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# BURLINGTON RESOURCES

SAN JUAN DIVISION

RECEIVED

SEP 17 1996

Oil Conservation Division

September 9, 1996

Mr. William LeMay  
New Mexico Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

Re: Richardson SRC #6  
1650'FSL, 990'FEL Section 22, T-31-N, R-12-W, San Juan County, NM  
API #30-045-10497

Dear Mr. LeMay:

This is a request for administrative approval for downhole commingling the Blanco Mesa Verde and Basin Dakota pools in the subject well. This is currently a dual Mesa Verde/Dakota well.

To comply with the New Mexico Oil Conservation Division rules, Burlington Resources Oil & Gas Company is submitting the following for your approval of this commingling:

1. Form C107A - Application for Downhole Commingling;
2. C-102 plat for each zone showing its spacing unit and acreage dedication;
3. Production curve for both the Dakota and Mesa Verde for at least one year;
4. Notification list of offset operators - Burlington is the surrounding operator;
5. Shut in wellhead pressure and calculated down hole pressure;
6. Nine-section plats for the Mesa Verde and Dakota.

The ownership for both the Mesa Verde and Dakota are common in this well. No notification to interest owners is required.

The allocation formula will be based off actual flow rates from the Mesa Verde and Dakota formations.

Please let me know if you require additional data.

Sincerely,



Peggy Bradfield  
Regulatory/Compliance Administrator

encs.

**DISTRICT I**

P.O. Box 1980, Hobbs, NM 88241-1980

**DISTRICT II**

811 South First St., Artesia, NM 88210-2835

**DISTRICT III**

1000 Rio Brazos Rd, Aztec, NM 87410-1693

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429

Form C-107-A  
New 3-12-96

APPROVAL PROCESS :

Administrative  
 Hearing

**APPLICATION FOR DOWNHOLE COMMINGLING**

EXISTING WELLBORE

YES  NO

**Burlington Resources Oil & Gas Company**

**PO Box 4289, Farmington, NM 87499**

Operator

Address

**Richardson SRC**

**6**

**I-22-31N-12W**

**San Juan**

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 18610 API NO. 30-045-10497 Federal     , State     , (and/or) Fee X

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Mesaverde - 72319		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	4932-5000'		7064-7236'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 536 psi (see attached)	a.	a. 842 psi (see attached)
	(Original) b. 1214 psi (see attached)	b.	b. 2357 psi (see attached)
6. Oil Gravity ( <sup>o</sup> API) or Gas BTU Content	BTU 1190		BTU 1144
7. Producing or Shut-In?	producing		Shut-in
Production Marginal? (yes or no)	No		Yes
* If Shut-In and oil/gas/water rates of last production  <small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data</small>	Date: N/A Rates:	Date: Rates:	Date: 1-92 Rates: 8 MCF/D, 0 BOPD
* If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: 8-96 Rates: 47 MCF/D, 0.1 BOPD	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: 100 % Gas: 85 %	Oil: % Gas: %	Oil: 0 % Gas: 15 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones?  Yes  No  
If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes  No  
Have all offset operators been given written notice of the proposed downhole commingling?  Yes  No

11. Will cross-flow occur?  Yes  No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable.  Yes  No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other?  Yes  No

13. Will the value of production be decreased by commingling?  Yes  No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application.  Yes  No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). \_\_\_\_\_

**16. 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 all offset operators.
- \* Notification list of working, overriding, and royalty interests for uncommon interest cases.
- \* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Peggy Bradfield TITLE Regulatory Administrator DATE 8-23-96

TYPE OR PRINT NAME Peggy Bradfield TELEPHONE NO. ( 505 ) 326-9700

NEW MEXICO OIL CONSERVATION COMMISSION

Well Location and Acreage Dedication Plat

Section A.

Date April 7, 1960

Operator Aztec Oil & Gas Company Lease Richardson *SLC*  
 Well No. 6 Unit Letter I Section 22 Township 31 North Range 12 West NMP  
 Located 1650 Feet From South Line, 990 Feet From East Line  
 County San Juan G. L. Elevation 6157 Dedicated Acreage 320 Acres  
 Name of Producing Formation Mesaverde Pool Blanco Mesaverde

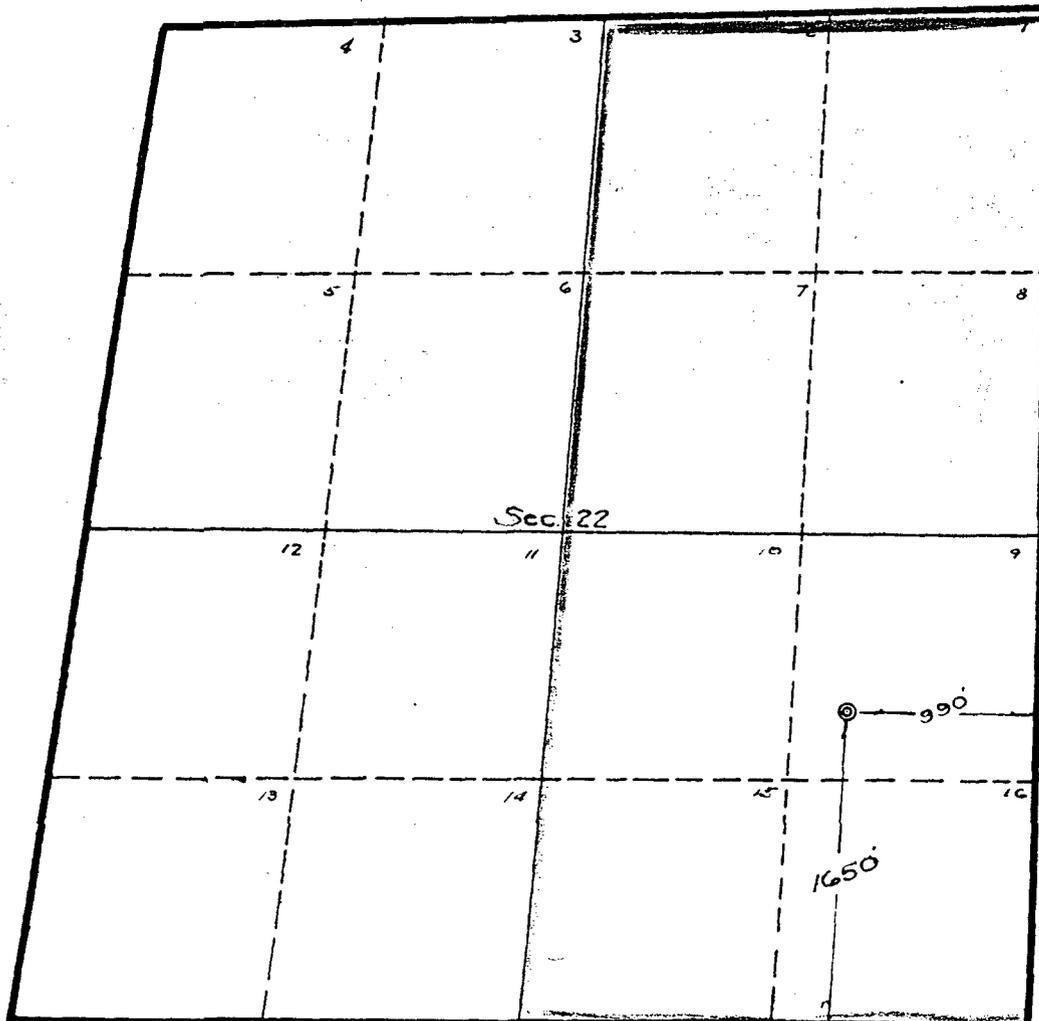
1. Is the Operator the only owner\* in the dedicated acreage outlined on the plat below?  
Yes XX No \_\_\_\_\_.
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes \_\_\_\_\_ No \_\_\_\_\_. If answer is "yes,"  
Type of Consolidation \_\_\_\_\_
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner

Land Description

<u>Owner</u>	<u>Land Description</u>

Section. B



This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

Aztec Oil & Gas Company  
(Operator)

ORIGINAL SIGNED BY JOE C. SALMON  
(Representative)

Box 786, Farmington, N.M.  
Address

This is to certify that the well location on the plat in Section B was derived 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 knowledge and belief.

Date Surveyed April 3, 1960

Ernest V. Echohawk  
Ernest V. Echohawk  
Registered Land Surveyor.

Certificate No. 1545

NEW MEXICO OIL CONSERVATION COMMISSION

Well Location and Acreage Dedication Plat

Section A.

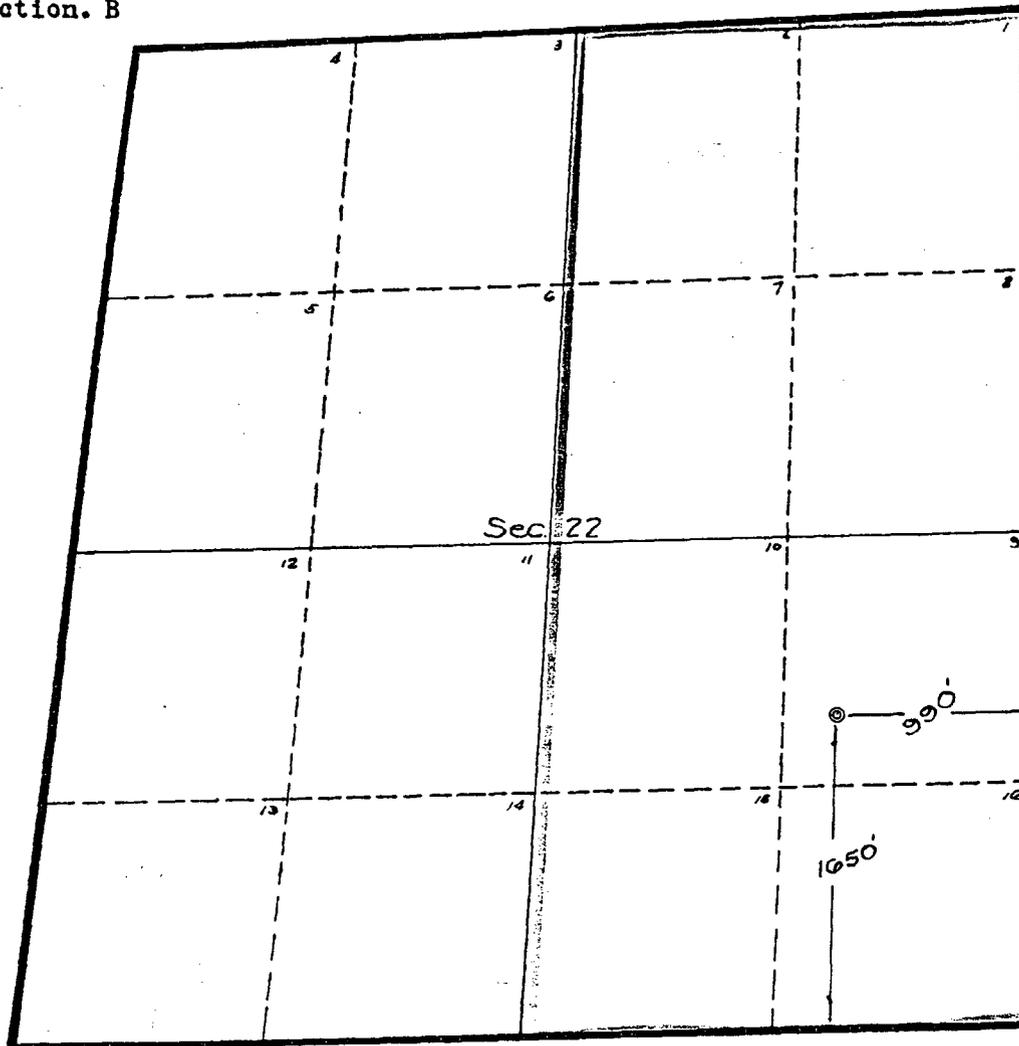
Date April 7, 1960

Operator Aztec Oil & Gas Company Lease Richardson *ERC*  
 Well No. 6 Unit Letter I Section 22 Township 31 North Range 12 West N.  
 Located 1650 Feet From South Line, 990 Feet From East Line  
 County San Juan G. L. Elevation 6157 Dedicated Acreage 320 Acre  
 Name of Producing Formation Dakota Pool Wildcat

1. Is the Operator the only owner\* in the dedicated acreage outlined on the plat below?  
Yes XX No \_\_\_\_\_.
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes \_\_\_\_\_ No \_\_\_\_\_. If answer is "yes,"  
Type of Consolidation \_\_\_\_\_
3. If the answer to question two is "no," list all the owners and their respective interests below:

<u>Owner</u>	<u>Land Description</u>

Section. B



This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

Aztec Oil & Gas Company  
(Operator)

ORIGINAL SIGNED BY JOE C. SALM  
(Representative)

Box 786, Farmington, N.M.  
Address

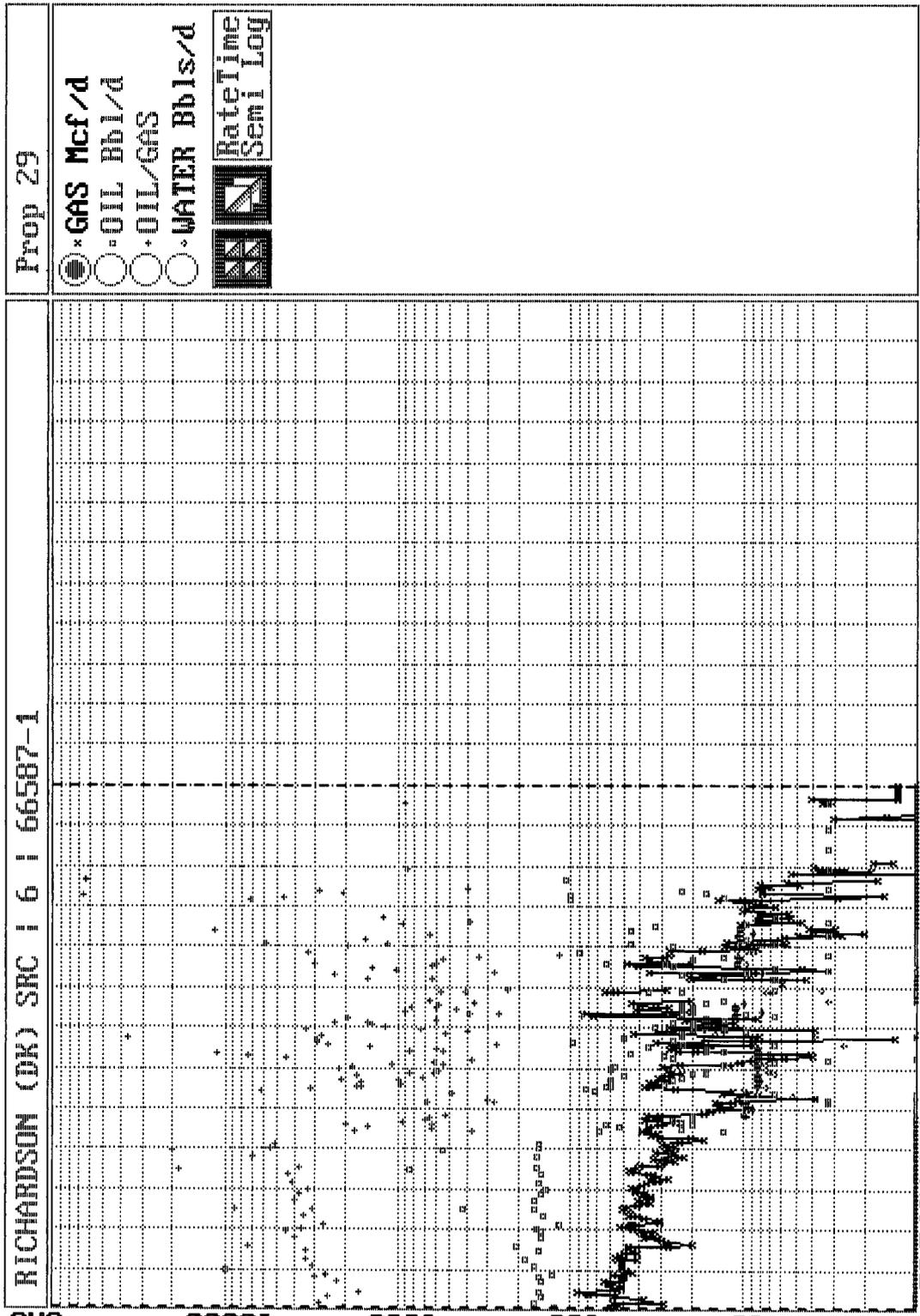
This is to certify that the well location shown on the plat in Section B was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed April 3, 1960

Ernest V. Echohawk  
Ernest V. Echohawk  
Registered Land Surveyor.

RICHARDSON (DK) SRC I 6 I 66587-1

Prop 29



- \* GAS Mcf/d
- OIL Bbl/d
- OIL/GAS
- WATER BBls/d

 Rate Time  
 Semi Log

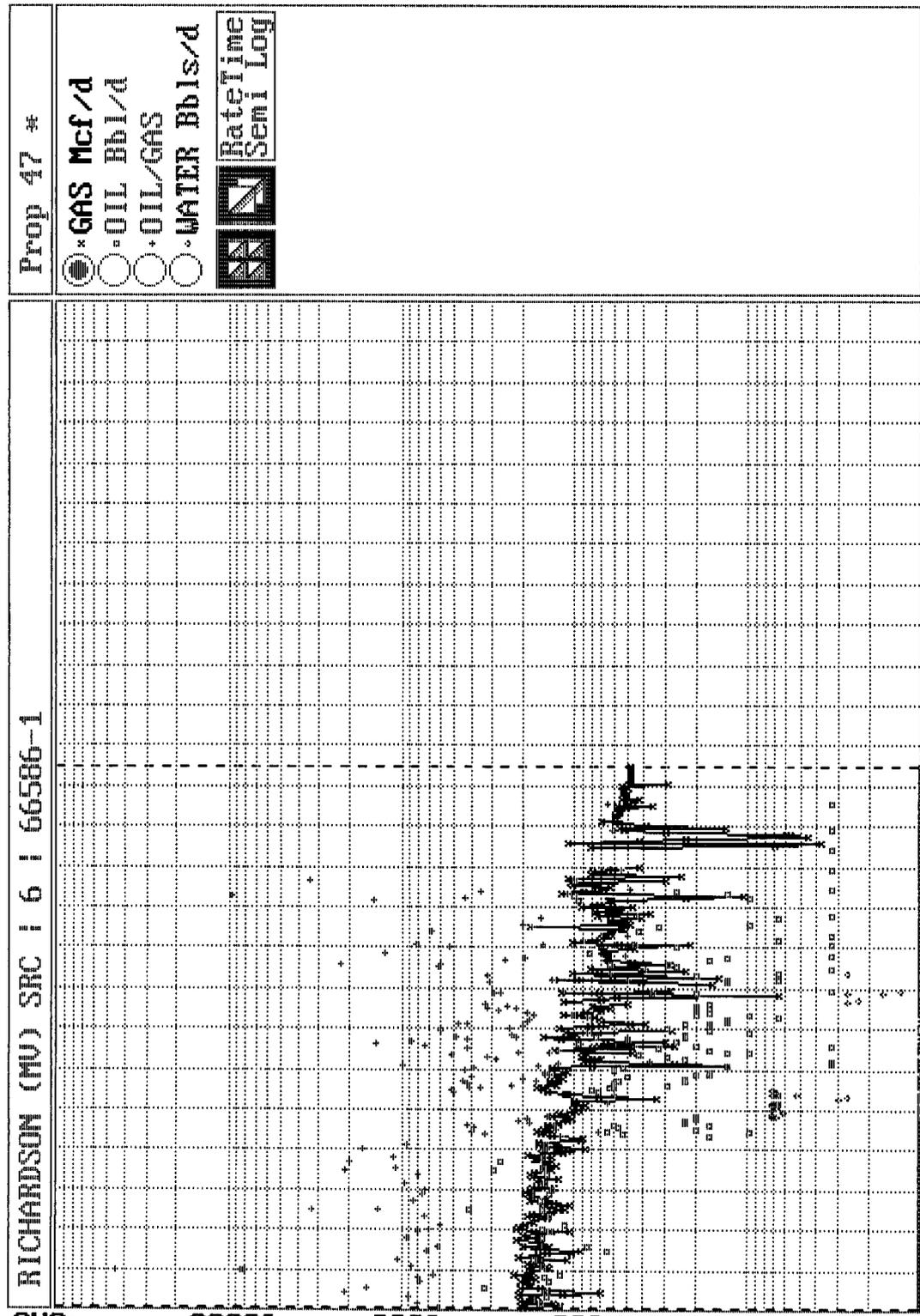
\* GAS 10000  
 \* OIL 100  
 \* OIL/GAS 100  
 \* WATER 1000  
 1000 10 100 1 10 0.1 1  
 1000 10 100 1 10 0.1 1  
 1000 10 100 1 10 0.1 1  
 1000 10 100 1 10 0.1 1

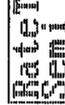
72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12 14 16 18

Major = GAS

RICHARDSON (MU) SRC : 6 : 66586-1

Prop 47 \*



- \*GAS Mcf/d
  - OIL Bbl/d
  - OIL/GAS
  - WATER Bbls/d
-  RateTime  
 Semi Log

727476786002048688909294969800020496081012141618

Major = GAS

\*GAS 10000  
 \*OIL 100  
 \*OIL/GAS 100  
 \*WATER 10000  
 1000  
 100  
 10  
 1  
 10  
 0.1  
 0.1  
 1  
 0.1  
 0.1  
 1

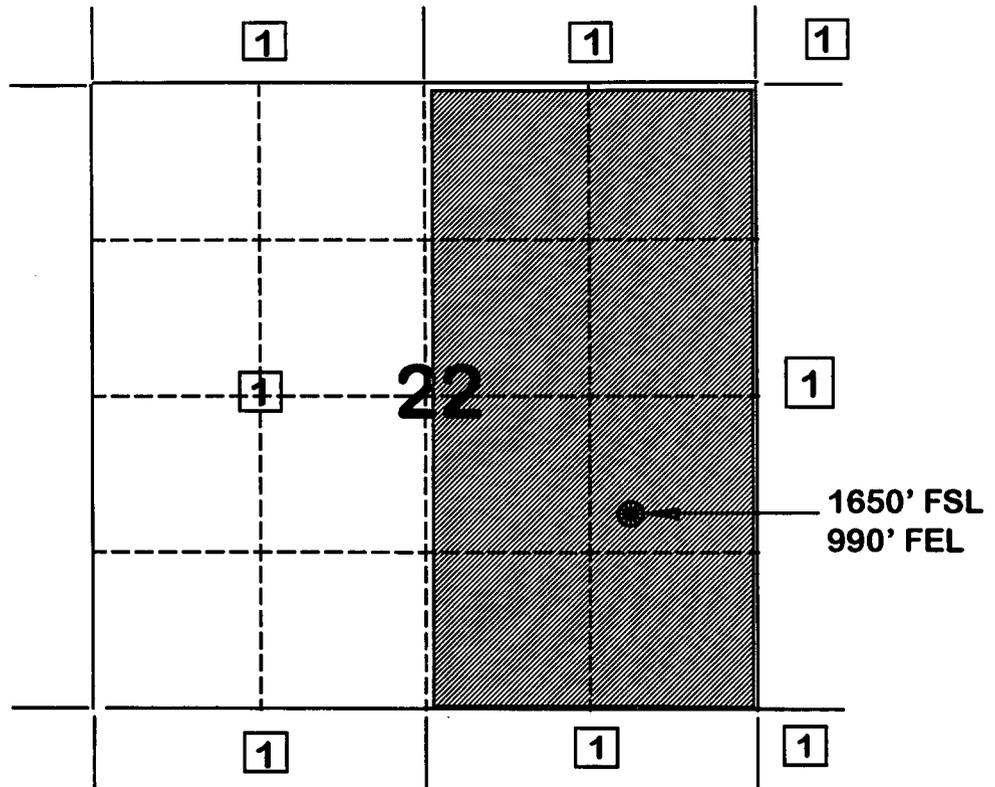
*BURLINGTON RESOURCES OIL AND GAS COMPANY*

## **RICHARDSON SRC #6**

**OFFSET OPERATOR \ OWNER PLAT**

**Mesaverde / Dakota Formations Commingle Well**

**Township 31North, Range 12 West**



**1) Burlington Resources Oil and Gas Company Successor to Meridian Oil Inc.**

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD.**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.669</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.19</u>
%CO2	<u>1.02</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2.5</u>
DEPTH (FT)	<u>7236</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>710</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>842.3</u>

RICHARSON SRC #6 DAKOTA - ( CURRENT) \*LAST TEST DATE: 1985

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.669</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.19</u>
%CO2	<u>1.02</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2.5</u>
DEPTH (FT)	<u>7236</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1946</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>2357.1</u>

RICHARSON SRC #6 DAKOTA - ( ORIGINAL)

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.697</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.39</u>
%CO2	<u>0.74</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2.5</u>
DEPTH (FT)	<u>5000</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>473</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>536.3</u>

RICHARSON SRC #6 MESAVERDE - (CURRENT)

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

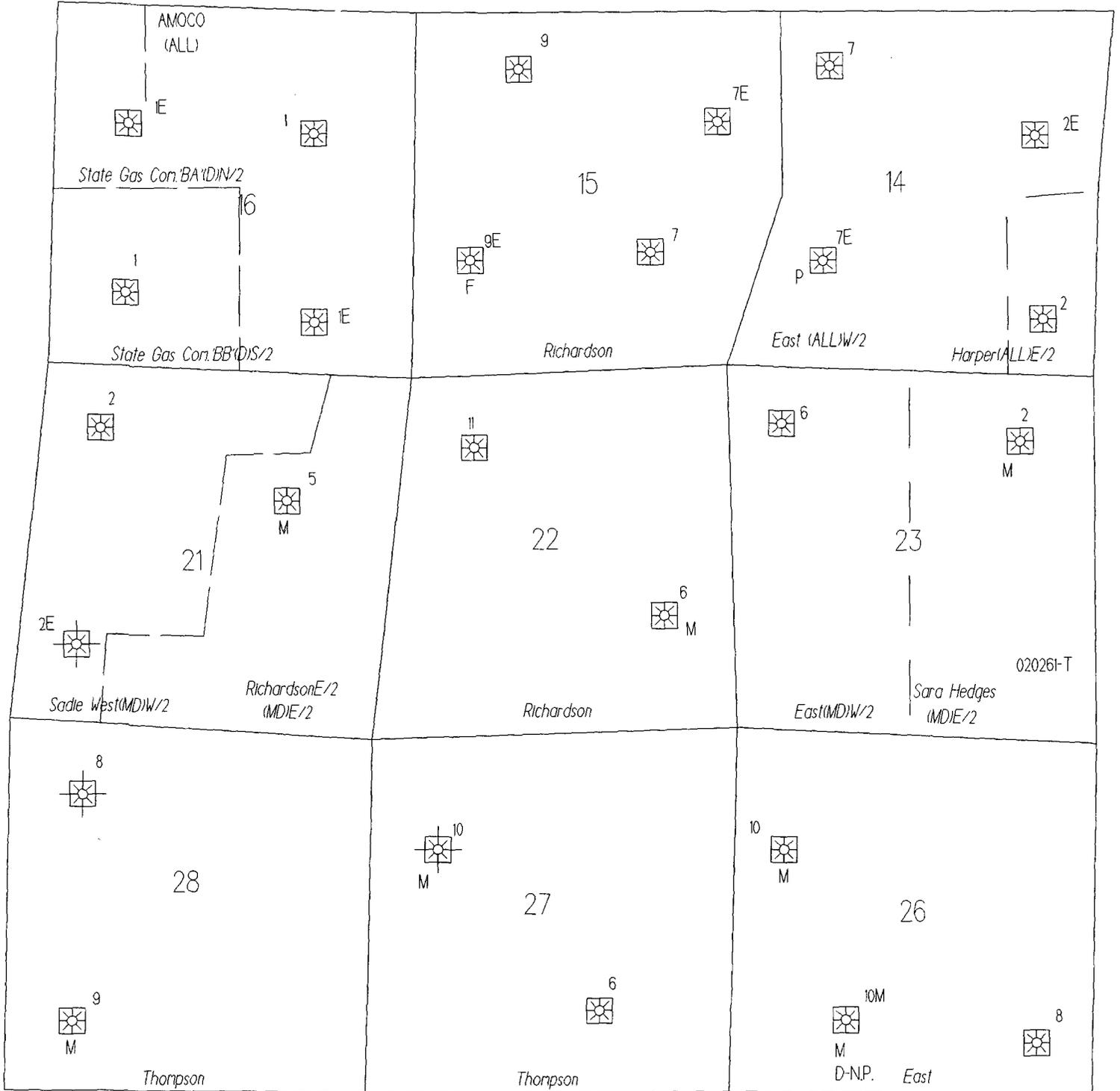
VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.697</u>	
COND. OR MISC. (C/M)	<u>C</u>	
%N2	<u>0.39</u>	
%CO2	<u>0.74</u>	
%H2S	<u>0</u>	
DIAMETER (IN)	<u>2.5</u>	
DEPTH (FT)	<u>5000</u>	
SURFACE TEMPERATURE (DEG F)	<u>60</u>	
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>	
FLOWRATE (MCFPD)	<u>0</u>	
SURFACE PRESSURE (PSIA)	<u>1056</u>	
BOTTOMHOLE PRESSURE (PSIA)	<table border="1"><tr><td>1213.6</td></tr></table>	1213.6
1213.6		

RICHARSON SRC #6 MESAVERDE - ( ORIGINAL)



# RICHARDSON 6 DK



T  
31  
N

R-12-W

RICHARDSON SRC #6

22

31N

12W

PRODUCTION ALLOCATION FORMULA USING HISTORICAL PRODUCTION

Commingle

Allocation Formula Method:

Historical Production from Blanco Mesaverde = 47 MCFD                      Gas  
Historical Production from Blanco Mesaverde = 0.1 BOPD                      Oil

Historical Production from Basin Dakota = 8 MCFD                      Gas  
Historical Production from Basin Dakota = 0 BOPD                      Oil

Mesaverde

$\frac{(MV) 47 \text{ MCFD}}{(MV) 47 \text{ MCFD} + (DK) 8 \text{ MCFD}}$	(100) = 85 %	Gas
$\frac{(MV) 0.1 \text{ BOPD}}{(MV) 0.1 \text{ BOPD} + (DK) 0 \text{ BOPD}}$	(100) = 100 %	Oil

Dakota

$\frac{(DK) 8 \text{ MCFD}}{(MV) 47 \text{ MCFD} + (DK) 8 \text{ MCFD}}$	(100) = 15%	Gas
$\frac{(DK) 0 \text{ BOPD}}{(MV) 0.1 \text{ BOPD} + (DK) 0 \text{ BOPD}}$	(100) = 0%	Oil