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070 FARMINGTON, N.M.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-045-28570

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
AUG 1 1991
OIL CON. DIV.
DIST. 3

1a. TYPE OF WORK
DRILL
1b. TYPE OF WELL
GAS

5. LEASE NUMBER
SF-078422
6. IF INDIAN,ALL. OR TRIBE NAME

2. OPERATOR
MERIDIAN OIL INC.

7. UNIT AGREEMENT NAME
HUERFANO UNIT

3. ADDRESS & PHONE NO. OF OPERATOR
P O BOX 4289
FARMINGTON, NM 87499

8. FARM OR LEASE NAME
HUERFANO UNIT
9. WELL NO.
300

4. LOCATION OF WELL
1450'FSL 1060'FEL at surface
1850'FSL, 790'FWL at total depth

10. FIELD,POOL,OR WILDCAT
ANGEL PEAK GALLUP EXT
11. SEC. T. R. M OR BLK.
SEC. 31 T27N R10W NMPM

14. DISTANCE IN MILES FROM NEAREST TOWN
12 MILES SE OF BLOOMFIELD

12. COUNTY
SAN JUAN
13.STATE
NM

15. DISTANCE FROM
PROPOSED LOCATION 1060'
TO NEAREST PROPERTY
OR LEASE LINE.

16. ACRES IN LEASE 17. ACRES ASSIGNED TO WELL
S/328.18

18. DISTANCE FROM
PROPOSED LOCATION
TO NEAREST WELL DR. 200'
COMPL., OR APPLIED
FOR ON THIS LEASE.

19. PROPOSED DEPTH
5614' TVD
8569'MD

20. ROTARY OR CABLE TOOLS
ROTARY

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

21. ELEVATIONS (DF, FT, GR, ETC.)
6090'GL

22. APPROX. DATE WORK WILL START

23. PROPOSED CASING AND CEMENTING PROGRAM

*SEE OPERATIONS PLAN

24. AUTHORIZED BY: _____
REG. DRILLING ENGR.

6/14/91
DATE

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

APPROVED
AS AMENDED
JUL 30 1991
AREA MANAGER

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3

ARCH REPORT SUBMITTED 05/15/91 NMOCD

Hall c-104 ECR NSL+DD

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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

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Form C-102
Revised 1-1-89

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Meridian Oil Inc.	Huerfano Unit	300

Unit Letter	Section	Township	Range	County
I	31	27 North	10 West NMPM	San Juan

Actual Footage Location of Well:
1450 feet from the South line and 1060 feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
6090'	Gallup	Angel Peak ~~Gallup~~ Ext	328.18 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

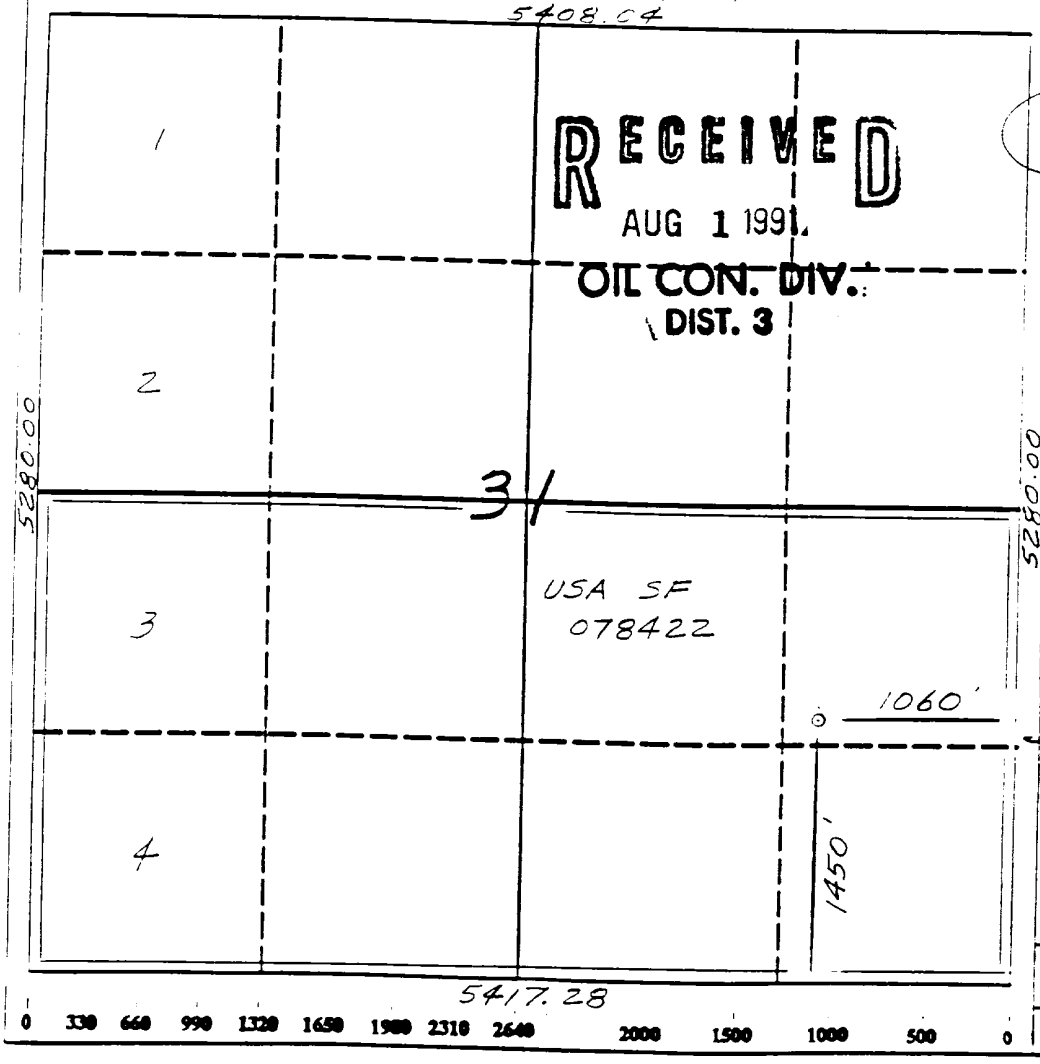
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☒ Yes ☐ No If answer is "yes" type of consolidation unitization

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 interest, has been approved by the Division.



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DIST. 3

OPERATOR CERTIFICATION

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

Signature: Peggy Bradfield

Printed Name: Peggy Bradfield

Position: Regulatory Affairs

Company: Meridian Oil Inc.

Date: 6-14-91

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 knowledge and belief.

Date Surveyed: 5-2-91

Signature & Seal of Professional Surveyor: NEW MEXICO 6857 REGISTERED LAND SURVEYOR

Certificate No. Neale C. Edwards 6857

Operations Plan
Huerfano Unit #300

I. Location: 1450' FSL, 1060' FEL Sec. 31-T27N-R10W
San Juan County, New Mexico
Field: Angel Peak
Elevation: 6090' Graded Ground Level

(Note: All depths are True Vertical unless otherwise noted.)

II. Geology:

A. Formation Tops

Naciemiento	Surface	Niobrara	5205'
Ojo Alamo	690'	Niobrara 'A'	5295'
Fruitland	1455'	Niobrara 'B'	5390'
Pictured Cliffs	1670'	Niobrara 'C'	5455'
Lewis	1860'	Tocito	5545'
Mesa Verde	3115'		
Mancos	4520'	Total Depth	5614' TVD 8569' MD

B. Logging Program: Mud logs from 4000' to TD.
Cased hole Neutron / Gamma Ray from surface to Total Depth.

C. Mud Program:

Interval	Type	Weight	Visc.	Fl.Loss
0 - 200'	Spud	8.4 - 8.9	40-50	no control
200 - 5518'MD	Non-dispersed	8.4 - 9.5	30-60	no control

III. Drilling:

A. Surface / Intermediate Hole: Drill to surface casing point of 300' and set 13 3/8" casing. Mud drill from 300' to Intermediate Total Depth. The well will be drilled vertically to a kick off point depth of 4838'. At this point the well will deviate at 12.5 degrees / 100 feet to 84 degrees (277 degrees Azimuth.) At this point (5295' TVD, 5518' MD) 9 5/8" - 40.0# N-80 casing will be set.

TVD	MD	Vertical Section	Hole Size	Notes:
300'	300'	0'	17 1/2"	13 3/8" casing set
4838'	4838'	0'	12 1/4"	Kick off point
5295'	5518'	408'	12 1/4"	9 5/8" casing set

B. Production Hole: Drill out cement / shoe of 9 5/8" casing, unload hole with gas. Drill (with gas) holding 84 degrees to a total depth of 5561' TVD (8564' MD). Run 5 1/2" perforated and plugged liner from 5360' MD to 8564' MD.

TVD	MD	Vertical Section	Hole Size	Notes:
5295'	5518'	408'	8 3/4"	Begin gas drilling
5614'	8569'	3453'	8 3/4"	Run 5 1/2" liner

IV. Materials:

A. Casing Program:

Hole size (inches)	Measured Depth (Ft)	Casing Size (in)	Weight (lbs/ft)	Grade
17 1/2"	300'	13 3/8"	48.0	H-40
12 1/4"	4300'	9 5/8"	40.0	K-55
12 1/4"	5295'	9 5/8"	40.0	N-80
8 3/4"	(5100'-8569')	5 1/2"	17.0	K-55

B. Casing Equipment:

1. 13 3/8" Surface Casing - Sawtooth guide shoe.
2. 9 5/8" Intermediate Casing - Cement nose guide shoe on bottom, float collar one joint off bottom, cementing stage tool set at 2500'. Centralizers spaced as follows: (20) spaced every other joint from bottom, (1) at joint below stage tool, (15) spaced every fourth joint above stage tool to surface. Two (2) turbolizing type centralizers - one below and one into the Ojo Alamo @ 690'.
3. 5 1/2" Production Liner - 9 5/8" x 5 1/2" liner hanger, guide shoe.

C. Tubing: 8714' of 2 7/8", 6.5#, J-55, 8rd EUE tubing with a seating nipple one joint off bottom and an expendable check valve on bottom.

D. Wellhead Equipment: 13 3/8" x 9 5/8" x 2 7/8" -11" (3000psi) wellhead assembly.

V. Cementing

A. 13 3/8" Surface Casing: Use 350 sacks of Class 'B' cement with 1/4# / sack Flocele and 3% Calcium Chloride (420 cu. feet of slurry, 100% excess to circulate to surface.) Wait on cement 12 hours. Test casing to 700 psi.

B. 9 5/8" Intermediate Casing:

1. First Stage - Lead with 470 sacks of 65/35 Class 'B' poz with 6% gel and 2% calcium chloride. Tail in with 700 sacks of Class 'B' with 2% calcium chloride (1660 cu. feet of slurry, 75% excess to cover stage tool at 2500'.)

2. Second Stage - Lead with 450 sacks of 65/35 Class 'B' poz with 6% gel and 2% calcium chloride. Tail in with 680 sacks of Class 'B' with 2% calcium chloride (1600 cu. feet of slurry, 100% excess to circulate to surface.) Wait on cement 12 hours. Test casing to 1500 psi.

C. 5 1/2" Production Liner - Liner set at 5200'. Pre-perforated and plugged from 5200' MD to 8564' MD.

VI. BOP and Tests:

A. Surface to Intermediate TD - 13 5/8", 3000 psi double gate BOP stack (Reference Figure #1.) At surface casing point - 11" 3000 psi double gate BOP stack (Reference Figure #1A). Prior to drilling out surface casing, test rams to 700 psi for 30 minutes.

B. Intermediate TD to TD - 10" nominal, 3000 psi (minimum) double gate BOP stack (Reference Figure #2.) Prior to drilling out Intermediate casing, test rams to 1500psi (minimum) for 30 minutes.

C. From Surface to TD - Choke Manifold (Reference Figure #3.)

D. Pipe Rams will be actuated at least once each day and blind rams will be actuated once each trip to test proper functioning. A kelly cock valve and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

VII. Additional Information

* This gas is dedicated.
* The south half of section 31, T27N-R10W is dedicated.
* New casing will be utilized.
* Pipe movement (reciprocation) will be done if hole conditions permit.
* No abnormal pressure zones are expected.