

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-039-25142

RECEIVED
NOV 21 1991

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
 DRILL PLUG BACK

b. TYPE OF WELL
 OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
 American Hunter Exploration Ltd.

3. ADDRESS OF OPERATOR
 410 - 17 Street, Suite 1220, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface: 1820' FNL & 1875' FWL (SENW) *F Sec 3, T27N-R1W*
 At proposed prod. zone: 1820' FNL & 1390' FEL (SWNE) *Sec 4 - T27N-R1W*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 25 + miles southeast of Dulce, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 1820'

16. NO. OF ACRES IN LEASE
 N/A

17. NO. OF ACRES ASSIGNED TO THIS WELL
 650.05

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH
 9817' MD (6510' TVD)

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 7318' GR

22. APPROX. DATE WORK WILL START*
 November 27, 1991

23. **PROPOSED CASING AND CEMENTING PROGRAM**

5. LEASE DESIGNATION AND SERIAL NO.
 Contract 701-90-0001

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
 Jicarilla Apache

7. UNIT AGREEMENT NAME
 N/A

8. FARM OR LEASE NAME
 Jicarilla 3F

9. WELL NO.
 2F-1

10. FIELD AND POOL, OR WILDCAT
 WEST NORT CHRYSTO Wildcat *MANCOS*

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 3-27N-1W
 F

12. COUNTY OR PARISH
 Rio Arriba

13. STATE
 New Mexico

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT ATTACHED
14 3/4"	10 3/4"	40.5 J55	300'	290' sx Class GMSK
9 7/8"	7 5/8"	26.4 K55	6441' (6237' TVD)	209 sx Class G + 856 sx
6 3/4"	5 1/2"	15.5 K55	9817' (6510' TVD)	Litepoz

A vertical hole will be drilled and logged to $\approx 5681'$. The well will then be kicked off at this point and a medium radius curve built along an azimuth of $\approx 270^\circ$ to $\approx 6441'$ MD ($\approx 6237'$ TVD), the top of the Niobrara A. After setting intermediate casing, a high angle lateral hole will be drilled for $\approx 3300'$ to a total measured depth of $\approx 9817'$ ($\approx 6510'$ TVD).

The application of American Hunter Exploration Ltd. (AHEL) to drill a horizontal well and form a non-standard spacing and proration unit was approved per NMOCD Order No. R-9606.

Exhibits Attached

- "A" Location Survey Plat
- "B" Drilling Program
- "C" Preliminary Directional Profile
- "D" Blowout Preventer Diagram
- "E" Drill Pad Layout, Cuts & Fills
- "F" Cross Sections of Drill Pad
- "G" Drill Rig Layout
- "H" Access Road
- "I" Surface Use Program

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 *R. B. [Signature]* TITLE Senior Drilling Engineer
A. Bondarchuk November 4, 1991

APPROVED AS AMENDED

"Approval of this action does not warrant that the applicant holds legal or equitable rights or title to this lease."

APPROVAL DATE NOV 20 1991
 TITLE *[Signature]*
 AREA MANAGER

NSL R-9606

NMOCD
 *See Instructions On Reverse Side

SENT BY: WESTERN OFFICE PRODUCTS; 11-4-91 7:39AM ;

7:39AM ;

3035651232+

5057593170; # 2

Submit to Appropriate District Office
State Lease - 4 copies
Fed Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1960, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Arado, NM 88210

DISTRICT III
1000 Rio Grande Rd., Alamo, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

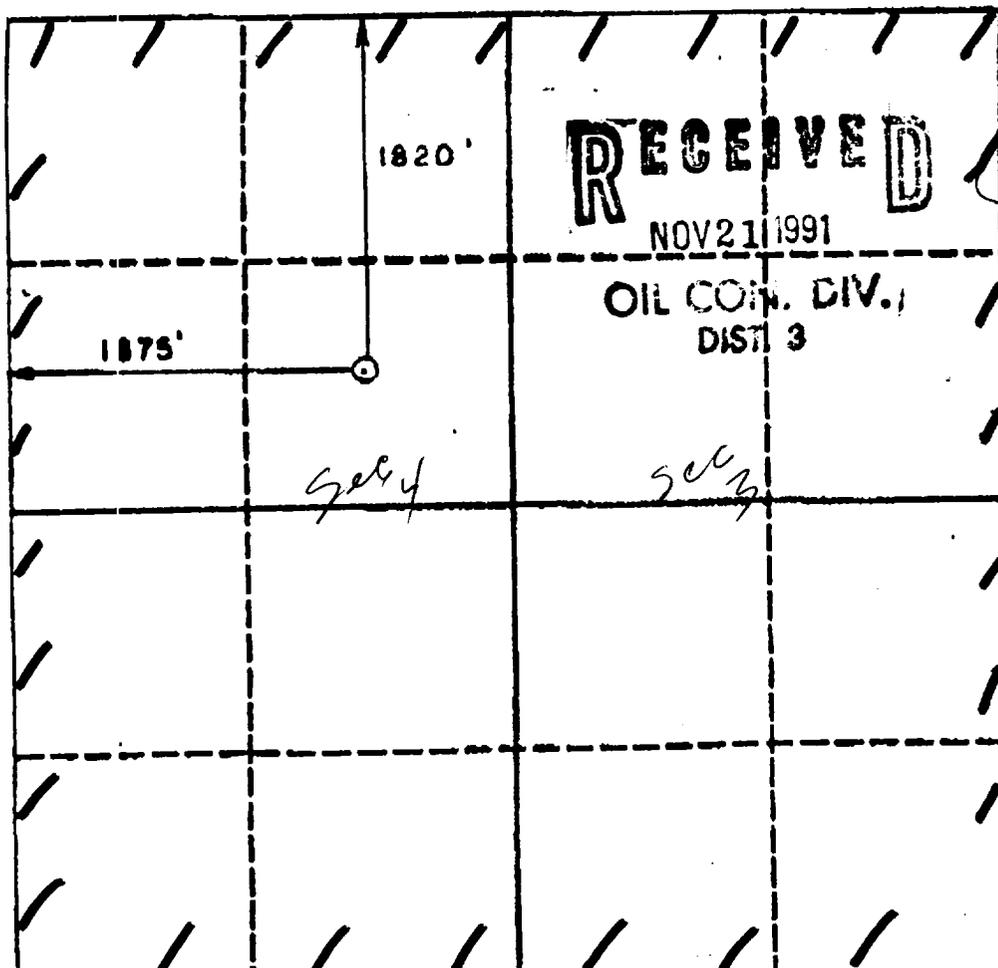
All Distances must be from the outer boundaries of the section

Operator AMERICAN HUNTER Exp., Ltd.			Lease Contract 701-90-0001	Well No. Jicarilla 35-#1
U.S. Letter F	Section 3	Township 27 N.	Range 1 W.	County NMRA Rio Arriba

Actual Footage Location of Well:

1820' East from the North line and	1875' East from the West line	Ground level Elev. 7318'	Producing Formation Niobrara	Pool Wildcat WEST PUERTO CHIQUITO MIPN	Dedicated Acreage: 650.05 Acres
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- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, forced-pooling, etc.?
 Yes No If answer is "yes" type of communitization _____
 If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)
 No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standed unit, eliminating such interest, has been approved by the Division.



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

Signature: _____
 Printed Name: **Jeffrey Breeding**
 Position: **Surface/Oil**
 Company: **AMEL**
 Date: **11/4/91**

SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes actual surveys made by me or under supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: _____
 Signature: _____
 Professional Seal: **GERALD W. CLESTON** (8844)
 Certified: _____

**AHEL JICARILLA 3F-1
PROPOSED LOCATION**

28N R1W

27N R1W

JICARILLA

INDIA

**LOS INDIOS CANYON QUAD.
RIO ARRIBA CO., N.MEX.
7.5 MINUTE TOPO.**

Exhibit 'B'

DRILLING PROGRAM

AMERICAN HUNTER EXPLORATION LTD.

Jicarilla 3F-1

SENW 3-27N-1W

1820' FNL & 1875' FWL (surface)

1820' FNL & 1390' FEL (TD)

Rio Arriba County, New Mexico

1. SURFACE FORMATION: San Jose

2&3. ESTIMATED GEOLOGICAL FORMATION TOPS:

FORMATION	VERTICAL		HORIZONTAL		
	Subsea Elev (ft)	Drilling Depth (ft MD)	Subsea Elev* (ft)	Drilling Depth ftMD (ftTVD)	
San Jose		Surface			
Ojo Alamo	+ 5257	2080			
Fruitland	+ 5017	2320			
Pictured Cliffs	+ 4847	2490			possible gas
Lewis Shale	+ 4692	2645			
Cliff House	+ 2632	4705			
Point Lookout	+ 2412	4925			possible gas
Mancos Shale	+ 2212	5125			
Niobrara A	+ 1092	6245		6441 (6237)	possible oil/gas
Niobrara B	+ 1022	6315			possible oil/gas
TD				9817 (6510)	

* Based on the preliminary directional profile.

WELL DESIGN

A vertical hole will be drilled and logged to $\approx 5681'$. The well will then be kicked off at this point and a medium radius curve built along an azimuth of $\approx 270^\circ$ to $\approx 6441'$ MD ($\approx 6237'$ TVD), the top of the Niobrara A. After setting intermediate casing, a high angle lateral hole will be drilled for $\approx 3300'$ to a total measured depth of $\approx 9817'$ ($\approx 6510'$ TVD). Exhibit 'C' is a schematic of the preliminary directional profile.

The application of American Hunter Exploration Ltd. (AHEL) to drill a horizontal well and form a non-standard spacing and proration unit was approved per NMOCD Order No. R-9606.

CASING PROGRAM

HOLE SIZE	INTERVAL	LENGTH	CASING SIZE	WEIGHT	GRADE	CONN	COND
14 $\frac{3}{4}$ "	0 - 300'	300'	10 $\frac{3}{4}$ "	40.5	J55	ST&C	New
9 $\frac{7}{8}$ "	0 - 6441'	6441'	7 $\frac{5}{8}$ "	26.4	K55	LT&C	New
6 $\frac{3}{4}$ "	6341 - 9817'	3476'	5 $\frac{1}{2}$ "	15.5	K55	Premium	New

CEMENTING PROGRAM

The 10 $\frac{3}{4}$ " surface casing will be cemented to surface with 290 sacks Class G + 2% CaCl₂.

The 7 $\frac{5}{8}$ " intermediate casing will be cemented to surface as follows:

- 6441 - 5581' 209 sx Class G + 0.5% D59 + 0.4% D65 + 0.2% D136 + 0.25% D79
- 5581' - Surface 856 sx Litepoz + 2% CaCl₂ + 6% Bentonite

The 5 $\frac{1}{2}$ " production liner will be uncemented. A packer will be run at the top to seal off the annular overlap between the liner and intermediate casing.

Cement slurry volumes will be calculated as follows:

- 100% excess over gauge (annular) hole volume for surface casing.
- 30% excess over annular hole volume (based on caliper log) for intermediate casing.

5. PRESSURE CONTROL EQUIPMENT

Exhibit "D" is a schematic diagram of the proposed blowout preventer equipment.

Ram type preventers and associated equipment (choke manifold, kelly cocks, etc.) shall be pressure tested to 100% of their rated working pressure (with BOP stack isolated from casing by a test plug) for a period of 10 minutes. Annular preventers shall be tested to 50% of rated working pressure for 10 minutes. Tests will be run after initial installation, prior to drilling out of surface casing shoe and after any use under pressure, or a minimum of once every 14 days. Pipe rams will be operationally checked each 24 hour period, as will blind rams and annular preventer each time pipe is pulled out of the hole. Annular preventers will be functionally operated at least weekly. BOP checks will be noted on daily drilling reports.

6. MUD PROGRAM

	MW	WL	VIS	TYPE
0 - 300'	8.5 - 9.0	NC	35-50	Water/Gel-Lime
300 - 6441'	8.5 - 8.8	8-10	32-36	KOH-PHPA
6441 - 9817'	3.8 - 7.0	NC	NC	Nitrified Crude Oil

7. AUXILIARY EQUIPMENT

- 1) Upper and lower kelly cock. *w/ handle available*
- 2) Drillpipe float (except for lost circulation drilling conditions).
- 3) A mud logging unit with gas detecting device will be used throughout the intermediate and main hole sections. A pit volume monitoring system and flo-sho will be used to detect any influx of formation fluids.
- 4) A sub on the floor with a full opening valve to be stabbed into drillpipe when a kelly is not in the string.
- 5) A remote controlled automatic choke will be installed on the BOP manifold system for well control purposes.

8. EVALUATION

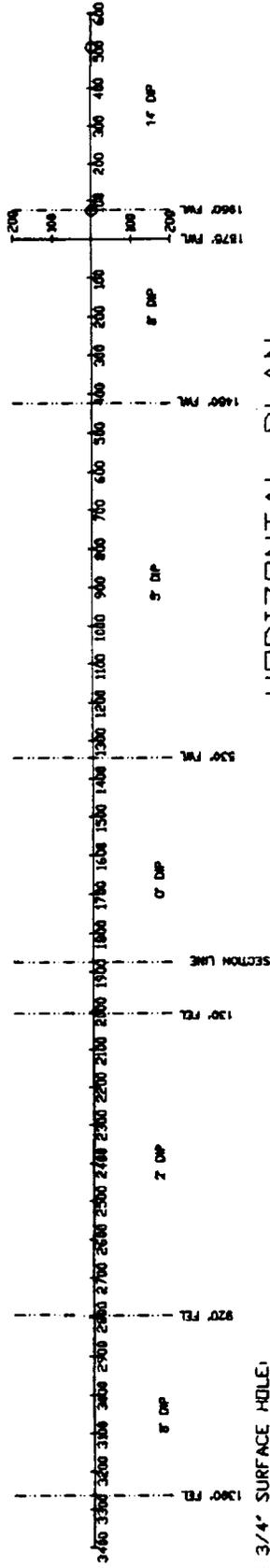
	<u>Interval</u>	<u>Log Run</u>
Logging:	300 - 5681' (Vertical)	1. DIL/BHCS/GR/CAL 2. LDT/CNL/GR/DAC
	5681 - 9817' (Horizontal)	1. MWD-GR
Coring:	No cores will be cut.	
Testing:	No DSTs are planned.	
Mud Logging:	Full mud logging services from surface casing to TD.	
Stimulation:	Stimulation procedures will be determined after evaluation of logs. If treatment is indicated, appropriate sundry notice will be submitted for approval.	

9. ABNORMAL PRESSURES

No abnormal pressures or temperatures have been noted or reported in wells drilled in the area nor at the depths anticipated in this well. The Niobrara is an underpressured reservoir (0.33 psi/ft). Maximum expected bottomhole pressure is 2148 psi.

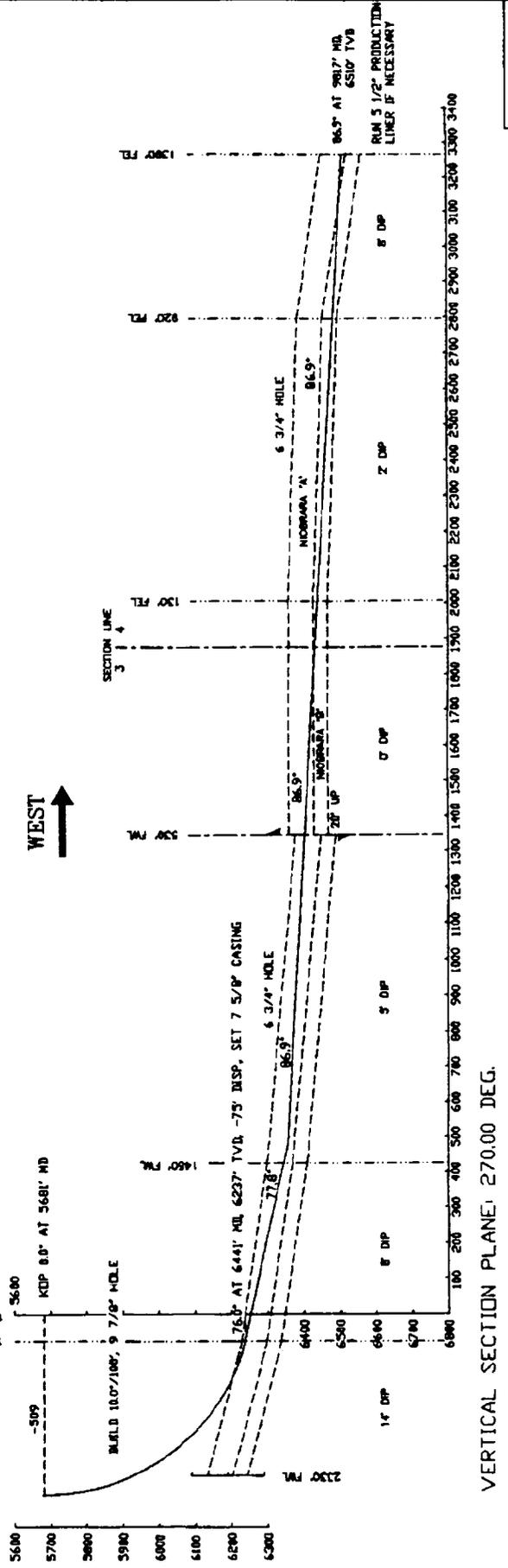
10. The anticipated starting date for this well is set for November 27, 1991. Operations will cover 30 days for drilling and 7 days for completion.

AMERICAN HUNTER EXPLORATION LTD.
 AHEL JICARILLA #3F-1
 SEC 3-T27N-R01W
 RIO ARRIBA COUNTY, NEW MEXICO



HORIZONTAL PLAN
 SCALE: 100 FEET/DIVISION

VERTICAL SECTION
 SCALE: 100 FEET/DIVISION



VERTICAL SECTION PLANE: 270.00 DEG.

Drawn by: Terry Kerr
 Date: November 1991
 File Name: AHE3F1P