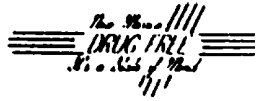




BRUCE KING  
GOVERNOR

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

ANITA LOCKWOOD  
CABINET SECRETARY



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

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

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

RE: Proposed MC \_\_\_\_\_ Proposed DHC K \_\_\_\_\_  
Proposed NSL \_\_\_\_\_ Proposed SWD \_\_\_\_\_  
Proposed WFX \_\_\_\_\_ Proposed PMX \_\_\_\_\_  
Proposed NSP \_\_\_\_\_ Proposed DD \_\_\_\_\_

Gentlemen:

I have examined the application received on 1/9/94  
for the Meridian Zachry #8  
OPERATOR LEASE & WELL NO.

A-33-29N-10W and my recommendations are as follows:  
UL-S-T-R

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

Yours truly,

S. J.  
\_\_\_\_\_

# MERIDIAN OIL

January 5, 1995

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

RECEIVED  
JAN 9 1995

RE: Zachry #8  
Unit A, Section 33, T29N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

OIL CON. DIV.  
DIST. 3

Dear Mr. LeMay:

Meridian Oil Inc. is applying for an administrative downhole commingling order for the referenced well in the Fulcher Kutz Pictured Cliffs and the Basin Fruitland Coal fields. The ownership of the zones to be commingled is common. The offset operators to this well are Amoco Production Company, S G Interests and Texaco Exploration & Production, Inc. The Bureau of Land Management and the above mentioned operators 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.

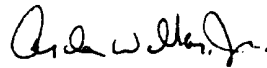
It is proposed to complete the Pictured Cliffs formation and establish production. It is then proposed to set a bridge plug above the Pictured Cliffs, perforate and stimulate the Fruitland Coal, and test its production. The bridge plug will then be removed, and both zones produced through a single string 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 194 and 337 psi, respectively.

The allocation of the commingled production will be calculated using the attached allocation formula. This formula is based on production performance of the Zachry #8, 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. William LeMay  
Zachry #8  
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 offset operators, decline curve and an allocation formula.

Sincerely,



Arden L. Walker, Jr.  
Regional Production Engineer

LJB:tdg

Attachments

cc: Frank T. Chavez/Aztec NMOCD  
Peggy A. Bradford/MOI Regulatory  
Bureau of Land Management  
Well File

# MERIDIAN OIL

January 5, 1995

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

RE: Zachry #8  
Unit A, Section 33, T29N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Gentlemen:

Meridian Oil Inc. is in the process of applying for a downhole commingling order from the New Mexico Oil Conservation Division (NMOCD) for the referenced well located in San Juan County, New Mexico. The approved application will commingle the Fulcher Kutz Pictured Cliffs and the Basin Fruitland Coal fields.

The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address with a copy to this office:

New Mexico Oil Conservation Division  
Mr. William LeMay  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Your prompt attention to this matter would be appreciated.

Sincerely,



Leonard J. Biemer  
Production Engineer

LJB:tdg

**The undersigned hereby waives objection to the referenced  
Downhole Commingle Request.**

**Company/Owner:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

# MERIDIAN OIL

January 5, 1995

Amoco Production Company  
P.O. Box 800  
Denver, Colorado 80201

RE: Zachry #8  
Unit A, Section 33, T29N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Gentlemen:

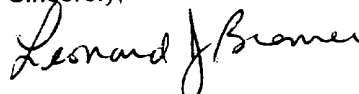
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New Mexico Oil Conservation Division  
Mr. William LeMay  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Your prompt attention to this matter would be appreciated.

Sincerely,



Leonard J. Biemer  
Production Engineer

LJB:tdg

**The undersigned hereby waives objection to the referenced  
Downhole Commingle Request.**

**Company/Owner:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

# MERIDIAN OIL

January 5, 1995

S G Interests  
811 Dallas  
Suite 1505  
Houston, Texas 77002

RE: Zachry #8  
Unit A, Section 33, T29N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Gentlemen:

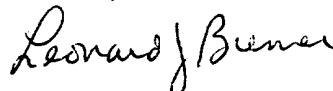
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address with a copy to this office:

New Mexico Oil Conservation Division  
Mr. William LeMay  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Your prompt attention to this matter would be appreciated.

Sincerely,



Leonard J. Biemer  
Production Engineer

LJB:tdg

**The undersigned hereby waives objection to the referenced  
Downhole Commingle Request.**

**Company/Owner:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

# MERIDIAN OIL

January 5, 1995

Texaco Exploration & Production, Inc.  
P.O. Box 2100  
Denver, Colorado 80201

RE: Zachry #8  
Unit A, Section 33, T29N, R10W  
San Juan County, New Mexico  
Downhole Commingling Request

Gentlemen:

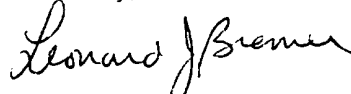
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address with a copy to this office:

New Mexico Oil Conservation Division  
Mr. William LeMay  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Your prompt attention to this matter would be appreciated.

Sincerely,



Leonard J. Bremer  
Production Engineer

LJB:tdg

**The undersigned hereby waives objection to the referenced  
Downhole Commingle Request.**

**Company/Owner:** \_\_\_\_\_

**Title:** \_\_\_\_\_

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

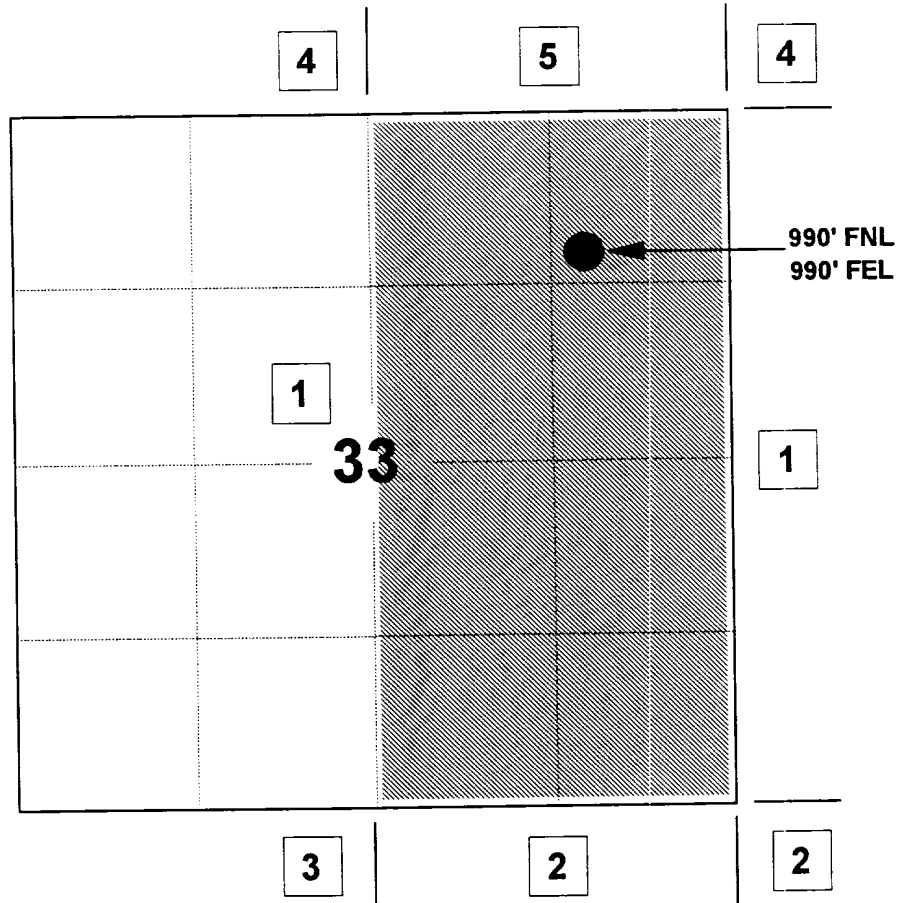
# MERIDIAN OIL INC

## ZACHRY #8

### OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 29 North, Range 10 West



- 1) Meridian Oil Inc.
- 2) Meridian Oil Inc. & Southland Royalty Company
- 3) Meridian Oil Inc. Southland Royalty Company &  
Texaco Exploration & Production, Inc. PO Box 2100, Denver, CO 80201
- 4) S G Interests 811 Dallas, Suite 1505, Houston, TX 77002
- 5) Amoco Production Company PO Box 800, Denver, CO 80201
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Fruitland Coal Formation



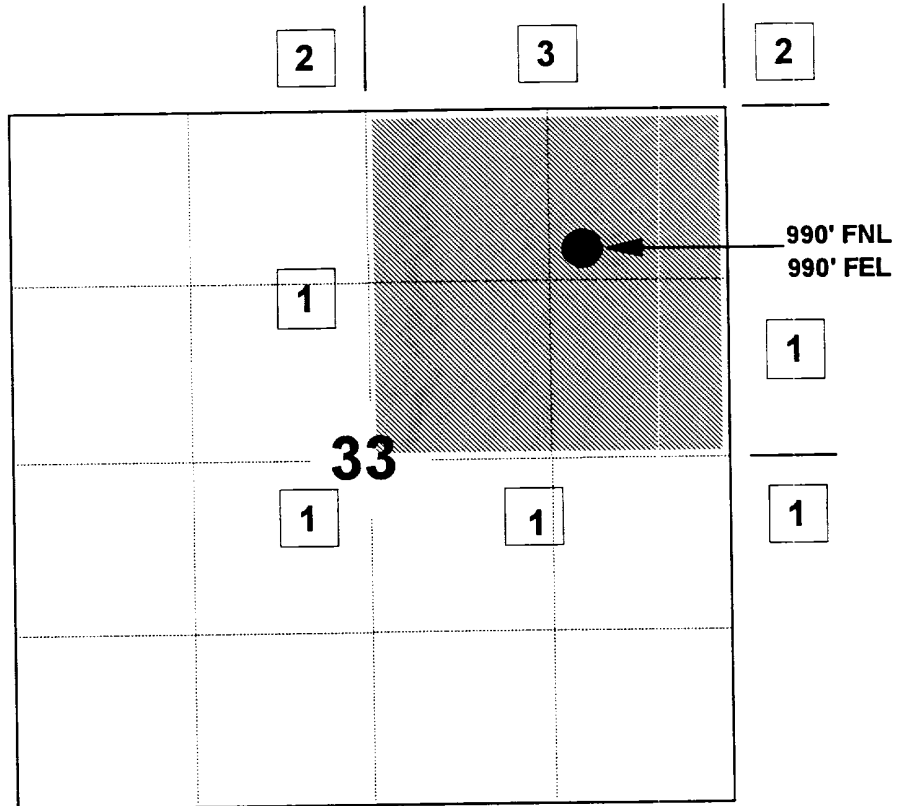
# MERIDIAN OIL INC

## ZACHRY #8

### OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle Well

Township 29 North, Range 10 West



1) Meridian Oil Inc.

2) S G Interests

811 Dallas, Suite 1505, Houston, TX 77002

3) Amoco Production Company

PO Box 800, Denver, CO 80201

Pictured Cliffs Formation

**ZACHRY #8**  
NE/NE 33-29N-10W  
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 (Mcf / Month)  
 $Q_{pc}$  = 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 ( $Q_{pc}$ ), Using the Applied Formula is Fruitland Coal Production ( $Q_{ftc}$ ).

The Pictured Cliffs ( $Q_{pc}$ ) Formation Production Formula is:

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

WHERE:  $Q_{pci}$  = Pictured Cliffs Initial Monthly Rate = 1,243 Mcf/M (Determined from the attached decline curve)

$D_{pc}$  = Pictured Cliffs Monthly Decline Rate Calculated from Decline Curve and Material Balance Analysis:

$$D_{pc} = (0.0067/M)$$

THUS:  $Q_{ftc} = Q_t - Q_{pci} \times e^{\{-(0.0067) \times (t)\}}$

NOTE: (t) is in Months

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