

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Cons. Div.-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER

R-111-POTASH

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 & 1980' FWL SECTION 33 T23S-R31E EDDY CO. NM

At proposed prod. zone SAME

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)

1980'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1320'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

19. PROPOSED DEPTH

15,400'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3395' 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" | J-55 13 3/8" | 54.5 | 650' | 800 Sx. circulate cement |
| 12 1/4" | N-80 9 5/8" | 43.5 | 4150' | 1200 Sx. " " |
| 8 1/2" | HCP 7" | 29 | 12,400' | 1200 Sx. 2 stage TOC 3000'± |
| 6 1/8" | HCP 5" | 18 | 12,200-15,400' | 400 Sx. cement to top of liner. |

SEE ATTACHED SHEET

CARLSBAD CONTROLLED WATER BASIN

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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.

SIGNED

TITLE Agent

DATE

01/02/05

(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:

ACTING

STATE DIRECTOR

FEB 15 2005

APPROVED BY

/s/ Jesse J. Juen

TITLE

DATE

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

APPLICATION TO DRILL

POGO PRODUCING COMPANY
~~STERLING SILVER~~
~~SAND DUNES~~ "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
T23S-R31E EDDY CO. NM

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 650'. Run and set 650' of 13 3/8" 54.5 # J-55 ST&C casing. Cement with 800 Sx. of Class "C" cement + ¼# Flocele/Sx. + 2% CaCl, circulate cement to surface.
3. Drill 12¼" hole to 4150'. Run and set 4150' of 9 5/8" 43.5# N-80 ST&C casing. Cement with 1200 Sx. of Class "C" cement + ¼# Flocele/Sx. + other additives, circulate cement to surface.
4. Drill 8½" hole to 12,400'. Run and set 12,400' of 7" 29# HCP LT&C casing. Cement in two stages with DV Tool set at 7000'±. Cement 1stage with 650 Sx. of Class "H" Premium Plus cement + additives, cement 2nd stage with 550 Sx. of Class "H" cement + additives, estimate top of cement 3000' from surface.
5. Drill 6 1/8" hole to 15,400'. Run and set a 3200' 5" 18# HCP LT&C liner from 15,400' back to 12,200'±. Cement with 400 Sx. of Class "H" Premium Plus low water loss cement + additives, cement to top of liner.

DISTRICT I -
1825 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 84720 | Pool Name SAND DUNES-MORROW WEST (GAS) |
| Property Code | Property Name <i>Sterling Silver</i> SAND DUNES "33" FEDERAL DEEP | Well Number 9 |
| GRID No. 17891 | Operator Name POGO PRODUCING COMPANY | Elevation 3395 |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| K | 33 | 23-S | 31-E | | 1980 | SOUTH | 1980 | WEST | 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 320 | 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

| | |
|--|--|
| | <p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Joe T. Janica</i> Signature Joe T. Janica Printed Name Agent Title 01/02/05 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>DECEMBER 27, 2004</p> <p>Date Surveyed Signature & Seal of Professional Surveyor GARY L. JONES No. 962 7977 Certificate No. 962 JLP BASIN SURVEYS</p> |
|--|--|

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-144
March 12, 2004

For drilling and production facilities, submit to 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 30-015-33975
Facility or well name: Sterling Silver 33 Fed #9 Deep U/L or Qtr/Qtr K Sec 33 T 23 R 31
County: Eddy Latitude 32:15:32.8N Longitude 103:47:05.6W 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 50 feet or more, but less than 100 feet 100 feet or more <input checked="" type="checkbox"/> | (20 points) <u>FEB 28 2005</u> (10 points) <u>000-000000</u> (0 points) <u>0</u> |
| Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.) | Yes No <input checked="" type="checkbox"/> | (20 points) (0 points) <u>0</u> |
| Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.) | Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more <input checked="" type="checkbox"/> | (20 points) (10 points) (0 points) <u>0</u> |
| Ranking Score (Total Points) | | <u>0</u> |

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 has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 2/25/05

Printed Name/Title Cathy Wright, Sr Eng 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: FEB 28 2005 Child Rep ID Signature [Signature]
Printed Name/Title _____

Water Resources

Data Category:

Site Information

Geographic Area:

New Mexico

GO

Site Map for New Mexico

USGS 322114103524801 22S.30E.33.212243

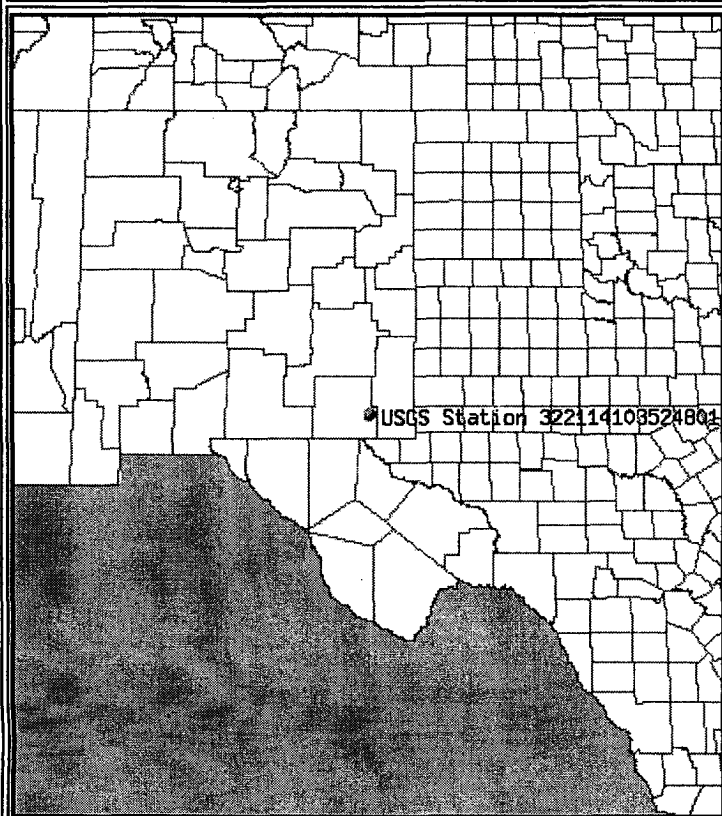
Available data for this site

site map

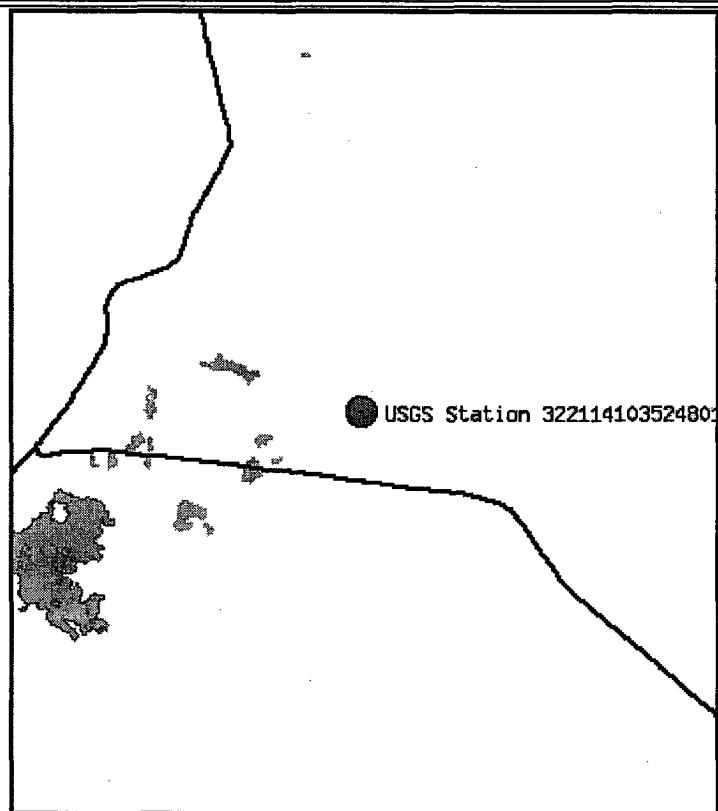


Eddy County, New Mexico
Hydrologic Unit Code
Latitude 32°21'14", Longitude 103°52'48" NAD27
Gage datum 3,161.57 feet above sea level NGVD29

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 [New Mexico NWISWeb Data Inquiries](#)
Feedback on this website [New Mexico NWISWeb Maintainer](#)
NWIS Site Inventory for New Mexico: Site Map
<http://waterdata.usgs.gov/nm/nwis/nwismap?>

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

Retrieved on 2005-02-25 15:37:24 EST
Department of the Interior, U.S. Geological Survey
USGS Water Resources of New Mexico
[Privacy Statement](#) || [Disclaimer](#) || [Accessibility](#) || [FOIA](#)
1.18 0.93 nadww01

Water Resources

Data Category:

Ground Water

Geographic Area:

New Mexico

go

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

[Save file of selected sites to local disk for future upload](#)
USGS 322114103524801 22S.30E.33.212243

Available data for this site

Ground-water: Levels

GO

Eddy County, New Mexico

Hydrologic Unit Code

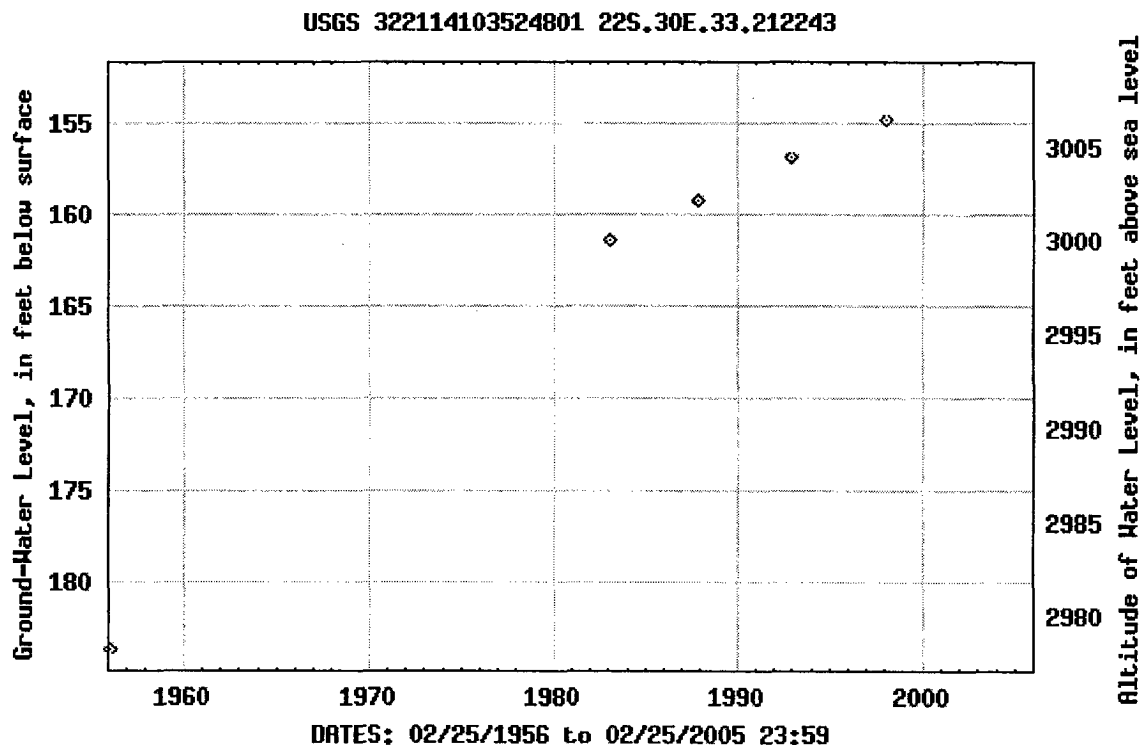
Latitude 32°21'14", Longitude 103°52'48" NAD27

Gage datum 3,161.57 feet above sea level NGVD29

The depth of the well is 248 feet below land surface.

This well is completed in RUSTLER FORMATION (312RSLR)

Output formats



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 [New Mexico NWISWeb Data Inquiries](#)
 Feedback on this website [New Mexico NWISWeb Maintainer](#)

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

Great Circle Calculator.

By Ed Williams

You need Javascript enabled if you want this page to do anything useful! For Netscape, it's under Options/Network Preferences/Languages.

Compute true course and distance between points.

Enter lat/lon of points, select distance units and earth model and click "compute". Lat/lons may be entered in DD.DD, DD:MM.MM or DD:MM:SS.SS formats.

Note that if either point is very close to a pole, the course may be inaccurate, because of its extreme sensitivity to position and inevitable rounding error.

Input Data

| | | | |
|------------|---------------------------------------|-------------|---------------------------------------|
| Lat1 | | Lon1 | |
| 32:21:14 | N <input checked="" type="checkbox"/> | 103:52:48 | W <input checked="" type="checkbox"/> |
| Lat2 | | Lon2 | |
| 32:15:32.8 | N <input checked="" type="checkbox"/> | 103:47:05.6 | W <input checked="" type="checkbox"/> |

Output

| | | |
|------------|------------|-------------|
| Course 1-2 | Course 2-1 | Distance |
| 139.670838 | 319.721670 | 7.456688914 |

Distance Units: Earth model:

Compute lat/lon given radial and distance from a known point

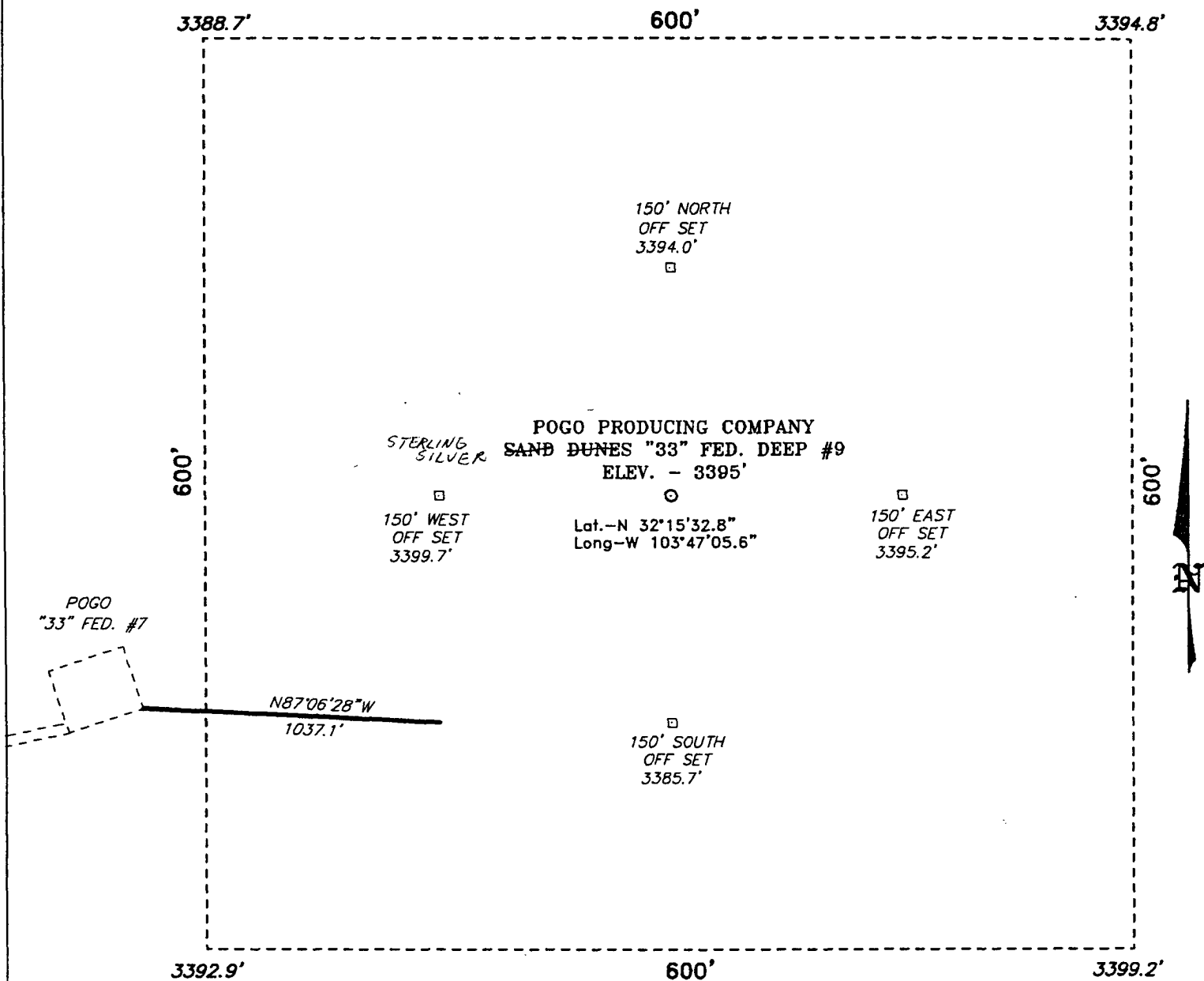
Enter lat/lon of initial point, true course and distance. Select distance units and earth model and click "compute". Lat/lons may be entered in DD.DD, DD:MM.MM or DD:MM:SS.SS formats.

Note that the starting point cannot be a pole.

Input data

| | | | |
|------------|---------------------------------------|--------------|---------------------------------------|
| Lat1 | | Lon1 | |
| 0:00.00 | N <input checked="" type="checkbox"/> | 0:00.00 | W <input checked="" type="checkbox"/> |
| Course 1-2 | | Distance 1-2 | |
| 360 | | 0.0 | |

SECTION 33, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

Directions to Location:

FROM THE JUNCTION OF STATE HWY 128 AND CO.
RD. #799 GO NORTHWEST ON 128 3.6 MILES TO
LEASE ROAD, THENCE 2.0 MILES SOUTH, THEN 0.1
MILES EAST TO POGO "33 FED. #7 AND PROPOSED
ROAD.

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

W.O. Number: 4962 Drawn By: J. PRESLEY

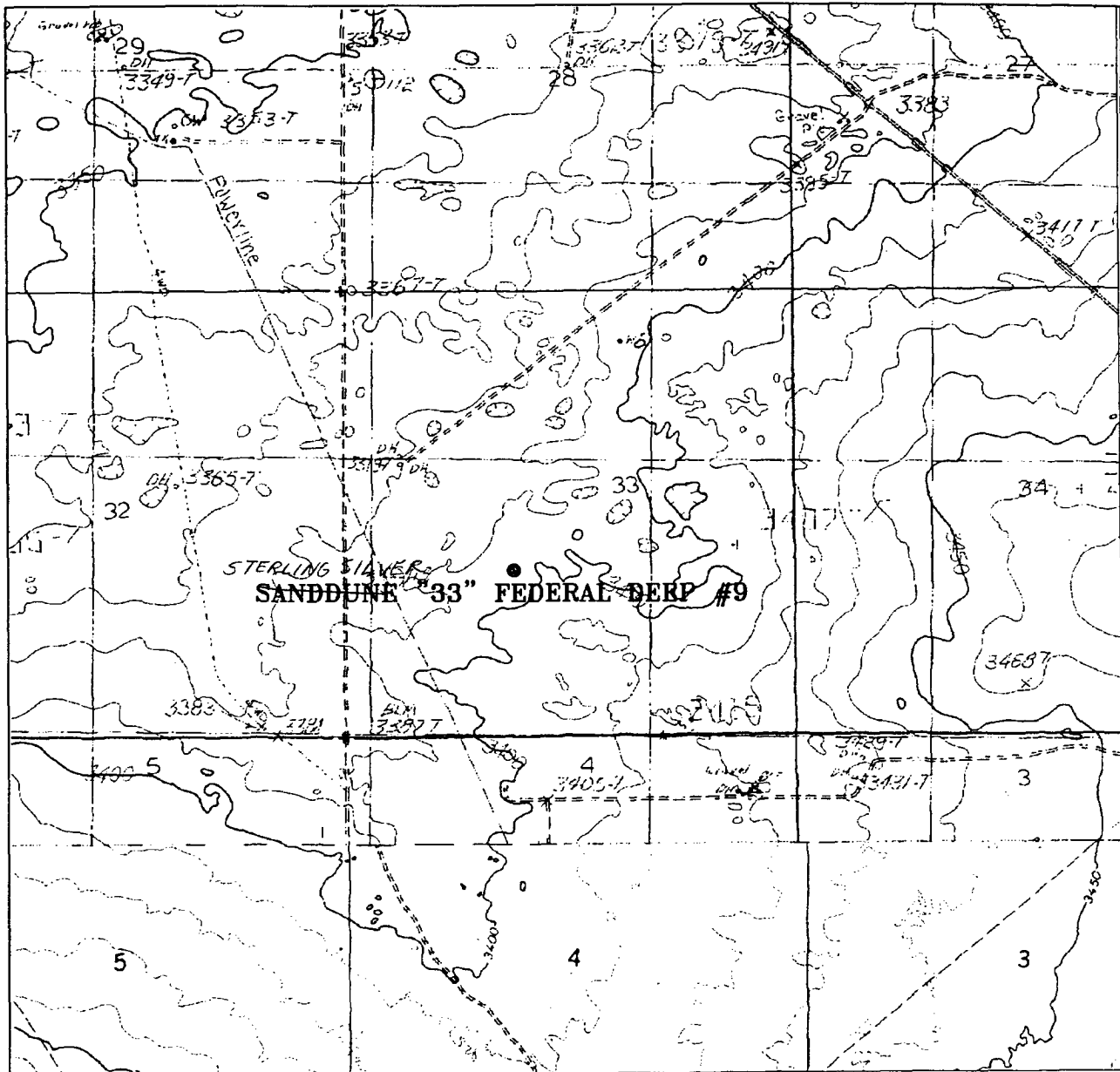
Date: 12/28/04 Disk: JLP CD#1 - 4962A.DWG

POGO PRODUCING CO.

REF: SAND DUNES "33" FED. DEEP #9 / Well Pad Topo

STERLING SILVER
SAND DUNES "33" FED. DEEP #9 LOCATED 1980' FROM
THE SOUTH LINE AND 1980' FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 23 SOUTH, RANGE 31 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 12/27/04 Sheet 1 of 1 Sheets



STERLING SILVER

SAND DUNES "33" FEDERAL DEEP #9

Located at 1980' FSL and 1980' FWL

Section 33, Township 23 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: 4962AA - JLP CD#1

Survey Date: 12/27/04

Scale: 1" = 2000'

Date: 12/28/04

POGO
PRODUCING
COMPANY

APPLICATION TO DRILL

STERLING SILVER POGO PRODUCING COMPANY
 SAND DUNES "33" FEDERAL DEEP # 9
 UNIT "K" SECTION 33
 T23S-R31E EDDY CO. NM

In response to questions asked under Section II B of Bulletin NTL-6 the following information is provided for your consideration:

1. Location: 1980' FSL & 1980' FWL SECTION 33 T23S-R31E EDDY CO. NM
2. Elevation above sea level: 3395' GR.
3. Geologic name of surface formation: Quaternary Aeolian Deposits
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: 15,400'
6. Estimated tops of geological markers:

| | | | |
|-------------------|-------|-----------------|---------|
| Rustler Anhydrite | 410' | Wolfcamp | 11510' |
| Cherry Canyon | 5090' | Strawn | 13200' |
| Brushy Canyon | 6390' | Atoka | 133315' |
| Bone Spring | 8020' | Morrow Clastics | 14325' |
7. Possible mineral bearing formation:

| | | | |
|---------------|-----|--------|-----|
| Brushy Canyon | Oil | Strawn | Gas |
| Bone Spring | Oil | Atoka | Gas |
| Wolfcamp | Gas | Morrow | Gas |
8. Casing program:

| <u>Hole size</u> | <u>Interval</u> | <u>OD casing</u> | <u>Weight</u> | <u>Thread</u> | <u>Collar</u> | <u>Grade</u> |
|------------------|-----------------|------------------|---------------|---------------|---------------|--------------|
| 25" | 0-40' | 20" | NA | NA | NA | Conductor |
| 17½" | 0-650' | 13 3/8" | 54.5# | 8-R | ST&C | J-55 |
| 12¼" | 0-4150' | 9 5/8" | 43.5 | 8-R | ST&C | N-80 |
| 8 ½" | 0-12,400' | 7" | 29# | 8-R | LT&C | HCP |
| 6 1/8" | 12,200-15,400'* | 5" | 18# | 8-R | LT&C | HCP |

* 3200' Liner from 15,400 to 12,200'

APPLICATION TO DRILL

STERLING SILVER
POGO PRODUCING COMPANY
SAND DUNES "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
T23S-R31E EDDY CO. NM

9. CASING, CEMENTING & SETTING DEPTHS:

| | | |
|---------|------------------|--|
| 20" | Conductor | Set 40' of 20" conductor pipe and cement to surface with Redi-mix. |
| 13 3/8" | Surface | Set 650' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 800 Sx. of Class "C" cement + 2% CaCl ₂ + 1/4# Flocele/SX. Circulate cement to surface. |
| 9 5/8" | 1st Intermediate | Set 4150' of 9 5/8" 43.5# N-80 ST&C casing. Cement with 1200 Sx. of Class "C" cement + additives, circulate cement to surface. |
| 7" | 2nd Intermediate | Set 12,400' of 7" 29# HCP LT&C casing. Cement in 2 stages with DV Tool at 700'±. Cement 1st stage with 650 Sx. of Class "H" Premium Plus cement + additives, cement 2nd stage with 550 Sx. of Class "H" cement + additives, est. top of cement 3000' from surface. |
| 5" | Prod. Liner | Set 3200' of 5" 18# HCP LT&C liner. Cement with 400 Sx of Class "H" Premium Plus, low water loss cement + additives. |

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 1500 Series 5000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams, bottom pipe rams. This B.O.P. will be nipped up on the 13 3/8" casing and will remain on hole to 12,400'. The B.O.P. will be tested with fresh water by an outside tester to API specifications. The B.O.P. will be operated at least once in each 24 hour period, and blind rams will be tested when drill pipe is out of hole. Full opening stabbing valve and upper kelly cock will be on rig floor in case it is needed. Exhibit "E-1" shows a 3" choke manifold with adjustable chokes and remotely controlled chokes.

Exhibit "F" shows a 10,000 PSI working pressure B.O.P. to be installed on hole at 12,400' and remain on hole to TD. After B.O.P. installation it will be tested by an outside tester with fresh water to API specifications. The B.O.P. will be operated at least once each 24 hour period, and the blind rams will be operated when drill pipe is out of hole on trips. Exhibit "F-1" shows a 4" 10,000 PSI choke manifold with remotely controlled chokes operated from rig floor.

APPLICATION TO DRILL

STERLING SILVER POGO PRODUCING COMPANY
~~SAND DUNES~~ "33" FEDERAL DEEP # 9
 UNIT "K" SECTION 33
 T23S-R31E EDDY CO. NM

11. PROPOSED MUD CIRCULATING SYSTEM:

| <u>DEPTH</u> | <u>MUD WT.</u> | <u>VISC.</u> | <u>WATER LOSS</u> | <u>TYPE SYSTEM</u> |
|----------------|----------------|--------------|-------------------|--|
| 40-650' | 8.4-8.7 | 29-34 | NC | Fresh water Spud Mud use paper to control seepage. |
| 650-4150' | 10.0-10.2 | 29-38 | NC | Brine water using paper to control seepage, and use high viscosity sweeps to clean hole. |
| 4150-12,400' | 8.4-8.7 | 29-40 | NC | Fresh water mud system use high viscosity sweeps to clean clean hole. |
| 12,400-15,400' | 11.3-11.5 | 34-40 | 8-10cc or less | Brine water Salt water Gel to control viscosity and Dris-pac to control water loss. |

Water loss may be required to protect from formation damage while drilling possible pay formations from Wolfcamp to TD.

APPLICATION TO DRILL

POGO PRODUCING COMPANY
STERLING SILVER SAND DUNES "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
T23S-R31E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Induction, Dual Laterolog with CNL, LDT, Gamma Ray, Caliper. Type logs run will be determined on which type mud system is being used.
- B. Mud logger may be rigged up on hole at 4150' and remain on hole to TD.
- C. Cores and DST's may be run as shows dictate.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H²S in this area. If H²S 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 8000± PSI, and Estimated BHT 200°.

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 50 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 MORROW formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as a gas well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of bloop 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, H₂S 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 telephones 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 H₂S has on tubular goods and other mechanical equipment.
9. If H₂S 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 H₂S scavengers if necessary.

SURFACE USE PLAN

POGO PRODUCING COMPANY
~~STERLING SILVER~~
SAND DUNES "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
T23S-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 2. miles, turn Left (East) go 600'± to well # 7 continue East for 1000'± to location.
 - C. Flowlines and Powerlines will be constructed along lease roads or on existing R-O-W's, as shown on Exhibit "C"
2. PLANNED ACCESS ROADS:
 - 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 RAIDUS.
 - A. Water wells - One located approximately 1.25 miles south.
 - 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

STERLING
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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 "C".

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.

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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.

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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. An archaeological survey will be conducted on the location and access roads. This report will be filed with The Bureau of Land Management 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 ² 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 :

DATE :

TITLE :

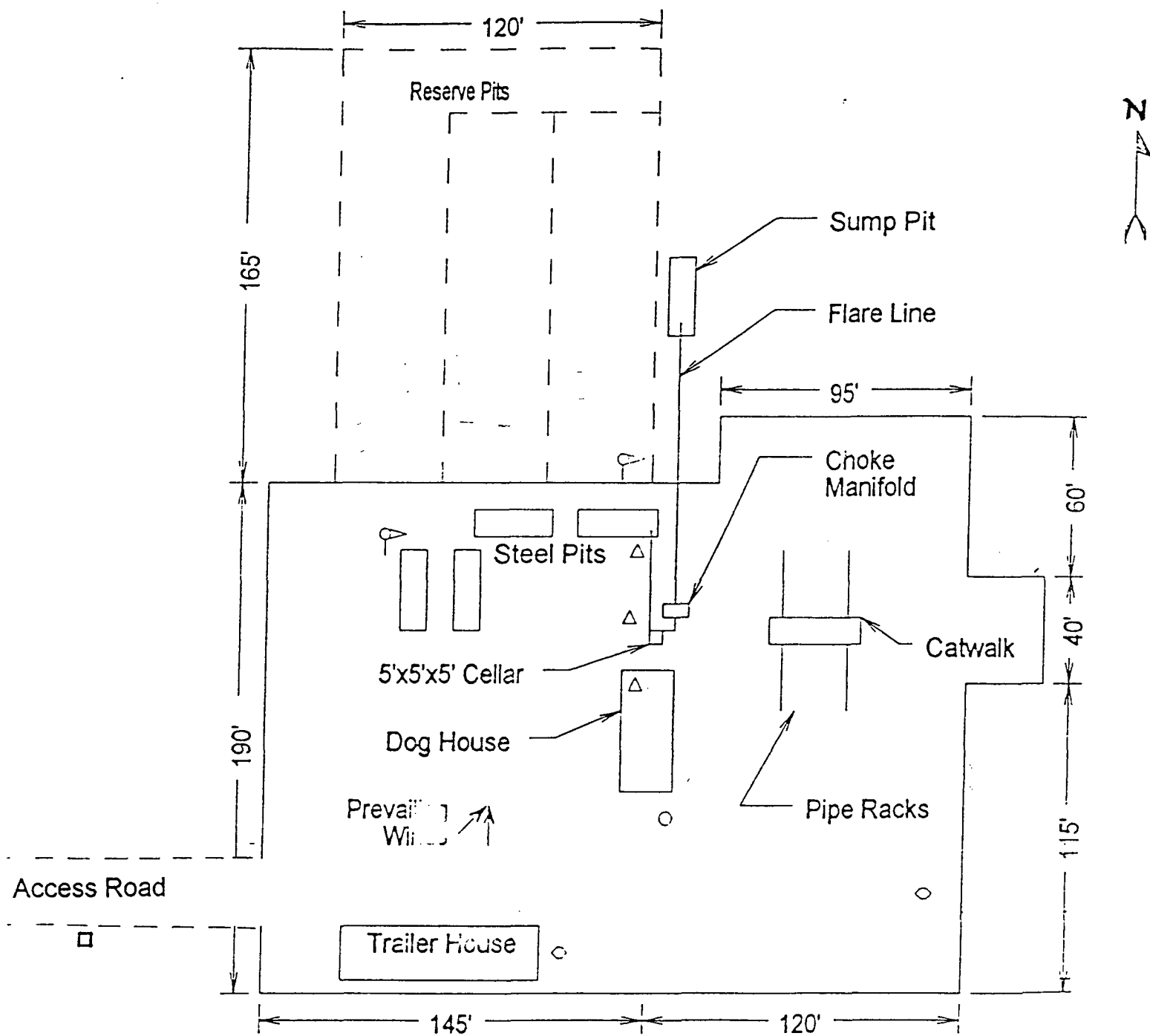
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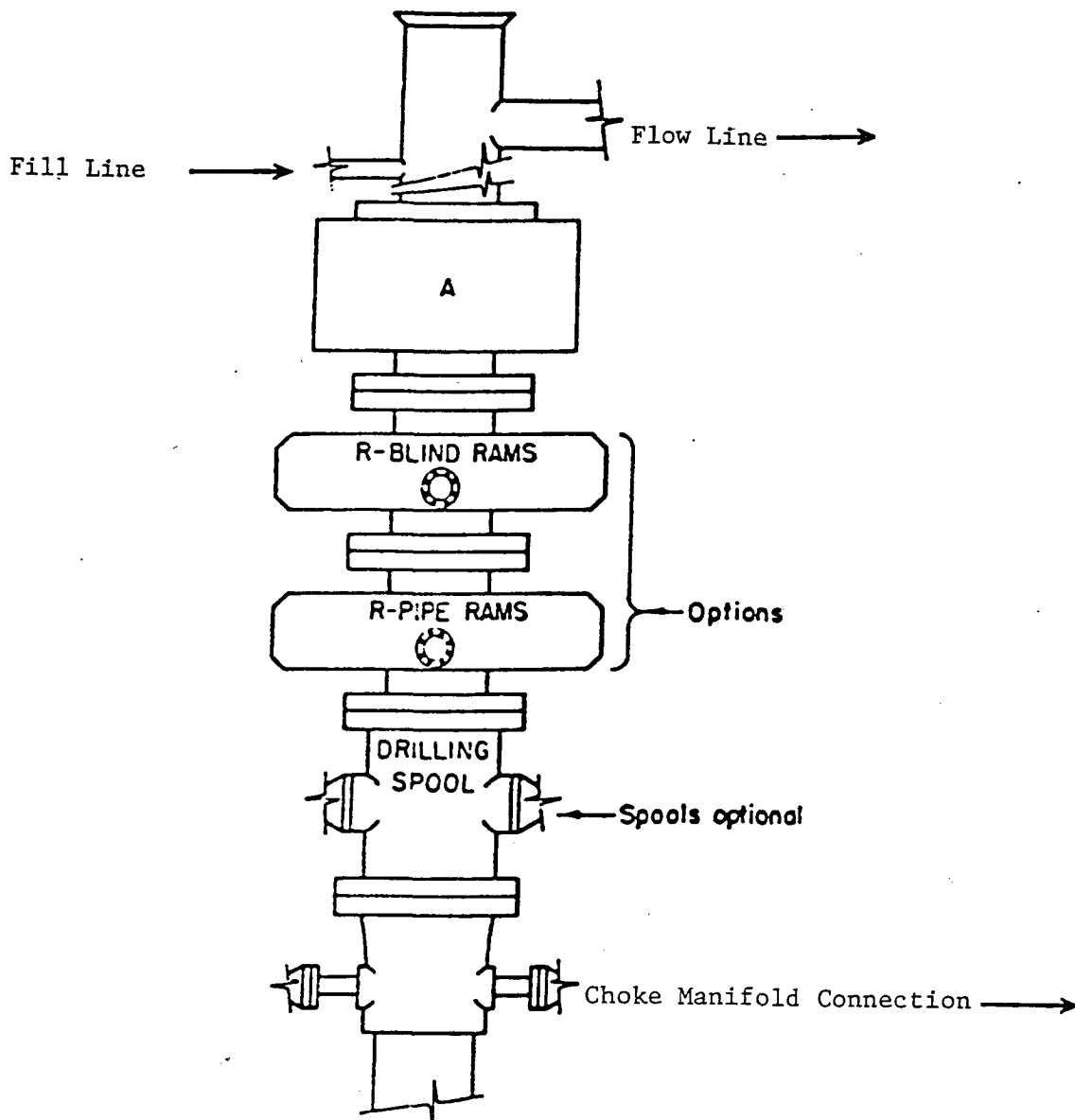
Agent



- Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"
RIG LAY OUT PLAT

POGO PRODUCING COMPANY
STERLING SILVER SAND DUNES "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
T23S-R31E EDDY CO. NM



ARRANGEMENT SRRA

1500 Series
5000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON
5000 PSI

POGO PRODUCING COMPANY
STERLING SILVER SAND DUNES "33" FEDERAL DEEP # 9
UNIT "K" SECTION 33
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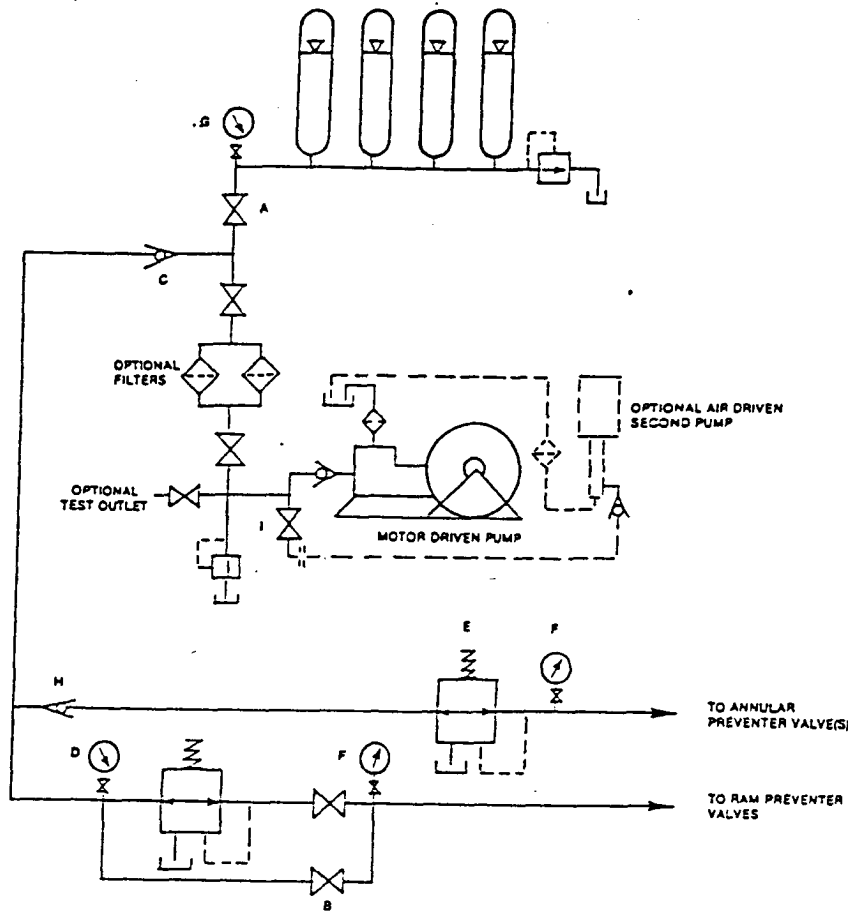


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

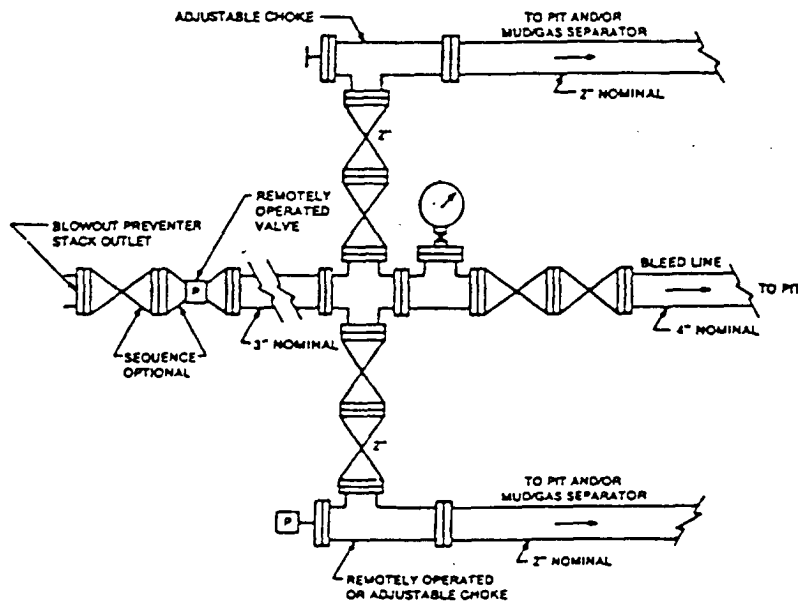


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

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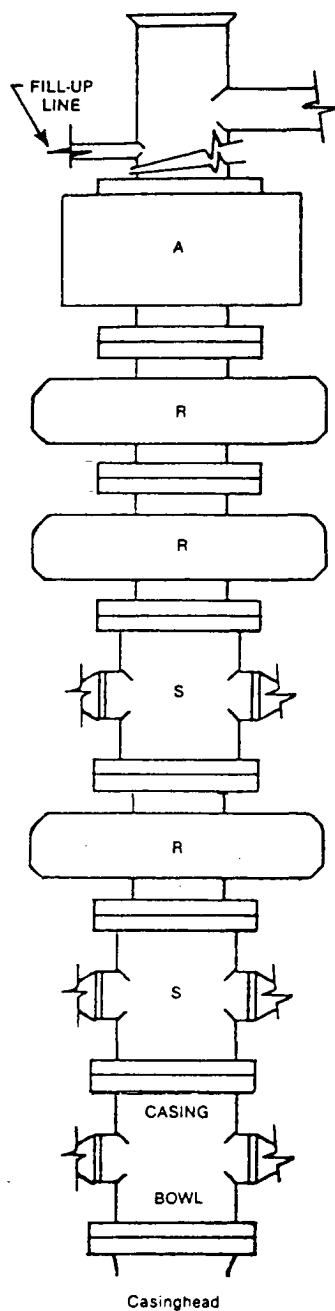
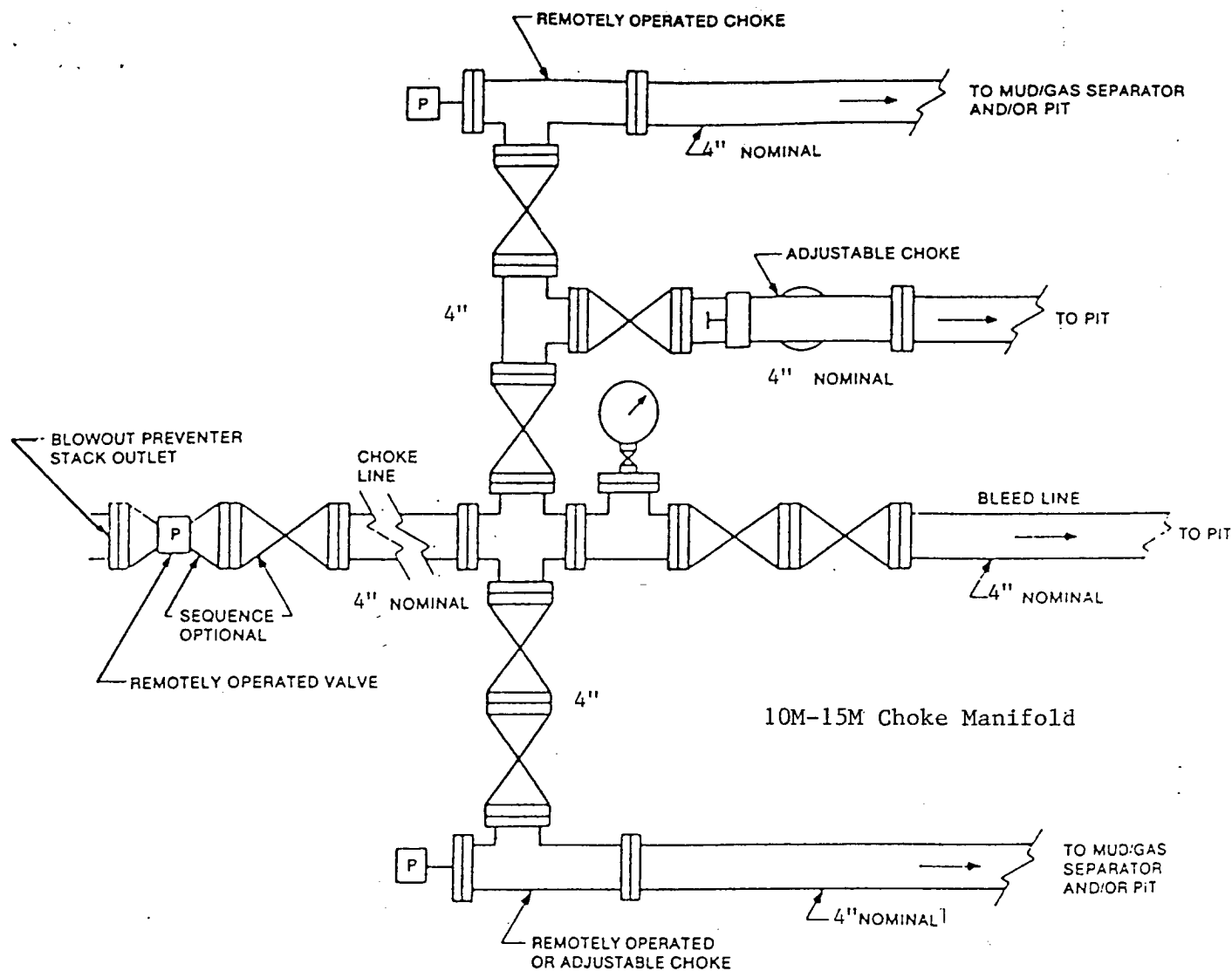


FIGURE K1-3. Recommended IADC Class 10 BOP stack arrangement
SRSRRA, 10,000 psi WP. Lower drilling spool is optional with outlets on
lower ram.

EXHIBIT "F"
SKETCH OF B.O.P. TO BE USED ON
10,000 PSI

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Section K6
Page 2

BLOWOUT PREVENTION
EQUIPMENT
Accumulators

DRILLING MANUAL

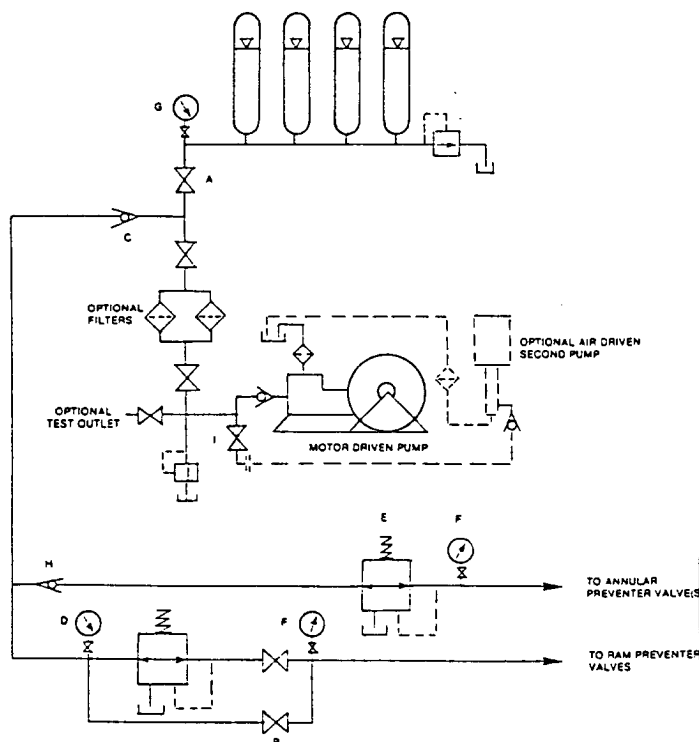


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
SAND DUNES "33" FEDERAL DEEP # 9
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CONDITIONS OF APPROVAL - DRILL

Operator's Name: POGO PRODUCING COMPANY *sterling Silver*
 Well Name & No. 9 - SAND DUNES 33 FEDERAL DEEP
 Location: 1980' FSL & 1980' FWL - SEC 33 - T23S - R31E - EDDY COUNTY
 Lease: NM-45236

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 7 inch 5 inch liner

C. BOP tests

2. 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.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCDC shall be included on the subsequent report of setting the first casing string.

5. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 13-3/8 inch surface casing shall be set at 650 feet below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch salt protection casing is circulate cement to the surface.

3. The minimum required fill of cement behind the 7 inch production casing is circulate cement to the surface.

4. The minimum required fill of cement behind the 5 inch liner is cement shall extend upward to the top of the liner at 1200 feet.

5. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

ORIG. SIGNED LES BABYAN