. 10B 126	DEPARTMEN	Expires: February 28, 1995			
1128	BUREAU OF		NM-455 7375236		
APPL	ICATION FOR P	ERMIT TO DRI	LL OR DEEPEN	R-111-	OF A SPAN VILLOTTER OF THE NAME OF
1a. TYPE OF WORK	ILL V	Deepen [	I-06-	44	T. UNIT MELLENANT NAME 2008
b. TIPE OF WELL	ILL W	DEEPEN [			RECEIVED 6
WELL A	VELL OTHER		SINGLE WULTIN	PLE [	S. THEM OR FENCE HAVE WELLES IN
2. NAME OF OPERATOR	17	STERLING SILVER "33" FED			
POGO PRODUCIN		)	9. AF WELL HO CO		
	0 MIDLAND, TEX				10. FIELD AND POOL, OR WILDCAT
4. LOCATION OF WELL (F	teport location clearly and	in accordance with any	State requirements.*)	···	SAND DUNES-MORROW West
	80' FEL SECTION	33 T23S-R31E	EDDY CO. NM		11. SEC., T., R., M., OR SLK. AND SURVEY OR AREA
At proposed prod. zo:	s SAME				SECTION 33 T23S-R31E
14. DISTANCE IN MILES	AND DIRECTION FROM NEA	REST TOWN OR POST OFF	Cz4		12. COUNTY OR PARISH   13. STATE
	30 miles Southe				EDDY CO. NEW MEXICO
13. DISTANCE FROM PROP- LOCATION TO NEARES PROPERTY OR LEASE	•	·   · -	NO. OF ACRES IN LEASE		F ACRES ASSIGNED
(Also to menrest dr.)  13. DISTANCE FROM PROG	g. unit line, it any)	660'	640	-	320
TO NEAREST WELL, D OR APPLIED FOR, ON TH	RILLING, COMPLETED.	330'	15,400'	ROTARY	RY OR CABLE TOOLS
21. ELEVATIONS (Show wh	ether DF, RT, GR, etc.)	2/001 CD		I WO TATE	TER BASIN TE WORK WILL START. WHEN TAPPROVED
		3409' GR.	CARLSBAD CONTR	OILICEU W	WHEN APPROVED
23.		PROPOSED CASING A	ND CEMENTING PROGRA	м	
SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH		QUANTITY OF CEMENT
26"	Conductor	NA NA	40"	Cement	to surface W/Redi-mix.
17½"	J-55 13 3/8" N-80 9 5/8"	54.5#	4150' 5	\$800 Sx	. circulate cemmet to surface
12½" 8½"	HCP 7"	43.5# 29#	12,400' WIT	MESS S	x. Est TOC 3000' FS
6 1/8"	HCP 5"	18#	12,200'-15,400'	400 Sx	. Top of liner Hanger
Redi-mix  2. Drill 17 with 800 surface.  3. Drill 12 Cement w  4. Drill 8½ with 120 surface.	hole to 650' Sx. of Class "Class" hole to 4150 ith 1200 Sx. of hole to 12,400 Sx. of Class 'Volumes may be	Run and set 6 C" cement + 2% '. Run and set Class "C" ceme O'. Run and set "H" cement + ad altered after	50' of 13 3/8" J CaCl, + ½# Floce  4150' of 9 5/8" nt + additives, 12,400' of 7" 2 ditives, estimat fluid caliper lo set a 3200' 5" 1	-55 %\$. 1e/Sx. 43.5# N circula 9# HCP e top o gs are 8# HCP	te cement to surface.  LT&C casing. Cement f cement 3000' from run.  LT&C lines from (15,400'
+ addit N ABOVE SPACE DESCRIBI	ives. Cement to	top of liner.		jenera Nd.sp	ECIAL STIPULATIONS THE DESCRIPTIONS THE DESCRIPTIONS
SIGNED C	T. Jeen	le TITLE A	gent	<u>-</u>	06/19/06
PERMIT NO.	eal or State office use)  or warment or certify that the applications of the second control of the second cont	iicant holds (egal or equiable s	APPROVAL DATH	associati	en pits are used in ion with the drilling of this OCD pit permit must be d prior to pit construction.
APPROVED BY	s/ Jesse J. Juen	TRE	TATE DIRECTOR	<del></del>	APPROVAL FOR 1 YEAR
		*See Instructions	On Reverse Side		WILL II III ALTER II CON

was to the mean of the state of

DISTRICT I 1625 N. Freich Dr., Hobbs, NM 68240 DISTRICT II 811 South First, Artesia, NM 88210

2040 South Pacheco, Santa Fe, NM 87505

DISTRICT III

DISTRICT IV

#### 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

# 1000 Rio Brazos Rd., Aztec, NM 87410

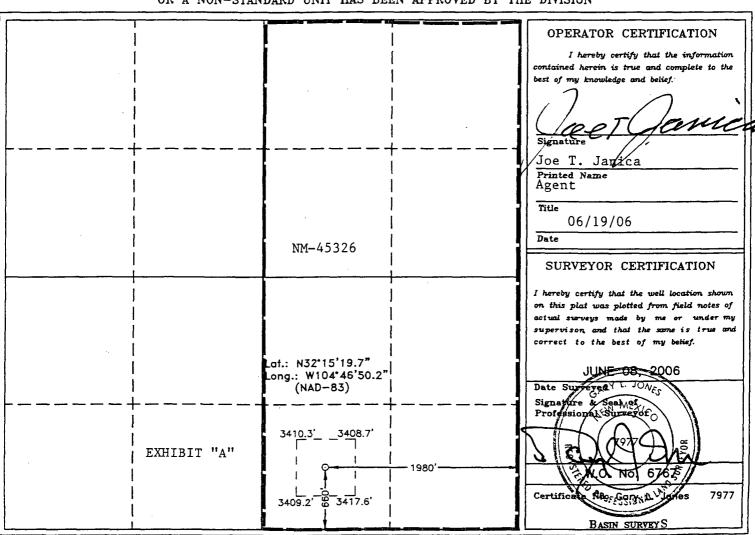
OIL CONSERVATION DIVISION

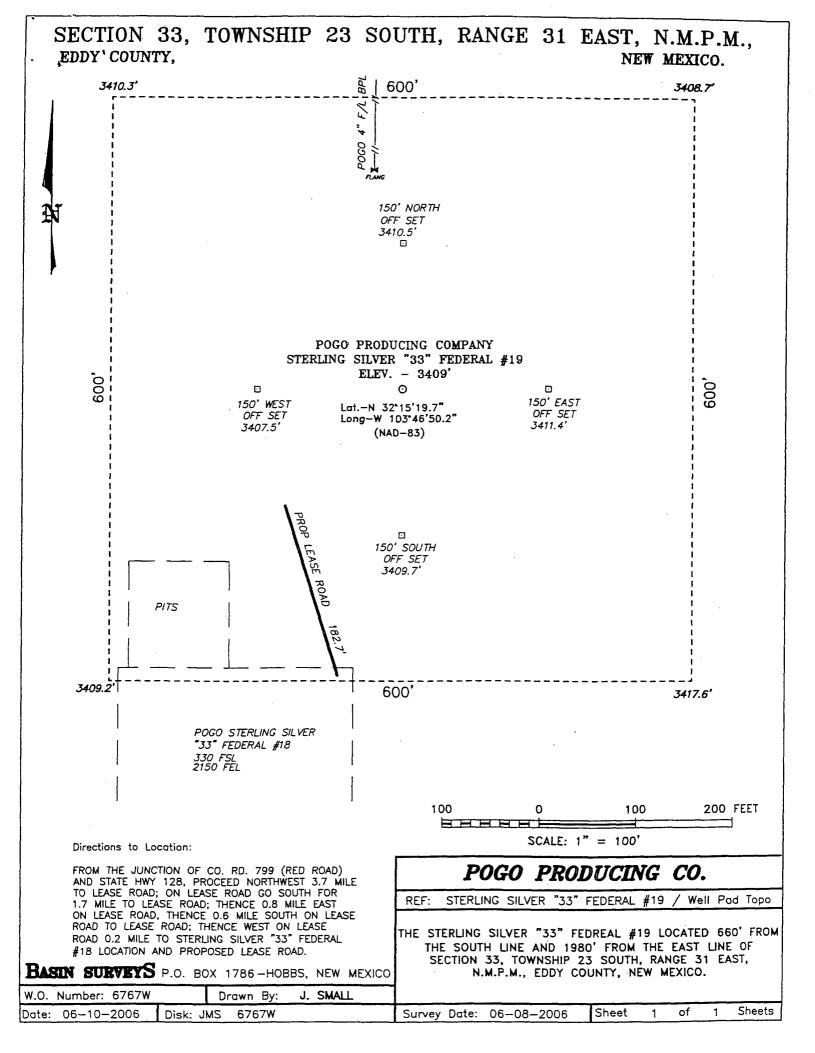
2040 South Pacheco Santa Fe, New Mexico 87504-2088

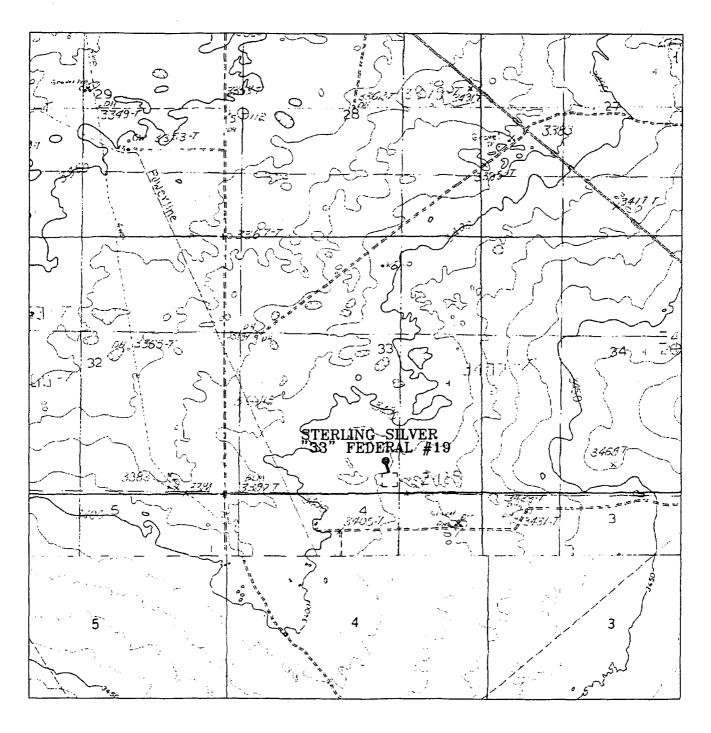
☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number				Pool Code Pool Name						
SAND DUNES- MORROW L						ies t				
Property (	Code				Property Nan				Well Number	
			•	STERLING	G SILVER "3	3" FEDERAL		19		
OGRID No	o.			,	Operator Nam	ıe .		Eleva	Elevation	
017891				POG0	PRODUCING	COMPANY		340	9'	
					Surface Loc	ation				
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
0	33	23 S	31 E		660	SOUTH	1980	EAST	EDDY	
			Bottom	Hole Loc	ation If Diffe	rent From Sur	face			
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
Dedicated Acres   Joint or Infill   Consolidation Code   Order No.										
320	ļ									
NO ALLO	WABLE W	TILL BE	ASSIGNED '	ro This	COMPLETION I	NTIL ALL INTER	ESTS HAVE BI	EEN CONSOLIDA	ATED	
		OR A	NON-STAN	DARD UN	IT HAS BEEN	APPROVED BY	THE DIVISION			







STERLING SILVER "33" FEDERAL #19 Located at 660' FSL and 1980' FEL Section 33, Township 23 South, Range 31 East, N.M.P.M., Eddy County, New Mexico.



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: JMS 6767T Survey Date: 06-08-2006 Scale: 1" = 2000'Date: 06-10-2006

POGO **PRODUCING COMPANY** 

# APPLICATION TO DRILL

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "0" SECTION 33
T23S-R31E EDDY CO. NM

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

- 1. LOCATION: 660' FSL & 1980' FEL SECTION 33 T23S-R31E EDDY CO. NM
- 2. ELEVATION ABOVE SEA LEVEL:
- 3. GEOLOGIC NAME OF SURFACE FORMATION: Quaternery 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: 15,400'
- 6. ESTIMATED TOPS OF GELOOGICAL MARKERS:

Rustler Anhydrite	410	Wolfcamp	11,510	Morrow Clastic	s 14,325'
Base of Salt	3955 <b>'</b>	Strawn	13,200'	Lower Morrow	14,900'
Cherry Canyon	5090	Atoka	13,350'	TD	15,400'
Bone Spring	8020	Morrow Lime	13,982'		

7. POSSIBLE MINERAL BEARING FORMATION: Wolfcamp

Deraware 3d	011	WOIICamp	Gas	Morrow Lime	Gas
Brushy Canyon	Oil	Strawn	Gas	Morrow Clastics	Gas
Bone Spring	Oil	Atoka ,	Gas	Lower Morrow	Gas

8. CASING PROGRAM:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
26"	0-40	20"	NA	NA	NA	Conductor
17½"	0-650'	13 3/8"	54.5#	8-R	ST&C	J-55
1211	0-4150'	9 5/8"	43.5#	8-R	ST&C	N-80
81"	0-12,400'	7"	29#	8-R	LT&C	НСР
6 1/8"	12,200-15,400	5"	18#	8-R	LT&C	НСР

#### APPLICATION TO DRILL

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "O" 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, + $\frac{1}{4} \#$ Flocele/Sx. Circulate cement to surface.
9 5/8"	lst 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 with 1200 Sx. of Class "H" cement + additives. Cement in two stages with DV Tool at 7000'±. Estimate top of cement 3000' FS.
<del>-</del>	Production Liner	Set 3200' of 5" 18# HCP 8-R LT&C liner from 12,200' to 15,400'. Cement with 400 Sx. of Class "H" Premium Plus cement + additives, cement to top of liner.

### 10. PRESSURE CONTROL EQUIPMENT:

Exhibit "E" shows a 1500 Series 5000 PSI working pressure B.O.P., consisting of a top annular bag type preventor, middle blind rams, bottom pipe rams, this will be nippled up on the 13 3/8" casing and remain on the hole to 12,400'. Exhibit "E-1" shows a 3" 5000 PSI choke manifold with two hand adjustable outlets and a remote closing unit. Exhibit "F" shows a 10,000 PSI working pressure B.O.P. Consisting of annular bag type preventor, middle top pipe ram, middle bottom blind rams, and bottom pipe rams. This B.O.P. will be nippled up after the 7" casing is run and remain on the hole to TD. Exhibit "F-1" shows a 10,000 PSI 4" chole manifold with remotely operated chokes, hand operated chokes and a hydraucally operated closing unit. B.O.P.'s 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 valveand upper kelly cock will be utilized. All equipment will be tested according to API specifications.

### 11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-650'	8.4-8.7	29-32	NC	Fresh water spud mud add paper to control seepage
650-4150'	10.0-10.2	29-36	NC	Brine water add paper to control seepage and high viscosity sweeps to clean hole.
4150-12,400'	8.4-8.8	29-40	NC *	Fresh water use high vis- cosity sweeps to clean hole.

#### APPLICATION TO DRILL

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "O" SECTION 33
T23S-R31E EDDY CO. NM

DEPTH	MUD WT	VISC.	FLUID LOS	S TYPE MUD SYSTEM
12,400-15,400'	11.5-11.8	30-38	*	Brine water with necessary weighting material that may necessary to contain any pressures above normal gradient. Use high viscosity sweeps to clean hole. Use a POlymer system to control
	control may be n's, cut cores, ru			water loss control.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks.

# 12. LOGGING CORING AND TESTING PROGRAM:

- A. Types of open hole logs will be determined by the Geologist and the type of mud system is in use at that time. Fluid caliper logs may be run to calculate the volume of cement to cement casing.
- B. Mud logger will be rigged up on hole at 4150'
- C. DST's and Cores may be taken as shows dictate.
- 13. POTENTIAL HAZARDS: No abnormal pressures or temperatures are expected. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S is encountered the operator will comply with the provisions of Onshore Oil & Gas Order No. 6. No lost circulation and no abnormal pressures are expected to occur. All personel will be familiar all aspects of safe operation of equipment being used to drill this well. Estimated BHP \_\_\_\_\_\_PSI, and estimated BHT \_\_\_\_\_.
- 14. STARTING DATE AND DURATION OF OPERATION: Road and location construction will begin after the approval of APD, drilling operation will commence as soon as a drilling rig is available. Move in operation and drilling of well is expected to take approximately 70 days. If production casing is run an additional 30 days will be needed in order to complete well and construct production equipment and place well on production.
- 15. OTHER FACETS OF OPERATIONS: After running casing, cased hole Gamma Ray, Neutron, and collar logs will be run from TD back over all possible productive formations. The Morrow formation will be perforated and stimulated in order to establish production. The well be tested and potentialed as a gas well.

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

- 1. All Company and Contract personnel admitted on location must be trained by a qualified  $H_2S$  safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazzards
  - 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. H<sub>2</sub>S Detection and Alarm System's
  - A. H2S 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, H2S present in dangerous concentration. Only emergency personnel admitted to location.
- 5. Well control equipment
  - A. See exhibit "E"
- 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 foremen'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 location is near any dwelling a closed D.S.T. 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 seperator will be brought into service along with  $H_2S$  scavengers if necessary.

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "O" SECTION 33
T23S-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 reproductio 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 41± miles to WIPP road, turn Left (South) go 13 miles to CO-802, turn Right (West) go 4.6 miles to State Road 128. Turn Left (East) go 3.4 miles to lease road, turn Right (South) go 1.8 miles, turn Left (East) go .8 miles to well # 15, turn Right (South) go .6 miles to well # 17, turn Right (West) 1200' to well # 18, turn Right (North) go 3000' to location.
  - C. Exhibit "C" shows the roads and location, proposed flowlines, powerlines and existing roads.
- 2. PLANNED ACCESS ROADS: No additional roads will be required.
  - 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 i mile 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"

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "0" SECTION 33
T23S-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. Exhibit "C" shows proposed routes of roads, flowlines and 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 quaters 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 furthed 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.

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "O" SECTION 33
T23S-R31E EDDY CO. NM

# 9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the proposed well site layout.
- B. This Exhibit shows the location of reserve pit, sump pits, and living facilities.
- C. Mud pits in the active circulating system will be steel pits and the reserve pits will be unlined unless subsurface conditions encontered during pit construction indicate that a plastic liner is required to contain lateral migration.
- D. If needed the reserve pits will be lined with polyethelene. The pit liner will be no less than 6 mils thick and the liner will be extended at least 3 feet over the top of the dikes and secured in place to keep edge of liner in place.
- E. The reserve pit will be fenced on three sides and fenced with four strands of barbed wire during drilling and completionphases. The 4th side will be fenced after drilling operations are complete and the drilling rig has moved out. If the well is a producer the mud pits will remain fenced in until the mud has dried up enough to break out the pits and reclaimed according to BLM requirements.

# 10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pits will be allowed to dry properly, fluids may be moved and disposed of in accordance with article 7-E 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 furture erosion. In case of the well completed as a producer the drilling pad will be necessary to construct production facilities. After the area has been shaped and contoured top soil from the spoil pile will be placed over the disturbed area to the extent possible so that revegetation procedures can be accomplished to comply with the BLM specifications.

If the well is a dry hole the pad and road area will be contoured to match the existing terrain. Top soil will be spread to the extent possible and revegetation will be carried out according to the BLM specifications.

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

POGO PRODUCING COMPANY
STERLING SILVER "33" FEDERAL #19
UNIT "O" SECTION 33
T23S-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 REPRESENTIVES:

### Before construction:

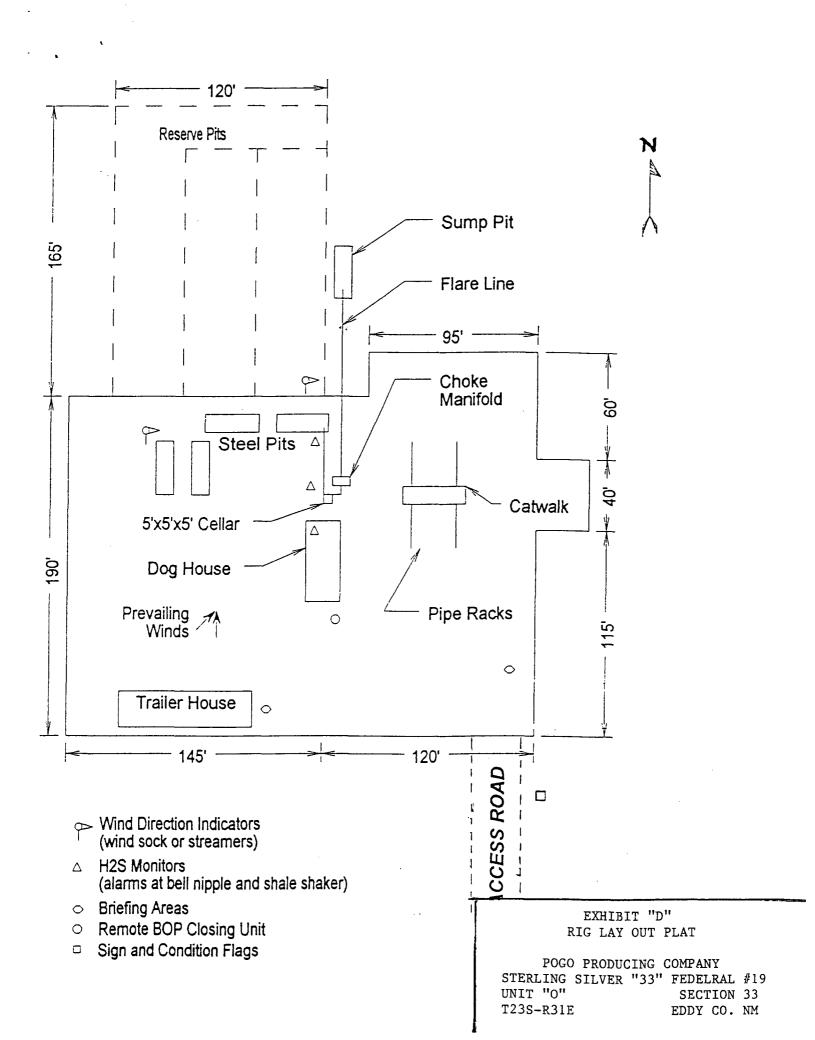
TIERRA EXPLORATION, INC P.O. BOX 2188 HOBBS, NEW MEXICO 88241 OFFICE Ph. 505-391-8503 JOE T. JANICA

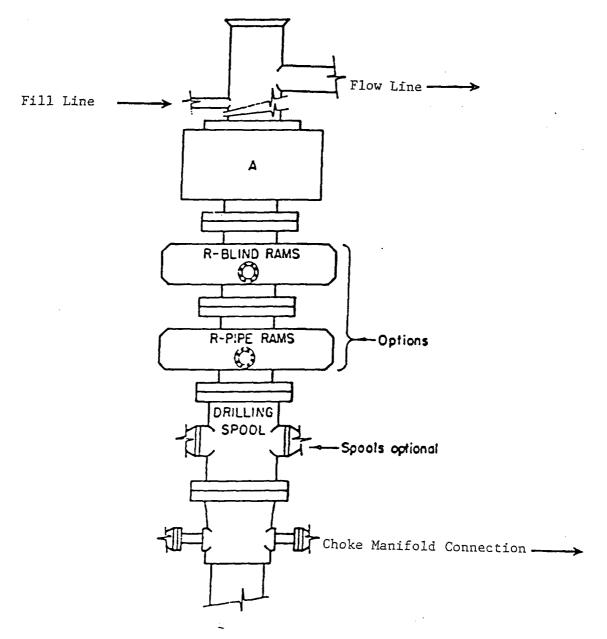
# During and after construction:

POGO PRODUCING COMPANY
P.O. BOX 10340
MIDLAND, TEXAS 79702-7340
OFFICE Ph. 432-685-8100
Mr. RICHARD WRIGHT 432-685-8140

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 fimiliar with the conditions which currently exist, that the statements made in this plan are to the best of my knowledge true and correct, and that the work associated with the operations proposed herein will be performed by POGO PRODUCING COMPANY 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 : OCT CONCO DATE : 06/19/06 TITLE : Agent





# ARRANGEMENT SRRA

1500 Series 5000 PSI WP

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



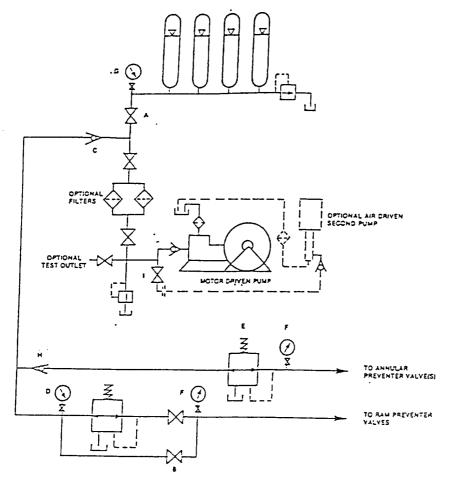


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

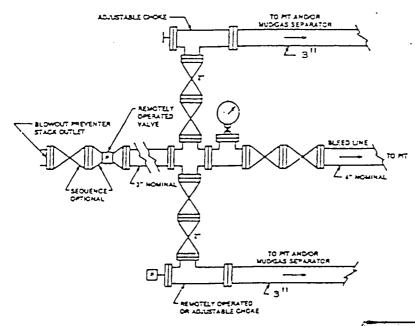


FIGURE X42. Typical choke inanifold assembly for SM rated working pressure service — surface installation.

EXHIBIT "E-1"
5000 PSI
CHOKE MANIFOLD & CLOSING UNIT

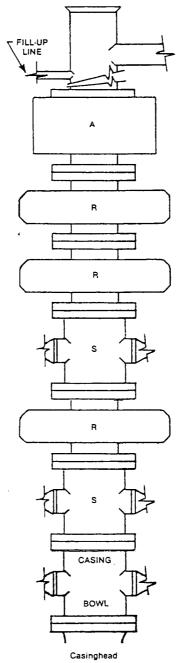


FIGURE K1-3. Recommended IADC Class 10 BOP stack arrangement SRSRRA, 10,000 psi WP. Lower drilling spool is optional with outlets on lower ram. Annular preventers may be 5000 or 10,000 psi.

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

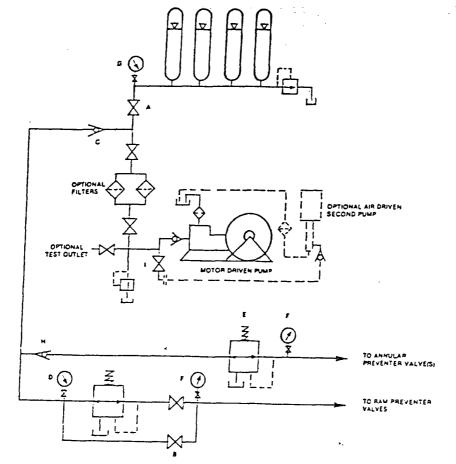
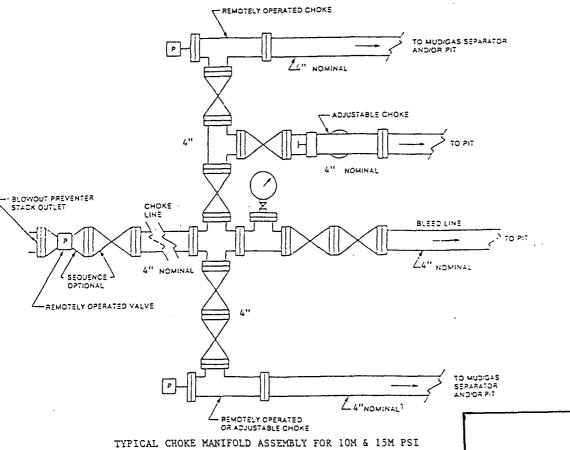


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.



RATED WORKING PRESSURE SURFACE INSTALLATION.

EXHIBIT "F-1"
10,000 PSI
CHOKE MANIFOLD & CLOSING UNIT

#### **CONDITIONS OF APPROVAL - DRILLING**

Operator's Name: Well Name & No.

Pogo Producing Company Sterling Silver 33 Federal # 19

Location:

660' FSL, 1980' FEL, Section 33, T. 23 S., R. 31 E., Eddy County, New Mexico

Lease:

NM-45236

#### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, 505-361-2822 for wells in Eddy County in sufficient time for a representative to witness:

.....

- A. Well spud
- 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 NMOCD 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 <u>13-3/8</u> inch surface casing shall be set at <u>approximately 650 feet</u> 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 <u>9-5/8</u> inch intermediate casing is <u>to be sufficient to circulate</u> to the surface.
- 3. The minimum required fill of cement behind the <u>7</u> inch production casing is <u>to be sufficient to circulate to the surface.</u>
- 4. The minimum required fill of cement behind the  $\underline{\mathbf{5}}$  inch production liner is to be <u>sufficient to circulate to the top of the liner</u>.
- 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.

# **III. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore

Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the <u>13-3/8</u> inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

- 2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be <u>5000</u> psi. Below 12,400 feet, the minimum working pressure of the blowout preventer and related equipment shall be <u>10,000 psi</u>.
- 3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid-suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

#### IV. DRILLING MUD:

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

- Recording pit level indicator to indicate volume gains and losses.
- Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
- Flow-sensor on the flow-line to warn of abnormal mud returns from the well.

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