

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(Other instructions on reverse side) RECEIVED

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. NM-70227	
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>			6. IF INDIAN, ALIQUOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Highland Production Company			7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR 810 North Dixie, Suite 202, Odessa, Texas 79761			8. FARM OR LEASE NAME McDonald Federal	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 890' FEL and 2310' FSL At proposed prod. zone 890' FEL and 2310' FSL			9. WELL NO. 1	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 16 miles SW Jal, New Mexico			10. FIELD AND POOL, OR WILDCAT East Mason (Delaware)	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)		16. NO. OF ACRES IN LEASE 40	17. NO. OF ACRES ASSIGNED TO THIS WELL 40	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		19. PROPOSED DEPTH 4700	20. ROTARY OR CABLE TOOLS Rotary and Cable Tools	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3145.5 GR			22. APPROX. DATE WORK WILL START* August 22, 1989	
23. PROPOSED CASING AND CEMENTING PROGRAM				

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24# ^{SOS}	1,000'	125 SX Class C Circulate
7 7/8"	5 1/2"	1.05# ^{SOS}	4,600'	1,200 SX HLC/W Class C Circulate

Additional Information:

- Surface formation is Tertiary with some Triassic exposed
- Estimated geological tops: Rustler - 950', Anhydrite - 1,000', Base Salt - 1,300', Yates - 3,000', Lamar Lime - 4,100', Delaware Top - 4,300' ^{TOP SOS}
- Pressure control equipment: Double hydrolic pressure tested to 3,000 psi, full closing hydril on top tested to 3,000 psi. Pressure control diagram is attached. Testing will be on installation, daily and on trips.
- Proposed circulating medium: 0-1,000' - Spud Mud, 1,000-4,500' - Brine Water
- Estimate will encounter water from 890' to 950'.
- Estimate will encounter oil at 4,370'.
- Logging Program: Acoustic velocity gamma ray caliper log: FoRxo guard log.
- No coring or drill stem testing.
- No abnormal pressures or temperatures are expected to be encountered.
- Anticipated starting date is August 22, 1989

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 Marvin K. Smith TITLE President DATE July 24, 1989
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY Carl S. Smith by Richard L. Adams TITLE CARL S. SMITH DATE 8-25-89
CONDITIONS OF APPROVAL, IF ANY:

All distances must be from the outer boundaries of the Section.

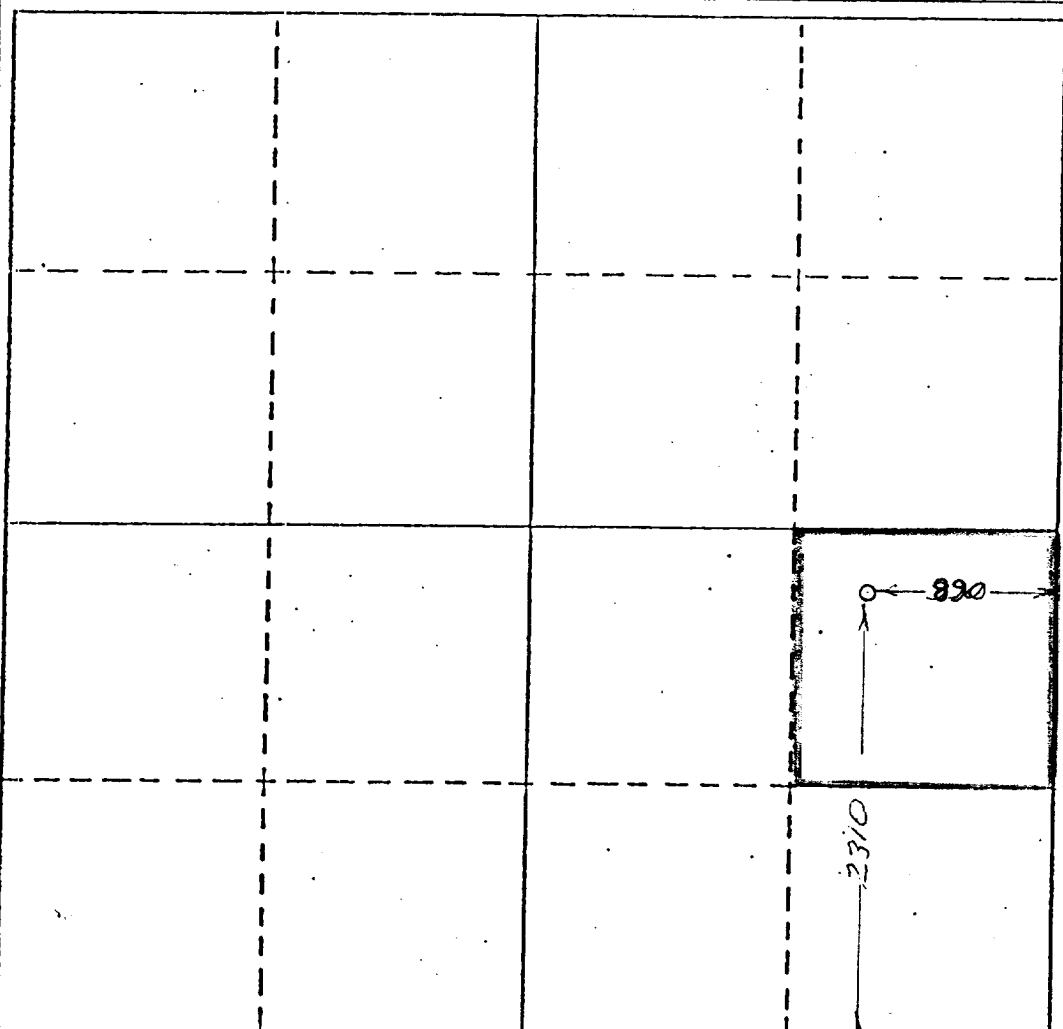
Operator Highland Production			Lease McDonald Federal			Well No. 1		
Unit Letter I	Section 21	Township 26 South	Range 32 East	County Lea				
Actual Footage Location of Well: 2310 feet from the South line and 890 feet from the East line								
Ground Level Elev. 3145.5	Producing Formation Delaware		Pool East Mason			Dedicated Acreage: 40 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes No If answer is "yes," type of consolidation _____

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-standard unit, eliminating such interests, has been approved by the Division.



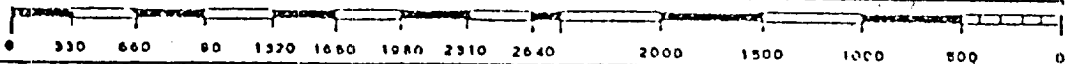
CERTIFICATION

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

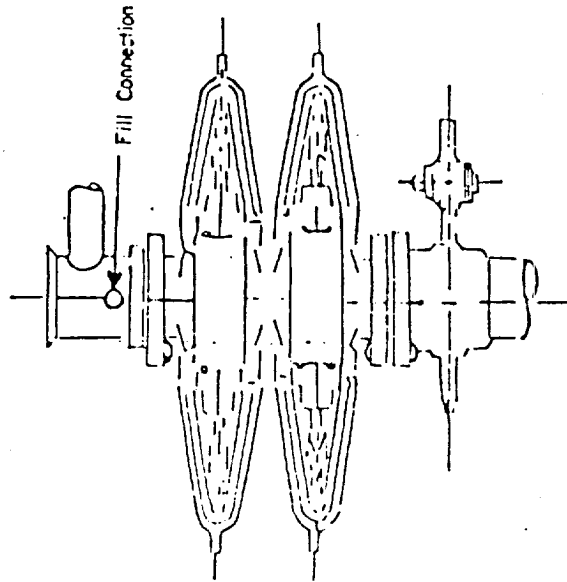
[Signature]
Name
Marvin L. Smith
Position
President
Company
Highland Production Company
Date
July 24, 1989

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 knowledge and belief.

Date Surveyed
6-19-1989
Registered Professional Engineer
and/or Land Surveyor
Truman Gaskin
[Signature]
Certificate No.
2126



Shaffer Type E Series 900 Hydraulic B.O.P.



3000 PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-UP

Series 900 Flanges, or Better.

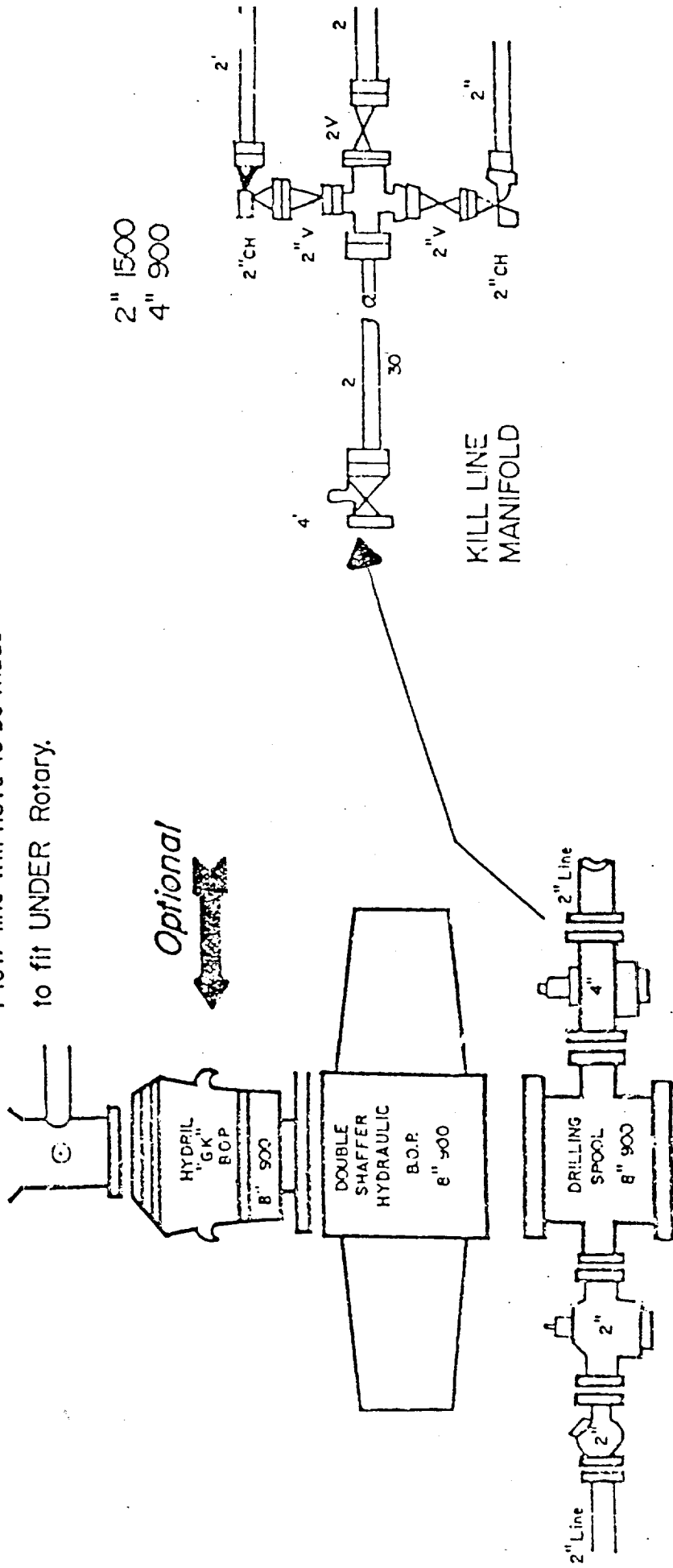
Note: B.O.P. system will meet the conditions of drilling approval
required by the USGS District Office in Hobbs, New Mexico.

Highland Production Company
McDonald Federal Well No. 1
Application to Drill

ASE ROTARY TABLE

Flow line will have to be made
to fit UNDER Rotary.

Optional



2" 1500
4" 900

KILL LINE
MANIFOLD

Highland Production Company
McDonald Federal Well No. 1
Application to Drill

Recd 1-17-90

ELT



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AUG 29 1989

OCD
HOI/BS OFFICE