

DHC 11/3/99

Houston Division  
Production Operations, United States

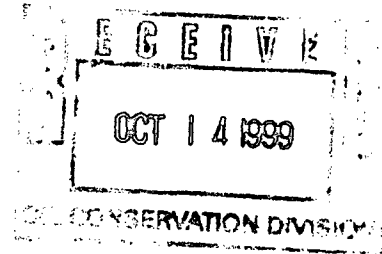


P.O. Box 2490  
Hobbs, New Mexico 88240  
Telephone 505/393-7106

2506

October 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  
Bertha Barber Well No. 16  
Unit Letter K, 2140' FSL & 1650' FWL  
Section 5, T-20-S, R-37-E  
Monument Tubb & Monument Abo  
Monument Field  
Lea County, New Mexico**

Dear Mr. Catanach:

Marathon Oil Company requests administrative approval for an exception to Rule 303-A to permit the downhole commingling of production in the above subject well from the Monument Tubb & Monument Abo pools in Lea County, New Mexico.

Bertha Barber Well No. 16 was drilled in the summer of 1997. The Abo was perforated and acidized. Production since 1997 until now has been from the Abo. A casing leak was recently discovered and a RBP was set above the Abo perfs to isolate them. Currently the casing leak is being repaired. Afterwards, the Tubb will be perforated and stimulated with acid and a sand frac. The Tubb will be tested for 1 months or until approval of DHC application. After this time period, the RBP will be removed and the Tubb and Abo will be DHC. If the production test (Tubb) show that the allocation percentages for the Tubb and Abo are significantly different than that approved, an amended DHC application with the correct percentages will be filed. Rod pumping equipment will be utilized to keep the PBHP as low as possible, preventing crossflow.

The Monument Tubb is an 80 acre unit and will include Bertha Barber Well No. 16 & 18Y. Monument-Tubb Pool rules Order No. R-10128, June 3, 1994, Rule 2, does not prohibit wells on each of the quarter-quarter sections in the unit. The total oil production for both wells from both zones will be approximately 160 BOPD and is significantly below top allowable.

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

Sincerely,

A handwritten signature in cursive script, appearing to read 'T. Roman P. Kacir'.

Thomas P. Kacir  
Production Engineer

Enclosure

**REQUEST FOR EXCEPTION TO RULE 303-A**

**Bertha Barber Well No. 16  
Monument Field**

**A: Operator**

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

**B: Lease Name and Well Number**

Bertha Barber Well No. 16  
Unit Letter K, 2140' FSL & 1650' FWL  
Section 5, T-20-S, R-37-E  
Lea County, New Mexico  
Monument: Monument Tubb, Monument Abo Pools

**C: Plats and Offset Operators**

Attached

**D: C-116's**

Attached

**E: Production Decline Curves**

Expected Decline Curves are Attached

**F: Estimated Bottomhole Pressures**

	Current
Monument Tubb	1800 psi
Monument Abo	1600 psi

**G: Product Characteristics**

Previous commingling of these zones by Marathon and other operators 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>
Monument Tubb	110	330	3.0	Estimated
Monument Abo	<u>35</u>	<u>126</u>	<u>0.5</u>	Pre-Workover Test (oil & gas)
Total	145	456	3.5	water is average

<u>Allocated Percentages</u>	<u>Oil %</u>	<u>Gas %</u>	<u>Water %</u>
Monument Tubb	75.9	72.4	85.7
Monument Abo	<u>24.1</u>	<u>27.6</u>	<u>14.3</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.

<p>Marathon Oil Company Bertha Barber Lease Monument Field Lea County, NM</p>	<p>25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>	<p>101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200</p>	<p>201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300</p>	<p>301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400</p>	<p>401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500</p>	<p>501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600</p>	<p>601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700</p>	<p>701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800</p>	<p>801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831</p>
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**OFFSETTING OPERATORS**  
**Bertha Barber Well No. 16**  
**UL "K", 2140' FSL, 1650' FWL**  
**Section 5, T-20-S, R-37-E**  
**Lea County, New Mexico**  
**Monument Field**

T-20-S, R-37-E

Section 5:

Doyle Hartman  
P.O. Box 10426  
Midland, Texas 79702-7426

Amerada Hess Corporation  
P.O. Box 2040  
Houston, Texas 77252-2040

Gruy Petroleum  
600 Las Colinas Blvd. E Ste 1200  
Irving, Texas 75039-5611

Texaco Exploration & Production Inc.  
P.O. Box 3109  
Midland, Texas 79702-3109

Section 6:

Chevron USA Inc.  
P.O. Box 1150  
Midland, Texas 79702

## DHC Additional Data

The Monument Tubb in Bertha Barber Well No. 16, is expected to produce similarly as Bertha Barber Well No. 17 (recently recompleted to the Tubb).

Bertha Barber Well No. 18Y, produced 12 BOPD, 126 MCFPD & 33 BWPD on (9/02/99).

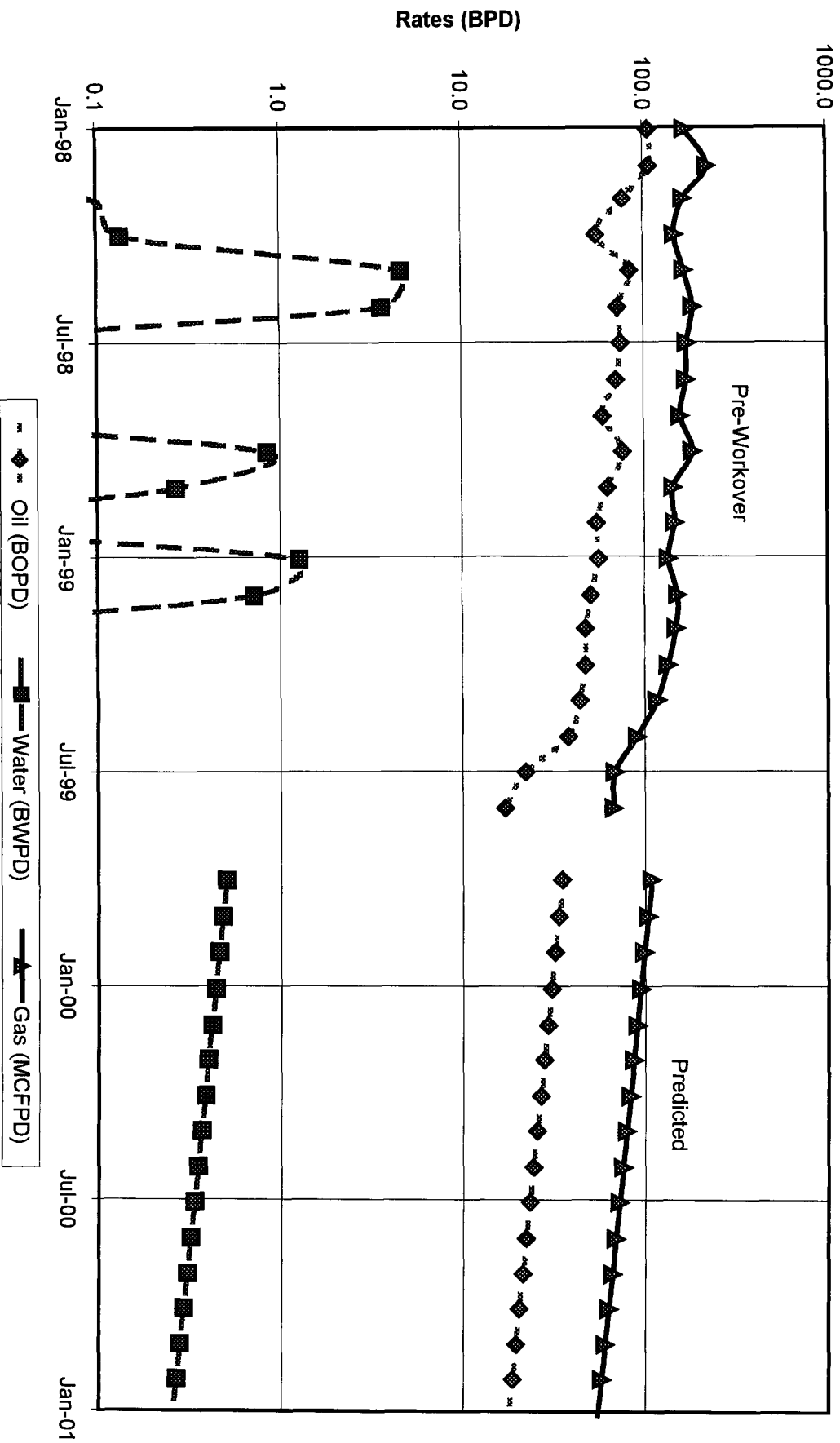
This Monument Tubb 80 acre unit will include Bertha Barber Well No. 16 & 18Y.

Total Production (including Barber 16 & 18Y):

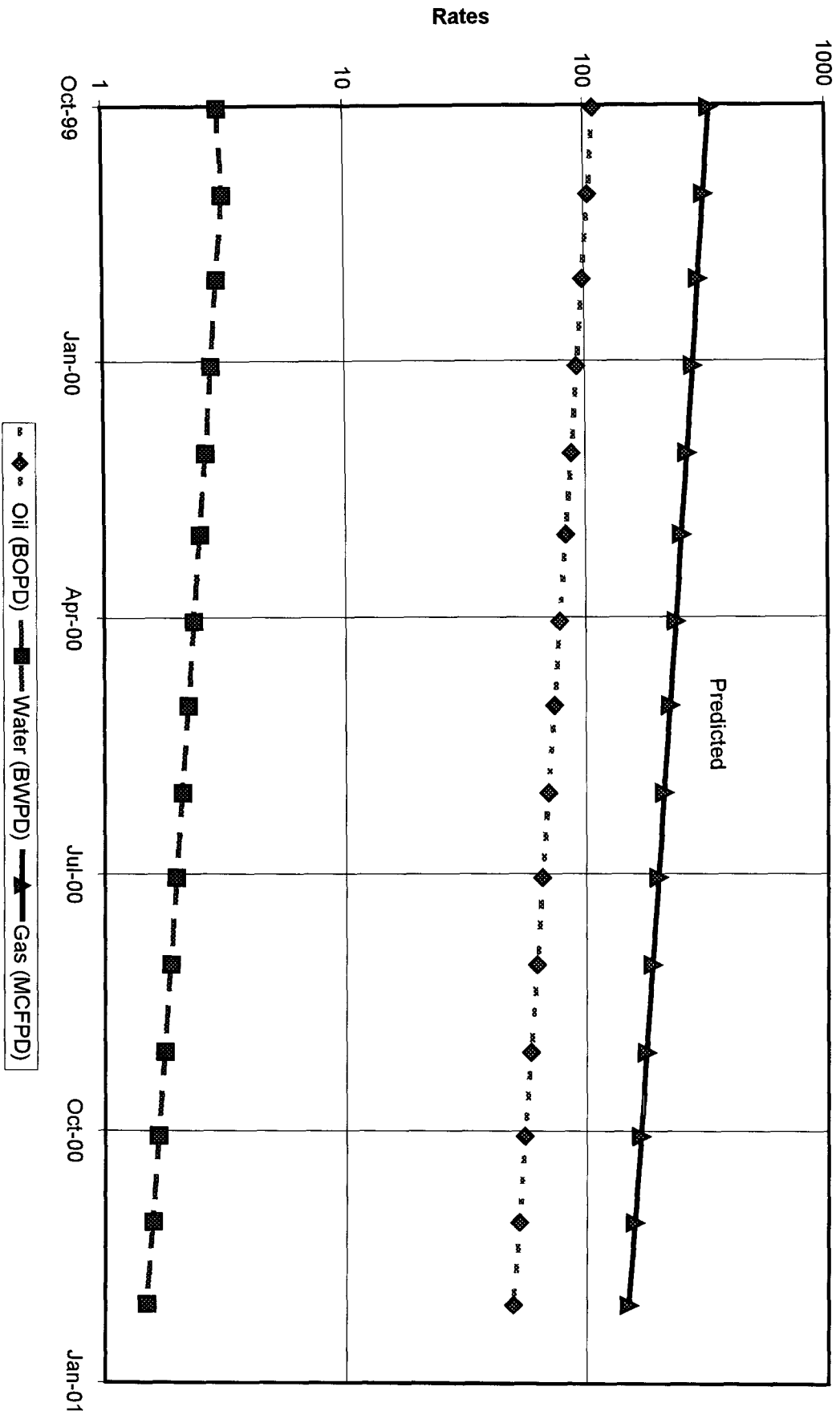
Well Name	BOPD	BWPD	MCFPD	Pool
Barber #16	110	3.0	330	Tubb (predicted)
Barber #16	35	0.5	110	Abo (well test)
Barber #18Y	<u>12</u>	<u>33.0</u>	<u>126</u>	Tubb & Abo (well test)
Total	157	36.5	566	

The water rate for Barber #16 Monument Abo is an average for the last 1.5 years.

# Bertha Barber Well No. 16 Monument Abo Production

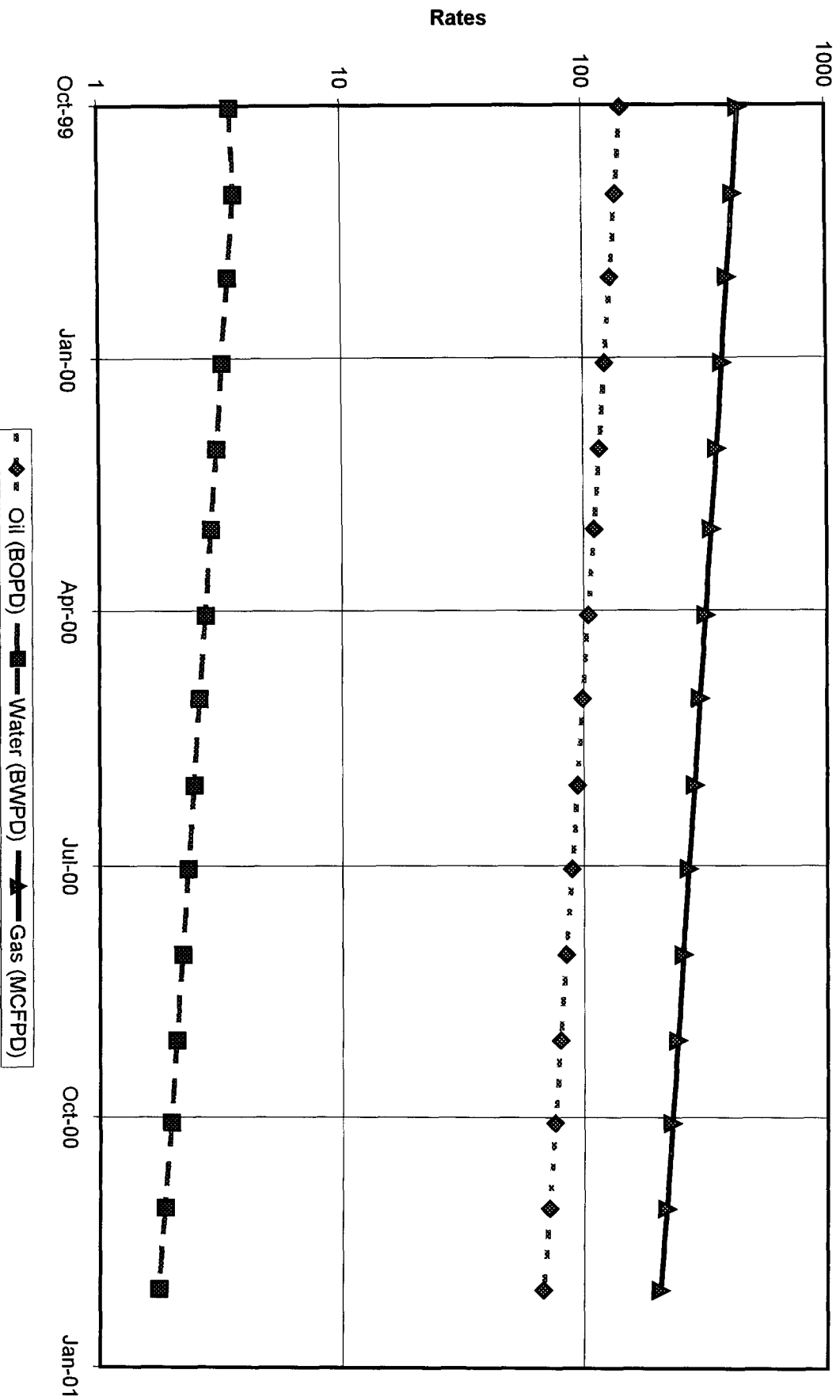


# Bertha Barber Well No. 16 Monument Tubb





# Bertha Barber Well No. 16 Expected Post Workover Abo & Tubb Production



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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-116  
Revised 1/1/89

OIL CONSERVATION DIVISION  
2040 Pacheco St.  
Santa Fe, NM 87505

GAS - OIL RATIO TEST

Operator <b>Marathon Oil Company</b>		Pool <b>Monument Abo</b>		County <b>Lee</b>												
Address <b>P.O. Box 2490 Hobbs, NM 88241</b>		TYPE OF TEST - (X) <input type="checkbox"/> Scheduled <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>														
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TBG PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD DURING TEST			GAS-OIL RATIO CUFT/BBL	
		U	S	T	R							WATER BBL.S	GRAV. OIL	OIL BBL.S		GAS M.C.F.
<b>Bertha Barber</b>	<b>16</b>	<b>K</b>	<b>5</b>	<b>20</b>	<b>37</b>	<b>8/22/99</b>	<b>P</b>		<b>180</b>		<b>24</b>	<b>0</b>		<b>35</b>	<b>127</b>	<b>3629</b>
						<b>8/21/99</b>	<b>P</b>		<b>180</b>		<b>24</b>	<b>0</b>		<b>30</b>	<b>124</b>	<b>4133</b>
						<b>7/24/99</b>	<b>P</b>		<b>180</b>		<b>24</b>	<b>0</b>		<b>34</b>	<b>132</b>	<b>3882</b>
						<b>7/3/99</b>	<b>P</b>		<b>200</b>		<b>24</b>	<b>0</b>		<b>41</b>	<b>129</b>	<b>3146</b>

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.)

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

Signature  
*Thomas P. Kacir*

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

Date  
**10/10/99**      **393-7106**

Telephone No.  
**393-7106**

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102

Revised October 18, 1994

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
811 S. 1st Street, Artesia, NM 88210-2834  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

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>30-025-33919</b>		<sup>2</sup> Pool Code <b>47090</b>		<sup>3</sup> Pool Name <b>Monument Tubb</b>	
<sup>4</sup> Property Code <b>6366</b>		<sup>5</sup> Property Name <b>Bertha Barber</b>			<sup>6</sup> Well Number <b>16</b>
<sup>7</sup> OGRID No. <b>014021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>GL 3554, KB 3569</b>

<sup>10</sup> Surface Location									
UL or lot no. <b>K</b>	Section <b>5</b>	Township <b>20-S</b>	Range <b>37-E</b>	Lot. Idn	Feet from the <b>2140</b>	North/South Line <b>South</b>	Feet from the <b>1650</b>	East/West line <b>West</b>	County <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>80</b>		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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>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>	
	<u>Thomas P. Kacir</u> Signature <u>Thomas P. Kacir</u> Printed Name <u>Production Engineer</u> Title <u>10/12/99</u> Date	
	<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>	
	Date of Survey Signature and Seal of Professional Surveyor: Certificate Number	

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
811 S. 1st Street, Artesia, NM 88210-2834  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION  
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Revised October 18, 1994  
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Submit to Appropriate District Office  
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Fee Lease - 3 Copies

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WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-33919</b>		<sup>2</sup> Pool Code <b>46970</b>		<sup>3</sup> Pool Name <b>Monument Abo</b>	
<sup>4</sup> Property Code <b>6366</b>		<sup>5</sup> Property Name <b>Bertha Barber</b>			<sup>6</sup> Well Number <b>16</b>
<sup>7</sup> OGRID No. <b>014021</b>		<sup>8</sup> Operator Name <b>Marathon Oil Company</b>			<sup>9</sup> Elevation <b>GL 3554, KB 3569</b>

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<sup>12</sup> Dedicated Acres <b>40</b>		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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	Signature <b>Thomas P. Kacir</b> Printed Name Title <b>Production Engineer</b> Date <b>10/12/99</b>	
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Date of Survey		
Signature and Seal of Professional Surveyer:		
Certificate Number		

DHC - 2506

Houston Division  
Production Operations, United States

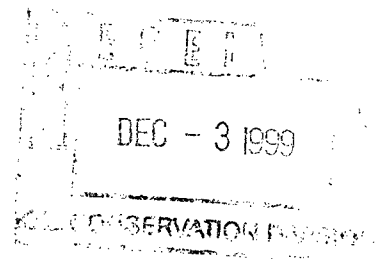


**Marathon  
Oil Company**

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

October 11, 1999

Amerada Hess Corporation  
P. O. Box 2040  
Houston, Texas 77252-2040



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Monument Field  
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Ladies and/or Gentlemen:

Marathon Oil Company has filed an application with the New Mexico Oil Conservation division to downhole commingling production in the above referenced well. Please find enclosed a copy of the application as outlined in Rule 303-A.

If you are in agreement and waive all objections to the downhole commingling, 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,

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

TPK/  
Enclosure

Agreed and accepted this 4<sup>th</sup> day of November 1999  
by Robert L. Williams Jr., as representative of  
Amerada Hess Corporation

A handwritten signature in dark ink, appearing to read 'Robert L. Williams Jr.'.

Houston Division  
Production Operations, United States



**Marathon  
Oil Company**

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

TPK/  
Enclosure

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

Houston Division  
Production Operations, United States



**Marathon  
Oil Company**

P.O. Box 2490  
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October 11, 1999

Chevron USA Inc.  
P.O. Box 1150  
Midland, Texas 79702

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Thomas P. Kacir  
Production Engineer

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Doyle Hartman  
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Gruy Petroleum  
600 Las Colinas Blvd. E Ste 1200  
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Thomas P. Kacir  
Production Engineer

TPK/  
Enclosure

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

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

## 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

## OIL CONSERVATION DIVISION

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429Form C-107-A  
New 3-12-96

## APPROVAL PROCESS:

☐ Administrative ☐ Hearing

## EXISTING WELLBORE

☒ YES ☐ NO

## APPLICATION FOR DOWNHOLE COMMINGLING

Marathon Oil Company PO Box 2490 Hobbs, NM 88240  
Operator Address  
Bertha Barber 16 UL K, Sec. 5, T20S, R37E Lea  
Lease Well No. Unit Ltr. - Sec - Twp - Rgs County  
Spacing Unit Lease Types: (check 1 or more)  
OGRID NO. 014021 Property Code 6366 API NO. 30-025-33919 Federal State (land/or) Fee ☒

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zones	Lower Zone
1. Pool Name and Pool Code	Monument Tubb 47090	N/A	Monument Abo 46970
2. Top and Bottom of Pay Section (Perforations)	Will Perforate 6418 - 6481'	N/A	7204-7230'
3. Type of production (Oil or Gas)	Oil	N/A	Oil
4. Method of Production (Flowing or Artificial Lift)	Artificial Lift	N/A	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) 1800 psi b. (Original) N/A	a. N/A b. N/A	a. 1600 psi b. N/A
6. Oil Gravity (° API) or Gas BTU Content	36.4	N/A	41.0
7. Producing or Shut-In?	Proposed	N/A	Producing
Production Marginal? (yes or no)	Expected to be	N/A	Yes
* If Shut-In, give 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: Expected Rates: 110/330/3	Date: Rates: N/A	Date: Rates: N/A
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: N/A Rates:	Date: Rates: N/A	Date: 8/22/99 Rates: 35/127/0
8. Fixed Percentage Allocation Formula - % for each zone	Oil: 75.9% Gas: 72.4 %	Oil: % Gas: %	Oil: 24.1 % Gas: 27.6 %

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

15. NMOCD Reference Cases for Rule 303(C) Exceptions: ORDER NO(S).

## 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 Engineer DATE 10/12/99

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