

OCD-HOBBS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM90161	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator APACHE CORPORATION		7. If Unit or CA Agreement, Name and No.	
Contact: BONNIE JONES E-Mail: bonita@dfn.com		8. Lease Name and Well No. HAWK B-1 32	
3a. Address 6120 SOUTH YALE, SUITE 1500 TULSA, OK 74136-4224		9. API Well No. 30-025-36158	
3b. Phone No. (include area code) Ph: 505.624.9799 Fx: 505.624.9799		10. Field and Pool, or Exploratory PENROSE SKELLY	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NESE 1365FSL 1310FEL At proposed prod. zone NESE Lot I 1365FSL 1310FEL		11. Sec., T., R., M., or Blk. and Survey or Area Sec 8 T21S R37E Mer NMP	
14. Distance in miles and direction from nearest town or post office* 3 MILES NORTHWEST		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) 1275	16. No. of Acres in Lease 958.25	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. 764	19. Proposed Depth 4200 MD 4200 TVD	20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3517 GL	22. Approximate date work will start 02/28/2003	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. | 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) /s/ LESLIE A. THEISS	Name (Printed/Typed) /s/ LESLIE A. THEISS	Date 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)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

Electronic Submission #17835 verified by the BLM Well Infor
For APACHE CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by Armando Lopez on 01/29

OPER. OGRID NO. 873
PROPERTY NO. 24427
POOL CODE 50350
EFF. DATE 2-18-03
API NO. 30-025-36158

** 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

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EXHIBIT "A"
HAWK B-1 #32

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	1302'
Yates	2675'
Grayburg	3749'
San Andres	4031'
TD	4200'

- 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 3749' San Andres at 4031'
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 SIZE</u>	<u>CASING SIZE</u>	<u>GRAD E</u>	<u>WEIGHT PER FOOT</u>	<u>DEPTH</u>	<u>SACKS CEMENT</u>	<u>ESTIMATED TOC - REMARKS</u>
12 1/4"	8 5/8" 8.097	J55 STC	24#	400' <u>(Pursuant to Lea County Alternative Casing Program)</u>	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#	4200'	830	TOC - Surface Float Collar set @ 4160'/ 10.20 ppg Water-based Mud; 118° F Est. Static Temp; 101° F Est. Circ. Temp.

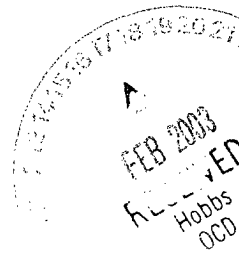
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B. Proposed Cement Program:

<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
<u>8 5/8" Casing: Volume Calculations:</u>		
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>
			<u>NT</u>
5 ½"	580 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; Estimated Pumping Time – 70 BC (HH:MM)-3:00;	96.5 bbls Fresh Water @ 8.34 ppg



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. 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' – 4200'	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 IMPERMIX (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

SEE
STIPS

NO Brine
until
1350'

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 – 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.

FEB 1983
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OCO

DISTRICT I
P.O. Box 1000, Hobbs, NM 88241-1000

State of New Mexico
Energy, Minerals and Natural Resources Department

EXHIBIT D-1

DISTRICT II
P.O. Drawer 88, Artesia, NM 88211-0718

OIL CONSERVATION DIVISION

Sub.

State Lease - 4 Copies
Fee Lease - 3 Copies

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

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-36158	Pool Code 50350	Pool Name Penrose Skelly; Grayburg
Property Code 24427	Property Name HAWK B-1	Well Number 32
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 3517'

Surface Location

UL or lot No. 1	Section 8	Township 21-S	Range 37-E	Lot Idn	Feet from the 1365'	North/South line SOUTH	Feet from the 1310'	East/West line EAST	County LEA
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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 40.00	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

GEODETIC COORDINATES NAD 27 NME Y = 543829.2 X = 855514.5 LAT = 32°29'23.33"N LONG = 103°10'49.27"W	3520.1' 3519.1' 3519.9' 3513.1' 1365'	1310'	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <i>Larry E. Rader</i> Signature LARRY E. RADER Printed Name TECH. COORDINATOR - DRILL Title 1/9/03 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. OCTOBER 12, 2002 Date Surveyed Signature of Seal of Professional Surveyor RONALD L. EDSON 02.11.0759 Certificate No. RONALD L. EDSON 3239 12641

DISTRICT I

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

DISTRICT II

P.O. Drawer DB, Artesia, NM 88211-0710

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

EXHIBIT D-2

Submi

State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code		Pool Name	
Property Code		Property Name HAWK B-1			Well Number 32
OGRID No.		Operator Name APACHE CORPORATION			Elevation 3517'

Surface Location

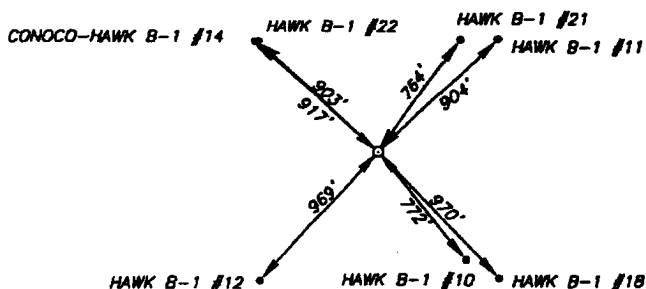
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	8	21-S	37-E		1365'	SOUTH	1310'	EAST	LEA

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.

Larry E. Rader
Signature

LARRY E. RADER
Printed Name

TECH. COORDINATOR - DRLG.
Title

1/4/03
Date

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.

OCTOBER 12, 2002

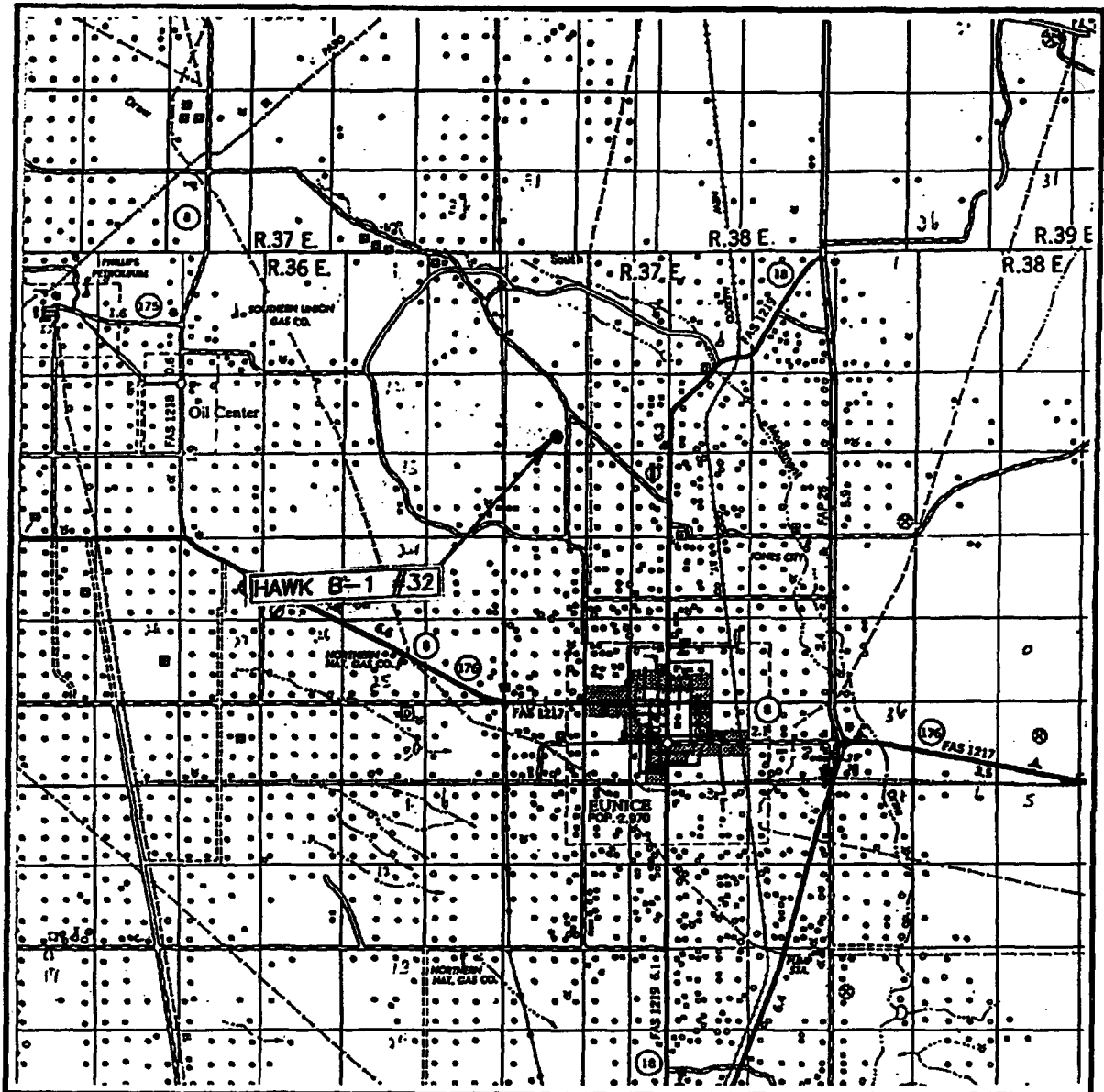
Date Surveyed AWB

Signature & Seal of
Professional Surveyor

02.11.0759

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12841

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 8 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1365' FSL & 1310' FEL

ELEVATION 3517'

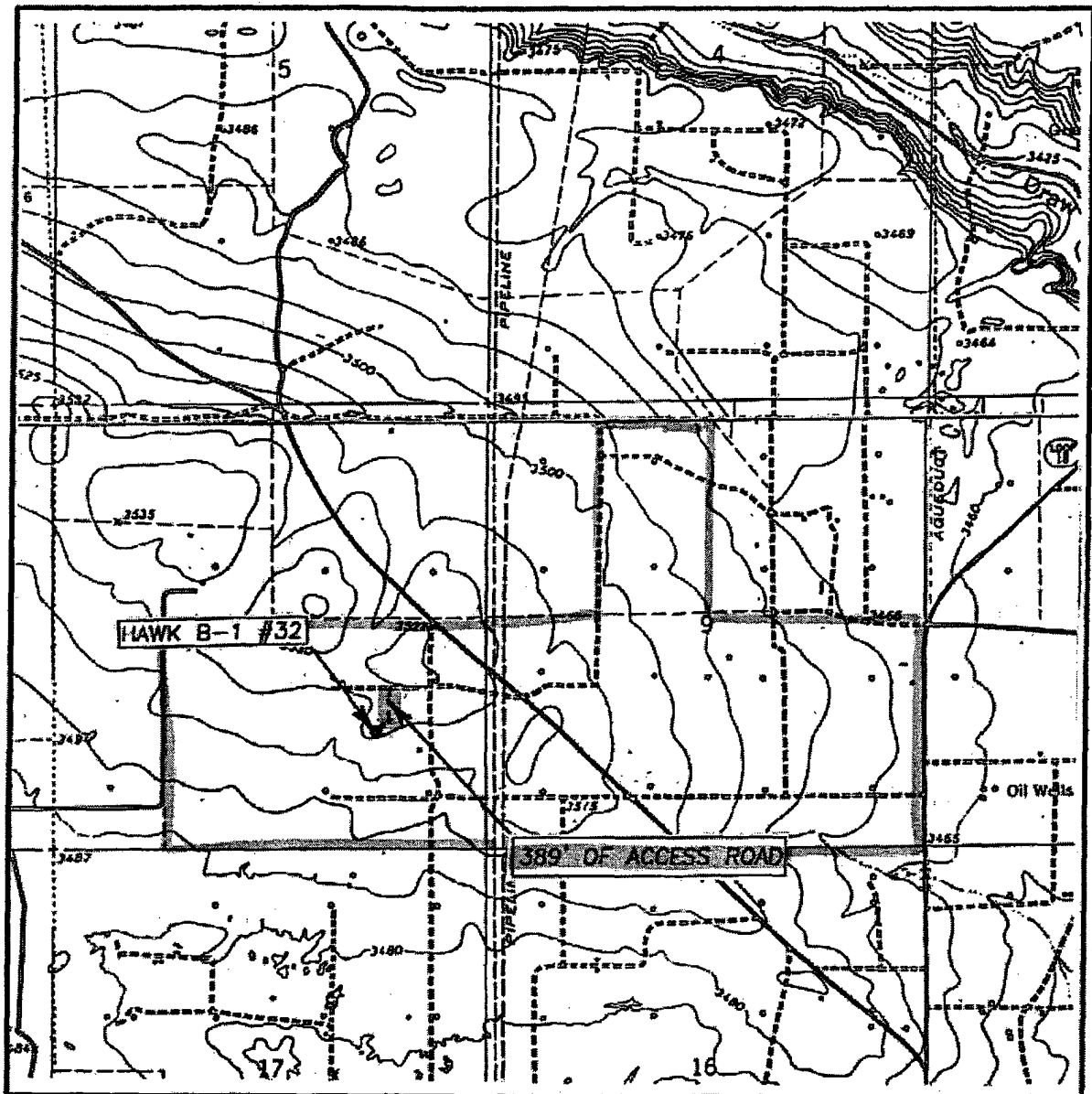
OPERATOR APACHE CORPORATION

LEASE HAWK B-1

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

LOCATION VERIFICATION MAP

EXHIBIT E-2



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 8 TWP. 21-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1365' FSL & 1310' FEL

ELEVATION 3517'

OPERATOR APACHE CORPORATION

LEASE HAWK B-1

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

EUNICE, N.M.

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

LEASE BOUNDARY

ACCESS

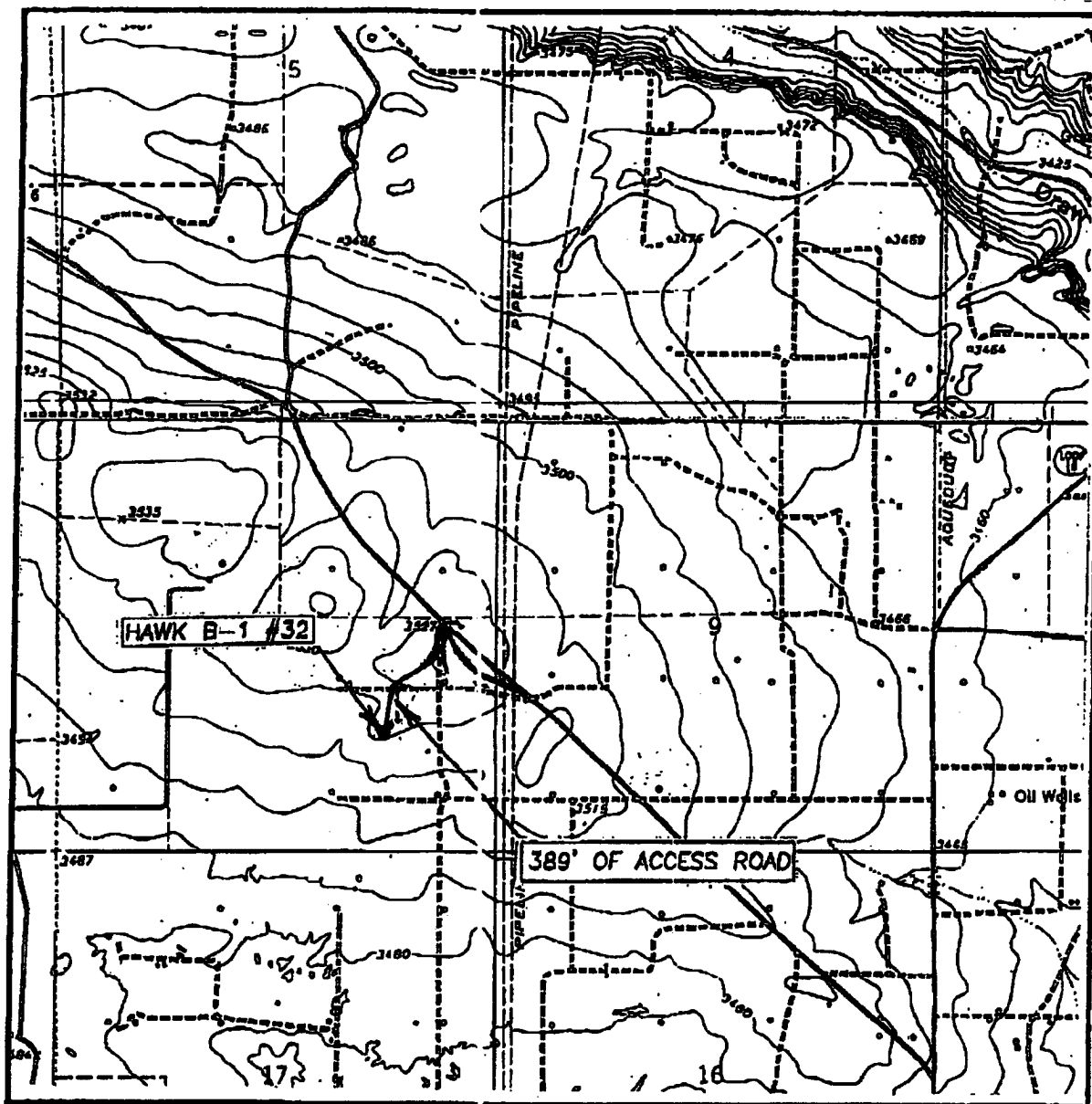
FROM : John West Surveying Company

FAX NO : 505-393-3450

Oct. 16 2002 01:46PM P13

LOCATION VERIFICATION MAP

EXHIBIT E-3



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

EUNICE, N.M.

SEC. B TWP. 21-S RGE. 37-ESURVEY N.M.P.M.COUNTY LEADESCRIPTION 1365' FSL & 1310' FELELEVATION 3517'OPERATOR APACHE CORPORATIONLEASE HAWK B-1U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

5808' FL

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

Flow-line Route

Limpus Jones

**connection**

P. O. Box 8309
Roswell, New Mexico 88202-8309
Phone: 505-624-9799
FAX: 505-624-9799
E-Mail: senoj@dfn.com

Fax Cover Page

to Bruce Boeke

Fax Number: 505-885-9264

Company LM-Carlsbad

Date: 2-11-03

From Fax Number: 505-624-9799

Pages including cover page: 2

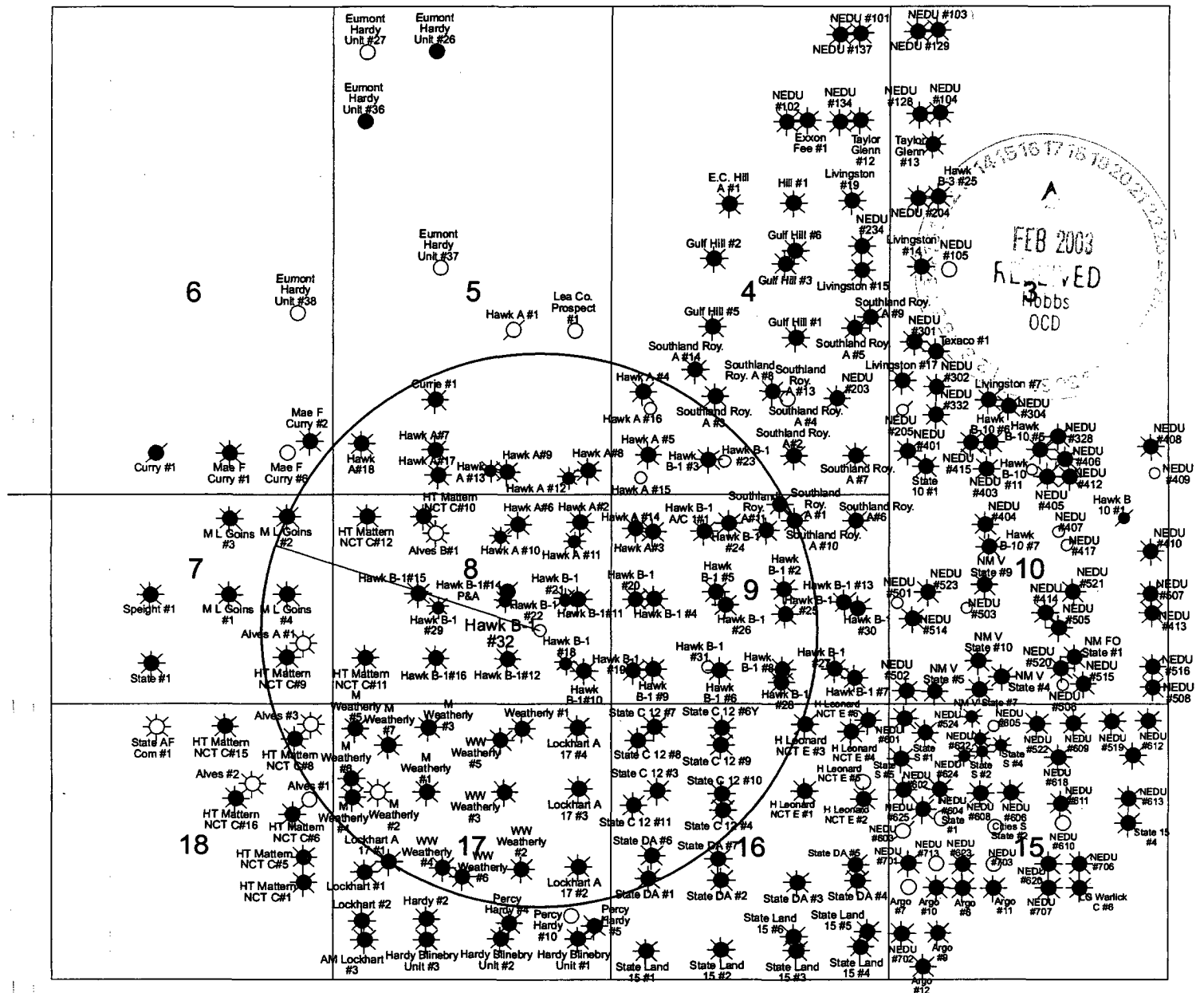
Subject: Hawk B-1 #3:2

Message:

Bruce,
Attached is a revised plat
showing the correct position
of the eastern leg of the flow line.
This revision reflects the route
as more accurately depicted by
the Archaeologist's Survey Plat.

Bonnie

EXHIBIT "F"
Hawk B-1 #32
1365' FSL & 1310' FEL, Sec. 8, T21S-R37E
Lea County, NM



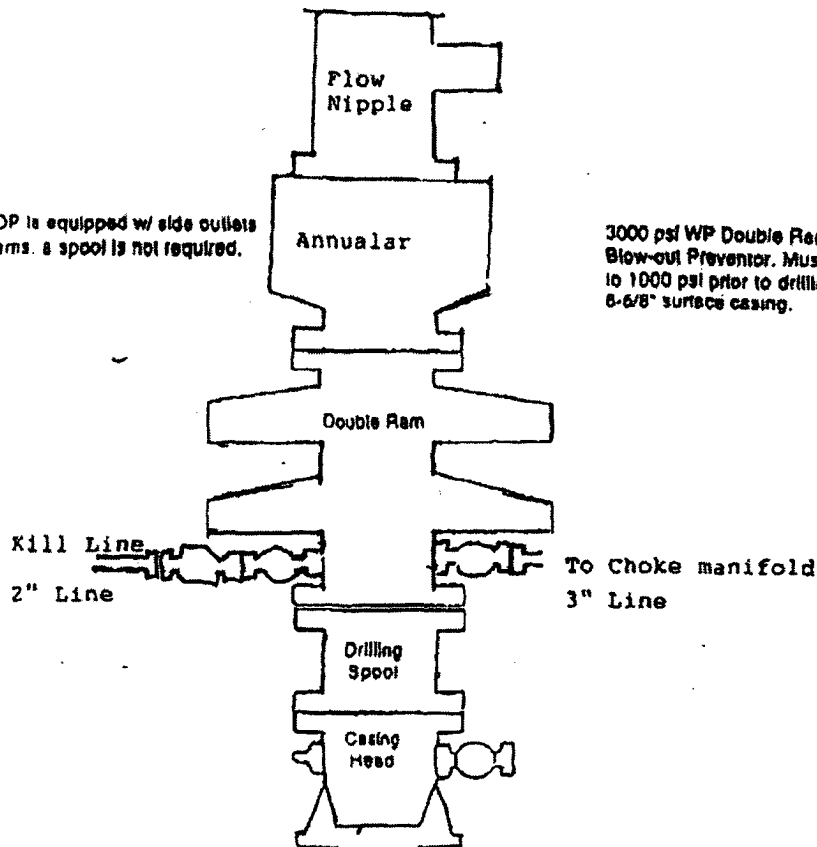
CAPSTAR DRILLING INC

BOP SCHEMATIC
9" X 3000 psi

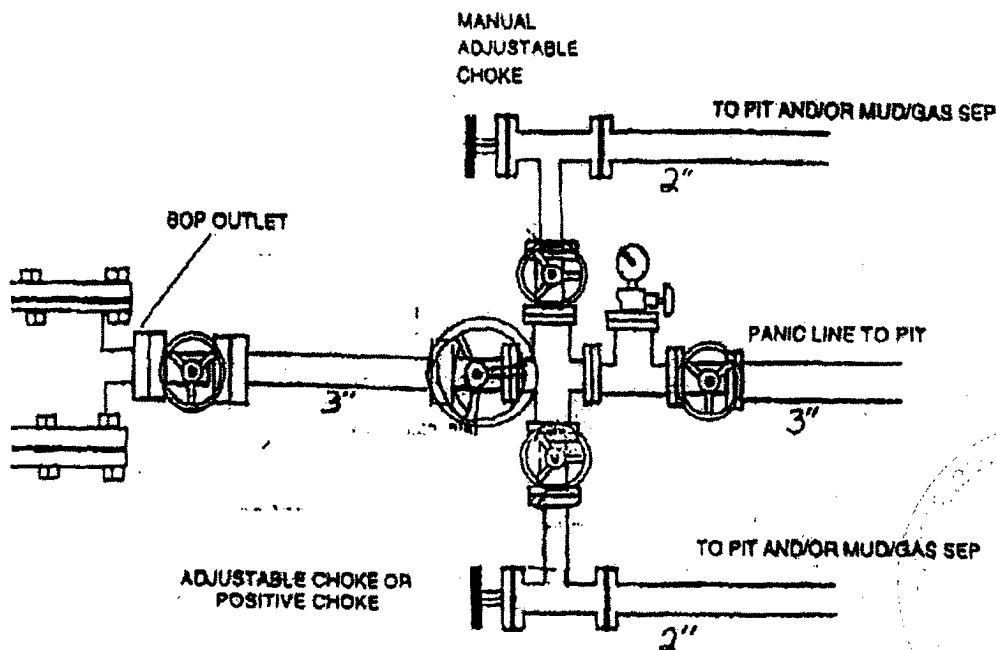
EXHIBIT "H"

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
 6-6/8" surface casing.



Choke Manifold Schematic



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