

N.M. OIL CONS COMMISSION
P.O. BOX 1980
HOBBS, NEW MEXICO 88240
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTSUBMIT IN TWO PARTS
(Other instructions on
reverse side)FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. LC-046295	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Marathon Oil Company			7. UNIT AGREEMENT NAME	
3. ADDRESS AND TELEPHONE NO. P.O. Box 552, Midland, TX 79702 915/682-1626			8. FARM OR LEASE NAME, WELL NO. C.J. SAUNDERS 4	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At surface 660'FNL & 960'FWL At proposed prod. zone 660'FWL & 960'FWL			9. API WELL NO.	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 5 MI. W. OF EUNICE, NM			10. FIELD AND POOL, OR WILDCAT ARROWHEAD (EUMONT)	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any) 660'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SEC. 1, T-22-S, R-36-E	
16. NO. OF ACRES IN LEASE 80			12. COUNTY OR PARISH LEA	
17. NO. OF ACRES ASSIGNED TO THIS WELL 80			13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1020' **			20. ROTARY OR CABLE TOOLS ROTARY	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3539'			22. APPROX. DATE WORK WILL START* OCTOBER 1, 1994	

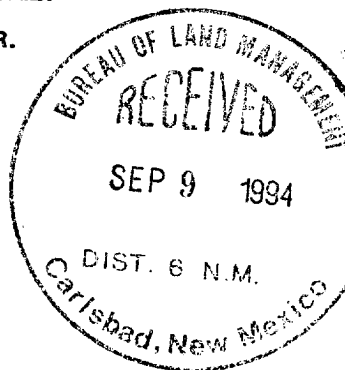
Capitan Controlled Water Basin

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	14"	CONDUCTOR	40'	REDI-MIX TO SURFACE
8-3/4"	7"	26#	1200'	265 - CIRC
6-1/8"	4-1/2"	10.6#	3750'	555 - CIRC

SEE ATTACHED MULTIPOINT & SURFACE USE PLAN FOR SPECIFIC DETAIL.

WELL IS A PROPOSED YATES, SEVEN RIVERS, QUEEN GAS PRODUCER.

** 1020' TO C.J. SAUNDERS #1 AT 666'FNL & 1980'FWL.

Approval Subject to
General Requirements and
Special Stipulations
Attached

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

TITLE **DRILLING SUPT.**DATE **9-08-94**

(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

TITLE

AREA MANAGER

DATE

9/27/94

*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.

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

Form C-102
Revised February 10, 1994
Instruction on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-02602	Pool Code 76480	Pool Name Arrowhead (Yates, 7-Rivers, Queen)
Property Code 6460	Property Name C. J. Saunders	Well Number 4
OGRID No. 1412	Operator Name Marathon Oil Co.	Elevation 3539'

Surface Location

UL or lot No. D/Lot 4	Section 1	Township 22 S	Range 36 E	Lot Idn	Feet from the 660	North/South line NORTH	Feet from the 960	East/West line WEST	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
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Dedicated Acres 80	Joint or Infill	Consolidation Code	Order No.
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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

<p>Lot 4 660'</p> <p>3543.9' 3540.2'</p> <p>960' 0</p> <p>3542.4' 3537.0'</p>	Lot 3	Lot 2	Lot 1
<p>NSP-349</p>			

OPERATOR CERTIFICATION

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

T. B. Arnold
Signature

T. B. Arnold
Printed Name

Drilling Supt.
Title

9-08-94
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.

GARY L. JONES
Signature

NEW MEXICO
August 1, 1994
Date Surveyed 7977
Signature & Seal of Professional Surveyor

W.O. Num. 94-11-1348

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239
GARY L. JONES, 7977

DRILLING PROGRAM
MARATHON OIL COMPANY

C. J. Saunders No. 4

1. Estimated KB Elevation: 3539'

<u>FORMATION</u>	<u>TOP</u>		<u>BASE</u>		<u>FLUID CONTENT</u>
	<u>MEASURED</u>	<u>SUBSEA</u>	<u>MEASURED</u>	<u>SUBSEA</u>	
Anhydrite	1145'	2394'	1285'	2254'	
Salt	1285'	2254'	2470'	1069'	
B/Salt	2470'	1069'	2470'		
Yates	2670'	869'	2930'	869'	oil, gas, water
Seven Rivers	2930'	609'	3380'	609'	oil, gas, water
Queen	3380'	159'	3490'	159'	oil, gas, water
Penrose	3490'	49'	3680'	49'	gas, oil, water
Grayburg	3680'	-141'			gas, oil, water

<u>FORMATION</u>	<u>—EST PSIG</u>	<u>SBHP— PPG EMW</u>	<u>EST SBHT DEG f</u>	<u>H2S PPM</u>	<u>—SIGNIFICANCE— (obj, marker, etc.)</u>
Yates	410	8.5		500	pay
Seven Rivers	438	9.0			pay
Queen	445	9.0			pay
Penrose	455	9.0		500	marker
Grayburg	475	9.0		500	marker

2. See (1) above.
If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

3. Pressure Control Equipment:

7" Surface: 11" 3M annular tested to 200#/2000#, 11" 3M dual rams, choke manifold and mud cross, tested to 300#/3000#; 2M annular preventer tested to 200/1500#.

Auxillary Equipment:

Surface Hole: Stroke counter, slug pit.

Intermediate Hole: None

Production Hole: Flow indicator, PVT, H2S Sensors, air packs, stroke counter

BOP systems will be consistent with API RP 53. Blowout preventers will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers and casing will be pressure tested before drilling casing cement plugs.

Upper and lower kelly cocks with valve handle and safety valve and subs to fit all drillstring connections in use will be available on rig floor.

Test Frequency

1. When installed.
2. Anytime a pressure seal is broken (test confined only to affected equipment).
3. At least every 20 days.
4. Blind and pipe rams shall be activated each trip but not more than once/day.

4. Casing and Cement Program:

<u>—DEPTH—</u> <u>FROM TO</u>	<u>SECTION</u> <u>LENGTH</u>	<u>HOLE</u> <u>SIZE</u>	<u>CSG</u> <u>SIZE</u>	<u>WT.</u> <u>PPF</u>	<u>THREADS</u> <u>GRADE COUPLINGS</u>	<u>NEW</u> <u>USED</u>
0 40'	40'	17.5"	14"		Conductor	
0 1200'	1200'	8.75"	7"	26	K-55 8rd, STC	New
0 3750'	3750'	6.125"	4-1/2"	10.55	K-55 8rd, LTC	New

<u>CASING</u> <u>STRING</u>	<u>DV</u> <u>DPTH</u>	<u>STG</u>	<u>LEAD</u> <u>TAIL</u>	<u>AMT</u> <u>SXS</u>	<u>TYPE</u> <u>CEMENT</u>	<u>YIELD</u> <u>CF/SX</u>	<u>WT.</u> <u>PPG.</u>	<u>TOC</u>	<u>ADDITIVES</u>
7"	None	1	L	115	"C" Lite	1.86	12.7		6% gel, 2% CaCl ₂
			T	150	"C" Neat	1.32	14.8	surf	2% CaCl ₂ , 1/4# cello
4-1/2"	None	1	L	425	"C" Lite	2.03	12.7	surf	6% gel, 2% CaCl ₂ , 1/4 pps cello, .6% Halad 9, 5 pps
4-1/2"			T	130	"C" Neat	1.32	14.8	2500'	2% CaCl ₂ , .6% CF-19

Each stage will be preceded by an appropriate mud flush. Actual production hole volumes will be based on the caliper volume plus 15% excess.

Centralizer Program:

- 7" Conventional centralizers. Bottom 3 joints and every fourth joint to surface.
- 4-½" Conventional centralizers middle of 1st joint, then every joint to 2500', and 1 centralizer every 4th joint thereafter to 500'.

5. Mud Program:

<u>—DEPTH—</u>		<u>MUD TYPE</u>	<u>WEIGHT</u>		<u>WL</u>	<u>ADDITIVES</u>	<u>VISUAL</u>
<u>FROM</u>	<u>TO</u>		<u>(PPG)</u>	<u>VIS</u>			
0	1200'	fresh	8.5	28	N/C	Gel, lime, caustic	Steel pits
1200'	3500'	brine	9.0	28-32	N/C	Saturated brine	Reserve
3500'	3750'	cut brine	9.0	32-36	<20	Salt gel, starch, caustic	steel pits

Sufficient quantities of additives will be on location to maintain above mud properties for any anticipated well conditions.

6. Logging, Testing & Coring Programs:

<u>LOG/TEST/CORE/MUDLOG/OTHER</u>	<u>—INTERVAL—</u>		<u>REMARKS</u>
	<u>FROM</u>	<u>TO</u>	
DLL/MSFL/GR	TD	2500'	
LDT/CNL/GR/CAL	TD	surf casing	
MUD LOGGER			ROP, Lithology, Gas Analysis, Chromatograph
NO CORES OR DST'S			

7. Abnormal Pressures, Temperatures or Potential Hazards:

None anticipated.

8. Other Information:

Anticipated Starting Date: As soon as possible.

Duration of Well: drilling - 6 days, completion - 10 days.

