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-101
Revised February 10, 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	2 OGRID Number
Marathon Oil Company P.O. Box 552 Midland, Texas 79702	014021
	3 API Number 30-0 25-06689

4 Property Code	5 Property Name	6 Well Number
6399	Dayton Hardy	3

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
J	20	21-S	37-E		1980	South	1980	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	10 Proposed Pool 2
Blinebry Oil & Gas	Drinkard

11 Work Type Code	12 Well Type Code	13 Cable/Rotary	14 Lease Type Code	15 Ground Level Elevation
A	Oil	R	P	3495
16 Multiple	**17 Proposed Depth**	**18 Formations**	**19 Contractor**	**20 Spud Date**
Yes	6677		Unknown	Upon Approval

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
No	Change.	See	Completion	Report	

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 Co is proposing to recomplete this well in the Blinebry & Drinkard. After testing the Drinkard, it will be isolated by a RBP while the Blinebry is recompleted and tested. A downhole commingle permit will then be submitted after sufficient testing to allow for simultaneous production of both zones. A detailed workover procedure is attached.

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

Signature: Thomas M Price
Printed name: Thomas M. Price
Title: Adv. Eng. Tech.
Date: 3/1/95
Phone: 915/687/8324

OIL CONSERVATION DIVISION

Approved by: ORIGINAL SIGNED BY GARY WINK
Title: FIELD REP. II
Approval Date: MAR 03 1995
Expiration Date:
Conditions of Approval:
Attached ☐

WORKOVER PROCEDURE

DAYTON HARDY C NO. 3
1,980' FSL and 1,980' FEL
Section 20, T-21-S, R-37-E
Lea County, New Mexico

AFE No.: 652595

Date: February 7, 1995

Estimated Cost: $200,000

Purpose: Cement squeeze Penrose Skelly Formation and recomplete to Blinebry/Drinkard Formations.

Elevation: 3,506' KB 3,495' GL

Drillers TD: 6,677'

PBTD: 5,330'. CIBP @ 5,350' w/2 sx cmt.

Surface Casing: 13-3/8", 48# casing at 299'. Cemented with 250 sks.

Intermediate Casing: 8-5/8", 32#, casing at 2,787'. Cemented with 1,200 sks. Circulated cement to surface.

Production Casing: 5-1/2", 17#, casing at 6,622'. Cemented with 750 sks 80% Burst - 4,256 psi.

Tubing: 2-3/8", 4.7#, production tubing at 3,848' with a SN at 3,847'.
Rod String/Pump: 3/4" rods w/a 2" * 1-1/4" * 12' insert pump.

Existing Perforations: Penrose Skelly (1 JSPF) 3,709'-10', 12', 14', 16', 18', 22', 24', 25', 32', 33', 34', 43', 87', 89', 91', 93', 95', 3,818', 19', 20', 22' (22 holes)

Abandoned Open Hole Interval: 6,622'-6,677'

Anticipated Bottom Hole Pressure: Drinkard - 1,000 psi
Blinebry - 1,000 psi

Safety Considerations: Run sufficient amount of killstring during any extended shut-in period.
3-1/2", 9.3#, N-80 workstring (80% burst = 8,130 psi)
2-3/8", 4.7#, J-55 Tubing (80% burst - 6,159 psi)

1. Inspect surface location and improve if necessary. Test safety anchors to 22,500#.

2. MIRUPU. Kill well as necessary with produced water.

3. Disconnect surface equipment. Hang off pumping unit. Laydown polish rod. Install rod BOPs. POOH w/3/4" rod string and 2" * 1-1/4" * 12' insert pump.

4. ND wellhead. NU 7-1/16" 3M hydraulic BOPE w/2-3/8" pipe rams with two valves below blind rams.

5. POOH with 2-3/8" production tubing. Visually inspect tubing and replace as necessary.

6. PU 2-3/8" * 5-1/2" cup type RBP. RIH and set RBP at approximately 100'. POOH with tubing and setting tool. Pressure test blind rams to 2,000# psi with produced water. RIH with 5-1/2" tension packer. Set packer at ± 80'. Pressure test pipe rams to 2,000# psi with produced water. Release packer and POOH, laying down packer. RIH with BP retrieving tool. Latch onto RBP at ± 100'. Release BP and POOH, laying down BP.

7. PU 2-3/8" production tubing, 4-3/4" bit and 5-1/2" casing scraper. RIH and tag PBTD at 5,330'. POOH, laying down bit and scraper.

8. PU 5-1/2" squeeze packer. RIH with packer and 2-3/8" tubing. Set packer at ± 5,300'. Pressure test CIBP to 1,000 psi with produced water. Release packer and PUH to ± 3,650'. Reset packer at ± 3,650'. Pressure test 5-1/2" casing to 1,000 psi. Establish rate into Grayburg perforations from 3,709'-3,820' with produced water. Report injection rates and pressures to the Midland Operations Drilling Department. Release packer and POOH with workstring and packer.

9. RIH with 2-3/8" workstring and 5-1/2" cement retainer. Set cement retainer at ± 3,650'. Cement squeeze Grayburg perforations 3,709'-3,820' as per service company recommendation. Sting out of retainer and reverse circulate cement from 2-3/8" workstring. POOH with 2-3/8" workstring.

10. RIH with 4-3/4" bit, 4 - 3" drill collars and 2-3/8" workstring. Tag cement retainer at ± 3,650'. PU power swivel. Drill out cement retainer and cement to ± 5,350'. Pressure test cement squeeze to 1,000 psi. Drill out CIBP at ± 5,350'. L/D power swivel. TIH and tag TD at ± 6,677'. Attempt to reverse circulate hole clean with 2% KCl water. Spot 250 gals double inhibited 15% NEFE acid. POOH, laying down bit and collars.

11. Install 7-1/16" 3M frac valve. RU electric line company and lubricator. Pressure test lubricator to 1,000 psi. RIH with 3-1/8" casing guns. Selectively perforate Drinkard formation with 2 JSPF 120° phasing at 6,479'-82', 6,492'-97', 6,503'-07', 6,510'-18', 6,523'-26', 6,532'-46', 6,552'-58', 6,562'-66', 6,568'-71', 6,582'-84', 6,586'-92' (116 holes). (GR-CCL log to be used for on depth correlation.) RD electric line company, lubricator and frac valve.

12. RIH with 4-3/4" bit and 5-1/2" casing scraper to ± 6,600'. POOH.

13. RIH with mechanical collar locator, 5-1/2" , 15.5# Pin Point Injection Packer (w/5' spacing), and 1.78" seating nipple on 2-3/8", J-55 tubing to ± 6,000'. Set PPI packer. Drop 1.78" standing valve and pressure test tubing to 5,000 psi. Retrieve standing valve with sand line.

14. Drop PPI standing valve. Pressure test PPI packer to ± 1,000 psi. Unset PPI packer. Drop fluid control valve. Function test fluid control valve w/2% KCl water. RU acid company. Pressure test surface lines to 5,500 psi. Spot 15% NEFE acid to PPI packer. Set PPI packer at 6,595'. PUH treating perforations from 6,592'-6,479' with 50 gals/ft for a total treatment volume of 3,000 gals.

15. Release PPI packer. PUH to ± 6,400' and set PPI packer. RIH with sand line and retrieve fluid control valve. RIH with sand line and retrieve standing valve. Acidize Drinkard formation from 6,479'-6,677' w/5,000 gals of 15% NEFE acid at 5 to 8 BPM. Flush with 1,235 gals of 2% KCl water.

16. RU swab equipment. Swab back well to recover spent acid load (a total of 190 bbls). RD swab equipment.

17. RU slickline company and lubricator. Pressure test lubricator to 1,000 psi. RIH with Amerada bomb and set in SN at ± 6,400'. Record static BHP. Leave well SI overnight. RD slickline company and lubricator.

18. RU slickline company and lubricator. Pressure test lubricator to 1,000 psi. Retrieve Amerada bomb from SN at ± 6,400'. RD slickline company and lubricator.

19. RU 7/-1/16" 3M frac valve, electric line company and lubricator. Pressure test lubricator to 1,000 psi. RIH with 3-1/8" guns and selectively perforate Blinebry formation with 2 JSPF, 120° phasing at 5,586'-90', 5,600'-10', 5,620'-35', 5,648'-52', 5,665'-80', 5,774'-85', 5,805'-10', 5,815'-20', 5,830'-35', 5,858'-62' (156 holes). (GR-CCL to be used for on-depth correlation.) RD electric line company, lubricator and frac valve.

20. RU hydrotesters. PU 3-1/2" workstring. Install 3-1/2" pipe rams and test to 2,000#. RIH with 5-1/2" RBP, 5-1/2" treating packer and 3-1/2", 9.3#, N-80 workstring to 6,200', hydrotesting to 8,000 psi. RD hydrotesters. Set RBP at ± 6,200'. POOH and set 5-1/2" treating packer at ± 6,190'. Pressure test RBP to 1,000 psi. Release packer and spot 10' of sand on RBP to ± 6,190'.

21. RU acid company. Spot 275 gals of 15% double inhibited NEFE acid across perforations 5,586'-5,862'. POOH with 3-1/2" workstring and set packer at ± 5,520'. Pressure test casing, 3-1/2" pipe rams and packer to 1,000 psi with 2% KCl water.

22. Install 3" treating lines and 3" frac valve. Acidize Blinebry perforations 5,586'-5,960' with 3,000 gals of 15% NEFE acid and 240 1.3 SG ball sealers at 3 to 4 BPM. Flush to bottom perf with 2,400 gals of 2% KCl water. RD acid company.

23. Release 5-1/2" treating packer at ± 5,520'. RIH and knock ball sealers from perforations 5,586'-5,862'. POOH and reset packer at ± 5,520'. Pressure test casing and packer to 500 psi with 2% KCl water.

24. RU stimulation company. Install 3" frac valve and 3" treating lines. Pressure test lines to 9,000 psi. Install pop off valves set at 2,000# on casing valves. Sand fracture stimulate Blinebry perforations 5,586'-5,862' as per service company recommendation. Anticipated treating pressure = 6,500 psi. Maximum treating pressure - 8,000 psi. Flush to top perf with 70 quality CO_2 foam. RD stimulation company.

25. Install flowback manifold. Flow well back to frac tank or pit to recover load or until well dies.

26. RU swab equipment. Swab back remaining frac load. RD swab equipment. RIH with sinker bar on sand line and check for fill.

27. Release 5-1/2" treating packer and POOH with 3-1/2" workstring, laying down. Install 2-3/8" pipe rams and test to 2,000#. If sand is encountered RIH w/2-3/8" production tubing, a 4-3/4" bit and a bull dog bailer. Clean out sand on RBP at ± 6,200'. Otherwise proceed to next step.

28. RIH with mud anchor, a 1.78" SN, 7 - jts of 2-3/8" production tubing, a 5-1/2" TAC, and 2-3/8" production tubing to ± 5,724' with TAC at ± 5,520'. Set 5-1/2" TAC at ± 5,520'.

29. ND BOPE. NU wellhead. Install rod BOPs. RIH with a 2" * 1-1/4" rod pump on API rod string. Space out plunger. Connect surface equipment.

30. Set condition II pumping unit.

31. Hang well on and start well pumping to production facilities. Monitor production and producing fluid levels.

32. Wait on NMOCD downhole-commingling permit approval.

33. MIRUPU. Kill well as necessary with 2% KCl water. Disconnect surface equipment. Hang well off and lay down polish rod.

34. Release TAC and POOH with rod string and 1-1/4" IP.

35. ND wellhead. NU 7-1/16" 3M hydraulic BOPE with 2-3/8" pipe rams with two valves below blind rams. Test BOPE to 2,000#.

36. Release tubing anchor and POOH with 2-3/8" production tubing. RIH with 4-3/4" bit and bull dog bailer on 2-3/8" production tubing. Clean out sand on top of RBP at ± 6,200'. POOH laying down bailer and 4-3/4" bit.

37. RIH with BP retrieving tool. Latch onto RBP at ± 6,200'. Release BP and POOH, laying down RBP.

38 RIH with mud anchor, a 1.78" SN, 33 jts of 2-3/8" production tubing, a 5-1/2" TAC and 2-3/8" production tubing to ± 6,536' with TAC at ± 5,520'. Set 5-1/2" TAC at ± 5,520'.

39. ND BOPE. NU wellhead.

40. RIH with 1-1/4" IP on API rod string. Space out plunger. Hang well on.

41. Reconnect surface equipment. Start well pumping to production facilities. Monitor production and producing fluid levels.

APPROVALS:

_____

S. C. Curtis
Operations Engineering Supervisor

_____

T. B. Arnold
Drilling Superintendent

xc: R. D. Gaddis
D. B. Eddins
M. T. Wiskofske
Well File

RECOMMENDED SAND FRACTURE STIMULATION (BLINEBRY) FOR THE DAYTON HARDY C NO. 3

Plan to sand fracture stimulate Blinebry perforations from 5,586-5,862' via 3-1/2", 9.3#, N-80 workstring (5-1/2" packer at ±5,520') at 35 BPM with an anticipated treating pressure of 6,500 psi. (Maximum surface pressure is 8,000 psi.)

1. Hold pre-job safety meeting. All treating and bleed off lines are to be staked and secure. Pressure test fluid and CO_2 lines to 9,000 psi.

2. Perform 70 quality CO_2 sand frac as follows:

TOTAL VOL (GALS)	LIQUID VOLUME (GALS)	LIQUID RATE (BPM)	CO_2 RATE (BPM)	PROP CONC (PPG)	TOTAL SAND (LBS)
15,000	15,000	10.5	22.6	0	0
3,000	941	10.5	21.4	1	3,000
6,000	1,963	10.5	20.1	2	15,000
7,000	2,386	10.5	19.0	3	36,000
7,000	2,481	10.5	18.0	4	64,0000
6,000	2,429	11.5	16.4	5	94,000
6,000	2,824	12.9	14.2	6	130,000
2,000	1,000	17.5	17.0	0	130,000

TOTAL: 50,000 Gallons of 70 Quality CO_2 Foam
20,000 Gallons of 40# Linear-Gelled 2% KCl water
130,000 lbs of 16/30 Brady sand
150 tons of CO_2 (Including cool down)

20,000 Gallons (476 bbls) of 40# linear gelled 2% KCl water to contain per 1,000 gallons:

40# gelling agent (J-4L)
5.0 Gallons Foaming Agent (Frac Foam 2)
2.0# B-11 Gel Breaker
167# KCl
1.0 Gallon Surfactant (Nine-40)
0.3# Bacteriacide (Frac-Cide 20)
10# PH Buffer (CW-1)
2.0# Ultra Perm Gel Breaker (C.R.B.)

MARATHON OIL COMPANY TO PROVIDE FOR TREATMENT

* 1 - 500 Bbl coated frac tank (steam cleaned)
* 20,000 Gallons of fresh water

STIMULATION COMPANY SHOULD PROVIDE FOR TREATMENT

150 tons of CO_2 and booster pump for 0 - 35 BPM
130,000 lbs 16/30 sand
Pumping and blending equipment for 35 BPM at 8,000 psig
3" treating line and frac valve
Foamer and Foam pump
Adequate Breaker Pumps
Frac Van
Frac Tank Strap
Appropriate Gel Breaker

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	[2] Pool Code	[3] Pool Name
30-025-06689	19190	Drinkard

[4] Property Code	[5] Property Name	[6] Well Number
6399	Dayton Hardy	3

[7] OGRID No.	[8] Operator Name	[9] Elevation
014021	Marathon Oil Company	GL:3495

[10] Surface Location

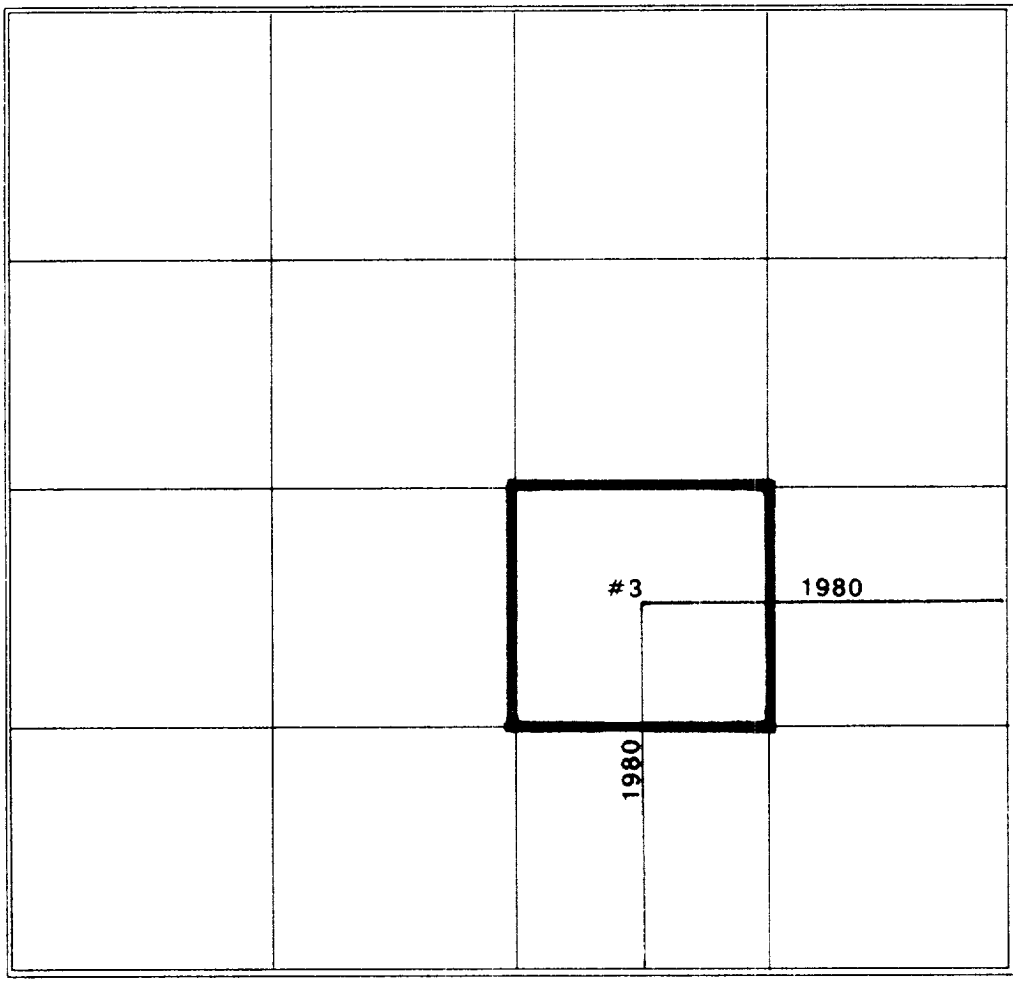
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	20	21-S	37-E		1980	South	1980	East	Lea

[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			

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.

Thomas M Price

Signature
Thomas M. Price
Printed Name
Adv. Eng. Tech.
Title
3/1/95
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 Surveyer:

Certificate Number

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	[2] Pool Code	[3] Pool Name
30-025-06689	6660	Blinebry Oil & Gas

[4] Property Code	[5] Property Name	[6] Well Number
6399	Dayton Hardy	3

[7] OGRID No.	[8] Operator Name	[9] Elevation
014021	Marathon Oil Company	GL:3495

[10] Surface Location

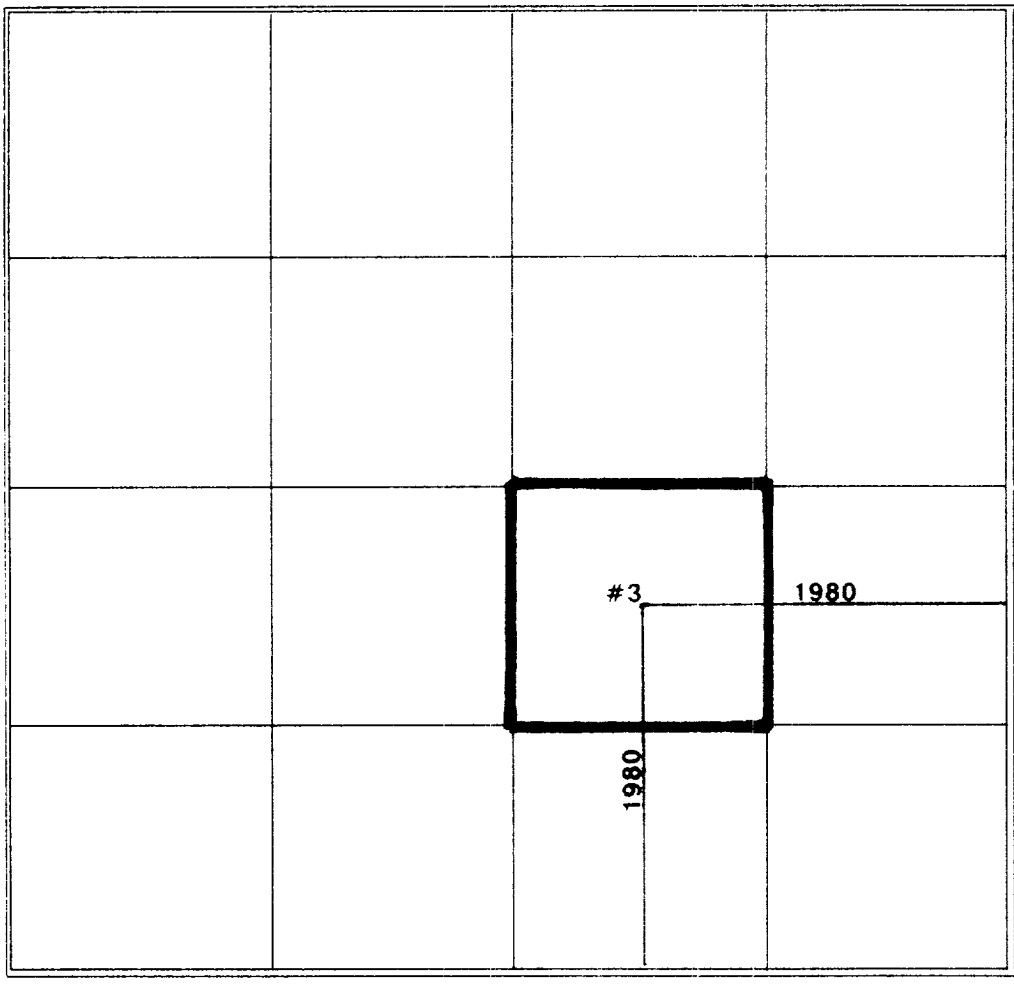
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
J	20	21-S	37-E		1980	South	1980	East	Lea

[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			

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.

Signature

Thomas M. Price
Printed Name

Adv. Eng. Tech.
Title

3/1/95
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 Surveyer:

Certificate Number

RECEIVED
OSD RECORDS
OFFICE