

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER DISPOSAL

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Marathon Oil Company

3. ADDRESS AND TELEPHONE NO.

P.O. Box 552 Midland, TX 79702

915/682-1626

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

At surface

185' FSL & 1537' FEL

At proposed prod. zone

185' FSL & 1537' FEL

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

10 MILES WSW OF LAKEWOOD, NM

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any) 185'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

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

3780' G.L.

CARLSBAD 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"	13 3/8"	48	40'	CONDUCTOR, REDI-MIX TO SURFACE
12 1/4"	9 5/8"	36	1200'	800 - CIRCULATE
8 3/4"	7"	23, 26	10,000'	1275' - TOC @ +/- 1000'
6 1/8"			OH TO 10,800'	

WELL IS A PROPOSED DEVONIAN SALT WATER DISPOSAL.

SUBJECT TO
LIKE APPROVAL
BY STATE

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

Post FO-1
3-6-98
API & Loc

12/18/97
acs

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

Walter J. Duncan

TITLE DRILLING SUPERINTENDENT

DATE 11/17/97

(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:

(ORIG. SGD.) TONY L. FERGUSON

ADM. MINERALS

APPROVED BY

TITLE

DATE

12/22/97

*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 II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name	
			N/A	
Property Code	Property Name			Well Number
	ROCKY HILLS SWD			1
OGRID No.	Operator Name			Elevation
14021	MARATHON OIL COMPANY			3780

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	19	21 S	24 E		185	SOUTH	1537	EAST	EDDY

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
Dedicated Acres N/A	Joint or Infill	Consolidation Code		Order No.					

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

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DETAIL

3782.3' — 3765.1'

| ○ |

3788.4' — 3770.6'

SEE DETAIL

185'

↓

○

1537'

OPERATOR CERTIFICATION

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

Walter J. Anderson

Signature

David P. Nordt

Printed Name

Drilling Superintendent

Title

11/17/97

Date

SURVEYOR CERTIFICATION

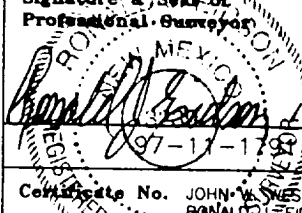
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 4, 1997

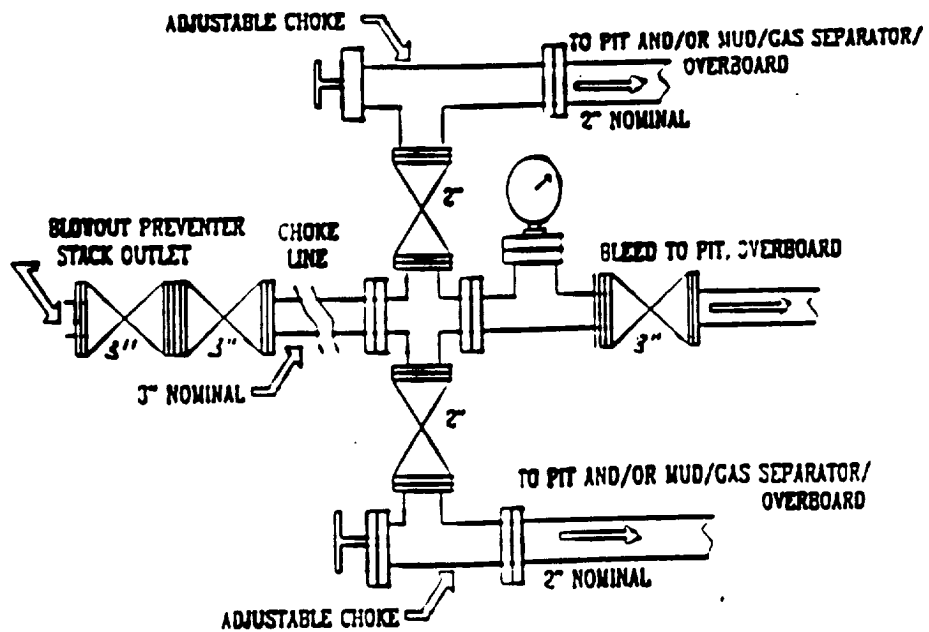
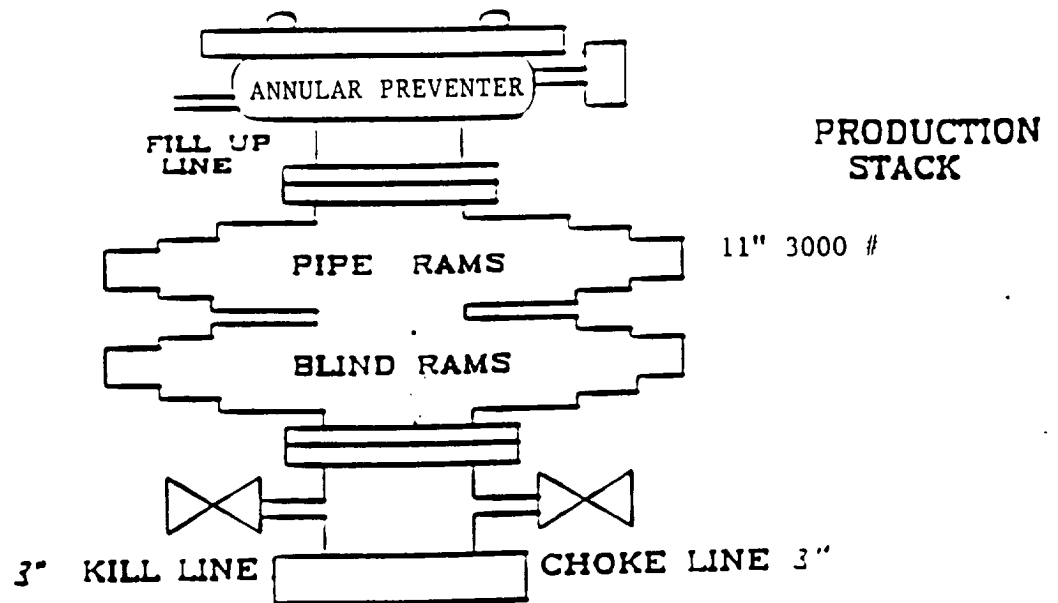
Date Surveyed

Signature & Seal of Professional Surveyor

DMCC



Certificate No. JOHN W. WEST 676
RONALD J. EIDSON 3239
RONALD J. EIDSON 12641



**DRILLING PROGRAM
MARATHON OIL COMPANY**

MOC SWD #2

1. Estimated KB Elevation: 3795'

<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>	
Queen	Surface	+3795'	650'	+3145'	water
San Andres	650'	3145'	2250'	1545'	water
Glorietta	2250'	1545'	2355'	495'	
Delaware	3300'	495'	4300'	-505'	
Bone Spring	4300'	-505'	5950'	-2155'	oil gas
Wolfcamp	5950'	-2155'	7520'	-3725'	oil gas
B/Permian Shell	7520'	-3725'	7530'	-3735'	
U. Penn	7530'	-3735'	7550'	-3755'	gas, oil, water
Penn Dolomite	7550'	-3755'	8000'	-3755'	gas, oil, water
Strawn	8150'	-4365'	8800'	-5005'	
Atoka	8800'	-5005'	9050'	-5255'	
Morrow	9050'	-5255'	9500'	-5705'	
Miss. Lime	9700'	-5905'	10720'	-6325'	
Woodford Shell	10120'	-6325'	10160'	-6365'	
Dev. Carb.	10160'	-6365'	11000'	-7205'	

<u>FORMATION</u>	<u>--EST</u>	<u>SBHP--</u>	<u>EST SBHT</u>		<u>H2S</u>	<u>--SIGNIFICANCE--</u>
	<u>PSIG</u>	<u>PPG EMW</u>	<u>DEG f</u>	<u>PPM</u>	<u>(obj. marker, etc.)</u>	
Bone Springs	1210	8.5			500	marker
Wolfcamp	1680	9.0				marker
B/Permian Shale	1810	9.0				marker
U. Penn	2050	9.0			5000	objective pay
Penn Dolomite	2164	9.0			5000	objective
Morrow	3460	9.2				objective

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:**

9 5/8" Surface: 11" 3M annular tested to 200#/2000#, 11" 3M dual rams, choke manifold and mud cross, tested to 300#/3000#.

Auxiliary Equipment:

Surface Hole: Annular or rotating head w/air rig.

Intermediate Hole: N/A

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

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

A. P. D. (cont.)
Thirteen Point Surface Use Plan
MOC SWD #2

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>GRADE</u>	<u>THREADS</u> <u>COUPLINGS</u>	<u>NEW</u> <u>USED</u>
0	1200'	1200'	12.25"	9.625"	36	K-55	8rd, STC	New
0	4800'	4800'	8.75"	7"	23	K-55	8rd, LTC	New
4800	10,000'	5200'	8.75"	7"	26	K-55	8rd, LTC	New
10,000	10,800'	800'	6.125"	Open	Hole			

<u>CASING</u> <u>STRING</u>	<u>DPTH</u>	<u>DV</u> <u>STG</u>	<u>TAIL</u>	<u>LEAD</u> <u>SXS</u>	<u>AMT</u> <u>CMT</u>	<u>TYPE</u>	<u>YIELD</u> <u>CF/SX</u>	<u>WT.</u> <u>PPG.</u>	<u>TOC</u>	<u>ADDITIVES</u>
9.625"		None	1	L	600	"C" Lite	1.99	12.4	Surf	10#/SK.Gilsonite, 3% CACl ₂ , 1/4# cello
9.625"				T	200	"C" Neat	1.32	14.8	Surf	2% CACl, 1/4# cello
7"		±5600'	1	L	600	"C" Lite	1.8	13.6	5600'	8 pps Silica, .6% Halad 9, 3% salt, 5 pps Gilsonite
7"			2	L	675	"C" Lite	1.91	12.8	Surf	5 pps, salt, 5 pps Gilsonite, 1/4 pps Cello
7"			2	T	100	"C" Neat	1.32	14.8	1000'	

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:

9 5/8" Conventional centralizers. Bottom 3 joints and every fourth joint to surface.

7" Conventional centralizers middle of 1st joint, then every joint to 7500', and 1 centralizer every 4th joint thereafter to 1100'.

A. P. D. (cont.)
Thirteen Point Surface Use Plan
MOC SWD #2

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'	air/mist N/A	N/A	N/A	Soap for mist		Reserve
1200'	5000'	fresh	8.5	28-32	N/C	Gel, caustic, H ₂ S Scavenger	Reserve
5000'	7200'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7200'	10000'	cut brine	9.2	32-36	<20	Salt gel, starch, caustic	Steel Pits
10000'	10800'	cut brine	9.2	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 5000'	
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. Possible H₂S in Cisco & Upper penn. See H₂S Drilling Operations Plan.

8. Other Information:

Anticipated Starting Date: As soon as possible.

Duration of Well: drilling - 18 days, completion - 10 days.

9. Propose to run 7" casing to \pm 10,000' and drill Devonian open hole section for completion as disposal to 10,800'.