

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 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
En 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
		³ API Number 30-0 25-25255
⁴ Property Code 06488	⁵ Property Name LOU WORTHAN	⁶ Well No. 14

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
A	11	22-S	37-S		520	NORTH	330	EAST	LEA

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 WANTZ - ABO					¹⁰ Proposed Pool 2				

¹¹ Work Type Code A	¹² Well Type Code OIL	¹³ Cable/Rotary	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 3361' KB, 3350' G.L.
¹⁶ Multiple YES	¹⁷ Proposed Depth 7055'	¹⁸ Formation ABO	¹⁹ Contractor KEY	²⁰ Spud Date

²¹ Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
*11"	9.625"	32	1265'	650	SURFACE
*8.65"	7"	23	7516'	1284	SURFACE

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 ADD ABO PERFORATIONS, STIMULATED AND COMMINGLE WITH EXISTING TUBB, DRINKARD, & GRANITE WASH PRODUCTION PER ATTACHED PROCEDURE.

EXISTING DHC NO. 1019

*CASING CEMENTED IN PLACE

Approval for workover ONLY -- CANNOT produce until DHC order is approved in Santa Fe.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature:

W. J. Longmire

Printed name:

R. J. LONGMIRE

Title:

DRILLING SUPERINTENDENT

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

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Energy Minerals & Natural Resources Department

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State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-25255	² Pool Code	³ Pool Name WANTZ - ABO
⁴ Property Code 006488	⁵ Property Name LOU WORTHAN	⁶ Well Number 14
⁷ OGRID No. 14021	⁸ Operator Name Marathon Oil Company	⁹ Elevation 3350

¹⁰ Surface Location

UL or lot no. A	Section 11	Township 22-S	Range 37-E	Lot. Idn	Feet from the 520'	North/South Line NORTH	Feet from the 330	East/West line EAST	County LEA
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¹¹ 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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¹² Dedicated Acres 40-NE/4	¹³ Joint or Infill N	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

				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i> Signature <u>W. J. Longmire</u> Printed Name <u>R. J. LONGMIRE</u> Title <u>DRILLING SUPERINTENDENT</u> Date <u>3/31/99</u>
				¹⁸ SURVEYOR CERTIFICATION <i>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.</i> Date of Survey _____ Signature and Seal of Professional Surveyer: _____ Certificate Number _____

RECOMPLETION PROCEDURE

Lou Worthan #14
Drinkard Field
520' FNL and 330' FEL
Section 11, T-22-S, R-37-E

AFE Number: 305399

Date: March 19, 1999

Purpose: Add the Abo formation to existing commingled production

Elevation: 3361'KB 3350'GL

Estimated Cost: \$81,200

Estimated Recompletion Duration: ¹⁰ ~~7~~ days

WI: 100% NRI: 87.5%

Drillers TD: 7540' PBTD: 7516'

Surface Casing: 9-5/8", 32# H-40 casing @ 1265'. Cemented w/ 650 sacks, circulated 140 sacks to the pit.

Production Casing: 7", 23# N-80 casing @ 7516' to DV tool @ 4546'. 7", 23# K-55 casing from 4546' to surface. Cemented first stage with 1112 sacks, did not circulate any cement. Cemented second stage with 1568 sacks, circulated 172 sacks to pit. TOC approximately 5400' from CBL (04/76).

Tubing Spool: 10" x 7-1/16" Series 900 spool (3M). Tested to 2000#.

Tubing String: 180 jts of 2-3/8" 4.7# J-55 tubing, 7"x2-3/8" tubing anchor @ 5599', 32 jts of 2-3/8" 4.7# J-55 tubing, 1 2-3/8" ceramic jt, 2-3/8" API seating nipple @ 6626', and a 16' 2-3/8" OP mud anchor to a depth of 6643'.

Rod String: 2-2' 7/8" rod subs, 1-4' 7/8" rod sub, 1-6' 7/8" rod sub, 9-4' 7/8" steel rods, 81-3/4" steel rods, 82-5/8" steel rods, 8-3/4" steel rods, 1-4' 3/4" rod sub, a 2" x 1-1/4" x 16' x 4' RHBC, and a 1-1/4" x 6' gas anchor.

Existing Perforations: Tubb (2 JSPF, 1987): 5788', 5800', 34', 46', 57', 66', 70', 77', 94', 98' (20 holes)
Drinkard (2 JSPF, 1978): 6224', 26', 41', 44', 46', 48', 63', 68', 71', 74', 76', 78', 92', 94' (28holes) >
Granite Wash (2 JSPF, 1985): 7174', 76', 78', 84', 86', 88', 90' (14 holes)
Granite Wash (1 JSPF, 1976): 7289', 93', 97', 7301', 05', 09', 13', 17', 21', 25', 7497', 99', 7501', 03', 07', 09', 11', 13', 15' (19 holes)

Tubular Capacities: 7", 23# K-55 casing – (80% Burst = 3488 psi)
2-3/8", 4.7# N-80 workstring – (80% Burst = 8960 psi)

Anticipated Bottom Hole Pressure: Abo - 2000 psi

Safety Considerations: Run a sufficient amount of killstring during any extended shut-in period.

PROCEDURE:

- 1.) Notify Hobbs personnel of impending workover.
- 2.) MIRUPU. Kill well as necessary. Disconnect surface equipment. Lay down polish rod. POOH with rods and pump.
- 3.) ND tree. NU 7-1/16" 3M Hydraulic BOPE with 2-3/8" pipe rams and two valves below blind rams & DSA (Note: Check tubing spool and tubing hanger to insure hanger will pass through BOP's). Release tubing anchor. POOH and visually inspect tubing minimizing kill fluids due to the water sensitive nature of the open perforations. RIH with packer-type RBP. Set RBP at ± 100'. Pressure test casing and pipe rams to 1500 psi. POOH with 2-3/8" tubing. Pressure test casing and blind rams to 1500 psi. RIH and latch onto RBP. Release RBP and POOH.

NOTE: BOPE test procedure to be cleared by MCR Drilling Superintendent prior to MIRUPU.

- 4.) Run gauge ring for 7" 23# casing to 7200'.

- 5.) Pick up and RIH with : mechanical set CIBP below a 7" treating packer seating nipple on 2-3/8" 4.7# N-80 workstring to 7130'. Set CIBP at 7130'. PUH one stand a. set packer. Pressure test plug to 1500 psi. Pickle workstring with 400 gallons of 15% Ferchek SC acid. RU swab equipment. Swab out spent acid in order to minimize load fluid put on open perforations. Spot 850 gallons of 15% Ferchek SC acid across casing prior to perforating. POOH with workstring.
- 6.) Install a 7-1/16" 3M frac valve. RU electric line company w/ lubricator and test to 1000 psi. Using a Gamma gun to correlate depth with Schlumberger open hole log dated 04/08/76, perforate the Abo formation with 2 JSPF 120 degree phasing 4" port guns with 23 gram tungsten-lined charges between: 6556-60', 6565-69', 6580-84', 6608-14', 6621-24', 6655-66', 6680-84', 6719-27', 6736-42', 6747-51', 6755-62', 6768-84', 6793-97', 6802-05', 6808-10', 6816-18', 6866-70', 6881-84', 6957-59', 6964-71', 6975-79', 7011-13', 7042-45', 7050-55' (236 shots). RD Electric Line Company, lubricator and frac valve.
- 7.) RU Hydrotesters. Pick up and RIH with a 7" RBP w/ large ball catcher (400 ball size) below a 7" treating packer and seating nipple on 2-3/8" 4.7# N-80 workstring to \pm 7100' hydrotesting to 9000 psi. RD Hydrotesters. Set RBP at \pm 7100'. Set packer at \pm 7090'. Pressure test RBP to 1000 psi. Release packer, PUH and reset packer at \pm 6840'.
- 8.) RU acid company and one lined frac tank. Pressure test surface lines to 9000 psi. Acidize with 3000 gals of 15% Ferchek SC with 90 1.3 SG ball sealers at 3 - 5 BPM. Flush to bottom perf with 2% KCl water. Surge the balls after acid job. Anticipated treating pressure = 4500 psi.
- 9.) Release packer at \pm 6840'. RIH and latch onto RBP at \pm 7100'. Release RBP, PUH and reset RBP at \pm 6850'. Set packer at \pm 6840' and pressure test RBP to 1000 psi. Release packer, PUH and reset packer at \pm 6650'.
- 10.) Acidize with 5200 gals of 15% Ferchek SC with 156 1.3 SG ball sealers at 3 - 5 BPM. Flush to bottom perf with 2% KCl water. Surge the balls after acid job. Anticipated treating pressure = 4500 psi.
- 11.) Release packer at \pm 6650'. RIH and latch onto RBP at \pm 6850'. Release RBP, PUH and reset RBP at \pm 6710'. Set packer at \pm 6700' and pressure test RBP to 1000 psi. Release packer, PUH and reset packer at \pm 6520'.
- 12.) Acidize with 3600 gals of 15% Ferchek SC with 108 1.3 SG ball sealers at 3 - 5 BPM. Flush to bottom perf with 2% KCl water. Surge the balls after acid job. Anticipated treating pressure = 4500 psi. RD Acid company.
- 13.) Release packer at \pm 6520'. RIH and latch onto RBP at \pm 6710'. Release RBP and POOH with treating packer and RBP. RIH with a 7" production packer and an On/Off tool on 2-3/8" production tubing. Space out tubing for a flowing wellhead and set packer at \pm 6520'.
- 14.) RU swab equipment. Swab back spent acid load. Attempt to kick well off well and evaluate. Notify Midland New Mexico Engineering Department with results. RD swab equipment.
- 15.) Based on swabbing results, if the well kicks off flowing with significant pressure complete as an Abo well. ND BOPE, NU flowing wellhead and test. RU lubricator and swab down tubing. RD lubricator. Proceed to step 18.
- 16.) Based on swabbing results, if the well kicks off flowing with minimal pressure complete as a downhole commingled Abo/Drinkard/Tubb well. Release packer at \pm 6520' and POOH with packer, On/Off tool, and 2-3/8" production tubing. RIH with slotted mud anchor, seating nipple, 2-3/8" production tubing, 7" x 2-3/8" TAC, and 2-3/8" production tubing. Set TAC at \pm 5600'.
- 17.) ND BOPE. NU pumping wellhead and test. RIH with pump and rod string. Space out plunger and hang well on. Reconnect surface equipment.
- 18.) RDMOPU.
- 19.) Monitor production and producing fluid levels.

Xc: D.K. Barker
R.J. Longmire
R.L. Kleiv
T.P. Kacir
W.S. Landon
S.F. Millican

Wellfile