

OCD-HOBBS

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

APACHE CORPORATION

(LANA WILLIAMS 918-491-4980) &lt;873&gt;

3. ADDRESS AND TELEPHONE NO.

6120 SOUTH YALE SUITE 1500 TULSA, OKLAHOMA 74136 (918-491-4980)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

1330' FSL &amp; 120' FEL SECTION 17 T21S-R37E LEA CO. NM

At proposed prod. zone SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

2.5 Miles North of Eunice New Mexico.

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drilg. unit line, if any)

120'

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

800'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

19. PROPOSED DEPTH

6875'

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3461' GR.

22. APPROX. DATE WORK WILL START\*

WHEN APPROVED

23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	Conductor 20"	NA	40'	Redi-mix cement to surface
12 1/2"	J-55 8 5/8"	24#	1300'	600 Sx. " " "
7 7/8"	J-55 5 1/2"	17#	6875'	1400 Sx. " " "

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED SHEETS FOR DETAIL.

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE Agent

DATE 09/26/06

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approval does not warrant or certify that 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:

APPROVED BY

/s/ Don Peterson

TITLE

FOR FIELD MANAGER

DATE

DEC - 1 2006

\*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102  
Revised JUNE 10, 2003  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-38549</b>	Pool Code <b>19190 22900</b>	Well Name <b>Eunice BL-TU-DR</b> <del>BRINKARD North</del>
Property Code <b>24430</b>	Property Name <b>LOCKHART A-17</b>	Well Number <b>24</b>
OGRID No. <b>0837</b>	Operator Name <b>APACHE CORPORATION</b>	Elevation <b>3461'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>1</b>	<b>17</b>	<b>21-S</b>	<b>37-E</b>		<b>1330</b>	<b>SOUTH</b>	<b>120</b>	<b>EAST</b>	<b>LEA</b>

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 <b>40</b>	Joint or Infill	Consolidation Code	Order No. <b>NSL-5685</b>						

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><b>A</b></p> <p>SECTION 17 SECTION 16</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=538524.0 N X=856754.5 E</p> <p>LAT.=32°28'30.71" N LONG.=103°10'35.47" W</p> <p><b>I</b></p> <p>NMLC-032096-A</p> <p>120'</p> <p>1330'</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>Lana Williams</i> Signature</p> <p><b>Lana Williams</b> Printed Name</p> <p><b>Eng. Tech</b> Title</p> <p><b>7/27/06</b> 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>DECEMBER 16, 2005</p> <p>Date Surveyed Signature &amp; Seal of Professional Surveyor <i>Ronald L. Eidson</i> 05.11.1985</p> <p>Certificate No. <b>GARY EIDSON 12641</b> <b>RONALD L. EIDSON 3239</b></p>
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Form C-102  
Revised JUNE 10, 2003  
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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
Property Code	Property Name LOCKHART A-17		Well Number 24
OGRID No.	Operator Name APACHE CORPORATION		Elevation 3461'

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		1330	SOUTH	120	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

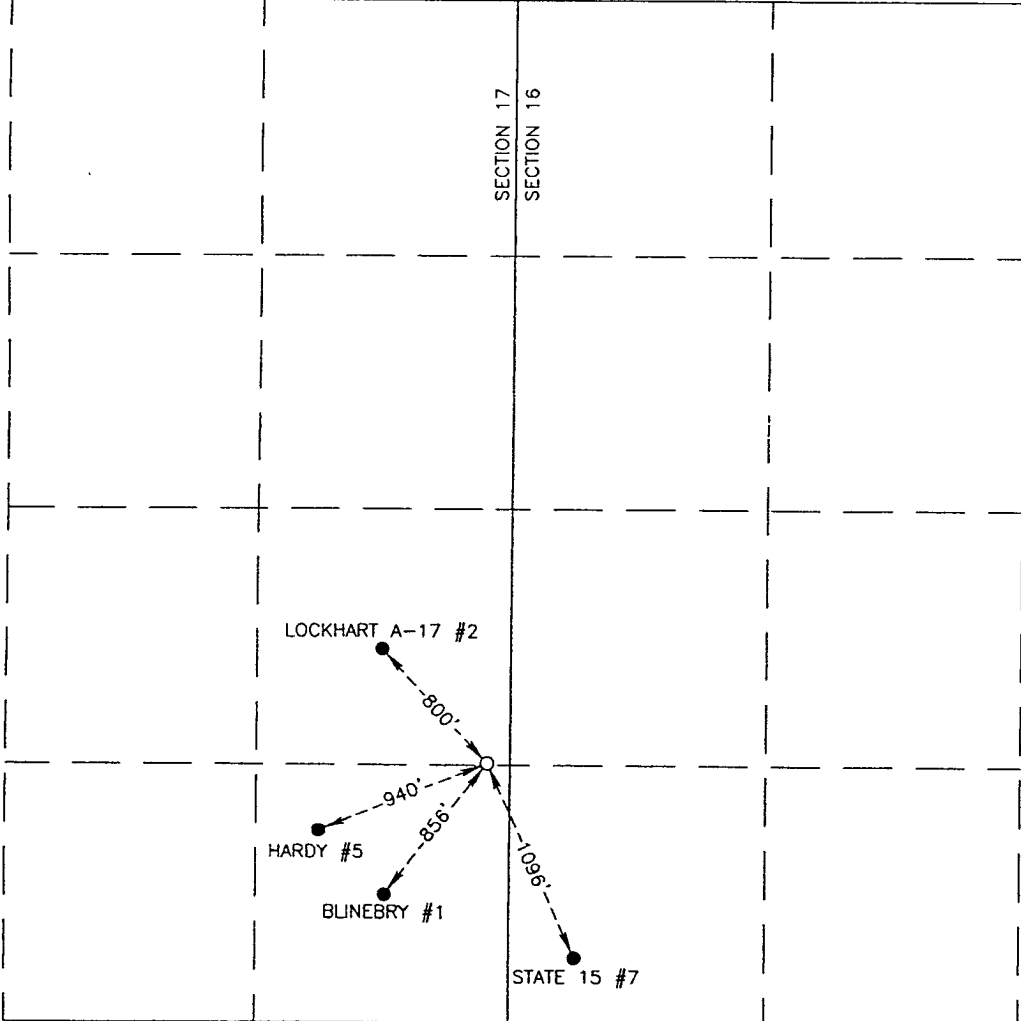
	<b>OPERATOR CERTIFICATION</b>  <i>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</i>  <u>Lana Williams</u> Signature <u>Lana Williams</u> Printed Name <u>Eng. Tech</u> Title <u>7/27/06</u> Date
	<b>SURVEYOR CERTIFICATION</b>  <i>I hereby 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.</i>  DECEMBER 16, 2005 Date Surveyed Signature & Seal of Professional Surveyor  05.11.1985
	Certificate No. GARY EIDSON 12841 RONALD J. EIDSON 3239

EXHIBIT "A"  
Lockhart A-17 #24  
**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	1237'
Yates	2638'
Queen	3406'
Grayburg	3686'
San Andres	3977'
Glorieta	5166'
Blinebry	5645'
Tubb	6140'
Drinkard	6461'
Abo	6698'
TD	6875'

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	Blinebry@5646' Tubb@6140' Drinkard@ 6461'
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>CASING</u>		<u>WEIGHT</u>			<u>ESTIMATED TOC -</u>
<u>SIZE</u>	<u>SIZE</u>	<u>GRADE</u>	<u>PER</u>	<u>DEPTH</u>	<u>SACKS</u>	<u>REMARKS</u>
<u>SIZE</u>	OD / ID		<u>FOOT</u>		<u>CEMENT</u>	
12 ¼"	8 5/8"	J55 STC	24#	1300'	600	TOC - Surface
	8.097"					8.9 ppg Water-based Mud; 89 ° F Est. Static Temp; 83 ° F Est. Circ. Temp.
7 7/8"	5 ½"	J55 LTC	17#	6875'	1,400	TOC – Surface
	4.892"					Float Collar set @ 6830"/ 10.10 ppg Brine Mud; 141 ° F Est. Static Temp; 117 ° F Est. Circ. Temp.

**B. Proposed Cement Program:**

<u>CASING</u>	<u>LEAD SLURRY</u>	<u>TAIL SLURRY</u>	<u>DISPLACEMENT</u>
8 5/8"	400 sacks 35:65 Poz:Class C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.003 gps FP-6L + 6% bwoc Bentonite gel 752 Vol. Cu Ft 1.94 Vol. Factor Slurry Weight (ppg) 12.7 Slurry Yield (cf/sack) 1.88 Amount of Mix Water (gps) 10.7; <u>Estimated Pumping Time</u> <u>- 70 BC (HH:MM)-4:00;</u>	200 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water 270 Vol. Cu Ft 1.94 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;	80 bbls Fresh Water @ 8.33 ppg

8 5/8" Casing: Volume Calculations:

1260 ft	x	0.4127 cf/ft	with 100% excess	=	1040.0 cf
40 ft		x 0.8214 cf/ft	with 0% excess	=	32.8 cf
40 ft	x	0.3576 cf/ft	with 0% excess	=	14.3 cf (inside pipe)
TOTAL SLURRY VOLUME					= 1087.1 cf
					= 193.6 bbls

Spacer 20.0 bbls Water @ 8.33 ppg

<u>CASING</u>	<u>LEAD SLURRY</u>	<u>TAIL SLURRY</u>	<u>DISPLACEMENT</u>
5 1/2"	950 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 2318 Vol. Cu Ft 2.66 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>	450 sacks (50:50) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.003 gps FP-6L 581 Vol. Cu Ft 1.84 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;	160 bbls 2% Kcl Water @ 8.43 ppg

5 1/2" Casing: Volume Calculations:

1300 ft	x	0.1926 cf/ft	with 0% excess	=	250.4 cf
3675 ft	x	0.1733 cf/ft	with 159% excess	=	1649.5 cf
1900 ft	x	0.1733 cf/ft	with 85% excess	=	609.0 cf
40 ft	x	0.1305 cf/ft	with 0% excess	=	5.2 cf (inside pipe)
TOTAL SLURRY VOLUME					= 2514.1 cf
					= 447.8 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 – 1,300'	Weight: 8.6 – 9.6 ppg Viscosity: 34 – 36 sec/qt  pH: NC Filtrate: NC	Spud with a Conventional New Gel/Lime "Spud mud". Use NewGel and native solids to maintain a sufficient viscosity to keep the hole clean. Mix Paper one-two sacks every 100 feet drilled to minimize wall cake build up on water sands and to control seepage loss. At TD of interval, mix in pre-mix pit, 100 barrels of system fluid, NewGel viscosity of 60 sec/100cc, add 0.25 ppb of Super Sweep.
1300' – 5600'	Weight: 9.9 – 10.1 ppg Viscosity: 28 – 29 sec/qt  pH: 9-10 Filtrate: NC	Drill out from under the surface casing with Brine Water. Paper should be added at 2 bags after every 100' drilled to control seepage losses. Use Lime to maintain pH at 9-10. Mix one gallon of New-55 at flowline every 250 feet drilled to promote solids settling. Sweep hole with 5-ppb of Super Sweep every 500 feet.
5600' – TD	Weight: 9.9 – 10.1 ppg Viscosity: 30 – 40 sec/qt  pH: 9-10 Filtrate: 8-15 cm/30 min	From 5600' to Total Depth, it is recommended the system be restricted to the working pits. Adjust and maintain pH with Caustic Soda. Treat system with Newcide to prevent dacterial degradation of organic materials. Mix Starch (yellow) to control API filtrate at <15cc.

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.** 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<sub>2</sub>S 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, Sonic from TD-1300'

CNL, GR from TD-Surface

C. Coring Program: None planned

D. Mudlogging 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 2400 psi.

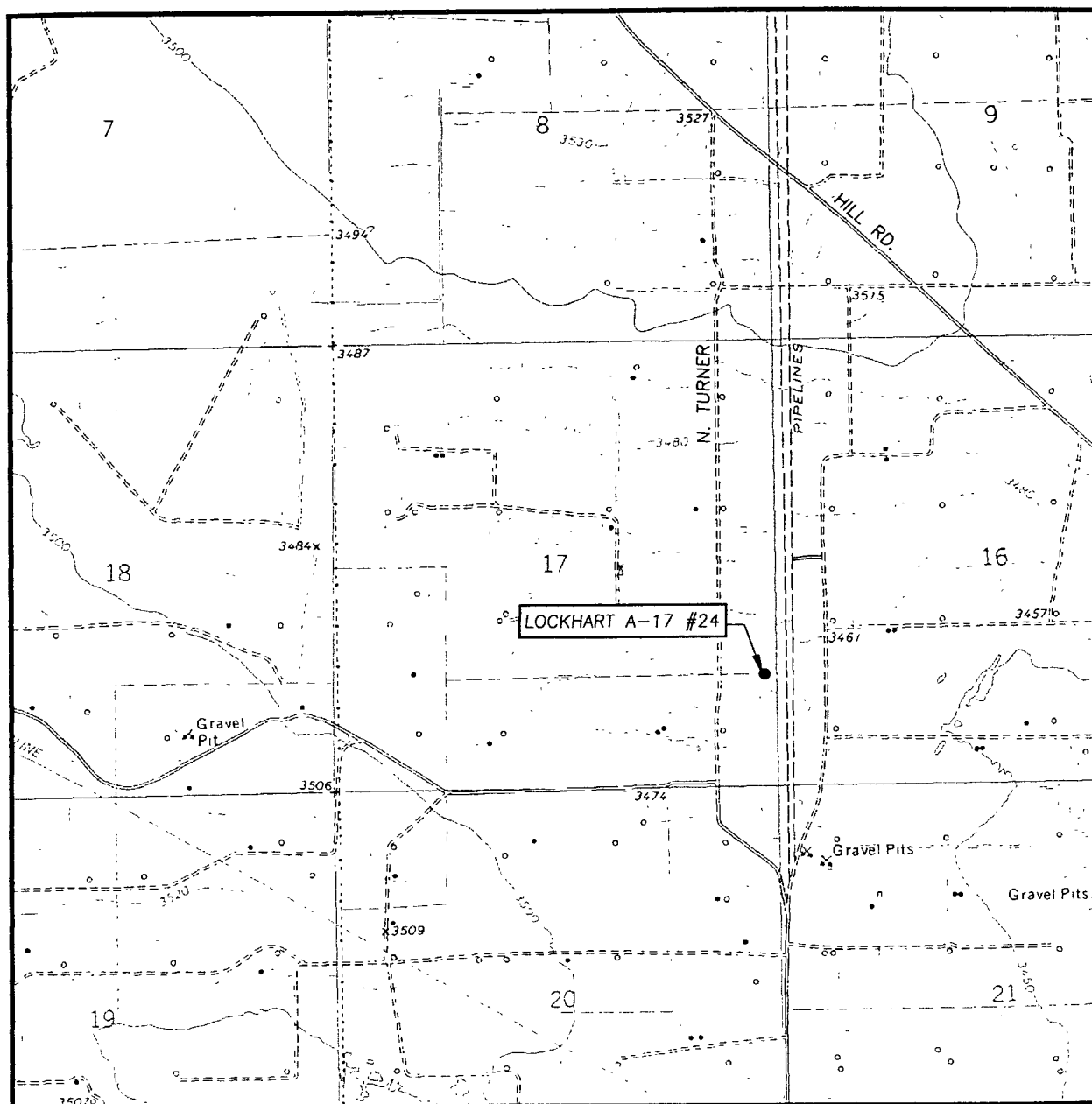
EXHIBIT "B"  
Lockhart A-17 #24

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

No H<sub>2</sub>S is anticipated.



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
EUNICE, N.M. - 10'

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

SURVEY N.M.P.M.

COUNTY LEA

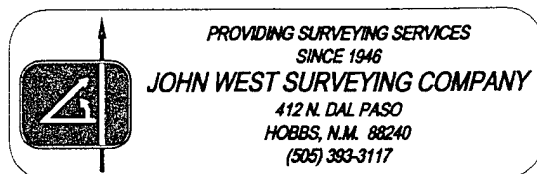
DESCRIPTION 1330' FSL & 120' FEL

ELEVATION 3461'

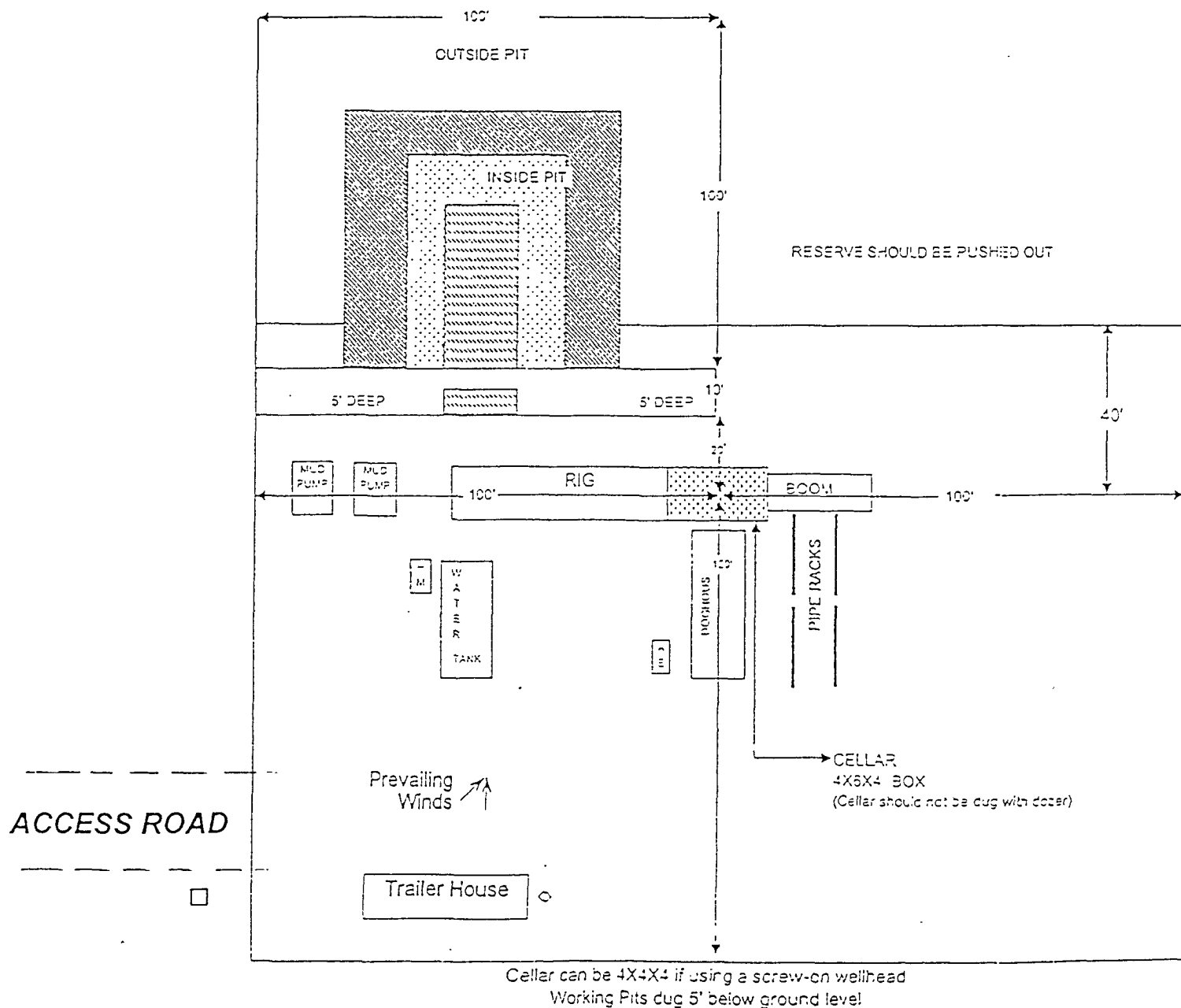
OPERATOR APACHE CORPORATION

LEASE LOCKHART A-17

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



CapStar Drilling, Inc.  
LOCATION SPECIFICATIONS AND RIG LAYOUT  
FOR EARTH PITS



- Wind Direction Indicators  
(wind sock or streamers)
- H2S Monitors  
(alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

Location

EXHIBIT "G"  
RIG LAY OUT PLAT  
APACHE CORPORATION  
LOCKHART "A-17" # 24  
UNIT "I" SECTION 17  
T21S-R37E LEA CO. NM

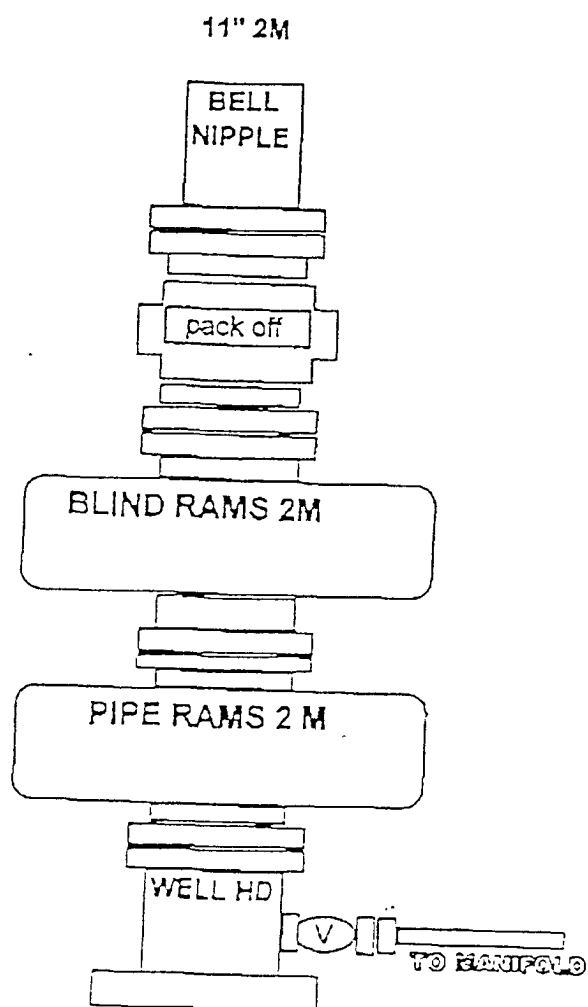


EXHIBIT "H"  
SKETCH OF B.O.P. TO BE USED ON

APACHE CORPORATION  
LOCKHART "A-17" # 24  
UNIT "I" SECTION 17  
T21S-R37E LEA CO. NM