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in 7/14/04

DAC-3315

MERRION

OIL & GAS

July 9, 2004

Mr. William Jones
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

**RE: Application for Administrative Approval
Downhole Commingling
Wildcat Fruitland Sand, Basin Fruitland and Gavilan Pictured Cliffs Pools
Mississippi Mud No. 1
Section 12, T24N, R2W
Rio Arriba County, New Mexico**

Dear Mr. Jones:

Merrion Oil & Gas (Merrion) requests administrative approval for downhole commingling of the Wildcat Fruitland Sand, Basin Fruitland and the Gavilan Pictured Cliffs in the subject wellbore. The following information is provided in support of this application.

I. History and Justification

The Mississippi Mud No. 1 APD was submitted for approval to the Rio Puerco BLM office in late May, and should be approved some time in the next month or so. Drilling will begin as soon as a rig is available.

There is Pictured Cliffs production in the area. There were also two Fruitland Coal tests in the area, but neither is commercially productive. The Fruitland Sand has not been tested (to our knowledge). We propose to commingle production from these three zones because we believe that no one zone would be economically productive. All three zones together could justify the drilling and operating cost of the well.

II. Proposed Spacing Units

Exhibit 1 is the C-102 plat for the Wildcat Fruitland Sand Pool with a 160 acre spacing unit in the northwest quarter of Section 12. Exhibit 2 is the C-102 plat for the Basin Fruitland Pool with a 320 acre spacing unit in the west half of Section 12. Exhibit 3 is the C-102 plat for the Gavilan Pictured Cliffs Pool with a 160 acre spacing unit in the northwest corner of section 12.

III. Allocation Methodology

Exhibit 4 is a map showing offset Pictured Cliffs wells and the Fruitland Coal well. Exhibits 5 through 8 show the production from two of the Pictured Cliffs offsets and two of the Fruitland Coal offsets to the subject well. We project that the Pictured Cliffs will

produce about 25 MCFD. The Fruitland Sand is a wildcat pool in this area and we do not have production data to predict its performance. Open hole log information indicates that the interval may be productive, so we propose to test it. Our conservative estimate is about 20 MCFD, but we can not accurately predict the Fruitland Sand production.

One of the Fruitland Coal offsets appears to have produced a small amount of water and no gas, the other produced about 13 MCFD for a short while. They were both plugged back from deeper zones drilled in the mid 1980's. We believe that the coal was damaged by mud drilling, and possibly lost circulation in the Fruitland interval. We plan to air drill through the Fruitland Coal to avoid formation damage. We estimate that the Fruitland Coal will produce about 50 MCFD. We have no production data to support this, however, we believe that commingling these three formations provides the best chance of success for each interval.

Merrion proposes to obtain stabilized production tests on each zone separately and use a fixed percentage to allocate future production between the three zones. If subsequent data indicate the need, additional testing may be done in the future to adjust the allocation percentages.

IV. Reservoir Fluid Compatibility

Water analyses are not available for wells in the immediate area. However, the waters of the Fruitland Sand, Coal and Pictured Cliffs have been generally determined to be compatible across the basin based on other similar applications to the NMOCD.

V. Cross Flow Between Zones

The reservoir pressure of all three zones is estimated to be about 850 psig. Therefore, crossflow is not anticipated to be a problem.

VI. Well Ownership Notification

The ownership of the three zones is identical, so no notification is necessary.

VII. Summary

Projected reserves for any one zone are not sufficient to justify drilling the well. Commingling the zones will maximize reserves and protect correlative rights. Therefore, we request your approval of this application.

If you have questions or need additional information, please call me at 505.324.5326.

Sincerely,



Connie S. Dinning
Production Engineer

Cc: Steve Hayden, Aztec NMOCD
BLM, Farmington Field Office

District I
1625 N. French Drive, Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised June 10, 2003

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

APPLICATION TYPE
☒ Single Well
☐ Establish Pre-Approved Pools
EXISTING WELLBORE
☐ Yes ☒ No

APPLICATION FOR DOWNHOLE COMMINGLING

Merrion Oil & Gas 610 Reilly Ave., Farmington, NM 87401
Operator Address
Mississippi Mud 1 D-12-24N-2W Rio Arriba
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 014634 Property Code API No. Lease Type: Federal State ☒ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Wildcat 24N2W23 Fruitland Sand	Basin Fruitland (Pre-approved w/ Gavilan PC)	Gavilan Pictured Cliffs (Pre-Approved w/ Basin FC)
Pool Code		71629	77360
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	3250' - 3300'	3300' - 3350'	3350' - 3370'
Method of Production (Flowing or Artificial Lift)	Artificial Lift	Artificial Lift	Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	858 psi Estimated from 0.26 gradient	871 psi Estimated from 0.26 gradient	876 psi Estimated from 0.26 gradient
Oil Gravity or Gas BTU (Degree API or Gas BTU)	±1100 BTU/SCF	±1000 BTU/SCF	±1100 BTU/SCF
Producing, Shut-In or New Zone	New Zone	New Zone	New Zone
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: Estimated from Offsets Rates: 20 MCFD	Date: Estimated from Offsets Rates: 50 MCFD	Date: Estimated from Offsets Rates: 25 MCFD
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 0 % 21%	Oil Gas 0 % 53%	Oil Gas 100 % 26%

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes ☒ No ☐
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes ☒ No ☐
Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ☐
Will commingling decrease the value of production? Yes ☐ No ☒
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes ☒ No ☐
*Communitized w/ Federal Lease
NMOCD Reference Case No. applicable to this well: _____

Attachments:
C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
Production curve for each zone for at least one year. (If not available, attach explanation.)
For zones with no production history, estimated production rates and supporting data.
Data to support allocation method or formula.
Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools
List of all operators within the proposed Pre-Approved Pools
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE  TITLE Production Engineer DATE 7/9/04

TYPE OR PRINT NAME Connie Dinning TELEPHONE NO. (505) 324-5326

E-MAIL ADDRESS cdinning@merrion.bz

State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

☐ AMENDED REPORT

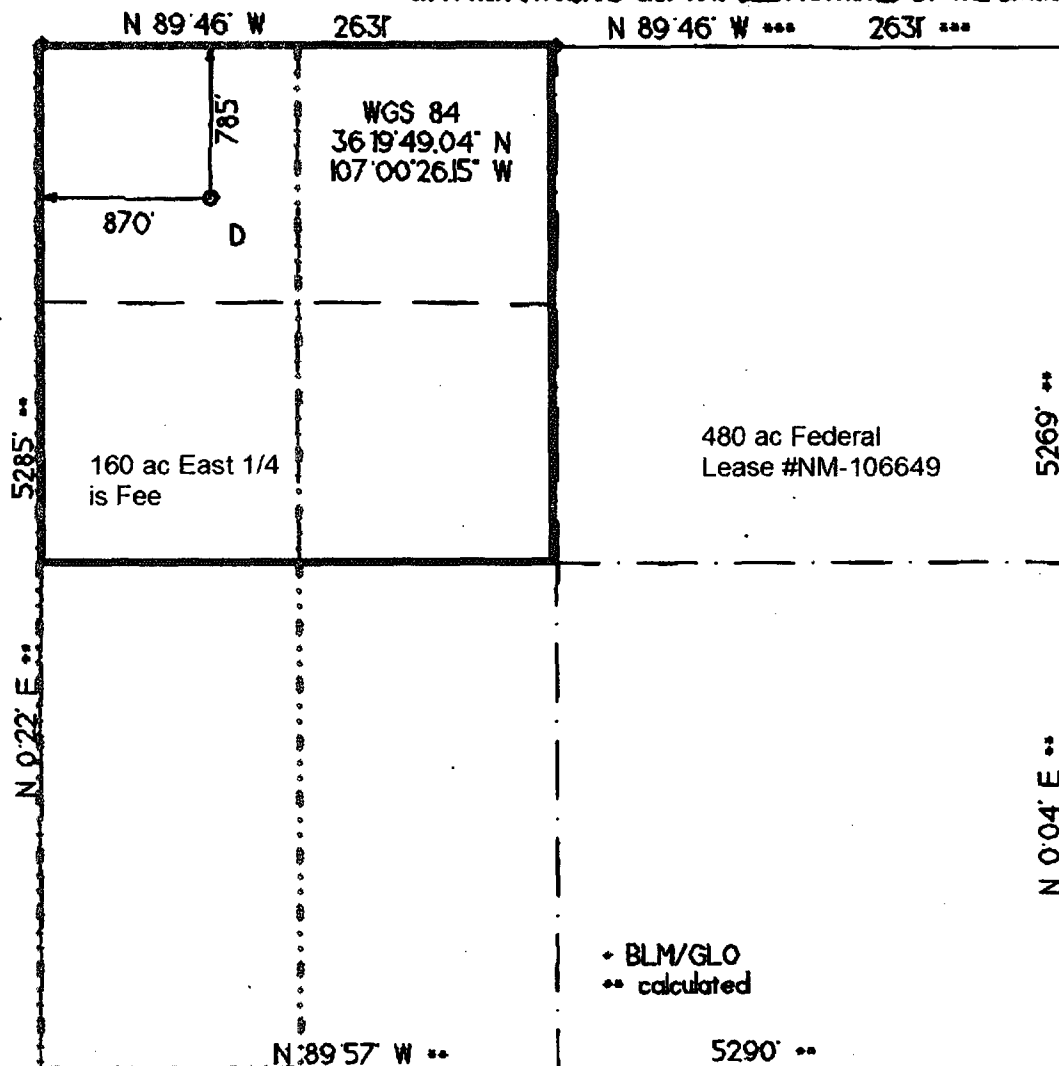
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number	Pool Code	Pool Name
		WC24N2W12; Fruitland Sand
Property Code	Property Name	Well Number
	Mississippi Mud	1
OGRD No.	Operator Name	Elevation
014634	MERRION OIL & GAS	7304'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet from	North/South	Feet from	East/West	County
D	12	24 N.	2 W.	NWNW	785'	NORTH	870'	WEST	RIO ARriba

Bottom Hole Location if Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltr.	Feet from	North/South	Feet from	East/West	County
Dedication	Joint ?	Consolidation	Order No.						
160 Ac									

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



OPERATOR CERTIFICATION

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

Signature

Printed Name

Connie Dinning

Title

Production Engineer

Date

July 8, 2004

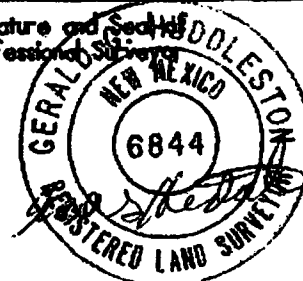
SURVEYOR CERTIFICATION

I hereby certify that the well location 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

5/21/04

Signature and Seal of Professional Surveyor



State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

☐ AMENDED REPORT

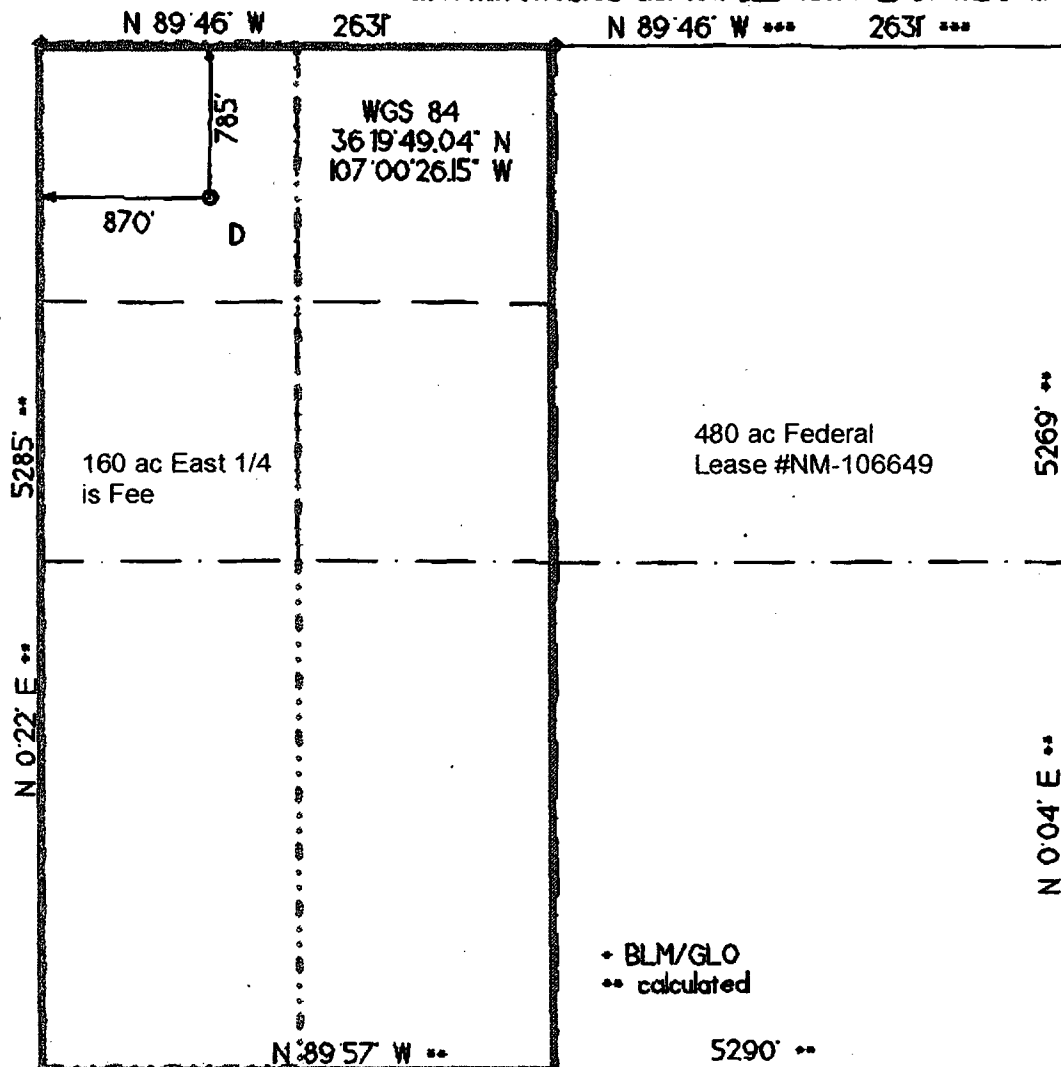
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number	Pool Code 71629	Pool Name Basin Fruitland
Property Code	Property Name Mississippi Mud	Well Number 1
OGRD No. 014634	Operator Name MERRION OIL & GAS	Elevation 7304'

Surface Location									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltn.	Feet from	North/South	Feet from	East/West	County
D	12	24 N.	2 W.	NWNW	785'	NORTH	870'	WEST	RIO ARriba

Bottom Hole Location If Different From Surface									
UL or Lot	Sec.	Twp.	Rge.	Lot Ltn.	Feet from	North/South	Feet from	East/West	County
Dedication 320 Ac	Joint ?	Consolidation	Order No.						

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OPERATOR CERTIFICATION

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

Signature

Printed Name

Connie Dinning

Title

Production Engineer

Date

May 25, 2004

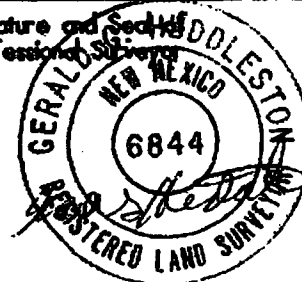
SURVEYOR CERTIFICATION

I hereby certify that the well location 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

5/21/04

Signature and Seal of Professional Surveyor



State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

☐ AMENDED REPORT

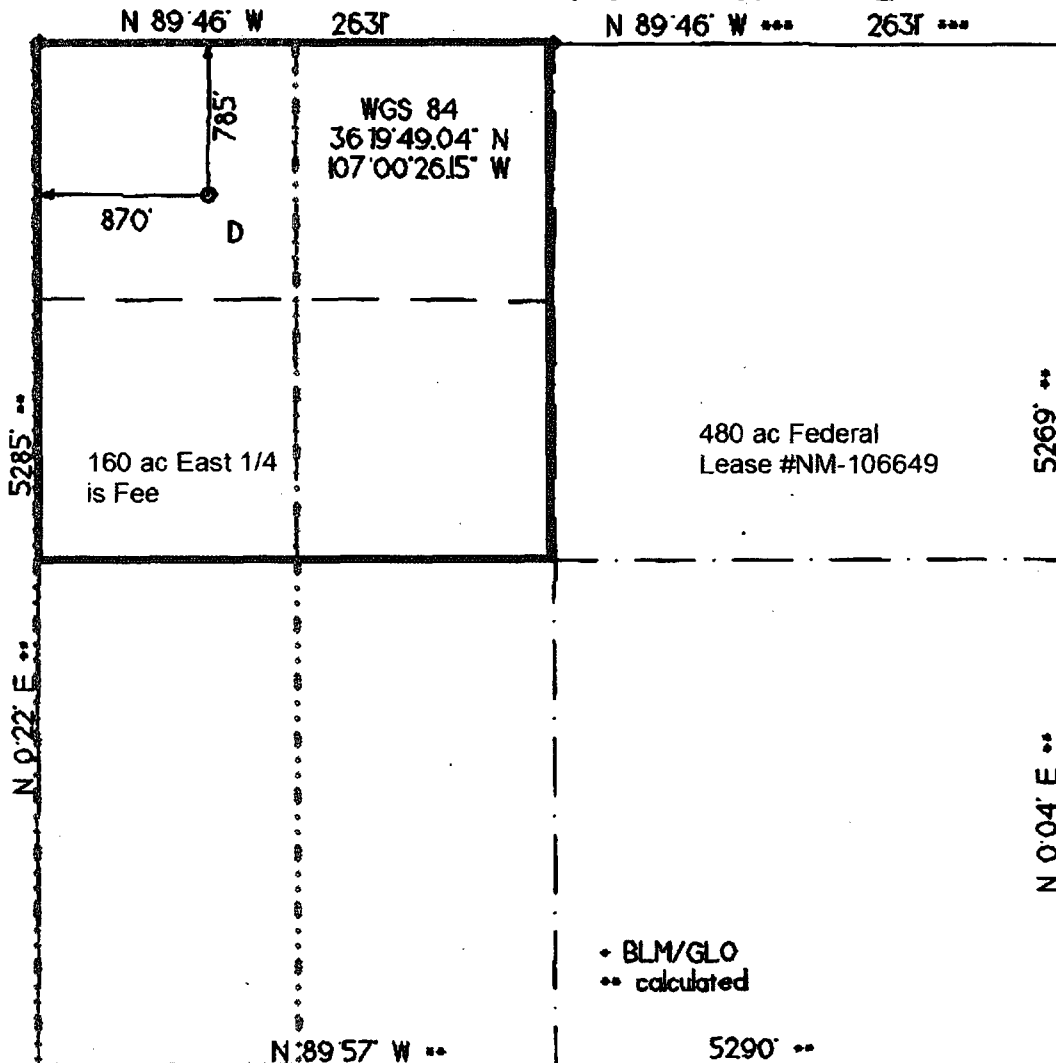
WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number	Pool Code 77360	Pool Name Gavilan Pictured Cliffs
Property Code	Property Name Mississippi Mud	Well Number 1
OGRD No. 014634	Operator Name MERRION OIL & GAS	Elevation 7304'

Surface Location									
UL or Lot D	Sec. 12	Twp. 24 N.	Rgn. 2 W.	Lot Ldn. NWNW	Feet from 785'	North/South NORTH	Feet from 870'	East/West WEST	County RIO ARriba

Bottom Hole Location If Different From Surface									
UL or Lot	Sec.	Twp.	Rgn.	Lot Ldn.	Feet from	North/South	Feet from	East/West	County
Dedication 160 Ac	Joint ?	Consolidation	Order No.						

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OPERATOR CERTIFICATION

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

Signature

Printed Name

Connie Dinning

Title

Production Engineer

Date

May 25, 2004

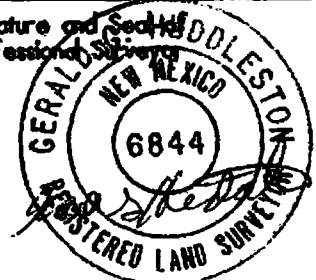
SURVEYOR CERTIFICATION

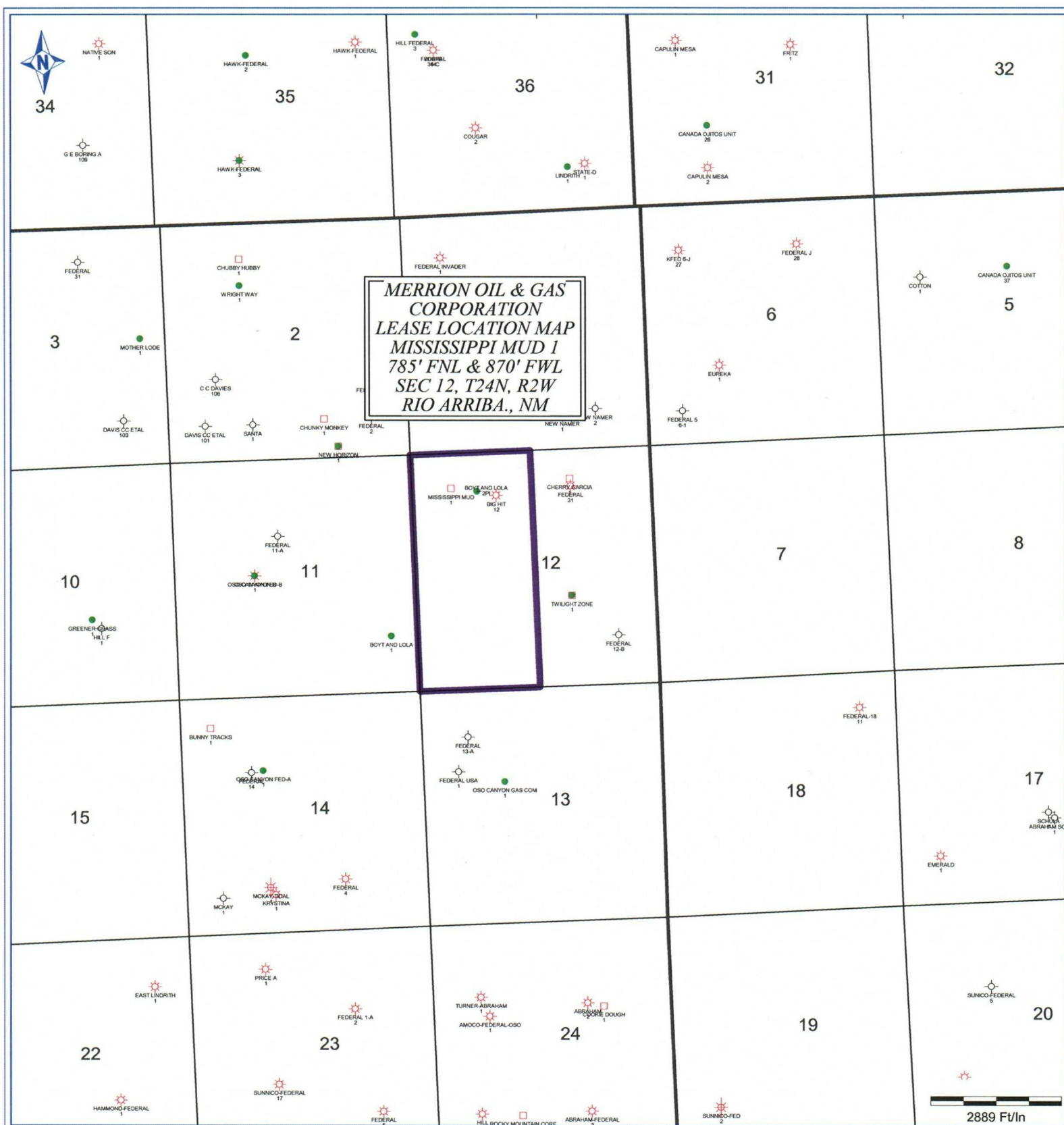
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Date of Survey

5/21/04

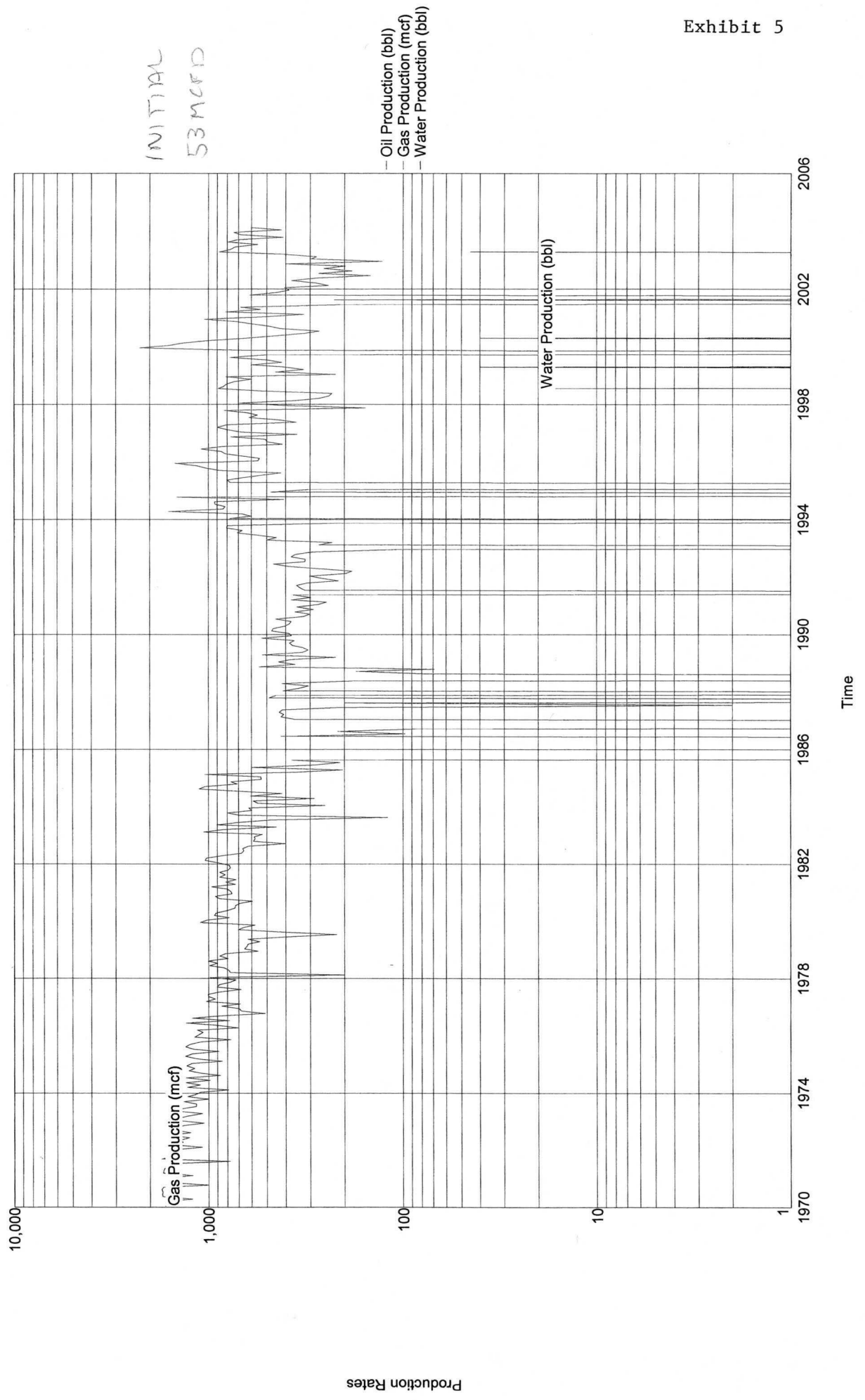
Signature and Seal of Professional Surveyor





Lease Name: FEDERAL 27
 County, State: RIO ARBA, NM
 Operator: N M & O OPERATING COMPANY
 Field: GAVILAN
 Reservoir: PICTURED CLIFFS
 Location: 6 24N 1W SE NW NW

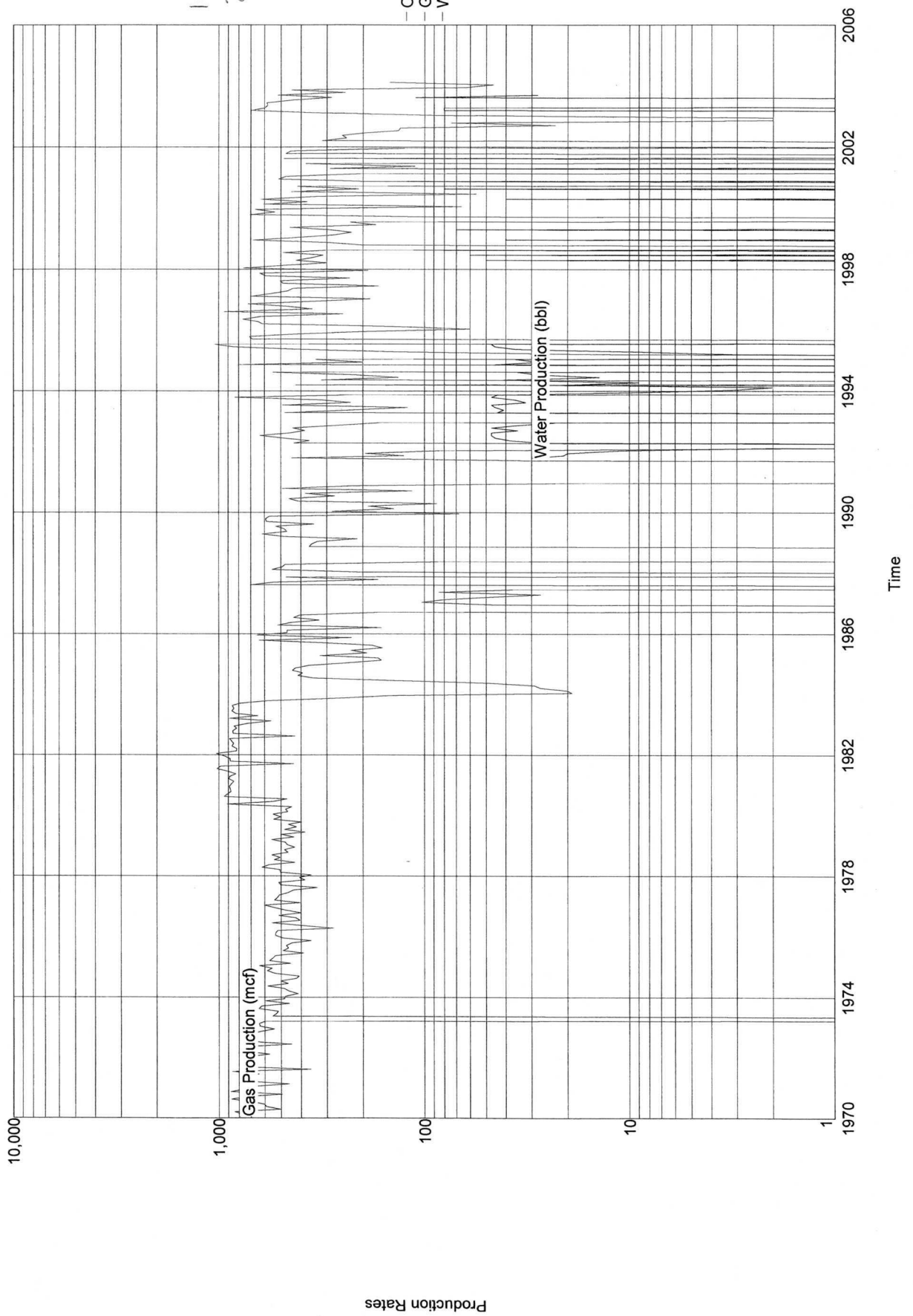
FEDERAL - GAVILAN



CHERRY GARCIA
 MISSISSIPPI MUD

Lease Name: FEDERAL 78
County, State: RIO ARBA, NM
Operator: N M & O OPERATING COMPANY
Field: GAVILAN
Reservoir: PICTURED CLIFFS
Location: 6 24N 1W NW NE

FEDERAL - GAVILAN



Lease Name: KRYSTINA

County, State: RIO ARBA, NM

Operator: ELM RIDGE RESOURCES INCORPORATED

Field: BASIN

Reservoir: FRUITLAND COAL

Location: 14 24N 2W SW NE SW

KRYSTINA - BASIN

Production Rates

Y-axis: 1, 10

X-axis: Time (2003, 2004, 2005)

Legend:

- Oil Production (bbl)
- Gas Production (mcf)
- Water Production (bbl)

Year	Oil Production (bbl)	Gas Production (mcf)	Water Production (bbl)
2003	~1.5	~1.2	~1.1
2004	~2.5	~2.0	~1.8
2005	~4.0	~3.0	~2.5

Lease Name: FEDERAL INVADER
 County, State: RIO ARBA, NM
 Operator: N M & O OPERATING COMPANY
 Field: BASIN
 Reservoir: FRUITLAND COAL
 Location: 1 24N 2W SE NW NW

FEDERAL INVADER - BASIN

