

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

FORM APPROVED.
Budget Bureau No. 1004-0138
Expires August 31, 1986

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK				5. LEASE DESIGNATION AND SERIAL NO. SF-078872A	
1a. TYPE OF WORK DRILL <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/>				6. IF INDIAN, ALLOTTEE OR TRIBE NAME 426	
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 type="checkbox"/>				7. UNIT AGREEMENT NAME	
2. NAME OF OPERATOR Marathon Oil Company				8. FARM OR LEASE NAME BOLACK	
3. ADDRESS OF OPERATOR P.O. Box 552 Midland, Tx. 79702				9. WELL NO. 4	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface UNIT LETTER A, 790' FNL & 790' FEL At proposed prod. zone				10. FIELD AND POOL, OR WILDCAT KUTZ CANYON (DAKOTA GAL)	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12 MILES SOUTH				11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SEC 28 TWP 27-N RNG11W	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)		16. NO. OF ACRES IN LEASE 480		17. NO OF ACRES ASSIGNED TO THIS WELL 320	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		19. PROPOSED DEPTH NO CHANGE		20. ROTARY OR CABLE TOOLS WORKOVER UNIT	
21. ELEVATIONS (Show Whether DF, RT, GR, ETC.) GL: 6329 KB: 6341				22. APPROX. DATE WORK WILL START UPON APPROVAL	
23. PROPOSED CASING AND CEMENTING PROGRAM					
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	
	8 5/8"	24	209'	200 SX	
	4 1/2"	11.6	6656'	250 SX	

MARATHON OIL COMPANY IS PROPOSING TO RECOMPLETE THIS WELL TO THE GALLUP USING THE ATTACHED PROCEDURE.

RECEIVED

MAY 18 1993

OIL CON. DIV
DIST. 3

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED
BLM
93 MAY 10 PM 12:46
070 FARMINGTON, NM

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 Thomas [Signature] TITLE ENGINEERING TECHNICIAN DATE 05-04-93

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY: _____

APPROVED

MAY 11 1993

DISTRICT MANAGER

*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.

NMCCO

RECOMPLETION PROCEDURE

BOLACK WELL NO. 4
790' FNL and 790' FEL
Section 28, T-27-N, R-11-W
Kutz Canyon Field Area
San Juan County, New Mexico

Date: March 22, 1993

AFE No.: 44750

Purpose: Recomplete from the Basin Dakota to Wildcat Gallup and downhole commingle.

Current Completion: Graneros: 6,447'-61'
Dakota: 6,487'-6,506', 6,558'-6,567'

Current Status: Shut-in

Elevation: 6,341' KB; 6,329' CL

TD: 6,658' PBTD: 6,625' (Fill noted to 6,595' in 1969.)

Surface Casing: 8-5/8", 24#/ft set at 209'. Cement w/200 sx. Circ to surface.

Production Casing: 4-1/2", J-55, 11.6#/ft @ 6,656'. DV tool @ 2,195'. Cement first stage w/175 sx. TOC @ 5,210'. Cement second stage w/75 sx. TOC @ 1,925'.

Drilling Mud Weight: Unknown

Estimated BHP: 1,000 psi (Gallup)
638 psi (Dakota - 11/16/92 static pressure)

Estimated Surface Pressure: 0 psi (Gallup probably will need to be pumped).

Expected Reservoir Fluids: Oil and gas

Safety Considerations: Hold daily safety meeting explaining the procedure.
Run sufficient kill string in well when shut down.

1. Test safety anchors to 22,500 psi.
2. MIRU PU.
3. Blow well down. Kill well w/2% KCl water if necessary.
4. ND wellhead. NU pretested BOP with 2-3/8" pipe rams on top and blind rams on bottom.
5. Release Baker Model "G" compression packer (pick up to release) and POOH w/2-3/8" production tubing.
6. Change out pipe rams to 2-7/8". Pick up 2-7/8", 6.5#/ft, N-80 workstring.
7. RIH w/RBP and tension packer on 2-7/8" tubing. Set RBP. Close pipe rams and test. POOH w/2-7/8" tubing. Close blind rams and test. RIH and retrieve RBP. POOH.
8. RU wireline unit.
9. RIH w/gauge ring and junk basket. Tag PBTD. POOH.
10. RIH w/RBP and GR-CCL on wireline and set at 6,000'. Dump 20' of sand on top of RBP.
11. RIH with packer and bridge plug and isolate leaks in 4-1/2" production casing. (Note: Most casing leaks in this area of the field are located in the 3,000'-4,000' range. When pumping down annulus with packer set, pressure would bleed off from 500 psi to 170 psi in 15 minutes.)

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 Kutz Canyon Field Area
 San Juan County, New Mexico
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12. Squeeze casing leaks as necessary. Drill out and prepare to recomplete to Gallup.
13. RIH w/GR-CBL-CCL and log from PBTD to TOC under 1,000 psi. Identify TOC with respect to Gallup gross interval 5,475'-5,870'. Report results to Midland.
14. RU perforators. RU full lubricator and test to 1,000 psi. RIH w/3-1/8" casing gun and perforate Upper Gallup 5,693'-96', 5,687'-89', 5,666'-76', 5,610'-18', 5,579'-85', 5,569'-74' w/2 JSPF, 120° phasing (68 holes total).
15. RD perforators. RU tubing testers.
16. RIH w/RTTS compression packer on 2-7/8" workstring, testing tubing to 8,500 psi. Test RBP to 1,000 psi. PUH and set packer at ±5,470'.
17. RU stimulation company. Prepare to acidize Upper Gallup. Establish rate into perms (5,569'-5,696') w/2% KCl water. After breakdown, open bypass and circulate acid down to packer. Close bypass and acidize perms with 2,500 gal. 15% NEFE acid, dropping 102 balls to divert. Release packer and RIH w/packer and knock balls off. PUH and reset packer at ±5,470'.
18. Prepare to frac well. Load annulus. Quality control frac fluids and proppant.
19. Frac Upper Gallup 5,569'-5,696' down 2-7/8" tubing @ 25 BPM with 47,500 gal of 65 quality nitrogen foam and 119,000# of proppant as per the following schedule:

°Frac Fluid - 65 Quality N₂ foam w/35# guar as gelling agent

°Proppant - 20/40 Brady Sand

°Protechnics tag pad with Antimony, 2-5 ppg sand with Scandium, and 6 ppg with Iridium

°Estimated surface treating pressure - 5,500 psi

STAGE	FLUID VOL (GAL)	1PPA (ppg)	# SAND	CUM SAND
1 (Pad)	16,000 gal	--	0#	0#
2	7,000 gal	2 ppg	14,000#	14,000#
3	7,000 gal	3 ppg	21,000#	35,000#
4	7,000 gal	4 ppg	28,000#	63,000#
5	7,000 gal	5 ppg	35,000#	98,000#
6	3,500 gal	6 ppg	21,000#	119,000#
7 (Flush)	1,315 gal	--	0#	119,000#

NOTE: Rate may be increased/decreased based on the actual pressure response observed.

20. Shut well in and RD stimulation company. RU flowback manifold as per attached diagram. Open well up as soon as location is clear on 10/64" positive choke and flowback well to pit.
21. Continue flowing well to pit/frac tank until well dies. Change out choke size if necessary.
22. After well quits flowing, release RTTS packer and POOH w/2-7/8" workstring.
23. RIH w/2-7/8" workstring w/SN. Reverse circulate hole clean to RBP at 6,000'. POOH.

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24. RU wireline unit to run multiple isotope log over Gallup interval. RU lubricator.
25. Run log from 5,300'-5,400' at 10 ft/min w/repeat section.
26. RD wireline unit.
27. RIH w/2-3/8", 4.7# production tubing, TAC, SN, perforated sub, and bull plugged mud anchor.
28. RU swab.
29. Swab well to frac tank, noting fluid levels and rates.
30. Hang off tubing. ND BOP. NU wellhead.
31. Install rod stripper. RIH w/API 65 rod string (2,150' - 3/4" and 3,550' - 5/8") 1-1/4" insert pump, and dip tube.
32. Hang well off and start well pumping to frac tank.
33. RDMO PU.
34. Begin testing and monitoring production.
35. After productivity of the Gallup has been established, permit well for downhole commingling w/OCD and retrieve RBP covering the Dakota.

xc: C. T. Kent
C. T. Pearce
R. J. Prosceno - Hobbs
R. W. Tracy

PRESENT COMPLETION

BASIN, DAKOTA

BOLAND, CO. NO. 4

UNIT LETTER A, 780' FNL & 780' FEL

SECTION 33, T-27N, R-11W

DAN LOAN COUNTY, NEW MEXICO

8-5/8"
@ 209'

TD 6658' PBTD 6625'

GL 6629' AB 6641'

SURFACE 8-5/8" 34# SET @ 209' CEMENT W/200sx.
CEMENT CIRC.

PRODUCTION: 4-1/2" 116# SET @ 6656', CEMENT 1st STAGE
W/175sx, TOC @ 6610', 2nd STAGE W/75sx
TOC @ 1925', DV TOOL @ 2195'

PERFORATIONS: CASING MILLED OUT 6558'-6567', 6487'-
6508', PERFORATED 6447'-6461'.

TUBING: 204 JTS. 2-3/8" 4.7# J-55 8rd EUE TUBING.
2-3/8" X 1.78" CN @ 6394' & 1 JT. 2-3/8" TBG.
W/BAKER MODEL 'G' PKR W/14,000# @ 6425'-27'.

BAKER MODEL 'G'
PKR W/14,000#
ON PKR @ 6427'

PERFS:
6447'-6461'

6487'-6506'

CSG MILLED

6558'-6567'

PBTD @ 6625'

TD @ 6658'

FILL @ 6595'

4-1/2"
@ 6656'

HISTORY: WELL DRILLED IN 1961 BY FRONTIER REFINING CO. AS A DAKOTA GAS WELL. MILL CSG IN DAKOTA 'B' 6558'-67' KB & NOTCH 6565' & 6561'. FRAC PERFS DOWN CSG W/80,300 GAL X 30,000# SAND @ 35 BPM W/MAX PRES OF 3250#. ISIP 1650#. SET PLUG @ 6539'. MILL CSG IN DAKOTA 'A' 6487'-6506' & NOTCH 6498', 6495' & 6490'. FRAC PERFS DOWN CSG W/38,830 GAL X 11,300# 20/40 SAND & 2500# WALNUT HULLS @ 35 BPM W/MAX PRES OF 3200#. ISIP 1750#. SET PLUG @ 6475'. PERF 2nd GRANEROS SAND 6447'-61'. FRAC PERFS DOWN CSG W/27,900 GAL X 10,000# 20/40 SAND @ 30 BPM W/MAX PRES OF 4400#. FRAC PERFS 6447'-61' & 6487'-6506' (2nd GRANEROS & DAKOTA 'A') W/54,600 GAL X 37,500# SAND @ 32 BPM & 3000#. HOOK WELL TO SALES ON EPNG IN NOV, 1963. WELL DEAD & SVABBED DRILLING MUD & WATER. ISOLATE CSG LEAKS BETWEEN 3440'-4321' KB & SQUEEZE W/250sx CLASS 'C'. MAX PRES 3200#. TEST CSG TO 1000# OK IN JAN. 1969. TAG FILL @ 6595' RIH W/BAKER MODEL 'G' PACKER & SET FROM 6425'-27' W/14,000# WEIGHT ON PACKER. TEST BACKSIDE TO 200# (ANNULUS FILLED W/PACKER FLUID).

11/9/92

BLM CONDITIONS OF APPROVAL

Operator Marathon Oil Company Well Name 4D Bolack
Legal Location 790'FNL/ 790'FEL Sec. 28 T. 27 N. R. 11 W.
Lease Number SF-078872-A Field Inspection Date n/a

The following stipulations will apply to this well unless a particular Surface Managing Agency (SMA) or private surface owner has supplied to BLM and the operator a contradictory environmental stipulation. The failure of the operator to comply with these requirements may result in the assessments or penalties pursuant to 43 CFR 3163.1 or 3163.2. A copy of these conditions of approval shall be present on the location during construction, drilling and reclamation activity.

An agreement between operator and fee land owner will take precedence over BLM surface stipulations unless (In reference to 43 CFR Part 3160) 1) BLM determines that operator's actions will affect adjacent Federal or Indian surface, or 2) operator does not maintain well area and lease premises in a workmanlike manner with due regard for safety, conservation and appearance, or 3) no such agreement exists, or 4) in the event of well abandonment, minimal Federal restoration requirements will be required.

1. Pits will be fenced during work-over operation.
2. Contact Navajo Agricultural Products Industry prior to commencing work-over activities.
3. All disturbance will be kept on existing pad.

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-06306	² Pool Code 96201	³ Pool Name Wildcat; Chaco-Gallup Oil
⁴ Property Code 6368	⁵ Property Name Bolack	⁶ Well Number 4
⁷ OGRID No. 014021	⁸ Operator Name Marathon Oil Company	⁹ Elevation GL:6329

¹⁰ Surface Location									
UL or lot no. A	Section 28	Township 27 N	Range 11 W	Lot. Idn	Feet from the 790	North/South Line North	Feet from the 790	East/West line East	County San Juan

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. A	Section 28	Township 27 N	Range 11 W	Lot. Idn	Feet from the 790	North/South Line North	Feet from the 790	East/West line East	County San Juan

¹² Dedicated Acres 20.40	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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

				790 #4 790	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Thomas M. Price Signature Thomas M. Price Printed Name Advanced Eng. Tech Title 6-16-94 Date
					¹⁸ 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. Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

RECEIVED
JUN 20 1994
OIL CON. DIV.
DIST. 3