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-983

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

Attention: Brian P. Ault

OIL CON. DIV.
DIST. 3

Jicarilla "98" Well No. 2-A
Unit O, Section 19, Township 26 North, Range 3 West, NMPM,
Rio Arriba County, New Mexico.
Tapacito-Pictured Cliffs and Blanco-Mesaverde Pools

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.

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Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.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 18th day of February, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

WJL/DRC/amg

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

Ernie Busch

From: Ernie Busch
To: David Catanach; Ben Stone
Subject: MERIDIAN OIL INC (DHC)
Date: Tuesday, February 22, 1994 11:04AM
Priority: High

JICARILLA 98 #2A
O-19-26N-03W
RECOMMEND: APPROVAL

MERIDIAN OIL

January 19, 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 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, 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 Tapacito 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 plat 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. A reserve study in the area predicts an ultimate recovery of 775 MMCF for the Mesaverde and 700 MMCF for the Pictured Cliffs wells. These reserves and the low current producing rates are uneconomic as separate zone projects. 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). The shut-in pressure for the Mesaverde and Pictured Cliffs 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.

Meridian Oil Inc., 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700

MERIDIAN OIL

January 19, 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 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, 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 Tapacito 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 plat 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. A reserve study in the area predicts an ultimate recovery of 775 MMCF for the Mesaverde and 700 MMCF for the Pictured Cliffs wells. These reserves and the low current producing rates are uneconomic as separate zone projects. 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). The shut-in pressure for the Mesaverde and Pictured Cliffs 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 eight other wells in this township as per NMOCD Order #'s R-5350 (01/17/77), R-6004 (05/02/79), DHC-923, 926, 927, 928, 929, 930 (09/27/93). Six of these wells (DHC-) are completed, waiting on hook-up while two (R-5350, -6004) 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.

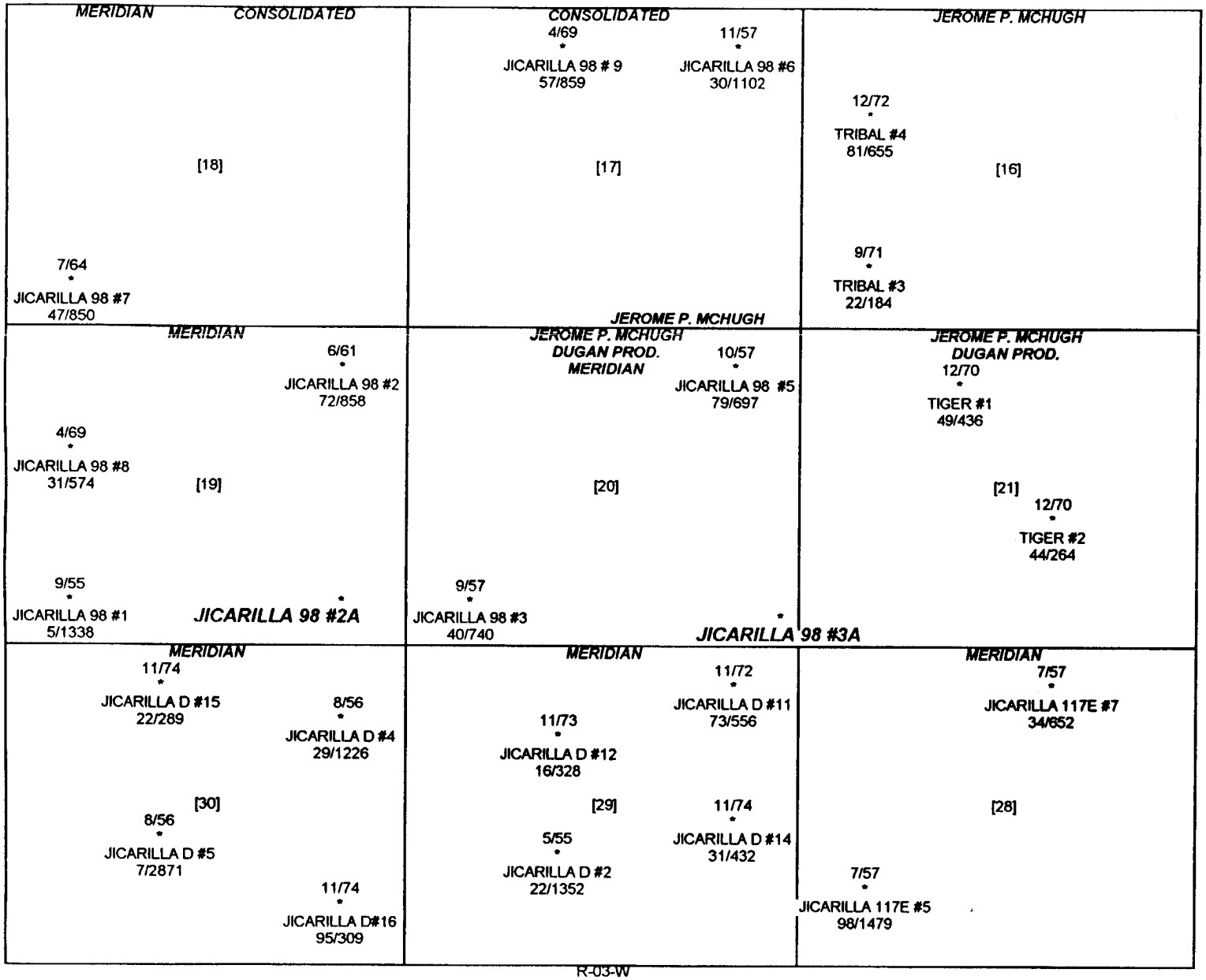
Sincerely,

Brian P. Ault
Production Engineer

BPA/rjp

Attachments

xc: Frank T. Chavez - NMOCD/Aztec



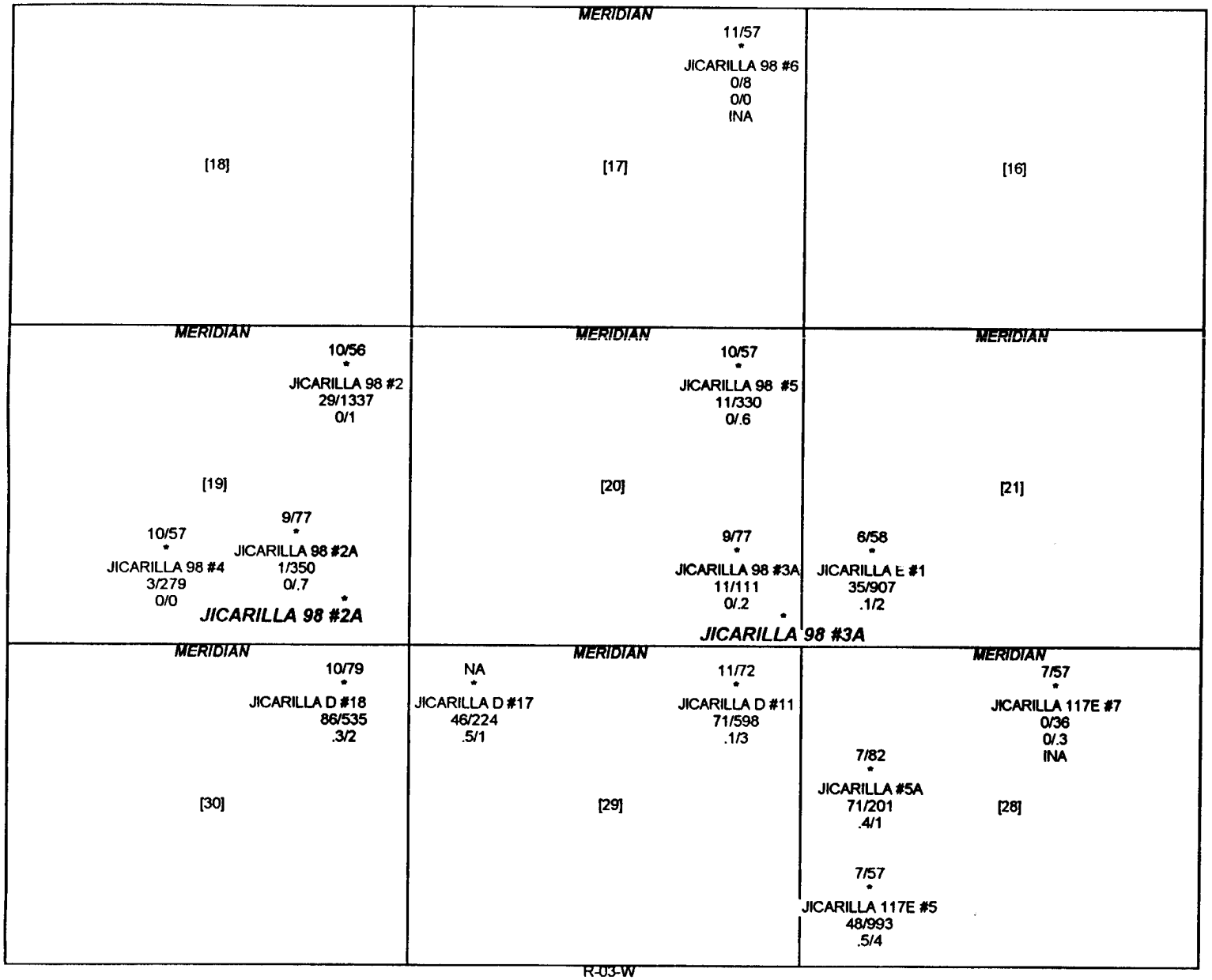
DATE: January 17,1994

NAME: JIC. 98 #'S 2A,3A

FORM: PICTURED CLIFFS

LOCATION
UNIT: A
SEC: 19,20
TWN: 26N
RNG: 03W

LEGEND
COMPLETION DATE
*
WELL NAME
MCF/D-CUM (MMCF)



T
26
N

DATE: January 17,1994

NAME: JIC. 98 #'S 2A,3A

FORM: MESAVERDE

LOCATION
UNIT: A
SEC: 19,20
TWN: 26N
RNG: 03W

LEGEND
COMPLETION DATE
*
WELL NAME
MCF/D-CUM (MMCF)
BOP/D-CUM(MBO)

PICTURED CLIFFS/MESAVERDE COMMINGLE
TOWNSHIP 26 NORTH, RANGE 3 WEST
OFFSET OPERATORS

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

2. Consolidated Oil & Gas Inc.
   410 17th Street, Suite 2300
   Denver, CO 80202

3. Jerome P. McHugh
   650 S. Cherry Street, Suite 1225
   Denver, CO 80222

4. Dugan Production Corp.
   P.O. Box 420
   Farmington, NM 87499-0420

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 3/12/93

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	mg/l	me/l
Chloride, Cl	2061	58
Sulfate, SO_4	—	—
Carbonate, CO_3	—	—
Bicarbonate, HCO_3	976	16
Hydroxide, OH		

Total Dissolved Solids (calc.) 4691

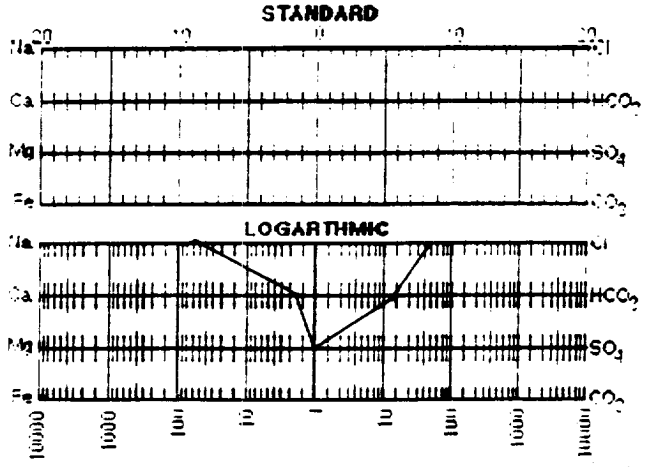
Iron, Fe (total) —
Sulfide, as H_2S —

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. 81493 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

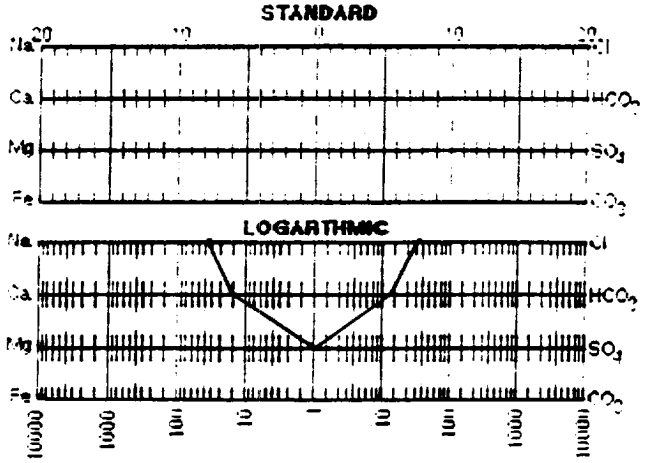
Iron, Fe (total) —
Sulfide, as H_2S —

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. 315-93 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 PC/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	2.0
Magnesium, Mg	5	0.4
Barium, Ba		

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

Total Dissolved Solids (calc.) 3466

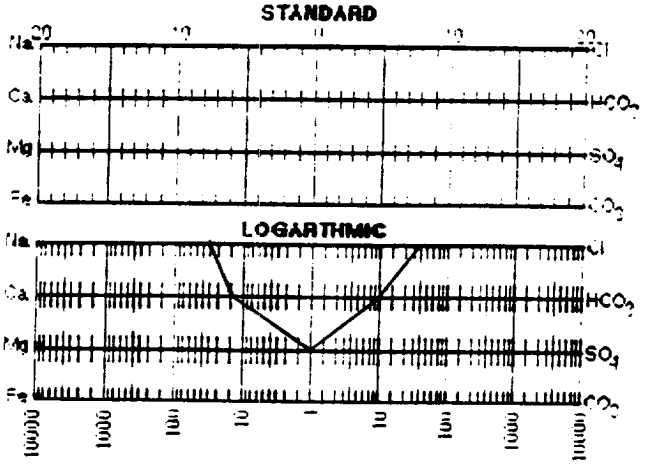
Iron, Fe (total) —
Sulfide, as H_2S —

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
M1 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
M13093

Rocky Mountain Region

THE WESTERN COMPANY

Oil Analysis

Operator MERIDIAN
Well Ute 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

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

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 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

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

January 19, 1994

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

RE: Jicarilla 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, R03W

Rio Arriba County, New Mexico
Downhole Commingling Request

Gentlemen:

Meridian Oil, Inc. is in the process of applying for an 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

January 19, 1994

Dugan Production Corp.
P.O. Box 420
Farmington, NM 87499-0420

RE: Jicarilla 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, R03W

Rio Arriba County, New Mexico
Downhole Commingling Request

Gentlemen:

Meridian Oil, Inc. is in the process of applying for an 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

January 19, 1994

Consolidated Oil & Gas Inc.
410 17th Street, Suite 2300
Denver, CO 80202

RE: Jicarilla 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, R03W

Rio Arriba County, New Mexico
Downhole Commingling Request

Gentlemen:

Meridian Oil, Inc. is in the process of applying for an 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

January 19, 1994

Jerome P. McHugh
650 S. Cherry Street, Suite 1225
Denver, CO 80222

RE: Jicarilla 98 Lease
- Jicarilla 98 #2A SE/4, Section 19, T26N, R03W
- Jicarilla 98 #3A SE/4, Section 20, T26N, R03W

Rio Arriba County, New Mexico
Downhole Commingling Request

Gentlemen:

Meridian Oil, Inc. is in the process of applying for an 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:_____