New Mexico Oil Conservation Division, District
1625 N. French Drive
Hobbs, NM 88240

OPER. OGRID NO. 873
PROPERTY NO. 24430
POOL CODE 50350
EFF. DATE 1-8-02
API NO. 30-025-36101

Form 3160-3
(August 1999)

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.: LC-032096-A

6. If Indian, Allottee or Tribe Name:

1a. Type of Work: [X] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.: Lockhart A

1b. Type of Well: [ ] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

8. Lease Name and Well No.: Lockhart A-17 #6

2. Name of Operator: Apache Corporation

9. API Well No.: 30-025-36101

3a. Address: Two Warren Place, Ste 1500
6120 S. Yale, Tulsa, OK 75135

3b. Phone No. *(include area code)*: (918)491-4900

10. Field and Pool, or Exploratory:

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface: 1330' FNL, 990' FEL
At proposed prod. zone: 1330' FNL, 990' FEL H

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

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

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)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
990'	640	40 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
736'	4,150'	CO-1047
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3479' GL	ASAP	10 days

SUBJECT TO LIKE APPROVAL BY STATE

Capitan Controlled Water Basin

24. Attachments

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
	Robert H. Bell	12/04/02

Title: Agent of Apache Corporation

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Mary J. Rugwell	/s/ Mary J. Rugwell	JAN 6 2003

Title: FOR FIELD MANAGER

Office: CARLSBAD FIELD OFFICE

Application approval does not warrant or certify the 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 reverse)*

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DECLARED WATER BASIN
CEMENT BEHIND THE 8 5/8"
CASING MUST BE Circulated

WITNESS

EXHIBIT "A"
Lockhart A-17 #6

DRILLING PROGRAM

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

II. Estimated Tops of Geological Markers:

FORMATION	DEPTH
Quaternary alluvials	Surface
Rustler	1280'
Yates	2600'
Grayburg	3800'
San Andres	4000'
TD	4450'

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

SUBSTANCE	DEPTH
Oil	Grayburg at 3800'
	San Andres at 4000'
Gas	Non anticipated
Fresh Water	Non 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	ID	GRADE	WEIGHT PER FOOT	DEPTH	SACKS CEMENT	ESTIMATED TOC-REMARKS
12 ¼"	8 5/8"	8.097	J55 SJC	24#	400'	350	TOC-SURFACE Float Collar set @35 8'/ 9.00 PPG Water-based Mud; 83 Deg. F Est. Static Temp; 80 Deg. F Est. Circ. Temp.

HOLE SIZE	CASING SIZE OD	ID	GRADE	WEIGHT PER FOOT	DEPTH	SACKS CEMENT	ESTIMATED TOC- REMARKS
7 7/8"	5 ½"	4.892	J55 STC	17#	4450'	760	TOC-SURFACE Float Collar set @4370'/ 9.00 PPG Water-based Mud; 108 Deg. F Est. Static Temp; 99 Deg. F Est. Circ. Temp.

B. Proposed Cement Program:

CASING	SLURRY	DISPLACEMENT
8 5/8"	325 sacks Class C Cement + 2% bwoc Calcium Chloride + 56.4% Fresh Water 269 Vol. Cu Ft 1.35 Vol. Factor Slurry Weight (ppg) 14.8 Slurry Yield (cf/sack) 1.35 Amount of Mix Water (gps) 6.36; Amount of Mix Fluid (gps) 6.36; Estimated Pumping Time – 70 BC (HH:MM)-2:20; Free Water (mls) @ 80 Deg. F @ 90 Deg. Angle: 0.00 Fluid Loss (cc/30 min) at 1000 psi and 80 Deg. F: 850.0 Compressive Strength: 12 hrs @ 80 Deg. F (psi) 1600 24 hrs @ 80 Deg. F (psi) 2350 72 hrs @ 80 Deg. F (psi) 3000	22.9 bbls Fresh Water @ 8.33 ppg

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8 5/8" Casing: Volume Calculations:

400 ft	x	0.4127 cf/ft	with 178% excess	=	459.0 cf
40 ft	x	0.3576 cf/ft	with 0% excess	=	14.3 cf (inside pipe)
			TOTAL SURRY VOLUME	=	473.3 cf
				=	84.3 bbls

B. Proposed Cement Program (Continued):

CASING	LEAD SLURRY	TAIL SURRY	DISPLACEMENT
5 1/2"	565 sacks (35:65) Pox (Fly Ash): Class C Cement + 5 Lbs/sack Sodium Chloride + 0.003 gps FP-6L + 6% bwoc Bentonite + 99% Fresh Water; 1091 Vol. Cu Ft. 1.93 Vol. Factor Slurry Weight (ppg) 12.7 Slurry Yield (cf/sack) 1.93 Amount of Mix Water (gps) 10.33; Amount of Mix Fluid (gps) 10.33; Estimated Pumping Time –70 BC (HH:MM)-3:00; Free Water (mls) @ 98 Deg. F @ 90 Deg. Angle: 1.8; Fluid Loss (cc/30 min) at 1000 psi and 98 Deg. F: 950.0 Compressive Strength: 12 hrs @ 106 Deg. F (psi) 280 24 hrs @ 106 Deg. F (psi) 375 72 hrs @ 106 Deg. F (psi) 900	250 sacks (50:50) Poz (Fly Ash): Class C Cement Cement + 3% bwow Potassium Chloride 56.6% Fresh Water 338 Vol. Cu Ft. 1.35 Vol. Factor Slurry Weight (ppg) 14.2 Slurry Yield (cf/sack) 1.33 Amount of Mix Water (gps) 6.10; Amount of Mix Fluid (gps) 6.10; Estimated Pumping Time –70 BC (HH:MM)-2:30; Free Water (mls) @ 98 Deg. F @ 90 Deg. Angle; 0.0; Fluid Loss (cc/30 min) at 1000 psi and 98 Deg. F: 300.0 Compressive Strength: 12 hrs @105 Deg. F (psi) 1200 24 hrs @ 106 Deg. F (psi) 1800 72 hrs @ 106 Deg. F (psi) 2300	100.2 bbls. Fresh Water @ 8.33ppg

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5 ½" Casing: Volume Calculations:

400 ft	x 0.1926 cf/ft	with 0% excess	=	77.0 cf	
3150 ft	x 0.1733 cf.ft	with 86% excess	=	1015.4 cf	
700 ft	x 0.1733 cf/ft	with 174% excess	=	332.5 cf	
80 ft	x 0.1336 cf/ft	with 0% excess	=	10.7 cf (inside pipe)	
	TOTAL SLURRY VOLUME		=	1435.6 cf	
			=	255 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.

I. A. **Proposed Mud Program**

DEPTH	MUD PROPERTIES	REMARKS
0 – 400'	Weight: 8.6 – 9.2 ppg Viscosity: 32-40 sec/qt Plastic Viscosity: 2-10 cps Yield Point: 6-15 lbs/100' PH: 9-10 Filtrate: NC Solids: <4 % volume Chlorid: <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, see page 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'-3800'	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 intermediate 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 300' 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.
3800'-4450'	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 Chlorid: <170K ,mg/;L	From 3800' 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, and 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 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

II. **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. See Exhibit "H" for BOP layout.

III. **Auxiliary Equipment:**

9" x 3000 psi double BOP/blind & pipe ram
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.

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	Pool Name
30-025-36101	50350	Penrose-Skelly; Grayburg

Property Code	Property Name	Well Number
24430	LOCKHART A-17	6

OGRID No.	Operator Name	Elevation
873	APACHE CORPORATION	3479'

Surface Location

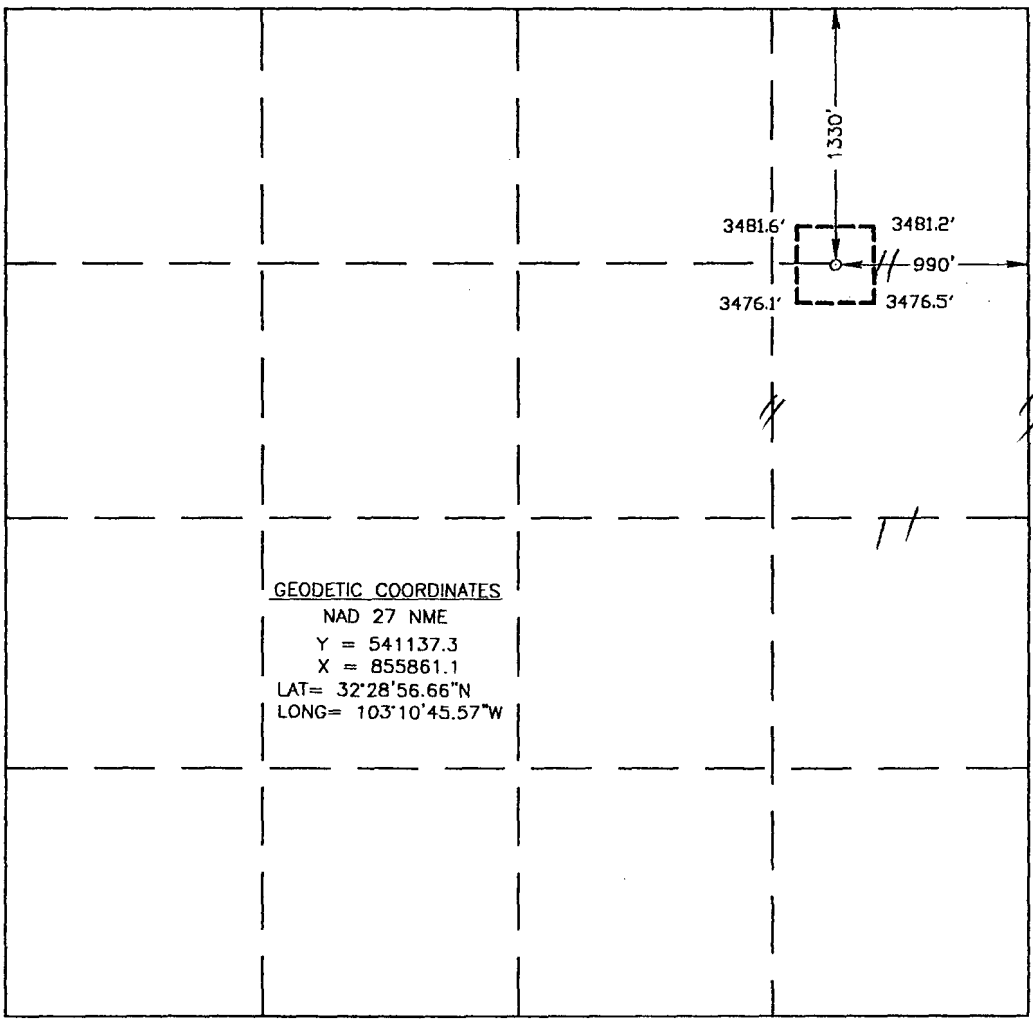
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	21-S	37-E		1330'	NORTH	990'	EAST	LEA

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			NSL-4822

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



GEODETIC COORDINATES
NAD 27 NME
Y = 541137.3
X = 855861.1
LAT= 32°28'56.66"N
LONG= 103°10'45.57"W

OPERATOR CERTIFICATION

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

Signature
Glenn Rose
Printed Name
Drilling Engineer
Title
11-06-02
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.

OCTOBER 12, 2002
Date Surveyed AWB
Signature & Seal of Professional Surveyor
Ronald J. Eidson 10/16/02
02.11.0762

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

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

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

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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	LOCKHART A-17	6
OGRID No.	**Operator Name**	**Elevation**
	APACHE CORPORATION	3479'

Surface Location

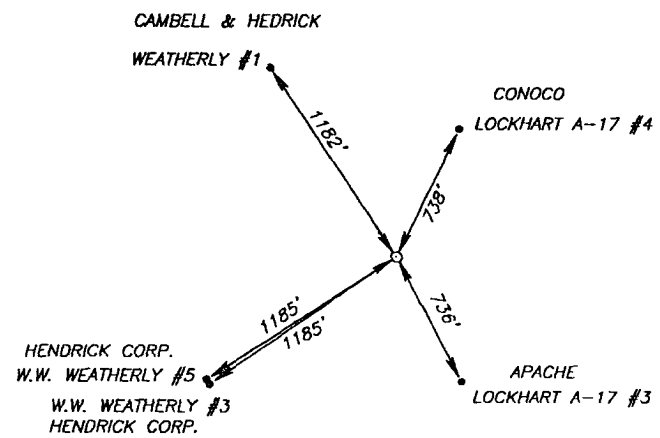
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	21-S	37-E		1330'	NORTH	990'	EAST	LEA

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

Printed Name

Title

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.

OCTOBER 12, 2002

Date Surveyed AWB

Signature & Seal of Professional Surveyor

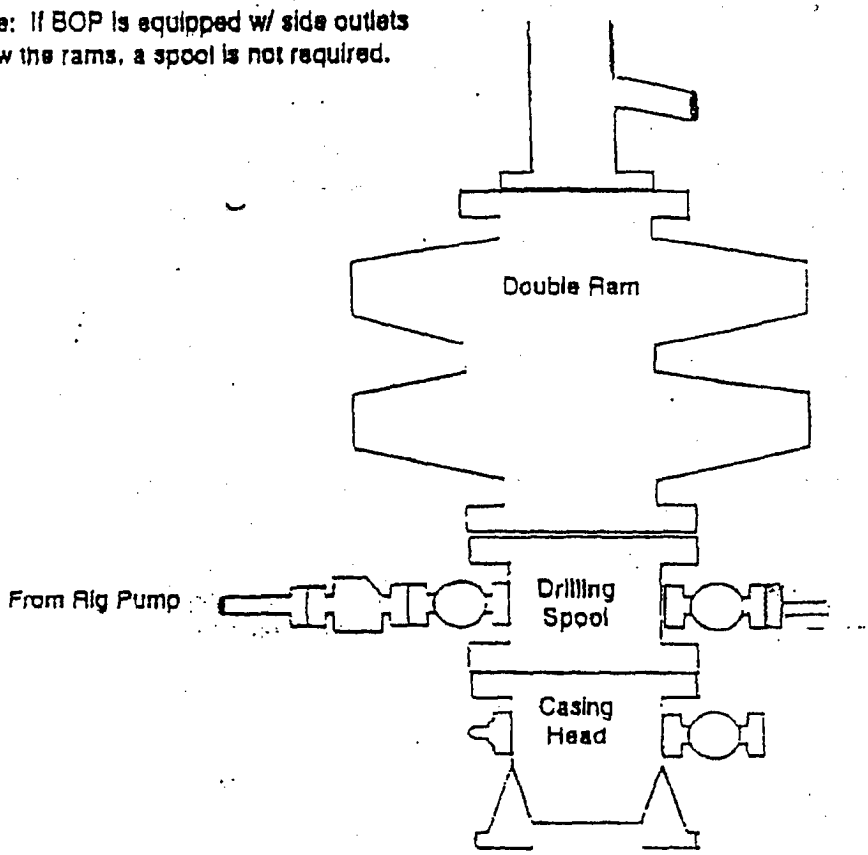
02.11.0762

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

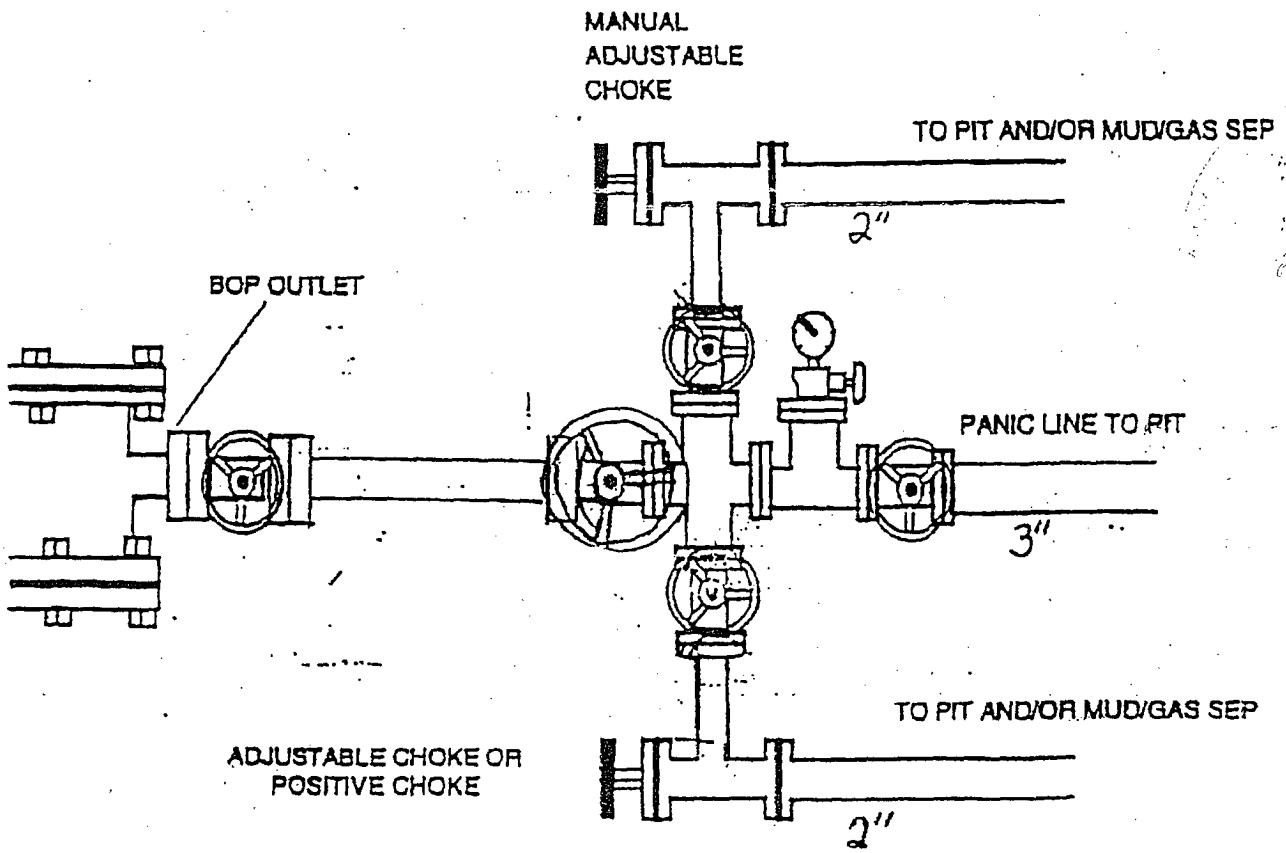
BOP Schematic

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

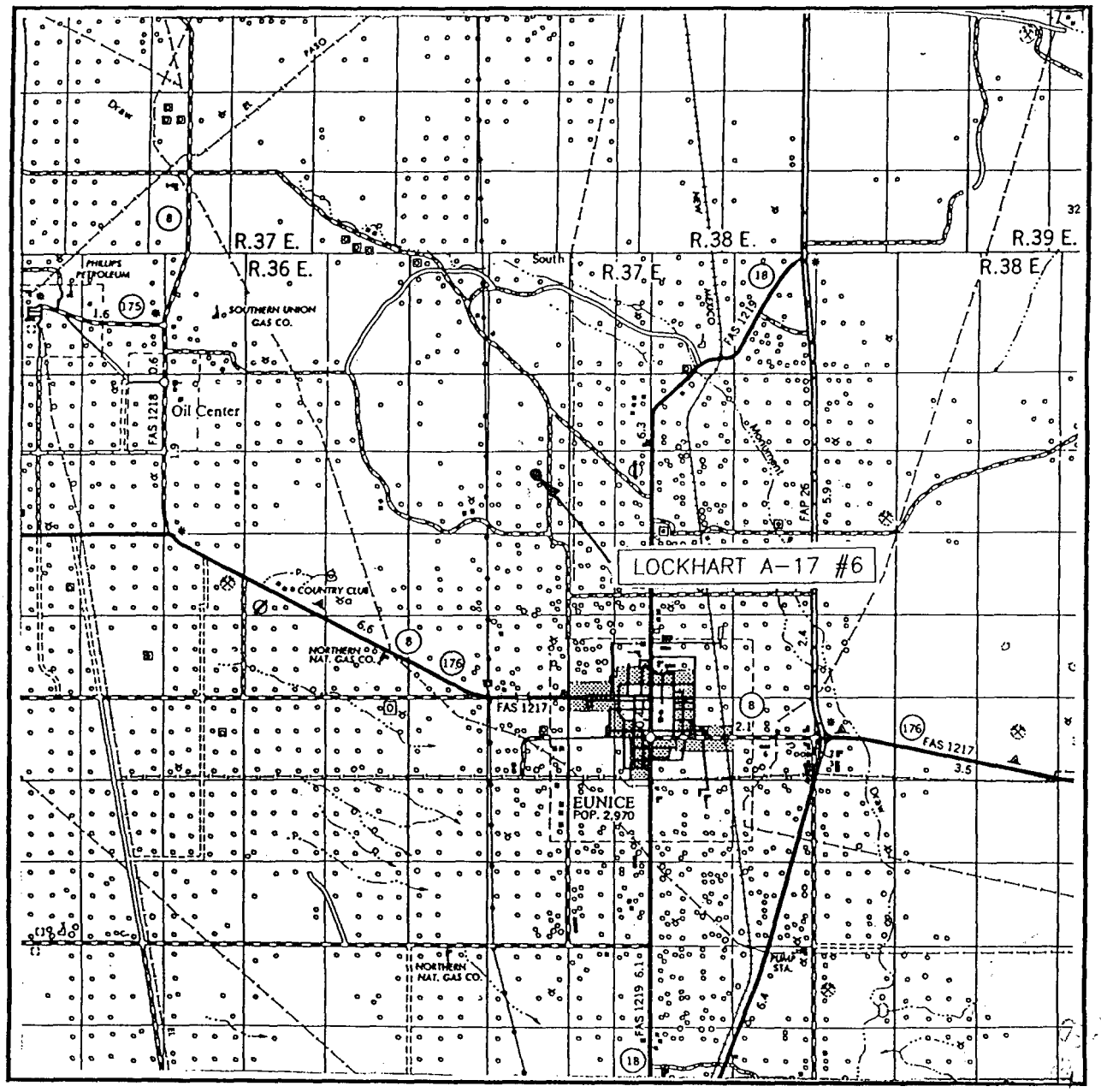
2000 psi WP Double Ram Blow-out Preventor. Must be tested to 1000 psi prior to drilling out 8-5/8" surface casing.



Choke Manifold Schematic



VICINITY MAP



SCALE: 1" = 2 MILES

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

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1330' FNL & 990' FEL

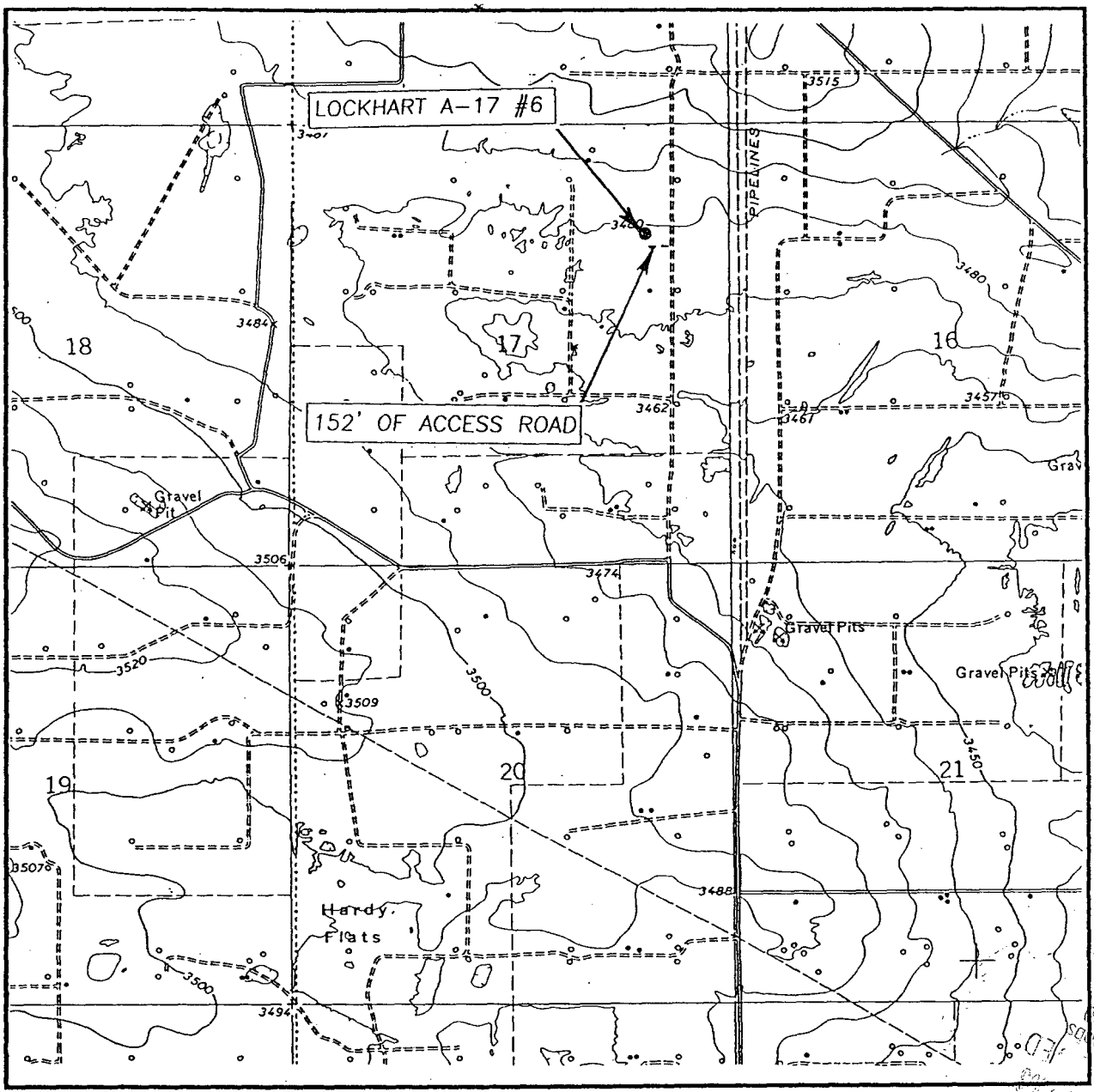
ELEVATION 3479'

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 1330' FNL & 990' FEL

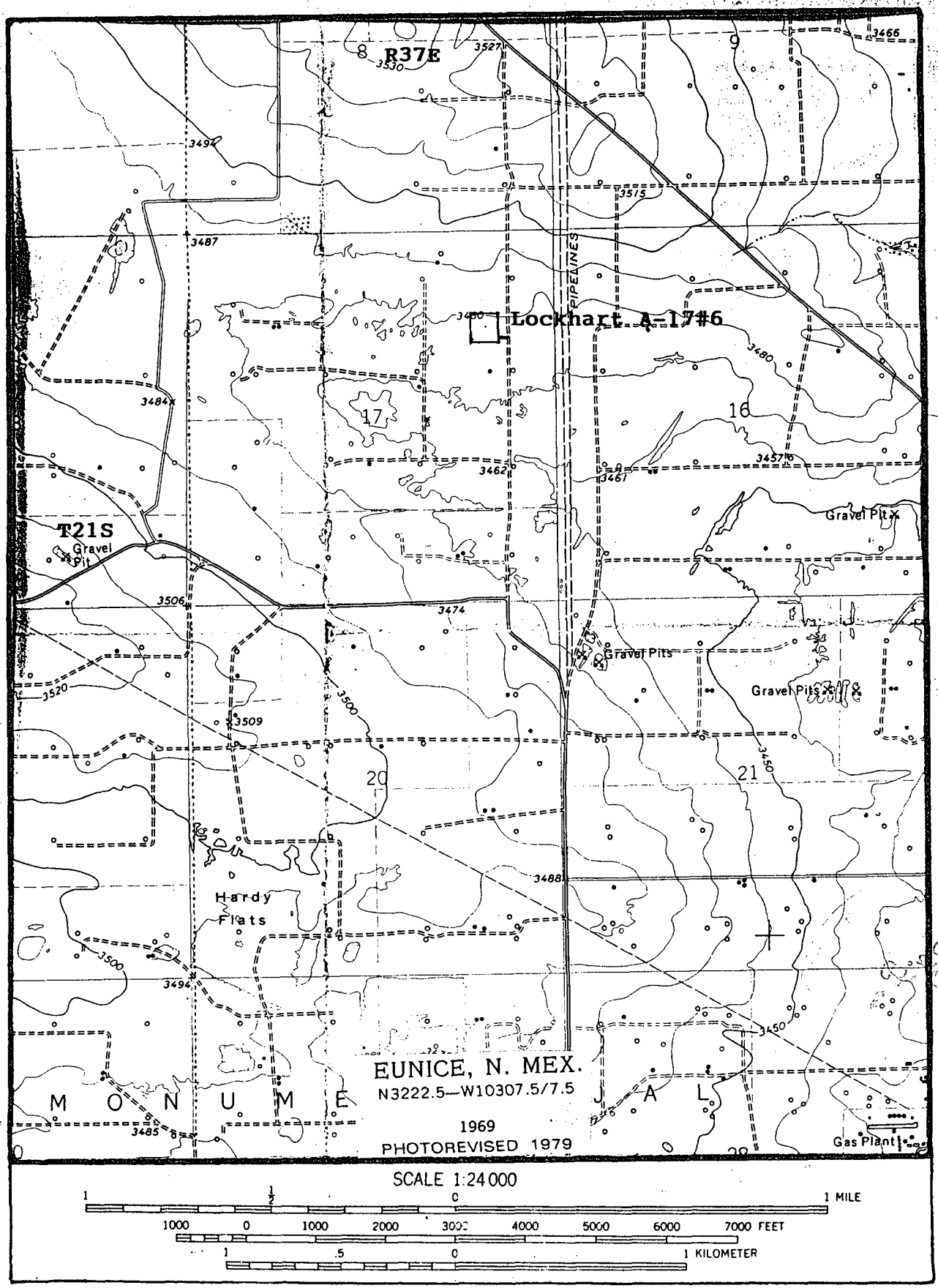
ELEVATION 3479'

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


R37E
T21S
Lockhart A-17#6
PIPELINES
Gravel Pit
Gravel Pits
Gravel Pits
Gravel Pit
Hardy
Flats
M O N U M E N T
J A L
EUNICE, N. MEX.
N3222.5—W10307.5/7.5
1969
PHOTOREVISED 1979
Gas Plant
N
SCALE 1:24000
1 MILE
7000 FEET
1 KILOMETER