

DHC 5/3/99

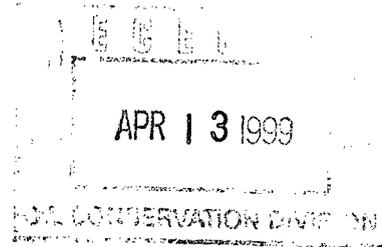
Houston Division  
Production Operations, United States



P.O. Box 2490  
Hobbs, New Mexico 88240  
Telephone 505/393-7106

April 12, 1999

Mr. David Catanach  
Oil Conservation Department  
Energy and Minerals Department  
P.O. Box 2088  
Santa Fe, New Mexico 87501



**RE: Request for Exception to Rule 303-A**  
**Downhole Commingling**  
**Lou Worthan Well No. 14**  
**Unit Letter A, 520' FNL & 330' FEL**  
**Section 11, T-22-S, R-37-E**  
**Tubb Oil & Gas, Drinkard and Wantz Abo Pools**  
**Drinkard Field**  
**Lea County, New Mexico**

**RE: Request for Exception to Rule 104**  
**Application for Non-Standard Gas Well Location**  
**and a Non-Standard Gas Proration Unit for the Tubb Oil & Gas Pool**  
**Lou Worthan Well No. 14**  
**Unit Letter A, 520' FNL & 330' FEL**  
**Section 11, T-22-S, R-37-E**  
**Lea County, New Mexico**

Dear Mr. Catanach:

Marathon Oil Company request administrative approval for an exception to Rule 303-A to permit the downhole commingling of production in the above subject well from the Tubb Oil & Gas, Drinkard and Wantz Abo pools in Lea County, New Mexico. The Tubb, Drinkard and Granite Wash have been downhole commingled since 1994 (DHC-1019). Marathon petition to amend the existing DHC order to exclude the Granite Wash and add the Abo. If the actual production allocation percentages are significantly different that the estimated ones used in this application, Marathon will reapply with the correct allocation percentages.

Marathon Oil Company respectfully request authorization for a 40 acre Non-Standard Gas Proration Unit for the Tubb Oil & Gas Pool Production. This proposed proration unit will be comprised of the NE portion of the NE/4 of Section 11, T-22-S, R-37-E in Lea County, New Mexico. The gas proration unit will be for Lou Worthan Well No. 14 (API No. 30-025-25255) in the Tubb Oil & Gas pool. This well is flanked on the West and South by Tubb oil wells and Marathon does not have the acreage to the East or North.

Marathon Oil Company request administrative approval for a Non-Standard Gas Well Location for the Tubb Oil & Gas Pool Production. This Tubb well had been an oil well since 1987, but due to an increase in the Gas-Oil-Ratio it has become a gas well. The well location does not conform to a standard gas well location, thus a need for a non-standard location order is needed to continue to produce this pool.

Marathon Oil Company request to reclassify the Tubb Oil & Gas and Drinkard zones for Lou Worthan Well No. 14, from an oil well to a gas well. Due to the recent increase in Gas-Oil-Ratio for these two pools, they now have a Gas-Oil Ratio that indicates that they are now producing as a gas well.

The Lou Worthan Well No. 14 was drilled and completed in 1976 as a Granite Wash oil well. In 1978, it was dually completed in the Granite Wash (oil) and Drinkard (gas). A single Tubb (oil) completion was performed in 1987, thus abandoning the Granite Wash and Drinkard. The Tubb, Drinkard and Granite Wash were downhole commingled in 1994 (DHC-1019). Currently the well is being completed in the Abo. The Abo is expected to be a marginal gas producer. By downhole commingling the production from the three zones, production will be realized that could not economically justify the cost of equipment to separate the zones. Rod pumping equipment will be utilized to keep the PBHP as low as possible, preventing crossflow when producing.

Marathon also request a 30 day exception to Rule 303-A and Rule 104 to permit the downhole commingling of production while awaiting for approval of application. If application is not approved, then the well will be worked over to comply with approved NMOCD regulations.

Enclosed is pertinent data supporting this application as outlined in Rule 303-A and Rule 104. If additional information is necessary, please contact me at (505) 393-7106, ext 201.

Sincerely,

  
Thomas P. Kacir  
Production Engineer

Enclosure

**REQUEST FOR EXCEPTION TO RULE 303-A**  
**Lou Worthan Well No. 14**  
**Drinkard Field**

**A: Operator**

Marathon Oil Company  
P.O. Box 2490  
Hobbs, New Mexico 88241

**B: Lease Name and Well Number**

Lou Worthan Well No. 14  
Unit Letter "A", 520' FNL & 330' FEL  
Section 11, T-22-S, R-37-E  
Lea County, New Mexico  
Drinkard: Tubb Oil & Gas, Drinkard, Wantz Abo Pools

**C: Plats and Offset Operators**

Attached

**D: C-116's**

Attached

**E: Production Decline Curves**

Attached

**F: Estimated Bottomhole Pressures**

	Current	Original
Tubb Oil & Gas	350 psi	1800 psi
Drinkard	450 psi	2000 psi
Wantz Abo	600 psi	2400 psi

**G: Product Characteristics**

Previous commingling of these zones by Marathon and other operators in this area have shown that the produced fluids are compatible and commingling will not cause formation damage.

**H: Value**

Marathon receives the same price for product from these zones and value will not be adversely affected.

**I: Production Allocation**

<u>POOL</u>	<u>BOPD</u>	<u>MCFD</u>	<u>BWPD</u>	<u>Estimated Methods</u>
Tubb Oil & Gas	1.4	222	3.0	Pre-Workover Production
Drinkard	0.0	46	0.0	Pre-Workover Production
Wantz Abo	<u>1.6</u>	<u>211</u>	<u>2.5</u>	Estimated Post Workover
Total	3.0	479	5.5	

<u>Allocated Percentages</u>	<u>Oil %</u>	<u>Gas %</u>	<u>Water %</u>
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Pre-workover Administrative Order No. DHC-1019

Tubb Oil & Gas	45	68	50
Drinkard	0	14	0
Wantz Abo	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Total	100	100	100

Post-workover utilizing above production

Tubb Oil & Gas	47	46	55
Drinkard	0	10	0
Wantz Abo	<u>53</u>	<u>44</u>	<u>45</u>
Total	100	100	100

**J: Ownership**

Ownership of all zones is common and correlative rights will not be compromised.

**K: Offset Operator Notification**

By copy of this letter we are notifying all offset operators (see list, Item C) of the proposed commingling, by certified mail.

**OFFSETTING OPERATORS**

**Lou Worthan Well No. 14  
UL "A", 520' FNL, 330' FEL  
Section 11, T-22-S, R-37-E  
Lea County, New Mexico  
Drinkard Field**

Section 1: John H. Hendrix Corporation  
P. O. Box 3040  
Midland, Texas 79702-3040

Section 2: Exxon Corporation  
P.O. Box 4697  
Houston, Texas 77210-4697

Section 11: Marathon Oil Company

Section 12: John H. Hendrix Corporation





P.O. Box 2490  
Hobbs, New Mexico 88240  
Telephone 505/393-7106

April 12, 1999

Exxon Corporation  
P. O. Box 4697  
Houston, Texas 77210-4697

RE: **Request for Exception to Rule 303-A**  
**Downhole Commingling**  
**Lou Worthan Well No. 14**  
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**Section 11, T-22-S, R-37-E**  
**Tubb Oil & Gas, Drinkard and Wantz Abo Pools**  
**Drinkard Field**  
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**Unit Letter A, 520' FNL & 330' FEL**  
**Section 11, T-22-S, R-37-E**  
**Lea County, New Mexico**

Ladies and/or Gentlemen:

Marathon Oil Company has filed an application with the New Mexico Oil Conservation division to down-hole commingle the Tubb, Drinkard and Abo. We also filed for a non-standard proration unit & location for the Tubb pool. Please find enclosed a copy of the application.

If you are in agreement and waive all objections to the above listed applications, please sign below and mail the original to the NMOCD in the enclosed addressed envelope. Also, please return one copy to Marathon at the letterhead address.

Sincerely,

A handwritten signature in cursive script that reads 'Thomas P. Kacir'.

Thomas P. Kacir  
Production Engineer

TPK/  
Enclosure

Agreed and accepted this \_\_\_\_\_ day of \_\_\_\_\_ 1999

by \_\_\_\_\_, as representative of \_\_\_\_\_



P.O. Box 2490  
Hobbs, New Mexico 88240  
Telephone 505/393-7106

April 12, 1999

John H. Hendrix Corporation  
P. O. Box 3040  
Midland, Texas 79702-3040

RE: **Request for Exception to Rule 303-A  
Downhole Commingling  
Lou Worthan Well No. 14  
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Sincerely,

*Thomas P. Kacir*  
Thomas P. Kacir  
Production Engineer

TPK/  
Enclosure

Agreed and accepted this \_\_\_\_\_ day of \_\_\_\_\_ 1999

by \_\_\_\_\_, as representative of

State of New Mexico  
Energy, Minerals and Natural Resources Department

# OIL CONSERVATION DIVISION

2040 Pacheco St.  
Santa Fe, NM 87505

Form C-116  
Revised 1/1/89

Submit 2 copies to Appropriate District Office.  
DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240  
DISTRICT II  
811 S. 1st Street, Artesia, NM 88210-2834  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

## GAS - OIL RATIO TEST

Operator <b>Marathon Oil Company</b>		Pool <b>Tubb Oil &amp; Gas / Drinkard</b>		County <b>Lea</b>										
Address <b>P.O. Box 2490 Hobbs, NM 88241</b>		TYPE OF TEST - (X) <input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Tubing Test		Completion <input type="checkbox"/> <input checked="" type="checkbox"/> Special <input checked="" type="checkbox"/> X										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS-OIL RATIO CU.FT./BBL	
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.
Lou Worthan	14	A	11	22S	37E	03/06/99	P		24	6.0		3.0	326	108,667
DHC #1019 X Oil X Gas														
Tubb (011)	45								3.0			1.4	222	158,571
Drinkard	0								0			0	46	N/A
Granite Wash	55								3.0			1.6	58	36,250
<i>For Information only</i>														

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

*Thomas P. Kacir*  
Signature

**Thomas P. Kacir**  
Printed name and title

**Production Engineer**

**4-12-99**  
Date

**505-393-7106**  
Telephone No.

**Instructions:**  
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.  
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 °F.  
Specific gravity base will be 0.60.  
Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

District I  
 PO Box 1980, Hobbs, NM 88241-1980  
 District II  
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 1000 Rio Brazos Rd., Aztec, NM 87410  
 District IV  
 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
 2040 South Pacheco  
 Santa Fe, NM 87505

Form C-102  
 Revised October 18, 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

<sup>1</sup> API Number <b>30-025-25255</b>		<sup>2</sup> Pool Code <b>86440</b>		<sup>3</sup> Pool Name <b>Tubb 011 &amp; Gas (Gas)</b>	
<sup>4</sup> Property Code <b>006488</b>		<sup>5</sup> Property Name <b>Lou Worthan</b>			<sup>6</sup> Well Number <b>14</b>
<sup>7</sup> OGRID No. <b>14021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>3350' GL</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
A	11	22-S	37-E		520	North	330	East	Lea

<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	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. <b>DHC-1019</b>
--	-------------------------------	----------------------------------	--

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

	<p><sup>17</sup> OPERATOR CERTIFICATION  <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p><i>Thomas P. Kacir</i>          Signature  <b>Thomas P. Kacir</b>          Printed Name  <b>Production Engineer</b>          Title  <b>4-12-99</b>          Date</p>
	<p><sup>18</sup> SURVEYOR CERTIFICATION  <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 belief.</i></p> <p>_____          Date of Survey          Signature and Seal of Professional Surveyer:          _____          Certificate Number</p>

State of New Mexico  
Energy, Minerals & Natural Resources Department

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2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-25255</b>		<sup>2</sup> Pool Code <b>19190</b>		<sup>3</sup> Pool Name <b>Dr inkard</b>	
<sup>4</sup> Property Code <b>006488</b>		<sup>5</sup> Property Name <b>Lou Worthan</b>			<sup>6</sup> Well Number <b>14</b>
<sup>7</sup> OGRID No. <b>14021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>3350' GL</b>

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UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
<b>A</b>	<b>11</b>	<b>22-S</b>	<b>37-E</b>		<b>520</b>	<b>North</b>	<b>330</b>	<b>East</b>	<b>Lea</b>

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Energy, Minerals & Natural Resources Department

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OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-25255</b>		<sup>2</sup> Pool Code <b>62700</b>		<sup>3</sup> Pool Name <b>Wantz Abo</b>	
<sup>4</sup> Property Code <b>006488</b>		<sup>5</sup> Property Name <b>Lou Worthan</b>			<sup>6</sup> Well Number <b>14</b>
<sup>7</sup> OGRID No. <b>14021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>3350' GL</b>

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UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
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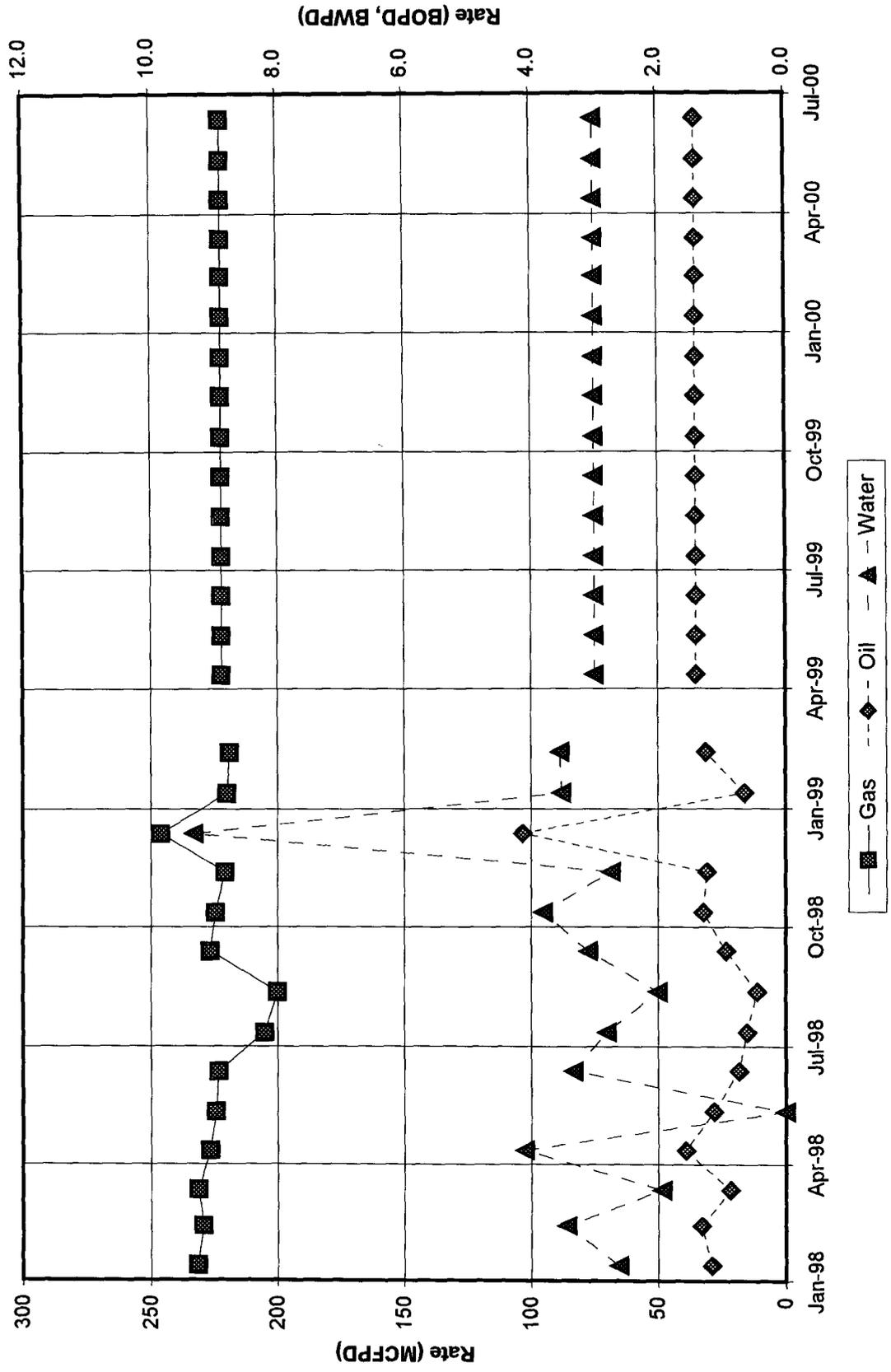
<sup>11</sup> Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres <b>40</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. <b>DHC-1019</b>
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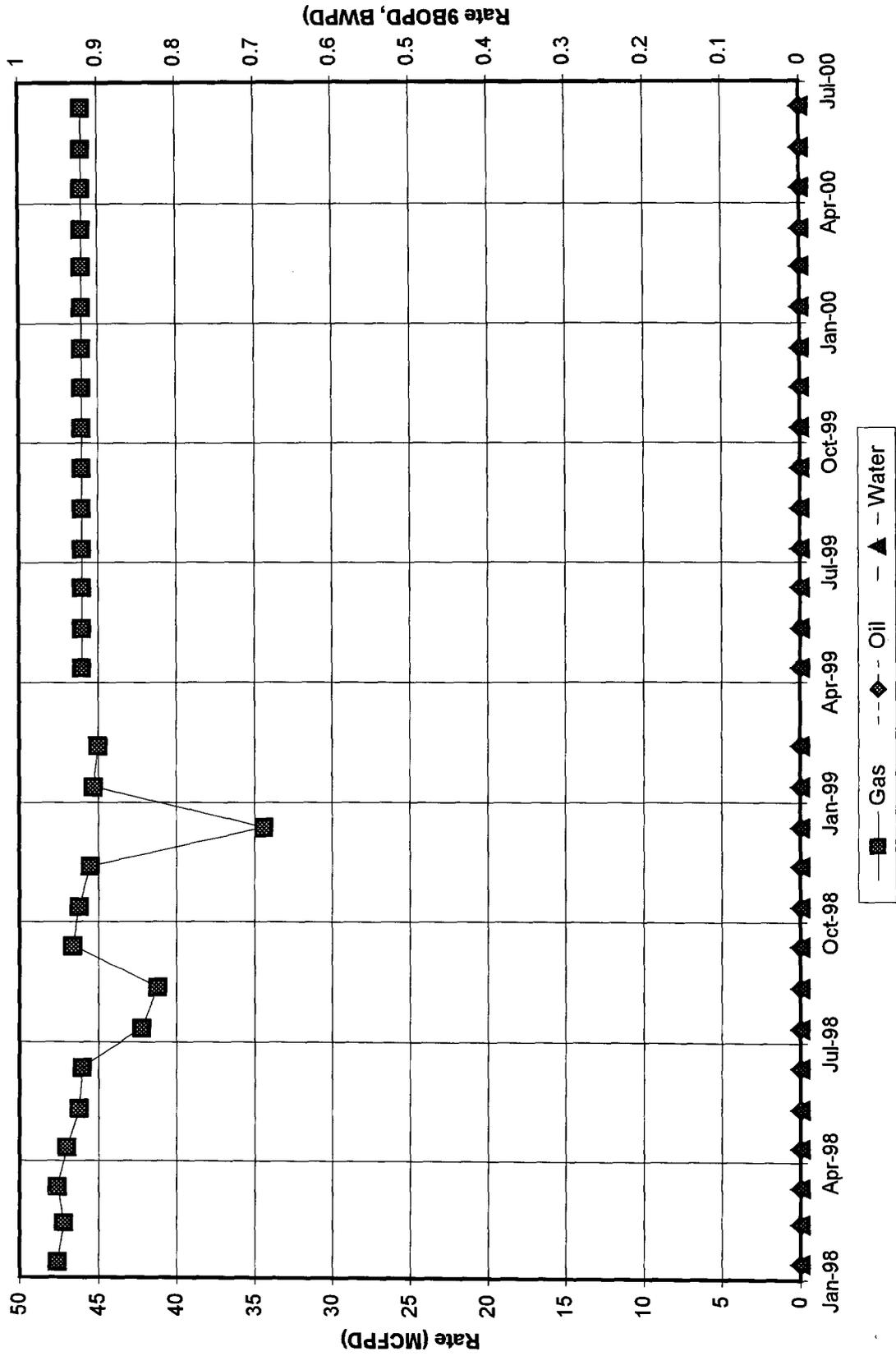
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	<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyer:</p> <p>Certificate Number</p>

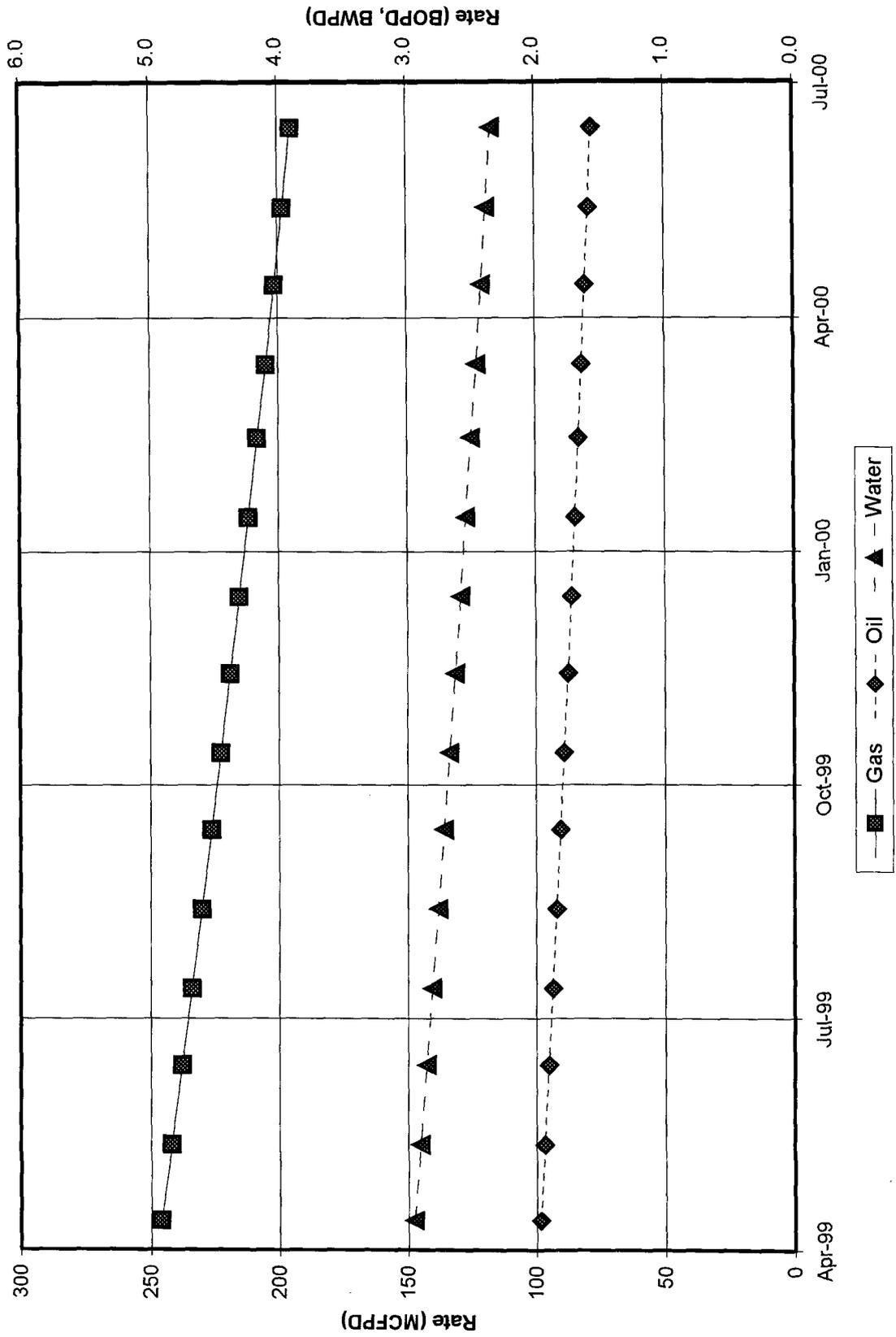
**Lou Worthan Well No. 14**  
**Tubb Oil & Gas Pool Production**



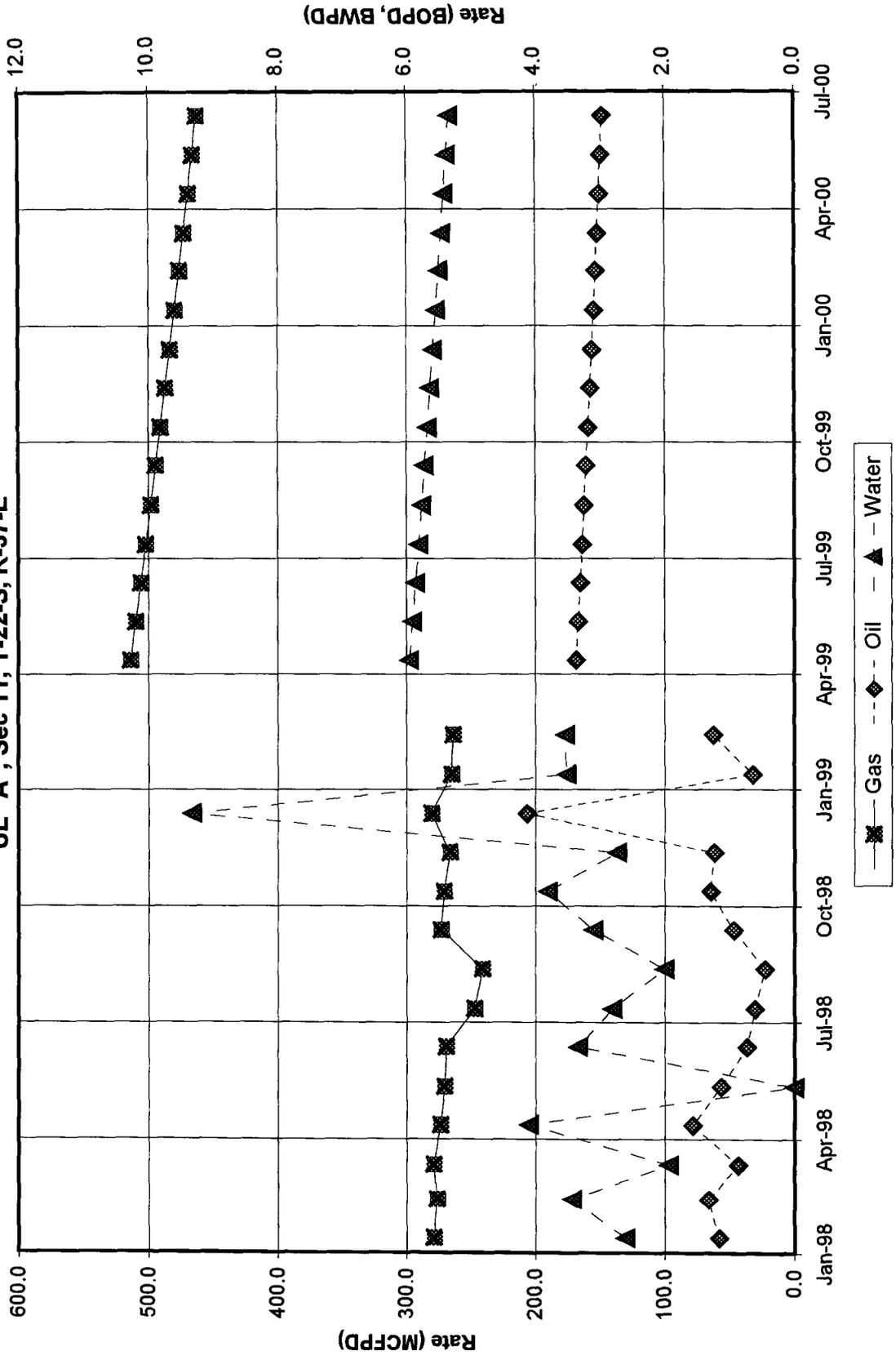
**Lou Worthan Well No. 14  
Drinkard Pool Production**



**Lou Worthan Well No. 14  
Abo Pool Production**



**Lou Worthan #14**  
**Total Expected Production**  
**UL "A", Sec 11, T-22-S, R-37-E**



**DISTRICT I**  
P.O. Box 1980, Hobbs, NM 88240

**DISTRICT II**  
811 South First St., Artesia, NM 88210

**DISTRICT III**  
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107-A  
New 3-12-96

**OIL CONSERVATION DIVISION**

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429

APPROVAL PROCESS:

Administrative  Hearing

EXISTING WELLBORE

YES  NO

**APPLICATION FOR DOWNHOLE COMMINGLING**

Operator Marathon Oil Company Address PO Box 2490 Hobbs, NM 88240

Lessee Lou Worthan Well No. 14 Unit Ltr. - Sec - Twp - Rge UL A, Sec.11, T-22-S, R-37-E County Lea

OGRID NO. 14021 Property Code 6488 API NO. 30-025-25255 Spacing Unit Lease Types: (check 1 or more)  
Federal  State  Land/Orl Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	Tubb Oil & Gas 86440	Drinkard 19190	Wantz Abo 62700
2. Top and Bottom of Pay Section (Perforations)	5788 - 5898'	6224 - 6294'	6556 - 7055'
3. Type of production (Oil or Gas)	Gas	Gas	Gas
4. Method of Production (Flowing or Artificial Lift)	Artificial Lift	Artificial Lift	Artificial Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 350	a. 450 psi	a. 600 psi
	b. (Original) 1800	b. 2000 psi	b. 2400 psi
6. Oil Gravity ( <sup>o</sup> API) or Gas BTU Content	1225	1240	1268
7. Producing or Shut-In?	Producing	Producing	SI
Production Marginal? (yes or no)	Yes	Yes	Expected - Yes
* If Shut-In, give date and oil/gas/water rates of last production <small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data</small>	Date: Rates: N/A	Date: Rates: N/A	Date: Estimated Rates: 1.6/211/2.5
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 3/6/99 Rates: 1.4/222/3	Date: 3/6/99 Rates: 0/46/0	Date: Rates: N/A
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 47 % Gas: 46 %	Oil: 0 % Gas: 10 %	Oil: 53 % Gas: 44 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones?  Yes  No  
If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes  No  
Have all offset operators been given written notice of the proposed downhole commingling?  Yes  No
11. Will cross-flow occur?  Yes  No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable.  Yes  No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other?  Yes  No
13. Will the value of production be decreased by commingling?  Yes  No (If Yes, attach explanation)
14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application.  Yes  No N/A
15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S). DHC No. 1019
16. 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 all offset operators.  
 \* Notification list of working, overriding, and royalty interests for uncommon interest cases.  
 \* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Thomas P. Kacir TITLE Production Eng. DATE 4/12/99

TYPE OR PRINT NAME Thomas P. Kacir TELEPHONE NO. (505) 393-7106



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

4/14/99

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88241-1980  
(505) 393-6161

GOVERNOR

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

RE: Proposed:

- MC \_\_\_\_\_
- DHC \_\_\_\_\_ *4*
- NSL \_\_\_\_\_
- NSP \_\_\_\_\_
- SWD \_\_\_\_\_
- WFX \_\_\_\_\_
- PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

*Marathon Oil Co*      *Lou Worthan*      *#14-A*      *11-225-37e*  
 Operator      Lease & Well No.      Unit      S-T-R

and my recommendations are as follows:

*OK.*

Yours very truly,

Chris Williams  
Supervisor, District 1

/ed