

DATE IN	SUSPENSE	ENGINEER <i>WVSJ</i>	LOGGED IN <i>3/5/07</i>	TYPE <i>DHC</i>	APPROVAL NO. <i>0707162483</i>
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau

1220 South St. Francis Drive, Santa Fe, NM 87505



### ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

#### Application Acronyms:

**[NSL-Non-Standard Location]** **[NSP-Non-Standard Proration Unit]** **[SD-Simultaneous Dedication]**  
**[DHC-Downhole Commingling]** **[CTB-Lease Commingling]** **[PLC-Pool/Lease Commingling]**  
**[PC-Pool Commingling]** **[OLS - Off-Lease Storage]** **[OLM-Off-Lease Measurement]**  
**[WFX-Waterflood Expansion]** **[PMX-Pressure Maintenance Expansion]**  
**[SWD-Salt Water Disposal]** **[IPI-Injection Pressure Increase]**  
**[EOR-Qualified Enhanced Oil Recovery Certification]** **[PPR-Positive Production Response]**

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement  
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify \_\_\_\_\_
- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached
- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

*Charles E. Kendrick*  
 Print or Type Name

*Charles E. Kendrick*  
 Signature

*Reg Compliance Rep*  
 Title

*2/29/07*  
 Date

*cekendrix@marathonoil.com*  
 e-mail Address

District I  
1625 N. French Drive, Hobbs, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107A  
Revised June 10, 2003

District II  
1301 W. Grand Avenue, Artesia, NM 88210

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

APPLICATION TYPE  
☒ Single Well  
☐ Establish Pre-Approved Pools  
EXISTING WELLBORE  
☒ Yes ☐ No

District III  
1000 Rio Brazos Road, Aztec, NM 87410

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

APPLICATION FOR DOWNHOLE COMMINGLING

Marathon Oil Company P.O. Box 3487 Houston, Texas 77252-3487  
Operator Address  
Lease #3 K-27-215-37E DHC-3860  
Well No. Unit-Letter-Section-Township-Range County  
OGRID No. 14021 Property Code 6428 API No. 30-025-06820 Lease Type: ☐ Federal ☒ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Penrose Skelly GB		Paddock
Pool Code	50350		49210
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	3688' - 3940'		5126' - 5176'
Method of Production (Flowing or Artificial Lift)	Pumping		Pumping
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	—		—
Oil Gravity or Gas BTU (Degree API or Gas BTU)	36.6		38.0
Producing, Shut-In or New Zone	Producing		Shut In
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: 02/27/07 Rates: oil Gas water 7.81 53 31	Date: Rates:	Date: 01/11/05 Rates: oil Gas water 2.32 43 11.5
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 54 % 55 %	Oil Gas % %	Oil Gas 46 % 45 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes ☒ No ☐  
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? N/A Yes ☐ No ☐

Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ☐

Will commingling decrease the value of production? Yes ☐ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? N/A Yes ☐ No ☐

NMOCD Reference Case No. applicable to this well: \_\_\_\_\_

Attachments:

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

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

SIGNATURE Charles E. Kendrix TITLE Reg. Compliance Rep DATE 3/01/07

TYPE OR PRINT NAME Charles E. Kendrix TELEPHONE NO. ( 713 ) 296-2096

E-MAIL ADDRESS cckendrix@marathonoil.com

# OIL CONSERVATION DIVISION

**P.O. Box 2088**

**Santa Fe, New Mexico 87504-2088**

## DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

## DISTRICT II

**DISTRICT II**  
P.O. Drawer DD, Artesia, NM 88210

## DISTRICT II

1000 Rio Brazos Rd., Aztec, NM 87410

# WELL LOCATION AND ACREAGE DEDICATION PLAT

**All Distances must be from the outer boundaries of the section**

Operator Marathon Oil Company			Lease W. S. Marshall "B"		Well No. 3
Unit Letter K	Section 27	Township 21-S	Range 37-E	NMPM	County Lea
Actual Footage Location of Well:					
1980 feet from the South line and		1980 feet from the West line			
Ground level Elev. 3410'			Producing Formation Paddock		Pool Paddock
					Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation \_\_\_\_\_  
If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

<p>A survey grid with a 4x4 layout of squares. The grid is divided into four 2x2 quadrants by a horizontal and vertical dashed line. In the middle-left square, the text '1980' is handwritten. In the bottom-right square, the text '1980'' is handwritten. Below the grid is a scale bar with markings from 0 to 3000 feet in increments of 300.</p>	<b>OPERATOR CERTIFICATION</b> <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i>	
	Signature <i>Thomas M. Price</i>	
	Printed Name Thomas M. Price	
	Position Advanced Engineering Tech	
	Company Marathon Oil Company	
	Date 5/19/92	
	<b>SURVEYOR CERTIFICATION</b> <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 knowledge and belief.</i>	
	Date Surveyed	
	Signature & Seal of Professional Surveyor	
	Certificate No.	

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

Form C-102  
Revised June 10, 2003

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-06820</b>		<sup>2</sup> Pool Code <b>50350</b>		<sup>3</sup> Pool Name <b>Petrose Shelly Grayburg</b>	
<sup>4</sup> Property Code <b>006428</b>		<sup>5</sup> Property Name <b>W. Marshall B</b>			<sup>6</sup> Well Number <b>3</b>
<sup>7</sup> OGRID No. <b>14021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>3410'</b>

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>K</b>	<b>27</b>	<b>21S</b>	<b>37E</b>		<b>1980</b>	<b>South</b>	<b>1980</b>	<b>West</b>	<b>Lea</b>

<sup>11</sup> Bottom Hole Location If Different From Surface

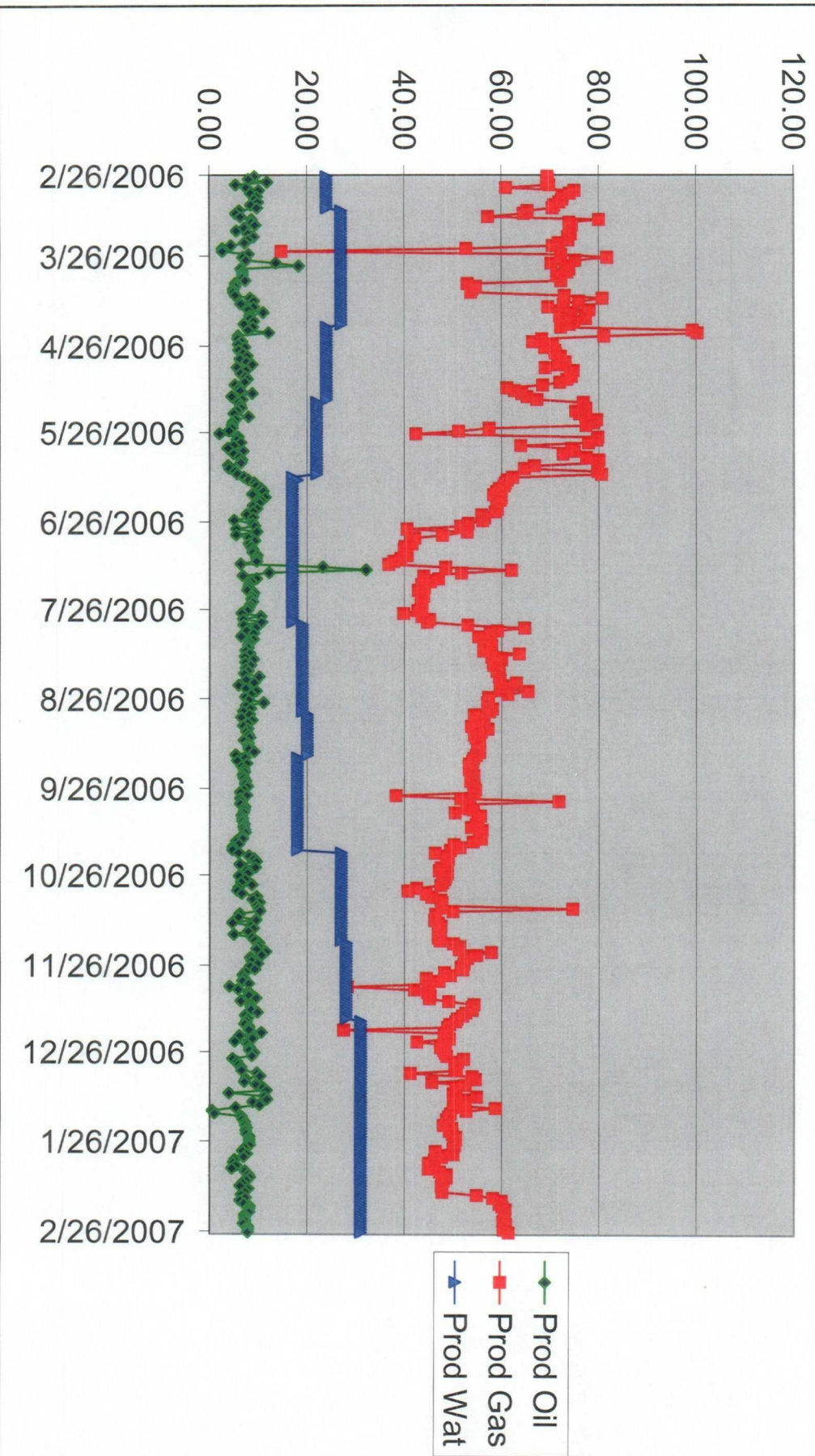
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres <b>40</b>	<sup>13</sup> Joint or Infill <b>N</b>	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

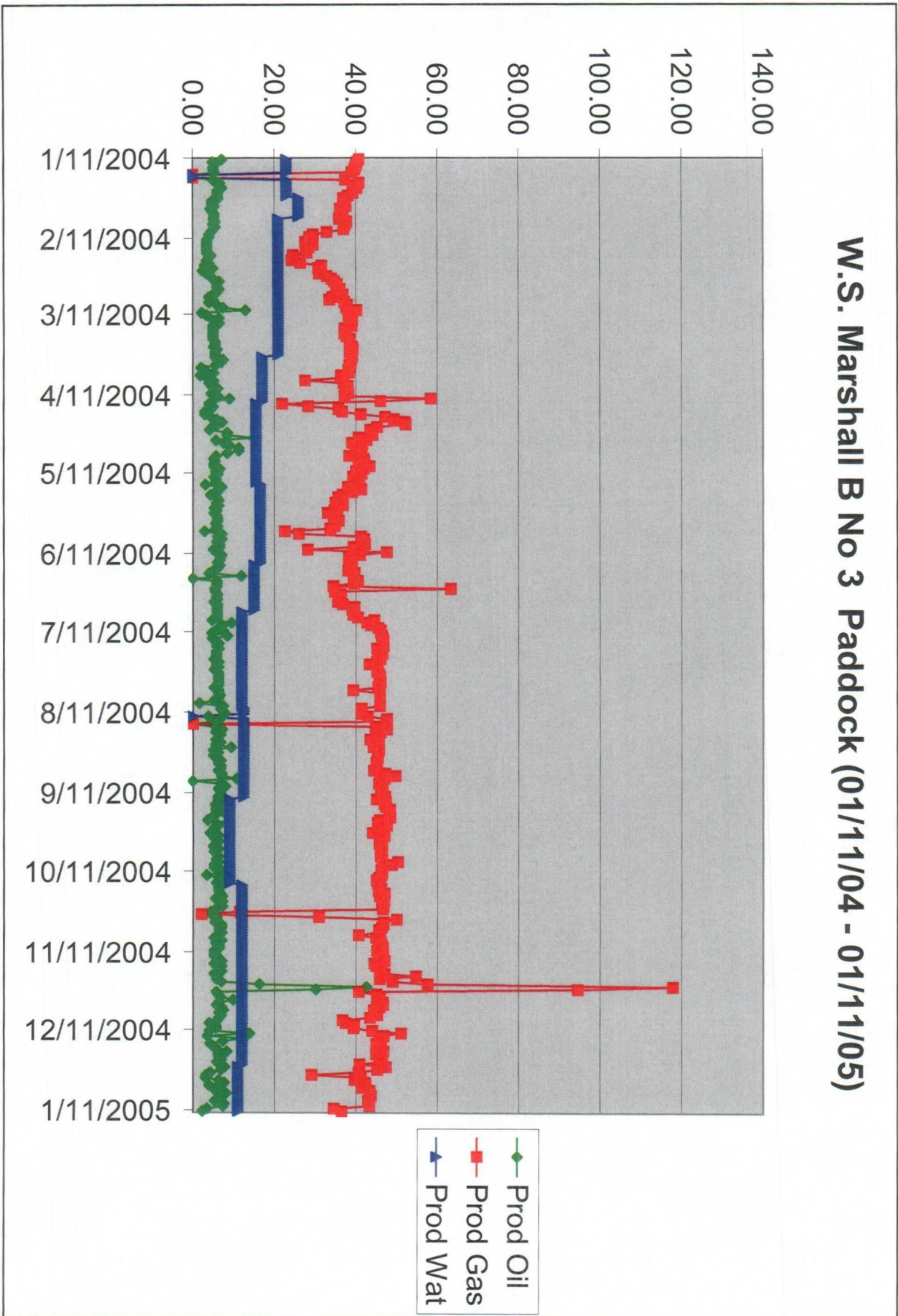
<sup>16</sup> 	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Charles E. Kendrick Printed Name Engineering Technician cekendrix@marathonoil.com Title and E-mail Address 02/08/2005 Date			
	<sup>18</sup> 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			

**W.S. Marshall B No 3 Grayburg Production (02/26/06 - 02/26/07)**





**W.S. Marshall B No 3 Paddock (01/11/04 - 01/11/05)**



# **W.S. Marshall B No 3** **Downhole Commingle** **Grayburg and Paddock Formations**

The production graphs for the two formations in this well are included with this filing. The request to combine the completions in a downhole commingle wellbore is our attempt to make the well more economically viable to produce for a longer period of time.

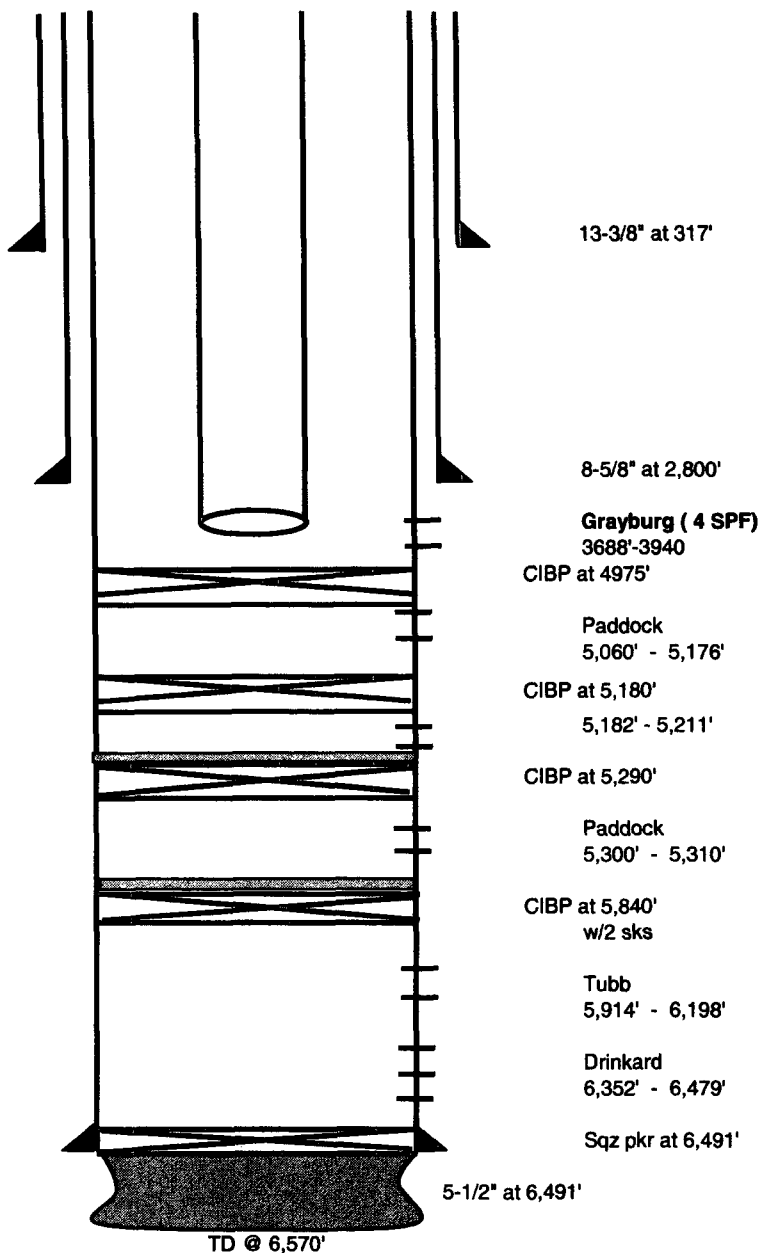
The Paddock completion was first brought on production on 06/08/1992 and was taken out of production on 01/11/2005 in order to re-complete the well to the Grayburg formation. The Paddock formation has three sets of perforations that are isolated with three cast iron bridge plugs. It is our intention to only commingle the upper set of Paddock perforations at 5060' to 5176'. The two lower sets of perforations will remain isolated below bridge plugs. A wellbore diagram is included with this package to show the various perforation intervals in the well.

The Grayburg formation was brought on production on 02/04/2005 and is currently still producing as a single well completion.

The allocation percentages for the downhole commingled well bore was derived by using average daily production for the last thirty days of production for each pool as follows:

	Oil	Gas	Water
Paddock	6.06	42.92	11.52
Grayburg	<u>7.08</u>	<u>52.65</u>	<u>31.00</u>
Totals	13.14	95.57	42.52

Percentages	Oil	Gas	Water
Paddock	$6.06/13.14 = .4612$ (46%)	$42.92/95.57 = .4491$ (45%)	$11.52/42.52 = .2709$ (27%)
Grayburg	$7.08/13.14 = .5388$ (54%)	$52.65/95.57 = .5509$ (55%)	$31.00/42.52 = .7290$ (73%)



**Field:** Drinkard

**Lease & Well:** WS Marshall B Well No. 3

**Location:** Unit K, 1,980' FSL & 1,980' FWL  
Section 27, T-21-S, R-37-E

**County & State:** Lea County, New Mexico

**Status:** Active pumping well

**TD:** 6,570' **PBTD:** 5,176' **KB:** 3,422' **GL:** 3,410'

**Surface Casing:** 13-3/8", 48#, H-40 casing  
set @ 317'. Cmt'd w/250 sks.

**Intermediate Casing:** 8-5/8", 32#, J-55 casing  
set @ 2,800'. Cmt'd w/1,500 sks. Circ'd

**Production Casing:** 5-1/2", 15.5# casing  
set @ 6,491'. Cmt'd w/500 sks.  
TOC @ 2,200'

**Tubing:**

**History:**

**1947** - Drilled and completed as Drinkard producer  
**1975** - Abandoned openhole Drinkard  
Produced from Drinkard perforated interval  
**1977** - Completed to Tubb. Dualled w/Drinkard  
**1989** - Added pay in Drinkard & Tubb  
**1991** - Downhole Commingled Drinkard & Tubb  
**1992** - Recompleted to Lower Paddock  
Three months later - Added Upper Paddock  
**2005**- Recomplete GR

1/24/2005: run GR/CCL 3370'- 5000'. Set CIBP @ 4975'. Perf Grayburg formation 176 holes 90 degree phase (3692-3940

1/25/2005: Acidize with 4500 gals of 15% HCL @ 10 BPM.

1/29/2005: Hydraulic frac Grayburg with: 36k # of 16/30 sand , and 42k gals of Delta Frac gel.Down Frac TBG 3 1/2" OD.

GR perforations:

3937	to	3940
3889	to	3892
3875	to	3880
3861	to	3865
3815	to	3822
3827	to	3835
3779	to	3783
3757	to	3760
3715	to	3718
3688	to	3692