

Mid-Continent Region
Production United States



OIL CONSERVATION DIVISION
RECEIVED
P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626
JUL 13 AM 9 10

July 3, 1990

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

Re: Request for Exemption to Rule 303-A
Downhole Commingling
Mark Owen No. 7
Section 35-21S-37E
Wantz Abo, Wantz (Granite Wash)
Lea County, New Mexico

Dear Mr. Catanach:

Marathon Oil Company respectfully requests administrative approval for an exemption to Rule 303-A to permit the downhole commingling of production from the Wantz Abo and Wantz Granite Wash pools in the subject well.

Well No. 7 was originally completed in the Granite Wash in 1975 and dualled with the Wantz Abo in 1976 under the Division Order No. MC-2265.

On May 1, 1989, the Wantz Granite Wash was shut-in. On May 3, the well was weighed with a dynamometer. From the dynamometer pump card a fluid load was calculated and Nabla's Pump Intake Pressure program was run. The pump intake pressure at pump depth of 7137' was calculated to be 460 psi with a fluid gradient of 0.22. A static bottom-hole pressure of 494 psi was calculated at mid perfs (7292').

On June 14, 1990, a pressure bomb was run into the tubing down to mid-perfs of the Wantz Abo (7025'). The static pressure was 790 psi.

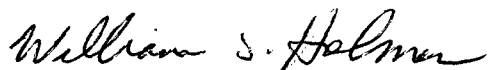
The pressure of the Granite Wash is within 50% of that of the Wantz Abo. Marathon believes that the two zones can be downhole commingled and produced without crossflow or a loss of reserves in either zone. The last test on the Wantz Abo shows it producing 14 BOPD, 0 BWPD, and 52 MCFD. Therefore, the well should remain in a pumped off condition. This would make the producing pressure less than 100 psi while being artificially lifted.

Mr. David Catanach
July 3, 1990
Page 2

All ownership (WI, Royalty and ORRI) in the wellbore is the same. Commingling will not jeopardize future secondary recovery operations. As required, additional information is attached and all offset operators are being notified by copy of this application.

In summary, Marathon feels that as a prudent operator, we can effectively downhole commingle the Wantz Abo and the Wantz Granite Wash and maximize production by doing so. We look forward to your approval of this application.

Sincerely yours,

A handwritten signature in cursive script, reading "William D. Holmes".

William D. Holmes
Midland Operations Superintendent

WPB/lr
Attachments

005-90

ATTACHMENT 1

Request for Exemption to Rule 303-A
Mark Owen No. 7
Wantz (Abo), Wantz (Granite Wash) Oil Pools
Lea County, New Mexico

Reference: Section C-2 Rule 303

- a) Marathon Oil Company
P. O. Box 552
Midland, Texas 79702
- b) Mark Owen No. 7
660' FSL and 2310' FWL, Sec. 35-21S-37E
Lea County, New Mexico (See Attachment 2 for form C-103)
- c) Plat of the area can be seen on Attachments 3 and 4.
- d) Form C-116 for Wantz Abo completion (see Attachment 5).
Form C-116 for Granite Wash completion (see Attachment 6).
- e) Production decline curve for the Wantz Abo completion (see Attachment 7).
Production decline curve for the Wantz Granite Wash completion (see Attachment 8).
- f) Measured bottomhole pressure for both zones in question (48 hr. static pressure).

Wantz Abo (790 psi)
Wantz Granite Wash (494 psi)
- g&h) The oil produced from the Wantz Abo and the Granite Wash have gravities of 39° and 40° API, respectively. Because the oil gravities are so similar, the value of the commingled stream should not be less than the value of the two separate streams. Water analyses of the two zones show little difference between the two streams (see Attachments 9 & 10).
- i) Production from latest GOR test shows:
- | <u>Zone</u> | <u>Oil
Bbls</u> | <u>Oil
(%)</u> | <u>Gas
(MCFD)</u> | <u>Gas
(%)</u> | <u>Water
(BWPD)</u> |
|--------------|---------------------|--------------------|-----------------------|--------------------|-------------------------|
| Wantz Abo | 14 | 77.8% | 52 | 69.3% | 0 |
| Granite Wash | <u>4</u> | <u>22.2%</u> | <u>23</u> | <u>30.7</u> | <u>0</u> |
| Total | 18 | 100.0% | 75 | 100.0% | 0 |
- j) By copy of this letter, we are notifying all offset operators of the proposed commingling by certified mail (see attached letters).

ATTACHMENT 2
State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

Submit 3 Copies
to Appropriate
District Office

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

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

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

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:
OIL WELL ☒ GAS WELL ☐ OTHER

2. Name of Operator
Marathon Oil Company

3. Address of Operator
P. O. Box 552, Midland, Texas 79702

4. Well Location
Unit Letter N : 660 Feet From The South Line and 2310 Feet From The West Line
Section 35 Township 21S Range 37E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

3367' GL 3378' KB

7. Lease Name or Unit Agreement Name

Mark Owen

8. Well No.

7

9. Pool name or Wildcat
Wantz Granite Wash, Wantz Abo

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐
OTHER: Downhole commingle ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐
OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Request authorization to downhole commingle the Wantz Granite Wash and the Wantz Abo pools.

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

SIGNATURE William D. Holmes TITLE Operations Superintendent DATE 6-19-90

TYPE OR PRINT NAME William D. Holmes

TELEPHONE NO. (915) 682-1626

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

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

ATTACHMENT 3
State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

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

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

DISTRICT III
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 Mark Owen		Well No. 7
Unit Letter N	Section 35	Township 21S	Range 37E	County NMPM	Lea

Actual Footage Location of Well:

660 feet from the South line and	2310 feet from the West line
Ground level Elev. 3376'	Producing Formation Wantz Abo/Granite Wash
Pool Wantz Abo/Granite Wash	Dedicated Acreage: 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

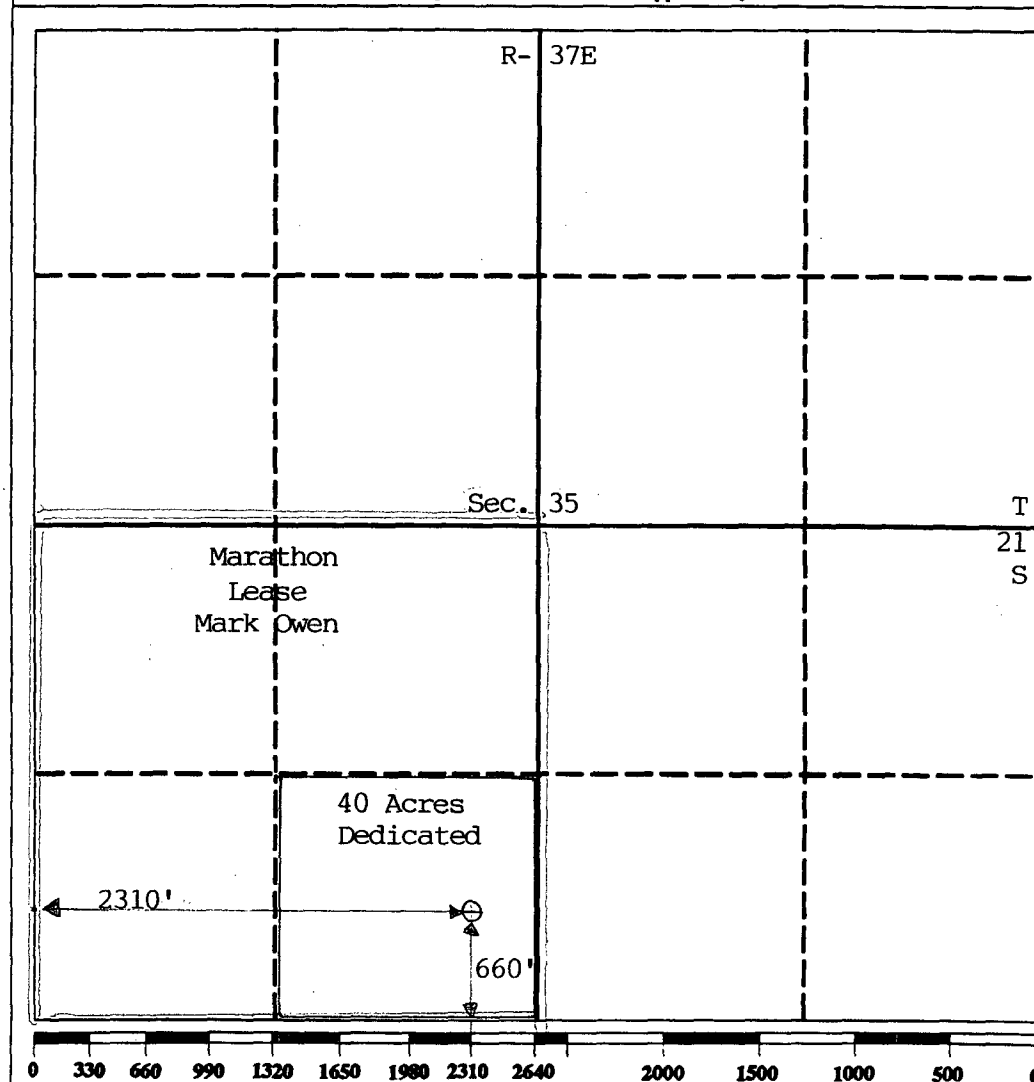
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



OPERATOR CERTIFICATION

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

Signature

Printed Name

J. R. Jenkins

Position

Hobbs Production Sup't.

Company

Marathon Oil Company

Date

6-19-90

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 knowledge and belief.

Date Surveyed

Signature & Seal of
Professional Surveyor

Certificate No.

01141 01142 01143 01144 01145 01146 01147 01148 01149 01150 01151 01152 01153 01154 01155 01156 01157 01158 01159 01160 01161 01162 01163 01164 01165 01166 01167 01168 01169 01170 01171 01172 01173 01174 01175 01176 01177 01178 01179 01180 01181 01182 01183 01184 01185 01186 01187 01188 01189 01190 01191 01192 01193 01194 01195 01196 01197 01198 01199 01200 01201 01202 01203 01204 01205 01206 01207 01208 01209 01210 01211 01212 01213 01214 01215 01216 01217 01218 01219 01220 01221 01222 01223 01224 01225 01226 01227 01228 01229 01230 01231 01232 01233 01234 01235 01236 01237 01238 01239 01240 01241 01242 01243 01244 01245 01246 01247 01248 01249 01250 01251 01252 01253 01254 01255 01256 01257 01258 01259 01260 01261 01262 01263 01264 01265 01266 01267 01268 01269 01270 01271 01272 01273 01274 01275 01276 01277 01278 01279 01280 01281 01282 01283 01284 01285 01286 01287 01288 01289 01290 01291 01292 01293 01294 01295 01296 01297 01298 01299 01300 01301 01302 01303 01304 01305 01306 01307 01308 01309 01310 01311 01312 01313 01314 01315 01316 01317 01318 01319 01320 01321 01322 01323 01324 01325 01326 01327 01328 01329 01330 01331 01332 01333 01334 01335 01336 01337 01338 01339 01340 01341 01342 01343 01344 01345 01346 01347 01348 01349 01350 01351 01352 01353 01354 01355 01356 01357 01358 01359 01360 01361 01362 01363 01364 01365 01366 01367 01368 01369 01370 01371 01372 01373 01374 01375 01376 01377 01378 01379 01380 01381 01382 01383 01384 01385 01386 01387 01388 01389 01390 01391 01392 01393 01394 01395 01396 01397 01398 01399 01400 01401 01402 01403 01404 01405 01406 01407 01408 01409 01410 01411 01412 01413 01414 01415 01416 01417 01418 01419 01420 01421 01422 01423 01424 01425 01426 01427 01428 01429 01430 01431 01432 01433 01434 01435 01436 01437 01438 01439 01440 01441 01442 01443 01444 01445 01446 01447 01448 01449 01450 01451 01452 01453 01454 01455 01456 01457 01458 01459 01460 01461 01462 01463 01464 01465 01466 01467 01468 01469 01470 01471 01472 01473 01474 01475 01476 01477 01478 01479 01480 01481 01482 01483 01484 01485 01486 01487 01488 01489 01490 01491 01492 01493 01494 01495 01496 01497 01498 01499 01500 01501 01502 01503 01504 01505 01506 01507 01508 01509 01510 01511 01512 01513 01514 01515 01516 01517 01518 01519 01520 01521 01522 01523 01524 01525 01526 01527 01528 01529 01530 01531 01532 01533 01534 01535 01536 01537 01538 01539 01540 01541 01542 01543 01544 01545 01546 01547 01548 01549 01550 01551 01552 01553 01554 01555 01556 01557 01558 01559 01560 01561 01562 01563 01564 01565 01566 01567 01568 01569 01570 01571 01572 01573 01574 01575 01576 01577 01578 01579 01580 01581 01582 01583 01584 01585 01586 01587 01588 01589 01590 01591 01592 01593 01594 01595 01596 01597 01598 01599 01600 01601 01602 01603 01604 01605 01606 01607 01608 01609 01610 01611 01612 01613 01614 01615 01616 01617 01618 01619 01620 01621 01622 01623 01624 01625 01626 01627 01628 01629 01630 01631 01632 01633 01634 01635 01636 01637 01638 01639 01640 01641 01642 01643 01644 01645 01646 01647 01648 01649 01650 01651 01652 01653 01654 01655 01656 01657 01658 01659 01660 01661 01662 01663 01664 01665 01666 01667 01668 01669 01670 01671 01672 01673 01674 01675 01676 01677 01678 01679 01680 01681 01682 01683 01684 01685 01686 01687 01688 01689 01690 01691 01692 01693 01694 01695 01696 01697 01698 01699 01700 01701 01702 01703 01704 01705 01706 01707 01708 01709 01710 01711 01712 01713 01714 01715 01716 01717 01718 01719 01720 01721 01722 01723 01724
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Submit 2 copies to Appropriate District Office.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

ATTACHMENT 5
State of New Mexico
Energy, Minerals and Natural Resources Department

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-116
Revised 1/1/89

OIL CONSERVATION DIVISION

GAS - OIL RATIO TEST

Operator Marathon Oil Company		Pool Wantz (Abo)		County Lea												
Address P. O. Box 552, Midland, Texas 79702		TYPE OF TEST - (X)		Schedul <input type="checkbox"/>		Completion <input type="checkbox"/>		Special <input checked="" type="checkbox"/>								
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU FT/BBL	
		U	S	T	R						WATER BRLS.	GRAV. OIL BRLS.	GAS M.C.F.			
Mark Owen	7	N	35	21	37	5-19-90	F	28/64	60	*	24	0	39	14	52	3714
* Allowable Request																

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

J. R. Jenkins, Hobbs Production Sup't.

Printed name and title

Date 6-25-90 (915) 682-1626 Telephone No.

Submit 2 copies to Appropriate
District Office.

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

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

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

GAS - OIL RATIO TEST

Operator Marathon Oil Company		Pool Wantz Granite Wash		County Lea										
Address P. O. Box 552, Midland Texas 79702		TYPE OF TEST - (X)		Schedul <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>										
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU FT/BBL.
		U	S	T	R						WATER BRLS.	GRAV. OIL BRLS.	GAS MCF.	
Mark Owen	7	N	35	21	37	SI	--	30		24	0	4	23	5750

The last test on this well was 2-11-90 and the production for 24 hrs was 4 BOPD & 0 BWPD & GOR 5750. This well has been shut in because of a parted downhole pump.

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

J. R. Jenkins, Hobbs Production Sup't.
Printed name and title

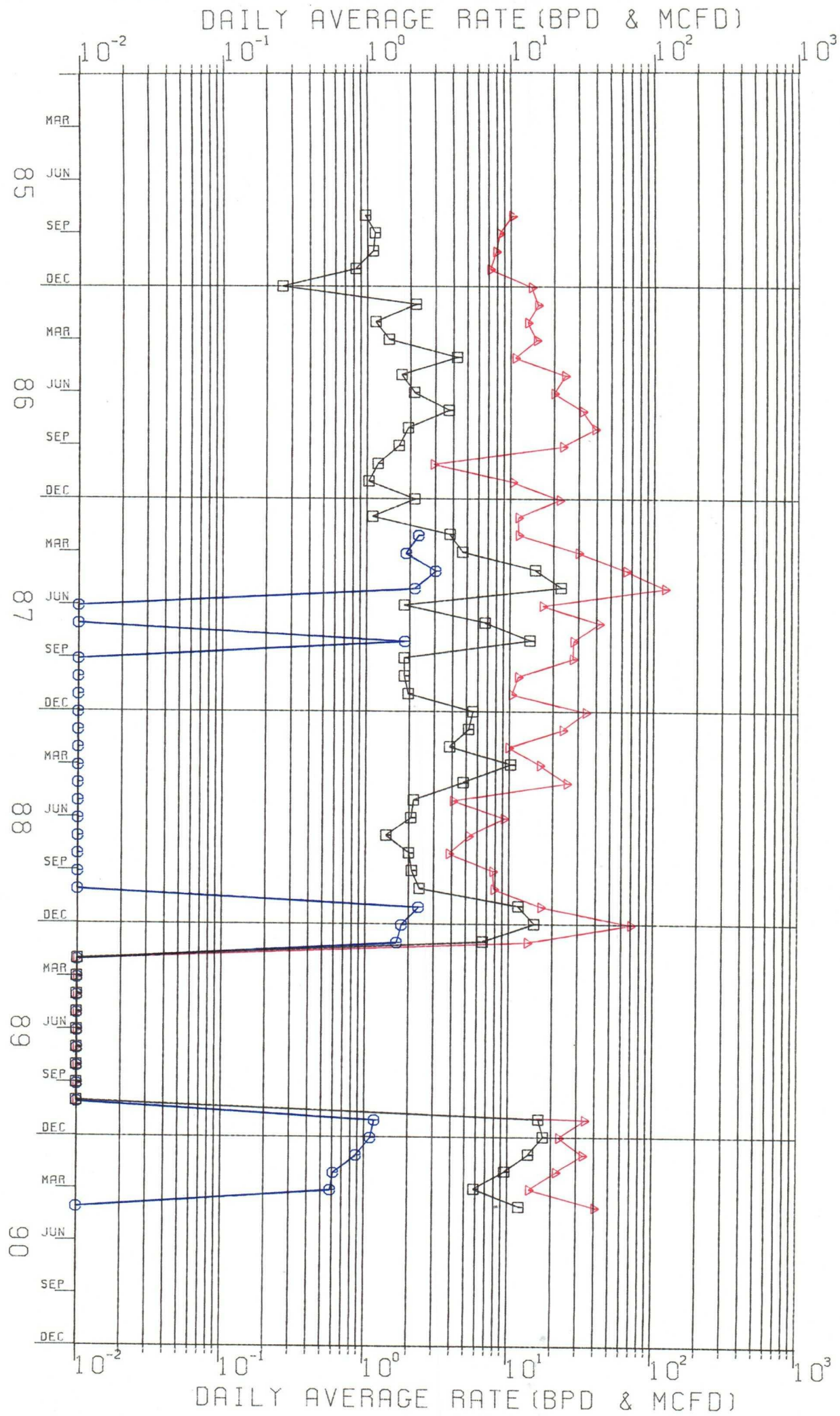
6-25-90

(915) 682-1626

Date

Telephone No.

FIELD - WANTZ
 RESERVOIR - ABQ
 LEASE - OWEN, MARK
 WELL - MARK, OWEN-NO. 7

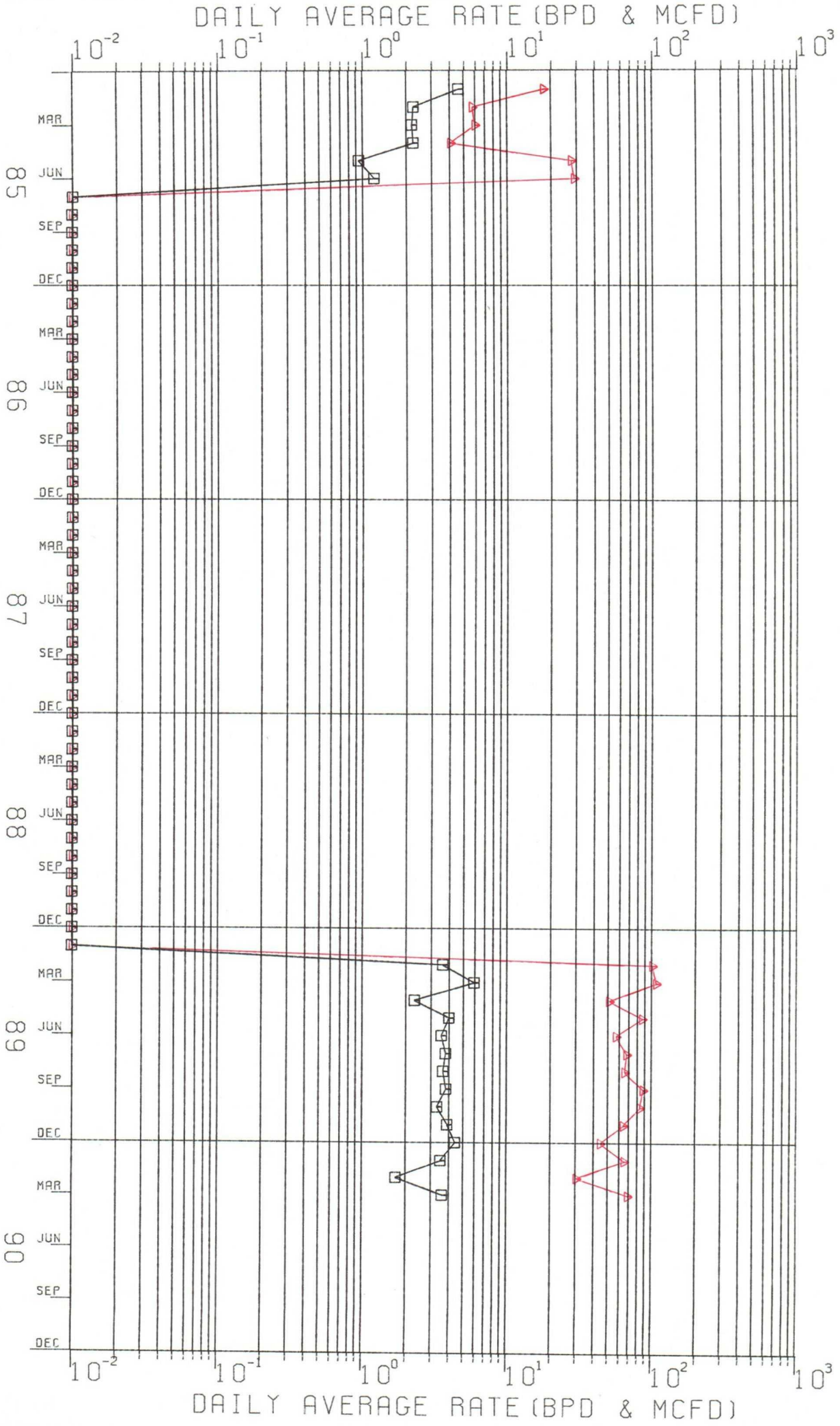


MARI Q11M

05/28/90

FIELD - WANTZ
 RESERVOIR - GRANITE WASH
 LEASE - OWEN, MARK
 WELL - MARK OWEN-NO. 7 (2)

O+C CALENDAR DLY AVG — □
 GAS CALENDAR DLY AVG — ▲



UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MARATHON
 DATE : 5-11-83
 FIELD LEASE & WELL : MARK OWEN #7 WANTZ ABO
 SAMPLING POINT :
 DATE SAMPLED : 5-10-83

SPECIFIC GRAVITY = 1.092
 TOTAL DISSOLVED SOLIDS = 136507
 PH = 4.09

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	560	11222.
MAGNESIUM	(MG)+2	340	4133.
SODIUM	(NA).CALC.	1521	34984.
ANIONS			
BICARBONATE	(HCO3)--1	0	0
CARBONATE	(CO3)--2	0	0
HYDROXIDE	(OH)--1	0	0
SULFATE	(SO4)--2	24.7	1187.
CHLORIDES	(CL)--1	2397	84980.
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		117.
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

SCALING INDEX

TEMP

CARBONATE INDEX	30C
CALCIUM CARBONATE SCALING	86F
	-3.4
	UNLIKELY
SULFATE INDEX	2.79
CALCIUM SULFATE SCALING	LIKELY

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : MARATHON OIL COMPANY
 DATE : 3-21-83
 FIELD LEASES WELL MARK OWEN WELL #7
 SAMPLING POINT: GRANITE WASH
 DATE SAMPLED : 3-18-83

SPECIFIC GRAVITY = 1.065
 TOTAL DISSOLVED SOLIDS = 97279
 PH = 6.69

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	280	5611.
MAGNESIUM	(MG)+2	130	1580.
SODIUM	(NA), CALC.	1280.	29431.
ANIONS			
BICARBONATE	(HCO3)-1	3.6	219.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	51.0	2450
CHLORIDES	(CL)-1	1635.	57986.
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		112.
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	153
CALCIUM CARBONATE SCALING	LIKELY
SULFATE INDEX	10.4
CALCIUM SULFATE SCALING	LIKELY



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

July 3, 1990

Oxy USA, Inc.
Midland District Office
P. O. Box 1919
Midland, Texas 79702

Re: Request for Exemption to Rule 303-A
Downhole Commingling
Mark Owen No. 7
Section 35-21S-37E
Lea County, New Mexico

Gentlemen:

Marathon Oil Company is requesting administrative approval from the New Mexico Oil Conservation Division to downhole commingle production in the above referenced well. The Mark Owen No. 7 well is completed in the Wantz Abo and the Wantz Granite Wash. Combined production should average 18 BOPD and 75 MCFD of gas.

Attached for your scrutiny is a copy of our application. Should you have any questions or concerns, please do not hesitate to call me.

Sincerely,

MARATHON OIL COMPANY

William D. Holmes
Midland Operations Superintendent

WPB/lr
Attachment

003-90

Mid-Continent Region
Production United States



**Marathon
Oil Company**

P.O. Box 552
Midland, Texas 79702
Telephone 915/682-1626

July 3, 1990

Exxon Company USA
P. O. Box 1600
Midland, Texas 79702-1600

Re: Request for Exemption to Rule 303-A
Downhole Commingling
Mark Owen No. 7
Section 35-21S-37E
Lea County, New Mexico

Gentlemen:

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Sincerely,

MARATHON OIL COMPANY

William D. Holmes
Midland Operations Superintendent

WPB/lr
Attachment

003-90



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

7-16-90

GARREY CARRUTHERS
GOVERNOR

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

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

RE: Proposed:

MC _____
DHC X _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

OIL CONSERVATION DIVISION
RECEIVED
90 JUL 20 AM 8 34

Gentlemen:

I have examined the application for the:

Marathon Oil Co. Mark Owen #7-N 35-21-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed