Form 3160-3
(August 1999)

EC

OCD-HOBBS

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC032096A

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
LOCKHART A-17 8

2. Name of Operator
APACHE CORPORATION
Contact: BONNIE JONES
E-Mail: senoj@dfn.com

9. API Well No.
30-025-36160

3a. Address
6120 SOUTH YALE, SUITE 1500
TULSA, OK 74136-4224

3b. Phone No. (include area code)
Ph: 505.624.9799
Fx: 505.624.9799

10. Field and Pool, or Exploratory
UNKNOWN
PENROSE SKELLY

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NWSW 1480FSL 330FWL

At proposed prod. zone NWSW Lot L 1480FSL 330FWL

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 17 T21S R37E Mer NMP

14. Distance in miles and direction from nearest town or post office*
2.5

12. County or Parish
LEA

13. State
NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
330

16. No. of Acres in Lease
640.00

17. Spacing Unit dedicated to this well
40.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
823

19. Proposed Depth
~~4125 MD~~ 4000'
~~4125~~ TVD

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KB, RT, GL, etc.
3491 GL

22. Approximate date work will start
02/21/2003

23. Estimated duration
6 DAYS

24. Attachments

Capitan Controlled Water Basin

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	Name (Printed/Typed)	Date
(Electronic Submission)	BONNIE JONES	01/29/2003

Title
AGENT

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ LESLIE A. THEISS	/s/ LESLIE A. THEISS	FEB 14 2003
Title FIELD MANAGER	**Office** CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page)

Electronic Submission #17836 verified by the BLM Well Inform
For APACHE CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by Armando Lopez on 01/29/2

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

OPER. OGRID NO. 873
PROPERTY NO. 24430
POOL CODE 50350
EFF. DATE 2-18-03
API NO. 30-025-36160

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Additional Operator Remarks:

Surface Owner:
Samantha Gaskins
P. O. Box 1861
Eunice, NM 88231
505-394-2091

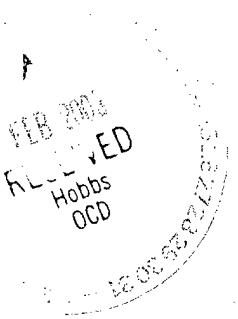


EXHIBIT "A"
LOCKHART A-17 #8

DRILLING PROGRAM

I. The geological surface formation is recent Permian with quaternary alluvium and other surficial deposits.

II. Estimated Tops of Geological Markers:

FORMATION	DEPTH
Quaternary alluvials	Surface
Rustler	1230'
Yates	2610'
Grayburg	3670'
San Andres	3972'
TD	4125'

III. Estimated depths at which water, oil, gas, or other mineral-bearing formations are expected to be encountered:

SUBSTANCE	DEPTH
Oil	Grayburg at 3670'
	San Andres at 3972'
Gas	None anticipated
Fresh Water	None anticipated

All fresh water and prospectively valuable minerals (as described by BLM) encountered during drilling will be recorded by depth and adequately protected. All oil and gas shows within zones of correlative rights will be tested to determine commercial potential.

IV. A. Proposed Casing Program:

HOLE SIZE	CASING SIZE OD	CASING SIZE ID	GRADE	WEIGHT PER FOOT	DEPTH	SACKS CEMENT	ESTIMATED TOC - REMARKS
12 ¼"	8 5/8"	8.097	J55 STC	24#	400' **(Pursuant to Lea County Alternative Casing Program)**	325	TOC - Surface 8.34 ppg Water-based Mud; 83° F Est. Static Temp; 80° F Est. Circ. Temp.
7 7/8"	5 ½"	4.892	J55 LTC	17#	4125'	825	TOC – Surface Float Collar set @ 4085'/ 10.20 ppg Water-based Mud; 118° F Est. Static Temp; 101° F Est. Circ. Temp.

B. Proposed Cement Program:

CASING	SLURRY	DISPLACEMENT
8 5/8"	325 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water 437 Vol. Cu Ft 1.35 Vol. Factor Slurry Weight (ppg) 14.8 Slurry Yield (cf/sack) 1.35 Amount of Mix Water (gps) 6.35; Estimated Pumping Time – 70 BC (HH:MM)-3:00;	22.9 bbls Fresh Water @ 8.34 ppg

8 5/8" Casing: Volume Calculations:

400 ft	x	0.4127 cf/ft	with	156% excess	=	423.0 cf
40 ft	x	0.3576 cf/ft	with	0% excess	=	14.3 cf (inside pipe)
		TOTAL SLURRY VOLUME			=	437.3 cf
					=	78 bbls

Spacer 30.0 bbls Water @ 8.3 ppg

CASING	LEAD SLURRY	TAIL SLURRY	DISPLACEMENT
5 ½"	575 sacks (50:50) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.003 gps FP-6L + 10% bwoc Bentonite + 139.7% Fresh Water; 1405 Vol. Cu Ft 2.44 Vol. Factor Slurry Weight (ppg) 11.8 Slurry Yield (cf/sack) 2.44 Amount of Mix Water (gps) 14.07; Amount of Mix Fluid (gps) 14.07 Estimated Pumping Time – 70 BC (HH:MM)-4:00;	250 sacks (50:50) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride +0.003 gps FP-6L + 2% bwoc Bentonite + 58.7% Fresh Water 323 Vol. Cu Ft 1.29 Vol. Factor Slurry Weight (ppg) 14.2 Slurry Yield (cf/sack) 1.29 Amount of Mix Water (gps) 5.91; Amount of Mix Fluid(gps) 5.91; Estimated Pumping Time – 70 BC (HH:MM)-3:00;	94.8 bbls Fresh Water @ 8.34 ppg

5 ½" Casing: Volume Calculations:

400 ft	x	0.1926 cf/ft	with	0% excess	=	77.0 cf
3015 ft	x	0.1733 cf/ft	with	154% excess	=	1328.4 cf
835 ft	x	0.1733 cf/ft	with	120% excess	=	318.2 cf
40 ft	x	0.1305 cf/ft	with	0% excess	=	5.2 cf(inside pipe)
		TOTAL SLURRY VOLUME			=	1728.9 cf
					=	308 bbls

All slurries will be tested prior to loading to confirm thickening times and a lab report furnished to Apache. Fluid loss will be tested and reported on slurries with fluid loss additives. Lab test report will be furnished prior to pumping cement.

V. A. Proposed Mud Program

DEPTH	MUD PROPERTIES	REMARKS
0 – 400'	Weight: 8.6 – 9.2 ppg Viscosity: 32 – 50 sec/qt Plastic Viscosity: 2-10 cps Yield Point: 6-15 lbs/100' pH: 9-10 Filtrate: NC Solids: <4 % volume Chloride: <4,000 mg/L	Spud with Fresh Water AQUAGEL EZ-Mud, LCM, Lime. Add AQUAGEL and LIME to Fresh Water to build desired viscosity for hole cleaning, restricting system to steel pits. Additions of Fresh Water at the flowline will aid in controlling viscosity. HY-SEAL "sweeps" as needed for extra hole cleaning, seepage and severe losses. Should total circulation loss be encountered, add up to 20 ppb. LCM (BARO-SEAL = Maxiseal); (HY-SEAL = Drilling Paper); (PLUG-GIT = Cedar Fiber) and spot in loss zone. If returns cannot be established, then "dry-drill" to set surface casing.
400' – 4000'	Weight: 9.2 ppg Viscosity: 30 – 32 sec/qt Plastic Viscosity: 0-1 cps Yield Point: 0-1 lbs/100' pH: 9-10 Filtrate: NC Solids: <1 % volume Chloride: < 30K mg/L	Drill out from under the surface casing with Fresh Water. HY-SEAL should be added at 2 bags after every 100' drilled, if you have and drag or torque on connections. Begin adding 10 # Brine 100' before drilling salt formation for 9.7 + weight. LIME applications should be continued during this interval for a pH of 9.0-10.0, in addition, to flocculate solids and to minimize corrosion. Additions of CAUSTIC SODA may be needed to maintain pH at 9-10.
4000' – 4125'	Weight: 9.1 – 10.3 ppg Viscosity: 30 – 32 sec/qt Plastic Viscosity: 3-10 cps Yield Point: 4-6 lbs/100' pH: 9-10 Filtrate: 10-15 cm/30 min Solids: <2-4 % volume Chloride: < 170K mg/L	From 4000' to Total Depth, it is recommended the system be restricted to the steel pits, and, with Brine, mud up as follows: while circulating through the steel pits, add 3-4 #/bbl IMPERMX (starch) to lower fluid loss below 15 cc. If lost circulation is encountered, mix a viscous pit of mud and add 15 ppb LCM (Add 5#/bbl of the following: BARASEAL, HYSEAL & PLUG-GIT) and continue to drill. Sweep the hole with a viscous pill prior to coming out of the hole to log

NO BRINE PRIOR V 1300 FT

VI. Proposed Control Equipment:

Will install on the 8 5/8" surface casing a 9" x 3000 psi WP Double Ram BOP and will test before drilling out of surface casing. **As expected pressures will not exceed 2000 psi, we request a waiver of the remote control requirement on the accumulator of the 3M BOP and a**

variance to run a 2M BOP, if available, and to test to 1500 psi using rig pumps. See Exhibit "H" for BOP layout.

VII. Auxiliary Equipment:

9" x 3000 psi double BOP/blind & pipe ram **(2M BOP if available)**
41/2" x 3000 psi Kelly valve
9" x 3000 psi mud cross – H_2S detector on production hole
Gate-type safety valve 3" choke line from BOP to manifold
2" adjustable chokes – 3" blowdown line

VIII A. Testing Program: None planned

B. Logging Program: The following logs may be run:
CNL, LDT, GR, CAL, DLL, MSFL, NGT from TD-2400'
CNL, GR from TD-Surface

C. Coring Program: None planned

IX. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered, however, the proposed mud program will be modified to increase the mud-weight. The estimated maximum bottom hole pressure is 1980 psi.

EXHIBIT D -1

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

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	Pool Name
30-025-36160	50350	Penrose Skelly; Grayburg

Property Code	Property Name	Well Number
24430	LOCKHART A-17	8

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3491'

Surface Location

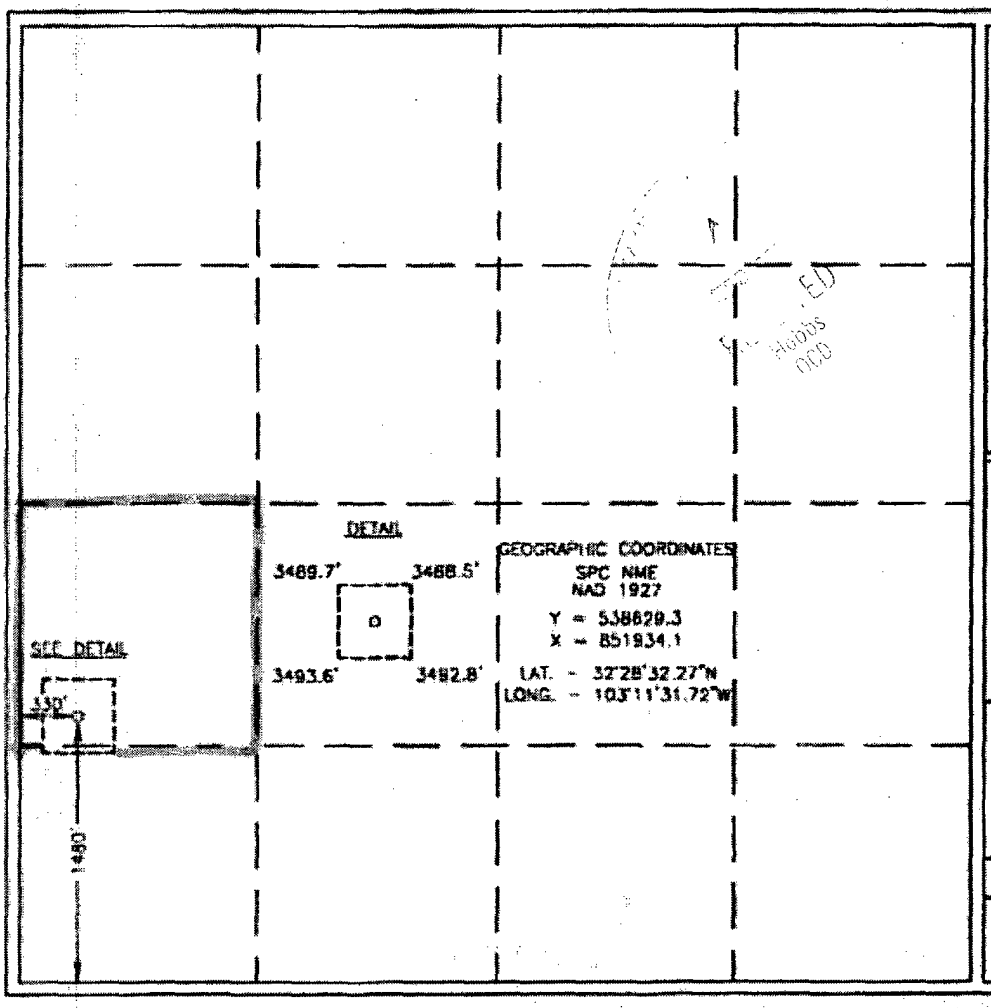
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	21-S	37-E		1480	SOUTH	330	WEST	LEA

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	Joint or Infill	Consolidation Code	Order No.
40.00			

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

LARRY E. RADER
Printed Name

TECH. COORDINATOR - DRLG
Title

1/8/03
Date

SURVEYOR CERTIFICATION

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.

NOVEMBER 27, 2002
Date Surveyed LA

Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
PROFESSIONAL SURVEYOR

12/02/02
02.11.0920

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

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

EXHIBIT D-2

Submit [illegible] appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	LOCKHART A-17	8
OGRID No.	Operator Name	Elevation
	APACHE CORPORATION	3491'

Surface Location

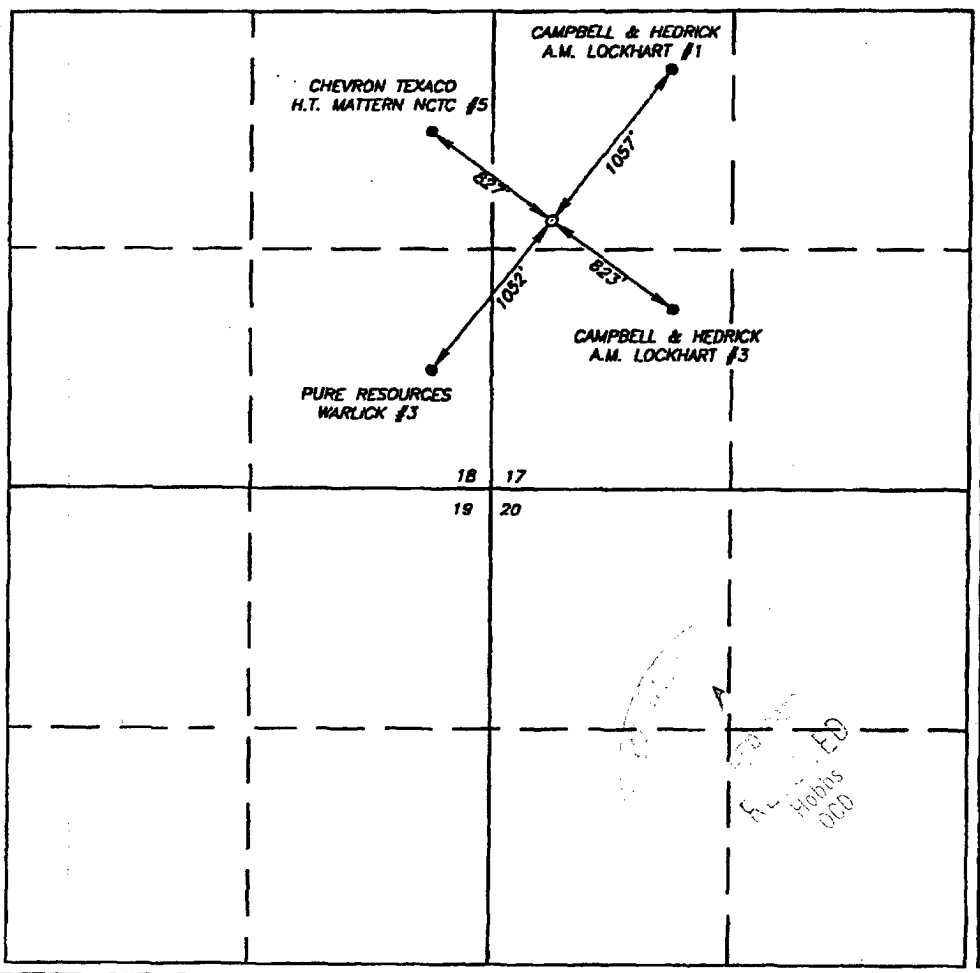
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	21-S	37-E		1480	SOUTH	330	WEST	LEA

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	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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

LARRY E. RADER
Printed Name

TECH. COORDINATOR - DRLG.
Title

1/8/03
Date

SURVEYOR CERTIFICATION

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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 27, 2002
Date Surveyed LA

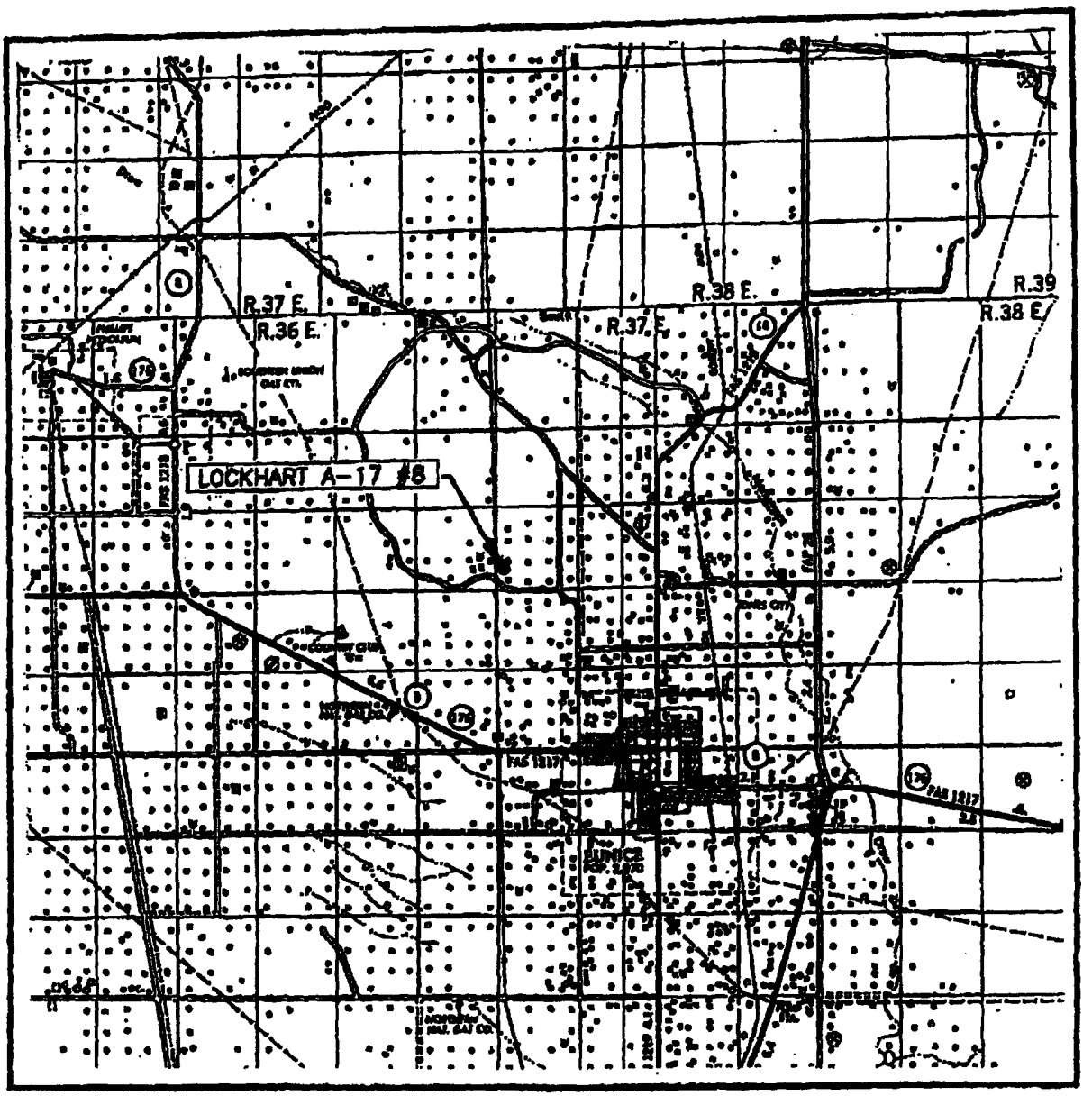
Signature & Seal of Professional Surveyor

02.11.0920

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

EXHIBIT E-1

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 17 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1480' FSL & 330' FWL

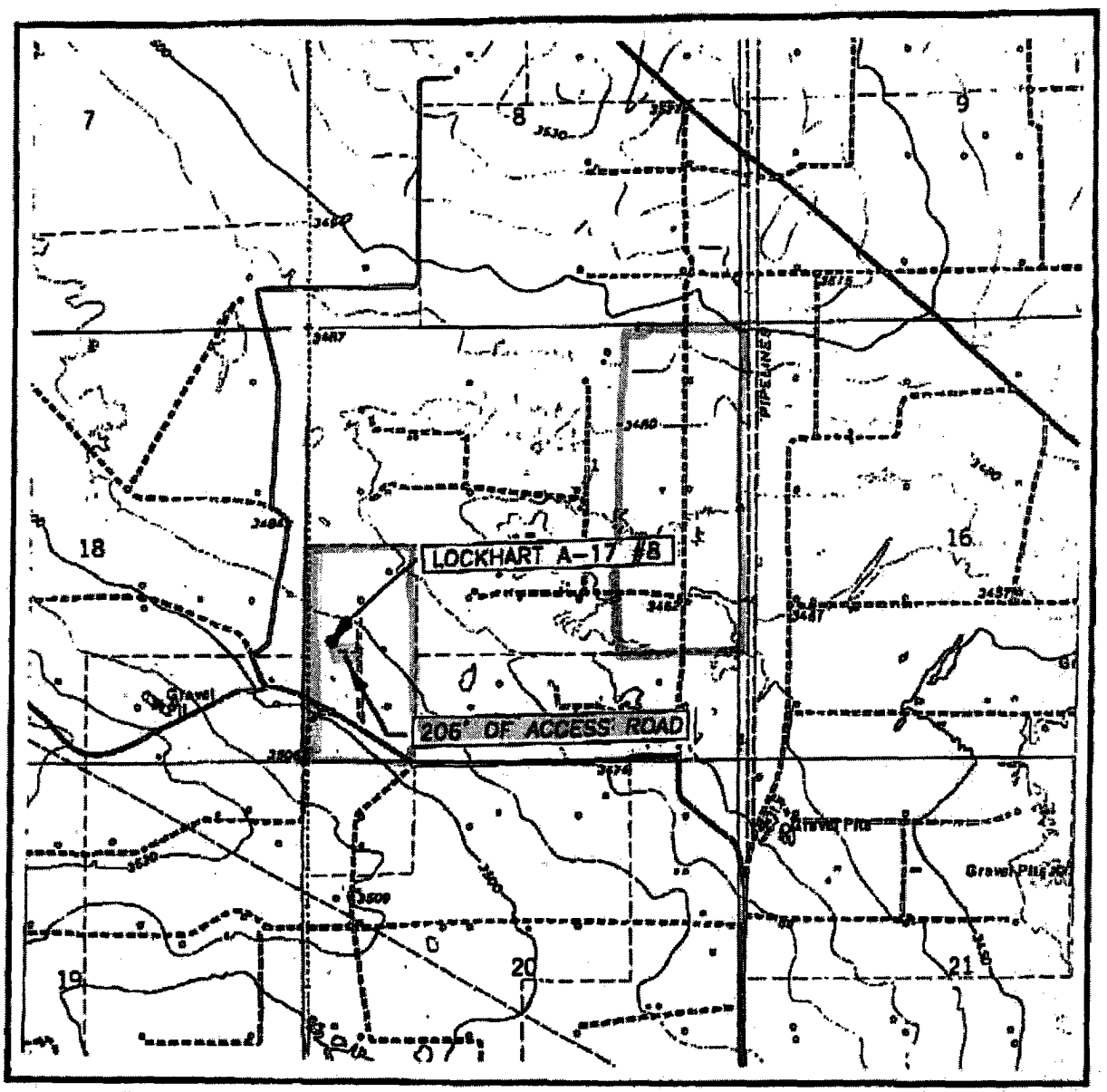
ELEVATION 3491'

OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
EUNICE, N.M.

SEC. 17 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1480' FSL & 330' FWL

ELEVATION 3491'

OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

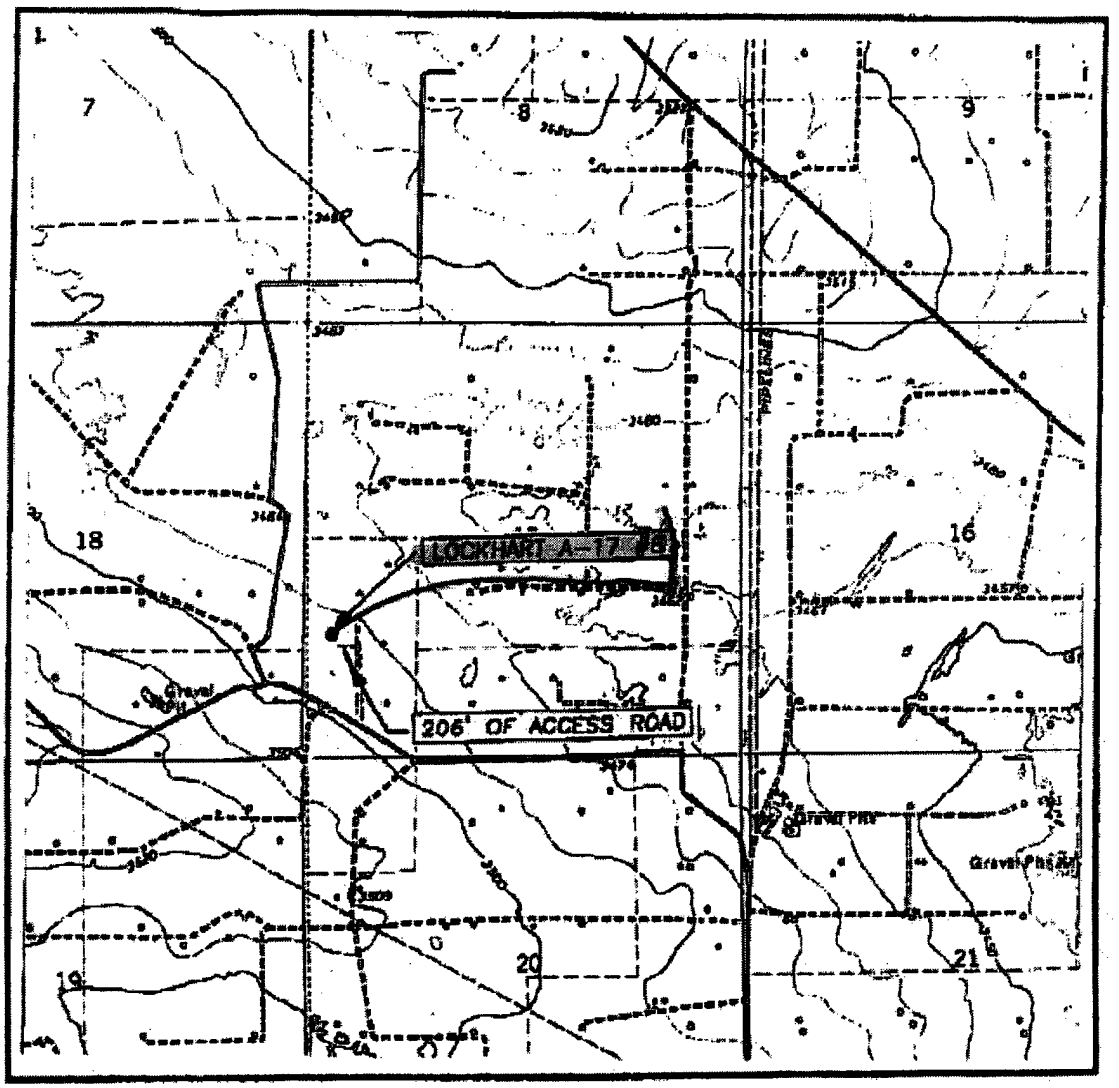
JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

LEASE BOUNDARY

ACCESS

LOCATION VERIFICATION MAP

EXHIBIT E-3



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
EUNICE, N.M.

SEC. 17 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1480' FSL & 330' FWL

ELEVATION 3491'

OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

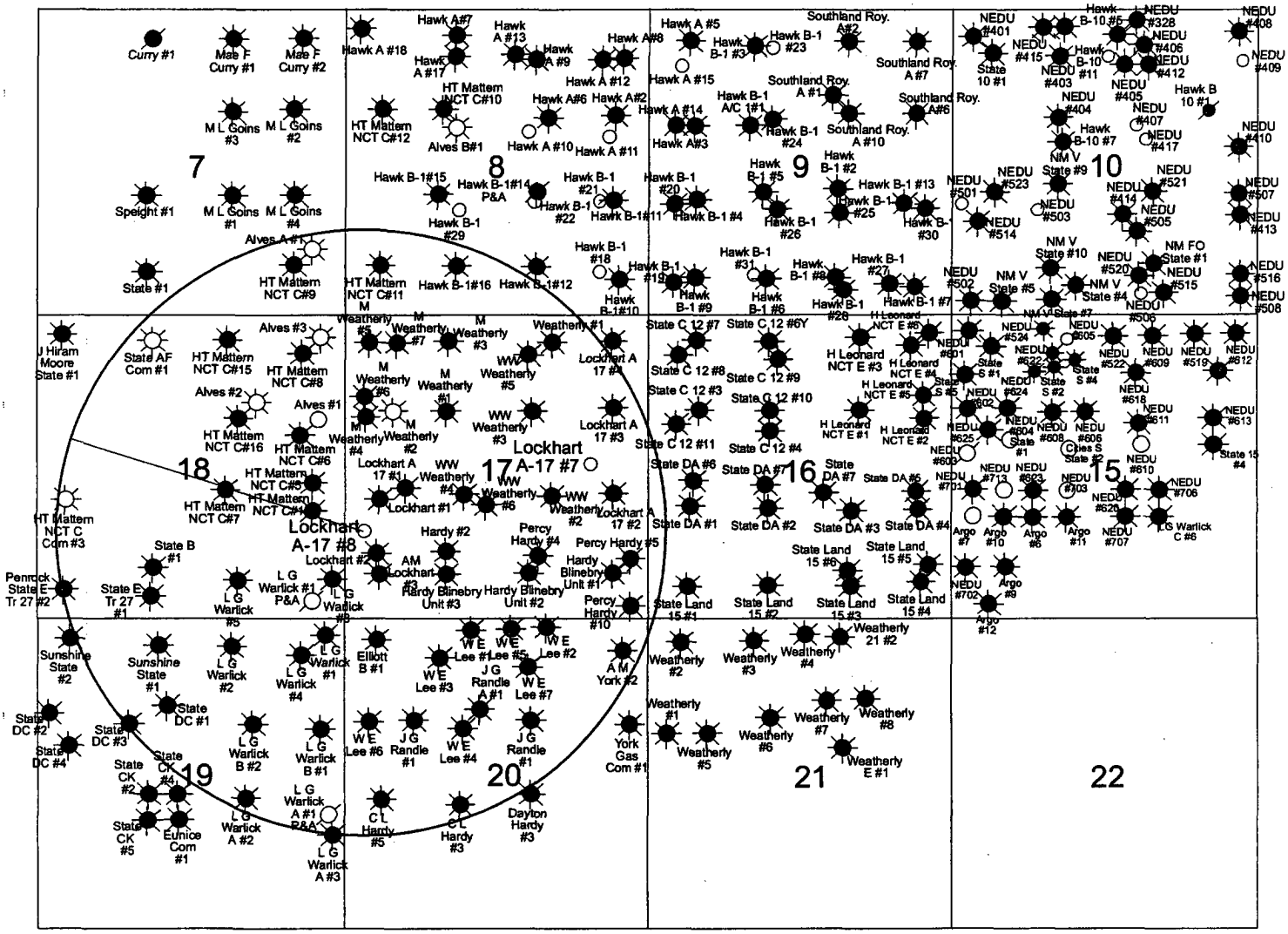
U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

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

5096' FL

Flow-line Route

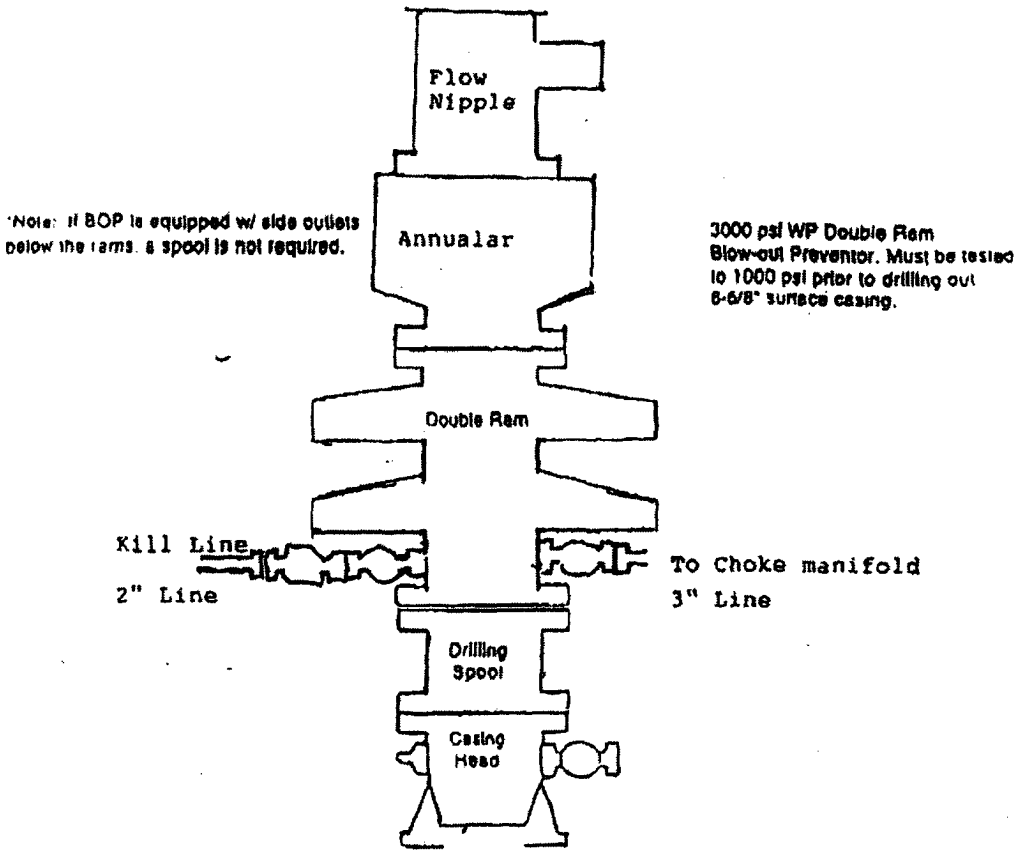
EXHIBIT "F"
Lockhart A-17 #8
1480' FSL & 330' FWL, Sec. 17, T21S-R37E
Lea County, NM



CAPSTAR DRILLING INC

BOP SCHEMATIC
9" X 3000 psi

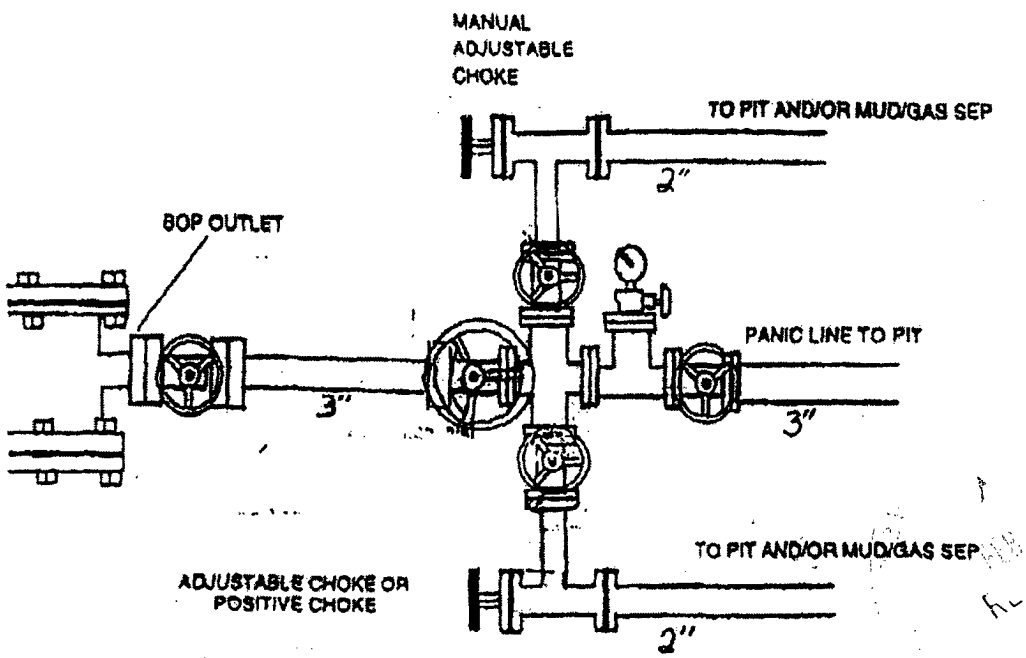
EXHIBIT "H"



*Note: If BOP is equipped w/ side outlets below the rams, a spool is not required.

3000 psi WP Double Ram Blow-out Preventor. Must be tested to 1000 psi prior to drilling out 8-5/8" surface casing.

Choke Manifold Schematic



RECEIVED
Hobbs OCD