MERIDIAN OIL

September 16, 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: Jicarilla 447 Lease

- Jicarilla 447 #1A Unit O, Section 19, T27N, R03W
- Jicarilla 447 #2 Unit F, Section 19, T27N, R03W
- Jicarilla 447 #3 Unit N, Section 18, T27N, R03W

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 wells in the Gavilan Pictured Cliffs and the Blanco Mesaverde fields. The ownership of the zones to be commingled is common. All offset interest owners shown on the attached plats and the Bureau of Land Management will receive notice of this commingling application.

The Mesaverde and Pictured Cliffs wells in this area are marginal economic producers based on current rates of 10-90 MCFD for each zone. The projects are economic when commingled due to savings realized on surface facilities and tubulars. The only economical way to recover the Mesaverde and Pictured Cliffs reserves identified on the lease is to downhole commingle production from both zones in the wells proposed.

It is proposed to complete the Mesaverde formation and test its production. It is then proposed to set a bridge plug above the Mesaverde, perforate and stimulate the Pictured Cliffs, 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. The fluids in the two reservoirs are compatible and no precipitates will be formed to cause damage to either reservoir (see attached fluid analyses and compatibility tests, completed for prior commingling on the adjacent Jicarilla 94 and 95 leases). The shut-in pressure for the Mesaverde and Pictured Cliffs in this area are **550** and **490** psi, respectively.

The allocation of the commingled production will be calculated using flow tests from the Mesaverde and Pictured Cliffs during completion operations, and the surrounding production history from both producing intervals. Meridian will consult with the district supervisor of the Aztec NMOCD office for approval of the allocation.

Approval of this commingling application will allow for the prevention of wasted resources and the protection of correlative rights. The Mesaverde and Pictured Cliffs are commingled in nine other wells in this township as per NMOCD Order #'s R-5350 (01/17/77), R-6004 (05/02/79), DHC-924 and DHC-925 (09/27/93), DHC-984, 985, 986, 987, 988 (2/18/94). Two of these wells (DHC-924, 925) are completed, waiting on hook-up while seven (R-5350, -6004, DHC-984, 985, 986, 987, 988) are producing with no adverse affects from the commingling. Included with this letter are plats showing ownership of offsetting leases for both formations, copies of letters to offset operators and the Bureau of Land Management, and a detailed report of fluid compatibility.

Sincerely,

B. P. Ault

Brian P. Ault
Production Engineer

BPA/rjp

Attachments

xc: Frank T. Chavez - NMOCD/Aztec

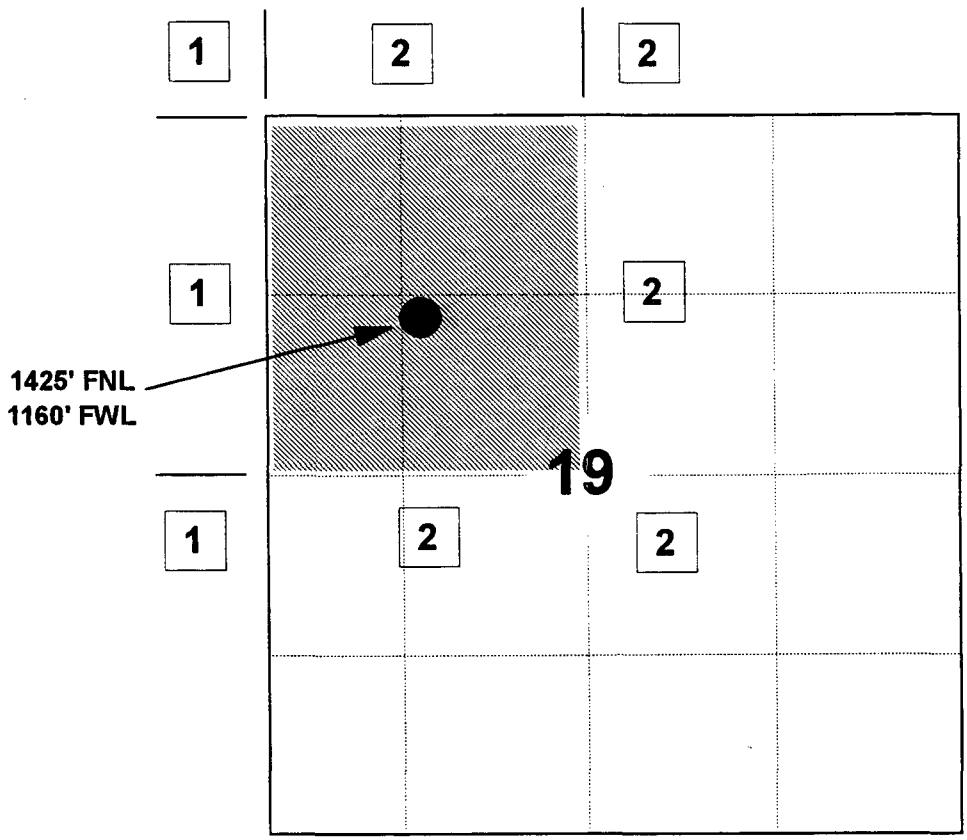
MERIDIAN OIL INC

JICARILLA 447 #2

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Mesaverde Commingle Well

Township 27 North, Range 3 West



1) Meridian Oil Inc

2) Southland Royalty Company

Pictured Cliffs Formation

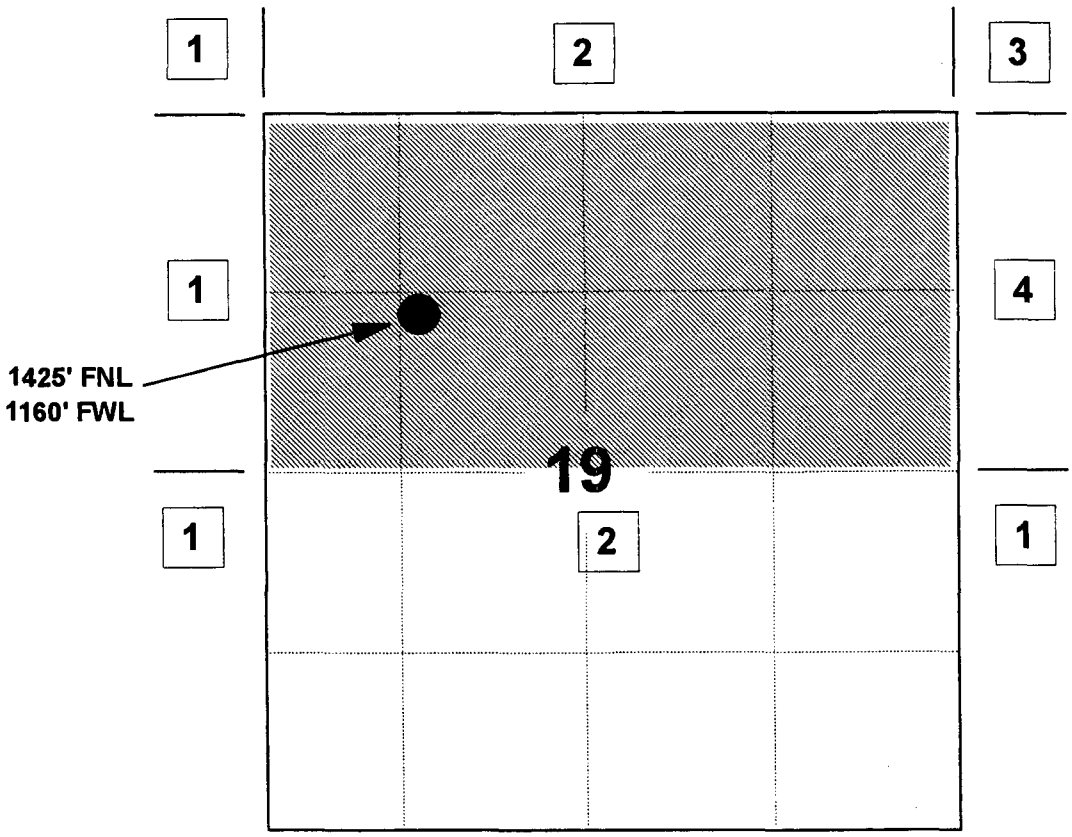
MERIDIAN OIL INC

JICARILLA 447 #2

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Mesaverde Commingle Well

Township 27 North, Range 3 West



1) Meridian Oil Inc

2) Southland Royalty Company

3) Jicarilla Apache Tribe PO Box 167, Dulce, NM 87528

4) Williams Production Company PO Box 58900, Salt Lake City, UT 84158-0900

Mesaverde Formation

MERIDIAN OIL

JICARILLA 98 AND 96 LEASE
RIO ARRIBA COUNTY, NM
MESA VERDE/PICTURED CLIFFS FORMATION

The Western Company

LABORATORY INVESTIGATION

PREPARED FOR

MR. BRIAN AULT
PRODUCTION ENGINEER

SERVICE POINT
FARMINGTON, NM
(505) 327-6222

PREPARED BY
LOREN DIEDE / DAVE COLESON
DISTRICT ENGINEER
FARMINGTON

MARCH 25, 1993

FM020658

March 25, 1993

Meridian Oil
Jicarilla 96 #2
Jicarilla 98 #5

Three samples from Jicarilla 96 #2 (1 oil, 2 water) and two samples from Jicarilla 98 #5 (2 condensates) were submitted for analysis on March 19, 1993 by Mr. Lesley K. Smith, Senior Reservoir Engineer for Meridian Oil.

These samples were to be analyzed to determine if commingling of each of the well products would have adverse efforts on well production.

Samples submitted were:

1. Jicarilla 96 #2
   a. Mesa Verde oil
   b. Mesa Verde water
   c. Pictured Cliffs water

2. Jicarilla 98 #5
   a. Mesa Verde condensate
   b. Pictured Cliffs condensate

Lab analysis performed:

1. Oil, condensate analysis
   a. API gravity
   b. Pour point
   c. Cloud point

2. Water analysis
   a. API water analysis

3. Observation and analysis of commingled oil, condensate and water as applicable for well.

Meridian Oil
Jicarilla 96 #2

Result of Analysis:
Pictured Cliffs produced water

ph	:	7.12
Resistivity	:	1.65
Sp. Gr.	:	1.00

Cations

Sodium & Potassium	1601	mg/ l (calc.)
Calcium	48	mg/ l
Magnesium	5	mg/ l (calc.)

Anions

Chloride	2061	mg / l
Sulfate	0	mg / l
Bicarbonate	976	mg / l

Total dissolved solids 4691

Mesa Verde produced water

ph	:	6.52
Resistivity	:	3.70
Sp. Gr.	:	1.005

Cations

Sodium & Potassium	922	mg/ l (calc.)
Calcium	40	mg/ l
Magnesium	5	mg/ l (calc.)

Anions

Chloride	1649	mg / l
Sulfate	0	mg / l
Bicarbonate	850	mg / l

Total dissolved solids 3466

Meridian Oil
Jicarilla 96 #2

Mesa Verde produced oil

Appearance	:	Light, amber oil
API gravity @ 60 degrees F	:	58.2
Cloud point	:	0 degrees C
Pour point	:	< -10 degrees C

Pictured Cliffs / Mesa Verde produced water
Combined (using high shear) with Mesa Verde produced oil (50:50 mix of waters and oil).

Appearance	:	Cloudy, amber emulsion
Separation	:	Beginning on cessation of shear
Precipitation	:	None observed
Separation @ time	:	At 1 hour - complete

Summary of results:

No precipitation or other observed adverse reaction from combined waters or from combination of the oil and waters.

Analysis forms follow.

Analysis done by: _____
Dave Coleson

The Western Company of North America

3250 South Side River Road
Farmington, New Mexico 87401
Phone (505)327-6222
Fax (505)327-5766

API WATER ANALYSIS

Company MERIDIAN Sample No. S11393 Date Sampled 3/8/93

Field _____ Legal Description T26NR03W, SEC 2 County or Parish Rio Arriba State NM

Lease or Unit A Well JC 96 # 2 Depth _____ Formation PC Water, B/D _____

Type of Water (Produced, Supply, ect.) PRODUCED Sampling Point _____ Sampled By _____

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na	1601	69.6
Calcium, Ca	48	2.4
Magnesium, Mg	5	0.4
Barium, Ba		

ANIONS		
Chloride, Cl	2061	58
Sulfate, SO_4	—	—
Carbonate, CO_3	—	—
Bicarbonate, HCO_3	976	16
Hydroxide, OH		

Total Dissolved Solids (calc.) 4691

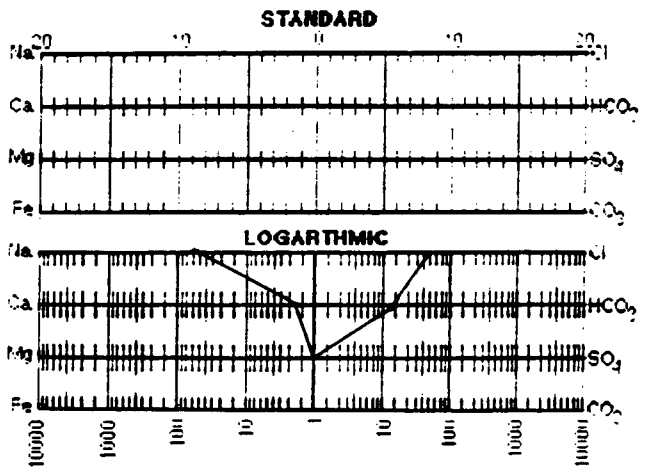
Iron, Fe (total) —
Sulfide, as H_2S —

Remarks & Recommendations:

OTHER PROPERTIES

pH	7.12
Specific Gravity, 60/60 F	1.00
Resistivity (ohm-meter) 75°F	1.65
Total Hardness	140

WATER PATTERNS-me/l



Analyst: DC

Please refer any questions to:
Loren Diede-District Engineer
Thank you.

The Western Company of North America

3250 South Side River Road
Farmington, New Mexico 87401
Phone (505)327-6222
Fax (505)327-5766

API WATER ANALYSIS

Company MERIDIAN Sample No. 811493 Date Sampled 3/8/93

Field _____ Legal Description T26N R03W, SEC2 County or Parish Rio Arriba State NM

Lease or Unit A Well Jic 96 # 2 Depth _____ Formation MV Water B/D _____

Type of Water (Produced, Supply, ect.) PRODUCED Sampling Point _____ Sampled By _____

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na	1014	44
Calcium, Ca	40	20
Magnesium, Mg	5	0.4
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	1649	46.5
Sulfate, SO_4	—	—
Carbonate, CO_3	—	—
Bicarbonate, HCO_3	1096	18
Hydroxide, OH		

Total Dissolved Solids (calc.) 3804

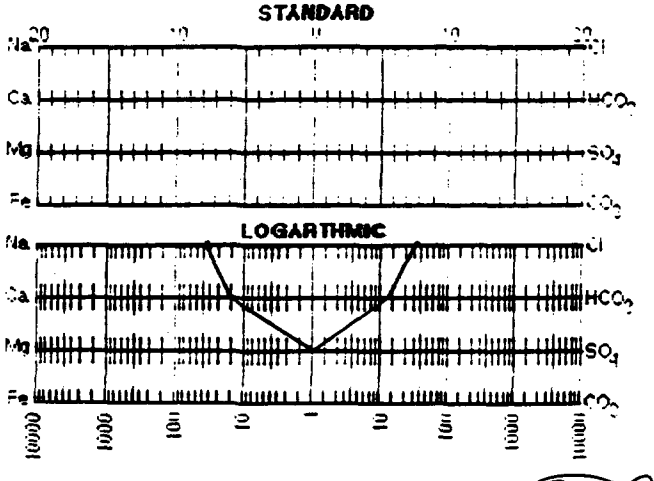
Iron, Fe (total) —
Sulfide, as H_2S —

Remarks & Recommendations:

OTHER PROPERTIES

pH	6.52
Specific Gravity, 60/60 F	1.002
Resistivity (ohm-meter) 44° F	3.7
Total Hardness	120

WATER PATTERNS-me/l



Analyst: [signature]

Please refer any questions to:
Loren Diede-District Engineer
Thank you.

The Western Company of North America

3250 South Side River Road
Farmington, New Mexico 87401
Phone (505)327-6222
Fax (505)327-5766

API WATER ANALYSIS

Company MERIDIAN Sample No. 21593 Date Sampled 3/8/93

Field _____ Legal Description T26NR03W, SEC 2 County or Parish Rio Arriba State NM

Lease or Unit A Well Jic 96 #2 Depth _____ Formation DK/MV Water B/D _____

Type of Water (Produced, Supply, ect.) PRODUCED Sampling Point _____ Sampled By _____

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na	922	40
Calcium, Ca	40	20
Magnesium, Mg	5	0.4
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	1649	46.5
Sulfate, SO_4	—	—
Carbonate, CO_3	—	—
Bicarbonate, HCO_3	850	14
Hydroxide, OH		

Total Dissolved Solids (calc.) 3466

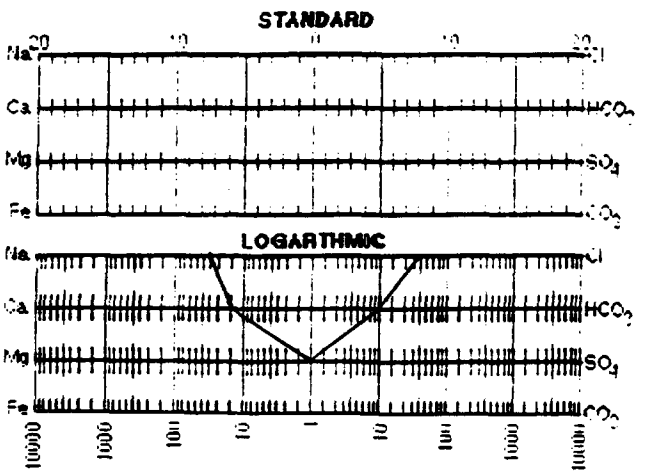
Iron, Fe (total) —
Sulfide, as H_2S —

Remarks & Recommendations:

OTHER PROPERTIES

pH	7.29
Specific Gravity, 60/60 F	1.005
Resistivity (ohm-meter) 70°F	2.2
Total Hardness	120

WATER PATTERNS-me/l



Analyst: DC

Please refer any questions to:
Loren Diede-District Engineer
Thank you.

Date 3/22/93
M 3 31 93

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN
Well JIC 96 #2
Field
Formation MESA VERDE
Depth
County RIO ARRIBA
State N.M.

Date Sampled
Date Received MAR. 18/93
Submitted By
Worked By DC
Sample Description
LIGHT, AMBER LIQUID

API Gravity 58.2 ° at 60°F
Paraffin Content ____ % by weight
Asphaltene Content ____ % by weight
Pour Point ____ °F
Cloud Point ____ °F

Comments:
56.8 @ 46 °F

Analyst DC

P.O. Drawer 360 • Farmington, N.M. 87499

Meridian Oil
Jicarilla 98 #5

Results of analysis:
Pictured Cliffs produced condensate:

Appearance	:	Light, clear oil
API gravity @ 60 degrees F	:	61.3 @ 60 degrees F
Cloud point	:	< -8 degree C
Pour point	:	< -8 degrees C

Mesa Verde produced condensate:

Appearance	:	Light, clear liquid
API gravity @ 60 degrees F	:	62.6 @ 60 degrees F
Cloud point	:	< -8 degree C
Pour point	:	< -8 degrees C

Commingled Pictured Cliffs and Mesa Verde condensates:

Appearance	:	Light, clear liquid
API gravity @ 60 degrees F	:	59.6 @ 60 degrees F
Cloud point	:	< -8 degree C
Pour point	:	< -8 degrees C

Summary of results:

The mixture of the two condensates displayed no adverse reaction regarding precipitation of solids.

Analysis forms follow:

Analysis done by: _____
Dave Coleson

Date 3/22/93
11/30/93

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN
Well Jic 98-5
Field
Formation MESA VERDE
Depth
County RIO ARRIBA
State NM

Date Sampled 3/8/93
Date Received 3/19/93
Submitted By
Worked By DC
Sample Description
CLEAR LIQUID

API Gravity 62.6 ° at 60°F
Paraffin Content ____ % by weight
Asphaltene Content ____ % by weight
Pour Point ____ °F
Cloud Point ____ °F

Comments:
61 @ 46°F

Analyst DC

Date 3/24/93
MI 3293

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN
Well Jic 98-5
Field
Formation MV/PC
Depth
County Rio ARRIBA
State NM

Date Sampled 3/8/93
Date Received
Submitted By
Worked By DC
Sample Description
BOTH CLEAR & LIGHT

API Gravity 56.6 ° at 60°F

Paraffin Content _____ % by weight

Asphaltene Content _____ % by weight

Pour Point _____ °F

Cloud Point _____ °F

Comments:
60.5 @ 68°F
CLEAR LIQUID - REMAINED CLEAR & NO PRECIP.

Analyst DC

P.O. Drawer 360 • Farmington, N.M. 87499

Date 3/22/93
M13493

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN
Well
Field
Formation PICTURED CLIFFS
Depth
County RIO ARRIBA
State NM

Date Sampled 3/8/93
Date Received 3/19/93
Submitted By
Worked By DC
Sample Description
CLEAR, LIGHT LIQUID

API Gravity 61.3 ° at 60°F

Paraffin Content _____ % by weight

Asphaltene Content _____ % by weight

Pour Point _____ °F

Cloud Point _____ °F

Comments:
59.9 @ 44°

Analyst DC

P.O. Drawer 360 • Farmington, N.M. 87499

MERIDIAN OIL

September 16, 1994

Bureau of Land Management
Robert Kent
435 Montano NE
Albuquerque, NM 87107

RE: Jicarilla 447 Lease
- Jicarilla 447 #1A Unit O, Section 19, T27N, R03W
- Jicarilla 447 #2 Unit F, Section 19, T27N, R03W
- Jicarilla 447 #3 Unit N, Section 18, T27N, R03W

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 referenced wells in Rio Arriba County, New Mexico, in the Tapacito Pictured Cliffs and the Blanco Mesaverde 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.

Sincerely,

B. P. Ault

Brian P. Ault
Production Engineering

BPA/rjp

The above downhole commingling request is hereby approved:

_____

Date:_____

MERIDIAN OIL

September 16, 1994

Williams Production Company
P.O. Box 58900
Salt Lake City, UT 84158-0900

RE: Jicarilla 447 Lease

- Jicarilla 447 #1A Unit O, Section 19, T27N, R03W
- Jicarilla 447 #2 Unit F, Section 19, T27N, R03W
- Jicarilla 447 #3 Unit N, Section 18, T27N, R03W

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Sincerely,

Brian P. Ault
Production Engineering

BPA/rjp

The above downhole commingling request is hereby approved:

_____

Date:_____

MERIDIAN OIL

September 16, 1994

Snyder Oil Corporation
777 Main, Suite 2500
Fort Worth, TX 76102

RE: Jicarilla 447 Lease

- Jicarilla 447 #1A Unit O, Section 19, T27N, R03W
- Jicarilla 447 #2 Unit F, Section 19, T27N, R03W
- Jicarilla 447 #3 Unit N, Section 18, T27N, R03W

Rio Arriba County, New Mexico
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Sincerely,

Brian P. Ault
Production Engineering

BPA/rjp

The above downhole commingling request is hereby approved:

_____

Date:_____

MERIDIAN OIL

September 16, 1994

Jicarilla Apache Tribe
P.O. Box 167
Dulce, NM 87528

RE: Jicarilla 447 Lease

- Jicarilla 447 #1A Unit O, Section 19, T27N, R03W
- Jicarilla 447 #2 Unit F, Section 19, T27N, R03W
- Jicarilla 447 #3 Unit N, Section 18, T27N, R03W

Rio Arriba County, New Mexico
Downhole Commingling Request

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Sincerely,

B. P. Ault

Brian P. Ault
Production Engineering

BPA/rjp

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_____

Date:_____