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: Kim Steele

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

RE: Proposed MC_____ Proposed DHC +
Proposed NSL_____ Proposed SWD_____
Proposed WFX_____ Proposed PMX_____
Proposed NSP_____ Proposed DD_____

Gentlemen:

I have examined the application received on 1-7-94

for the Meridian Oil Inc. Zachary #5
OPERATOR LEASE & WELL NO.

P-11-29N-10W and my recommendations are as follows:
UL-S-T-R

Approved

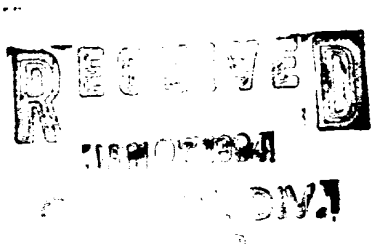
Yours truly,

Fred Kautz

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: Zachry #5
Unit P, Section 11, T28N, 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. There are no offset operator to this well. The Bureau of Land Management 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 **282** and **337** 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.

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 the letter to the BLM, 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

MERIDIAN OIL

January 4, 1994

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

RE: Zachry #5
Unit P, Section 11, T28N, 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 Zachry #5 well located in Unit P, Section 11, T28N, 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,

S. B. Daves

Scott B. Daves
Production Engineer

SBD/tdg

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

The above downhole commingling request is hereby approved:

_____

Date: _____

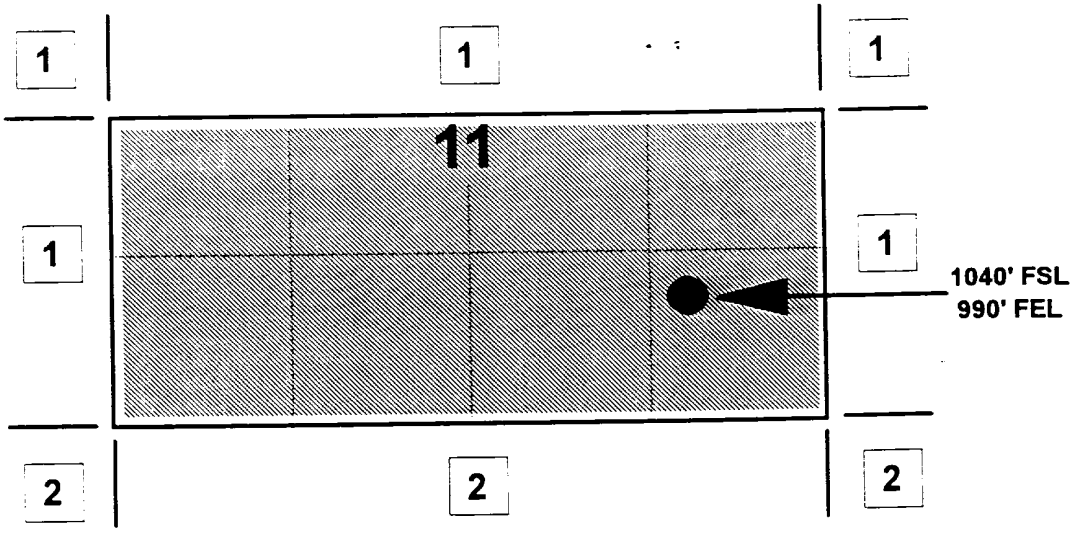
MERIDIAN OIL INC

ZACHRY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc
2) Southland Royalty Company

Fruitland Coal

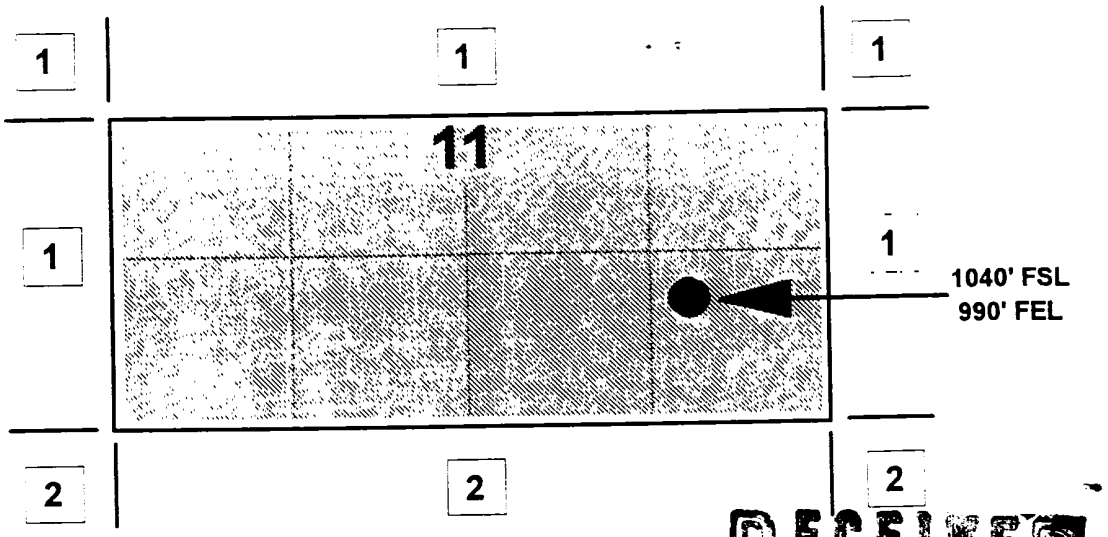
MERIDIAN OIL INC

ZACHRY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc
2) Southland Royalty Company

Fruitland Coal

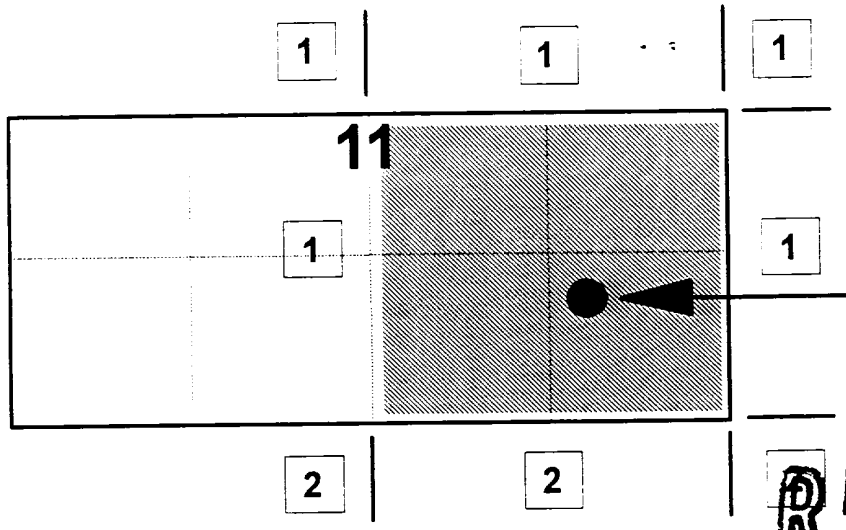
MERIDIAN OIL INC

ZACHRY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc
2) Southland Royalty Company

Pictured Cliffs

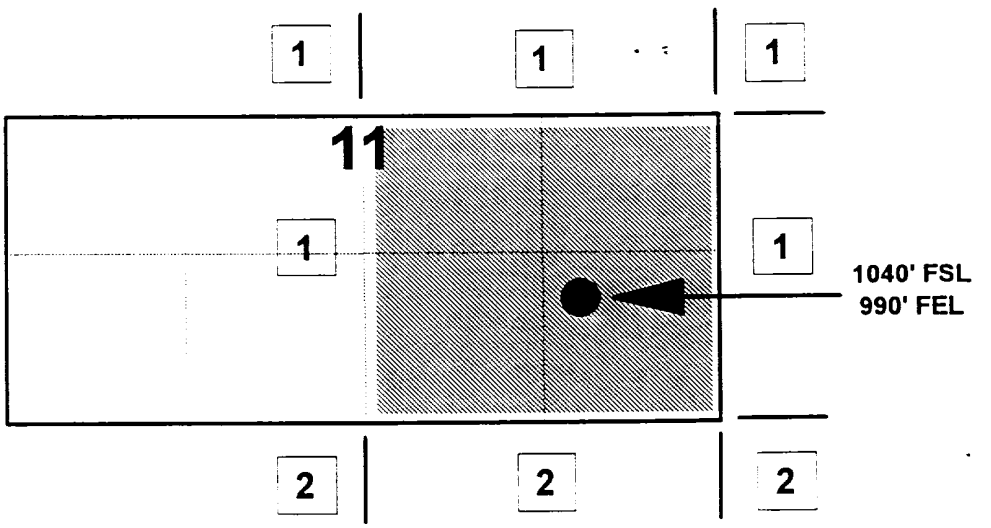
MERIDIAN OIL INC

ZACHRY #5

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc

2) Southland Royalty Company

Pictured Cliffs

ZACHRY #5

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

Qt = Qftc + Qpc

WHERE: Qt = TOTAL MONTHLY PRODUCTION (MCF/MONTH)

Qftc = FRUITLAND COAL (ftc) MONTHLY PRODUCTION
Qpc = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Qftc:

Qftc = Qt - Qpc

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

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

Qpc = Qpci X e^{-(Dpc) X (t)}

WHERE: **Qpci** = INITIAL PC MONTHLY FLOW RATE **1,515 MCF/M** (DETERMINED FROM LAST MON PC ONLY PRODUCTION, PRIOR TO RECOMPLETION & COMMINGLE)

Dpc = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS:

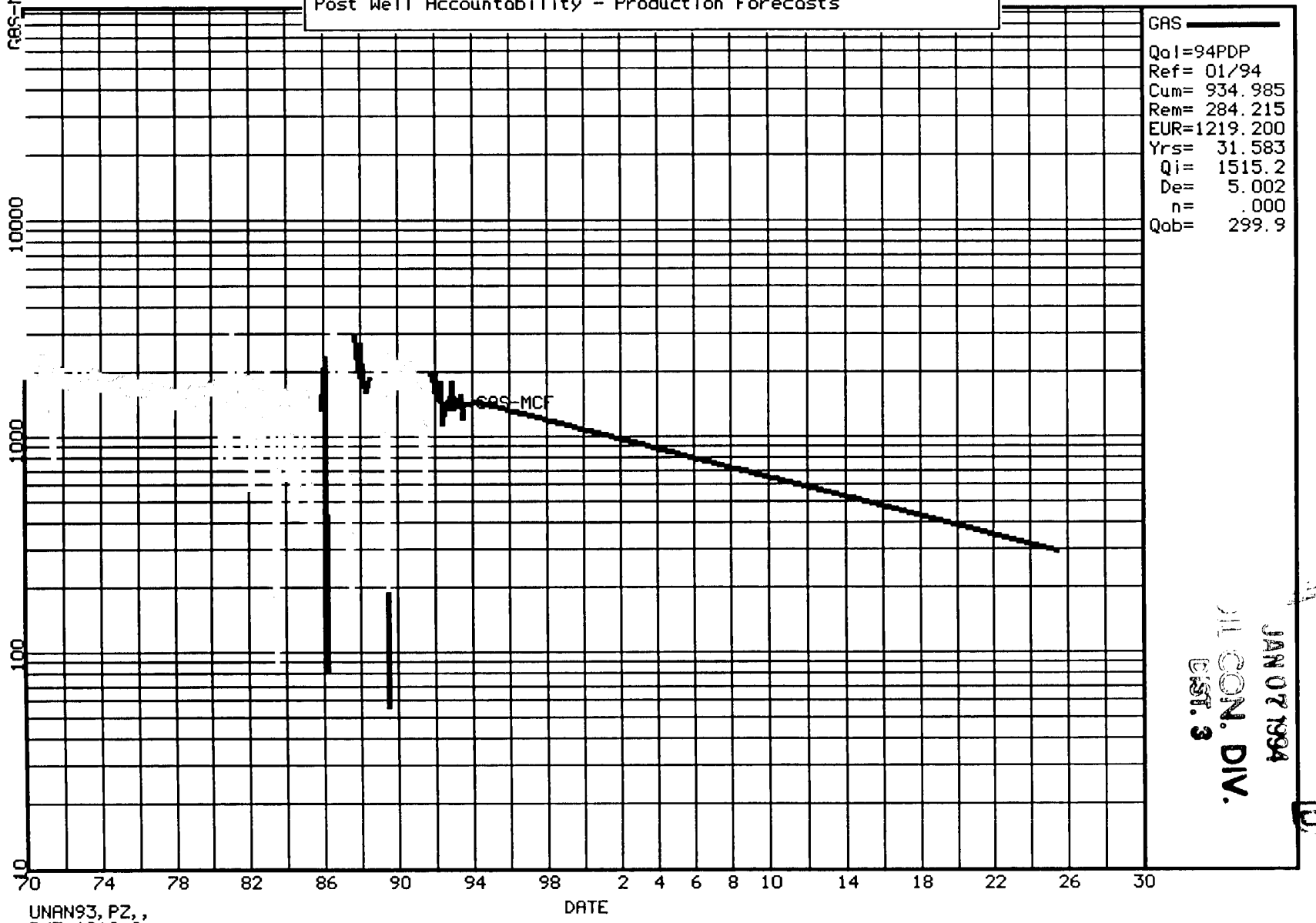
Dpc = (0.00417/M)

THUS: **Qftc = Qt - Qpci X e^{-(0.00417) X (t)}**

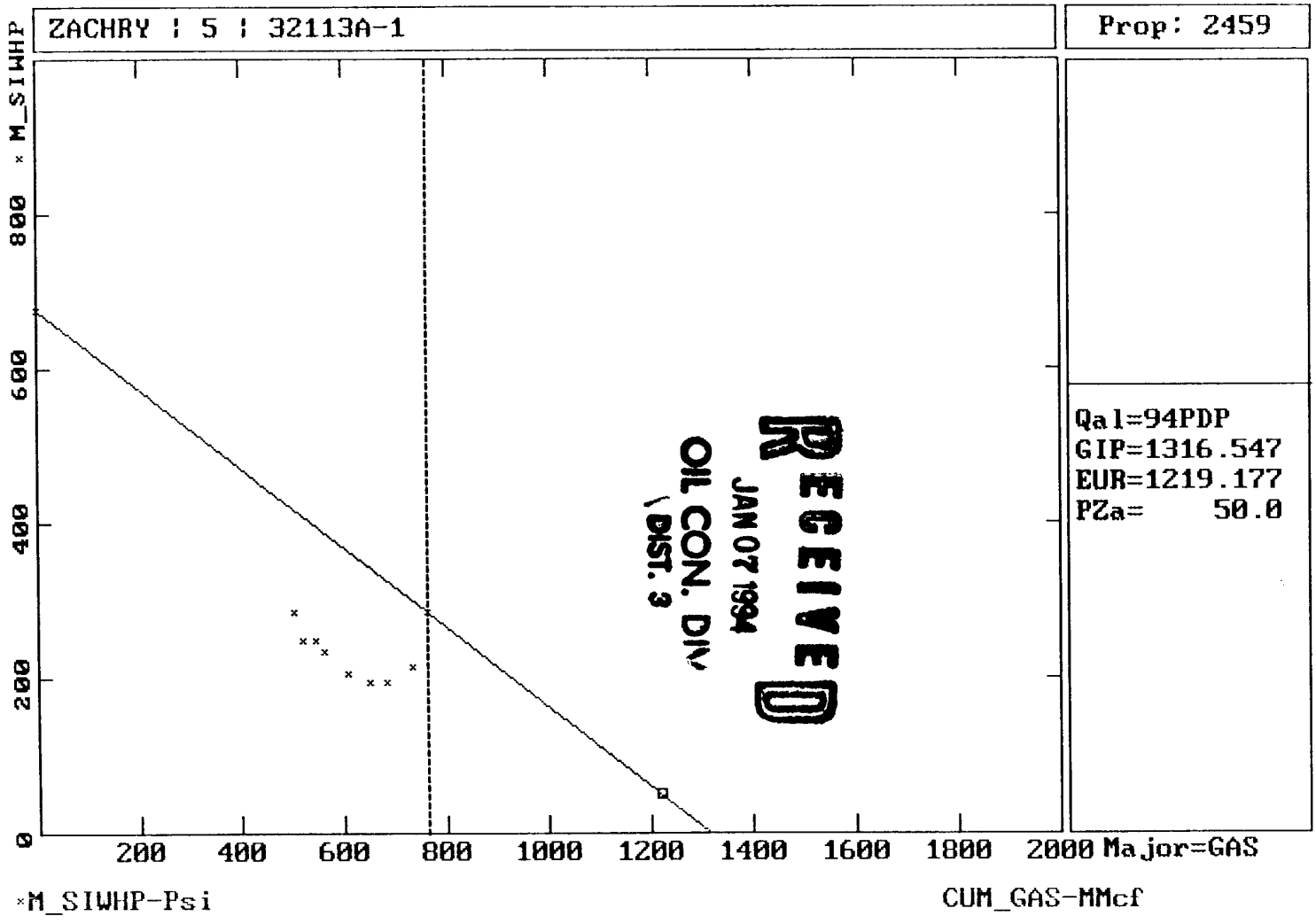
WHERE: **(t) IS IN MONTHS**

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

Lease	: ZACHRY	5
Field	: AZTEC PICTURED CLIFFS (GAS)	
Location	: O28NO1OW11P	
County, St	: SAN JUAN NM	
Major Product	: GAS DP Number: 32113A-1	
Post Well Accountability - Production Forecosts		



UNAN93,PZ,,
P/Z=1219.2,,
HI PRESS PT 9/83 CONSISTENT WITH 6/83 SHUTIN,,


ZACHRY : 5 : 32113A-1
Prop: 2459
M_SIWHP
800
600
400
200
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Major=GAS
Qal=94PDP
GIP=1316.547
EUR=1219.177
PZa= 50.0
RECEIVED
JAN 07 1994
OIL CON. DIV.
DIST. 3
M_SIWHP-Psi
CUM_GAS-MMcf