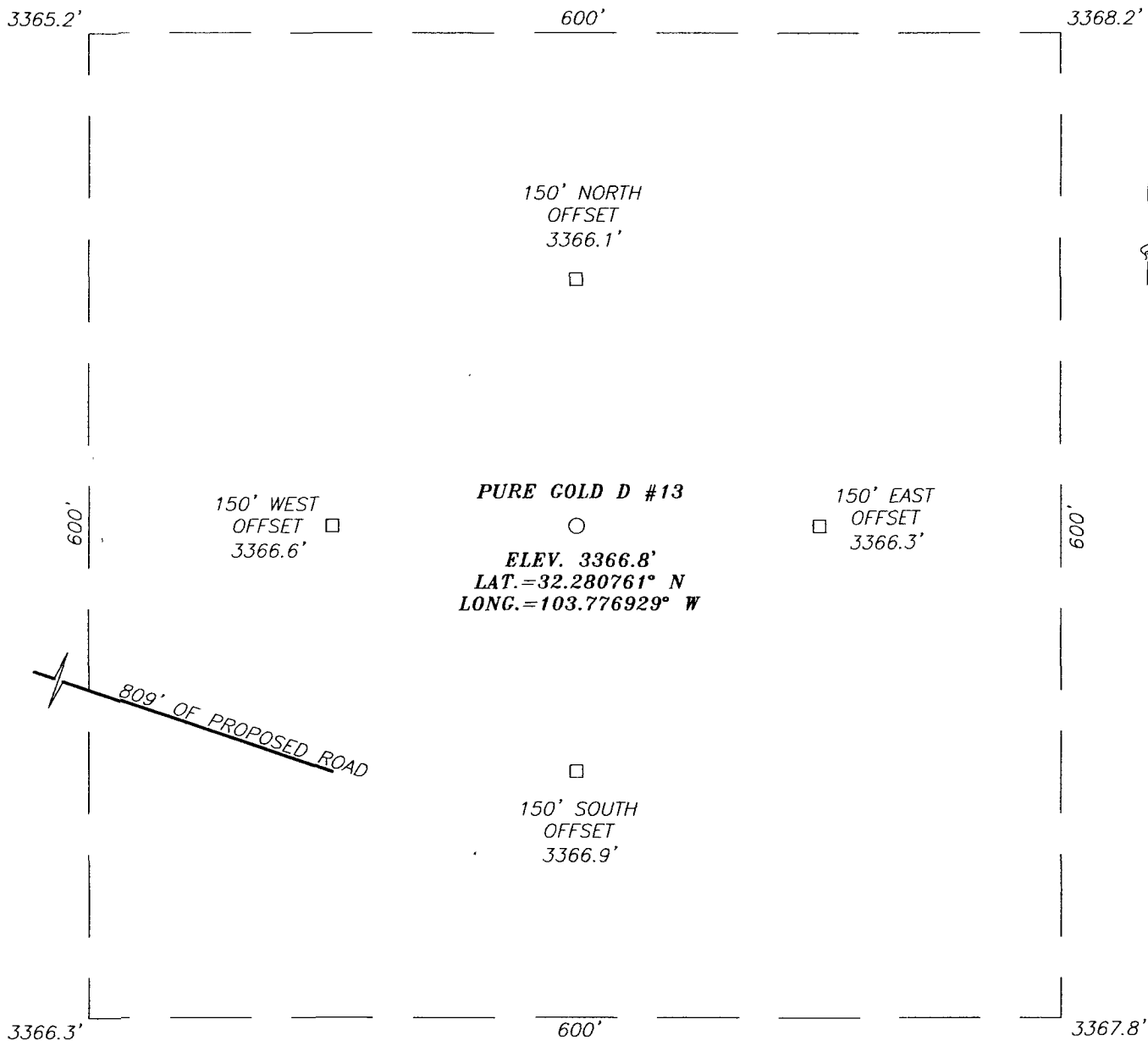
OPERATOR POGO PRODUCING COMPANY

LEASE PURE GOLD D



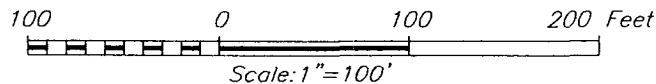
PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

**SECTION 28, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,**  
EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF ST. HWY. #128 AND  
CO. RD. #787 (TWIN WELLS) GO SOUTHEAST ON  
ST. HWY. #128 APPROX. 2.0 MILES TO A  
PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY  
SOUTHEAST APPROX. 925 FEET TO THIS LOCATION.



**POGO PRODUCING COMPANY**

PURE GOLD D #13  
LOCATED 660 FEET FROM THE NORTH LINE  
AND 990 FEET FROM THE EAST LINE OF SECTION 28,  
TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

|                         |                     |           |                |
|-------------------------|---------------------|-----------|----------------|
| Survey Date: 5/4/07     | Sheet 1 of 1 Sheets |           |                |
| W.O. Number: 07.11.0589 | Dr By: LA           | Rev 1:N/A |                |
| Date: 5/15/07           | Disk: CD#6          | 07110589  | Scale: 1"=100' |

PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

SUPPLEMENTAL DRILLING DATA

POGO PRODUCING COMPANY

PURE GOLD "D" WELL NO.13

1. SURFACE FORMATION: Quaternary

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

|               |       |
|---------------|-------|
| Anhydrite     | 550'  |
| Delaware      | 4100' |
| Cherry Canyon | 5000' |
| Brushy Canyon | 6300' |

3. ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONES:

|               |     |
|---------------|-----|
| Brushy Canyon | Oil |
|---------------|-----|

4. PROPOSED CASING AND CEMENTING PROGRAM:

| CASING SIZE | SETTING DEPTH |       | WEIGHT | GRADE | JOINT                |
|-------------|---------------|-------|--------|-------|----------------------|
|             | FROM          | TO    |        |       |                      |
| 13-3/8"     | 0             | 550'  | 54.5 # | J-55  | STC ← <i>see COA</i> |
| 8-5/8"      | 0             | 1000' | 32#    | J-55  | STC                  |
| "           | 1000'         | 2200' | 24#    | J-55  | STC                  |
| "           | 2200'         | 4100' | 32#    | J-55  | STC                  |
| 5-1/2"      | 0             | 1000' | 17#    | J-55  | LTC                  |
| "           | 1000'         | 6000' | 15.5#  | J-55  | LTC                  |
| "           | 6000'         | 8300' | 17#    | N-80  | LTC                  |

MINIMUM

DESIGN FACTORS: COLLAPSE 1.125 BURST 1.1 TENSION 1.7

13-3/8" casing to be cemented with 300 sacks of Light cement tailed in with 200 sacks of Class "C" cement with 2% CaCl. Cement to circulate.

8-5/8" casing to be cemented with 1000 sacks of Light cement with 10% salt, tailed in with 200 sacks of Class "C" cement with 1% CaCl. Cement to circulate.

5-1/2" casing to be cemented with approximately 500 sacks of Light cement followed by 700 sacks of Class "H" with the top of the Class "H"

calculated to be at or above the shoe of the intermediate casing. If need for a stage tool is indicated, it will be positioned to best suit hole conditions at the time casing is run. Cement to circulate.

Cement may have lost circulation or other additives, depending on hole conditions when casing is run.

5. PRESSURE CONTROL EQUIPMENT:

Blowout prevention equipment, while drilling the 11" hole, will be either a 3000 psi working pressure double ram type preventer or a 3000 psi working pressure annular type preventer.

Blow out prevention equipment, while drilling below the 8-5/8" casing seat, will be a 3000 psi working pressure BOP stack. A BOP sketch is attached.

6. CIRCULATING MEDIUM:

Surface to 550 feet: Fresh water spud mud. Viscosity 30 to 36 as required for hole cleaning.

*See* → 550 feet to 4100 feet: Brine conditioned as necessary for control of viscosity. Weight 9.5 to 10. pH 9 to 10.  
*COA* Viscosity 32 to 36.

4100 feet to T.D.: Water base drilling fluid conditioned as necessary for control of weight, viscosity, pH, and water-loss. Weight 9 to 10. Viscosity 38 to 45. pH 9 to 10. Filtrate while drilling pay zone 6 to 15.

7. AUXILIARY EQUIPMENT:

A mud logging trailer will be in use while drilling below the intermediate casing.

8. TESTING, LOGGING, AND CORING PROGRAMS:

Drill stem tests will be made when well data indicate a test is warranted.

It is planned that electric logs will include GR-CNL-Density logs and GR-DLL logs.

No coring is planned.

9. ABNORMAL PRESSURES, TEMPERATURES, OR HYDROGEN SULFIDE GAS:

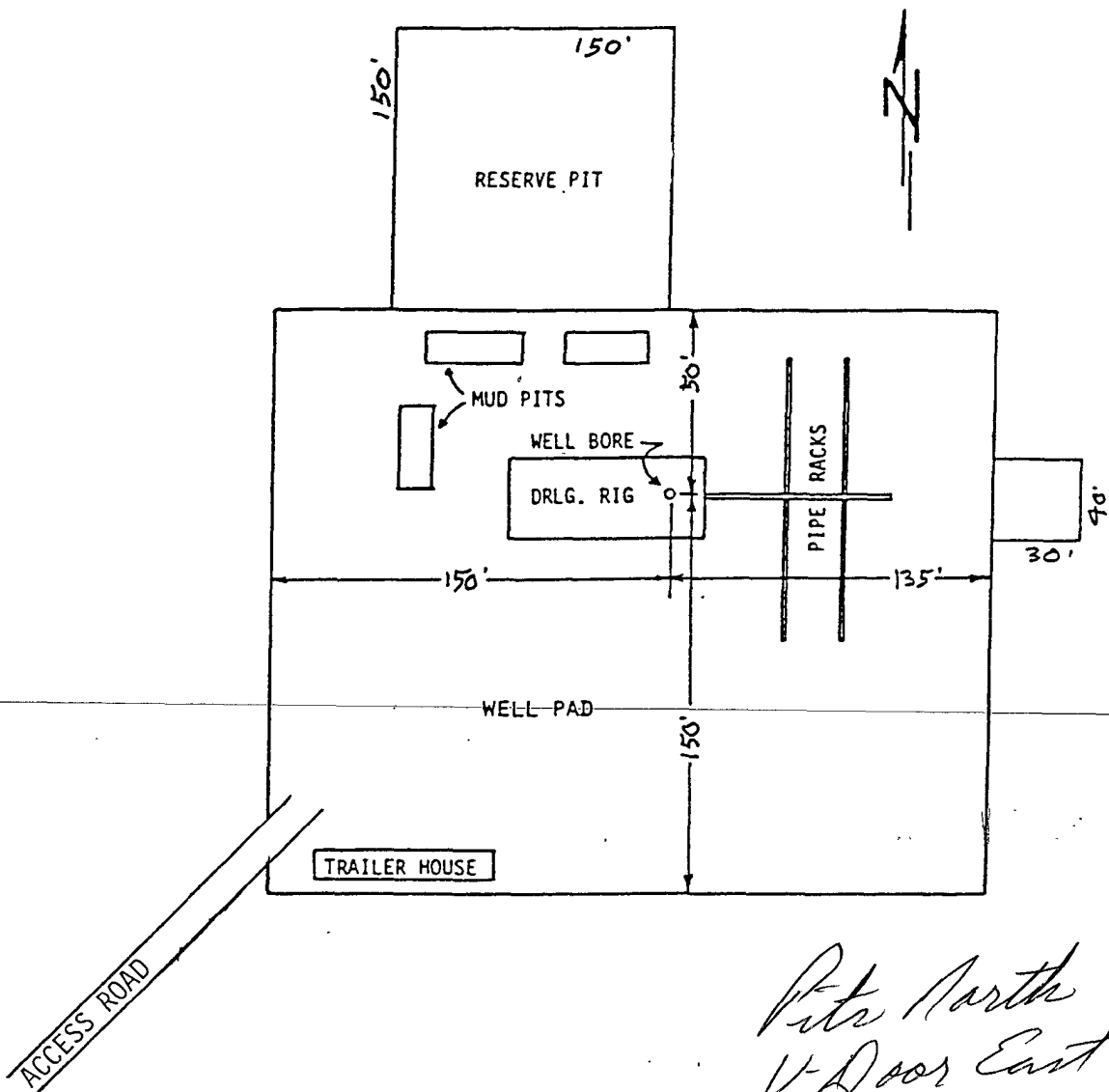
None anticipated.

Expected bottom hole pressure is approximately 3500 psi.

Expected bottom hole temperature is approximately 125 degrees Fahr.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence upon approval of this application, with drilling and completion operations lasting about 30 days.

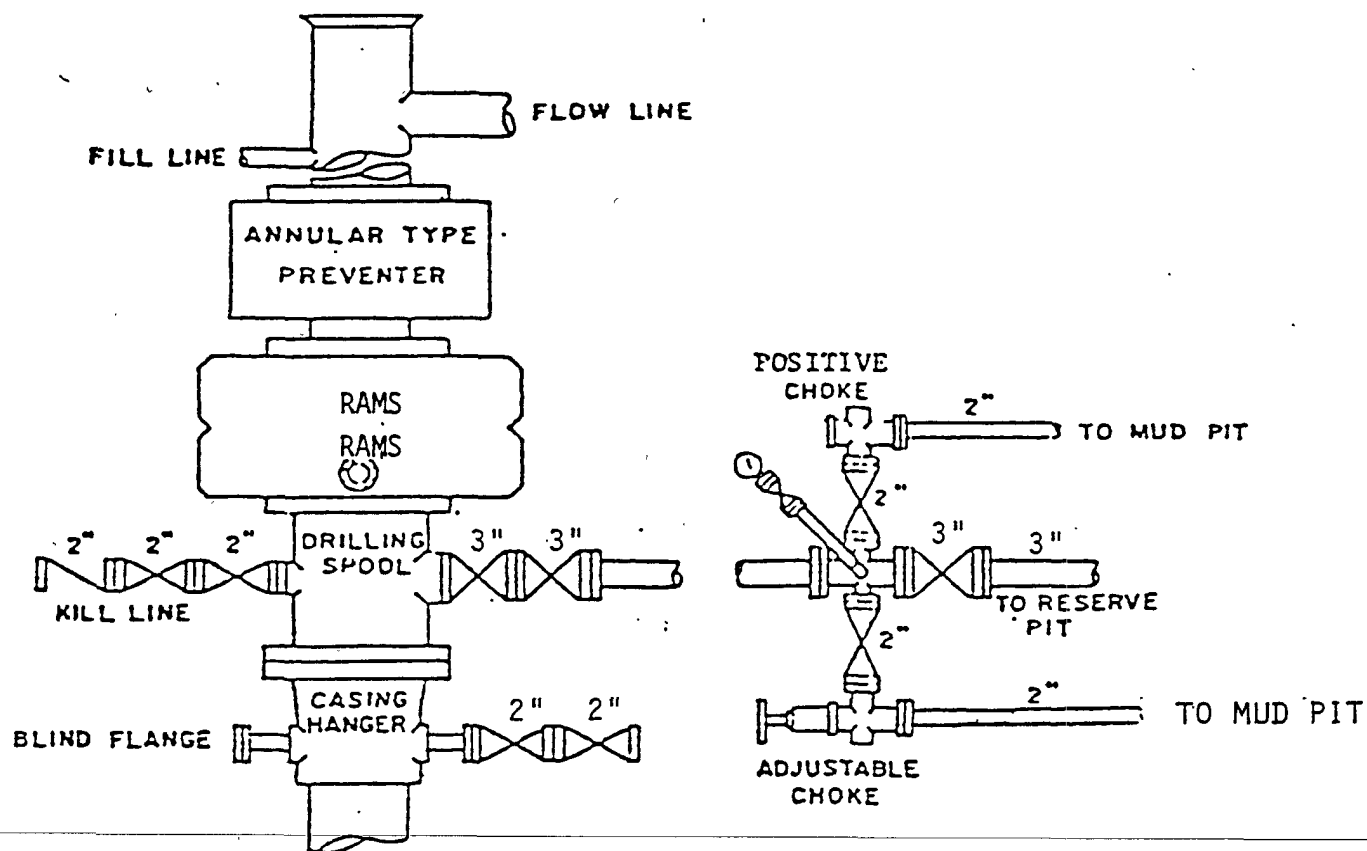


*Pits North  
V-Door East*

EXHIBIT "C"

POGO PRODUCING COMPANY  
PURE GOLD "D" WELL NO.13

DRILLING RIG LAYOUT  
SCALE: None



BOP STACK

3000 PSI WORKING PRESSURE

BOP ARRANGEMENT

SURFACE USE AND OPERATIONS PLAN

FOR

POGO PRODUCING COMPANY  
PURE GOLD "D" WELL NO.13  
660'FNL & 990'FEL SEC.28, T.23 S., R.31 E.  
EDDY COUNTY, NEW MEXICO

LOCATED: 18 miles east of Loving, New Mexico.

FEDERAL LEASE NUMBER: NM-40659.

LEASE DATE: July 1, 1980. Lease is in producing status.

ACRES IN LEASE: 640.

LESSEE: Pogo Producing Company.

SURFACE OWNERSHIP: Federal.

GRAZING PERMITTEE: J. C. Mills  
P. O. Box 190  
Abernathy, Texas 79311

POOL: Undesignated Delaware.

POOL RULES: Statewide Rules. 40 acre spacing for oil.

EXHIBITS: A. Road Map  
B. Plat Showing Existing Wells and Existing Roads  
C. Drilling Rig Layout  
D. Topo Plat

### 1. EXISTING ROADS:

A. Exhibit "A" is a portion of a road map showing the location of the proposed well as staked. Point "A" on the plat is on State highway 128 at Milepost 13.7, approximately 21 road miles east of Loving, New Mexico, where a caliche road goes south. To go to the proposed well site from this point, go southeast on 128 one mile to Milepost 14.7 and the proposed well site will be on the northeast side of the road at a distance of about 550 feet. Also see Exhibits "B" and "D".

B. Exhibit "B" shows existing pertinent roads in the vicinity of the proposed well site. Existing roads are color coded.

### 2. PLANNED ACCESS ROAD:

A. Length and Width: The new road will be 12 feet wide and about 400 feet long and is shown labeled and color coded red on Exhibit "B". The centerline of the proposed new road is staked and flagged. A driveway Permit will be needed from the State Highway Department to bring the access road off highway 128.

B. Surfacing Material: Caliche. Watered. compacted, and graded.

C. Maximum Grade: Less than one percent.

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D. Road Turnouts: None needed.

E. Drainage Design: The new road will be crowned with drainage to the side.

F. Culverts: None needed.

G. Cuts and Fills: None necessary.

H. Gates and Cattle Guards: A cattle guard will be installed where the access road goes through the highway R-O-W fence.

### 3. LOCATION OF EXISTING WELLS:

A. Existing wells in the immediate area are shown on Exhibit "B".

### 4. LOCATION OF EXISTING WELLS:

A. Production from this well will be delivered to the lease tank battery

planned for construction on the well pad at well No. 9. The flow line will be 3" SDR-7 polyethylene pipe laid on the ground, and will extend from the well to the tank battery, as shown on Exhibit "B", southwest alongside the access road, cross the highway in the subsurface, and then northwest parallel to the highway, following an archaeologically cleared route to the planned well No. 9.

#### 5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is not planned that a water well will be drilled. Water necessary for drilling operations will be purchased and trucked to the well site, or will be moved to the well site by temporary pipeline laid on the ground alongside existing and proposed roads.

#### 6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche needed for construction work will be taken, if present, from a pit opened on-site within the 400'x 450' archaeologically cleared work area adjacent to the reserve pit. Otherwise, caliche will be taken from the existing pit on Federal land in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 4, T.24 S., R.31 E., Eddy County, New Mexico, and will be trucked to the well site over existing and proposed roads.

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#### 7. METHODS OF HANDLING WASTE MATERIAL:

A. Drill cuttings will be disposed of in the drilling pits.

B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.

C. Water produced during tests will be disposed of in the drilling pits or will be stored in tanks for disposal in an approved disposal system.

D. Oil produced during tests will be stored in test tanks until sold.

E. All trash, junk, and other waste material will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary land fill.

#### 8. ANCILLARY FACILITIES:

A. None necessary.

9. WELL SITE LAYOUT:

A. Exhibit "C" shows the relative location and dimensions of the well pad, mud pits, and reserve pits, and the location of major drilling rig components.

B. Clearing and levelling of the pad and pit area will be required.

C. The pad and pit area is staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE:

A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed from the well site. Pits will be filled and the location will be cleaned of all trash and junk to leave the well site in an as aesthetically pleasing condition as possible.

B. Any unguarded pits containing fluids will be fenced.

C. After abandonment, all equipment, trash, and junk will be removed and the well site will be cleaned. Any special rehabilitation requirements of the surface management agency will be complied with and accomplished as rapidly as possible.

---

11. OTHER INFORMATION:

A. Topography: The land surface in the general area is gently undulating and dunny. In the immediate area of the well site the land surface slopes gently to the north. Regionally, drainage is to the west and southwest.

B. Soil: Top soil at the well site is sand.

C. Flora and Fauna: The vegetative cover is moderate and includes mesquite, shinnery oak, sand sage, yucca, weeds, and range grasses. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.

D. Ponds and Streams: There are no rivers, lakes, ponds, or streams in the area.

E. Residences and Other Structures: There are no occupied dwellings or other structures within a mile of the proposed well site.

F. Archaeological, Historical, and Cultural Sites: None observed. However, an archaeological reconnaissance is to be accomplished and a report furnished.

G. Land Use: Grazing and wildlife habitat.

H. Surface Ownership: Federal.

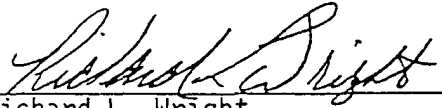
12. OPERATOR's REPRESENTATIVE:

Richard L. Wright  
Division Operations Supervisor  
Pogo Producing Company  
P. O. Box 10340  
Midland, Texas 79702  
Office Phone: 915-682-6822

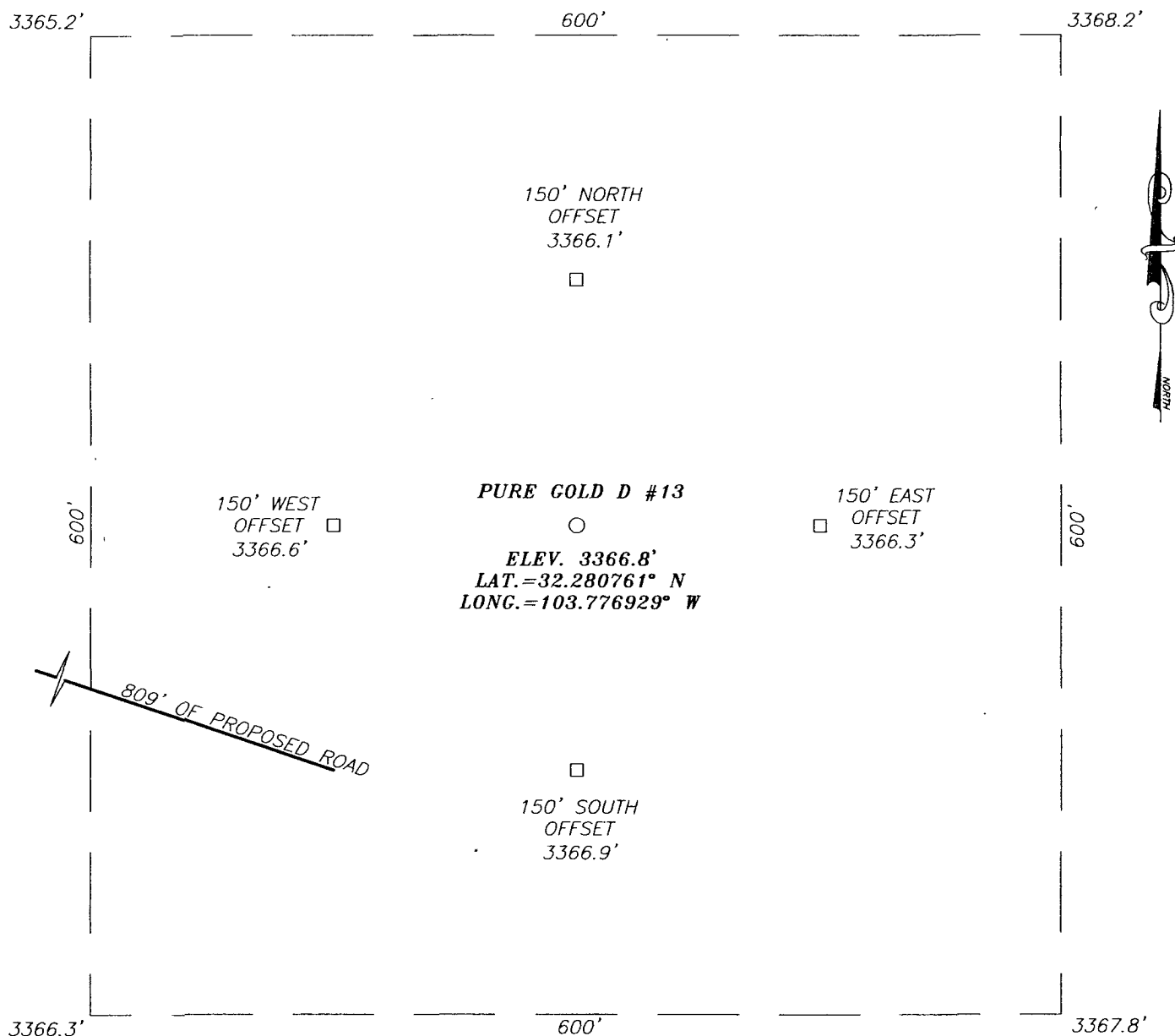
13. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Pogo Producing Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

February 16, 1993  
Date: \_\_\_\_\_

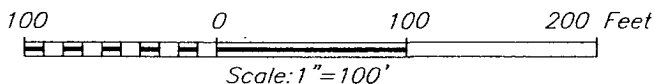
  
\_\_\_\_\_  
Richard L. Wright  
Division Operations Supervisor

**SECTION 28, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

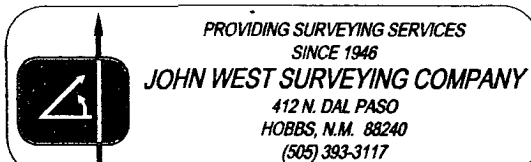
FROM THE INTERSECTION OF ST. HWY. #128 AND CO. RD. #787 (TWIN WELLS) GO SOUTHEAST ON ST. HWY. #128 APPROX. 2.0 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY SOUTHEAST APPROX. 925 FEET TO THIS LOCATION.



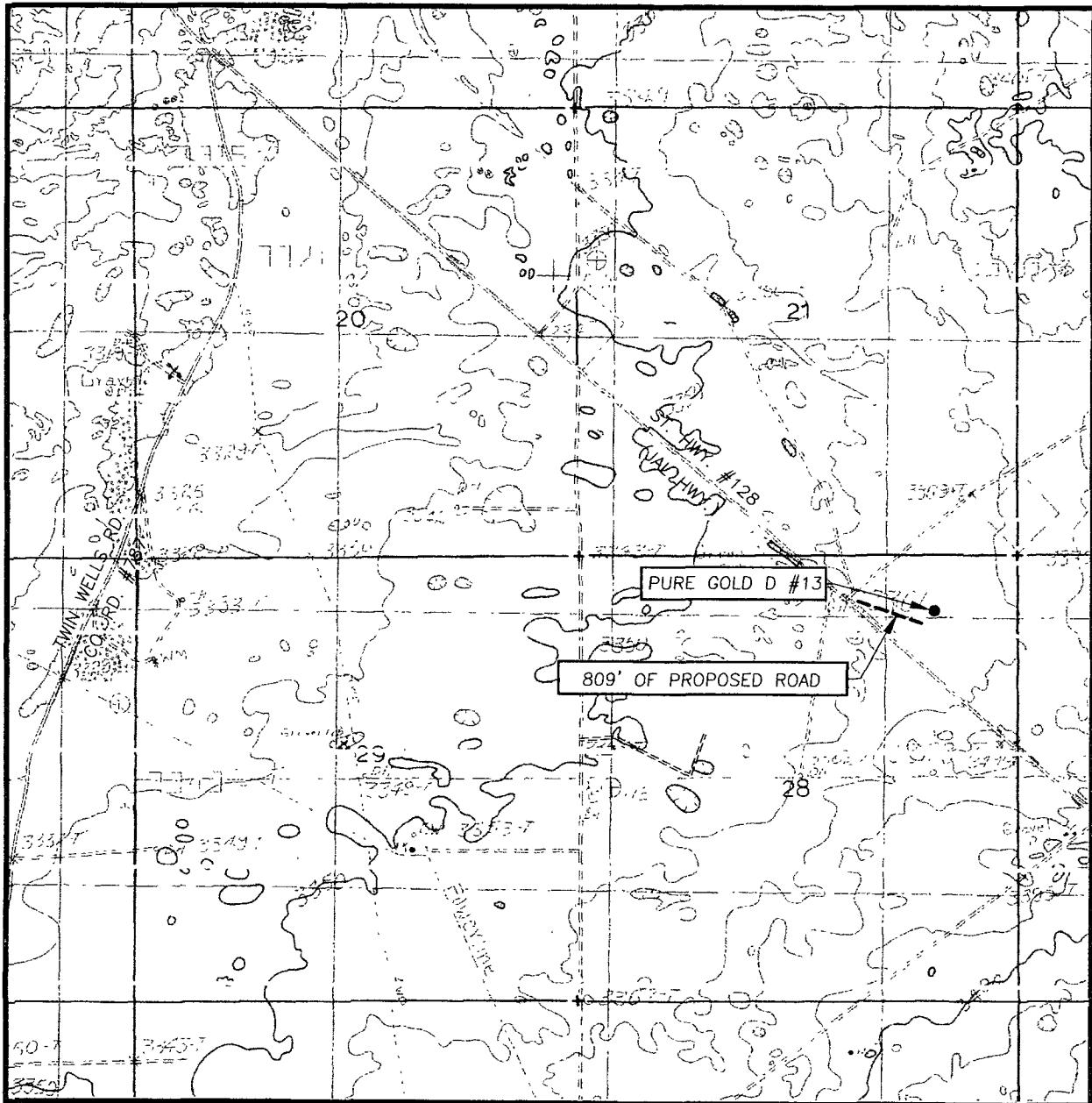
**POGO PRODUCING COMPANY**

PURE GOLD D #13  
 LOCATED 660 FEET FROM THE NORTH LINE  
 AND 990 FEET FROM THE EAST LINE OF SECTION 28,  
 TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

|                         |                     |
|-------------------------|---------------------|
| Survey Date: 5/4/07     | Sheet 1 of 1 Sheets |
| W.O. Number: 07.11.0589 | Dr By: LA           |
| Date: 5/15/07           | Rev 1: N/A          |
| Disk: CD#6              | 07110589            |
| Scale: 1"=100'          |                     |



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
LOS MEDANOS, N.M. - 10'

SEC. 28 TWP. 23-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

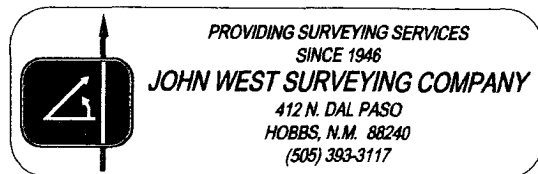
DESCRIPTION 660' FNL & 990' FEL

ELEVATION 3367'

OPERATOR POGO PRODUCING COMPANY

LEASE PURE GOLD D

U.S.G.S. TOPOGRAPHIC MAP  
LOS MEDANOS, N.M.



## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: POGO Producing Company  
Well Name & No. 13-Pure Gold "D"  
Location: 0660' FNL, 0990' FEL, Sec. 28, T-23-S, R-31-E, Eddy County, NM  
Lease: NM-40659

.....

### I. DRILLING OPERATIONS REQUIREMENTS:

- A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:
1. Spudding well
  2. Setting and/or Cementing of all casing strings
  3. BOPE tests
- Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822
- B. Although Hydrogen Sulfide is not reported, it is always a potential hazard.
- C. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- D. If floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- E. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)

### II. CASING: NB! Casing depth for surface casing based on Geological Report by BLM geologist.

- A. The 13-3/8 inch surface casing shall be set a minimum of 25 feet into the Rustler Anhydrite and above the salt at approximately 760 feet and cemented to the surface. **Fresh water mud to be used to setting depth of surface casing.**
1. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  2. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the potash area**, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
  3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
  4. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible lost circulation in the Delaware and Bone Spring formations.**

**Possible water flows in the Salado, Castile, Delaware, and Bone Spring formations.**

- B.** The minimum required fill of cement behind the 8-5/8 inch intermediate casing is **cement shall circulate to surface**. If cement does not circulate see A.1 thru 4.
- C.** The minimum required fill of cement behind the 5-1/2 inch production casing is **cement shall circulate to surface**.
- D.** If hardband drill pipe is rotated inside casing; returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool I joints of the drill pipe will be installed prior to continuing drilling operations.
- E.** Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

### **III. PRESSURE CONTROL:**

- A.** All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2.
- B.** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) PSI**.
- C.** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8-5/8 intermediate casing shoe shall be **3000 (3M) PSI**.
- D.** The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - 1. The tests shall be done by an independent service company.
  - 2. The results of the test shall be reported to the appropriate BLM office.
  - 3. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - 4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53 Sec. 17. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

### **IV. DRILL STEM TEST:**

**If a drill stem test is performed, the conditions of Onshore Order 2.III.D must be met.**

**Engineer on call phone (after hours): 505-706-2779**

**WWI 061907**