Form 3160-3 (July 1992)

## New Mexico Off Conservering 1525 N. Frestoine Dinimmetton

DEP

FORM APPROVED

RTMENT OF THE INTERIOR 85240 ede) REAU OF LAND MANAGEMENT	OMB NO. 1004-0136 Expires: February 28, 1995
UREAU OF LAND MANAGEMENT	5. LEASE DESIGNATION AND SERIAL NO. NM-58940
N FOR PERMIT TO DRILL OR DEEPEN	6. IF INDIAN, ALLOTTEE OF TRIBE NAME

DONEAD OF EARD MARKACEMENT						NM-58940	
APPI	LICATION FOR P	ERMIT TO	DRIL	L OR DEEPEN		6. IF INDIAN, ALLOTT	EE OR TRIBE NAME
1a. TYPE OF WORK	B. 4 6 77	DEFORM				7. UNIT AGREEMENT	
b. Tipe of well	RILL X	DEEPEN				U.II AGELLARY	PARE
OIL X	GAS OTHER			INGLE MULT	IPLE	8. FARM OR LEASE HAME W	ELL NO.
2. NAME OF OPERATOR	WELL COTALE		<u>-</u>	20.12		WBR FEDE	
POGO PRODUC	ING COMPANY	(RICHARD W	RIGHT	915-685-8140	)	9. AFI WELL NO.	
3. ADDRESS AND TELEPHONE N						30-025-	-3606
P.O. BOX 10	340 MIDLAND, TEXA	S 79702-73	40 (	(915-685-8100)		10. FIELD AND POOL,	
4. LOCATION OF WELL (	(Report location clearly and	in accordance wi	th any	State requirements.*)		RED TANK-BONE	
2160' FNL &	2250' FWL SEC. 13	T22S-R32	E LE	CA CO. NM		11. SEC., T., B., M., OR AND SURVEY OR	BLE.
At proposed prod. z	one SAME	F				SECTION 13 T	22S-R32E
14. DISTANCE IN MILES	AND DIRECTION FROM NEAR	LEST TOWN OR POS	T OFFIC	2.0		12. COUNTY OR PARIS	R   13. STATE
Approximate	ly 30 miles EAst	of Carlsba	d Nev	v Mexico.		LEA CO. NM	NEW MEXICO
15. DISTANCE FROM PRO LOCATION TO NEARE			16. N	O. OF ACRES IN LEASE		OF ACRES ASSIGNED HIS WELL	<del></del>
PROPERTY OR LEASE		50.		600	}	40	
18. DISTANCE FROM PR	OFOSED LOCATION®		ł.	OPOSED DEPTH	20. ROTA	RT OR CABLE TOOLS	<del></del>
OR APPLIED FOR, ON I		90'	10	,200'	ROT	ARY	
21. ELEVATIONS (Show w	whether DF, RT, GR, etc.)	3686' GR.				22. APPROX. DATE W	
			Carle	bad Controlled Wa	er Basin	WHEN APPROVE	ED
23.	•	PROPOSED CASI	NG AN	CEMENTING PROGR	AM		
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER F	00Т	SETTING DEPTH	7	QUANTITY OF CEME	NT
25"	Conductor 20"	NA		40'	Cement	to surface wi	ith Redi-mix
17½"	H-40 13 3/8"	48		1000'	<del></del>	x. circulate c	
12½"	N-80,S-80 8 5/8	' 32 36		4700 <b>'</b>	1800 S	x. "	11
7 7/8"	N-80,J-55 5½"	17		10,200'	1200 S	x. 2 stage cem	ent top 300
1. Drill 25" h	ole to 40'. Set 4	0' of 20"	condu	ctor pipe and	cement	to sunfâce wi	h Redi-mix
						189. 14.	<u> </u>
2. Drill 17½" 1	hole to 1000'. Ru	n and set 1	1000'	of 13 3/8" 48	# H-40 (Ś	T&C casing. Co	ement with
1000 Sx. of	Class "C" cement	+ 2% CaCl,	$+\frac{1}{4}$	# Flocele/Sx.	circulat	eocement To su	ırface.
3. Drill 12½"	hole to 4700'. R	un and set	4700	of 8 5/8" 32	# N-80%	S>80-ST&C=	sino as
follows: 50	0' of 8 5/8" 32#	S-80 ST&C,	4200	of 8 5/8" 32	#/s=255 s	T&C casing Co	ement/with
1800 Sx. of	Class "C" cement	+ additive	es, c	irculate cemen	t to sur	face.	~~/ ~~/
4. Drill 7 7/8	" hole to 10,200'	. Run and s	set 1	0.200' of 5k"	ragino a	े. इ. कि.व.वि.क्रांड 320	novi of 5km
	&C, 5000' of 5½"						
	DV tool at 7000'						
estimate to	p of cement 3000'	from surfa	ace.	Amace	6800 6 8000	* 163.00 m.e.	
						DIECT TO	
				General Control of the Control of th	ing red	uiretatnts a	ND
IN ABOVE SPACE DESCRI	BE PROPOSED PROGRAM: If	proposal is to deepen,	give data	on present productive 2011	A de la constante de la consta	Hand To the Cone. If ;	proposal is to dall or
Geepen directionally, give per	ninent data on subsurface location	s and measured and tr		a septras. Give appropriet	ELLE BOSCOUR	it any.	
	of Char	1000	.ε <u>Α</u> 2	rent		DATE10/0°	9/02
SIGNED	1 9,000	a	3.1			DATE	77.02
AThir space OPE	R. OGRID NO. 17	871					
	PERTY NO. 935			APPROVAL DATE			
	DL CODE <u>5/683</u>		uitable tit	le to those rights in the subjec	t lense which wo	vald entitle the applicant to $\infty$	anduct operations thereo
	DATE 12-2-03	<del></del> -		- ,			
1 API	NO.30-025-3	6063	FOR				80

Isl Mary J. Rugwell

FIELD MANAGER

NOV 2 6 2002

APPROVAL FOR

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

#### State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994

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

## OIL CONSERVATION DIVISION

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

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

DISTRICT IV

P.O. Box 2088

Santa Fe. New Mexico 87504-2088

P.O. BOX 2088, SANTA FE, N.M. 87504-2088	WELL LOCATION AND	ACREAGE DEDICATION I	PLAT
API Number	Pool Code	P	ool Name
30-025-36063	51683	RED TANK - BONE S	PRING
Property Code	Prop	Well Number	
9350	WBR	FEDERAL	9
OGRID No.	Oper	ator Name	Elevation
17891	POGO PRODU	CING COMPANY	3686'

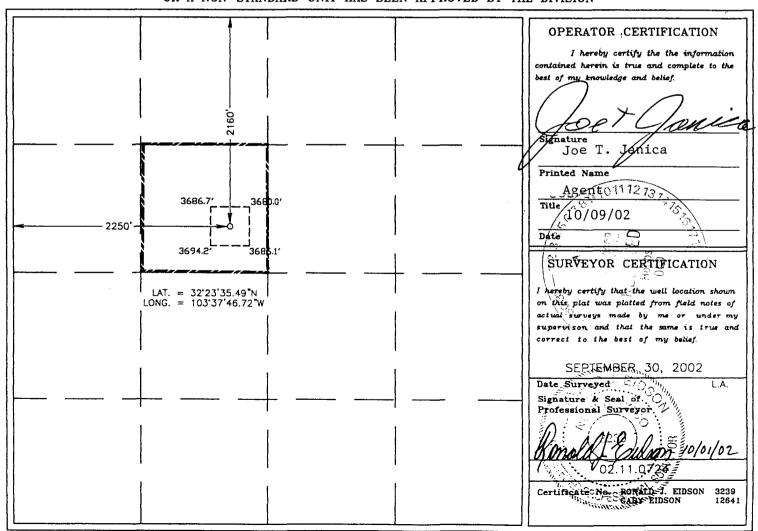
#### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
) F	13	22-S	32-E		2160	NORTH	2250	WEST	LEA
L		<del> </del>	<u> </u>		****	L	<del></del>		L

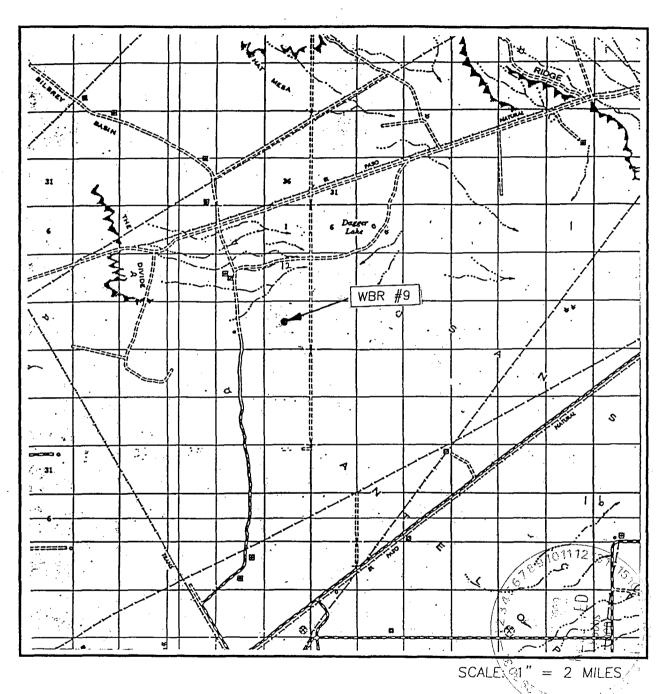
#### Bottom Hole Location If Different From Surface

			Doublin	11010 -0		orene trom our	1400		
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 o	or Infill Co	onsolidation	Code Or	der No.			<u> </u>	

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



## VICINITY MAP

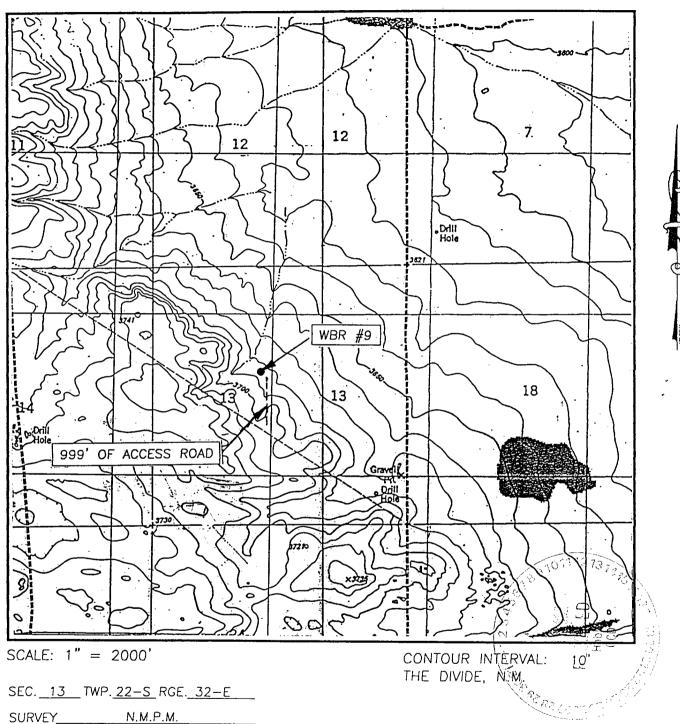


SEC. 13 TWP. 22	<u>-S_RGE32-E</u>
SURVEYN	I.M.P.M.
COUNTY	LEA
DESCRIPTION 2160'	FNL & 2250' FWL
ELEVATION	3686'
OPERATOR POGO F	PRODUCING COMPAN
LEASE WRR	FEDERAL

JOHN WEST SURVEYING HOBBS, NEW MEXICO (505) 393-3117



# LOCATION VERIFICATION MAP



SURVEY\_\_\_\_\_\_N.M.P.M.

COUNTY\_\_\_\_\_LEA

DESCRIPTION 2160' FNL & 2250' FWL

ELEVATION\_\_\_\_\_3686'

OPERATOR POGO PRODUCING COMPANY

LEASE\_\_\_\_\_WBR FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

THE DIVIDE, N.M.

JOHN WEST SURVEYING HOBBS, NEW MEXICO (505) 393-3117

## APPLICATION TO DRILL

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA 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: 2250' FWL & 2160' FNL SECTION 13 T22S-R32E LEA CO. NM
- 2. Elevation above Sea Level: 3686' 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: 10,200'
- 6. Estimated tops of geological markers:

Rustler Anhydrite	900'	Cherry Canyon	6000'
Base of Salt	4350'	Brushy Canyon	7000'
Delaware	4842'	Bone Spring	8730'
Ramsey Sand	49201	1st Bone Spring Sd.	9850'

## 7. Possible mineral bearing formations:

Delaware	Oil
Brushy Canyon	Oil
Bone Spring Sd.	Oil

8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25''	0-40'	20"	NA	NA	NA NA	Conductor
17½"	0-1000'	13 3/8"	48	8-R	ST&C	H-40
12½"	0-4700'	8 5/8"	32	8-R	ST&C	J-55 S-80
7 7/8"	0-10,200'	5½"	17	8-R	LT&C	N-80 J <b>-</b> 55

#### APPLICATION TO DRILL

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA CO. NM

## 9. CEMENTING AND SETTING DEPTH OF CASING:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 1000' of 13 $3/8$ " $48\#$ H-40 ST&C casing. Cement with 1000 Sx. of Class "C" cement + additives, circulate cement to surface.
8 5/8"	Intermediate	Set 4700' of 8 $5/8$ " $32\#$ casing as follows: $500$ ' of $32\#$ S-80 ST&C, 4200' of 8 $5/8$ " $32\#$ J-55 ST&C casing. Cement with 1800 Sx. of Class "C" cement + additives, circulate cement to surface.
5½"	Production	Set 10,200' of $5\frac{1}{2}$ " casing as follows: 3200' of $5\frac{1}{2}$ " 17# N-80 LT&C, 5000' of $5\frac{1}{2}$ " 17# J-55 LT&C, 2000' of $5\frac{1}{2}$ " 17# N-80 LT&C. Cement in two stages with DV tool at 7000'±. Cement with 1200 Sx. of Class "H" cement + additives, estimate top of cement 3000' from 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 nippled 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 drill pipe is out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-I" shows a hydraulically operated closing unit and a 2" 3000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected.

### 11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WI.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-1000°	8.4-8.7	29-34	NC	Fresh water spud mud add paper to control seepage.
1000-4700'	10.1-10.3	29-38	NC .	Brine water add paper to control seepage and high viscosity sweeps to clean hole.
4700-10,200	8.5-8.7	29-38	NC*	Fresh water use fresh water Gel for viscosity control, use high viscosity sweeps
* Use Polymer	system to con	trol water loss	5.	to clean hole. If water loss control is needed use a Polymer system to reduce water loss as required to log & run casing.

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, and casing viscosity and/or water loss may have to be adjusted to meet these needs.

### APPLICATION TO DRILL

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA CO. NM

## 12. LOGGING, CORING, TESTING PROGRAM:

- A. Open hole logs: Run Dual Induction Log, SNP, LDT, Gamma Ray, Caliper from TD back to 4700'. Run Gamma Ray, Neutron logs from 4700' to surface.
- B. Rig up mud logger on hole at 4700' and keep on hole to TD.
- C. No coring or DST's are planned at this time.

### 13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered,  $\rm H_2S$  detectors will be in place to detect any presence of unsafe levels of  $\rm H_2S$ . 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  $\underline{\phantom{0}}$  PSI & estimated BHT  $\underline{\phantom{0}}$  PSI & estimate

#### 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 32 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-Newtron & 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.

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

- 1. All Company and Contract personnel admitted on location must be trained by a qualified  ${\rm H}_2{\rm S}$  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 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, 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 propage 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  $\rm H_2S$  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  $\rm H_2S$  scavengers if necessary.

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA CO. NM

- 1. EXISTING ROADS & PROPOSED 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 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 on C-29 go 14 miles to Mills Ranch Road, turn East and follow well traveled Caliche road North and East for 7.2 miles, turn Right go 1.3 miles, turn Left go 1.5 miles, turn Left go past well #1 follow road to well # 7.8 miles. At well # 7 turn Right follow New lease road to well.
  - C. Flowline and powerline will be constructed along road R-O-W from well # 7 to tank battery for lease.
- 2. PLANNED ACCESS ROADS: Approximately 1000' of new road will be conxtructed.
  - A. The access roads will be crowned and ditched to a 12' wide travel surface with a 40' Right-of-Way.
  - B, Gradient of all roads will be less than 5.00%.
  - C. If turn-outs are necessary they will be constructed.
  - D. If needed roads will be surfaced with a mimimum of 4" of caliche. This material will be obtained from a local source.
  - E. Center-line for new roads will be flagged. Earth-work will be will be done as field conditions require.
  - F. Culverts will be placed in the access road if they are necessary. The roads will be constructed to utilize low water crossings for drainage as required by topography.
- 3. LOCATIONS OF EXISTING WELLS IN A ONE MILE RADIUS. EXHIBIT "A-1"
  - A. Water wells One located approximately 1 mile west southwest.
  - B. Dispusal 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
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA 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. Possible routes of pipelines, flowlines and powerlines are shown on Exhibit "F".

## 5. LOCATION AND TYPE OF WATER SUPPLY:

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

### 6. SOURCE OF CONSTRUCTION MATERIAL:

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

## 7. METHODS OF HANDLING WASTE MATERIAL:

- A. Drill cuttings will be disposed of in the reserve pits.
  - B. All trash, junk and other wastermaterial 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
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA 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 BLY.

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.

POGO PRODUCING COMPANY WBR "13" FEDERAL # 9 UNIT "F" SECTION 13 LEA CO. NM T22S-R32E

#### 11. OTHER INFORMATION:

- A. Topography is relatively flat with a slight dip to the East, with shallow drainage patterns. Vegetation consists of creosote bush, little leaf sumac, broom-snakeweed, and native grasses.
- B. Surface is owned by the U.S. Department of Interior and is administered by the Bureau of Land Management. The surface is leased to ranchers for grazing of live stock.
- C. An archaeological survey will be conducted and the results will be filed with The Bureau of Land Management Carlsbad Field office in Carlsbad NM.
- D. There are no domestic dwellings located within one mile of the location.

#### 12. OPERATORS REPRESENTIVE:

#### Before construction:

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

#### During and after construction:

1

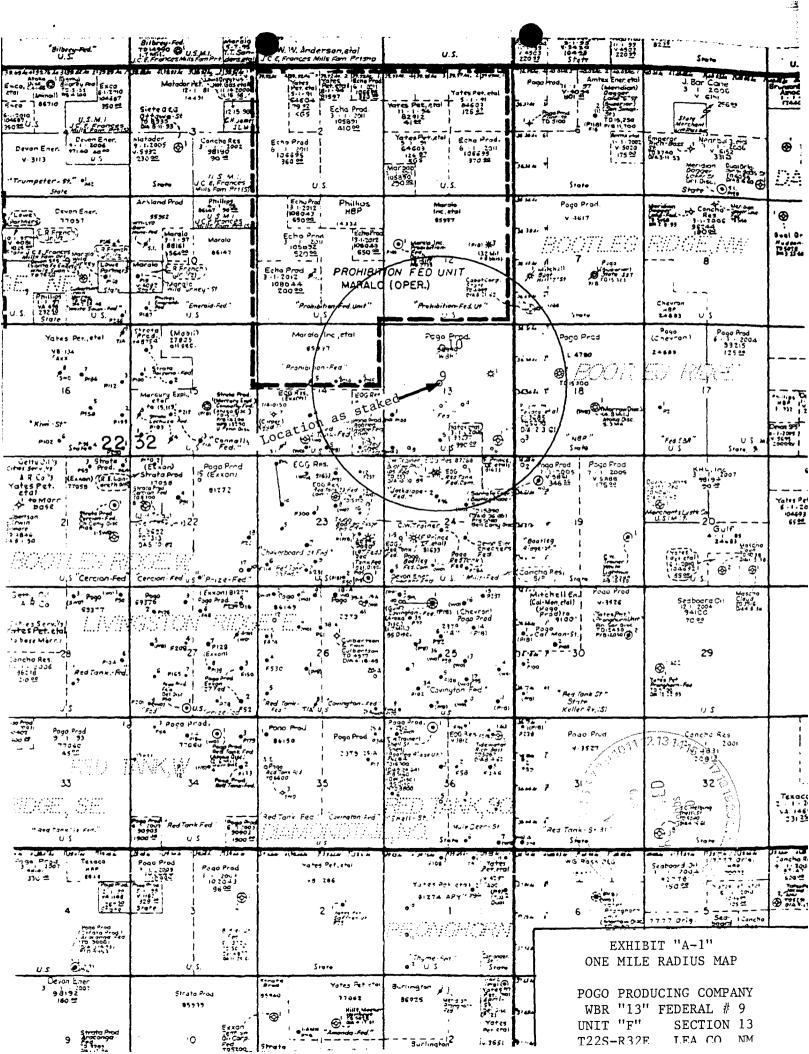
POGO PRODUCING COMPANY P.O. BOX 10340 MIDLAND, TEXAS 79702-7340 RICHARD WRIGHT OFFICE PHONE 915-685-8140

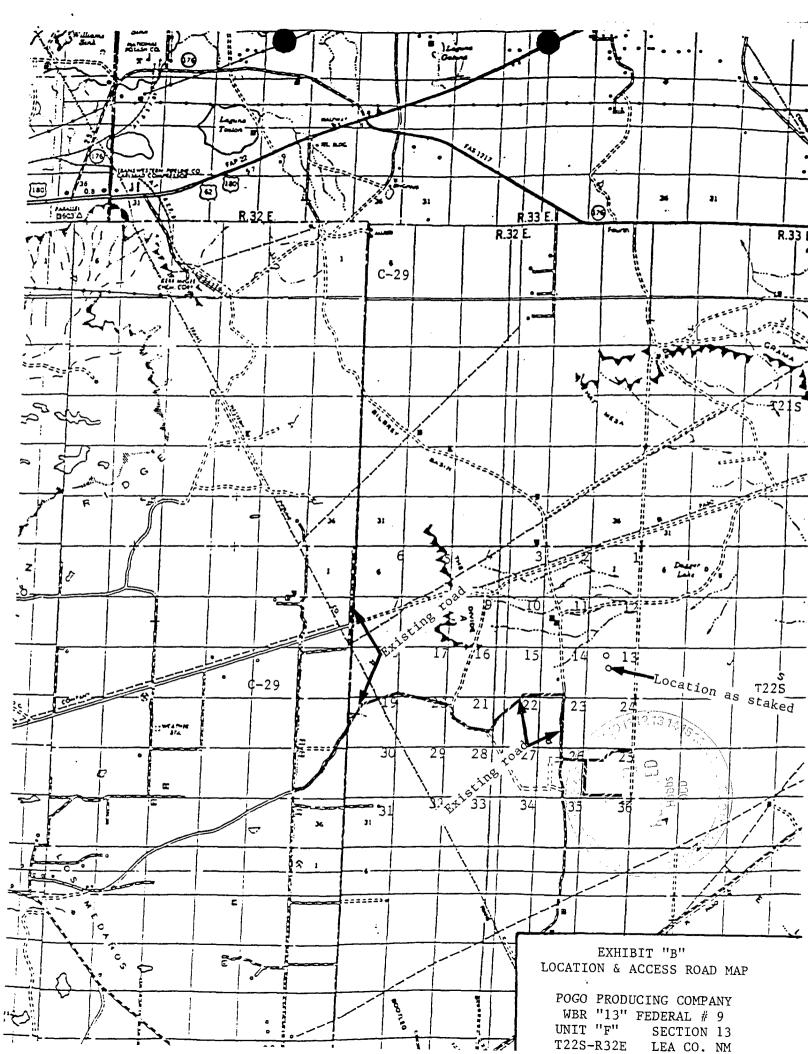
13. CERTIFICATION: I hereby certify that I or persons under my direct supervision have inspected the proposed drill site and access route, that I am familiar with the conditions which currently exist, that the statements made in this plan are to the best of my knowledge, are true and correct, and that the work associated with the operations proposed herein will be performed by POGO PRODUCING COMPANY it's contractors/subcontractors is in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to provision of U.S.C. 1001 for the filing of a false statement.

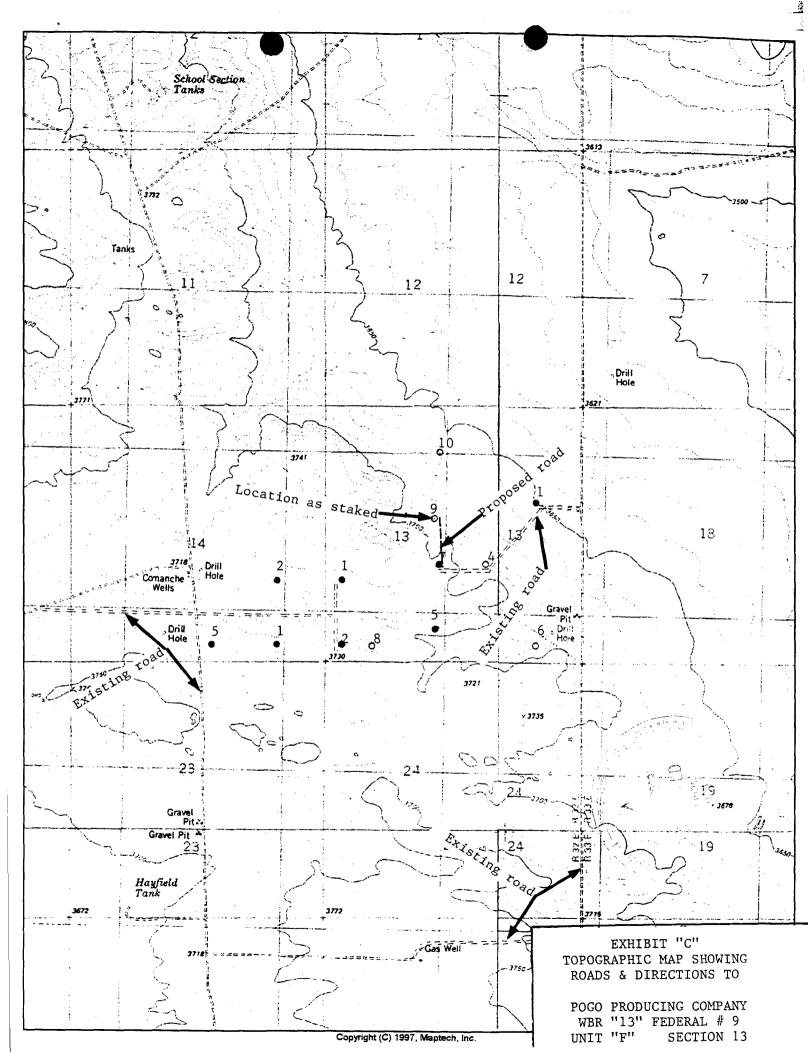
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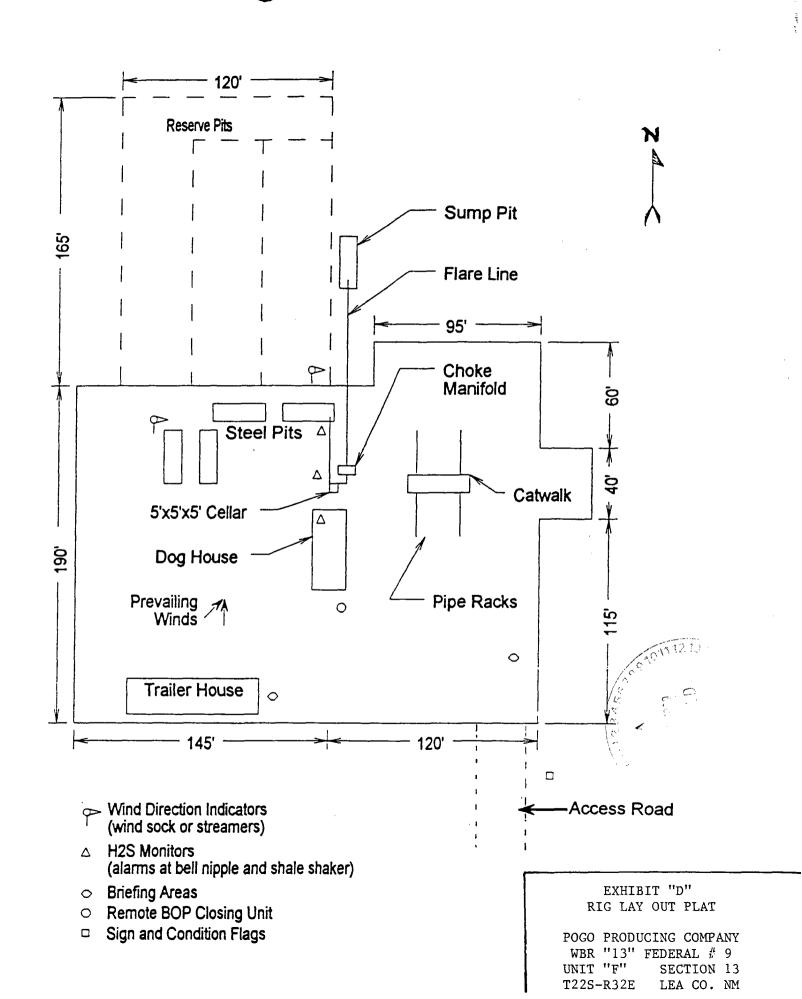
DATE

10/09/02









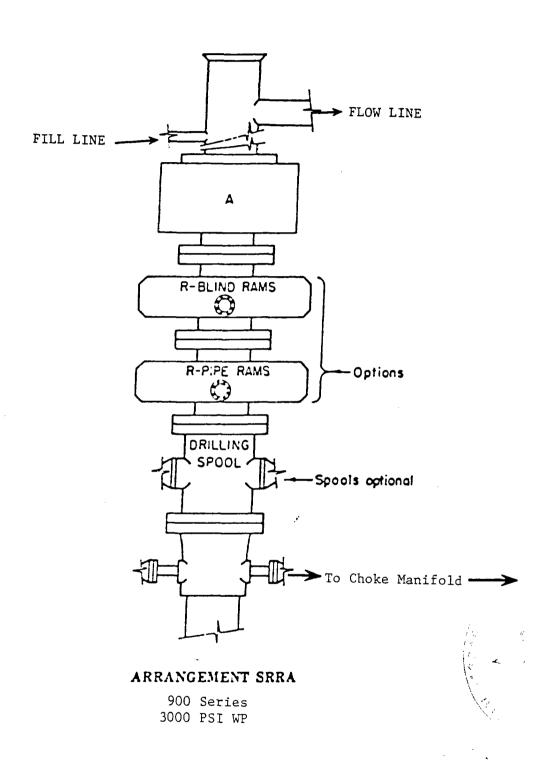


EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA CO. NM

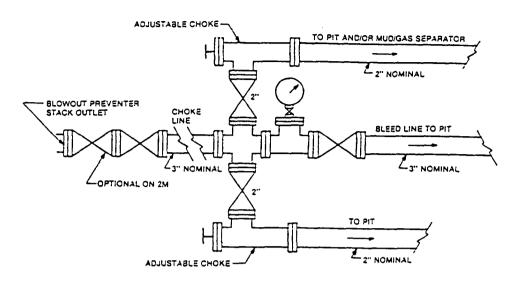


FIGURE K41. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

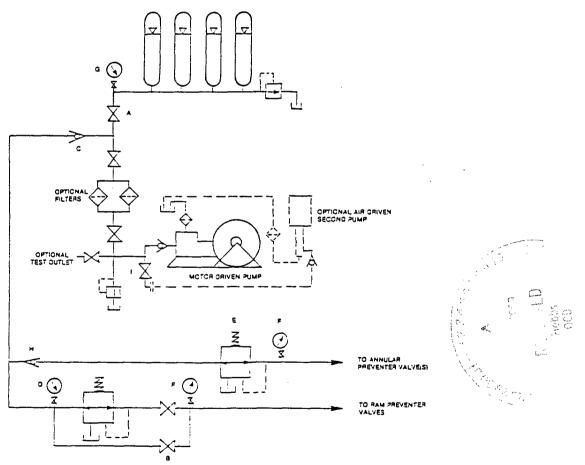


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
WBR "13" FEDERAL # 9
UNIT "F" SECTION 13
T22S-R32E LEA CO. NM

