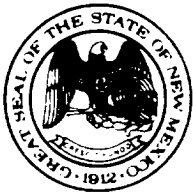


Blm
Alice
(9)



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



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

ADMINISTRATIVE ORDER DHC-1002

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

RECEIVED
MAY 3 1 1994

Attention: John D. Clayton

OIL CON. DIV.
DIST. 3

*San Juan 29-4 Unit Well No. 201
Unit A, Section 31, Township 29 North, Range 4 West, NMPM,
Rio Arriba County, New Mexico.
Basin-Fruitland Coal and Gobernador-Pictured Cliffs Pools*

Dear Mr. Clayton:

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 Gobernador-Pictured Cliffs interval.

Administrative Order DHC-1002
Meridian Oil Company
May 25, 1994
Page 2

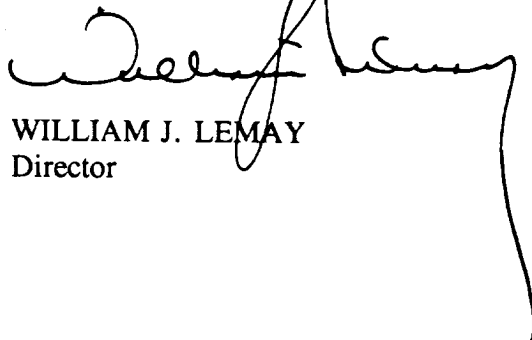
The operator is responsible for reporting the monthly gas production from the subject well to the Division utilizing the allocation formula adopted herein. An annual report shall be submitted by the operator to both the Aztec and Santa Fe offices of the Division showing the complete computations for 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 25th day of May, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

S E A L

WJL/DRC/amg

cc: Oil Conservation Division - Aztec
U.S. Bureau of Land Management - Farmington

S.J. 29-4 UNIT #201

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.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

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

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (CALCULATED FROM FLOW TEST)
 D_{pc} = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM:
 $D_{pc} = (Q_{pci} - Q_{pcabd}) / N_{p(pc)}$
See Determination of Q_{pci} and PC Estimated Ultimate Recovery (EUR)
 $Q_{pcabd} = 300$ MCF/M

WHERE: $N_{p(pc)}$ = PICTURED CLIFFS ESTIMATED ULTIMATE RECOVERY (EUR)
 $P^* \times 1.16 \text{ MMCF/PSI}^{**} \times R_f$
 P^* = INITIAL RESERVOIR PRESSURE (7 DAY SIBHP)
 R_f = RECOVERY (FIELD ANALOGY): = 0.95
 $**$ DETERMINED FROM MATERIAL BALANCE (FIELD ANALOGY) AND VOLUMETRIC RESERVES (LOG ANALYSIS)

By calculating PC EUR FROM SIBHP and determining PC initial flow rate, D_{pc} can then be estimated utilizing the previously described parameters

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

WHERE: (t) IS IN MONTHS

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

Ernie Busch

From: Ernie Busch
To: David Catanach
Subject: MERIDIAN OIL INC. (DHC)
Date: Tuesday, May 17, 1994 8:25AM
Priority: High

WELL NAME & NO. SAN JUAN 28-4 UNIT #201
LOCATION A-18-28N-04W
RECOMMEND APPROVAL

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

OIL CONSERVATION DIVISION

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

OPERATOR'S MONTHLY REPORT

Form C-115 - Revised 1/1/89

See Distribution and Code

Information Bottom of Page

Company or Operator Trust of Edward Gerber and Iris Gerber Danson P.O. Box 2596 Farmington, NM 87499 For Month, Nov., 91 Page 1 of 1

POOL NAME (Underline) *Lease Name	WELL NO.	UNIT	SEC.	TWP	RNG	LEASE NAME - Include State Land Lease Number or Federal Lease Number	INJECTION		PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL							
							VOLUME	PRESS.	BARRELS OIL/COND. PRODUCED	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	DAYS PROD.	SOLD	TRANS. PORTER	OTHER	C O D E	OIL ON HAND AT BEG. OF MONTH	BARRELS TO TRANS. PORTER	TRANS. PORTER	OTHER	C O D E	OIL ON HAND AT END OF MONTH
Blanco Mesa Verde	F	-	-	-	-	-	-	-	-	-	1,310	21	1,310	ENDING	-	-	-	-	-	-	-	-
ced State No. 1																						
178-4																						
32-30-7																						

DEC 26 1991

DEPT. OF REVENUE

OIL CON. DIV.

DIST. 3

RECEIVED
DEC 26 1991
OIL CON. DIV.
DIST. 3

DISTRIBUTION
Original OCD Santa Fe
One Copy OCD Dist. Office
In which lease is located
One Copy to Transporter (s)
DATE DUE
To be postmarked by 24th day of next succeeding month.

STATUS CODE
F... FLOWING
P... PUMPING
G... GAS LIFT
S... SHUT IN
T... TEMP ABANDONED
I... INJECTION
D... DISCONTINUED

OTHER GAS DISPOSITION CODE
X... USED OFF LEASE
D... USED FOR DRILLING
G... GAS LIFT
L... LOST (MCF ESTIMATED)
E... EXPLANATION ATTACHED
R... REPRESSURING OR
V... VENTED
U... USED ON LEASE

OTHER OIL DISPOSITION CODE
C... CIRCULATING OIL
S... SEDIMENTATION (S & W)
E... EXPLANATION ATTACHED
T... THEFT

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

R.E. Fielder

Agent

POSITION

12/23/91

DATE

MERIDIAN OIL

April 21, 1994

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

RECEIVED
APR 26 1994
OIL CON. DIV.
DIST. 3

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
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/owners to this well are John E. Schalk, Ruth Zimmerman Trust, Max B. Rotholz, Thomas & Mary Dugan, Langdon D. Harrison, Kerr-McGee Corp., Robert P. Tinnin, MAR Oil & Gas, H.O. Pool Trust, EJE Brown Company, Kathleen Quinn., and Richmond Petroleum. A letter has been sent to the Bureau of Land Management and to the above mentioned notifying them of this downhole commingle.

The Fruitland Coal and Pictured Cliffs wells producing in this area operated by Meridian 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 average shut-in pressures in the area for the Pictured Cliffs and Fruitland Coal are 1065 and 1040 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 29-4 Unit #201
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 the letter to the BLM and an allocation formula.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Clayton for JDC".

John D. Clayton
Regional Engineer

SHL/rjp
Attachments

cc: Frank T. Chavez - NMOCD/Aztec

MERIDIAN OIL

April 21, 1994

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle 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 Rio Arriba County, New Mexico. The approved application will commingle the 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:

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

Your prompt attention to this matter would be appreciated.

Yours truly,



John D. Clayton
Regional Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

John E. Schalk
P.O. Box 25825
Albuquerque, NM 87125

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

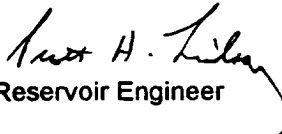
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Max B. Rotholz
1323 North Fulton
Wharton, TX 77488

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

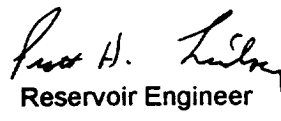
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Max B. Rotholz
1323 North Fulton
Wharton, TX 77488

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

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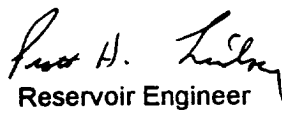
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Mr. William LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Thomas & Mary Dugan
P.O. Box 420
Farmington, NM 87499

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

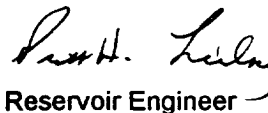
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Mr. William LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Langdon D. Harrison
7517 Tamarron Place, N.E.
Albuquerque, NM 87109

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

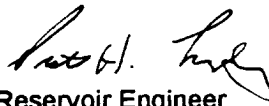
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Kerr-McGee Corp.
P.O. Box 11050
Midland, TX 79702

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

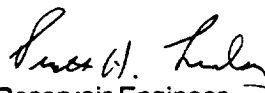
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Robert P. Tinnin
P.O. Box 1885
Albuquerque, NM 87103

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

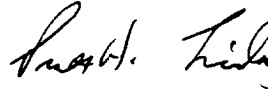
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Mr. William LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Your prompt attention to this matter would be appreciated.

Yours truly,



Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

MAR Oil & Gas
P.O. Box 5155
Santa Fe, NM 87502

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

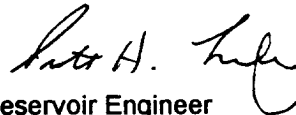
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,



Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

H.O. Pool Trust
Attn: Debbie Burney
P.O. Box 25189
Oklahoma City, OK 73125

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

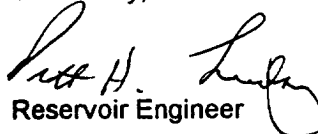
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Mr. William LeMay
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

EJE Brown Company
c/o Nationsbank of Texas, N.A.
P.O. Box 2546
Forth Worth, TX 76113-2546

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

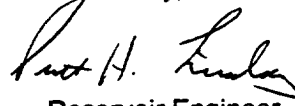
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Kathleen Quinn
c/o Sunwest Bank of Albuquerque, N.A.
Attn: Gail McBrearty
P.O. Box 26900
Albuquerque, NM 87125

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

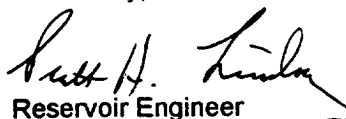
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The purpose of this letter is to notify you of Meridian's application. If you have no objections to the NMOCD issuing a commingling order, we would appreciate your signing this letter and returning the original to Mr. LeMay at the following address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

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

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

MERIDIAN OIL

April 21, 1994

Richmond Petroleum
2651 N. Harwood, Suite 500
Dallas, TX 75020

RE: San Juan 29-4 Unit #201
Unit A, Section 31, T29N, R04W
Rio Arriba County, New Mexico
Downhole Commingle Request

Gentlemen:

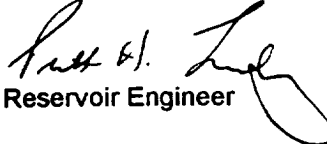
Meridian Oil Inc. is in the process of applying for a downhole commingling order from the New Mexico Oil Conservation Division (NMOCD) for the referenced well located in Rio Arriba County, New Mexico. The approved application will commingle the Pictured Cliffs and the Basin Fruitland Coal fields.

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:

Mr. William LeMay
New Mexico Oil Conservation Division
P.O. Box 2038
Santa Fe, NM 87501

Your prompt attention to this matter would be appreciated.

Yours truly,


Reservoir Engineer

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

COMPANY/OWNER: _____

TITLE: _____

DATE: _____

S.J. 29-4 UNIT #201

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.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

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

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (CALCULATED FROM FLOW TEST)
 D_{pc} = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM:
 $D_{pc} = (Q_{pci} - Q_{pcabd}) / N_{p(pc)}$
See Determination of Q_{pci} and PC Estimated Ultimate Recovery (EUR)
 $Q_{pcabd} = 300$ MCF/M

WHERE: $N_{p(pc)}$ = PICTURED CLIFFS ESTIMATED ULTIMATE RECOVERY (EUR)
 $P^* \times 1.16 \text{ MMCF/PSI}^{**} \times R_f$
 P^* = INITIAL RESERVOIR PRESSURE (7 DAY SIBHP)
 R_f = RECOVERY (FIELD ANALOGY): = 0.95
 ** DETERMINED FROM MATERIAL BALANCE (FIELD ANALOGY) AND VOLUMETRIC RESERVES (LOG ANALYSIS)

By calculating PC EUR FROM SIBHP and determining PC initial flow rate, D_{pc} can then be estimated utilizing the previously described parameters

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

WHERE: (t) IS IN MONTHS

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

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DETERMINATION OF Q_{pci} : (INITIAL PICTURED CLIFFS MONTHLY PRODUCTION)

$$Q_{pci} = Q_t(1) \times Q_{pc}(p) / \{Q_{pc}(p) + Q_{ftc}(p)\}$$

WHERE:

$Q_t(1)$ = FIRST MONTH TOTAL PRODUCTION (MCF)

$Q_{pc}(p)$ = FINAL PICTURED CLIFFS FLOW TEST (MCFPD)

$Q_{ftc}(p)$ = FINAL FRUITLAND COAL FLOW TEST (MCFPD)

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EXAMPLE DETERMINATION OF:

- (a) $N_p(pc)$
- (b) Q_{pci}
- (c) D_{pc}

PC EUR

INITIAL PC MONTHLY FLOW RATE

PC MONTHLY DECLINE RATE

(a) DETERMINATION OF $N_p(pc)$

$$N_p(pc) = 1.16 \text{ (MMCF/PSI)} \times P^* \text{ (PSI)} \times R_f$$

$$P^* = 1065 \text{ PSI (FROM 7 DAY SIBHP)}$$

$$N_p(pc) = 1.16 \text{ MMCF/PSI} \times 1065 \text{ PSI} \times 0.95$$

$$\underline{N_p(pc) = 1174 \text{ MMCF}}$$

(b) DETERMINATION OF Q_{pci}

$$Q_{pci} = Q_t(1) \times \{Q_{pc}(p) / (Q_{pc}(p) + Q_{ftc}(p))\}$$

$$\begin{aligned} Q_t(1) &= 15,000 \text{ MCF} \\ Q_{pc}(p) &= 500 \text{ MCF/D} \\ Q_{ftc}(p) &= 400 \text{ MCF/D} \end{aligned}$$

1ST MONTH TOTAL PRODUCTION
PC FLOW TEST
FTC FLOW TEST

$$Q_{pci} = 15,000 \text{ MCF/M} \times \{500 \text{ MCF/D} / (500 \text{ MCF/D} + 400 \text{ MCF/D})\}$$

$$\underline{Q_{pci} = 8,333 \text{ MCF/M}}$$

(c) DETERMINATION OF D_{pc}

$$D_{pc} = (Q_{pci} - Q_{pcabd}) / N_{pc}$$

$$Q_{pcabd} = 300 \text{ MCF/M}$$

$$D_{pc} = (8,333 \text{ MCF/M} - 300 \text{ MCF/M}) / (1,174,000 \text{ MCF})$$

$$\underline{D_{pc} = 0.007/\text{M}}$$

$$\underline{\text{THUS: } Q_{ftc} = Q_t(\text{MCF/M}) - 8,333(\text{MCF/M}) \times e^{\{-(0.007(1/\text{M})) \times t(\text{M})\}}}$$

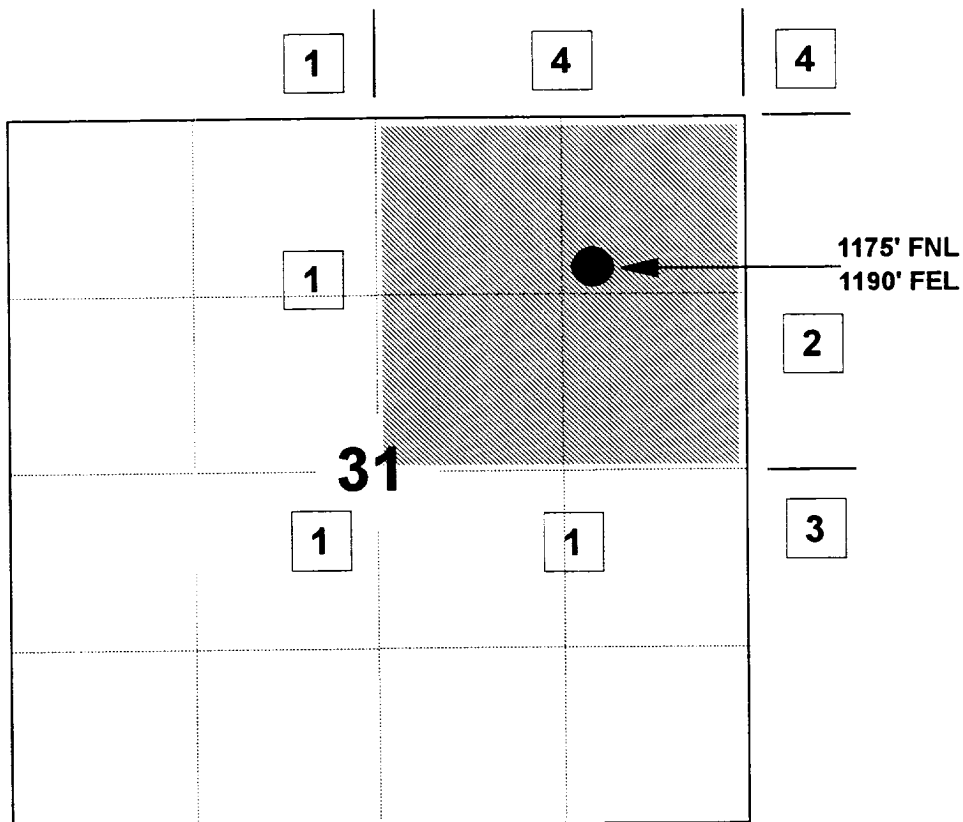
MERIDIAN OIL INC

SAN JUAN 29-4 UNIT #201

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Formation Commingle Well

Township 29 North, Range 4 West



1) Meridian Oil Inc

2) John E. Schalk

PO Box 25825, Albuquerque, NM 87125

3) Meridian Oil Inc &

John E. Schalk

4) See Attached

Pictured Cliffs Formation

Ruth Zimmerman Trust
Attn: Hazel Hart (Sister)
842 Muirlands Vista Way
La Jolla, CA 92037

Max B. Rotholz
1323 North Fulton
Wharton, TX 77488

Thomas & Mary Dugan
P.O. Box 420
Farmington, NM 87499

Langdon D. Harrison
7517 Tamarron Place, N.E.
Albuquerque, New Mexico 87109

Kerr-McGee Corp.
Post Office Box 11050
Midland, Texas 79702

Robert P. Tinnin
P.O. Box 1885
Albuquerque, NM 87103

MAR Oil & Gas
P.O. Box 5155
Santa Fe, NM 87502

H.O. Pool Trust
Attn: Debbie Burney
P.O. Box 25189
Oklahoma City, OK 73125

EJE Brown Company
c/o Nationsbank of Texas, N.A.
P.O. Box 2546
Fort Worth, TX 76113-2546

Kathleen Quinn
c/o Sunwest Bank of Albuquerque, N.A.
Attn: Gail McBrearty
P.O. Box 26900
Albuquerque, NM 87125

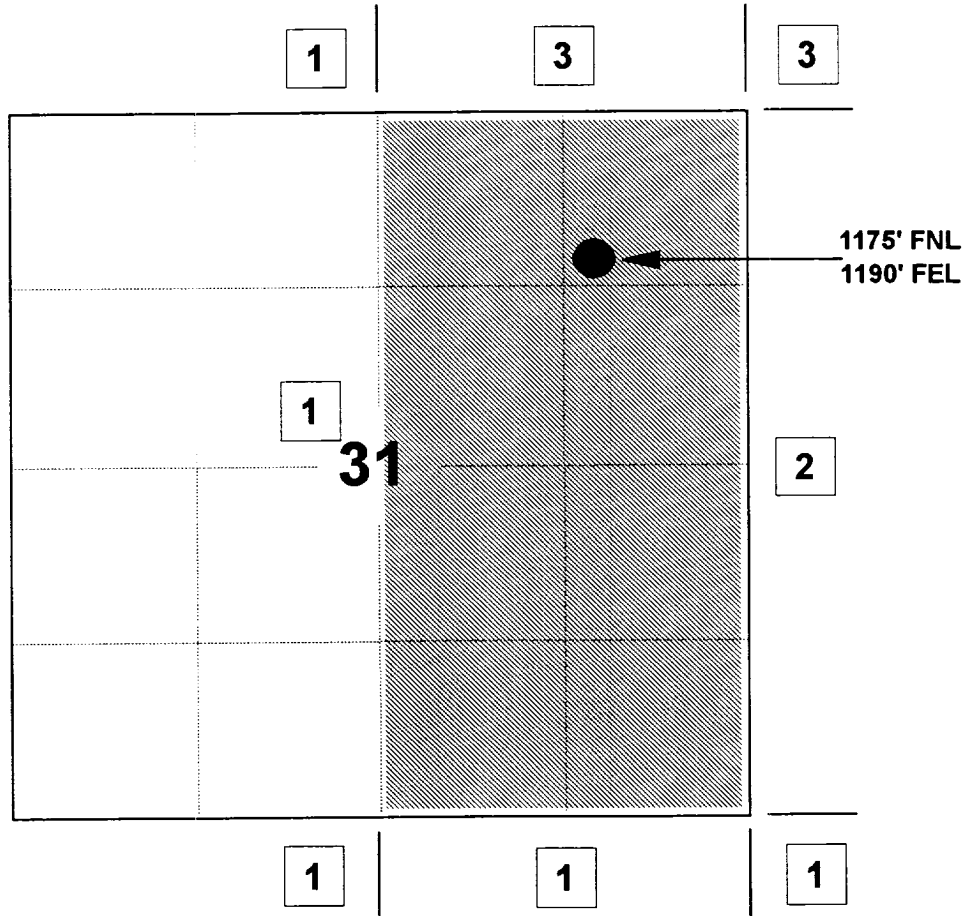
MERIDIAN OIL INC

SAN JUAN 29-4 UNIT #201

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Formation Commingle Well

Township 29 North, Range 4 West



1) Meridian Oil Inc

2) Richmond Petroleum

2651 N. Harwood, Ste 500, Dallas, TX 750201

3) See Attached

Fruitland Coal Formation

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Attn: Hazel Hart (Sister)
842 Muirlands Vista Way
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