State of New Mexico Energy, Minerals and Natural Resources Department

Revised 1-1-89

Submit 3 Copie to Appropriate District Office
DISTRICT I P.O. Box 1980,

CONDITIONS OF APPROVAL, IF ANY:

2/1 Daw 109/1 Uabbe NNJ 897/II	ATION DIVISION lox 2088	WELL API NO.
DISTRICT II Santa Fe. New M	lexico 87504-2088	30-025-30504
O. Drawer DD, Artesia, NM 88210 ISTRICT III		5. Indicate Type of Lease STATE FEE
00 Rio Brazos Rd., Aztec, NM 87410		6. State Oil & Gas Lease No. E-744-15
SUNDRY NOTICES AND REPORTS OF DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DESCRIPTION OF SUCH PROPOSALS TO DESCRIPTION OF SUCH PROPOSALS TO DESCRIPTION OF SUCH PROPOSALS TO THE PROPOSALS	DEEPEN OR PLUG BACK TO A FOR PERMIT"	7. Lease Name or Unit Agreement Name
Type of Well: OR GAS WELL X WELL OTHER		State E-744-15
Name of Operator		8. Well No.
Marathon Oil Company		1
Address of Operator P. O. Box 552, Midland, Texas 79702		9. Pool name or Wildcat Mescalero Escarpe (Bone Spring)
Well Location	- , , 	Prescaleto Escarpe (Bone Spring)
Unit Letter I: 2086 Feet From The Sout	h Line and	554 Feet From The East Line
Section 15 Township 18-S	Range 33-E	NMPM Lea County
	whether DF, RKB, RT, GR, etc.)	VIIIIIIIII
		<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>
Check Appropriate Box to Ind		•
NOTICE OF INTENTION TO:	SUE	BSEQUENT REPORT OF:
RFORM REMEDIAL WORK PLUG AND ABANDON	REMEDIAL WORK	ALTERING CASING
IPORARILY ABANDON CHANGE PLANS	COMMENCE DRILLIN	IG OPNS. PLUG AND ABANDONMENT
LL OR ALTER CASING	CASING TEST AND C	EMENT JOB
HER:	OTHER: Comple	etion Operations X
Describe Proposed or Completed Operations (Clearly state all pertinent awork) SEE RULE 1103.	letails, and give pertinent dates, incl	uding estimated date of starting any proposed
Marathon Oil Company initiated complet: Following is the completion procedure:	ion on the above re	ferenced well on June 12, 1989.
 MIRU pulling unit. NU BOPS. 		
3. RIH w/4 3/4" bit & DC on 2 7/8 4. Tagged plug @ 8915' KB. Drill psig. Held OK. (DV tool @ 90 5. Circulated hole clean w/2% KC	led to 11,305' KB. 605' KB.)	Tested CSG & DV tool to 1000
(See Attachma	ent I)	
hereby certify that the information above is true and complete to the best of my know	ledge and belief.	
ONATURE		tion Superintendent 8-17-89
	IIIUS	
YPEOR PRINT NAME J. E. Jenkins		TELEPHONE NO. (915) 682-1
This space for State Use) ORIGINAL SIGNED BY JERRY SEXTON DISTRICT I SUPERVISOR		AUG 25 1988
PPROVED BY	— т.е ————	DATE —

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OCD **HOBBS OFFICE**

ATTACHMENT I

Item 17 Continued Completion Procedure

- 6. POOH w/workstring, DC & BIT.
- 7. RU wireline contractors.
- RIH w/GR CBL CCL to PBTD 11,305' KB. (Corrected wireline PBTD 8. 11,271' KB) (Corrected wireline DV 9587' KB)
- 9. RU wireline contractors w/full lubricator.
- 10. Tested lubricator to 1000 psig. Held OK.
- Perforated lower Wolfcamp from 11,252'-58', 11,242'-46', 11,221'-32', 11. 11,203'-07', & 11,070'-11,120', using 3 1/8" CSG. Gun w/2 JSPF (total 155 holes).
- 12. RD wireline Contractors.
- RIH w/5 1/2" RBP, ball catcher, retrieving head, 5 1/2" RTTS pkr. & 13. SN on 2 7/8" workstring.
- Set RBP @ 11,262'. Dropped standing valve. Tested Tbg. to 5000 14. psig. Held OK. Fished standing valve.
- Spotted 200 gals. 15% HCL from 11,252'-11,052'. PU to 11,145' & 15. reversed 5 BBLS.
- Set RTTS pkr. @ 11,145' & pressured backside to 600 psig. 16. lines to 6000 psig. Hel OK. Displaced spotted acid into Wolfcamp perfs from 11,203'-07', 11,221'-32', 11,242'-46' & 11,252'-58'. Final rate 2 BPM @ 5400 psig.
- Bled Tbg. & backside pressure to 0 psig. Opened bypass & spotted 17. acid to pkr. Closed bypass & acidized Lower Wolfcamp perfs w/3800 gals. 15% HCL w/no ball sealers. AIR 3 BPM @ 5500 psig. Max press. 5800 psig.
- Bled off Tbg. & backside pressure. Released RTTS pkr. 18.
- RIH & latched onto RBP. PU & set RBP @ 11,160'. Set RTTS pkr. @ 19. 11,145'. Tested RBP to 1000 psig. Released Tbg. Pressure & PU to 11,123'. Spotted 250 gals. 15% HCL from 11,123'-10,873'. PU to 10,935'. Reversed 5 BBLS. & set pkr. Pressured backside to 600 psig. Displaced spotted acid into Wolfcamp perfs from 11,070'-11.120' @ a rate of 0.6 BPM @ 5800 psig. Bled off Tbg. & CSG. Opened bypass & spotted acid to pkr. Closed bypass & acidized perfs 11,070'-11,120' w/3750 gals. 15% HCL w/no ball sealers. AIR 2.8 BPM @ 6300 psig. Bled off Tbg. & Csg. Pressure. Released RTTS pkr.
- 20. RIH & latched onto RBP @ 11,160'. Released RBP & RIH to 11,271 & set RBP @ 11,262'. PU to 10,935' & set RTTS pkr.
- 21.
- 22. Swabbed water & trace of oil.
- 23.
- Released RTTS pkr. RIH & retrieved. POOH w/ 2 7/8" workstring, SN, pkr. & RBP. 24.
- RU wireline contractors. 25.
- 26. Set CIBP @ 11,050' KB. Bailed 4 sx. cmt. onto CIBP.
- Ran GR. Log from 10,950'-10,750'. 27.
- Perforated Middle Wolfcamp 10,966'-950', 10,948'-40'. & 10,930'-37' 28. w/2 JSPF using 3 1/8" csg. Gun.
- 29. RD wireline contractors.
- RIH w/5 1/2" RTTS pkr. & SN on 2 7/8" workstring. Tagged cmt. @ 11,015' KB. PU to 10,962' KB. Established circulation & spotted 200 30. gals. 15% HCL from 10,962'-10,762'.
- 31. PU to 10,799'. Reversed 5 BBLS. & set RTTS pkr.
- 32. RU acidizers.
- Pressured backside to 800 psig. & tested lines to 7000 psig. Pumped 33. spotted acid into MIddle Wolfcamp perfs @ 0.6 BPM and 5900 psig. Bled pressure off Tbg. & csg. Opened bypass on pkr. & spotted acid to pkr. Closed bypass & pressured backside to 1000 psig.
- 34. Acidized Middle Wolfcamp perfs w/3300 gals. 15% HCL w/20 frac balls for diversion. AIR 2.2 BPM @ 6100 psig. No ball action.
- RD acidizers.
- 36. Bled pressure off. RU swab & RIH.
- Swabbed 0 BO & 40 BW in 6 runs. Final FL @ SN. No fluid entry after 45 min. Slight gas blow between runs.
- Opened bypass on RTTS pkr. Unseated pkr. & POOH to 10,760'.
- 39. RU acidizers.
- 40. Established circulation w/2% KCL. Spotted 500 gals. 15% HCL. POOH to 10,625'. Reversed 9 BBLS. Set pkr.

Attachment I Item 17 continued Completion Procedures Page 2

- 41. RU wireline contractors w/full lubricator. RIH w/CCL & 1 ll/16" Interjet Gun on wireline. Perforated Middle Wolfcamp w/2 JSPF from 10,708'-10,173', 10,734'-10,754'.
- 42. RD wireline contractors.
- 43. RU acidizers.
- $^{44}.$ Pressured backside to 1000 psig. Tested lines to 7000 psig. Held $_{\rm OK.}$
- 45. Pumped spotted acid away w/2% KCL @ 0 psig. Well on vacuum.
- 46. RD acidizers.
- 47. RU swab.
- 48. Swabbed 210 BW & 0 BO in 9 hrs.
- 49. Unseated RTTS pkr. POOH w/2 7/8" workstring laying down.
- 50. RU wireline contractors.
- 51. Set CIBP @ 10,658' from GR CMT Log. Load Hole & test plug to 500 psig. Held OK. Bailed 4 sx. cmt on plug. New PBTD 10,622'.
- 52. RD wireline contractors.
- 53. ND BOPS.
- 54. NU wellhead.
- 55. S.I. well to evaluate upper zones for recompletion potential.

FOLLOWING IS RECOMPLETION PROCEDURE:

- 1. 7-18-89 MIRU pulling unit.
- 2. ND Landing Flange. NU BOPS.
- 3. RU wireline contractors.
- 4. RIH w/5 1/2" CIBP & set @ 9537'. RD wireline contractors.
- 5. RIH w/2 7/8" workstring to 9525'. Circulated hole w/2% KCL. Tested CIBP to 1000 psig. Held OK.
- 6. POOH. RU wireline contractors.
- 7. RIH w/3 1/8" csg. Gun w/full lubricator. Test lubricator to 1000 psig. Held OK.
- 8. Perforated Second Bone Spring Sand from 9434'-36', 9,439'-43', 9451'-54', 9456'-61', 9469'-76' w/1 JSPF (total 26 holes).
- 9. RD wireline contractors.
- 10. RIH w/ 5 1/2" RTTS pkr. & SN on 2 7/8" Tbg. to 9476'. Dropped standing valve.
- 11. RU Acidizers
- 12. Tested lines & Tbg. to 6000 psig. Held OK. Retrieved standing valve.
- 13. 2Spotted 250 gals. 7 1/2% HCL. PU to 9350'.
- 14. Reversed 6 BBLS. & set pkr. Pressured backside to 1000 psig.
- 15. Broke down formation @ 4000 psig @ 3 BPM. Opened bypass & spotted acid to pkr. Closed bypass, holding 1000 psig on backside.
- 16. Acidized Second Bone Spring Sand perfs from 9434'-9476' w/ 1750 gals. 7 1/2% HCL using 50 frac balls for diversion. AIR 3 1/2 BBL/min @ 3500 psig. Had good ball action. Surged balls off. Flushed to bottom perfs.
- 17. Released pressure, unset pkr. & RIH to 9490' to clear perfs.
- 18. PU to 9320' & set pkr. Pressure backside to 1500 psig.
- 19. Pumped 7000 gals. 2% KCL as prepad. @ Fractured Second Bone Spring Sand down 2 7/8" workstring w/ 26,746 gals. of 20/40 sand @ concentrations from 1 PPG-3 PPG. Screened out w/ 4746 gals. of 3 PPG in formation.
- 20. Flushed to top perfs. w/ 2% gelled KCL. AIR 12 1/2 BPM @ 4800 psig. MAX. PRESS. 5000 psig.
- 21. RD Acidizers.
- 22. RU wireline contractors w/ full lubricator.
- 23. Ran temp. survey. Zone of entry 9370'-9470'.
- 24. POOH & RD wireline contractors.
- 25. Opened well to frac tank on 12/64" choke. Well flowed 41 BW in 3 hrs. Increased choke to 16/64". Well flowed 26 BW in 1 hr. @ 100 psig. TP.
- 26. Opened bypass on pkr. & killed well. Unseated pkr. & POOH.
- 27. RU wireline contractors w/full lubricator.
- 28. RIH w/ 3 1/8" casing gun. Tested lubricator to 1000 psig. Held OK.

Attachment I Item 17 continued Completion Procedure Page 3

- 29. Perforated First Bone Spring Sand from 8626'-33' w/ 2 JSPF. (Total 15 holes.)
- 30. RD wireline contractors.
- 31. RIH w/5 1/2" RBP, retrieving head, RTTS pkr. & SN on 2 7/8" Tbg. Set RBP @ 8810'. Tested to 1500 psig. Held OK. Dump bailed 2 sx. sand onto RBP.
- 32. RU acidizers.
- 33. RIH to 8635'. Spot 150 gals. 7 1/2% HCL. PU to 8492'. Reversed out 3 BBLS. Set pkr. Pressured backside to 1000 psig.
- 34. Broke down formation @ 3500 psig. @ 1 1/2 BBL/min. After breakdown formation took 3 BPM @ 3300 psig.
- 35. Open bypass & spot acid to pkr.
- 36. Acidized First Bone Spring Sand w/ 850 gals. 7 1/2% HCL using 30 frac balls for diversion. AIR 3 BBL/min @ 3200 psig. Max. rate 3 BBL/min @ 5000 psig. Good ball action. Surged balls off perfs. Flushed to bottom perfs w/ 2% KCL water.
- 37. Released pressure, unseat pkr. & RIH to 8665' to clear perfs. PU to 8640' & set pkr. Pressured backside to 1500 psig.
- 38. Pumped 7000 gals. 2% KCL as prepad @ 12 BBL/min @ 4600 psig. Fractured First Bone Spring Sand down 2 7/8" workstring w/ 19,700 gals. of 20/40 sand @ concentrations from 1 PPG 5 PPG. Flushed to top perfs w/ 2% KCL. AIR 12 BBL/min. @ 4600 psig.
- 39. Released backside pressure.
- 40. RD Acidizers.
- 41. RU wireline contractors w/ full lubricator. Temp. survey tool did not work. POOH.
- 42. RD wireline contractors.
- 43. Opened well to frac tank on 12/64" choke. Well flowed 40 BW in 2 hrs. Increased choke to 16/64". Flowed 5 BW in 1 hr. w/ FTP of 50 psig.
- 44. Opened bypass & unseated pkr. RIH & circ. sand from RBP. RIH w/RBP & set @ 9520'. PU to 8460' & set pkr. Load & test backside to 500 psig. Held OK.
- 45. RU swab lubricator. FL @ surface. Swabbed 55 BW & 10 BO in 3 hrs.
- 46. Opened well to frac tank on 12/64" choke. Flowed 18 BO & 0 BW in 45 A min. w/ FTP of 205 psig.
- 47. Open pkr. Bypass. Released pkr. RIH & latched onto RBP. POOH. Laying down 2 7/8" workstring.
- 48. Changed rams to 2 3/8" Tbg. RIH w/2 3/8" mud anchor (slotted), SN, 31 jts. 2 3/8" Tbg. TAC & remaining production string. Set TAC @ 8518' in 12K# tension.
- 49. Installed pumping tee & valves.
- 50. RIH w/ gas anchor, pump & combination steel & fiberglass rod string.
- 51. Set pumping unit. Hung well on. Spaced out pump.
- 52. Placed well on test. Pumping to battery. On 8-15-89 well pumped 55 BO, 7 BW & 30 MCFGPD in 24 hrs. (Potential test).