District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Oil Conservation Divsiion
1220 S. St. Francis Dr.
Santa Fe, NM 87505

APR 2007
Received
Hobbs
OCD

Form C-101
May 27, 2004

Submit to appropriate District Office

☐ AMENDED REPORT

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

[1] Operator Name and Address	[2] OGRID Number
Marathon Oil Company P.O. Box 3487 Houston, TX 77253-3487	14021
	[3] API Number 30- 30-025-33919

[4] Property Code	[5] Property Name	[6] Well No.
6366	Bertha Barber	16

[9] Proposed Pool 1	[10] Proposed Pool 2
Monument Blinebry (46990)	

[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
K	5	20-S	37-E		2140'	South	1650'	West	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

Additional Well Location

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
P	0		P	3554'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
No	5900'	Blinebry		ASAP

Depth to ground water	Distance from nearest fresh water well	Distance from nearest surface water

Pit: Liner: Synthetic ☐ _____ mils thick Clay ☐ Pit Volume _____ bbls Drilling Method:

Closed-Loop System ☐ Fresh Water ☐ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48#	490'	545 sks	surface
11"	8 5/8"	32 & 24#	2429'	950 sks	surface
7 7/8"	7"	23#	5122'	150 sks	
6 1/8"	4 1/2"	11.6#	7796'	235 sks	4812

[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.

Marathon Oil Company proposes to plubback the downhole commingled Tubb / Abo formations in the Bertha Barber No 16 with a CIBP, and recompleted to the Blinebry formation. Please see attachment for detailed work procedures.

Permit Expires 1 Year From Approval Date Unless ~~Drilling Underway~~ Plugback

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Signature: Charles E. Kendrix

Printed name: Charles E. Kendrix

Title: Reg Compliance Rep

E-mail Address: cekendrix@marathonoil.com

Date: 04/18/2007 Phone: 713-296-2096

OIL CONSERVATION DIVISION

Approved by: DISTRICT SUPERVISOR/GENERAL MANAGER

Title:

Approval Date: APR 20 2007 Expiration Date:

Conditions of Approval:

Attached ☐

Recompletion Procedure

Bertha Barber # 16

Upper Blinebry

Surface Hole Location: 2140' FSL & 1650' FWL
Section 5, T-20-S, R-37-E, UL 'K'
Monument Field
Lea Co, NM

Purpose: TA Tubb and Abo Perforations, test Upper Blinebry formation

Current Status: Abo and Tubb commingled producer.

Elevation: GL: 3554' KB: 3570' TD: 7796' PBTD: 7524'

Pressure Information: Abo and Tubb: ~300 psig SIBHP estimate
Blinebry~2850 psig SIBHP estimate if virgin reservoir pressure

Perforations:

Abo: 7204-7230' (2 SPF, total of 54 holes)

Tubb: 6418-6422', 6437-6439', 6442-6452', 6464-6481' (1 SPF, total of 66 holes)

Safety:

- Hold daily safety meeting explaining the proposed procedure.
- H2S concentration - 5,000 ppm
- Keep TIW valve on rig floor at all times.
- Keep kill-string in well at night if tubing is pulled.
- Follow MOC SOP's throughout job.

Procedure:

1. Inspect the well & location prior to rigging up. Perform all necessary Lock-out/Tag-out to properly secure well. Make sure all associated personnel have proper PPE for the proposed job. Isolate pressure shutdowns.

2. If necessary, install and test safety anchors to 22,500 lbs.

3. MIRU two (2) frac tanks. Fill one tank with fresh water for acid flush and well control. Marathon will supply 2% KCl water and acidizing contractor will bring surfactant to make treated water for acid job.

4. MIRU Pulling Unit. Make sure Geronimo line is staked securely, H2S monitor is in place, guardrails are in place & the unit is properly grounded to the wellhead.

5. POOH with rods and pump. Install 7-1/16", 3M hydraulic BOPs w/ 2-3/8" pipe rams & blind rams (equipped w/ valved outlets below blinds).

6. POOH w/ 2-3/8" tubing. PU 4-1/2" bit and casing scraper and RIH on 2-3/8" tubing to tight spot at 7447'. Test pipe rams & blind rams to 250 & 3,000 psig.

7. MIRU Baker-Atlas. Install 5K lubricator with pack-off and pressure test to 1000 psig. RIH w/ 4-1/2" CIBP, setting tool and PFC-GR tool on wireline. Gamma ray correlate to the Schlumberger Open Hole Compensated Neutron / GR log dated June 8, 1997 and set CIBP at +/- 5900', then POOH. Monitor fluid levels after perforating or between runs if multiple runs are required. RIH with PFC-GR and 3-1/8" select fire gun loaded with 311T charges at 2 JSPF at 120 degree phasing

and perforate the following intervals after correlating to the Schlumberger Open Hole Compensated Neutron / GR log dated June 8, 1997:

Top	Bottom	Interval	Gun Number	Shots/ft	Total Shots
5604'	5630'	26'	1	2	52
5684'	5730'	46'	2, 3	2	92
Totals:		72'	3 guns		144

8. Dump one bailer of cement (10') on top of CIBP @ 5900'. RDMO Baker-Atlas.

9. Change out BOP pipe rams to 2-7/8". PU 4-1/2" treating packer and 2-7/8", L-80, 6.5#/ft workstring and RIH to CIBP @ 5900', hydro-testing tubing below slips to 8000 psig if warranted by condition of workstring. Visually inspect tubing for corrosion or scale. Hydrotest CIBP @ 5900' to 1000 psig.

10. If necessary, tubing will be pickled with 500 gals of 7-1/2% HCl acid at this time. PU to 5730' and pickle tubing w/ 500 gals of 7-1/2 % HCl acid. Reverse pickle acid to surface. Spot acid across interval to be perforated (5730 – 5604').

11. PUH with treating packer to +/- 5500' and set packer.

12. MIRU acid pump contractor. Have at least 500 HHP on location for pumping and positive displacement ball injector. Test surface lines to 6000 psig. MAXIMUM SURFACE PRESSURE NOT TO EXCEED 6000 PSI. Pump job at maximum rate not to exceed 6000 psi under packer. Inhibit acid for 4-hours at 100 deg F. Load ball injector with 300 (1.1 SG) 7/8" diameter ball sealers. Pump 6000 gals of 15% NeFeHCl acid into perforations from 5604-5730', dropping 2 balls for each barrel of acid pumped (total of 300 balls). Flush acid to bottom perf using 33 bbls of 2% KCl water then over displace into formation w/ 10 bbls 2% KCl water. Release packer, RIH to knock ball sealers off perfs. PUH and reset packer @ ~5550'. Shut-in well for 15 minutes to allow acid to spend. RDMO acid pump contractor.

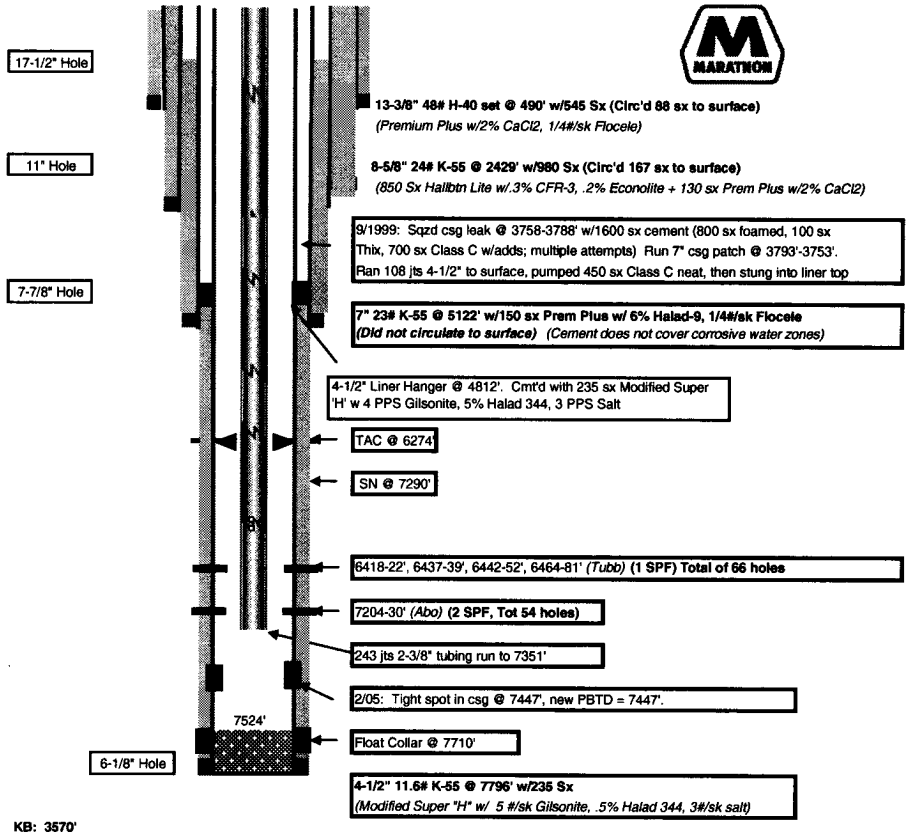
13. Attempt to flow well back to frac tank. If well will not kick-off, pressure test backside to 500 psig. RU swabbing equipment and kick well off. Use caution when swabbing well and take small bites of fluid until well starts to unload. Report swab volumes and tubing pressures to Ken Baker in Houston.

14. Once well is flowing, notify production operations personnel.

15. If well will not flow, unset treating packer. POOH with 2-7/8" workstring and lay down treating packer. PU & RIH w/ production string, landing EOT immediately above CIBP @ ~5900' and TAC directly above top perforation at 5604'. Remove BOP and install wellhead. Set well to pumping.

16. RDMOPU. Turn well to sales.

Well Name & No.		BERTHA BARBER NO. 16		Field	MONUMENT		Date 01/23/07
County	LEA	API	3002533919	State	NEW MEXICO	By	K. J. Baker
Spudded	12/28/1997	Comp Drlg	1/18/1998	Location	2140' FSL & 1650' FWL, Section 5, Township 20S, Range 37E, UL 'K'		



GL: 3554' KB: 3570'
PBTD: 7447' (tight spot), 7524' cement TD: 7800'

Well History

June '97 Perf'd Abo (2 SPF) @ 7204-30'. RIH & set treating packer @ 7240'. Spot acid across perfs, then acidized w/ 2000 gal 15% Ferchek w/600 ball sealrs. Max PSI= 6000, Min PSI = 5352, Max Rate = 3.1, avg rate = 2.1, avg PSI = 5733. ISDP = 4460, 5 min = 1521, 10 min = 710. Made 5 swab runs and well kicked off flowing. 68 BO, est gas rate 1 mmcfpd on 24/64" choke, FTP = 600/800 psi

Sept '99 Squeezed csg leak @ 3758-3788' w/1600 sx cement (800 sx foamed, 100 sx Thix, 700 sx Class C w/adds; multiple attempts) Run 7" csg patch @ 3793'-3753'. Ran 108 jts 4-1/2" to surface, stung into liner, pumped 450 sx Class C neat.

Oct '99 Spot acid across Tubb interval. Perf Tubb from 6418-22', 6437-39', 6442-52', and 6464-81' @ 1 JSPF, total 66 holes. RIH w/ RTTS packer and set @ 6321'. Acidized Tubb perfs 6418-81' with 3000 gals 15% Ferchek SC dropping 125 ball sealers, balled out after 90 balls. Max pressure = 6730, avg pressure = 3739 psi, max rate 5 bpm, avg rate 4.5 bpm. ISIP = 3836 psi, 5 min = 2106, 10 min = 1591, 15 min = 1308 psi. Blew well down to frac tank and flowed 120 bbls oil to frac tank, FTP = 200 psig on 72/64" choke.
Frac Tubb perfs in 3 stages screening out at 8000 psig with max sand conc of 4.4 ppg and total of 32,224# sand. Stage 1 - Pumped 20,000 gals Delta frac with avg press 5,267 @16.8 bpm. Stage 2 - 10,628 gals w/ 2.6 ppg sand, avg press 6,752 @ 18.1 bpm. Stage 3 - 2,340 gals w/4 ppg sand, avg press 7,746 @ 17.4 bpm. Screen out @ 8000 psig. Flowed 80 bbls frac load & sand to frac tank and well died. RIH and tagged sand @ 7037'. RIH w/ 2-3/8" prod tubing. Swab well w/ avg oil cut of 40%. RIH w/ pump & rods. TAC @ 6062', SN @ 6349', btm tubing @ 6382'
11/1/99 Test: 41 BO, 68 MCF, 2 BW in 24 hours on pump

Jan '00 MIRUPU. POOH w/rods & tubing. RIH, tag fill @ 6911'. Clean out w/ foam air to 7100' (RBP). POOH w/ RBP. RIH w/ treating packer and set @ 7124'. Pump 4000 gals 15% acid w/ 40 BS. Swab. Release pkr, RIH to 7364'. Swab. POOH w/ tubing & pkr. RIH w/ 2-3/8" tubing. ND BOP. Set TAC and NU wellhead. RIH w/ pump & rods.

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State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-33919	46990	Monument Blinebry

[4] Property Code	[5] Property Name	[6] Well Number
6366	Bertha Barber	16

[7] OGRID No.	[8] Operator Name	[9] Elevation
14021	Marathon Oil Company	3554'

[10] Surface Location

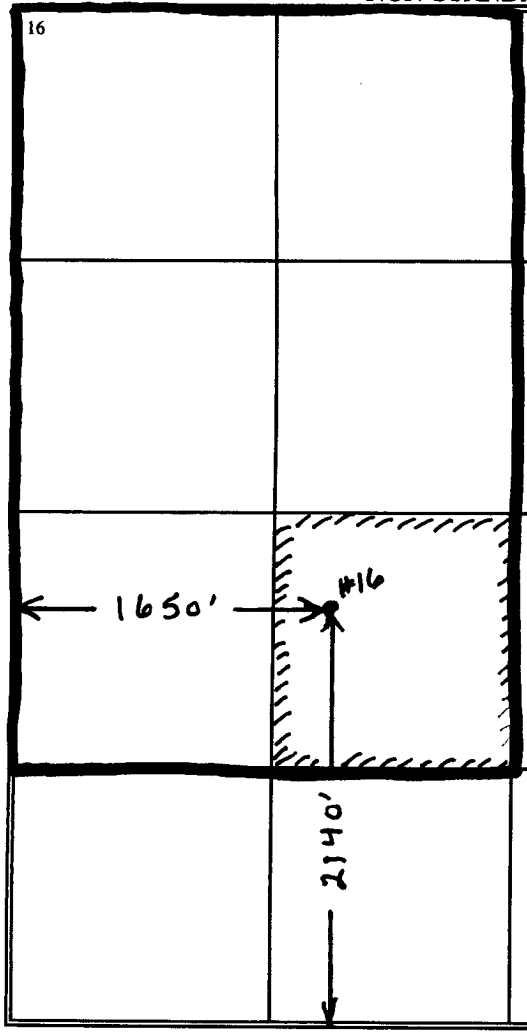
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	5	20-S	37-E		2140	South	1650	West	Lea

[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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40	N		

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 hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Charles E. Kendrix 04/18/2007
Signature Date

Charles E. Kendrix
Printed Name

[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 Surveyer:

Certificate Number