



BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION



**RECEIVED**

FEB - 3 1994

**OIL CON. DIV  
DIST. 3**

**ADMINISTRATIVE ORDER DHC-978**

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

Meridian Oil, Inc.  
P.O. Box 4289  
Farmington, NM 87499-4289

Attention: Arden L. Walker, Jr.

*Rowley Well No. 5  
Unit K, Section 17, Township 27 North, Range 10 West, NMPM,  
San Juan County, New Mexico.  
Basin-Fruitland Coal and Fulcher Kutz-Pictured Cliffs Gas Pools*

Dear Mr. Walker:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 20 barrels per day, and total water production shall not exceed 40 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be in accordance with the allocation formula shown on Exhibit "A", attached hereto and made a part hereof. Any condensate production will be allocated entirely to the Fulcher Kutz-Pictured Cliffs Gas Pool.

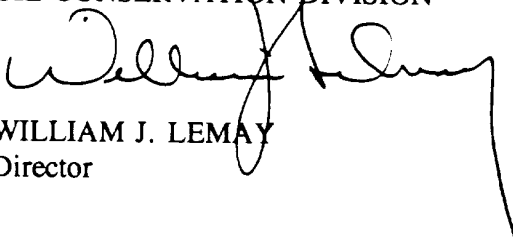
The operator is responsible for reporting the monthly gas production from the subject well to the Division utilizing the allocation formula adopted herein. An annual report shall be submitted by the operator to both the Aztec and Santa Fe offices of the Division showing the complete computations for the previous twelve-month period.

FURTHER: The operator shall notify the Aztec District Office of the Division upon implementation of the commingling process.

Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on this 1st day of February, 1994.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

S E A L

WJL/DRC/amg

cc: Oil Conservation Division - Aztec  
US Bureau of Land Management - Farmington

# **ROWLEY #5**

## **MONTHLY GAS PRODUCTION ALLOCATION FORMULA**

### **GENERAL EQUATION**

$$Q_t = Q_{ftc} + Q_{pc}$$

WHERE:  $Q_t$  = TOTAL MONTHLY PRODUCTION (MCF/MONTH)  
 $Q_{ftc}$  = FRUITLAND COAL (ftc) MONTHLY PRODUCTION  
 $Q_{pc}$  = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR  $Q_{ftc}$ :

$$Q_{ftc} = Q_t - Q_{pc}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

ICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$Q_{pc} = Q_{pci} \times e^{\{-(D_{pc}) \times (t)\}}$$

WHERE:  $Q_{pci}$  = INITIAL PC MONTHLY FLOW RATE = 450 MCF/M (DETERMINED FROM TESTED RATE AGAINST 75 PSI LINE PRESSURE AS OPPOSED TO HISTORICAL LINE PRESSURE OF 175 PSI)  
 $D_{pc}$  = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS:

$$D_{pc} = (0.00094/M)$$

THUS:  $Q_{ftc} = Q_t - Q_{pci} \times e^{\{-(0.00094) \times (t)\}}$

WHERE: (t) IS IN MONTHS

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.



STATE OF NEW MEXICO  
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

Date: 1-21-94

*Attn: Mr. Ken Stone*

Oil Conservation Division  
P.O. Box 2088  
Santa Fe, NM 87504-2088

RE: Proposed MC \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed WFX \_\_\_\_\_  
Proposed NSP \_\_\_\_\_

Proposed DHC X \_\_\_\_\_  
Proposed SWD \_\_\_\_\_  
Proposed PMX \_\_\_\_\_  
Proposed DD \_\_\_\_\_

Gentlemen:

I have examined the application received on 1-7-94  
for the Midcon Oil Inc. Rowley #5  
OPERATOR LEASE & WELL NO.

N-17-27N-10W and my recommendations are as follows:  
UL-S-T-R

Approve  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

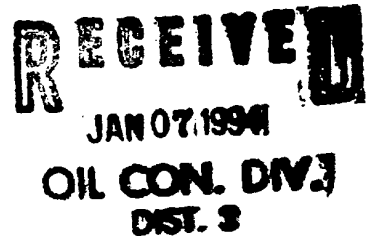
Yours truly,

*Ken Stone*

# MERIDIAN OIL

January 4, 1994

New Mexico Oil Conservation Division  
Attn: Mr. Bill LeMay  
P. O. Box 2088  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87501



RE: Rowley #5  
Unit K, Section 17, T27N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Dear Mr. LeMay:

Meridian Oil Inc. is applying for an administrative downhole commingling order for the referenced well in the Pictured Cliffs and the Basin Fruitland Coal fields. The ownership of the zones to be commingled is common. The only offset operator to this well is Marathon Oil Company. The Bureau of Land Management and the above mentioned operator have received notification of this downhole commingle.

The Fruitland Coal and Pictured Cliffs wells producing in this area operated by Meridian and others are marginally productive. Based on offset production in this area, drilling of separate wells and dual completions to produce the Fruitland Coal and Pictured Cliffs are not economically justified. The only economical way to recover the Fruitland Coal and Pictured Cliffs reserves in this drill block is to downhole commingle production from both zones in this well.

The Pictured Cliffs formation is currently completed and marginally productive. It is proposed to set a bridge plug above the Pictured Cliffs, perforate and stimulate the Fruitland Coal, and test its production. The bridge plug will then be removed, and both zones produced through a single string of tubing. The reservoir characteristics of each of the subject zones are such that underground waste will not be caused by the proposed commingling. Neither producing interval makes oil, and only minimal amounts of similar water are produced in the offset wells. The shut-in pressures for the Pictured Cliffs and Fruitland Coal are 260 and 295 psi, respectively.

The allocation of the commingled production will be calculated using the attached allocation formula. This formula is based on offset Pictured Cliffs production performance (material balance) and uses accepted Reservoir Engineering methods to allocate the Pictured Cliffs reserves. This addresses the Fruitland Coal producing characteristics of early life inclining production rates.

New Mexico Oil Conservation Division  
Mr. Bill LeMay  
Rowley #5  
Downhole Commingling Request  
Page Two

Approval of this commingling application will allow for the prevention of wasted resources and protection of correlative rights. Included with this letter are plats showing ownership of offsetting leases for both the Pictured Cliffs and Fruitland Coal, a copy of letters to the BLM and the offset operator, and an allocation formula.

Sincerely,



Arden L. Walker, Jr.  
Regional Production Engineer

SBD:tdg  
Attachments

cc: Frank T. Chavez - NMOCD/Aztec  
Peggy A. Bradfield  
Well File

RECEIVED  
NEW MEXICO  
OIL CONSERVATION  
DIVISION  
APR 11 1994  
ALBUQUERQUE, NM

# MERIDIAN OIL

January 4, 1994

Bureau of Land Management  
1235 La Plata Highway  
Farmington, New Mexico 87401

RE: Rowley #5  
Unit K, Section 17, T27N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request


Gentlemen:

Meridian Oil, Inc. is in the process of applying for a downhole commingling order for the Rowley #5 well located in Unit K, Section 17, T27N, R10W, N.M.P.M., San Juan County, New Mexico, in the Pictured Cliffs and the Basin Fruitland Coal fields.

The purpose of this letter is to notify you of such action. If you have no objections to the proposed commingling order, we would appreciate your signing this letter and returning it to this office.

Your prompt attention to this matter would be appreciated.

Yours truly,

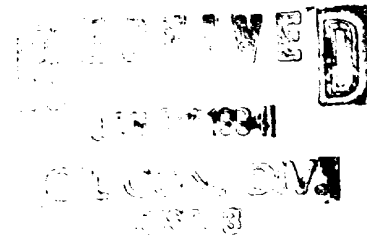


Scott B. Daves  
Production Engineer

SBD/tdg

The above downhole commingling request is hereby approved:

\_\_\_\_\_  
Date: \_\_\_\_\_



# MERIDIAN OIL

January 4, 1994

Marathon Oil Company  
P.O. Box 552  
Midland, Texas 79702

RE: Rowley #5  
Unit K, Section 17, T27N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Gentlemen:

Meridian Oil, Inc. is in the process of applying for a downhole commingling order for the Rowley #5 well located in Unit K, Section 17, T27N, R10W, N.M.P.M., San Juan County, New Mexico, in the Pictured Cliffs and the Basin Fruitland Coal fields.

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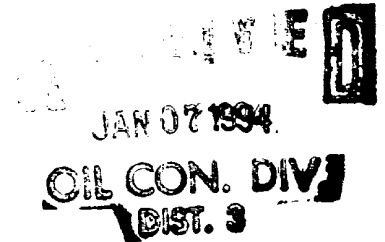
Your prompt attention to this matter would be appreciated.

Yours truly,



Scott B. Daves  
Production Engineer

SBD/tdg



The above downhole commingling request is hereby approved:

\_\_\_\_\_  
Date: \_\_\_\_\_



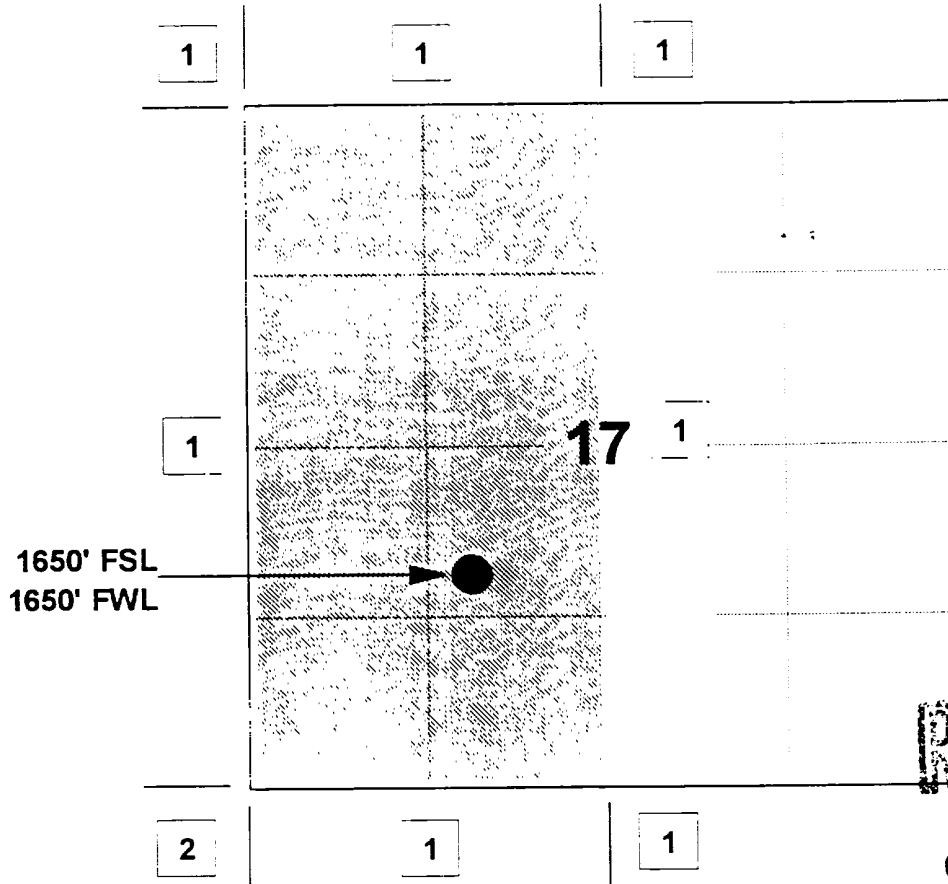
# MERIDIAN OIL INC

## ROWLEY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Commingle Well

Township 27 North, Range 10 West



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JAN 07 1994

OIL CON. DIV  
DIST. 3

1) Meridian Oil Inc

2) Marathon Oil Company

PO Box 552, Midland, TX 79702

Fruitland Coal Formation

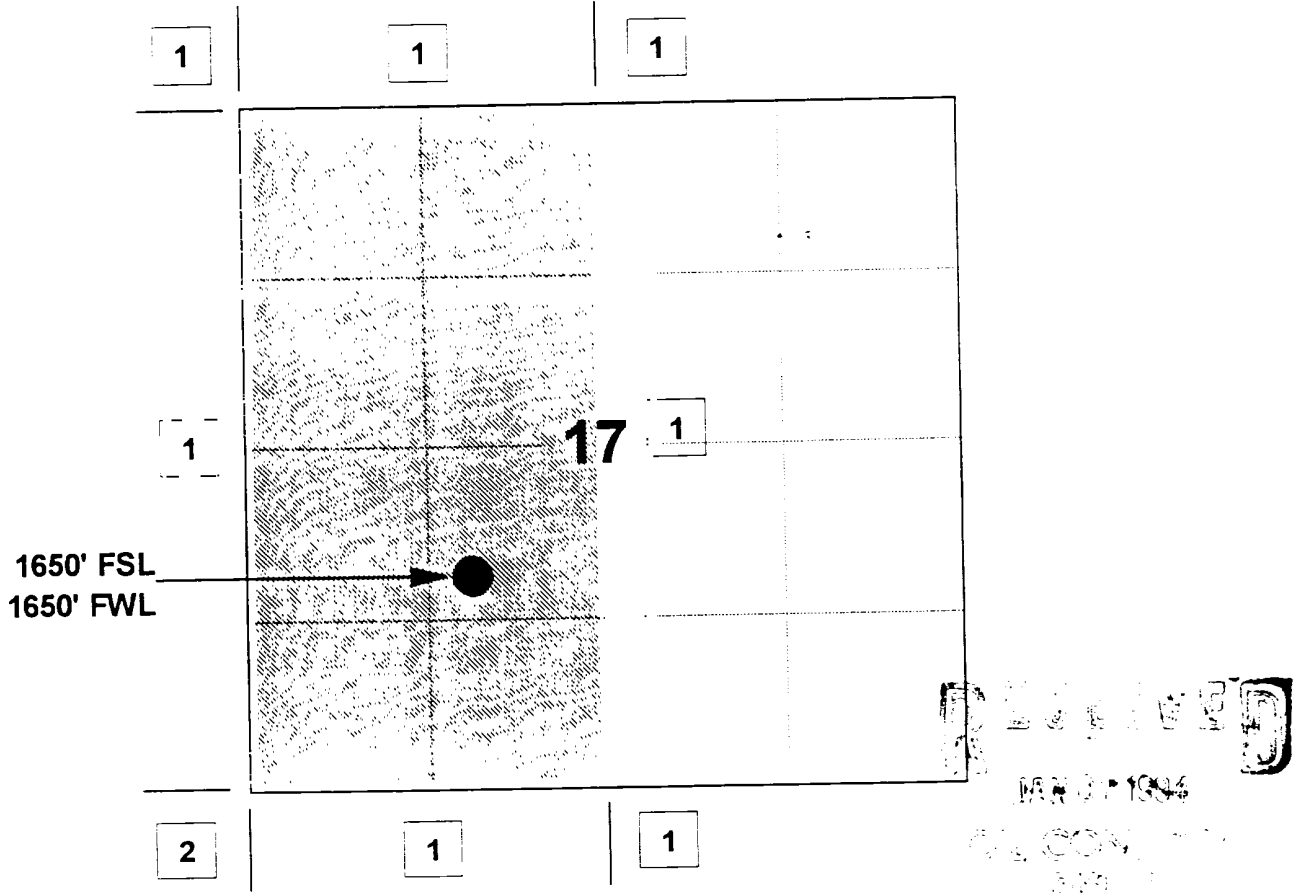
# MERIDIAN OIL INC

## ROWLEY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Commingle Well

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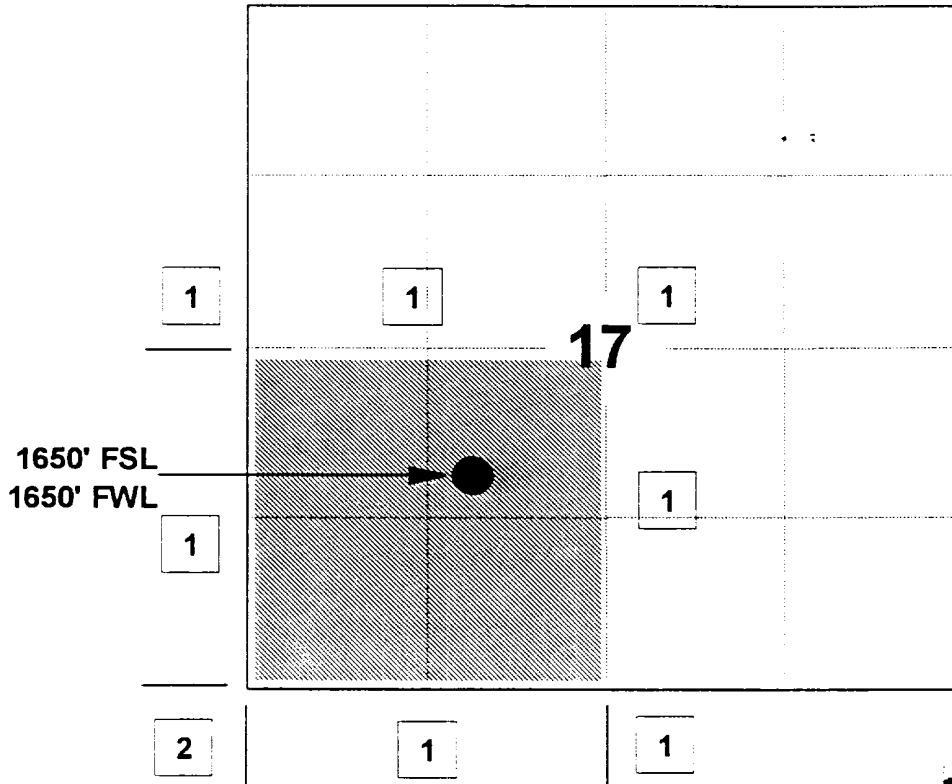
# MERIDIAN OIL INC

## ROWLEY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Commingle Well

Township 27 North, Range 10 West



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OIL CON. DEPT.  
DIST. 3

1) Meridian Oil Inc

2) Marathon Oil Company

PO Box 552, Midland, TX 79702

Fruitland Coal Formation

# **ROWLEY #5**

## **MONTHLY GAS PRODUCTION ALLOCATION FORMULA**

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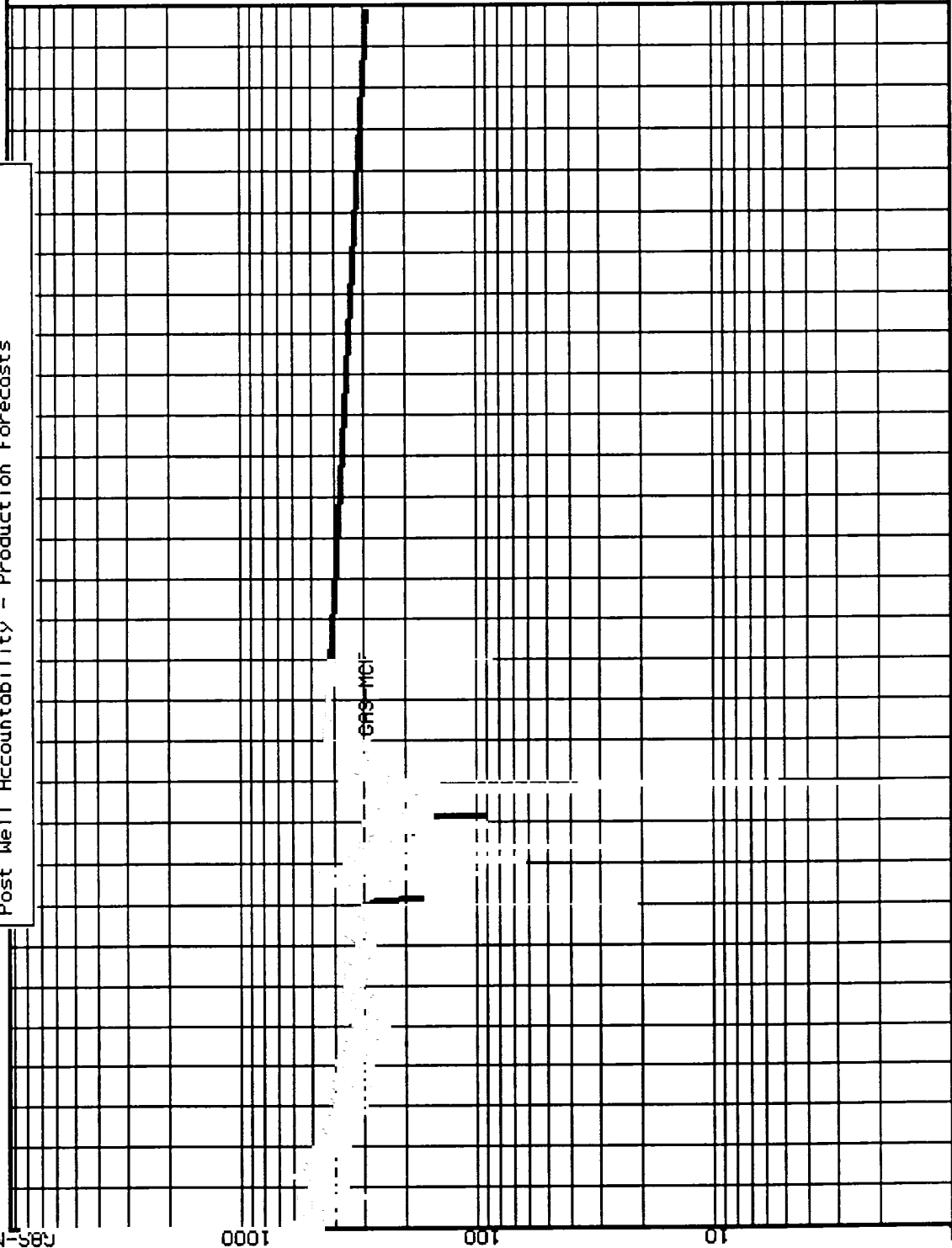
**RECEIVED**  
JAN 07 1994  
OIL CON. DIV  
DIST. 3

5

Lease : ROWLEY  
 Field : FULCHER KUTZ P.C. (GAS)  
 Location : 027N010W17K  
 County, St : SAN JUAN NM  
 Major Product : GAS DP Number: 50872A-1  
 Post Well Accountability - Production Forecasts

R/S-MCF

GAS  
 QoI=94PDP  
 Ref= 01/94  
 Cum= 219.253  
 Rem= 158.734  
 EUR= 377.987  
 Yrs= 35.833  
 Qi= 450.0  
 De= 1.128  
 n= .000  
 Qob= 299.9



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NOV 07 1994

CON. DIV.  
 DISLA

P2 RLP RMC LDR,  
 P/Z=R/T=322.576MMCF,,  
 RLP RMC,  
 R/C CANDIDATE. R/T USED.,,

ROWLEY : 5 : 50872A-1

Prop: 12

Qa1=95PDP  
GIP= 416.054  
EUR= 377.987  
PZa= 50.0

Major=GAS

CUM\_GAS-MMcf

\*M\_SIWHP-Psi

