

OCD-HOBBS

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC032096A	
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 APACHE CORPORATION		7. If Unit or CA Agreement, Name and No.	
3a. Address 6120 SOUTH YALE, SUITE 1500 TULSA, OK 74136-4224		8. Lease Name and Well No. LOCKHART A-17 7	
3b. Phone No. (include area code) Ph: 505.624.9799 Fx: 505.624.9799		9. API Well No. 30-025-36159	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NESE 2630FSL 990FEL At proposed prod. zone NESE Lot I 2630FSL 990FEL		10. Field and Pool, or Exploratory UNKNOWN PENROSE SKELLY	
14. Distance in miles and direction from nearest town or post office* 2.5		11. Sec., T., R., M., or Bk. and Survey or Area Sec 17 T21S R37E Mer NMP	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330		12. County or Parish LEA	
16. No. of Acres in Lease 640.00		13. State NM	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 753		17. Spacing Unit dedicated to this well 40.00	
19. Proposed Depth 4100 MD 4100 TVD		20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3469 GL		22. Estimated duration 6	
22. Approximate date work will start 02/14/2003		23. Estimated duration 6	
24. Attachments Caption 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) BONNIE JONES	Date 01/29/2003
Title AGENT		
Approved by (Signature) 151 NOV J. GONZALEZ	Name (Printed/Typed) 151 NOV J. GONZALEZ	Date FEB 13 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)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHEDElectronic Submission #17838 verified by the BLM Well Info
For APACHE CORPORATION, sent to the Hot
AFMSS for processing by Armando Lopez on 01/2OPER. OGRID NO. 873
PROPERTY NO. 24430
POOL CODE 50350
EFF. DATE 2-18-03
API NO. 30-025-36159

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

Additional Operator Remarks:

Surface Owner:
Millard Deck Estate, c/o Bank of America, Trustee
Attention Tim Wolters
P. O. Box 270
Midland, Texas 79701
915-685-2864

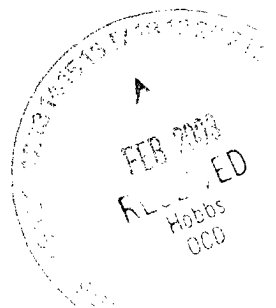


EXHIBIT "A"
LOCKHART A-17 #7

DRILLING PROGRAM

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

II. Estimated Tops of Geological Markers:

<u>FORMATION</u>	<u>DEPTH</u>
Quaternary alluvials	Surface
Rustler	1233'
Yates	2607'
Grayburg	3671'
San Andres	3950'
TD	4100'

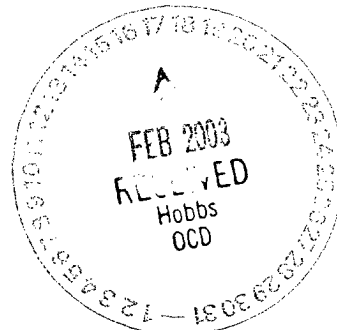
III. Estimated depths at which water, oil, gas, or other mineral-bearing formations are expected to be encountered:

<u>SUBSTANCE</u>	<u>DEPTH</u>
Oil	Grayburg at 3671' San Andres at 3950'
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:

<u>HOLE</u> <u>SIZE</u>	<u>CASING</u> <u>SIZE</u> OD ID	<u>GRAD</u> <u>E</u>	<u>WEIGHT</u> <u>PER</u> <u>FOOT</u>	<u>DEPTH</u>	<u>SACKS</u> <u>CEMENT</u>	<u>ESTIMATED TOC -</u> <u>REMARKS</u>
12 1/4"	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 1/2" 4.892	J55 LTC	17#	4100'	825	TOC - Surface Float Collar set @ 4060'/ 10.20 ppg Water-based Mud; 118° F Est. Static Temp; 101° F Est. Circ. Temp.



B. Proposed Cement Program:

<u>CASING</u>	<u>SLURRY</u>	<u>DISPLACEMENT</u>
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; <u>Estimated Pumping Time – 70 BC</u> <u>(HH:MM)-3:00;</u>	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

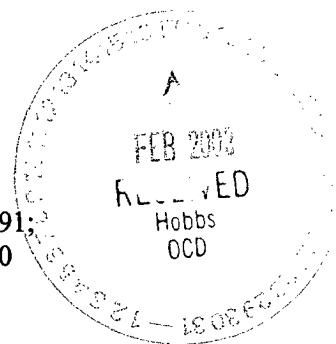
Spacer 30.0 bbls Water @ 8.3 ppg

<u>CASING</u>	<u>LEAD SLURRY</u>	<u>TAIL SLURRY</u>	<u>DISPLACEMENT</u>
5 1/2"	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 <u>Estimated Pumping Time – 70 BC (HH:MM)-4:00;</u>	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; <u>Estimated Pumping Time – 70 BC (HH:MM)-3:00;</u>	94.2 bbls Fresh Water @ 8.34 ppg

5 1/2" 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

<u>DEPTH</u>	<u>MUD PROPERTIES</u>	<u>REMARKS</u>
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. <u>Begin adding 10 # Brine AT minimum</u> 100' before drilling salt formation for 9.7 + 1300 Ft, 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. (X)
4000' – 4100'	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

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

⊗ In Order to utilize the "Conditions of Approval", the operator shall attempt additives to SEAL wellbore over possible water zones down to Top of

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 – H₂S detector on production hole
Gate-type safety valve 3" choke line from BOP to manifold
2" adjustable chokes – 3" blowdown line

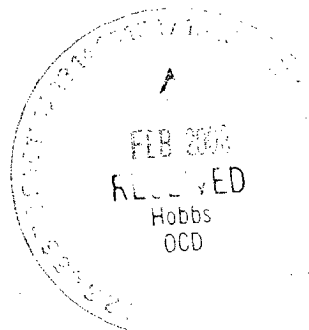
VIII A. Testing Program: None planned

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.



DISTRICT I

P.O. Box 1988, Hobbs, NM 88241-1988

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

P.O. Drawer 88, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

P.O. Box 2088, Santa Fe, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-36159	Pool Code 50350	Pool Name Penrose Skelly; Grayburg
Property Code 24430	Property Name LOCKHART A-17	Well Number 7
OCRID No. 873	Operator Name APACHE CORPORATION	Elevation 3469'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	17	21-S	37-E		2630	SOUTH	990	EAST	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

<p>GEOGRAPHIC COORDINATES</p> <p>SPC NME NAD 1927</p> <p>Y = 539815.9 X = 855872.7</p> <p>LAT. - 32°28'43.58"W LONG. - 103°10'45.60"W</p>		<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>Larry E. Rader</i> Signature</p> <p>LARRY E. RADER Printed Name</p> <p>TECH. COORDINATOR - DRILL. Title</p> <p>1/8/03 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>NOVEMBER 27, 2002</p> <p>Date Surveyed</p> <p>Signature: R. EIDSON Professional Surveyor</p> <p>NEW MEXICO Professional Surveyor Ronald E. Eidson 12/03/02 02/1.09/03</p> <p>Certified to No. RONALD E. EIDSON 3239 PROFESSIONAL SURVEYOR 12641</p>

DISTRICT I

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

State of New Mexico

Energy, Minerals and Natural Resources Department

EXHIBIT D-2

DISTRICT II

P.O. Drawer 122, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Subma

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT III

1000 Rio Brazos Rd., Artesia, NM 87410

DISTRICT IV

P.O. Box 2088, Santa Fe, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name LOCKHART A-17	Well Number 7
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3469'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	17	21-S	37-E		2630	SOUTH	990	EAST	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

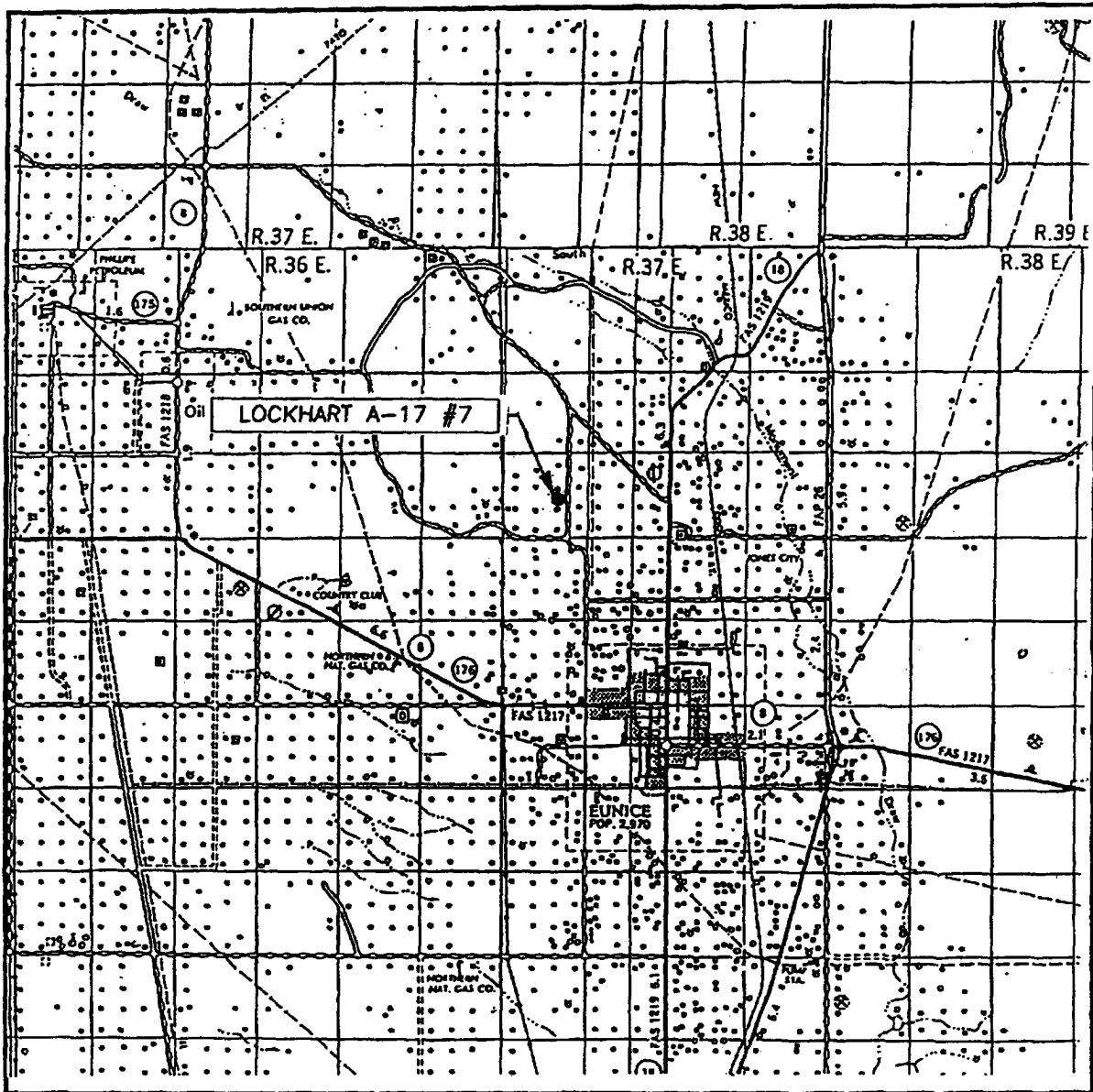
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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 - DRUG 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 Signature & Seal of Professional Surveyor
	02.11.0919 Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641

VICINITY MAP

EXHIBIT E-1



SCALE: 1" = 2 MILES

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

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 2630' FSL & 990' FEL

ELEVATION 3469'

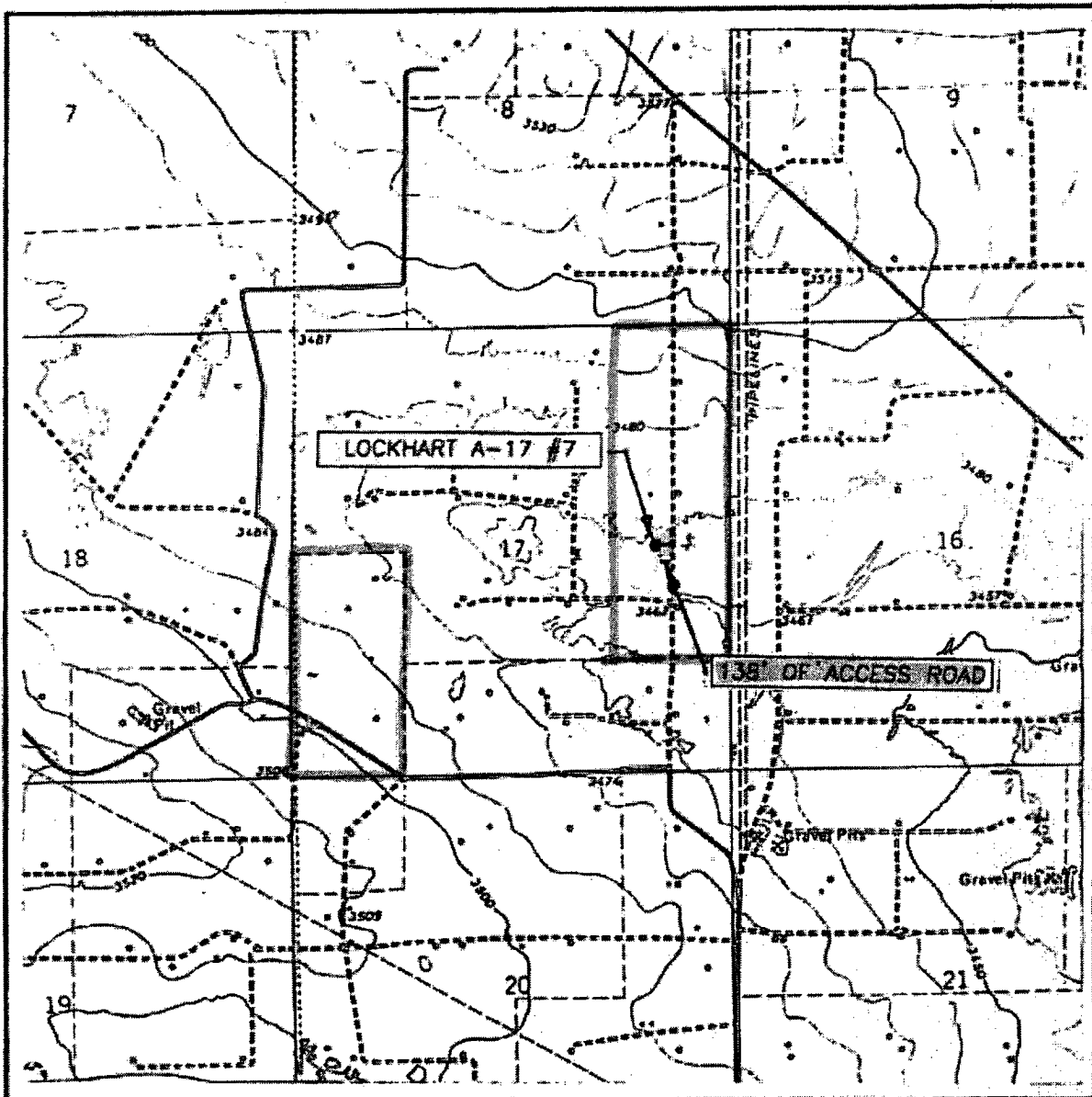
OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

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

LOCATION VERIFICATION MAP

EXHIBIT E-2



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 2630' FSL & 990' FEL

ELEVATION 3469'

OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

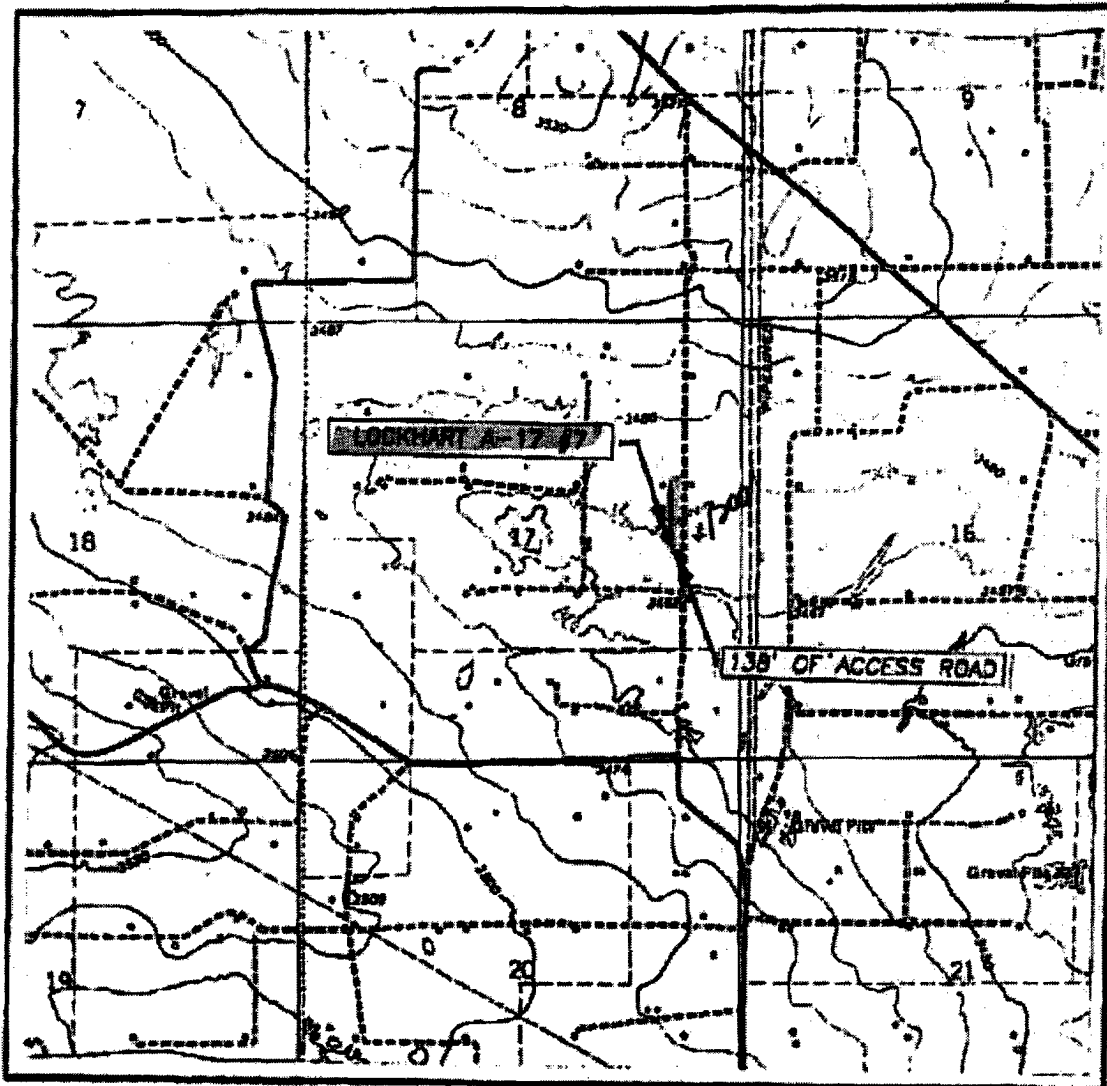
U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

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

 LEASE BOUNDARY
 ACCESS

LOCATION VERIFICATION MAP

EXHIBIT E-3

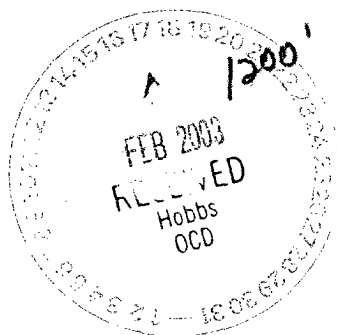


SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
EUNICE, N.M.

SEC. 17 TWP. 21-S RGE. 37-E
SURVEY N.M.P.M.
COUNTY LEA
DESCRIPTION 2630' FSL & 890' FEL
ELEVATION 3469'
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



Flow-line Route

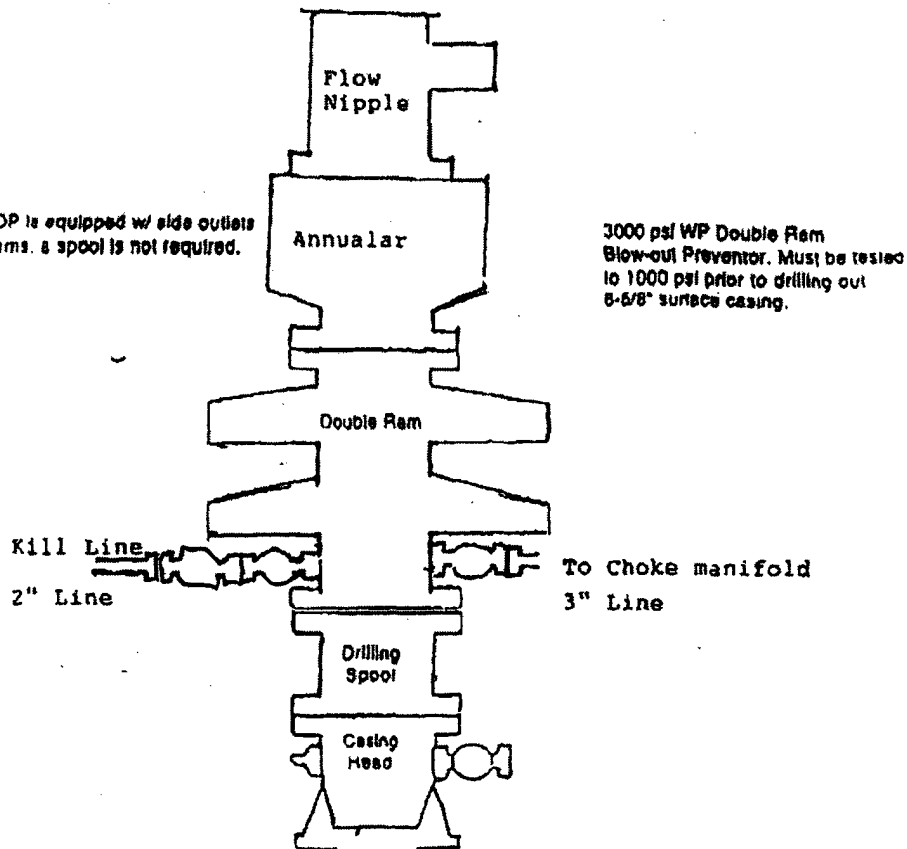
FEB 29
RECEIVED
Hobbs
OCD

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.



Choke Manifold Schematic

