

MERRION OIL & GAS CORPORATION

610 REILLY AVE. • P. O. Box 840
FARMINGTON, NEW MEXICO 87499OIL CONSERVATION DIVISION
RECEIVED

MAY 2 1994 PM 8 50

May 2, 1994

Mr. William Lemay, Director
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87503

Re: Application for Administrative Approval
Downhole Commingling
Blanco Mesaverde and Gavilan Pictured Cliffs Pools
Lease: SF-079995-A
Featherstone Federal #1
Section 18, T26N, R2W
Rio Arriba County, New Mexico

Dear Mr. Lemay:

Merrion requests administrative approval for downhole commingling of the Blanco Mesaverde and Gavilan Pictured Cliffs Pools in the subject wellbore. The following information is provided in support of this application:

I. Economic Justification

The Featherstone Federal #1 is currently completed as a dual well with the Mesaverde and Pictured Cliffs being produced up separate strings of tubing. The PC has been shut-in as uneconomic for some time because it is unable to lift the liquids in the wellbore. The onset of this problem can clearly be seen on the decline curve (Attachment #1). Although not as bad as the PC, the Mesaverde production has also become more erratic over the last several years as a result of liquid loading.

Merrion is proposing to pull the packer and the two strings of tubing out of the hole and produce this well up one string of tubing. We plan to use piston lift or a pumping unit to lift the liquids out of the hole. We feel this is the only way to recover any reserves out of the PC, and we feel it will dramatically help the production from the Mesaverde as well. In addition, reducing the amount of surface equipment in use (one separator, tank, meter, etc.) and eliminating one overhead charge for the extra string of tubing will reduce costs and increase the life of this marginally economic well. Because the working interest, override, and royalty owners in the Mesaverde are the same entities who own the Pictured Cliffs, everyone will benefit from commingling these zones.

II. Reservoir Fluid Compatibility

Because Merrion just recently took over operations from Mobil on this well, we have no current water analyses and none exist in the file. However, Merrion operates the N. Lindrith Com #1 located in Unit Letter M of Section 20, T26N, R2W, which just offsets this well. That well has been produced as a commingled Mesaverde-Pictured Cliffs well since 1976 with no adverse affects from fluid incompatibility. Therefore, we feel there is minimal concern about fluid incompatibility in the Featherstone #1.

III. Cross-Flow Between Zones

No accurate recent pressure data is available on the PC because of the fluid problems previously described. However, shut-in pressures reported to the State in the early 1970's indicated a bottom hole pressure in the 350 psi range. With no significant production from this zone since 1976, those values are still felt to be representative. At a mid perf depth of 3850', that would indicate the pressure gradient would be .078 to .092 psi ft. Correcting to a common datum of the Mesaverde mid perf depth of 5800', that would represent a pressure of 530 psi, only slightly less than the current reservoir pressure of approximately 700 psi in the Mesaverde.

Even with the pressure differential, we do not expect cross flow because the flowing pressure (220 psi line) is well below either reservoir's pressure. In addition, when the well is shut-in, all of the produced fluid will build up on the Mesaverde, keeping gas from flowing out of that zone and into the PC.

IV. Allocation Formula

Because the liquid loading problems significantly affected the rate versus time curves (Attachments #1 and #2), the rate versus cumulative gas production curves were used to identify what the production capabilities are without liquid loading. As shown on Attachment #3, the PC is capable of approximately 450 MCF/mo and 15 BOPM. Attachment #4 shows that the Mesaverde is capable of 1000 MCF/mo and 30 BOPM. Therefore, the allocation formula will be as follows:

<u>Allocation Split</u>				
	<u>Gas</u> Production Capability <u>MCF/mo</u>	<u>% of</u> <u>Total</u>	<u>Oil</u> Production Capability <u>BOPM</u>	<u>% of</u> <u>Total</u>
Pictured Cliffs	450	31.0%	15	33.3%
Mesaverde	<u>1000</u>	<u>69.0%</u>	<u>30</u>	<u>66.7%</u>
Total	1450	100.0%	45	100.0%

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V. Offset Ownership - Notification

Attached are C-102-Plats showing the PC and Mesaverde spacing units (Attachments #5 and #6). Also attached is a plat showing all offset owners (Attachment #7). All offset owners have been sent a copy of this application. Attachment #8 is an affidavit to that effect.

Please let me know if additional information is required.

Sincerely,

MERRION OIL & GAS CORPORATION



George F. Sharpe
Manager - Oil & Gas Investments

xc: Frank Chavez-NMOCD-Aztec
BLM-Farmington
RL Bayless
Meridian Oil Inc.
MW Petroleum Corp.
Well File

Waiver

_____ hereby waives objection to this application.
Company

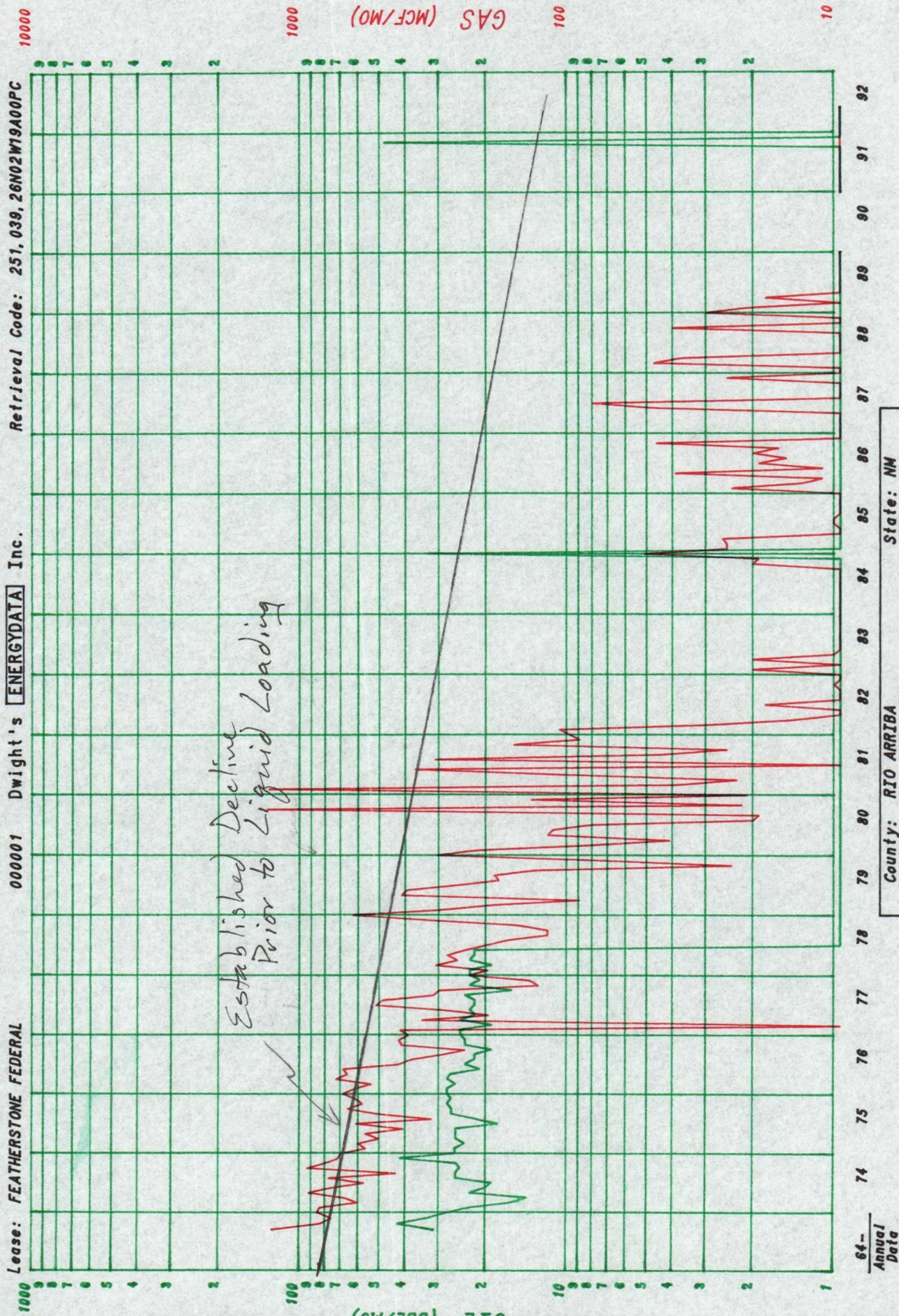
Name _____ Date _____

Attachments

- #1 PC rate time plot
- #2 MV rate time plot
- #3 PC rate cum. plot
- #4 MV rate cum. plot
- #5 C-102 Plat - PC
- #6 C-102 Plat - MV
- #7 Offset ownership Plat
- #8 Affidavit of Notification of Offset Owners

ATTACHMENT 1

Pictured Cliffs Rate vs Time Featherstone Federal #1



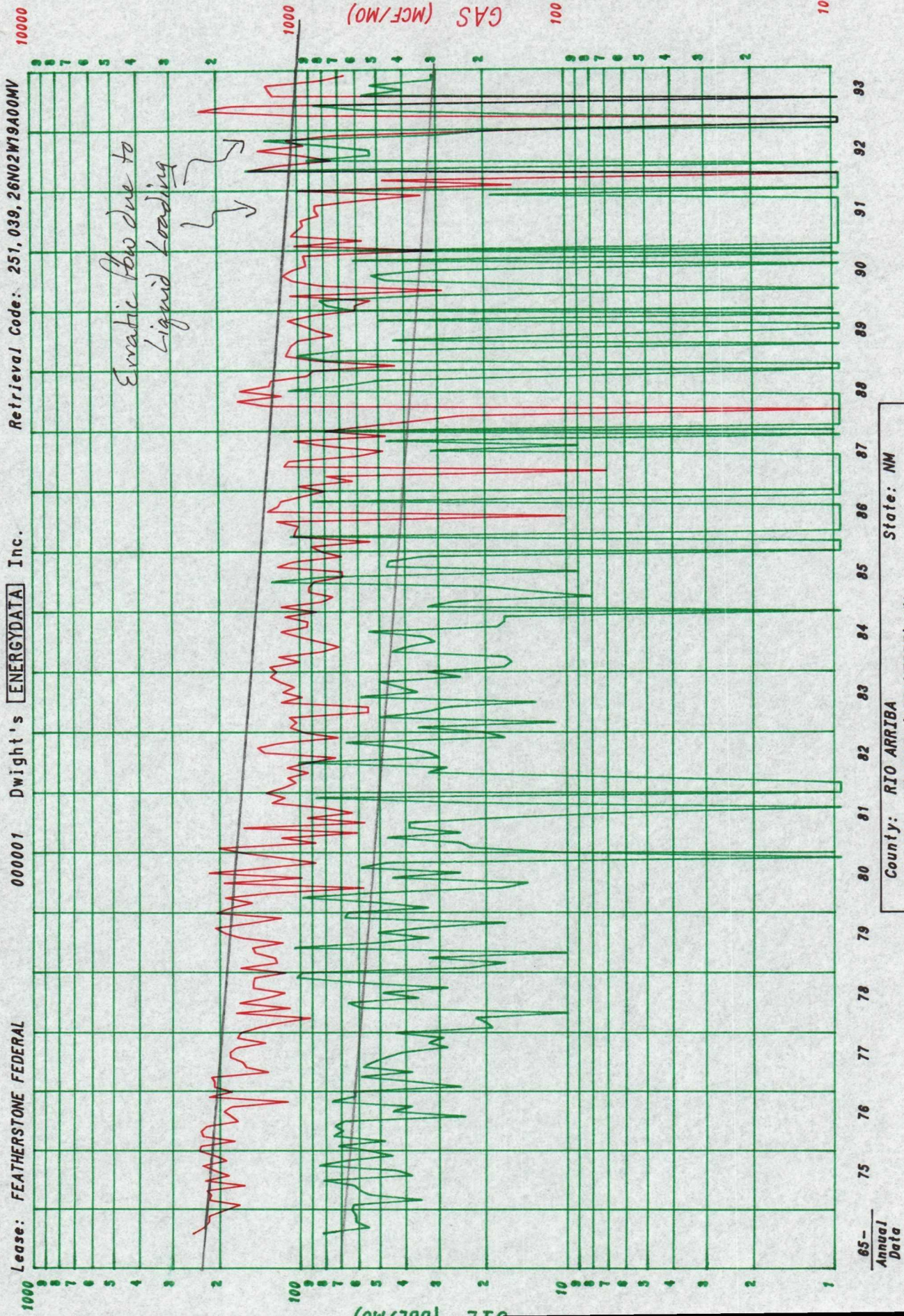
County: RIO ARriba State: NM
Field: GAVILAN (PICTURED CLIFFS) PC
Reservoir: PICTURED CLIFFS
Operator: MERRION OIL & GAS CORP
Oil Cum: 10629 Gas Cum: 352972
Location: 19A 26N 2W

Date: 07-05-93

F.P. Date 10-58

ATTACHMENT 2

Mesaverde Rate vs Time Featherstone Federal #1



County: RIO ARriba
Field: BLANCO (MESAVARDE) MV
Reservoir: MESAVARDE
Operator: MERRION OIL & GAS CORP
Oil Cum: 30121 Gas Cum: 882570
Location: 19A 26N 2W

State: NM

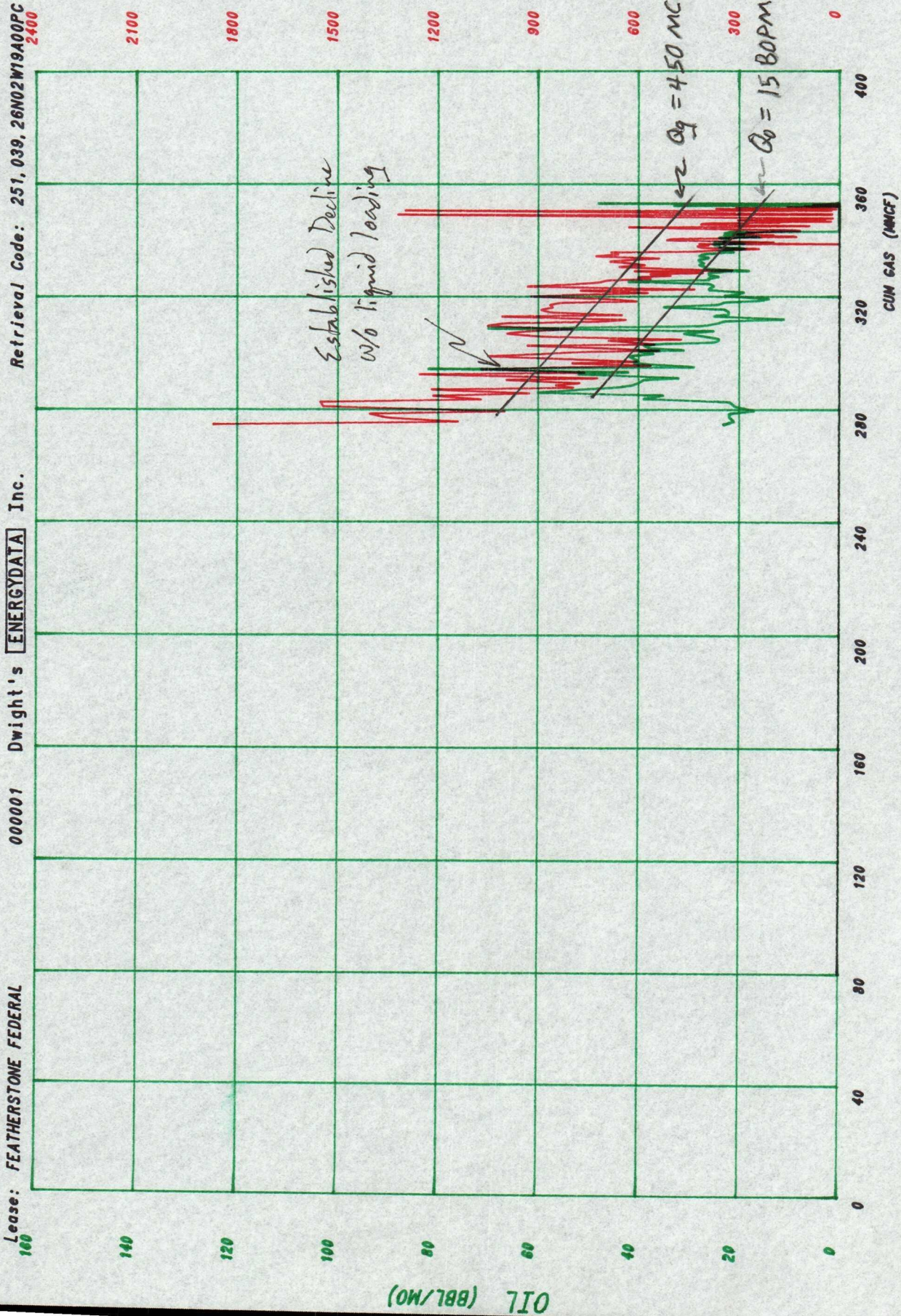
Date: 07-05-93

F.P. Date 10-58

ATTACHMENT 3

Pictured Cliffs Rate vs Cum.
Featherstone Federal #1

GAS (MCF/MO)



County: RIO ARRIBA State: NM
Field: GAVILAN (PICTURED CLIFFS) PC
Reservoir: PICTURED CLIFFS
Operator: MERRION OIL & GAS CORP
Oil Cum: 10629 Gas Cum: 352972
Location: 19A 26N 2W

L.P. Date 10-91

Date: 07-05-93

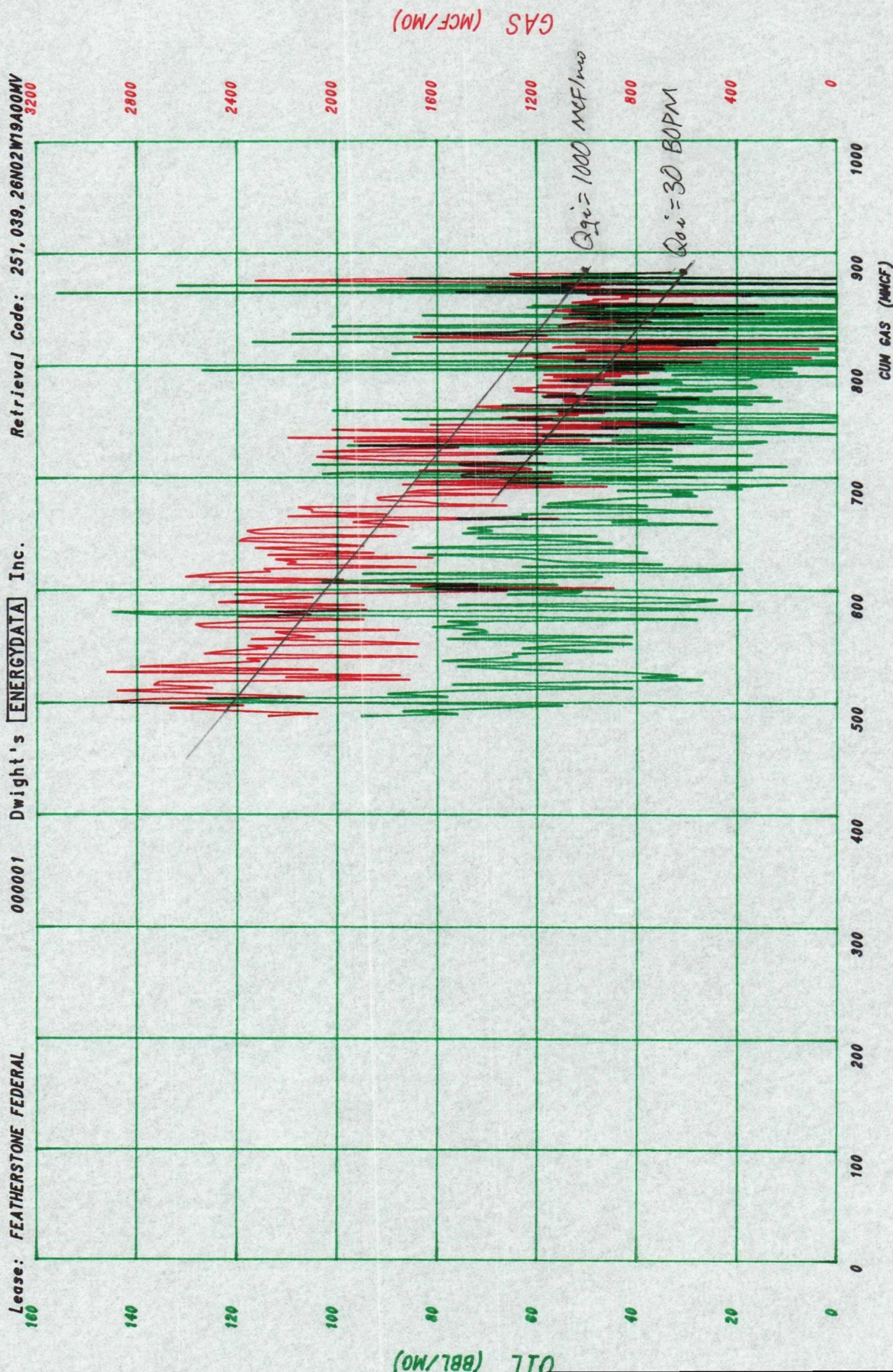
Lease: FEATHERSTONE FEDERAL

000001 Dwight's ENERGYDATA Inc.

Retrieval Code: 251,039,26N02W19A00PC

ATTACHMENT 4

Mesaverde Rate vs Cum
Featherstone Federal #1



County: RIO ARRIBA State: NM
Field: BLANCO (MESAVARDE) MV
Reservoir: MESAVARDE
Operator: MERRION OIL & GAS CORP
Oil Cum: 30121 Gas Cum: 882570
Location: 19A 26N 2W

Date: 07-05-93

L.P. Date 11-93

District I
PO Box 1988, Hobbs, NM 88241-1988
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brava Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-06400		Pool Code 77360	Pool Name Gavilan Pictured Cliffs
Property Code 007779	Property Name Featherstone Federal		Well Number 1
OGRID No. 014634	Operator Name Merrion Oil & Gas Corp		Elevation

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
A	19	26N	02W		990	North	500	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
320	J	C							

¹² Dedicated Acres: 320 ¹³ Joint or Infill: J ¹⁴ Consolidation Code: C ¹⁵ Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16									

17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: *George F. Sharpe*
Printed Name: George F. Sharpe
Title: Engineer
Date:

18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey:
Signature and Seal of Professional Surveyer:
Attachment 5
Certificate Number:

District I
PO Box 1900, Hobbs, NM 88241-1900
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brans Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

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Form C-102
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-06400	Pool Code 72319	Pool Name Blanco Mesaverde
Property Code 007779	Property Name Featherstone Federal	Well Number 1
OGRID No. 014634	Operator Name Merrion Oil & Gas Corp.	Elevation

¹⁰ Surface Location

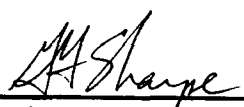

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	19	26N	02W		990	North	500'	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

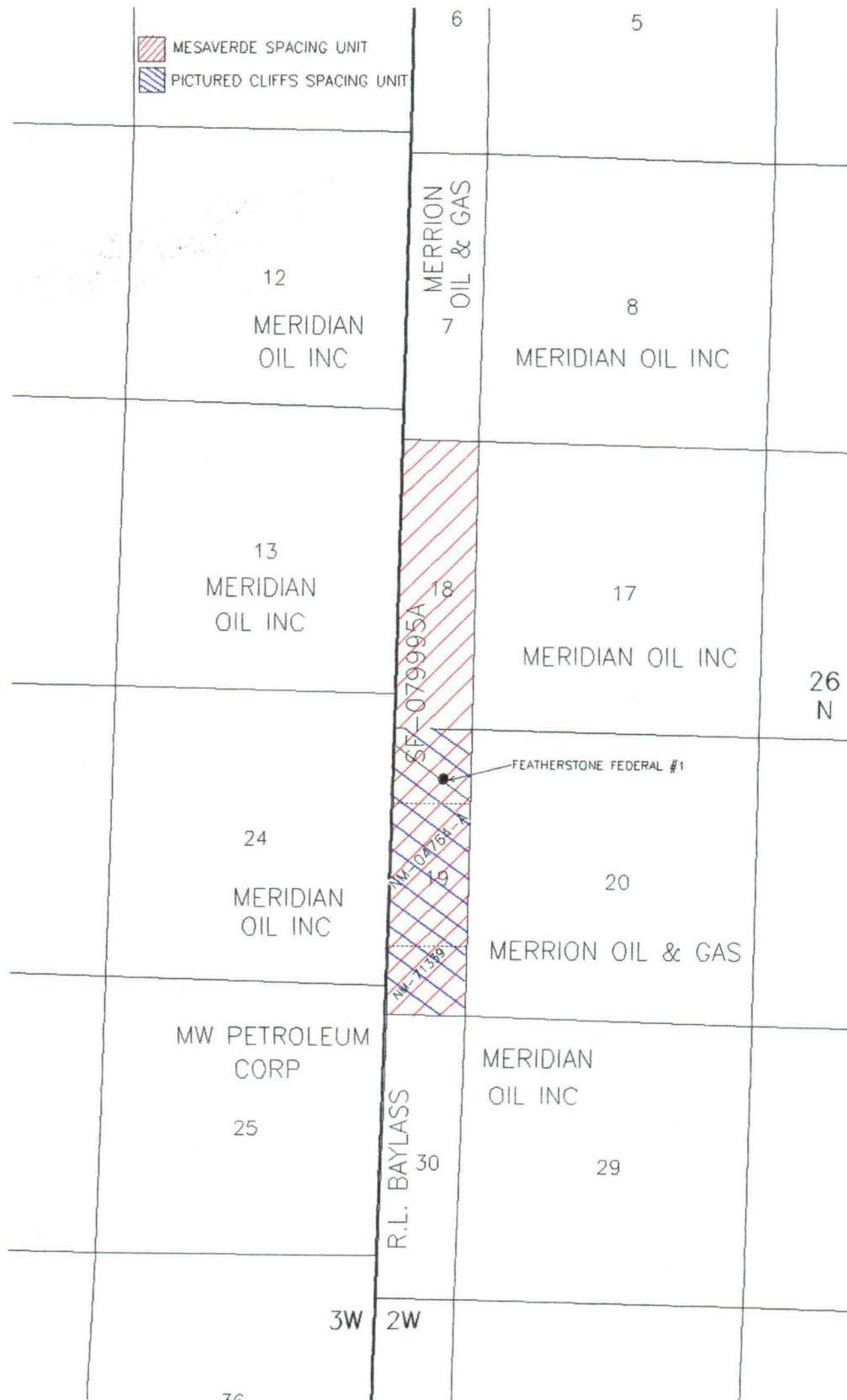
¹² Dedicated Acres 320	¹³ Joint or Infill J	¹⁴ Consolidation Code C	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div>16</div> <div>18</div> <div>SF-079995-A</div> <div>990'</div> <div>500'</div> <div>19</div> <div>NM-04764-A</div> <div>NM-72319</div>	<div>¹⁷ OPERATOR CERTIFICATION</div> <div>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</div> <div></div> <div>Signature George F. Sharpe</div> <div>Printed Name Engineer</div> <div>Title</div> <div>Date</div>	
	<div>¹⁸ SURVEYOR CERTIFICATION</div> <div>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</div> <div>Date of Survey</div> <div>Signature and Seal of Professional Surveyor: </div> <div>Certificate Number</div>	

ATTACHMENT 7

MERRION OIL & GAS		
Application For Downhole Commingle Featherstone Federal #1 Blanco MV/Gavilan PC		
GFS/SEO		5/2/94
990' FNL & 500' FEL	Scale 1:36000.	



Attachment #8

Affidavit

The following companies were sent certified copies of the application for downhole commingling of the Blanco Mesaverde and the Gavilan Pictured Cliffs Pools in the Featherstone Federal #1.

- 1.) R.L. Bayless
P. O. Box 168
Farmington, New Mexico 87499
- 2.) Meridian Oil, Inc.
P. O. Box 4289
Farmington, New Mexico 87499
- 3.) MW Petroleum Corp.
1700 Lincoln Street, Suite 1900
Denver, Colorado 80203-4519
- 4.) Bureau of Land Management
1235 La Plata Highway
Farmington, New Mexico 87401

Signed 
George F. Sharpe

Date 5-3-94

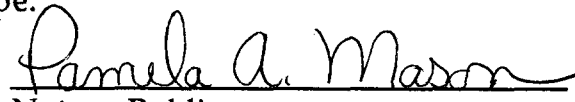
ACKNOWLEDGEMENT

STATE OF NEW MEXICO)
 §
COUNTY OF SAN JUAN)

The foregoing instrument was acknowledged before me this 3rd of May, 1994, by George F. Sharpe.

My commission expires:

July 22, 1995


Notary Public

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May 2, 1994

V. Offset Ownership - Notification

Attached are C-102-Plats showing the PC and Mesaverde spacing units (Attachments #5 and #6). Also attached is a plat showing all offset owners (Attachment #7). All offset owners have been sent a copy of this application. Attachment #8 is an affidavit to that effect.

Please let me know if additional information is required.

Sincerely,

MERRION OIL & GAS CORPORATION



George F. Sharpe
Manager - Oil & Gas Investments

xc: Frank Chavez-NMOCD-Aztec
BLM-Farmington
RL Bayless
Meridian Oil Inc.
MW Petroleum Corp.
Well File

Waiver

Meridian Oil Inc. hereby waives objection to this application.
Company

Name Van L. Gochet

Date May 23, 1994