

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

30-025-32376

RECEIVED  
NO. 594 1993  
12-25-93 NEW MEXICO

APPROVED  
BMB NO. 1004-0136  
Expires: February 28, 1995

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

Meridian Oil Inc.

<26485>

3. ADDRESS AND TELEPHONE NO.

P.O. BOX 51810, MIDLAND, TX 79710

915-688-6906

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

At surface

L, 2310' FSL & 990' FWL

At proposed prod. zone

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Checkerboard 23 Federal

9. WELL NO.

5

10. FIELD AND POOL, OR WILDCAT

Red Tank Bone Spring

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

23, T22S, R32E

12. COUNTY OR PARISH

Lea

13. STATE

NM

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

28 miles West of Eunice, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.

990'

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

16. NO. OF ACRES IN LEASE

920

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.

1466'

19. PROPOSED DEPTH

10,150'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show Whether DF, RT, GR, ETC.)

3714' GR

Carlsbad Controlled Water Basin

22. APPROX. DATE WORK WILL START

upon approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8", H-40	48#	850'	735 sxs circd to surf.
12 1/4"	8 5/8", K-55	28# & 32#	4600'	2075 sxs circd to surf.
7 7/8"	5 1/2", K-55, N-80	17#	10,150'	1300 sxs-TOC 4400'+/-

2 stage job

Not in designated Potash area.

Lease description: All of Sec. 23 except 80 acres in the E/2, SE/4 - (560 acres)  
S/2 of Sec. 24 - (320 acres)  
NE/4, NE/4 of Sec. 24 - (40 acres)  
Total acres in lease (920 acres)

Contact person for 7 day letter of receipt of APD is: Maria L. Perez  
Production Assistant  
Production Services Department

Approval Subject to  
General Requirements and  
Special stipulations

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

Maria L. Perez

TITLE

Production Assistant

DATE

12-1-93

(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

(FOR RSD) RICHARD L. MANIUS

TITLE

AREA MANAGER

DATE

JAN 04 1994

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

RECEIVED  
DEC 3 12 45 PM '93

RECEIVED  
JAN 10 1964  
U.S. DEPARTMENT OF AGRICULTURE  
WASHINGTON, D.C.

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Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee 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 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

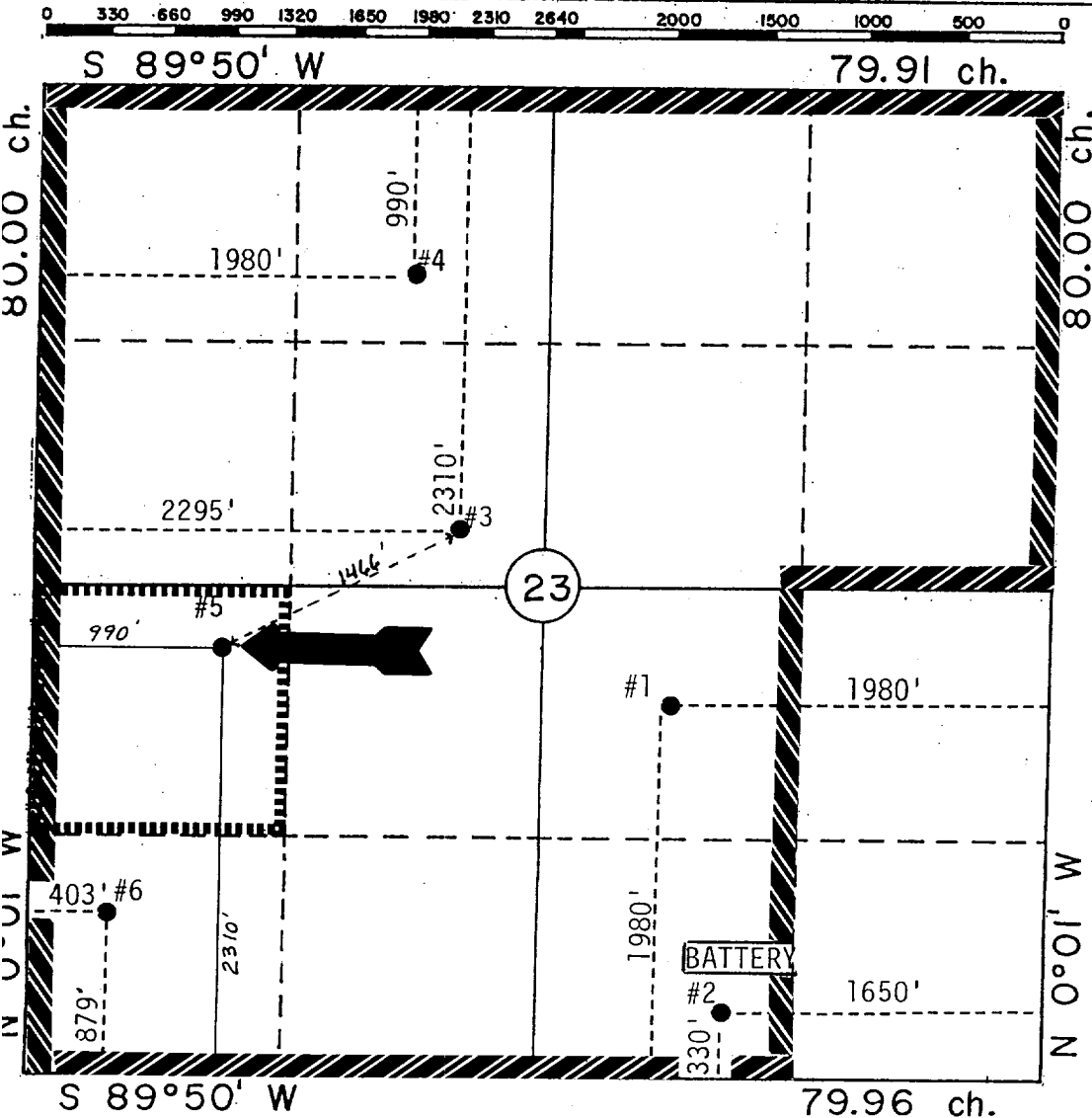
DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>MERIDIAN OIL INC.</b>			Lease <b>CHECKERBOARD "23" FEDERAL</b>		Well No. <b>5</b>
Unit Letter <b>L</b>	Section <b>23</b>	Township <b>22 SOUTH</b>	Range <b>32 EAST</b>	County <b>NMPM LEA</b>	
Actual Footage Location of Well: <b>2310</b> feet from the <b>SOUTH</b> line and <b>990</b> feet from the <b>WEST</b> line					
Ground level Elev. <b>3714.</b>	Producing Formation <b>BONE SPRING</b>		Pool <b>RED TANK BONE SPRING</b>	Dedicated Acreage: <b>40</b> Acres	
<p>1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.</p> <p>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).</p> <p>3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communization, unitization, force-pooling, etc.?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No If answer is "yes" type of consolidation _____</p> <p>If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____</p> <p>No allowable will be assigned to the well until all interests have been consolidated (by communization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.</p>					



OPERATOR CERTIFICATION

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

Signature

*Maria L. Perez*

Printed Name

MARIA L. PEREZ

Position

PRODUCTION ASST.

Company

MERIDIAN OIL INC.

Date

11-16-93

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 knowledge and belief.

10-28-93

Date Surveyed

WILLIAM E. MAHNKE II

Signature & Seal of Professional Surveyor

WILLIAM E. MAHNKE II  
NEW MEXICO  
#8466  
Certification No. 8466  
REGISTERED PROFESSIONAL LAND SURVEYOR

<b>OPERATORS NAME:</b>	<b>Meridian Oil Inc.</b>
<b>LEASE NAME AND WELL NO.:</b>	<b>Checkerboard "23" Federal No. 5</b>
<b>LOCATION:</b>	<b>UL L, 2310' FSL &amp; 990' FWL, Sec. 23, T22S, R32E</b>
<b>FIELD NAME:</b>	<b>Red Tank Bone Spring</b>
<b>COUNTY:</b>	<b>Lea County, NM</b>
<b>LEASE NUMBER:</b>	<b>NM-81633</b>

The following information is to supplement BLM form 3160-3 Application for permit to deepen in accordance with Onshore Oil and Gas Order No. 1:

### 9 - POINT DRILLING PLAN

1. Name and estimated tops of important geologic formation/marker horizons.

<u>FORMATION</u>	<u>DEPTH</u>
Rustler	970'
T/Salt	1100'
B/Salt	4500'
Delaware Sandstone	4850'
BoneSpring, LS/Sandstone	8730'

2. Estimated depths at which the top and bottom of formations potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals are expected to be encountered and the operator's plans for protecting such resources.

Bone Springs	8730-10050' (Oil)
Delaware - Bell Canyon	4850-5010' (Oil)
Brushy Canyon - Delaware	8100-8550' (Oil)

3. The operator's minimum specifications for Blowout Preventer (BOP) and related equipment to be used and schematic diagrams thereof showing sizes, pressure ratings, and the testing procedures and testing frequency. BOP and BOP - related equipment (BOPE) schematics shall include schematics of choke manifold equipment. Accumulator systems and remote controls shall be utilized.

13 5/8" 1.5M annualr BOP w/rotating head to be installed on the 13 3/8" casing. Tested to 750 psi before drilling the 13 3/8" casing shoe.

11" 3M BOP stack to be installed on the 8 5/8" casing. The BOP stack will consist of one blind ram BOP, one pipe ram BOP, and a rotating head. Tested to 3000 psi before drilling the 8 5/8" casing shoe.

4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition (new or acceptably reconditioned). For exploratory wells, or for wells as otherwise specified by the authorized officer, the operator shall include the minimum design factors for tensions, burst, and collapse that are incorporated into the casing design. In cases where tapered casing strings are utilized, the operator shall also include and/or setting depths of each portion.
  - 17½" hole, 13 3/8" H-40 48# STC csg set @ 850'.
  - 12¼" hole, 3200' 8 5/8" 28# K-55 BTC, 1400' 8 5/8" 32# K-55 LTC csg. set depth @4600'.
  - 7 7/8" hole, 8500' of 5½", 17# K-55 LTC csg. & 1650' of 5½" 17# N-80 LTC csg. setting depth @10,150'.
5. The amount and type(s) of cement, including anticipated additives to be used in setting each casing string, shall be described. If stage cementing techniques are to be employed, the setting depth of the stage collars and amount and type of cement, including additives, and preflush amounts to be used in each stage, shall be given. The expected linear fill-up of each cemented string, or each stage when utilizing stage-cementing techniques, shall also be given.
  - a. 13 3/8" csg: Cmt w/535sxs. Class "C" + 4% gel & 2% CaCl<sub>2</sub> + ¼ pps Flocele; tail w/ 200 sxs Class "C" +2% CaCl<sub>2</sub> +¼ pps Flocele. Circ. to surface.
  - b. 8 5/8" csg: Cmt w/  
1st Stage: 800 sxs Class "C" Lite + 9 pps salt +5 pps Gilsonite + 1 pps Econolite + ¼ pps Flocele. Tail w/250 sxs Class 'C' + 2% CaCl<sub>2</sub>.  
2nd Stage: 825 sxs Class "C" Lite + 9 pps salt + ¼ pps Flocele. 200 sxs Class "C" Lite +2% CaCl<sub>2</sub>. Circulate cement to surface. Stage collar @2500'.
  - c. 5½" csg: Cmt. w/  
1st Stage: 600 sx Class 'H' 50/50 POZ +2% gel +.5% Halad-9, +3 pps KCL, +¼ pps Flocele displace to seal plug.  
2nd Stage: 700 sx Class 'H' 50/50 POZ +2% gel +.5% Halad-9, +3 pps KCL, ¼ pps Flocele. Bring TOC to 4400'±. Stage collar @7500'.
6. The anticipated characteristics, additives, use, and testing of drilling mud to be employed, along with the types and quantities of mud products to be maintained, shall be given. When air or gas drilling is proposed, the operator shall submit the following specific information:

**Mud Program:**

0-850' Fresh water, gel and lime system, MW 8.6 - 9.0, viscosity 32-34  
850-4600' Brine, MW 10.0 - 10.1, (+ 160,000 cl-), viscosity 27-28  
4600-TD Fresh water/Bentonite/Drispac, MW 8.4 - 9.0, viscosity 29-34

7. The anticipated testing, logging, and coring procedures to be used, including drill stem testing procedures, equipment, and safety measures.

a. DST Program: None

b. Core: None

c. Mud Logging: Two-man unit 4600' to TD.

d. Logs to be run: CNL-LDT/GR/CAL: TD ICP (CNL/GR to surface).  
DIL/SFL/GR:TD-ICP  
BNC Sonic: TD-ICP  
Sidewall cores

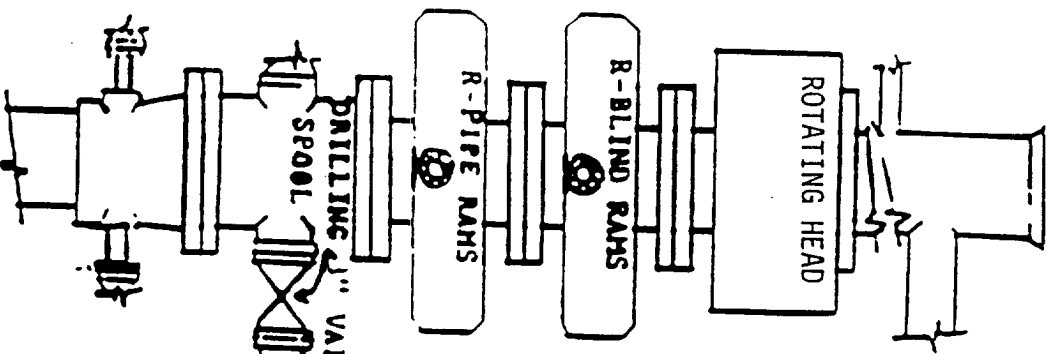
8. The expected bottom-hole pressure and any anticipated abnormal pressures, temperatures or potential hazards that are expected to be encountered, such as lost circulation zones and hydrogen sulfide. The operator's plans for mitigating such hazards shall be discussed. Should the potential to encounter hydrogen sulfide exist, the mitigation procedures shall comply with the provisions of Onshore Oil and Gas Order No. 6.

No abnormal pressures are anticipated. bottom hole pressures at TD expected to be 4300 psi. Bottom hole temperature 145° F. Attached is a H<sub>2</sub>S contingency plan.

9. Any other facets of the proposed operation which the operator wishes for BLM to consider in reviewing the application.

Anticipated drilling time expected to be 24 days from surface to TD.

DOUBLE RAM



BLOW OUT PREVENTION EQUIPMENT  
10" 900S ALL FLANGED CONNECTIONS  
3000# WORKING PRESSURE \_ 6000# TEST

