

N.M. Oil Cons. DIV-Dist. 2
RESUBMITTAL 1301 W. Grand Avenue
Artesia, NM 88210

Form 3160-3
(April 2004)

0169

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER R-111-POTASH		5. Lease Serial No. NM-70895
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Pogo Producing Company		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 10340, Midland, TX		8. Lease Name and Well No. Sundance 10 Federal #2
3b. Phone No. (include area code) 432-685-8100		9. API Well No. 30-015-33889
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 660' FNL & 1980' FWL At proposed prod. zone		10. Field and Pool, or Exploratory Sand Dunes Delaware West
14. Distance in miles and direction from nearest town or post office* Approximately 18 miles East of Carlsbad NM		11. Sec., T. R. M. or Blk and Survey or Area Sec 10, T24S, R31E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of acres in lease 320	12. County or Parish Eddy County
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320'	19. Proposed Depth 8500'	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3460' GR	22. Approximate date work will start* When Approved	20. BLM/BIA Bond No. on file 29771
24. Attachments CARLSBAD CONTROLLED WATER BASIN		

RECEIVED

JAN 10 2005

ODD-ARTESIA

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|--|--|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer. |
|--|--|

25. Signature Cathy Wright	Name (Printed/Typed) Cathy Wright	Date 11/03/04
Title Sr. Eng. Tech		
Approved by (Signature) /s/ Linda S. C. Rundell	Name (Printed/Typed) /s/ Linda S. C. Rundell	Date 2 DEC 2004
Title STATE DIRECTOR		Office NM STATE OFFICE

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, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

*(Instructions on page 2)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Witness Surface &
Intermediate Casing

SUNDANCE 10 FEDERAL #2

Drilling Plan

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cmt to surface w/ Redi-mix.
2. Drill 17-1/2" hole to 600'. Run & set 600' of 13-3/8" 48# H-40 ST&C csg. Cmt w/ 600 sks Cl "C" cmt followed by 200 sks Cl "C" cmt + 2% CaCl₂. Circ cmt to surface.
3. Drill 11" hole to 4200'. Run & set 4200' 8-5/8" 32# J-55 ST&C casing. Cmt w/ 1000 sks Cl "C" cmt followed by 200 sks Cl "C" cmt + 2% CaCl₂. Circ cmt to surface.
4. Drill 7-7/8" hole to 8500'. Run & set 8500' of 5-1/2" csg as follows: 2500' 17# J-55 LT&C, 5000' 15.5# J-55 LT&C, 1000' 17# J-55 LT&C. Cmt in 3 stages w/ DV tools at 5800' & 3700' ±. Cmt 1st stage w/ 650 sks Cl "H" + add. Cmt 2nd stage w/ 600 sks Cl "C" + add. Cmt 3rd stage w/ 400 sks Cl "C" + add followed by 100 sks Cl "C" + 1% CaCl₂. Circ cmt to surface.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 53815	Pool Name SAND DUNES DELAWARE-WEST
Property Code	Property Name SUNDANCE "10" FEDERAL	Well Number 2
OGRID No. 17891	Operator Name POGO PRODUCING COMPANY	Elevation 3460'

Surface Location

UL or lot No. C	Section 10	Township 24-S	Range 31-E	Lot Idn	Feet from the 660	North/South line NORTH	Feet from the 1980	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

	<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</p> <p>Joe T. Janica Printed Name</p> <p>Agent Title</p> <p>02/06/03 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>JANUARY 24, 2003 Date Surveyed</p> <p>Signature & Seal of Professional Surveyor <i>Ronald J. Edison</i> 03.11.0100</p> <p>Certificate No. RONALD J. EDISON 3239 GARY EDISON 12641</p>
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EXHIBIT "A"

APPLICATION TO DRILL

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
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' FNL & 1980' FWL SECTION 10 T24S-R31E EDDY CO. NM
2. Elevation above Sea Level: 3460' 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: 8500'
6. Estimated tops of geological markers:

Rustler Anhydrite	550'	Cherry Canyon	5250'
Basal Anhydrite	4080'	Manzanita	5460'
Delaware Lime	4320'	Brushy Canyon	6500'
Bell Canyon	4360'	Bone Spring	8208'
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 ^{SSS}	20"	NA	NA	NA	Conductor
17½"	840-850' 0-600'	13 3/8"	WITNESS 48	8-R	ST&C	H-40
11"	0-4200'	8 5/8"	WITNESS 32	8-R	ST&C	J-55
7 7/8"	0-8500'	5½"	17 & 15.5	8-R	LT&C	J-55

APPLICATION TO DRILL

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-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 ⁴⁵⁰ 600' of 13 3/8" 48# H-40 ST&C casing. Cement with 600 Sx. of 65/35/6 Class "C" POZ-Gel, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
8 5/8"	Intermediate	Set 4200' of 8 5/8" 32# J-55 ST&C casing. Cement with 1000 Sx. of 65/35/6 Class "C" POZ-Gel, + 5% Salt, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement.
5 1/2"	Production	Set 8500' of 5 1/2" casing as follows: 2500' of 5 1/2" 17# J-55 LT&C, 5000' of 5 1/2" 15.5# J-55 LT&C, 1000' of 5 1/2" 17# J-55 LT&C casing. Cement in 3 stages with DV Tools at 5800' & 3700'±. cement 1st stage with 650 Sx. of Class "H" cement + additives, 2nd stage with 600 Sx. of Class "C" + 8# of Gilsonite/Sx. 3rd stage cement with 400 Sx. of 65/35/6 Class "C" POZ-Gel, tail in with 100 Sx. of Class "C" + 1% CaCl, + 1/4# Flocele/Sx. circulate cement to surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B.O.P. will be nipped up on the 13 3/8" casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated when the drill pipe is out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 2" 3000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected in this well.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE SYSTEM
⁸⁵⁰ 40-600'	8.4-8.7	29-30	NC	Fresh water Spud Mud add paper to control seepage
⁸⁵⁰ 600-4200'	10.1-10.2	29-38	NC	Brine water add paper to control seepage and use high viscosity sweeps to clean hole.
4200-8500'	8.4-8.7	29-40	NC *	Fresh water use Gel to control viscosity and high viscosity sweeps to clean hole if water loss is required go to a Polymer system

* If water loss control is needed to run logs and casing go to a Poly-mer system.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, & casing the viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

12. TESTING, LOGGING, & COREING PROGRAM:

- A. Open hole logs: Dual Induction, LDT, CNL, Gamma Ray Caliper from TD back to 8 5/8" casing shoe.
- B. cased hole logs: Gamma Ray, Neutron from 4200'± back to surface.
- C. Mud logger may be placed on hole at 4200' and remain on to TD.
- D. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H₂S detectors will be in place to detect any presence of unsafe levels of H₂S. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operations of all equipment that will be used. Estimated BHP 4000 PSI & estimated BHT 160°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Roads and location construction will begin after the BLM approves the APD. Anticipated spud date will be as soon as pad & road construction has been completed. Drilling time for the well is estimated to take 30 days. If production casing is run an additional 30 days will be required to complete well and construct surface facilities.

15. OTHER FACETS OF OPERATION:

After running production casing, cased hole Gamma-Neutron & Collar logs will be run over all possible pay intervals. If commercial production from the BONE SPRING pay is indicated it will be perforated and stimulated. Then if necessary the pay will be swab tested and completed as an oil well.

H₂ROGEN 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 bloopie line (mud pit) and on derrick floor or doghouse.
3. Windsack and/or wind streamers
 - A. Windsack at mudpit area should be high enough to be visible.
 - B. Windsack at briefing area should be high enough to be visible.
 - C. There should be a windsack 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 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 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
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

1. EXISTING AND PROPOSED ROADS: Area maps: Exhibit "B" is a reproduction of a County General Hi-way map showing access roads to the location. Exhibit "C" is a reproduction of a USGS Topographic map showing existing roads in close proximity to the location and the proposed access roads. All existing roads will be maintained in a condition equal to or better than their current conditions. All 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 New Mexico go 38 miles to CR-29 turn South go 21.5 miles to State Road 128, turn Right go 3.9± miles turn Left go 1.9 miles, turn East go 1.1 miles, turn North go .3 miles, turn East go .25 miles, turn South go 1 mile, turn West go .25 miles turn South, go 1 mile, turn East go .3 miles to location.

C. Lay flowlines and construct powerlines along road R-O-W's as shown on Exhibit "F"

2. PLANNED ACCESS ROADS: Approximately 1350' 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 roads will be surfaced to the BLM requirements with material obtained from a local source.

E. Center line of new road will be flagged.

F. The new road will be constructed to utilize low water crossings where drainage currently exists, and culverts will be installed where necessary.

3. EXHIBIT "A-1" SHOWS THE BELOW LISTED TYPE WELLS WITHIN A 1 MILE RADIUS:

A. Water wells	-	One approximately .75 miles Northwest 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

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

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. If additional routes are needed a Sundry report will be submitted to obtain approval for flowlines and/or powerlines.

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 minimum 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 further drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approved disposal site. Later pits 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

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

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
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

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:

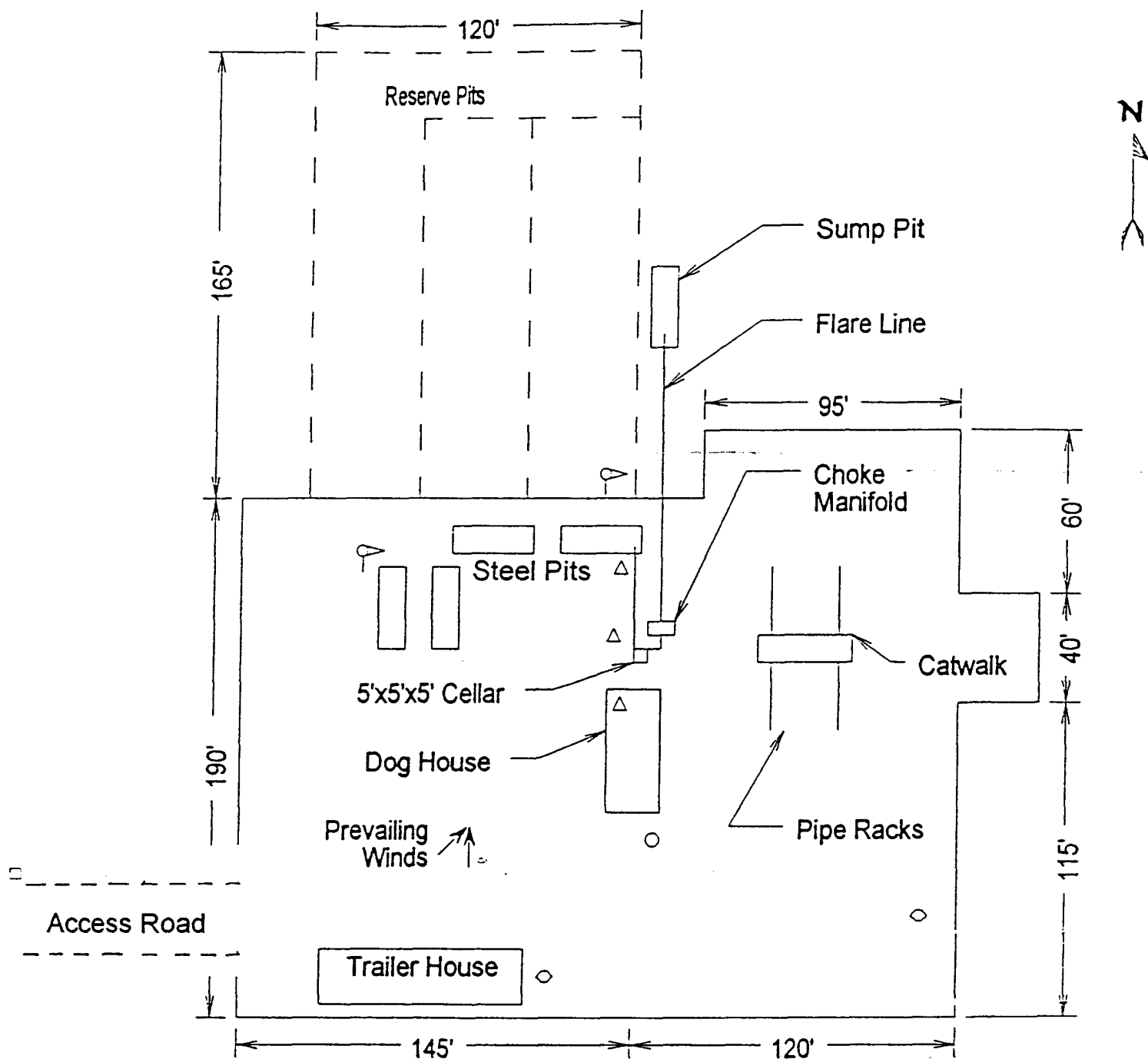
TIERRA EXPLORATION, INC
P.O. BOX 2188
HOBES, NEW MEXICO 88241
OFFICE Ph. 505-391-8503
JOE T. JANICA

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 associated² with the operations proposed herein will be performed by POGO PRODUCING COMPANY it's contractors/subcontractors in conformity 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.

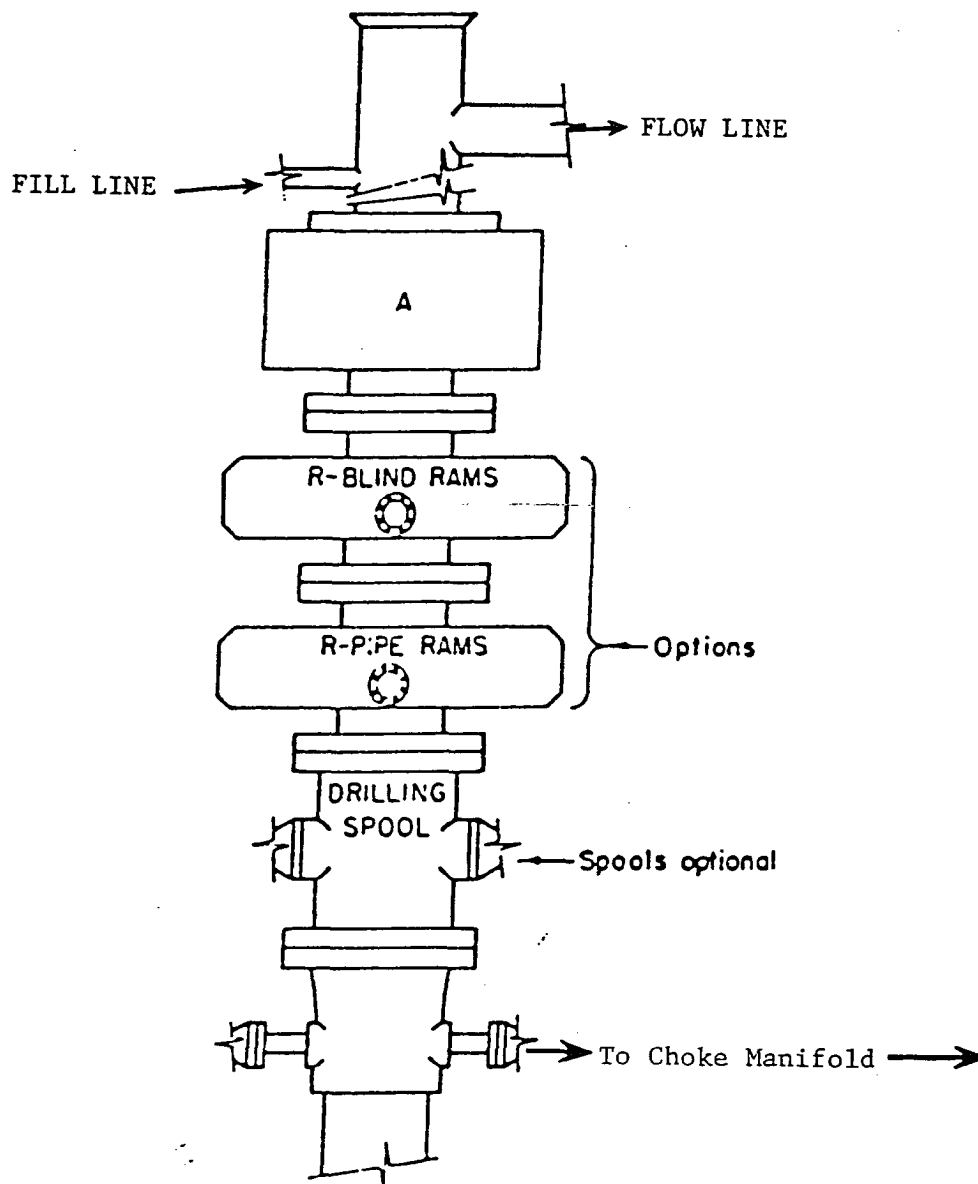
NAME : Joe T Janica
DATE : 02/06/03
TITLE : Agent



- 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
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM



ARRANGEMENT SRRA

900 Series
3000 PSI WP

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

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E EDDY CO. NM

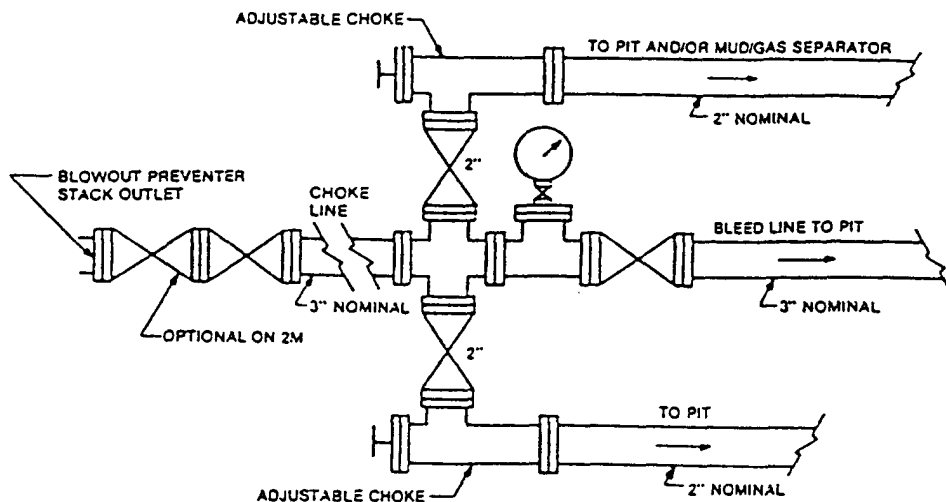


FIGURE K4-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

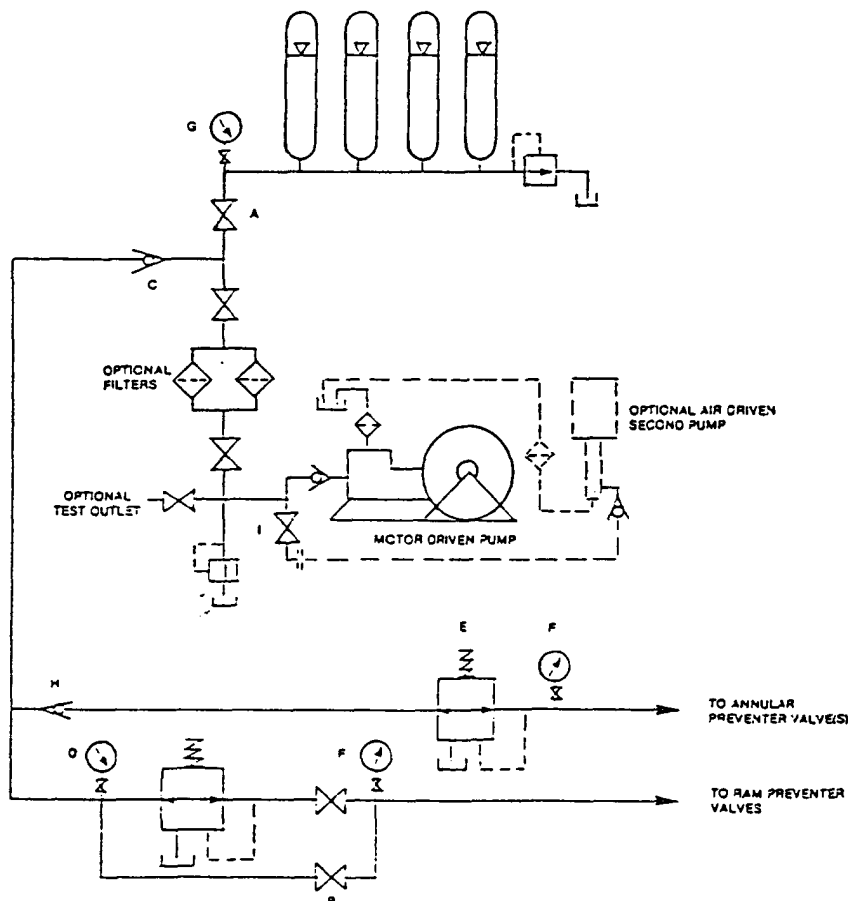


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
SUNDANCE "10" FEDERAL # 2
UNIT "C" SECTION 10
T24S-R31E- EDDY CO. NM