District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue,Artesia, NM 88210
District III
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

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- 2534341

[4] Property Code	[5] Property Name	[6] Well No.
~~22992~~ 6421	W.H. Laughlin	8

[9] Proposed Pool 1	[10] Proposed Pool 2
Undesignated Skaggs Drinkard (57000)	

[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	9	20-S	37-E		1750'	North	1750	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			3545
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
No	6800	Drinkard		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 ☐

Received
Hobbs OCD
MAR 29 2007

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	8 5/8"	24	1175'	600 sks	Surface
7 7/8"	7"	23	4050'	500 sks	Surface
6 1/4"	4 1/2"	11.6	7800'	635 sks	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.

Marathon Oil Company is proposing to plug back the W.H. Laughlin No 8 in the Abo formation and recomplete the well to the Drinkard fromation. Please see the attachment for proposed well work details.

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: 04/03/2007

Phone: 713-296-2096

OIL CONSERVATION DIVISION

Approved by: Chris Williams

Title: OC DISTRICT SUPERVISOR/GENERAL MANAGER

Approval Date: APR 12 2007

Expiration Date:

Conditions of Approval:

Attached ☐

Recompletion Procedure

W. H. Laughlin # 8

Drinkard
Surface Hole Location: 1760' FNL & 1750 FWL
Section 9, T-20-S, R-37-E, UL 'F'
Monument Field
Lea Co, NM

Date: March 30, 2007

Purpose: **TA Abo Perforations, test Drinkard formation**

Current Status: Abo producer

Elevation: GL: 3545' KB: 3558' TD: 7800' PBTD: 7770'
CIBP: 7280'

~~Conductor~~ Surf. Casing: 8-5/8", 32#, K-55, LT&C set @ 1175' with 600 sacks (circ'd 125 sx to surface)

~~Surface~~ Intermediate Casing: 7", 23#, K-55, FL4S set @ 4751'. Cemented w/500 sacks Class C w/2% CaCl2, ¼#/sk Flocele

Production Casing: 4-1/2", 11.6#, K-55 set 7800' w/ 535 sx (circ'd 43 sx to surface). Stg 1: 310 sx modified Super "H" w/ .4% CFR3, 3#/sk FIL, 5% HAL9, 3#/sk salt. Stg 2: Opened DV tool @ 4733' and pumped 225 sx Halliburton Premium Lite w/ .3% CFR3, .3% Econolite.

Tubing: 2-3/8", 4.7#, J-55, EUE at 7246'; 2-3/8" seating nipple @ 7215' and tbg anchor @ 7032'

Perforations:

Abo:

Producing: 7082-7088', 7092-7100', 7104-7108', 7156-7180', 7205-7210', 7215-7225' w/2 JSPF

Squeezed: 7342-7376', 7393-7402', 7406-7416', 7419-7424' (Tested & sqzd 5/98)
7284-7297', 7303-7318' (Tested & sqzd 5/98)
7205-7210', 7215-7225', 7232-7262' (Tested & sqzd 5/98 to shut off water from below)

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.

Note: Use proper PPE when working in and around HCl Acid, this would include but is not limited to splash guards, aprons, and HCL resistant gloves. Record types & volumes of fluids pumped for well control throughout job.

Procedure:

1. Marathon Rig Supervisor & Contract Workover Rig Supervisor will 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 four (4) frac tanks. Fill tanks with fresh water for acid flush, fracture stimulation and well control. Marathon will supply fresh 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. Install 7-1/16", 3M hydraulic BOPs w/ 2-3/8" pipe rams & blind rams (equipped w/ valved outlets below blinds). Test pipe rams & blind rams to 250 & 3,000 psig.

6. POOH w/ 2-3/8" tubing and rod pump, laying down rod pump.

7. Change out BOP pipe rams to 2-7/8". PU 4-1/2" bit and casing scraper and 2-7/8", L-80, 6.5#/ft workstring and RIH to CIBP @ 7280', hydro-testing tubing below slips to 9,000 psig if warranted by condition of workstring. Visually inspect tubing for corrosion or scale. POOH with 4-1/2" bit and casing scraper.

8. MIRU Baker-Atlas. RU frac valve, equalizing line, and 3K lubricator w/ pack-off. Pressure test the lubricator to 3000 psi against the frac valve. If necessary, RIH w/ junk catcher and 4-1/2" gauge ring on wireline to CIBP @ 7280'. Gamma ray correlate the first run to the Schlumberger Open Hole Compensated Neutron log dated May 1, 1998. **Monitor fluid levels between runs.** RIH with PFC-GR and 3-1/8" select fire gun loaded with 311T charges at 4 JSPF at 60 degree phasing and perforate the following intervals after gamma-ray correlating to the Schlumberger Open Hole Compensated Neutron log dated May 1, 1998:

Top	Bottom	Interval	Gun Number	Shots/ft	Total Shots
6670'	6690'	20'	1	4	80
Totals:		**20'**	**1 gun**		80

9. RIH with 4-1/2" CIBP on 2-7/8" tubing and set CIBP @ ~6800'. Dump one bailer of cement (10') on top of CIBP @ 6800'. RDMO Baker-Atlas. POOH with 2-7/8" tubing.
10. RIH with 4-1/2" treating packer on 2-7/8" tubing and use packer to test CIBP @ 6800' to 500 psig. PU treating packer to 6690' and spot acid across Drinkard perforations from 6670 – 6690'. PUH with treating packer to +/- 6600'. If necessary, tubing will be pickled w/ 500 gals of 15% HCl acid at this time. Reverse pickle acid to surface. Set treating packer at +/- 6600'.

11. MIRU acid pump contractor. Have at least 500 HHP on location for pumping and positive displacement ball injector. Test surface lines to 7500 psig. **MAXIMUM SURFACE PRESSURE NOT TO EXCEED 6000 PSI.** Pump job @ max rate not to exceed 6000 psi under packer. Inhibit acid for 4-hours at 100 deg F. Load ball injector with 120 (1.1 SG) 7/8" diameter ball sealers. Pump 3000 gals of 15% NeFeHCl acid into perforations from 6670-6690', dropping 3 balls for every two barrels of acid pumped (total of 120 balls). Flush acid to bottom perf using 40 bbls of fresh water then over displace into formation w/ 10 bbls fresh water. Release packer, RIH to knock ball sealers off perfs. Shut-in well for 15 minutes to allow acid to spend. RDMO acid pump contractor.

12. Install Stinger Tree Saver. RU Halliburton Frac. Test line to 8000 PSI. **MAXIMUM SURFACE PRESSURE NOT TO EXCEED 7500 PSIG DURING FRAC TREATMENT.**

13. Perform Fluid Efficiency Test (injection Step test and fall off) (~20% of pad volume). Use linear gel during FET. The injection Step Down rate test starts with max rate proposed for the job, working to lower rates (3 steps down). Total expected duration of the test is ~ 10 minutes. SI for ~ 30min if no vacuum situation occurs. Run PDAT during FET, analyze to determine frac closure time, determine fluid efficiency and discuss results with Halliburton frac engineer. If leakoff is less than 50 psi/minute, proceed with frac job as planned. If leakoff exceeds 50 psi/minute, discuss with Halliburton onsite engineer and Ken Baker, arathon

Completions Engineer and determine mitigating action such as increasing pad volume, adding diesel, particulates or other fluid-loss control additive. (Note: Halliburton plans to have fluid loss control additives (100 mesh, WLC-4) at the wellsite for moderate fluid loss control; however, greater than expected fluid loss may require alternate fluid loss control additives).

14. FRAC per Halliburton design dated March 29, 2007; Version 2 (use Expedite for sand control).

15. RD Halliburton equipment and tree saver.

16. If well will not flow, unset treating packer. POOH with 2-7/8" workstring and lay down treating packer. RIH w/ bit and clean-out sand to CIBP at 6800'. POOH.

17. PU & RIH w/ production string, landing EOT immediately above CIBP @ ~6800' and TAC directly above top perforation at 6670' if Expedite was used; otherwise land pump above top perforation. Remove BOP and install wellhead. Set well to pumping to battery or tank as advised by Morehead.

18. RDMOPU.

19. Turn well to sales and report test rates to Ken Baker in Houston.

PREPARED BY: K. J. Baker DATE: 3/29/2007

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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
30-025-34341	57000	Undesignated Skaggs Drinkard

[4] Property Code	[5] Property Name	[6] Well Number
~~22992~~ 6421	W.H. Laughlin	8

[7] OGRID No.	[8] Operator Name	[9] Elevation
14021	Marathon Oil Company	3545

[10] Surface Location

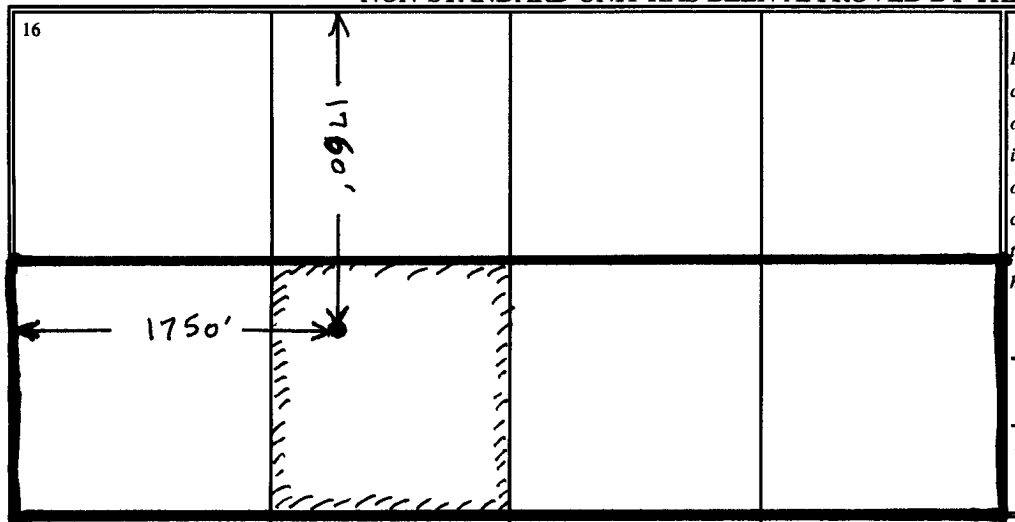
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	9	20-S	37-E		1750	North	1750	West	Lea

[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 04/03/2007
Signature Date

Charles E. Kendrix
Printed Name

Reg Compliance Rep

[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