

RELEASE 6.14.93

**MERIDIAN OIL**

OIL CONSERVATION DIVISION  
RECEIVED

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May 18, 1993

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

RE: San Juan 29-7 Unit #574  
Unit G, Section 32, T29N, R07W  
Rio Arriba 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 offset operator to this well is Amoco Production 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.

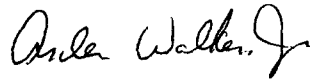
It is proposed to complete the Pictured Cliffs formation and test its production. It is then proposed to set a bridge plug above the Pictured Cliffs, perforate and stimulate the Fruitland Coal, and test its production. The bridge plug will then be removed, and both zones produced through a single string 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 819 and 914 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 volumetrics, 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  
San Juan 29-7 Unit #574  
Downhole Commingling Request  
Page Two

Approval of this commingling application will allow for the prevention of wasted resources and protection of correlative rights. The offset San Juan 29-7 Unit #583, NW/SW, Section 6, T29N, R12W has received downhole commingle approval. 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



KS:tg  
Attachments

cc: Frank T. Chavez - NMOCD/Aztec

**San Juan 29-7 Unit #574**  
**NE/4 of Section 32, T-29-N, R-07-W**  
**Rio Arriba County, NM**  
**Fruitland Coal/Pictured Cliffs Commingle Application**

**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 (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.**

Pictured Cliffs (PC) Formation Production Formula is:

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

WHERE:  $Q_{pci}$  = Initial PC monthly flow rate (determined from completion data)  
 $D_{pc}$  = Monthly Decline Rate based on PC Offsets  
ANNUAL DECLINE = 6.4 % Based on 18 well study in T-29-N, R-08-W

$$D_{pc} = (0.00533)$$

THUS:  $Q_{pc} = Q_{pci} * e^{\{-(0.00533)*(t)\}}$

$$Q_{ftc} = Q_t - Q_{pci} * e^{\{-(0.00533)*(t)\}}$$

WHERE: (t) is time in months of production

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

**San Juan 29-7 Unit #574  
NE/4 of Section 32, T-29-N, R-07-W  
Rio Arriba County, NM  
Fruitland Coal/Pictured Cliffs Commingle Application**

**DETERMINATION OF Qpci:  
(INITIAL PICTURED CLIFFS MONTHLY PRODUCTION)**

$$\underline{Q_{pci} = Q_{t(1)} * Q_{pc(p)} / \{Q_{pc(p)} + Q_{ftc(p)}\}}$$

**WHERE:**

**Qt(1) = FIRST MONTH TOTAL PRODUCTION (MCF)**

**Qpc(p)= FINAL PICTURED CLIFFS PITOT GAUGE (MCF/D)**

**Qftc(p)= FINAL FRUITLAND COAL PITOT GAUGE (MCF/D)**

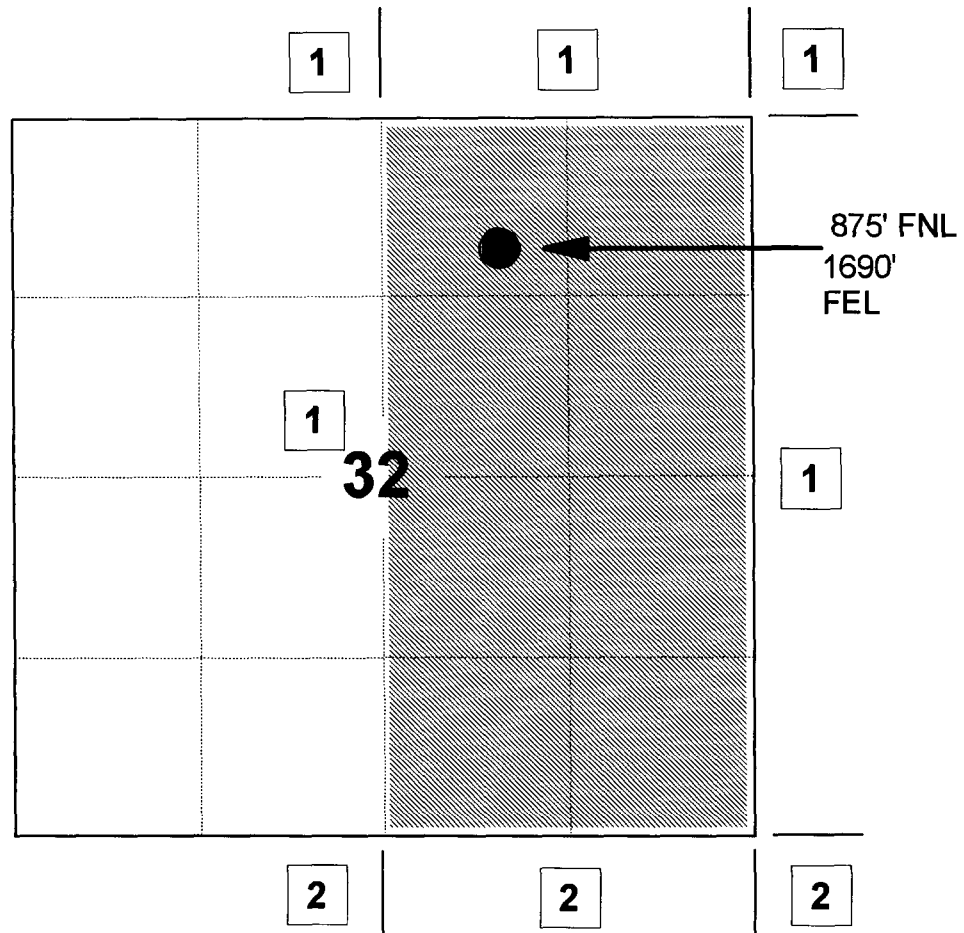
# MERIDIAN OIL INC

## SAN JUAN 29-7 UNIT #574

OFFSET OPERATOR \ OWNER PLAT

Fruitland Coal / Pictured Cliffs Formations Commingle

Township 29 North, Range 07 West



1) Meridian Oil Inc

2) Amoco Production Company

PO Box 800, Denver, CO 80201

# MERIDIAN OIL

May 18, 1993

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

RE: San Juan 29-7 Unit #574  
Unit G, Section 32, T29N, R07W  
Rio Arriba County, New Mexico  
Downhole Commingling Request

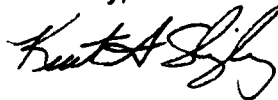
Gentlemen:

Meridian Oil, Inc. is in the process of applying for a downhole commingling order for the San Juan 29-7 Unit #574 well located in Unit G, Section 32, T29N, R07W, N.M.P.M., Rio Arriba 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,



Kurt A. Shipley  
Production Engineering

KS/tg

The above downhole commingling request is hereby approved:

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

# MERIDIAN OIL

May 18, 1993

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

RE: San Juan 29-7 Unit #574  
Unit G, Section 32, T29N, R07W  
Rio Arriba County, New Mexico  
Downhole Commingling Request

Gentlemen:

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Yours truly,



Kurt A. Shipley  
Production Engineering

KS/tg

The above downhole commingling request is hereby approved:

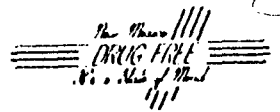
\_\_\_\_\_  
Date: \_\_\_\_\_



STATE OF NEW MEXICO

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE



BRUCE KINON  
GOVERNOR

2 AM 8 53

ANITA LOCKWOOD  
CABINET SECRETARY

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

Date: May 28, 1995

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 May 21, 1993  
for the Meridian San Juan 29-7.2 Unit # 554  
OPERATOR LEASE & WELL NO.

G-32-29N-5W and my recommendations are as follows:  
UL-S-T-R

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

Yours truly,

J. J. g