

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Oil Cons. Div-Dist 2  
1301 W. Grand Avenue  
Alameda, NM 88210FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> R-111-POTASH		5. LEASE DESIGNATION AND SERIAL NO. NM 104730	
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR POGO PRODUCING COMPANY (RICHARD WRIGHT 432-685-8140)		7. UNIT AGREEMENT NAME	
3. ADDRESS AND TELEPHONE NO. P.O. BOX 10340 MIDLAND, TEXAS 79702-7340 (432-685-8100)		8. FARM OR LEASE NAME, WELL NO. SUNDANCE FEDERAL # 29	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 660' FSL & 660' FWL SECTION 4 T24S-R31E EDDY CO. NM At proposed prod. zone SAME		9. AP WELL NO. 30-015-33709	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* Approximately 30 miles East of Carlsbad New Mexico		10. FIELD AND POOL, OR WILDCAT SAND DUNES DELAWARE WEST	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 660'		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SECTION 4 T24S-R31E	
16. NO. OF ACRES IN LEASE 600		12. COUNTY OR PARISH EDDY CO.	
17. NO. OF ACRES ASSIGNED TO THIS WELL 40		13. STATE NEW MEX.	
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. APPROX. DATE WORK WILL START* WHEN APPROVED	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3428' 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
17½"	H-40 13 3/8"	48	650'	800 Sx. circulate to surface
11"	J-55 8 5/8"	32	4250'	1500 Sx " " "
7 7/8"	N-80, J-55 4½"	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 17½" 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, + ¼# Flocele/Sx. Circulate cement to surface.
3. Drill 11" hole to 4250'. Run and 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. Drill 7 7/8" hole to 8400'. Run and set 8400' of 4½" casing as follows: 1400' of 4½" 11.6# N-80 LT&C, 6000' of 4½" 11.6# J-55 LT&C, 1000' of 4½" 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

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS

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 prevention program, if any.

24. SIGNED Joe T. Janica TITLE Agent DATE 06/26/04

(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

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 #29 API #: \_\_\_\_\_ U/L or Qtr/Qtr M Sec 4 T 24 R 31  
County: Eddy Latitude 32 14 27.4N Longitude 103 47 21.1W 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 321312103395601 24S.32E.10.344333

Available data for this site

Station site map

GO

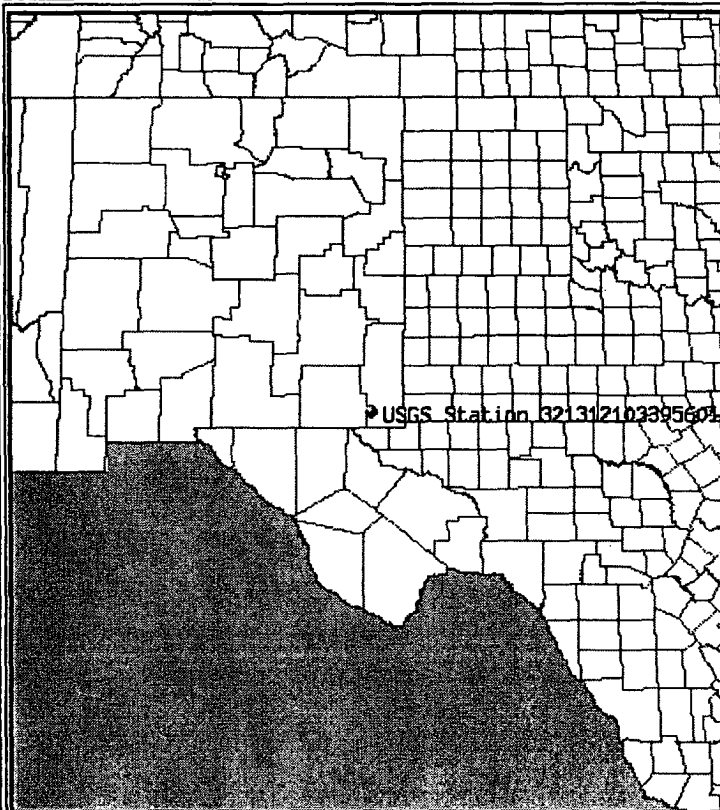
Lea County, New Mexico

Hydrologic Unit Code 13070007

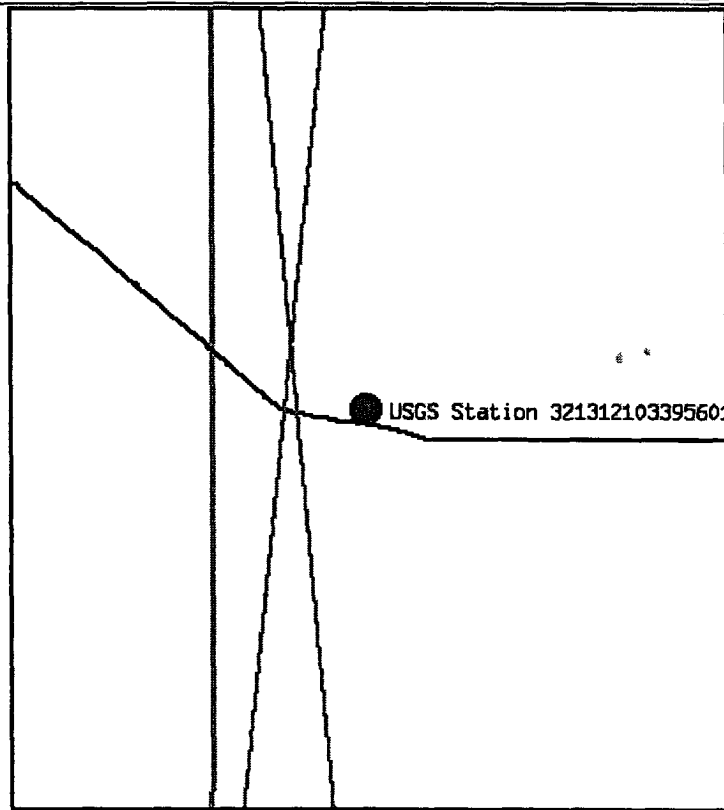
Latitude 32°13'12", Longitude 103°39'56" NAD27

Gage datum 3,589.00 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 16:30:21 EDT

Department of the Interior, U.S. Geological Survey

USGS Water Resources of New Mexico

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

0.92 0.7 nadww01

# Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site\_no list = • 321312103395601

Save file of selected sites to local disk for future upload

USGS 321312103395601 24S.32E.10.344333

Available data for this site

Ground-water: Levels

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°13'12", Longitude 103°39'56" NAD27

Gage datum 3,589.00 feet above sea level NGVD29

The depth of the well is 60 feet below land surface.

This well is completed in ALLUVIUM, BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB)

Output formats

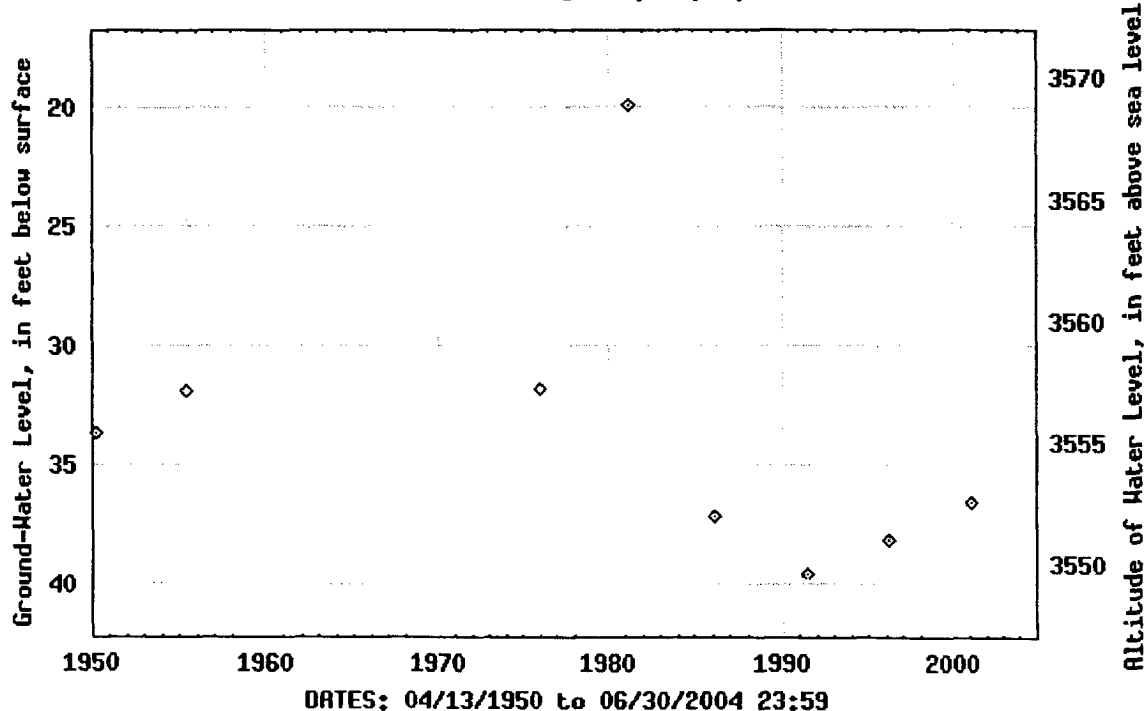
Table of data

Tab-separated data

Graph of data

Reselect period

USGS 321312103395601 24S.32E.10.344333



DATES: 04/13/1950 to 06/30/2004 23:59

Breaks in the plot represent a gap of at least one calendar year between two consecutive points.

Download a presentation-quality graph

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)

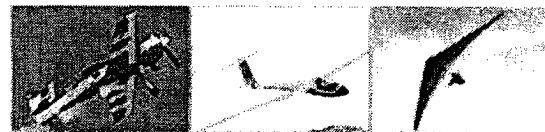
Ground water for New Mexico: Water Levels

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

[Top](#)  
[Explanation of terms](#)



The World Air Sports Federation



#29

## 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="32:13:12"/>	<input type="text" value="N"/>	<input type="text" value="103:39:56"/>	<input type="text" value="W"/>
Lat 2		Long 2	
<input type="text" value="32:14:27.4"/>	<input type="text" value="N"/>	<input type="text" value="103:47:21.1"/>	<input type="text" value="W"/>

Distance Units:

Earth model:

COMPUTE

RESET

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

Course 1-2 (deg)	<input type="text" value="281.3571086376149"/>
Course 2-1 (deg)	<input type="text" value="101.2911687544522"/>
Shortest distance	<input type="text" value="7.369760149486195"/>

### 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 29
OGRID No. 17891	Operator Name POGO PRODUCING COMPANY	Elevation 3428'


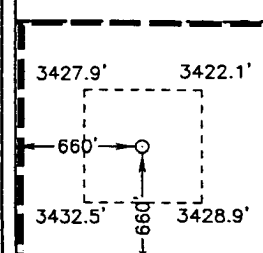
Surface Location

UL or lot No. M	Section 4	Township 24 S	Range 31 E	Lot Idn	Feet from the 660	North/South line SOUTH	Feet from the 660	East/West line WEST	County EDDY
--------------------	--------------	------------------	---------------	---------	----------------------	---------------------------	----------------------	------------------------	----------------

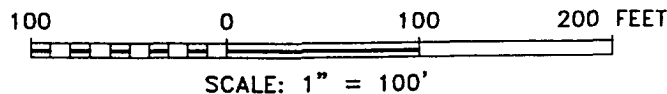
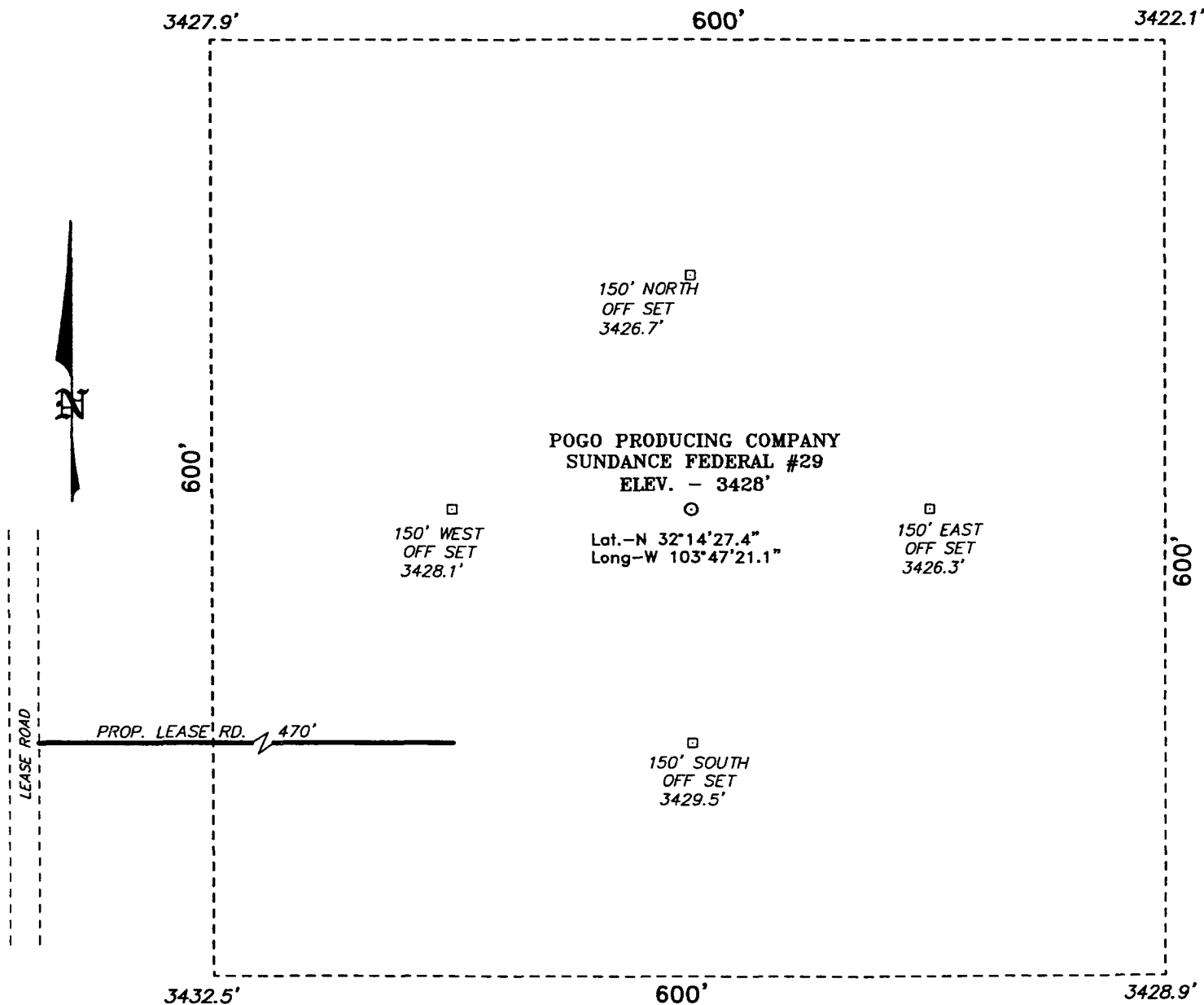
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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.	<b>OPERATOR CERTIFICATION</b>  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
 Lat.: N32°14'27.4" Long.: W103°47'21.1"				

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



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 2.5 MILES; THENCE EAST FOR APPROX. 0.25 MILE; THENCE SOUTH FOR APPROX. 0.1 MILE TO LOCATION.

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

W.O. Number: 4373 Drawn By: K. GOAD

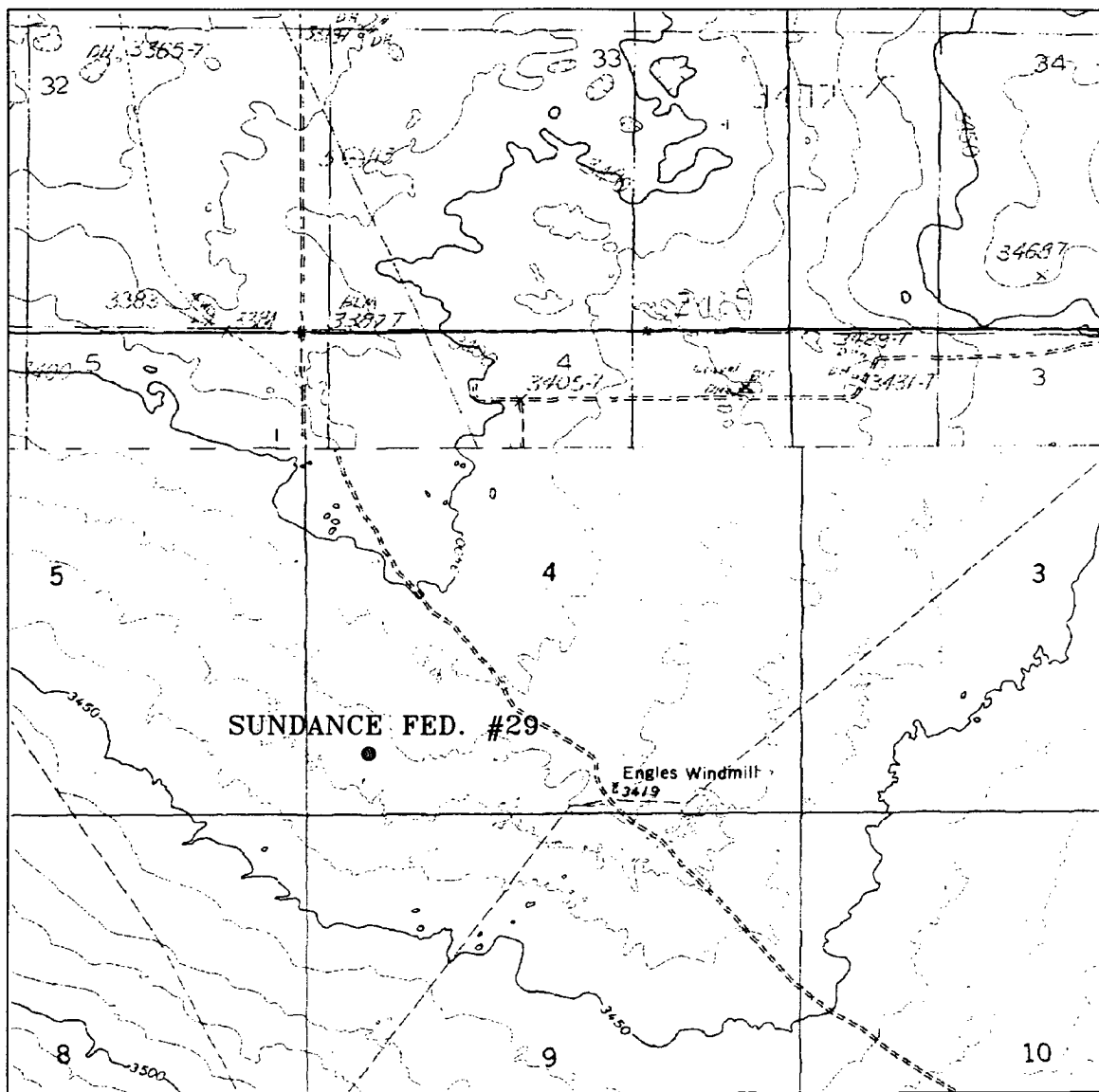
Date: 06-23-2004 Disk: KJG CD#4 - 4373A.DWG

**POGO PRODUCING CO.**

REF: SUNDANCE FED. #29 / Well Pad Topo

THE SUNDANCE FED. No. 29 LOCATED 660' 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.

Survey Date: 06-18-2004 Sheet 1 of 1 Sheets



## SUNDANCE FEDERAL #29

Located at 660' 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: 4373AA - KJG CD#5

Survey Date: 06-18-2004

Scale: 1" = 2000'

Date: 06-23-2004

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



# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 29  
UNIT "M" 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: 660' FSL & 660' FWL SECTION 4 T24S-R31E EDDY CO. NM
2. Elevation above Sea Level: 3428' 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 # 29  
UNIT "M" 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> + 1/4# 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:

3000 See Exhibit E-1

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 # 29  
UNIT "M" 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.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

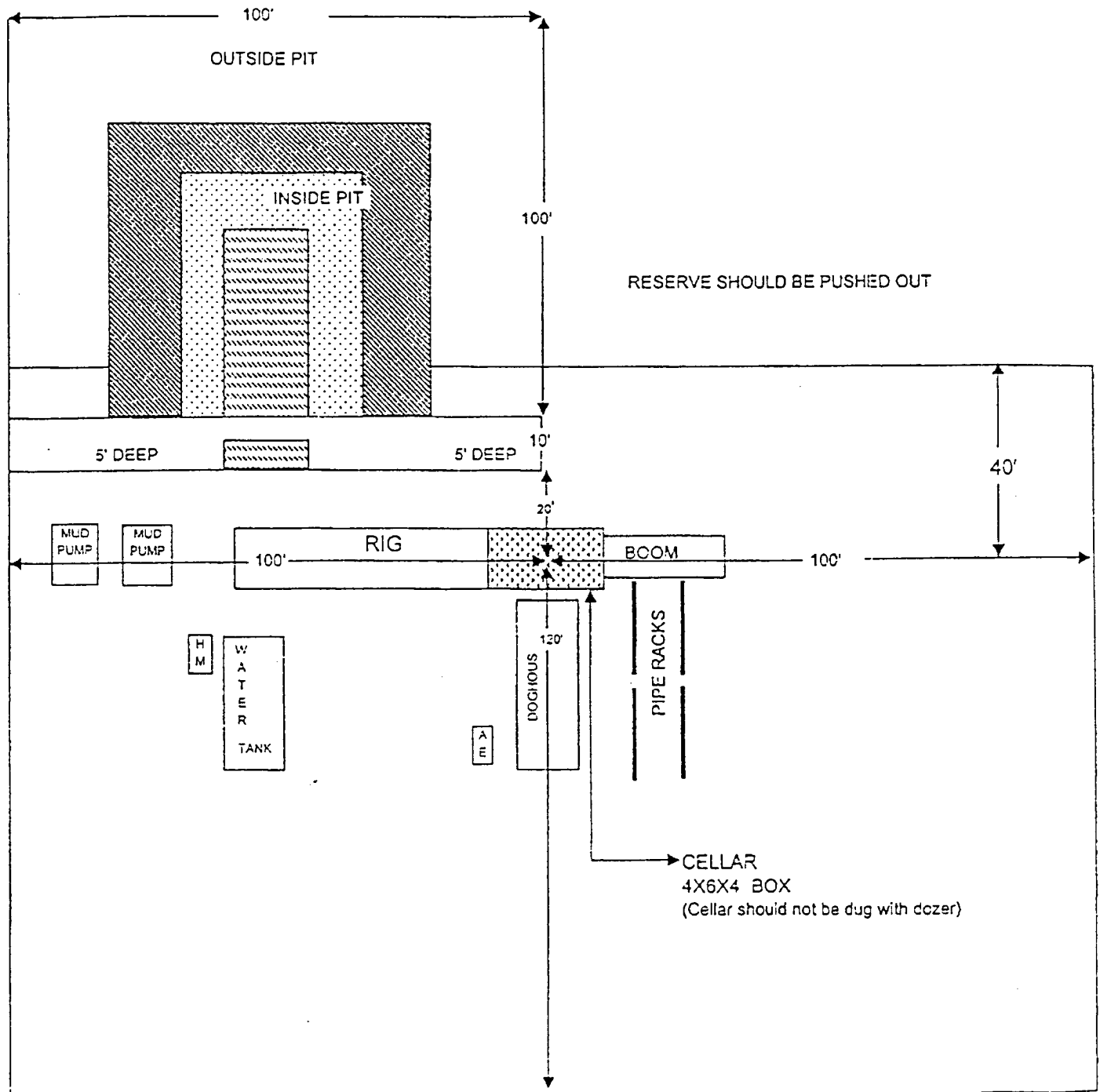
8. Drilling contractor supervisor will be required to be familiar with the effects  $H_2S$  has on tubular goods and other mechanical equipment.
9. If  $H_2S$  is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with  $H_2S$  scavengers if necessary.

## SURFACE USE PLAN

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 29  
UNIT "M" 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 3.3 miles and 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 Exhibits "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"

CapStar Drilling, Inc.  
 LOCATION SPECIFICATIONS AND RIG LAYOUT  
 FOR EARTH PITS



Location Specs

EXHIBIT "D"  
 RIG LAY OUT PLAT

POGO PRODUCING COMPANY  
 SUNDANCE FEDERAL # 29  
 UNIT "M" SECTION 4  
 T24S-R31E EDDY CO. NM

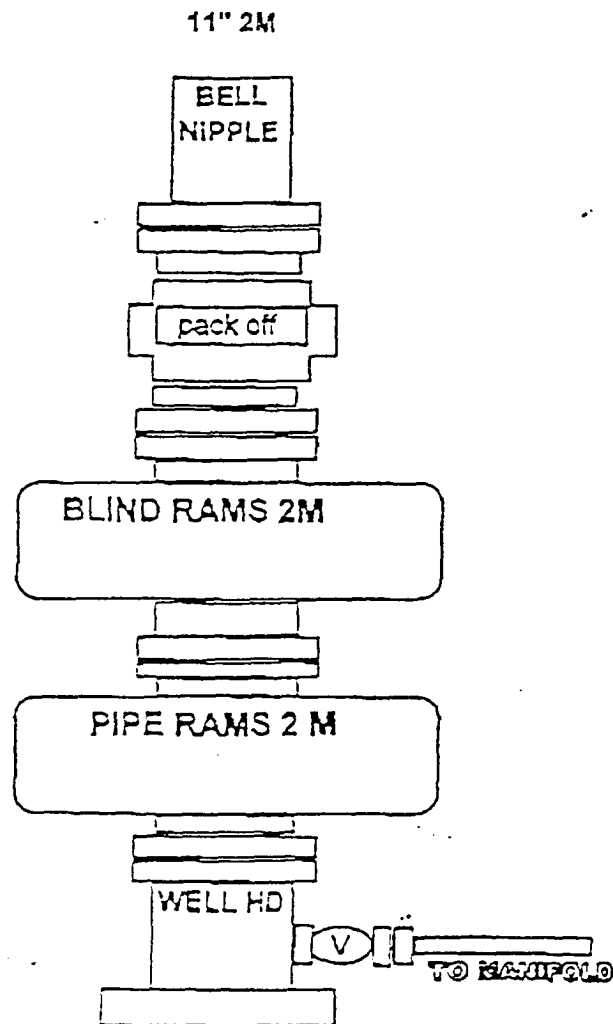


EXHIBIT "E"  
SKETCH OF B.O.P. TO BE USED ON

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 29  
UNIT "M" SECTION 4  
T24S-R31E EDDY CO. NM



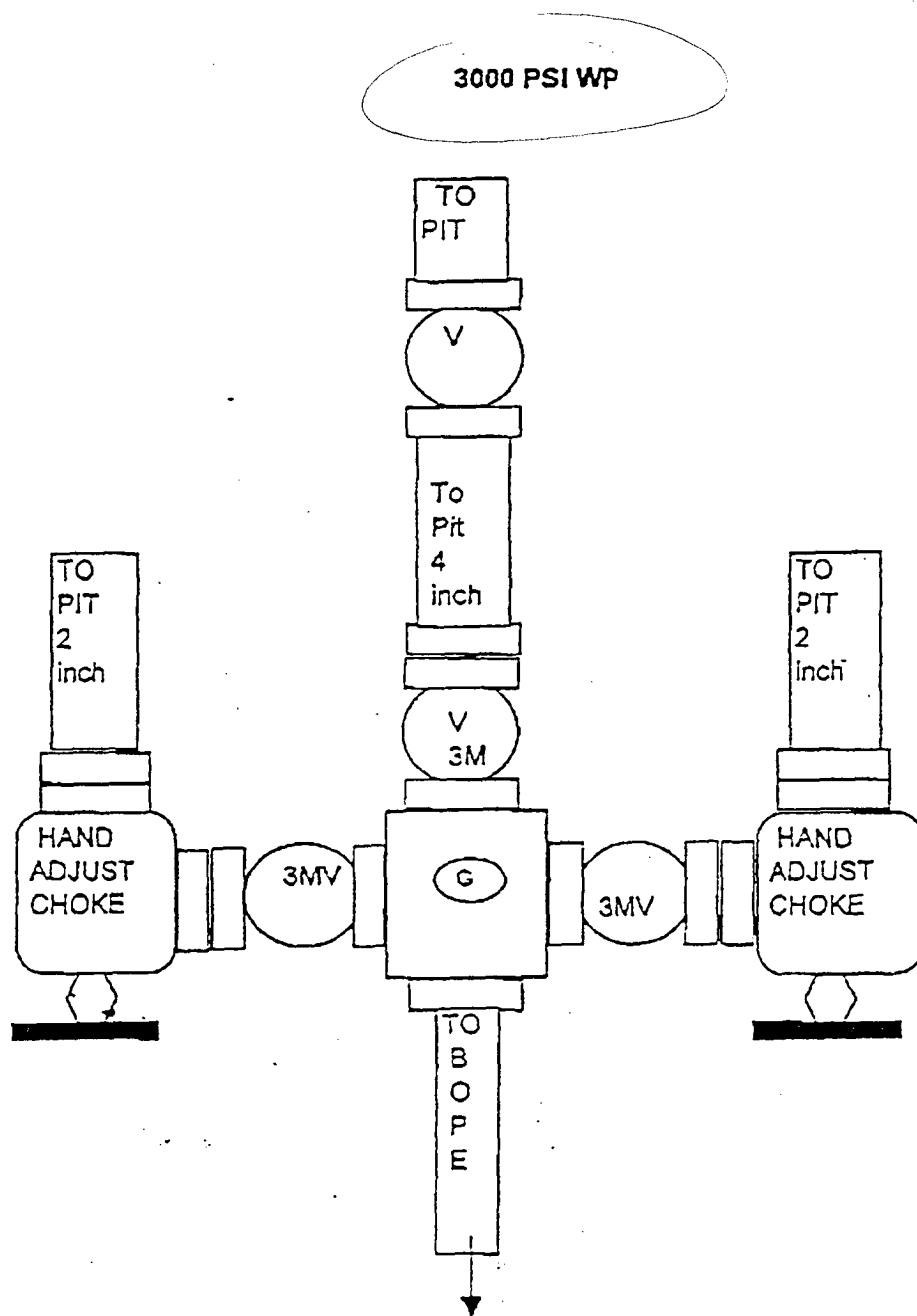


EXHIBIT "E-1"  
SKETCH OF CHOKE MANIFOLD

POGO PRODUCING COMPANY  
SUNDANCE FEDERAL # 29  
UNIT "M" SECTION 4  
T24S-R31E EDDY CO. NM