

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Div. 4-20  
APPROVAL DATE: February 20, 1995  
DESIGNATION AND SERIAL NO. 4-20

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1301 W. Grand Avenue  
Artesia, NM 88210

1a. TYPE OF WORK  
DRILL ☒ DEEPEN ☐

b. TYPE OF WELL  
OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR  
POGO PRODUCING COMPANY (RICHARD WRIGHT 432-685-8140)

3. ADDRESS AND TELEPHONE NO.  
P.O. BOX 10340 MIDLAND, TEXAS 79702-7340 (432-685-8100)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface  
1980' FSL & 660' FWL SECTION 4 T24S-R31E  
At proposed prod. zone SAME

5. FARM OR LEASE NAME, WELL NO.  
SUNDANCE FEDERAL # 27

9. API WELL NO.  
30-015-33707

10. FIELD AND POOL, OR WILDCAT  
SAND DUNES DELAWARE WEST

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
SECTION 4 T24S-R31E

12. COUNTY OR PARISH  
EDDY CO.

13. STATE  
NEW MEX.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
Approximately 30 miles East of Carlsbad New Mexico

15. 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  
600

17. NO. OF ACRES ASSIGNED TO THIS WELL  
40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
1320'

19. PROPOSED DEPTH  
8400'

20. ROTARY OR CABLE TOOLS  
ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
3414' GR.

22. APPROX. DATE WORK WILL START\* WHEN APPROVED

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor	NA	40'	Cement to surface W/Redi-mix
17 1/2"	H-40 13 3/8"	48 WITNESS	650'	800 Sx. circulate to surface
11"	J-55 8 5/8"	32 WITNESS	4250'	1500 Sx. " " "
7 7/8"	N-80, J-55 4 1/2"	11.6	8400'	1800 Sx. in 3 stages "

1. Drill 25" hole to 40'. Set 40' of 20" conductor and cement to surface with Redi-mix.
2. Drill 17 1/2" hole to 650'. Run and set 650' of 13 3/8" h-40 48# ST&C casing. Cement with 800 Sx. of Class "C" cement + 2% CaCl, + 1/4# Flocele/Sx. Circulate cement to surface.
3. Drill 11" hole to 4250'. Run and set 4250' if 8 5/8" 32# J-55 ST&C casing. Cement with 1500 Sx. of Class "C" cement + additives, circulate cement to surface.
4. Drill 7 7/8" hole to 8400'. Run and set 8400' of 4 1/2" casing as follows: 1400' of 4 1/2" 11.6# N-80 LT&C, 6000' of 4 1/2" 11.6# J-55 LT&C, 1000' of 4 1/2" 11.6# N-80 LT&C. Cement in 3 stages with DV Tools at 6200' & 3800'±. Cement 1st stage with 550 Sx. of Class "C" cement + additives, Cement 2nd stage with 750 Sx. of Class "C" cement + additives, cement 3rd stage with 500 Sx. of Class "C" Light cement + additives, circulate cement to surface.

CARLSBAD CONTROLLED WATER BASIN

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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. SIGNER Geoff. Janice TITLE Agent APPROVAL SUBJECT TO 06/26/04  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
CONDITIONS OF APPROVAL IF ANY:

APPROVED BY /s/ Linda S. C. Rundell TITLE STATE DIRECTOR DATE 1 NOV 2004

\*See Instructions On Reverse Side APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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-  
March 12,

For drilling and production facilities, submit appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Pogo Producing Company Telephone: 432-685-8100 e-mail address: wrightc@pogoproducing.com  
Address: P. O. Box 10340, Midland, TX 79702-7340  
Facility or well name: Sundance Fed #27 API #: \_\_\_\_\_ U/L or Qtr/Qtr L Sec 4 T 24 R 31  
County: Eddy Latitude 32 14 40.4N Longitude 103 47 21.0W NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐ Indian

Pit	Below-grade tank
Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12</u> mil Clay <input type="checkbox"/> Volume <u>16000</u> bbl	Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not _____
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more <input checked="" type="checkbox"/> (0 points) 0
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No <input checked="" type="checkbox"/> (0 points) 0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more <input checked="" type="checkbox"/> (0 points) 0
	Ranking Score (Total Points) 0

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility \_\_\_\_\_ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 07/02/04

Printed Name/Title Cathy Wright, Sr Oper Tech

Signature Cathy Wright

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Date: 7/9/04

Printed Name/Title Mike Bratcher / Compliance Officer

Signature Mike Bratcher

# Site Map for New Mexico

USGS 321952103400801 23S.32E.03.311114

#27

Available data for this site

Station site map

GO

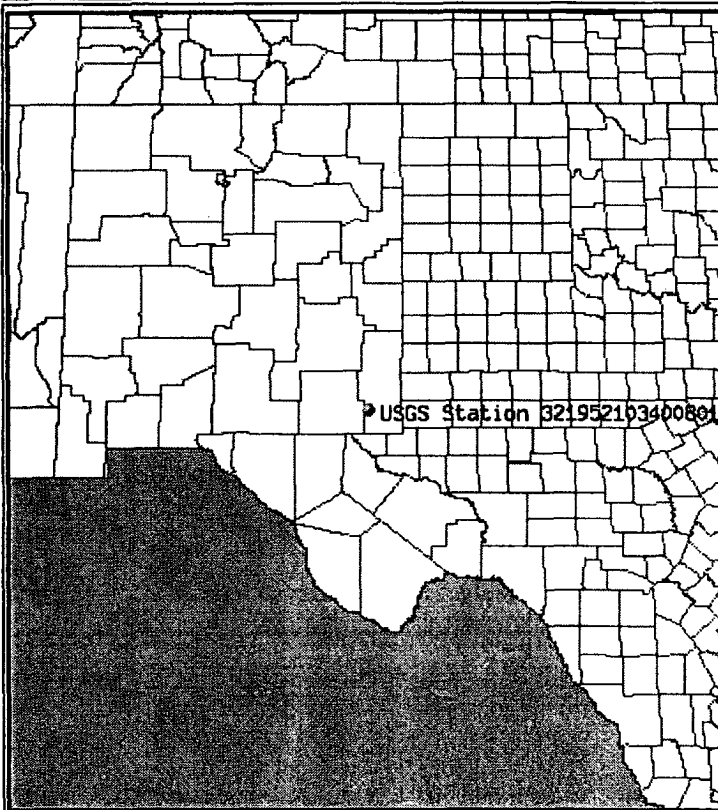
Lea County, New Mexico

Hydrologic Unit Code

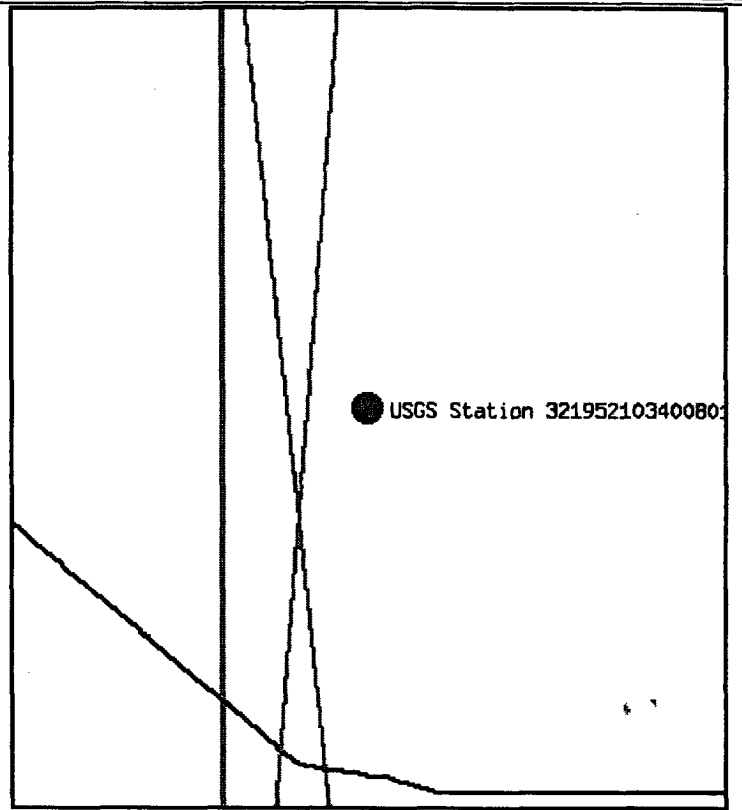
Latitude 32°19'52", Longitude 103°40'08" NAD27

Gage datum 3,648.00 feet above sea level NGVD29

Location of the site in New Mexico.



Site map.



ZOOM IN 2X, 4X, 6X, 8X, or ZOOM OUT 2X, 4X, 6X, 8X.

Maps are generated by US Census Bureau TIGER Mapping Service.

Questions about data [gs-w-nm\\_NWISWeb\\_Data\\_Inquiries@usgs.gov](mailto:gs-w-nm_NWISWeb_Data_Inquiries@usgs.gov)Feedback on this website [gs-w-nm\\_NWISWeb\\_Maintainer@usgs.gov](mailto:gs-w-nm_NWISWeb_Maintainer@usgs.gov)

NWIS Site Inventory for New Mexico: Site Map

<http://waterdata.usgs.gov/nm/nwis/nwismap?>[Top](#)  
[Explanation of terms](#)

Retrieved on 2004-06-30 17:08:24 EDT

Department of the Interior, U.S. Geological Survey

USGS Water Resources of New Mexico

[Privacy Statement](#) || [Disclaimer](#) || [Accessibility](#)

2.73 0.7 nadww01

# Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site\_no list = • 321952103400801

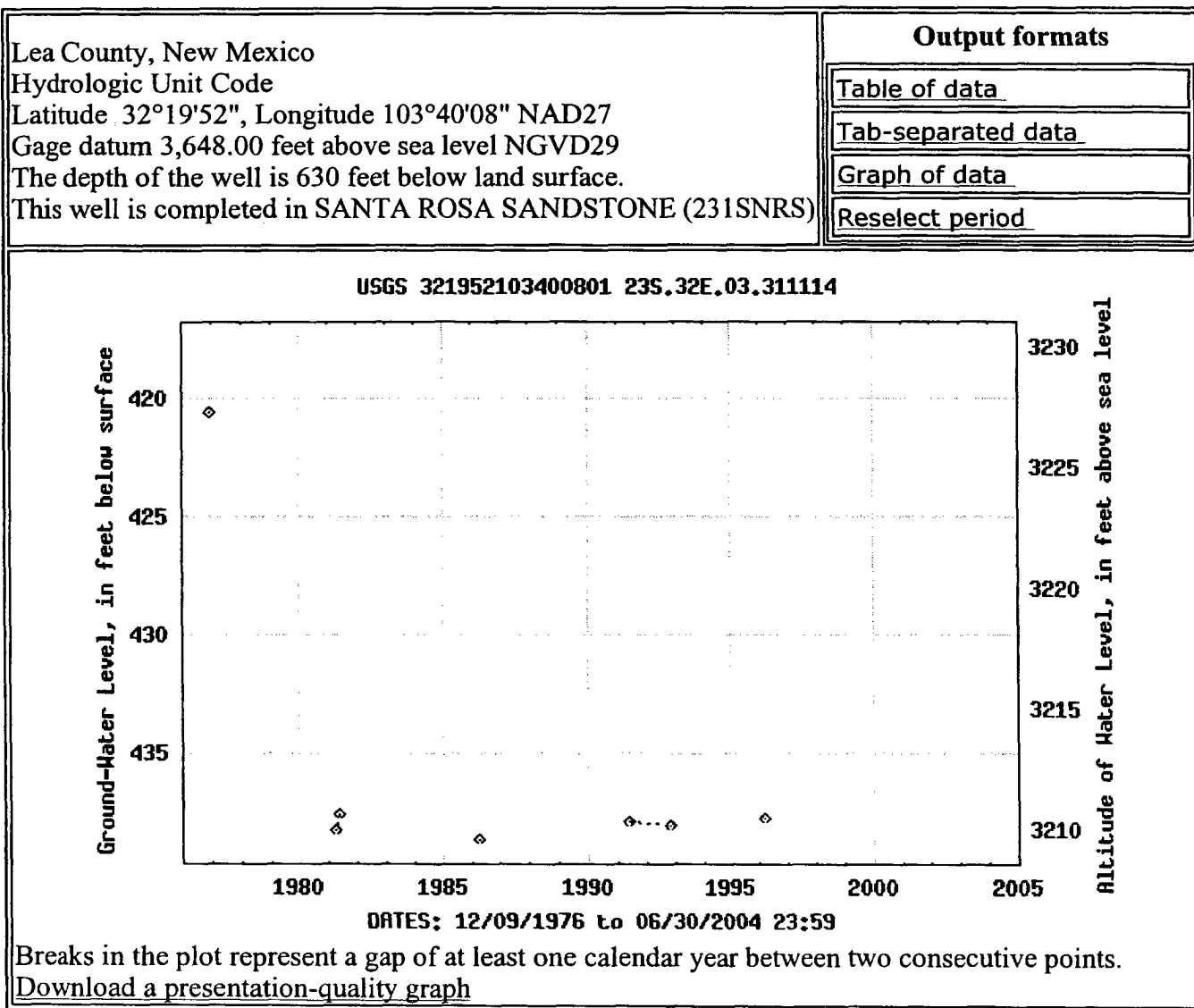
[Save file of selected sites](#) to local disk for future upload

USGS 321952103400801 23S.32E.03.311114

Available data for this site

Ground-water: Levels

GO



Questions about data [gs-w-nm\\_NWISWeb\\_Data\\_Inquiries@usgs.gov](mailto:gs-w-nm_NWISWeb_Data_Inquiries@usgs.gov)

Feedback on this website [gs-w-nm\\_NWISWeb\\_Maintainer@usgs.gov](mailto:gs-w-nm_NWISWeb_Maintainer@usgs.gov)

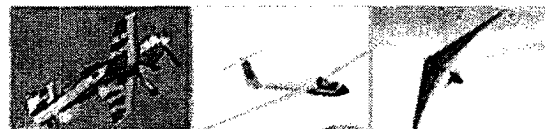
Ground water for New Mexico: Water Levels

<http://waterdata.usgs.gov/nm/nwis/gwlevels?>

Top  
[Explanation of terms](#)



The World Air Sports Federation



#27

## WORLD DISTANCE CALCULATOR

Version 1.0 dated 30 October 2001

[Click here to download a version of this page suitable for offline use](#)

[\(operation instructions available at the end of this page\)](#)

**Input = Lat/Longs to the same Geodetic Datum, preferably WGS84**

Lat 1		Long 1	
<input type="text" value="32:14:40.4"/>	<input type="text" value="N"/>	<input type="text" value="103:47:21"/>	<input type="text" value="W"/>
Lat 2		Long 2	
<input type="text" value="32:19:52"/>	<input type="text" value="N"/>	<input type="text" value="103:40:08"/>	<input type="text" value="W"/>

Distance Units:

Earth model:

**Output = true courses, then shortest distance on the surface of the selected world model**

Course 1-2 (deg)	<input type="text" value="49.5616109784909"/>
Course 2-1 (deg)	<input type="text" value="229.62586013666282"/>
Shortest distance	<input type="text" value="9.226132959224246"/>

### OPERATION:

1. For the calculator to operate, Javascript must be enabled. With MS Windows 98 or later and MS Internet Explorer, Javascript is normally enabled by default. For Netscape Navigator, see Options/ Network Preferences/ Languages, for Netscape Communicator see Edit/ Preferences/ Advanced.
2. Read the operating instructions below and the notes at the end. Scroll the display so that all of the boxes are on screen with the Lat/Long boxes at the top and the output boxes towards the bottom of the screen. You are now ready to make calculations.
3. Enter Latitude and Longitude for the points at the beginning and

### FAI Web Site Directions :

Air sports:

Technical Commissions:

Other sections of the Web Site:

### [events.fai.org](http://events.fai.org)

The home of Air Sport Competition Information. The FAI Sporting Calendar and results of all major FAI Championships are available at this address.

### Communication Links

Receive automatically [FAI's News releases](#) and other information such as world record notifications. We have a number of mailing lists to which [you can freely subscribe](#).

Our Discussion Board at [board.fai.org](http://board.fai.org) gives you the opportunity to publicly discuss issues relating to air sports.

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
DISTRICT II  
811 South First, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised March 17, 1999

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 53815	Pool Name SAND DUNES DELAWARE-WEST
Property Code	Property Name SUNDANCE FEDERAL	Well Number 27
OGRID No. 17891	Operator Name POGO PRODUCING COMPANY	Elevation 3414'

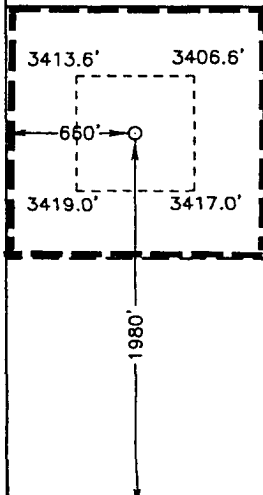
Surface Location

UL or lot No. L	Section 4	Township 24 S	Range 31 E	Lot Idn	Feet from the 1980	North/South line SOUTH	Feet from the 660	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

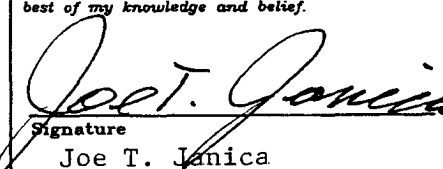
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

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

LOT 4 - 40.29 AC.	LOT 3 - 40.27 AC.	LOT 2 - 40.25 AC.	LOT 1 - 40.23 AC.
			
Lat.: N32°14'40.4" Long.: W103°47'21.0"			
EXHIBIT "A"			

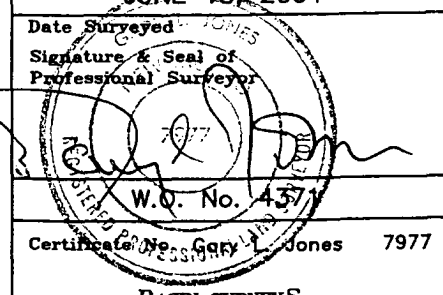
OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

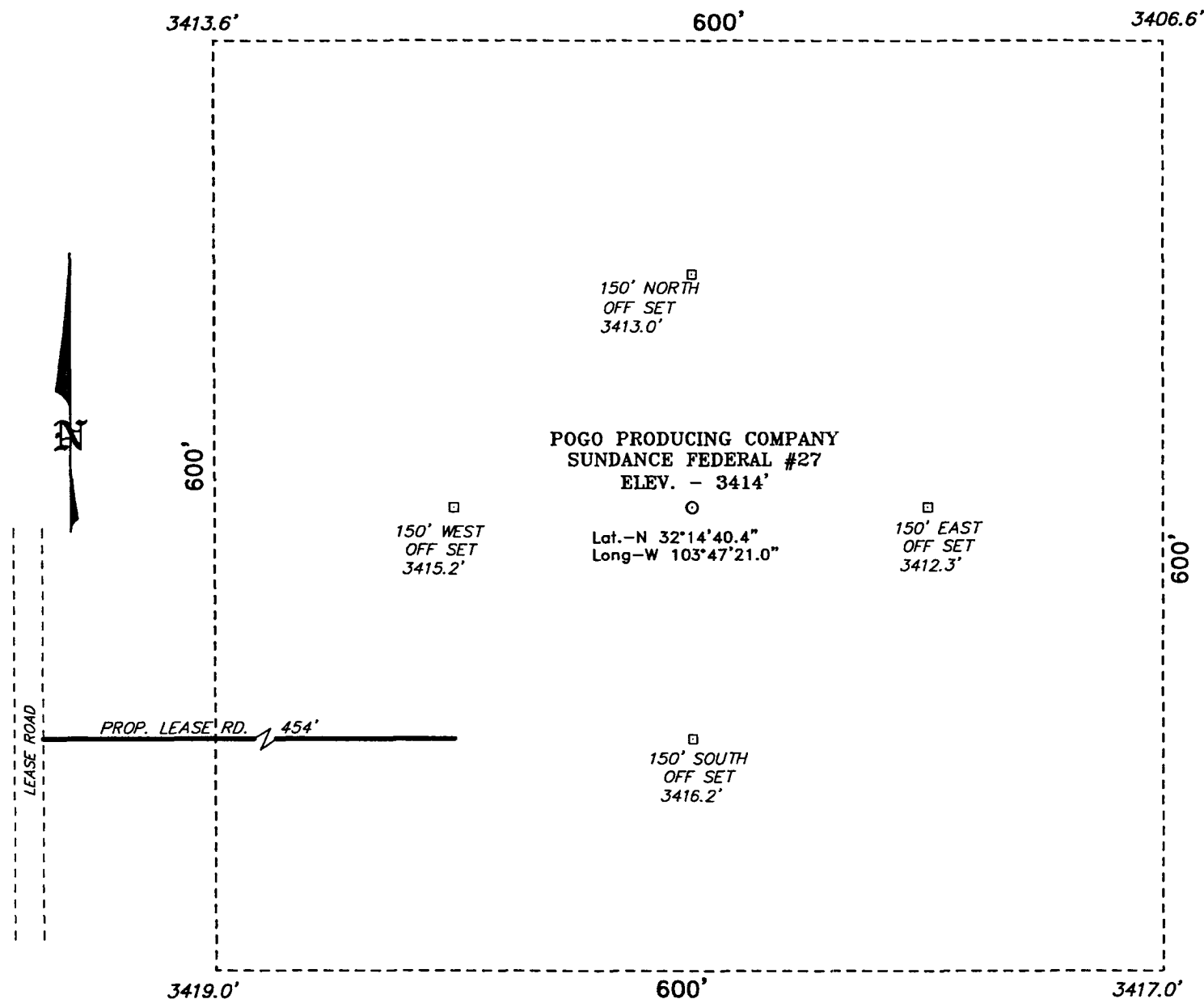
  
Signature  
Joe T. Janica  
Printed Name  
Agent  
Title  
06/26/04  
Date

SURVEYOR CERTIFICATION

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.

JUNE 18, 2004  
Date Surveyed  
Signature & Seal of Professional Surveyor  
  
W.O. No. 4371  
Certificate No. Gary L. Jones 7977  
BASIN SURVEYS

SECTION 4, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



SCALE: 1" = 100'

Directions to Location:

FROM THE JUNCTION OF STATE HWY 128 AND CO.  
RD. 787, GO SOUTHWEST ON HWY 128 FOR APPROX.  
0.8 MILE TO LEASE ROAD; THENCE SOUTH ON LEASE  
ROAD FOR 2.6 MILES TO A PROPOSED LEASE ROAD.

**POGO PRODUCING CO.**

REF: SUNDANCE FED. #27 / Well Pad Topo

THE SUNDANCE FED. No. 27 LOCATED 1980' FROM  
THE SOUTH LINE AND 660' FROM THE WEST LINE OF  
SECTION 4, TOWNSHIP 24 SOUTH, RANGE 31 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 4371

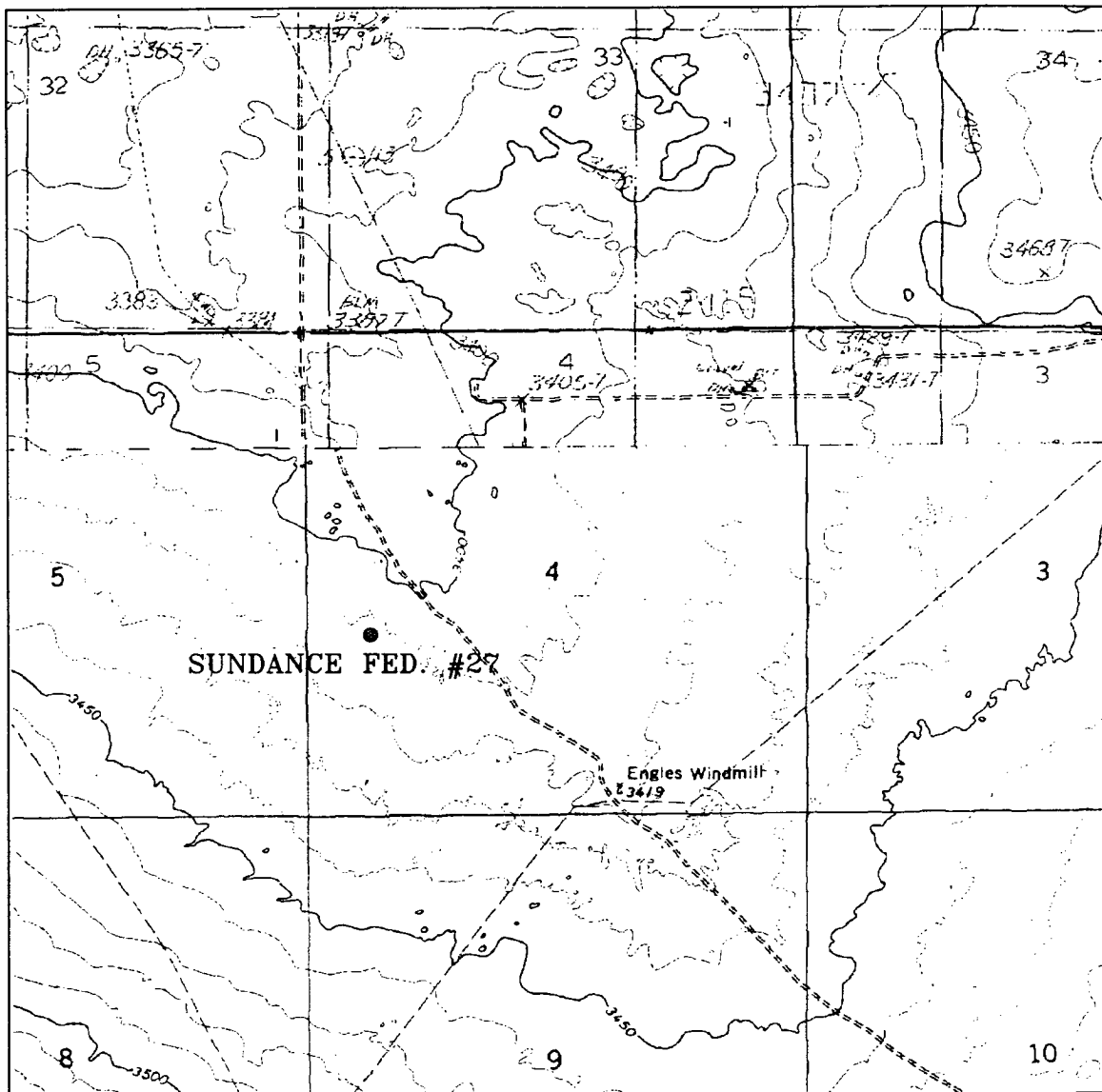
Drawn By: K. GOAD

Date: 06-23-2004

Disk: KJG CD#4 - 4371A.DWG

Survey Date: 06-18-2004

Sheet 1 of 1 Sheets



## SUNDANCE FEDERAL #27

Located at 1980' FSL and 660' FWL  
 Section 4, Township 24 South, Range 31 East,  
 N.M.P.M., Eddy County, New Mexico.

**basin**  
**surveys**  
 focused on excellence  
 in the oilfield

P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (505) 393-7316 - Office  
 (505) 392-3074 - Fax  
 basinsurveys.com

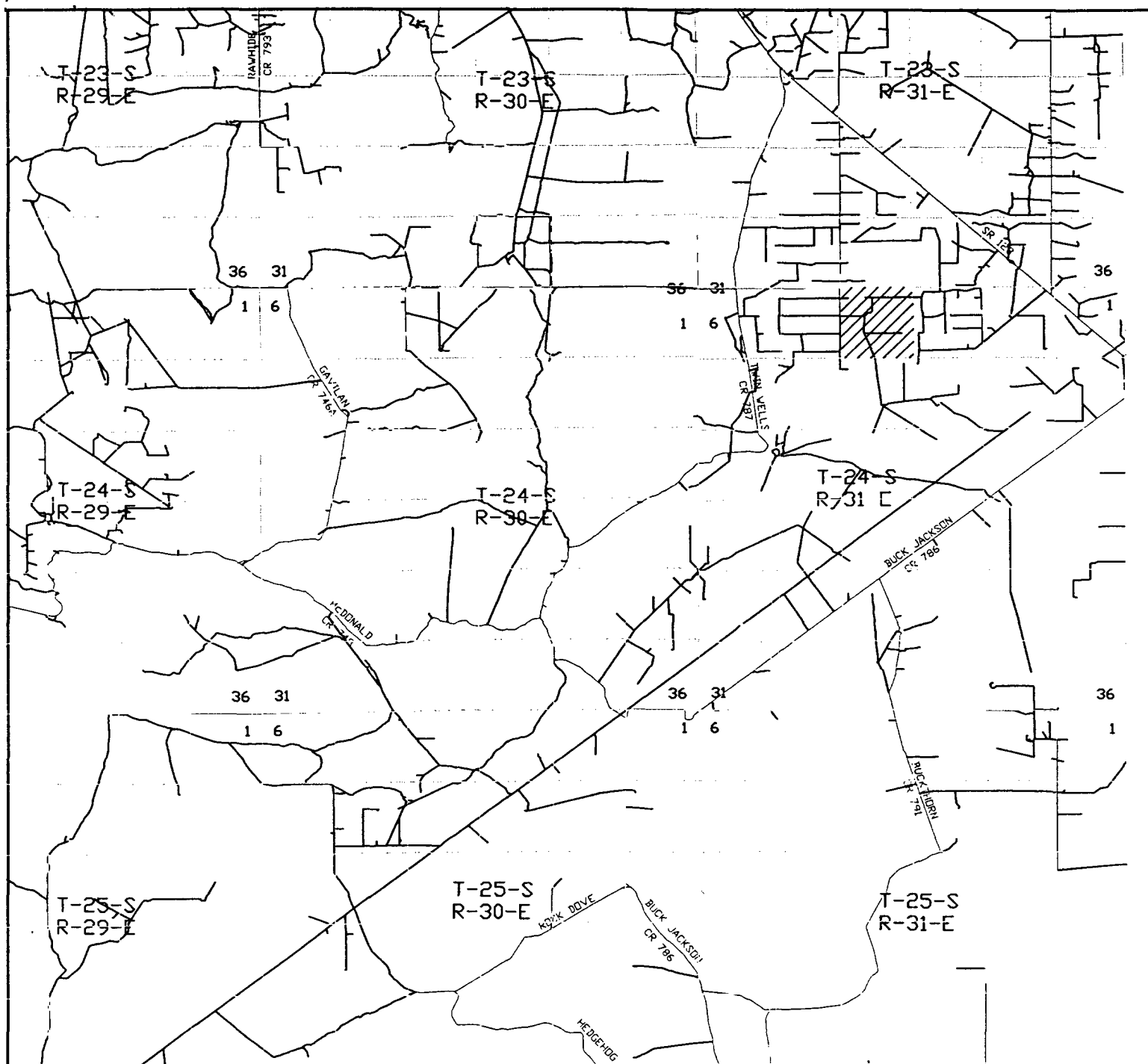
W.O. Number: 4371AA - KJG CD#5

Survey Date: 06-18-2004

Scale: 1" = 2000'

Date: 06-23-2004

**POGO**  
**PRODUCING**  
**COMPANY**



# **SUNDANCE FEDERAL #27**

Located at 1980' FSL and 660' FWL  
 Section 4, Township 24 South, Range 31 East,  
 N.M.P.M., Eddy County, New Mexico.

**basin**  
**surveys**

focused on excellence  
 in the oilfield

P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (505) 393-7316 - Office  
 (505) 392-3074 - Fax  
 basinsurveys.com

W.O. Number: 4371AA - KJG CD#5

Survey Date: 06-18-2004

Scale: 1" = 2 MILES

Date: 06-23-2004

**POGO**  
**PRODUCING**  
**COMPANY**

# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 27  
UNIT "L" SECTION 4  
T24S-R31E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is provided for your consideration.

1. Location: 1980' FSL & 660' FWL SEC. 4 T24S-R31E EDDY CO. NM
2. Elevation above Sea Level: 3414' GR.
3. Geologic name of surface formation: Quaternary Aeolian Deposits.
4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.
5. Proposed drilling depth: 8400'
6. Estimated tops of geological markers:

Rustler Anhydrite	675'	Cherry Canyon	5200'
Basal Anhydrite	4055'	Brushy Canyon	6440'
Delaware Lime	4280'	Bone Spring	8140'
Bell Canyon	4315'	Upper Bone Spring Sd.	8200'
7. Possible mineral bearing formations:

Brushy Canyon	Oil
Bone Spring	Oil
8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40'	20"	NA	NA	NA	Conductor
17½"	0-650'	13 3/8"	48#	8-R	ST&C	H-40
11"	0-4250'	8 5/8"	32#	8-R	ST&C	J-55
7 7/8"	0-8400'	4½"	11.6#	8-R	LT&C	J-55 N-80

# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 27  
UNIT "L" SECTION 4  
T24S-R31E EDDY CO. NM

## 9. CEMENTING & CASING SETTING DEPTHS:

20"	Conductor	Set 40' of 20" conductor and cement to surface with Redi-mix.
13 3/8"	Surface	Set 650' of 13 3/8" 48# H-40 ST&C casing. Cement with 800 Sx. of Class "C" cement + 2% CaCl <sub>2</sub> + 1/2# Flocele/Sx. circulate cement to surface.
8 5/8"	Intermediate	Set 4250' of 8 5/8" 32# J-55 ST&C casing. Cement with 1500 Sx. of Class "C" cement + additives, circulate cement to surface.
4 1/2"	Production	Set 8400' of 4 1/2" 11.6# casing as follows: 1400' of 4 1/2" 11.6# N-80 LT&C, 6000' of 4 1/2" 11.6# J-55 LT&C, 1000' of 4 1/2" 11.6# N-80 LT&C. Cement in 3 stages, DV Tools at 6200'±, & 3800'±. Cement 1st stage with 550 Sx. of Class "C" + additives, Cement 2nd stage with 750 Sx. of Class "C" cement + additives, Cement 3rd stage with 500 Sx. of Class "C" Light circulate to surface.

## 10. PRESSURE CONTROL EQUIPMENT:

Exhibit E-1 3000PS. WP BOP ≥ 4250'

Exhibit "E" shows a 2000 PSI working pressure B.O.P. consisting of a stripper head instead of an annular preventor, blind rams, and pipe rams. This B.O.P. stack is being used because of substructure height limitations of the drilling rig being used to drill this well. Pressures encountered while drilling are not expected to exceed 1700 PSI at total depth, Pogo requests permission to 3rd party test of the B.O.P. after setting the intermediate casing at 4250'. The B.O.P. will be tested according to API specifications. Exhibit "E-1" shows a manually operated choke manifold as no remote B.O.P. equipment will be necessary.

## 11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD
40-650'	8.4-8.7	29-32	NC	Fresh water spud mud use paper to control seepage
650-4250'	10.0-10.2	29-38	NC	Brine water use paper to control seepage and high viscosity sweeps to clean hole.
4250-8400'	8.4-8.7	29-40	NC*	Fresh water mud use high viscosity sweeps to clean hole.

\* Water loss may be required in order to run open hole logs, DST's and casing, if required go to a Polymer mud system.

Sufficient mud materials to maintain mud properties, lost circulation, increased weight requirements, will be kept at the well site at all times. In order to run logs, casing, and DST's the viscosity and water loss may have to be altered. These mud materials will be on location.

# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 27  
UNIT "L" SECTION 4  
T24S-R31E EDDY CO. NM

## 12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: If two runs are necessary: run dual laterolog, SNP, LDT, Gamma Ray, Caliper from 4250' to 650', Gamma Ray-Neutron from 650' to surface. Run #2 Run dual Induction, SNP, LDT, Gamma Ray, Caliper from TD back to 8 5/8" casing shoe.
- B. No cores or DST's are planned at this time, a mud logger may be placed on hole at 4250' and remain on hole to TD.

## 13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H<sup>2</sup>S in this area. If H<sup>2</sup>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 4250 PSI, and Estimated BHT 165°.

## 14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 28 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

## 15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Delaware formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as an oil well.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
2. H<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
  - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H<sub>2</sub>S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
  - A. See exhibit "E" & "E-1"
6. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
  - A. Exhausts will be watered.
  - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
  - C. If the location is near to a dwelling a closed DST will be performed.

8. Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.

# SURFACE USE PLAN

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 27  
UNIT "L" SECTION 4  
T24S-R31E EDDY CO. NM

1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of a County General Hi-way Map. Exhibit "C" is a reproduction of a USGS Topographic map, showing existing and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
  - A. Exhibit "A" shows the location of the proposed well site as staked.
  - B. From Hobbs New Mexico take U.S. Hi-way 62-180 West toward Carlsbad go 40± miles to the WIPP road. Turn Left go 13 miles South to CR 802, turn Right follow CR-802 4.2 miles to State Hi-way 128, turn Left go 3.4 miles, turn Right go 3 miles turn Left (East) go 660' to location.
  - C. Flowlines and Powerlines will be constructed along lease roads or on existing R-O-W's, as shown on Exhibit "C" & "F".
2. PLANNED ACCESS ROADS: Approximately 660' of new road will be constructed.
  - A. The access road will be crowned and ditched to a 12' wide traveled surface with a 40' Right-of-Way.
  - B. Gradient on all roads will be less than 5% if possible.
  - C. Turn-outs will be constructed where necessary.
  - D. If needed the roads will be surfaced to the BLM requirements with material obtained from a local source.
  - E. Center line for the new access road will be flagged.
  - F. The road will be constructed to utilize low water crossings where drainage currently exist, and Culverts will be installed where necessary.
3. EXHIBIT "A-1" SHOWS WELLS AND DRY HOLES WITHIN A 1 MILE RADIUS.
  - A. Water wells - One located approximately .8 miles South of location.
  - B. Disposal wells - None known
  - C. Drilling wells - None known
  - D. Producing wells - As shown on Exhibit "A-1"
  - E. Abandoned wells - As shown on Exhibit "A-1"

## SURFACE USE PLAN

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4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Possible routes of pipelines, flowlines and powerlines are shown on Exhibit "F".

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of drill site, if additional material is needed it will be obtained from a local source and transported over the access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.
- C. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.
- D. Waste water from living quarters will be drained into holes with a minium of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-John will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- E. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for furthred drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approve disposal site. Later pips will be broken out to speed drying. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in storage tanks and sold.

8. ANCILLARY FACILITIES:

- A. No camps or air strips will be constructed on location.

## SURFACE USE PLAN

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### 9. WELL SITE LAYOUT

- A. Exhibit "D" shows the proposed well site layout.
- B. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- C. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.
- D. If needed, the reserve pit is to be lined with polyethelene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.
- E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

### 10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

SURFACE USE PLAN

POGO PRODUCING COMPANY  
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11. OTHER INFORMATION:

- A. Topography consists of sand dunes with a slight dip to the West. Deep sandy soil supports shinnery oak, native grasses, and an occasional mesquite tree.
- B. Surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is used for grazing livestock and the production of oil and gas.
- C. Archaeological survey has been completed and is on file in the Carlsbad Field Office.
- D. There are no dwellings in the near vicinity of this location.

12. OPERATORS REPRESENTATIVES:

Before construction:

TIERRA EXPLORATION, INC  
P.O. BOX 2188  
HOBBS, NEW MEXICO 88241  
OFFICE Ph. 505-391-8503  
JOE T. JANICA

During and after construction:

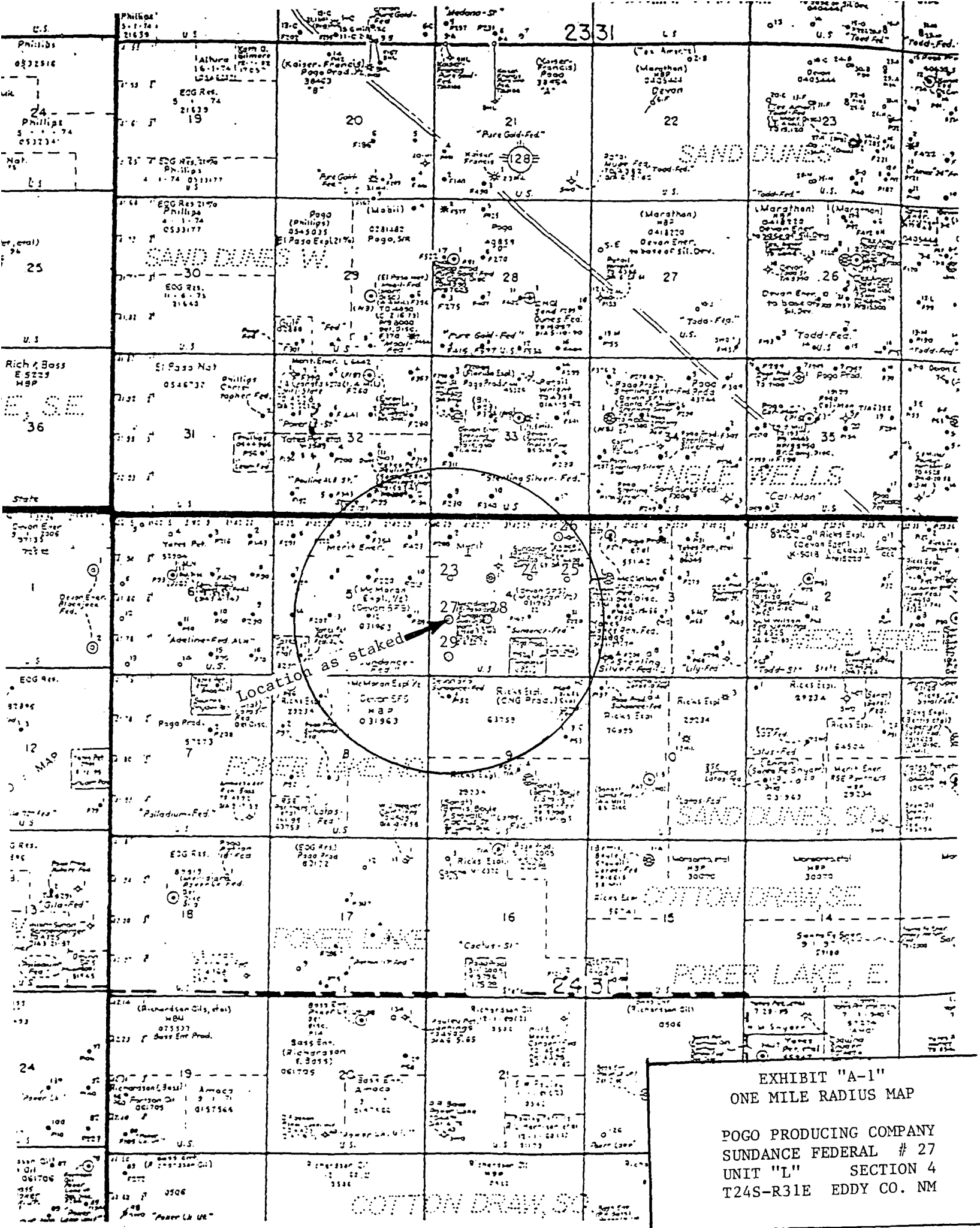
POGO PRODUCING COMPANY  
P.O. BOX 10340  
MIDLAND, TEXAS 79702-7340  
OFFICE Ph. 915-685-8100  
Mr. RICHARD WRIGHT 915-685-8140

13. CERTIFICATION: I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access roads, and 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<sup>2</sup> with the operations proposed herein will be performed by POGO PRODUCING COMPANY it's contractors/subcontractors is in compformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false report.

NAME : Joe T. Janica

DATE : 06/26/04

TITLE : Agent



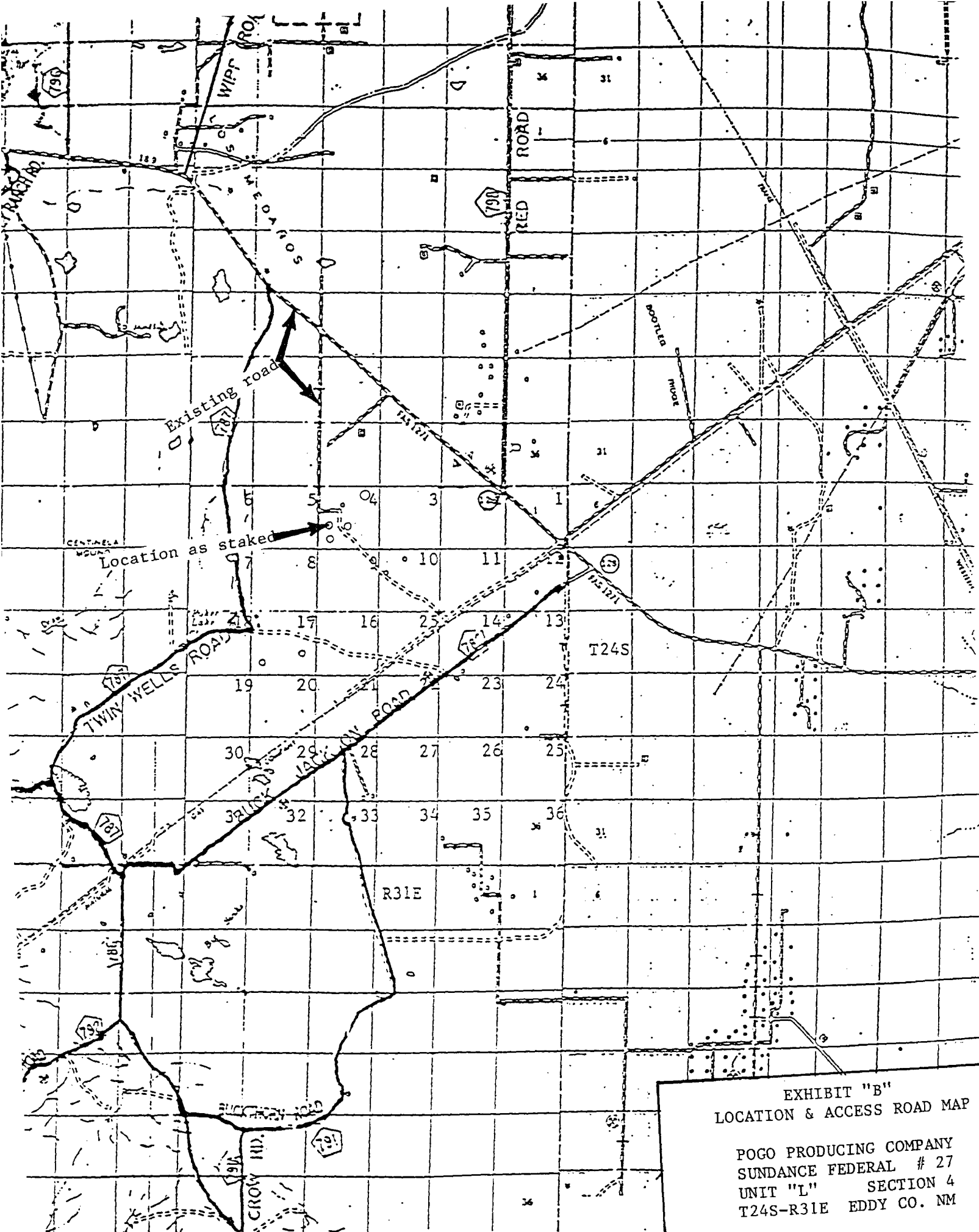
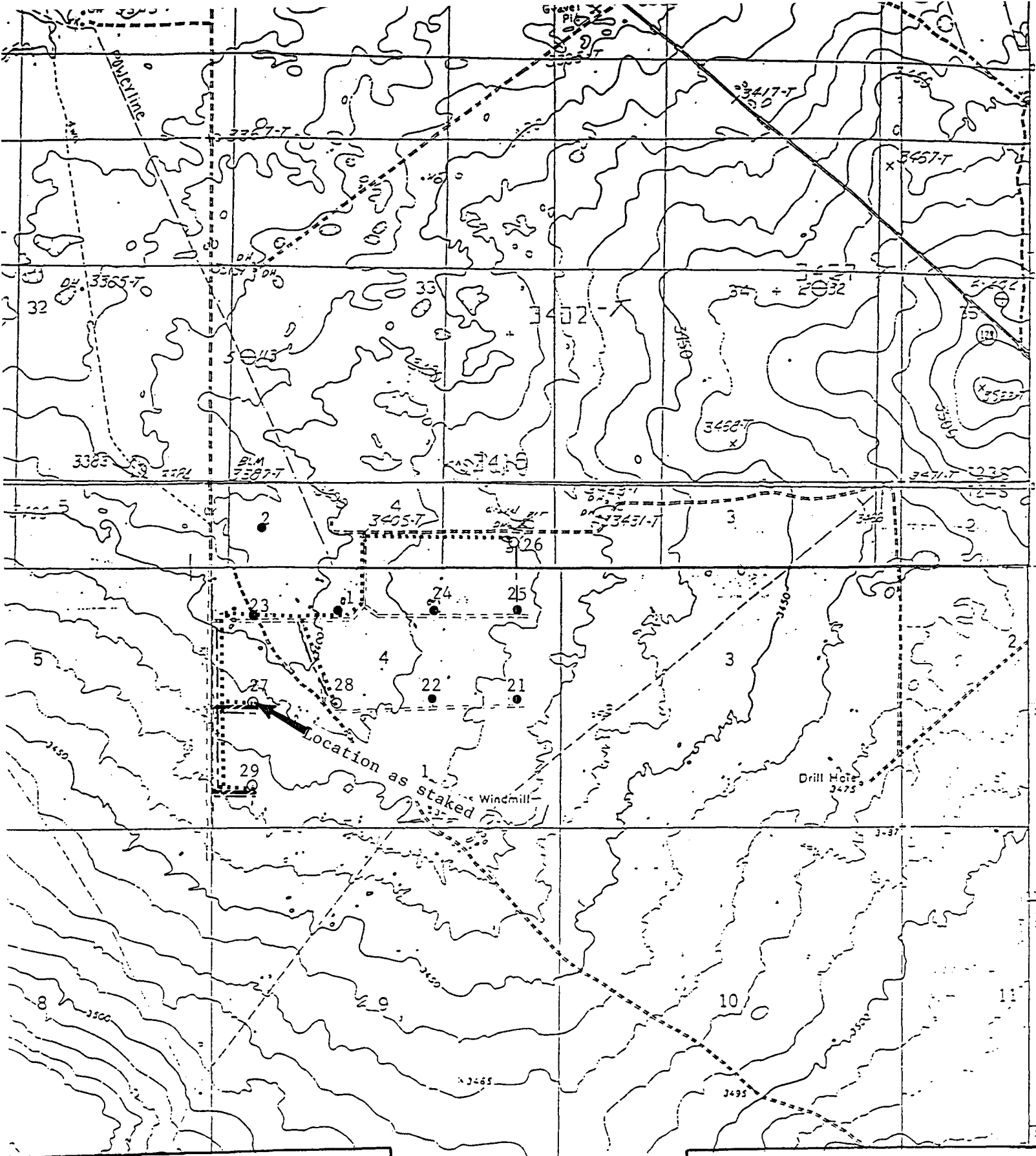


EXHIBIT "B"  
LOCATION & ACCESS ROAD MAP

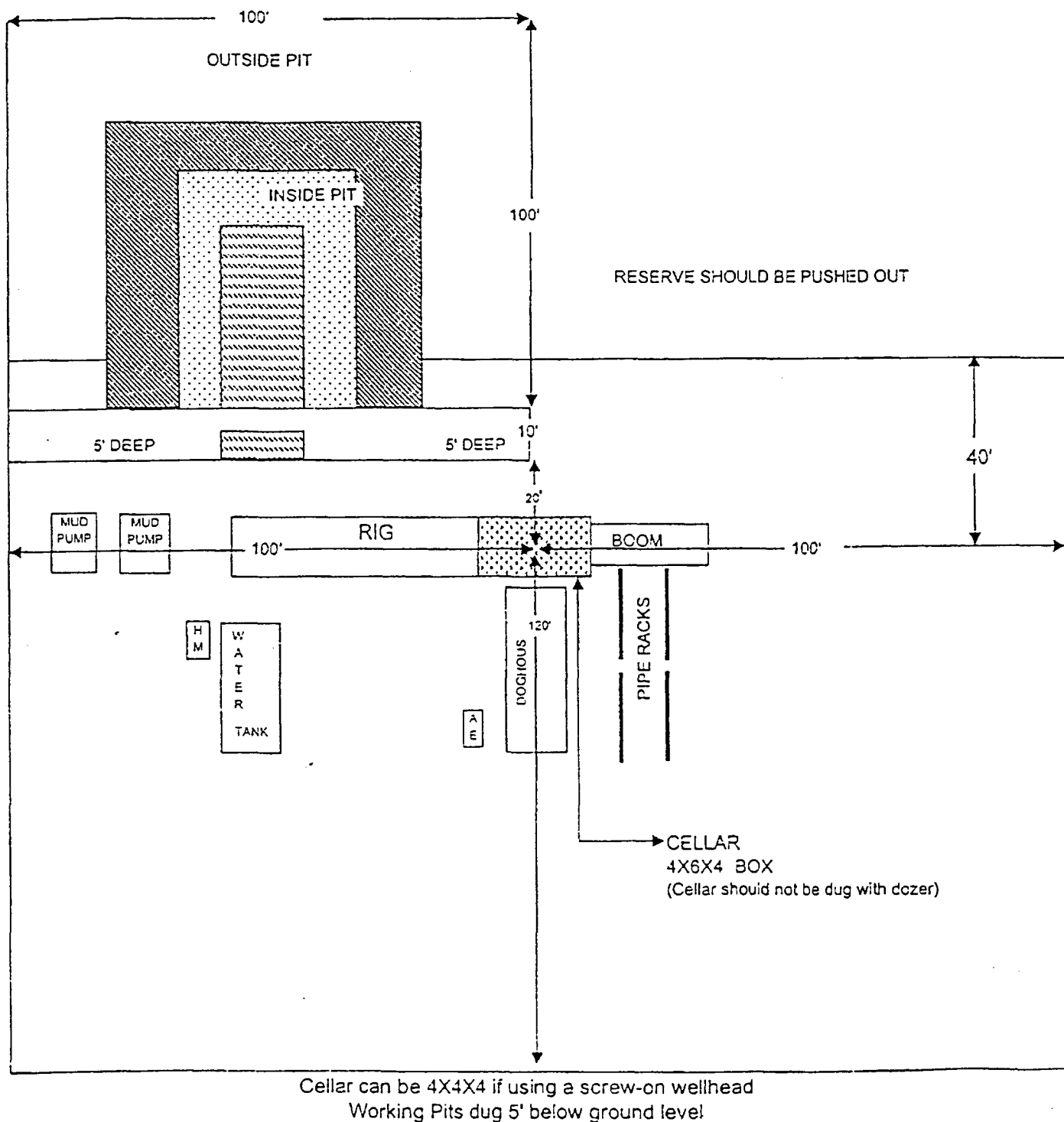
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Existing Road  
 Proposed Road  
 Proposed Flowline  
 Proposed Powerline

EXHIBIT "C"  
 TOPOGRAPHIC MAP SHOWING  
 ROADS & DIRECTIONS TO

POGO PRODUCING COMPANY  
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 UNIT "L" SECTION 4  
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## Location Specs

EXHIBIT "D"  
RIG LAY OUT PLAT

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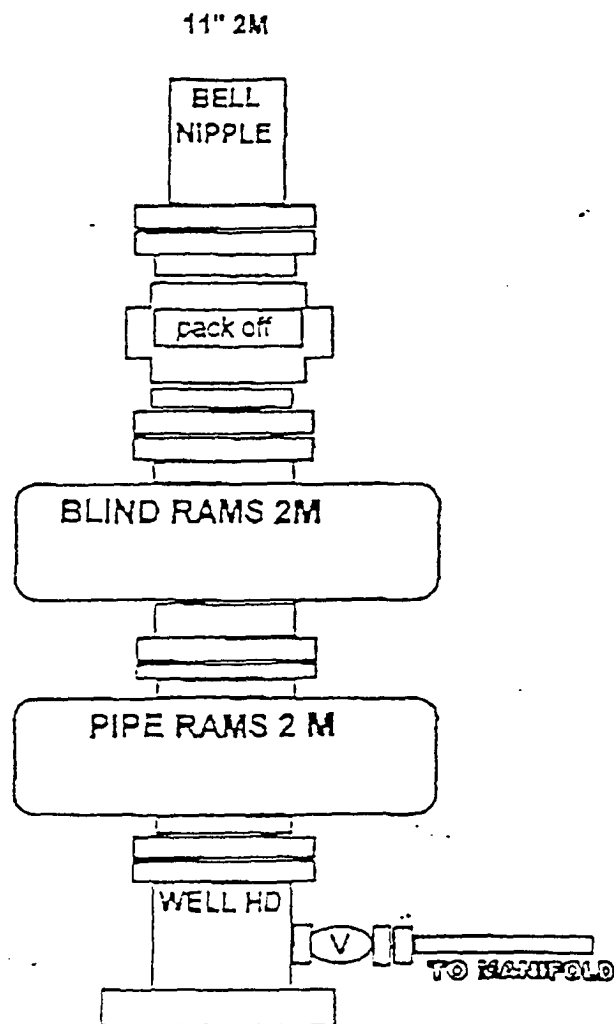


EXHIBIT "E"  
SKETCH OF B.O.P. TO BE USED ON

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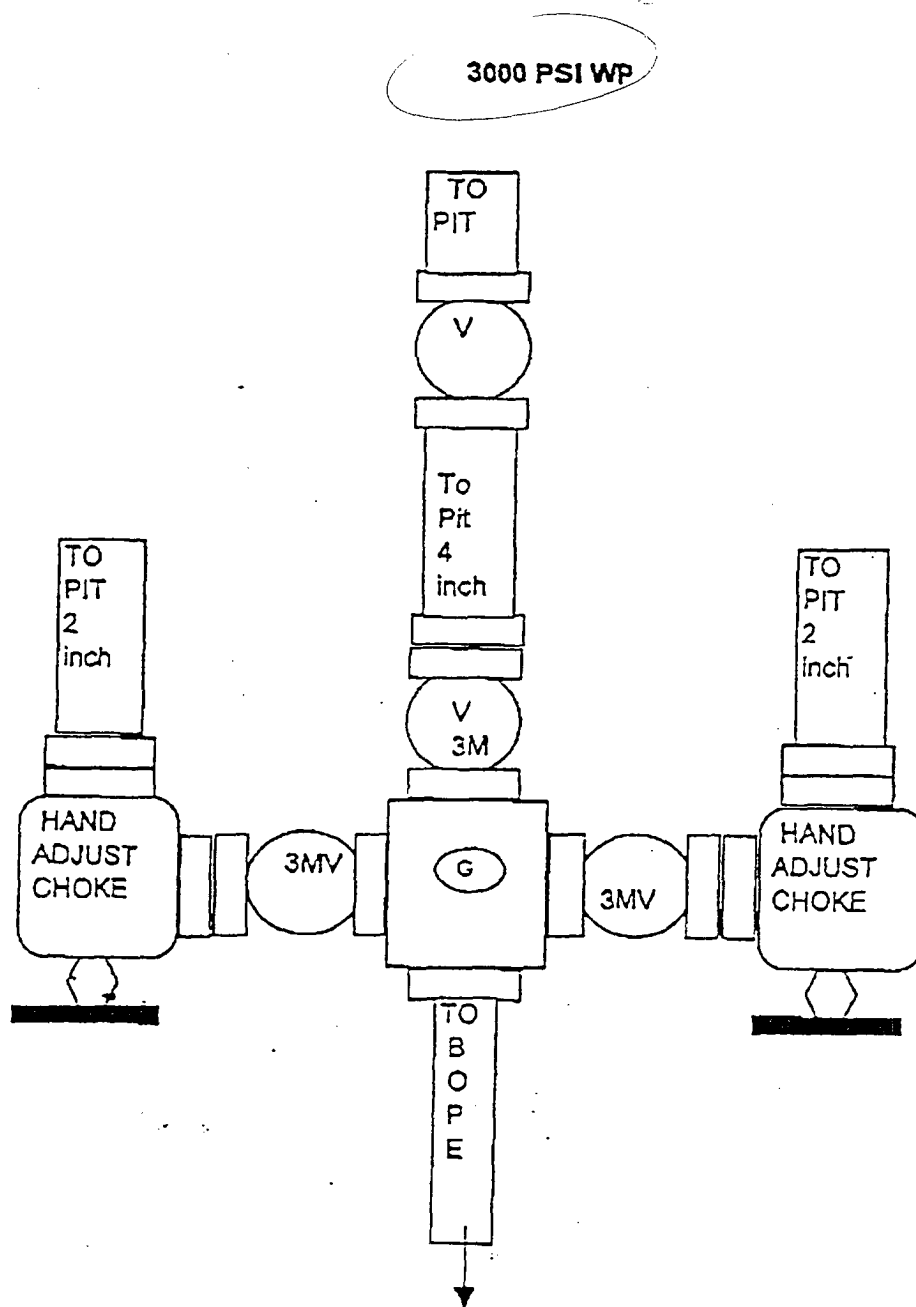


EXHIBIT "E41"  
SKETCH OF CHOKE MANIFOLD

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