

RELEASE 6-7-93

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED

1993 MAY 13 AM 8 58

May 14, 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: Shiotani Federal #500
Unit H, Section 08, T29N, R12W
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 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 Conoco, Inc., BHP Petroleum, Amoco Production Company, Texaco Exploration & Production, Inc., Elliot Riggs, Dugan Production Corporation, and Richardson Operating Company. 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.

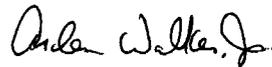
It is proposed to complete the Pictured Cliffs formation and establish production. It is then proposed to set a bridge plug above the Pictured Cliffs, perforate and stimulate the Fruitland Coal, and test its production. The bridge plug will then be removed, and both zones produced through a single string 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 340 and 460 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
Shiotani Federal #500
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 (Shiotani Federal Com #400, SW/4 Sec. 8, T29N, R12W, has already received administrative approval NMOCD Order #R-9881). 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, wellbore diagrams, pertinent data sheet, and an allocation formula.

Sincerely,



Arden L. Walker, Jr.
Regional Production Engineer

SBD/KAS:tg
Attachments

cc: Frank T. Chavez - NMOCD/Aztec

Pertinent Data Sheet - Shiotani Federal # 500

Location: 1700 ' FNL, 1055' FEL, Section 8, T29N R12W, San Juan County, N.M.

Field: Basin Fruitland Coal/West Kutz PC

Elevation: 5663' GL **TD:** 1950'
PBTD: 1905'

GWI: 56.2500%
NRI: 47.8125%

Completed: NA

DP Number: 30821A FTC
 30821B PC

Casing Record:

<u>Hole Size</u>	<u>Csg Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Top/Cmt.</u>
12-1/4"	8-5/8"	24.0# K-55	219'	235 sxs	SURF (CIRC)
7-7/8"	4-1/2"	10.5# K-55	1949'	605 sxs*	SURF (CIRC)

*Two stage cement with stage tool set @ 1390':

1st: Lead: 115 sxs Class G 65/35 POZ w/ 2% CaCl₂, 6% gel, 5 lb/sxs Gilsonite, 1/4 lb/sx Flocele.
 Tail: 80 sxs Class G w/ 2% CaCl₂ (92 cf)

2nd: Lead: 385 sxs Class G 63/35 POZ w/ 2% CaCl₂, 5 lb/sxs Gilsonite, 6% gel, 1/4 lb/sx Flocele.
 Tail: 25 sxs Class G Neat w/ 2% CaCl₂ (29 cf)

Tubing Record: NA

Formation Tops:

Ojo Alamo: 305'
Kirtland: 427'
Fruitland: 1376'
Pictured Cliffs: 1698'

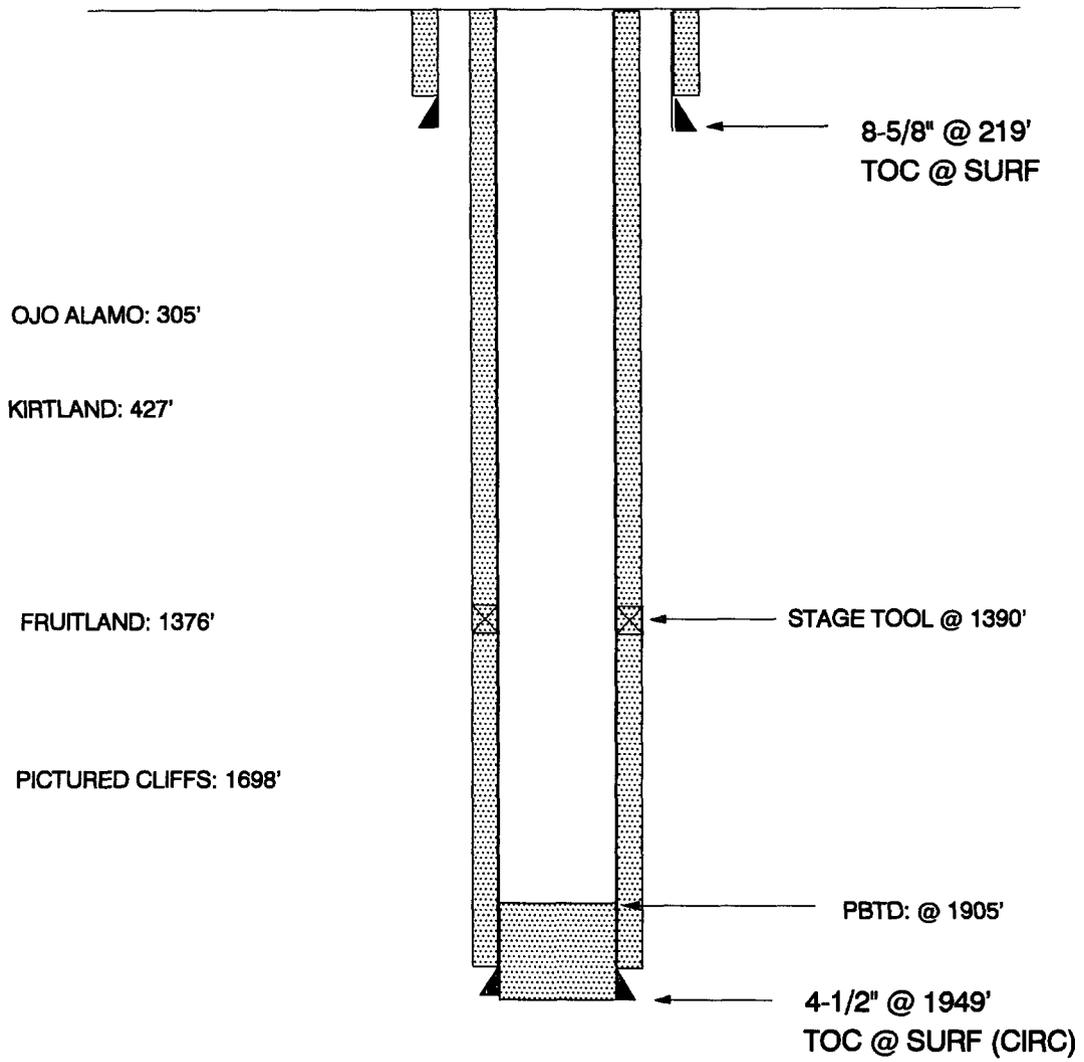
Logging Record: GR, DENSITY/NEUTRON, MICRO LOG, CYBERLOOK/COAL, MUD LOG.

Spud Date: 12/30/92

Estimated Drilling Costs: \$76,047

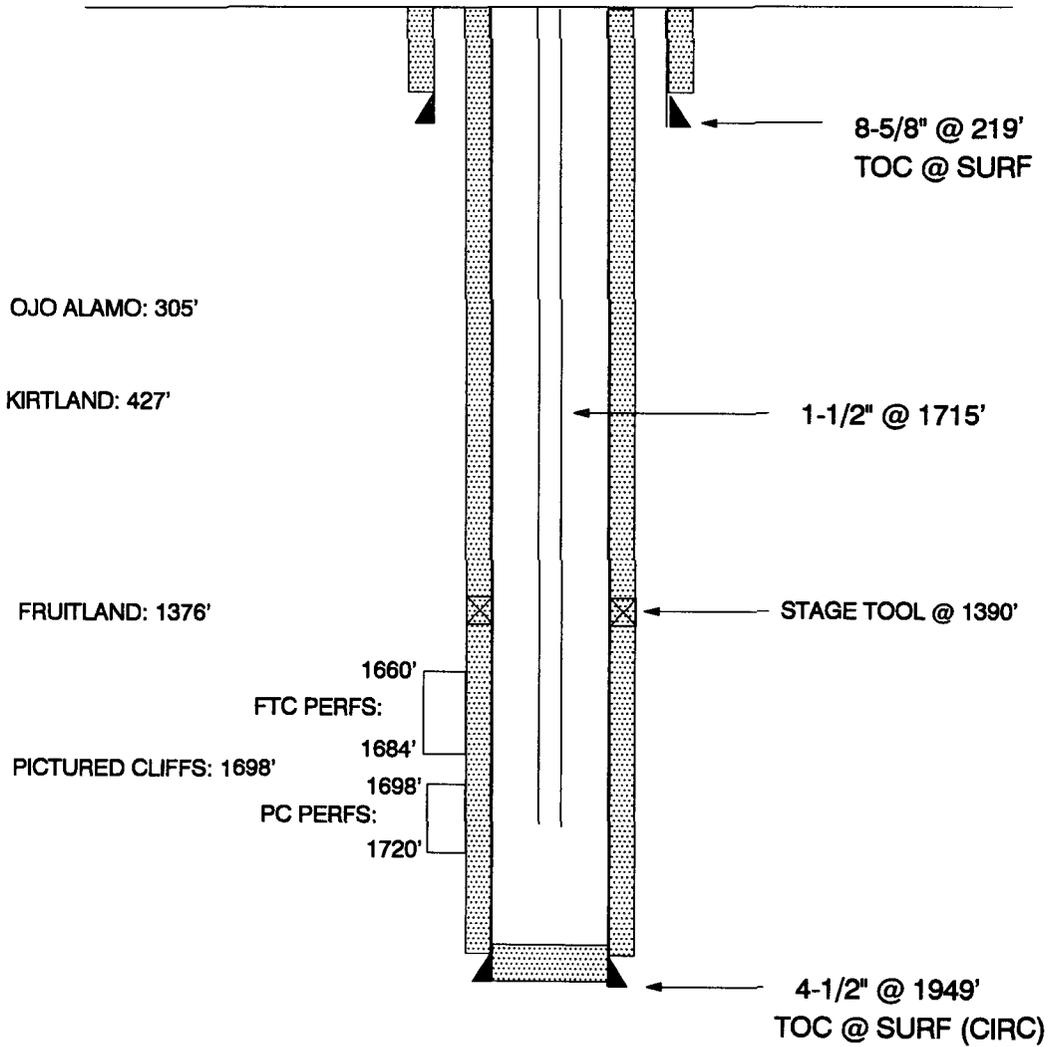
CURRENT SHIOTANI FED # 500

UNIT H SECTION 8 T29N R12W
SAN JUAN COUNTY, NEW MEXICO



PROPOSED
SHIOTANI FED # 500

UNIT H SECTION 8 T29N R12W
SAN JUAN COUNTY, NEW MEXICO



SHIOTANI FEDERAL #500

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

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

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 DETERMINED FROM:

MATERIAL BALANCE (FIELD ANALOGY):
VOLUMETRIC RESERVES (LOG ANALYSIS)
 $G_i(P^*) = 0.84 \text{ MMCF/PSI} \times P^* \times R_f$

P^* = INITIAL RESERVOIR PRESSURE (7 DAY SIBHP)

R_f = RECOVERY (FIELD ANALOGY): = 0.85

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.

SHIOTANI FEDERAL #500

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 R_f = RECOVERY (FIELD ANALOGY): = 0.85

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.

SHIOTANI FEDERAL #500

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

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

WHERE:

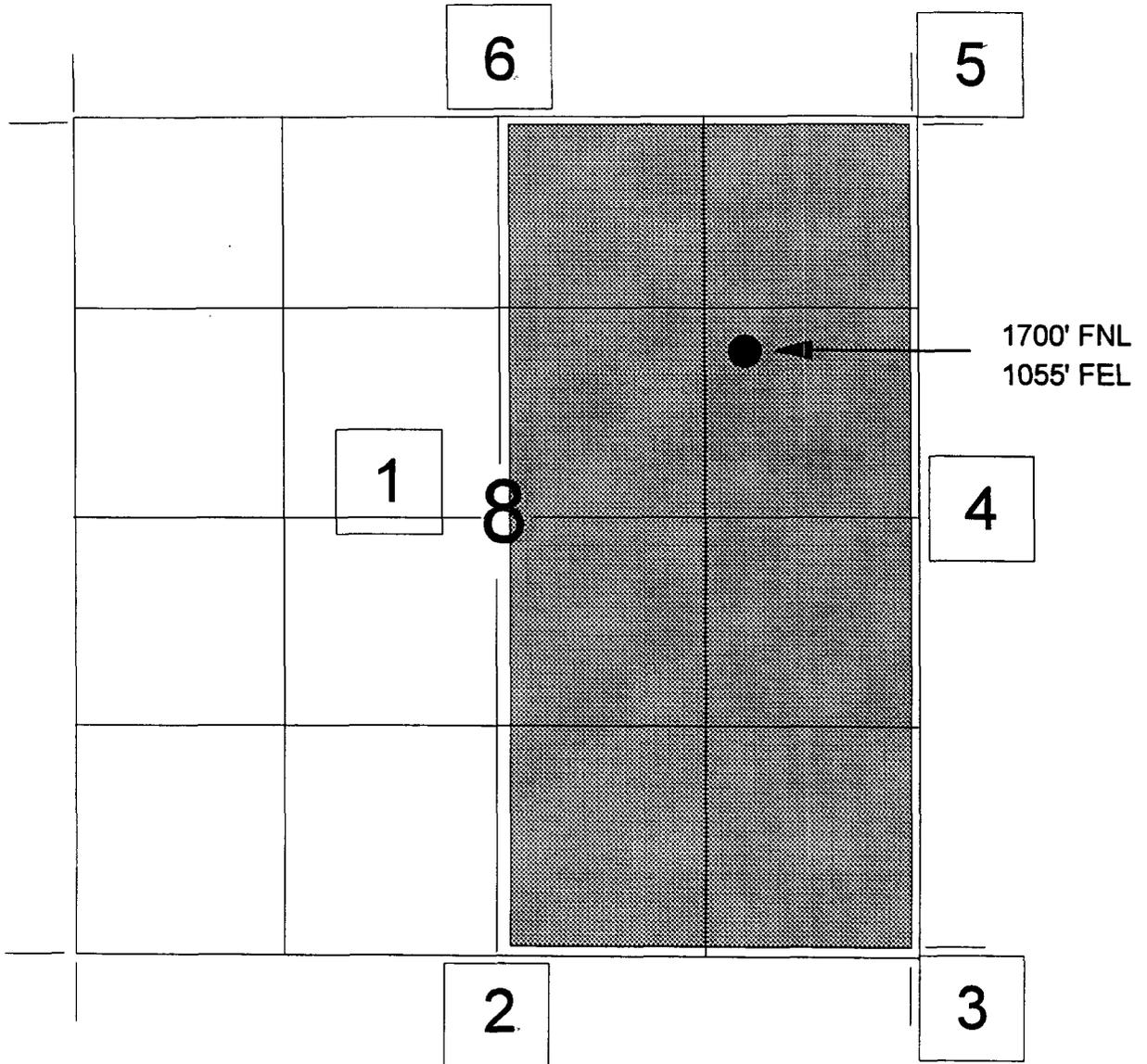
$Q_t(1)$ = FIRST MONTH TOTAL PRODUCTION (MCF)

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

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

MERIDIAN OIL INC.

OFFSET OPERATOR/OWNER PLAT
Fruitland Coal/Pictured Cliffs Commingle
Shiotani Federal #500
SE NE Section 8, T29N, R12W
San Juan County, New Mexico



See Attached List

FRUITLAND COAL

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

Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500

Frank A. Schultz
Attn: Mr. Aaron L. Colvin
Lincoln Plaza, Suite 2160 LB-1, 500 North Akard
Dallas, TX 75201-3318

Elizabeth Jeanne Turner Calloway
4801 St. Johns Drive
Dallas, TX 75205

J. Glenn Turner Jr.
3131 Turtle Creek Blvd., Suite 1201
Dallas, TX 75219

Frederick Eugene Turner
One Energy Square, Suite 853
4925 Greenville Ave.
Dallas, TX 75205

John Lee Turner
P.O. Box 797215
Dallas, TX 75379-7215

Mary Frances Turner Jr.
c/o MBank Dallas, Trustee (Trust #3095)
P.O. Box 951412
Dallas, TX 75395-1412

William G. Webb
1525 Elm Street, Second Floor
Dallas, TX 75201

Estate of C. W. Murchison
Bankers Trust Company of Texas
1445 Ross Ave., Suite 2600 LB 201
Dallas, TX 75202

Virginia L. Linthicum
Attn: R. J. Smith, Jr.
2626 Cole Ave., Suite 603 LB 63
Dallas, TX 75204
2. BHP Petroleum
5847 San Felipe
Suite 3600
Houston, TX 77057

Amoco Production Company
P.O. Box 800
Denver, CO 80201
3. Texaco Exploration & Prod., Inc
P.O. Box 2100
Denver, CO 80201-2100
4. Elliott Riggs
P.O. Box 711
Farmington, NM 87499-0711

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

Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
5. Elliott Riggs
P.O. Box 711
Farmington, NM 87499-0711

Dugan Production Corp.
P.O. Box 420
709 E. Murray Dr.
Farmington, NM 87499
6. Richardson Operating Company
309 West First Avenue
P.O. Box 9808
Denver, CO 80209

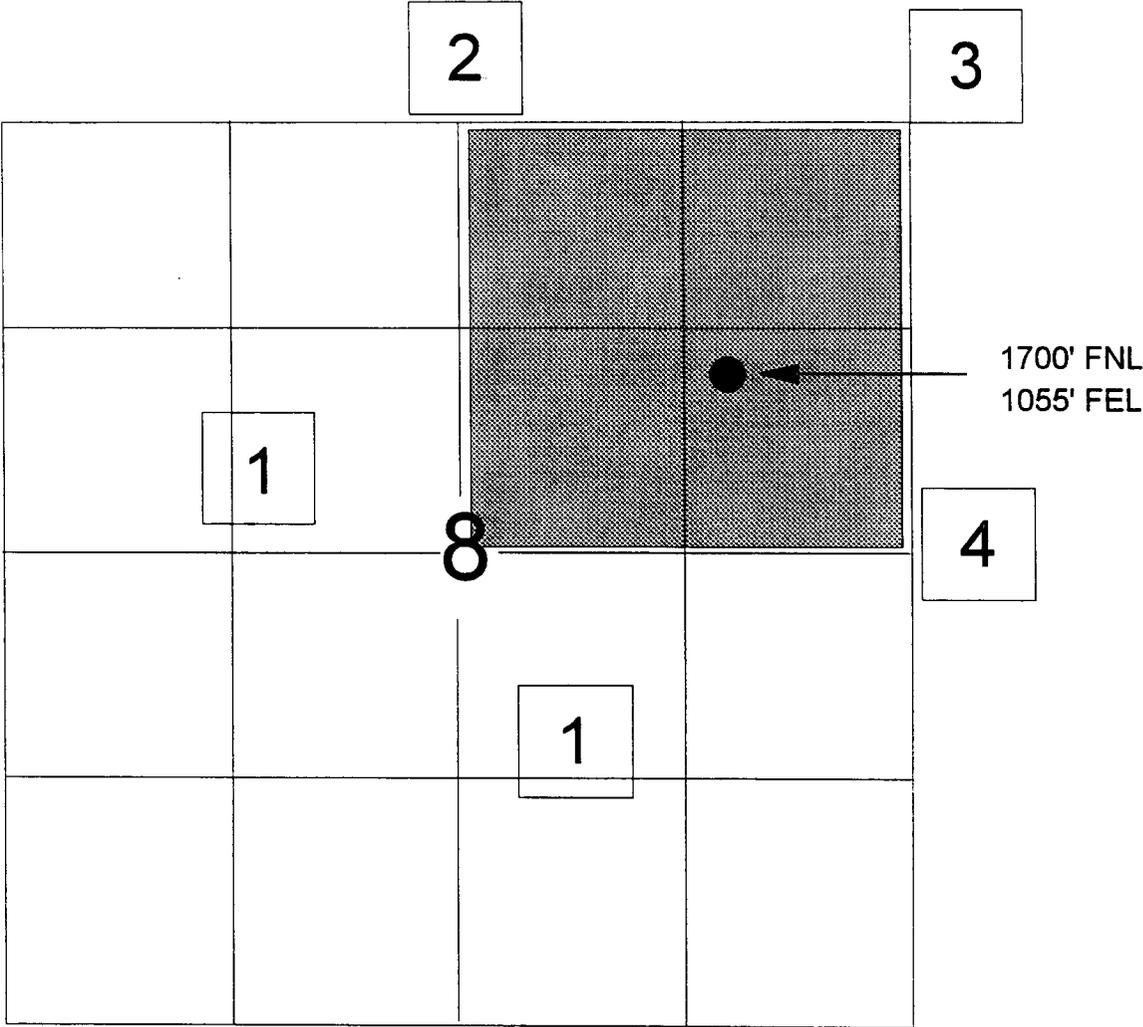
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Denver, CO 80201

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Texaco Exploration & Prod., Inc.
P.O. Box 2100
Denver, CO 80201-2100

MERIDIAN OIL INC.

OFFSET OPERATOR/OWNER PLAT
Fruitland Coal/Pictured Cliffs Commingle
Shiotani Federal #500
SE NE Section 8, T29N, R12W
San Juan County, New Mexico



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PICTURED CLIFFS

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Denver, CO 80201-2100
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709 E. Murray Dr.
Farmington, NM 87499
4. Elliott Riggs
P.O. Box 711
Farmington, NM 87499-0711

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

Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500

MERIDIAN OIL

May 14, 1993

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

RE: Shiotani Federal #500
Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

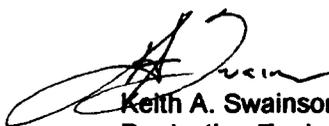
Gentlemen:

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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,



Keith A. Swainson
Production Engineering

KAS/tg

The above downhole commingling request is hereby approved:

Date: _____

MERIDIAN OIL

May 14, 1993

BHP Petroleum
5847 San Felipe
Suite 3600
Houston, Texas 77057

RE: Shiotani Federal #500
Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

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Date: _____

MERIDIAN OIL

May 14, 1993

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

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Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

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MERIDIAN OIL

May 14, 1993

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

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San Juan County, New Mexico
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Mr. Elliot Riggs
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Farmington, New Mexico 87499-0711

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Date: _____

MERIDIAN OIL

May 14, 1993

Conoco, Inc.
10 Desta Drive
Suite 100W
Midland, Texas 79705-4500

RE: Shiotani Federal #500
Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

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MERIDIAN OIL

May 14, 1993

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709 East Murray Drive
Farmington, New Mexico 87499

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Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

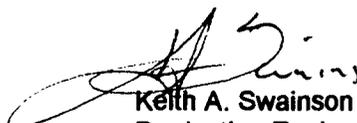
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Production Engineering

KAS/tg

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Date: _____

MERIDIAN OIL

May 14, 1993

Richardson Operating Company
P.O. Box 9808
309 West First Avenue
Denver, Colorado 80209

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Unit H, Section 08, T29N, R12W
San Juan County, New Mexico
Downhole Commingling Request

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Production Engineering

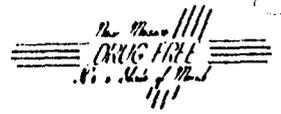
KAS/tg

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STATE OF NEW MEXICO



ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
RECEIVED

OIL CONSERVATION DIVISION
'93 JUN 2 AM 8 52 AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Date: May 28, 1993

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

RE: Proposed MC _____
Proposed NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on May 18, 1993
for the Meridian OPERATOR Shitani Federal #500 LEASE & WELL NO.

14-8-29N-12W and my recommendations are as follows:
UL-S-T-R

Approve

Yours truly,

35.8