



BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

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



2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

**ADMINISTRATIVE ORDER DHC-1056**

Meridian Oil Inc.  
P. O. Box 4289  
Farmington, New Mexico 87499-4289

Attention: Brian P. Ault

*Jicarilla "447" No. 3  
Unit N, Section 18, Township 27 North, Range 3 West, NMPM,  
Rio Arriba County, New Mexico.  
Blanco-Mesaverde and Gavilan-Pictured Cliffs Gas Pools*

RECEIVED  
NOV 14 1994

OIL CON. DIV.  
DIST. 3

Dear Mr. Ault:

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 40 barrels per day, and total water production shall not exceed 80 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.

In accordance with the provisions of Rule 303-C, the supervisor of the Aztec District Office of the Oil Conservation Division shall determine the proper allocation of production from the subject well following its completion.

Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

*Administrative Order DHC-1056*

*Meridian Oil Inc.*

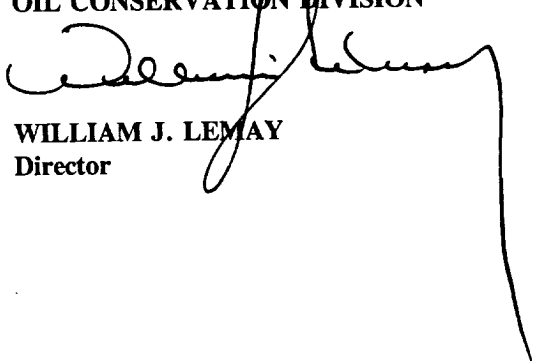
*November 9, 1994*

*Page 2*

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Approved at Santa Fe, New Mexico on this 9th day of November, 1994.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

S E A L

WJL/DC/kv

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

## **Ernie Busch**

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**From:** Ernie Busch  
**To:** David Catanach  
**Subject:** MERIDIAN OIL INC (DHC)  
**Date:** Wednesday, November 02, 1994 12:21PM  
**Priority:** High

JICARILLA 447 #1A O-19-27N-03W  
JICARILLA 447 #2 F-19-27N-03W  
JICARILLA 447 #3 N-18-27N-03W

RECOMMEND: APPROVAL

SR.NO.	POD IDN	POD LOCATION TWP RNG SEC UL	POD SDIV TYP	LOT NUM	TRCT NUM	OGRID CODE	OGRID NAME
5567	0252230	27N 09W 09 A	G N/P 1			000778	AMOCO PRODUCTION CO
5568	0330350	27N 09W 09 A	W N/P 1			000778	AMOCO PRODUCTION CO
5569	0330310	27N 09W 09 A	0 N/P 1			000778	AMOCO PRODUCTION CO
5570	0330330	27N 09W 09 A	G N/P 1			000778	AMOCO PRODUCTION CO
5571	0252250	27N 09W 09 A	W N/P 1			000778	AMOCO PRODUCTION CO
5572	0269530	27N 09W 09 B	G N/P 2			000778	AMOCO PRODUCTION CO
5573	0269510	27N 09W 09 B	0 N/P 2			000778	AMOCO PRODUCTION CO
5574	0269550	27N 09W 09 B	W N/P 2			000778	AMOCO PRODUCTION CO
5575	2505050	27N 09W 14 A	W N/P 1			022364	TEXACO EXPLORATION & PRODUCTIO
5576	1328310	27N 09W 14 A	0 N/P 1			014538	MERIDIAN OIL INC
5577	1328330	27N 09W 14 A	G N/P 1			014538	MERIDIAN OIL INC
5578	2520950	27N 09W 14 A	W N/P 1			022364	TEXACO EXPLORATION & PRODUCTIO
5579	2520930	27N 09W 14 A	G N/P 1			022364	TEXACO EXPLORATION & PRODUCTIO
5580	1328350	27N 09W 14 A	W N/P 1			014538	MERIDIAN OIL INC
5581	2520910	27N 09W 14 A	0 N/P 1			022364	TEXACO EXPLORATION & PRODUCTIO
5582	2505030	27N 09W 14 A	G N/P 1			022364	TEXACO EXPLORATION & PRODUCTIO
5583	2521450	27N 09W 14 B	W N/P 2			022364	TEXACO EXPLORATION & PRODUCTIO
5584	2521410	27N 09W 14 B	0 N/P 2			022364	TEXACO EXPLORATION & PRODUCTIO
5585	2521430	27N 09W 14 B	G N/P 2			022364	TEXACO EXPLORATION & PRODUCTIO
5586	1703150	27N 09W 18 D	W N/P 1			014538	MERIDIAN OIL INC
5587	1703130	27N 09W 18 D	G N/P 1			014538	MERIDIAN OIL INC
5588	1703110	27N 09W 18 D	0 N/P 1			014538	MERIDIAN OIL INC
5589	0246050	27N 09W 18 M	W N/P 4			000778	AMOCO PRODUCTION CO

# 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

RECEIVED  
OCT - 5 1994

OIL CON. DIV.  
DIST. 3

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.

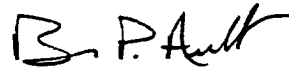
The Mesaverde and Pictured Cliffs wells in this area are marginal economic producers based on current rates of 10-90 MCFD for each zone. The projects are economic when commingled due to savings realized on surface facilities and tubulars. The only economical way to recover the Mesaverde and Pictured 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,

A handwritten signature in black ink, appearing to read "B. P. Ault". The signature is stylized with a large, looped initial "B" and a cursive "Ault".

Brian P. Ault  
Production Engineer

BPA/rjp

Attachments

xc: Frank T. Chavez - NMOCD/Aztec

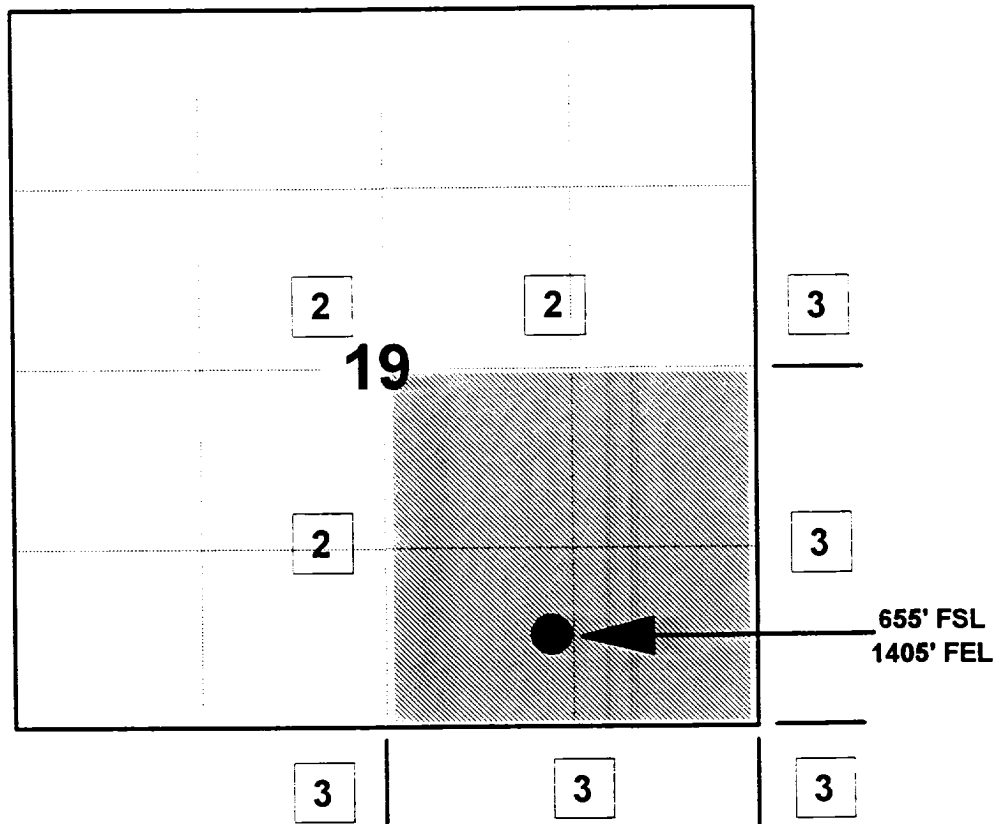
# MERIDIAN OIL INC

JICARILLA 447 #1A

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Mesaverde Formation Commingle

Township 27 North, Range 3 West



1) Southland Royalty Company

2) Williams Production Co. PO Box 58900, Salt Lake City, UT 84158-0900

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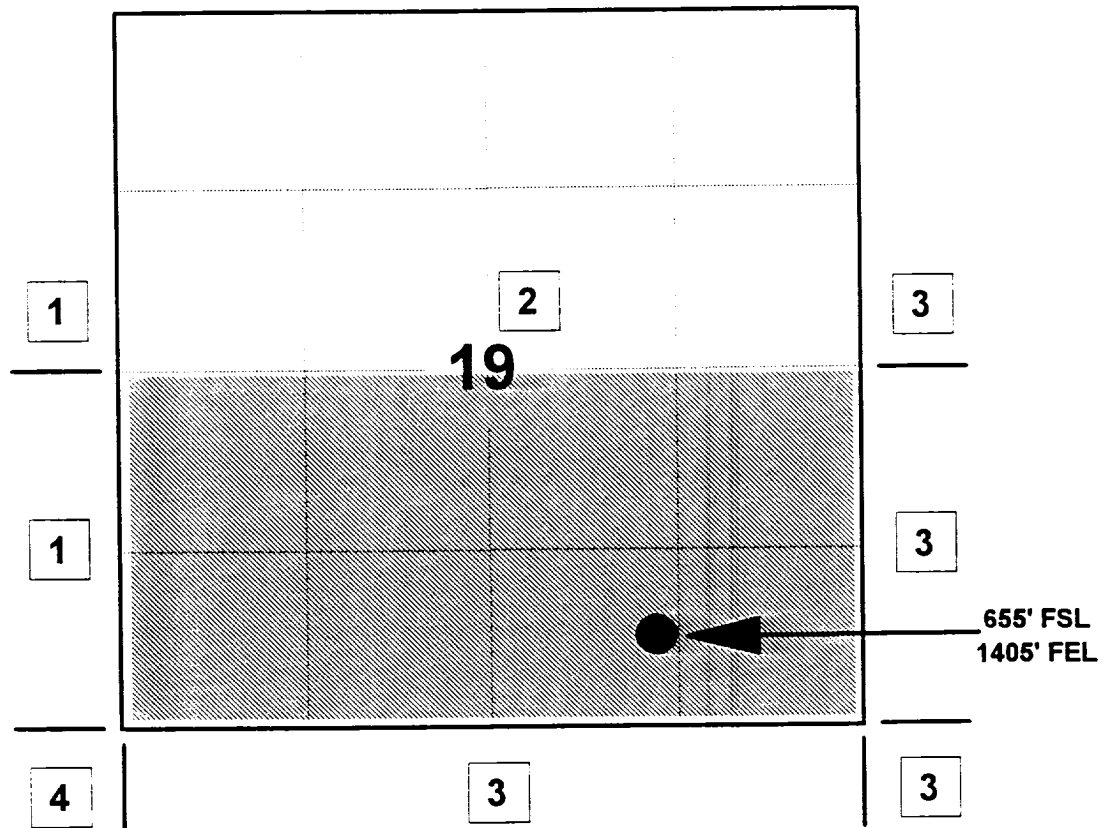
# MERIDIAN OIL INC

JICARILLA 447 #1A

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Mesaverde Formation Commingle

Township 27 North, Range 3 West



1) Meridian Oil Inc

2) Southland Royalty Company

3) Williams Production Co. PO Box 58900, Salt Lake City, UT 84158-0900

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



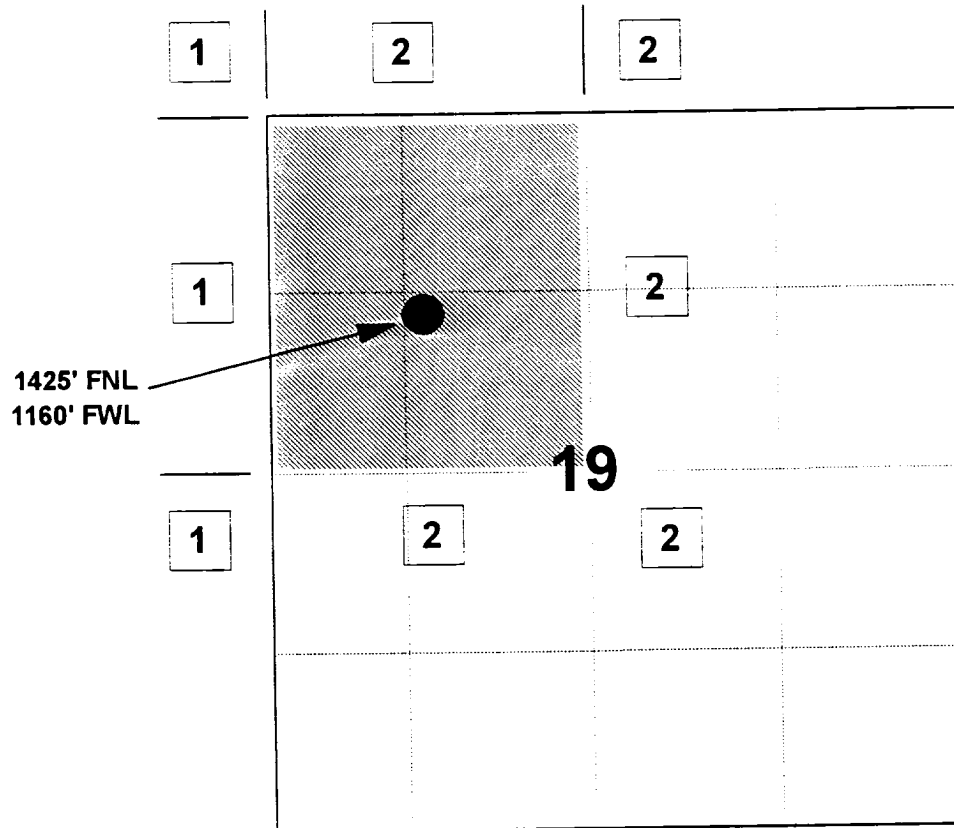
# MERIDIAN OIL INC

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

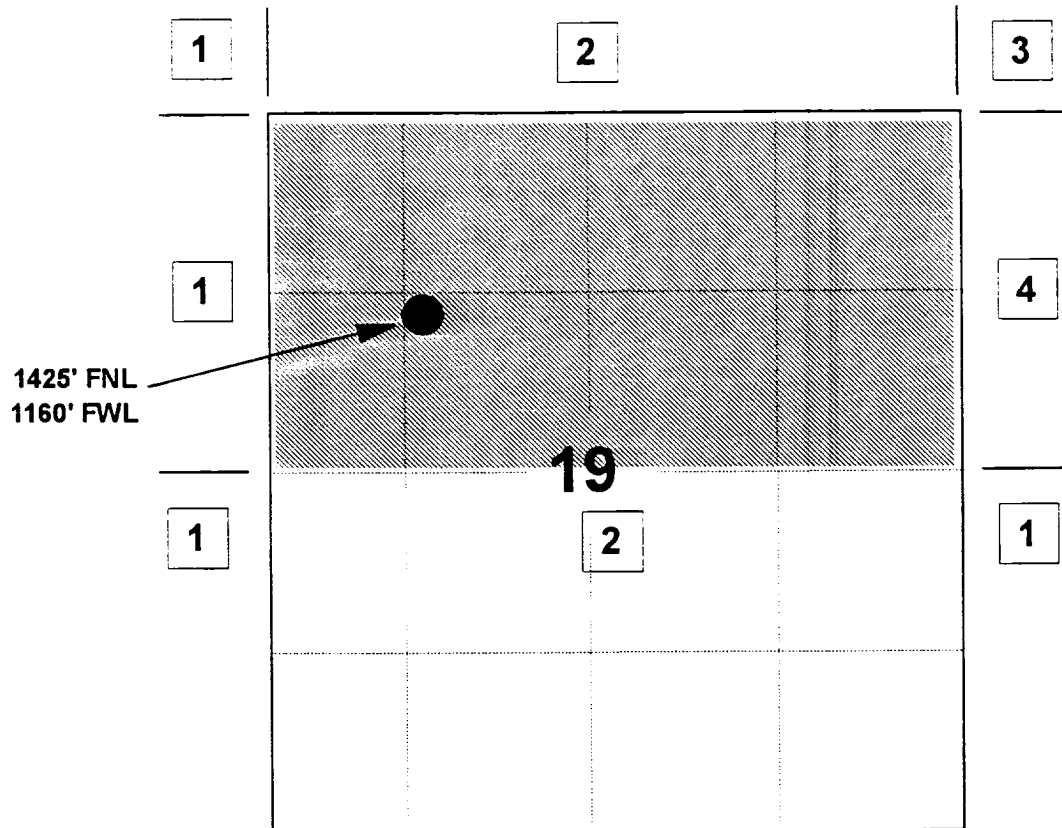
# MERIDIAN OIL INC

## 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

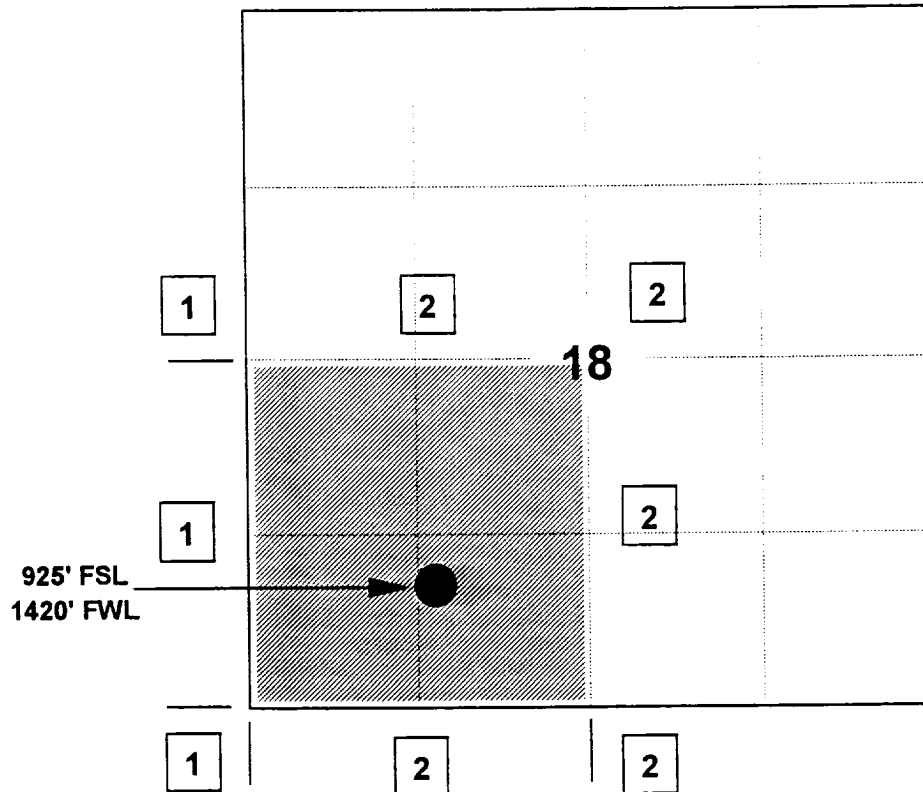
# MERIDIAN OIL INC

JICARILLA 447 #3

OFFSET OPERATOR PLAT

Mesaverde \ Pictured Cliffs Comingle

Township 27 North, Range 3 West



1) Meridian Oil Inc

2) Southland Royalty Company

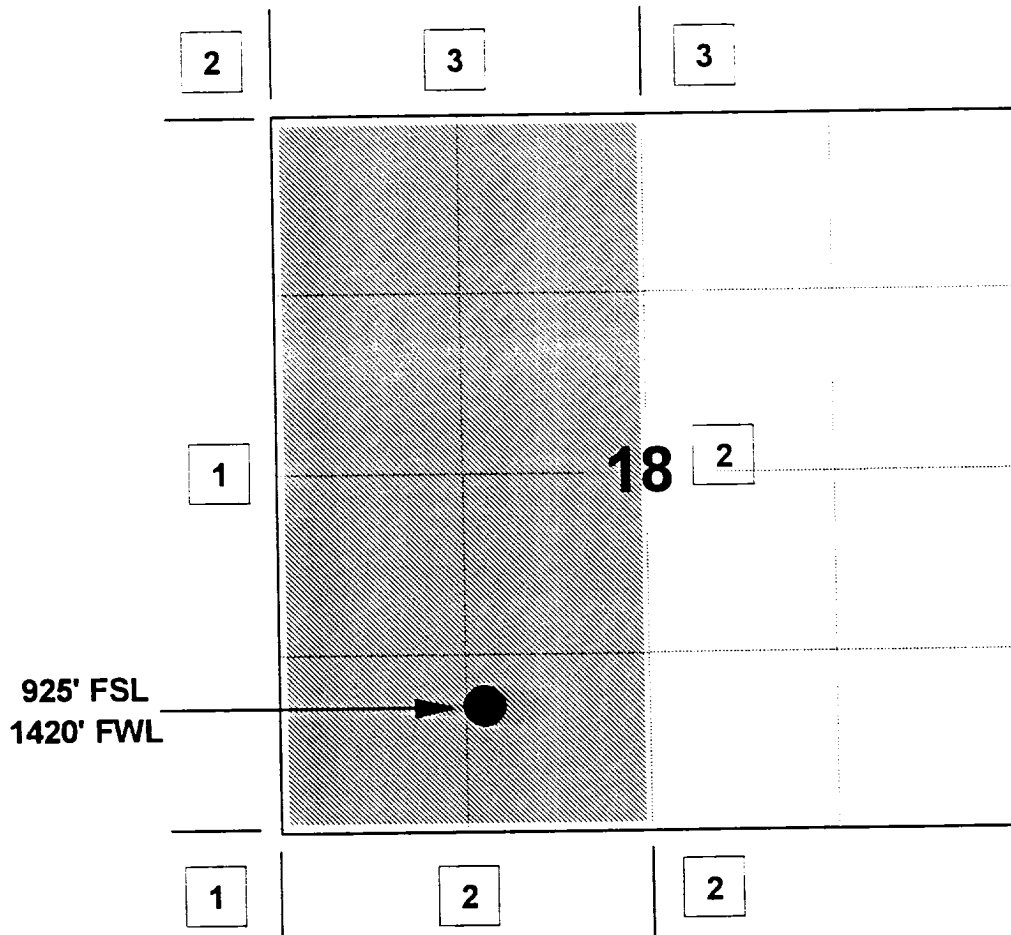
# MERIDIAN OIL INC

## JICARILLA 447 #3

### OFFSET OPERATOR \ OWNER PLAT

### Mesaverde / Pictured Cliffs Commingle Well

Township 27 North, Range 3 West



1) Meridian Oil Inc

2) Southland Royalty Company

3) Southland Royalty Company &

Jicarilla Apache Tribe

PO Box 167, Dulce, NM 87528

# **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 effects 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. SL1393 Date Sampled 3/8/93  
Field \_\_\_\_\_ Legal Description T26N R03W, SEC 2 County or Parish La Brea State NM  
Lease or Unit A Well IC 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	<u>1601</u>	<u>69.6</u>
Calcium, Ca	<u>48</u>	<u>2.4</u>
Magnesium, Mg	<u>5</u>	<u>0.4</u>
Barium, Ba	_____	_____
_____	_____	_____
_____	_____	_____

#### ANIONS

Chloride, Cl	<u>2061</u>	<u>58</u>
Sulfate, SO <sub>4</sub>	_____	_____
Carbonate, CO <sub>3</sub>	_____	_____
Bicarbonate, HCO <sub>3</sub>	<u>976</u>	<u>16</u>
Hydroxide, OH	_____	_____
_____	_____	_____

Total Dissolved Solids (calc.) 4691

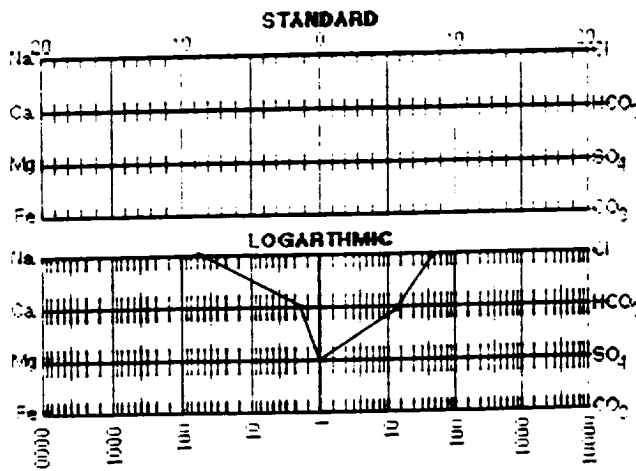
Iron, Fe (total) \_\_\_\_\_  
Sulfide, as H<sub>2</sub>S \_\_\_\_\_

Remarks & Recommendations:

### OTHER PROPERTIES

pH	<u>7.12</u>
Specific Gravity, 60/60 F	<u>1.00</u>
Resistivity (ohm-meters) <u>75°C</u>	<u>1.65</u>
Total Hardness	<u>140</u>
_____	_____
_____	_____

### WATER PATTERNS-me/l



Analyst: DC



# 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. 81493 Date Sampled 3/8/93  
Field \_\_\_\_\_ Legal Description T26N R03W, S02E County or Parish La Brea State NM  
Lease or Unit A Well Le 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	<u>1014</u>	<u>44</u>
Calcium, Ca	<u>40</u>	<u>20</u>
Magnesium, Mg	<u>5</u>	<u>0.4</u>
Barium, Ba	_____	_____
_____	_____	_____
_____	_____	_____

#### ANIONS

Chloride, Cl	<u>1649</u>	<u>46.5</u>
Sulfate, SO <sub>4</sub>	_____	_____
Carbonate, CO <sub>3</sub>	_____	_____
Bicarbonate, HCO <sub>3</sub>	<u>1096</u>	<u>18</u>
Hydroxide, OH	_____	_____
_____	_____	_____
_____	_____	_____

Total Dissolved Solids (calc.) 3804

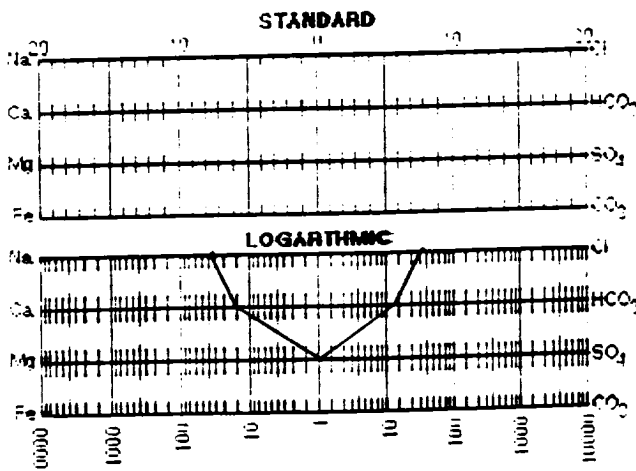
Iron, Fe (total) \_\_\_\_\_  
Sulfide, as H<sub>2</sub>S \_\_\_\_\_

Remarks & Recommendations:

### OTHER PROPERTIES

pH 6.52  
Specific Gravity, 60/60 F 1.002  
Resistivity (ohm-meter) 44 @ \_\_\_\_\_ °C 3.7  
Total Hardness 130

### WATER PATTERNS-me/l



Analyst: TD



# 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 T26N R03W, SEC 2 County or Parish Do. New Mexico State DM  
Lease or Unit A Well 96#2 Depth \_\_\_\_\_ Formation PCW Water Br/D \_\_\_\_\_  
Type of Water (Produced, Supply, ect.) Produced Sampling Point \_\_\_\_\_ Sampled By \_\_\_\_\_

### DISSOLVED SOLIDS

#### CATIONS

	mg/l	me/l
Sodium Na	<u>922</u>	<u>40</u>
Calcium, Ca	<u>40</u>	<u>20</u>
Magnesium, Mg	<u>5</u>	<u>0.4</u>
Barium, Ba	_____	_____
_____	_____	_____
_____	_____	_____

#### ANIONS

Chloride, Cl	<u>1649</u>	<u>46.5</u>
Sulfate, SO <sub>4</sub>	_____	_____
Carbonate, CO <sub>3</sub>	_____	_____
Bicarbonate, HCO <sub>3</sub>	<u>850</u>	<u>14</u>
Hydroxide, OH	_____	_____
_____	_____	_____

Total Dissolved Solids (calc.) 3466

Iron, Fe (total) \_\_\_\_\_

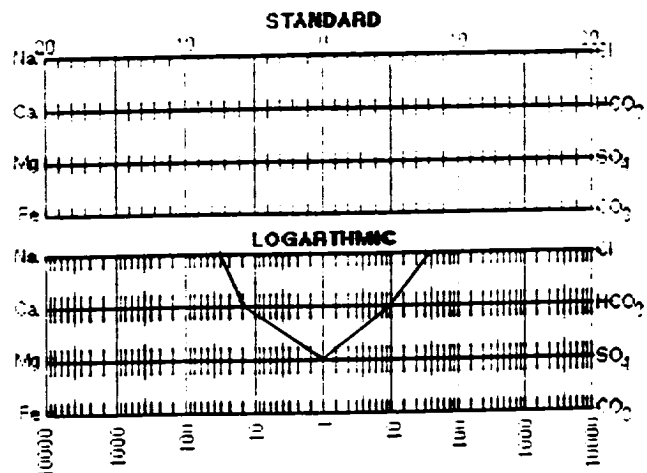
Sulfide, as H<sub>2</sub>S \_\_\_\_\_

Remarks & Recommendations:

### OTHER PROPERTIES

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

### WATER PATTERNS-me/l



Analyst: DC



Date 3/22/93  
M13193

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN Date Sampled \_\_\_\_\_  
Well Sic 96 #2 Date Received MAR. 18/93  
Field \_\_\_\_\_ Submitted By \_\_\_\_\_  
Formation MESA VERDE Worked By DC  
Depth \_\_\_\_\_ Sample Description \_\_\_\_\_  
County RIO ARRIDA LIGHT, AMBER LIQUID  
State N.M. \_\_\_\_\_

API Gravity 58.2 ° at 60°F

Paraffin Content \_\_\_\_\_ % by weight

Asphaltene Content \_\_\_\_\_ % by weight

Pour Point \_\_\_\_\_ °F

Cloud Point \_\_\_\_\_ °F

Comments:

568 @ 46° F

Analyst DC

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 Date Sampled 3/8/93  
Well < 10 98-5 Date Received 3/19/93  
Field \_\_\_\_\_ Submitted By \_\_\_\_\_  
Formation MESA VERDE Worked By DC  
Depth \_\_\_\_\_ Sample Description \_\_\_\_\_  
County RIO ARriba CLEAR LIQUID  
State NM \_\_\_\_\_

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 <u>MERIDIAN</u>	Date Sampled <u>3/8/93</u>
Well <u>Cic 98-5</u>	Date Received _____
Field _____	Submitted By _____
Formation <u>MD/PC</u>	Worked By <u>DC</u>
Depth _____	Sample Description _____
County <u>RO ARKIBT</u>	<u>BOTH CLEAR &amp; LIGHT</u>
State <u>NM</u>	_____

API Gravity 36.6° 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



Date 3/22/93  
113493

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN Date Sampled 3/8/93  
Well \_\_\_\_\_ Date Received 3/19/93  
Field \_\_\_\_\_ Submitted By \_\_\_\_\_  
Formation FRATURED CUFFS Worked By DC  
Depth \_\_\_\_\_ Sample Description \_\_\_\_\_  
County RIO ARriba CLEAR, LIGHT LIQUID  
State NM \_\_\_\_\_

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



# 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

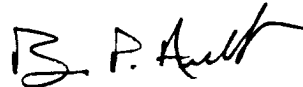
Gentlemen:

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,



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

Rio Arriba County, New Mexico  
Downhole Commingling Request

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Sincerely,



Brian P. Ault  
Production Engineering

BPA/rjp

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\_\_\_\_\_  
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  
Downhole Commingling Request

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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

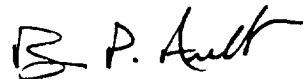
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Brian P. Ault  
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Date: \_\_\_\_\_