

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
11 S. 1st Street, Artesia, NM 88210-2834
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator name and Address Marathon Oil Company P.O. Box 552 Midland, TX 79702		² OGRID Number 14021
⁴ Property Code 6411	⁵ Property Name NORTH INDIAN BASIN UNIT	³ API Number 30-0 15-31048
		⁶ Well No. 36

⁷ Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
F	16	21-S	23-E		2210	NORTH	1650	WEST	EDDY

⁸ Proposed 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
⁹ Proposed Pool 1 INDIAN BASIN, UPPER PENN. GAS					¹⁰ Proposed Pool 2				

¹¹ Work Type Code N	¹² Well Type Code G	¹³ Cable/Rotary ROTARY	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3993
¹⁶ Multiple NO	¹⁷ Proposed Depth 8200'	¹⁸ Formation CISCO/CANYON	¹⁹ Contractor McVAY	²⁰ Spud Date 4/15/00

Minimum WOC time 18 hrs

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	9 5/8"	36#	1200	800	CIRCULATE
8 3/4"	7"	23#. 26#	7800	1000	CIRCULATE

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

PROPOSE TO DRILL & COMPLETE AN INDIAN BASIN UPPER PENN GAS WELL.

Notify OCD at SPUD & TIME
to witness cementing the
9 5/8" casing.

See Attached

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>W. J. Longmire</i>	OIL CONSERVATION DIVISION	
Printed name: R. J. LONGMIRE	Approved by: ORIGINAL SIGNED BY TIM W. GUM	DISTRICT II SUPERVISOR
Title: DRILLING SUPERINTENDENT	Approval Date: 3-24-00	Expiration Date: 3-24-01



**DRILLING PROGRAM
MARATHON OIL COMPANY**

N180 #36

1. Estimated KB Elevation: **3993'**

FORMATION	-----TOP-----		-----BASE-----		FLUID CONTENT
	MEASURED	SUBSEA	MEASURED	SUBSEA	
Queen	Surface	+3790'	650'	+3140'	water
San Andres	650'	+3140'	2250'	+1540'	water
Glonetta	2250'	+1540'	2355'	+490'	
Delaware	3300'	+490'	4300'	-510'	
Bone Spring	4300'	-510'	5950'	-2160'	oil gas
Wolfcamp	5950'	-2160'	7520'	-3730'	oil gas
B/Permian Shale	7520'	-3730'	7530'	-3740'	
U. Penn	7530'	-3740'	7550'	-3760'	gas, oil, water

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

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 and tested 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.

A. P. D. (cont.)
 Thirteen Point Surface 'lan
 N18U #36

5. Mud Program:

—DEPTH— FROM TO		MUD TYPE	WEIGHT (PPG) VIS		WL CC	ADDITIVES	VISUAL MONTR.
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'	7000'	cut brine	9.0	32-36	N/C	Saturated brine	Reserve
7000'	960'	cut brine	9.0	32-36	<20	Salt gel, starch, caustic	Steel Fits

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

6. Logging, Testing & Coring Programs:

LOG/TEST/CORE/MUD LOG/OTHER	—INTERVAL— FROM TO		REMARKS
DLL/MSFL/GR/CNL/LDT/CAL	TD	5000'	
LDT/CNL/GR/CAL	TD	surf casing	
MUD LOGGER	6000'	TD	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 - 25 days, completion - 10 days.

A. P. D. (cont.)
 Thirteen Point Surface I' fan
 NIBU #36

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:

DEPTH FROM	IQ	SECTION LENGTH	HOLE SIZE	CSG SIZE	WT. PPF	THREADS GRADE COUPLINGS	NEW USED
0	1200'	1200'	12.25"	9.625"	36	K-55 8rd. STC	New
0	4700'	4700'	8.75"	7"	23	K-55 8rd. LTC	New
4700'	9600'	4950'	8.75"	7"	26	K-55 8rd. LTC	New

Casing String	DV Depth	Stg.	Lead Tail	Amt SXS	Type Cement	Yield CF/SX	Wt. PPG.	IOC	Additives
9.625"	None	1	L	200	"C" Neat	1.51	14.6	Surf	10% Gel, 3% CaCl ₂ , 1/4# cello
9.625"			T	200	"C" Neat	1.32	14.8	Surf	2% CaCl ₂ , 1/4# cello
7"	±5600'	1	L	270	"H" Lite	1.28	15.3	5600'	5 pps Silica, .6% Hated 9, 3% salt, 3 pps Gilsonite
7"		2	L	800	65:35 POZ	1.91	12.6	5500'	5 pps. salt, 3 pps Gilsonite, 4% Gel, 1/4 pps Cello
7"		2	T	100	"C" Neat	1.32	14.8	±1000'	2% CaCl ₂

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'.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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 79040	Pool Name Indian Basin, Upper Penn, Gas
Property Code 6411	Property Name NORTH INDIAN BASIN UNIT	Well Number 36
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3993

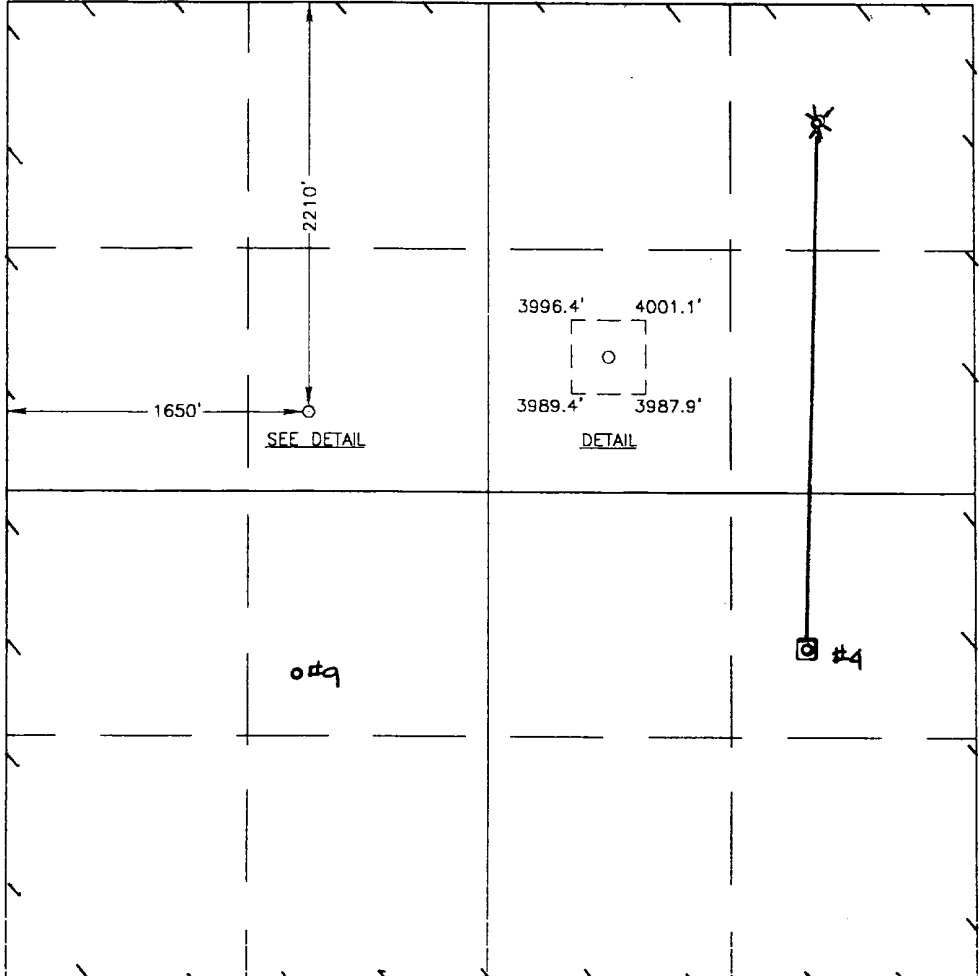
Surface Location

UL or lot No. F	Section 16	Township 21 S	Range 23 E	Lot Idn	Feet from the 2210	North/South line NORTH	Feet from the 1650	East/West line WEST	County EDDY
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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
Dedicated Acres 640	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

	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>W. J. Longmire</i> Signature R. J. Longmire Printed Name Drilling Superintendent Title 3/09/00 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>FEBRUARY 22, 2000 Date Surveyed DC Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 2/25/2000 00-11-0233 Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641 MACON McDONALD 12185</p>
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