

DISTRICT I
1826 N. French Dr., Hobbs, NM 88240

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

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693

DISTRICT IV
2040 S. Pacheco, Santa Fe NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A
Revised August 1999

APPROVAL PROCESS:

Administrative ☒ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

RICHARDSON OPERATING COMPANY

1700 LINCOLN STREET, SUITE 1700, DENVER, CO 80203

Operator

Address

NAVAJO FEDERAL

H 5

M

13-29N-14W

SAN JUAN

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 019219

Property Code

API NO. 30-045-13101

Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	71629 BASIN FRUITLAND COAL		86620 TWIN MOUNDS FRUITLAND PICTURED CLIFFS
2. Top and Bottom of Pay Section (Perforations)	876 - 882		890 - 904
3. Type of production (Oil or Gas)	GAS		GAS
4. Method of Production (Flowing or Artificial Lift)	PUMPING		PUMPING
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) b. (Original) 200	RECEIVED SEP 23 1999 OIL CON. DIV. DIST. 3 a. b. 200	a. b. 200
6. Oil Gravity (^o API) or Gas BTU Content	1000		1000
7. Producing or Shut-In?			
Production Marginal? (yes or no)	YES		YES
* If Shut-In, give 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 * If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
	Date: Rates:	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

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

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 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 David B. Richardson / Rsm TITLE PRESIDENT DATE 9-14-99

TYPE OR PRINT NAME DAVID B. RICHARDSON TELEPHONE NO. (303) 830-8000

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill, or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT-" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Richardson Operating Company

3. Address and Telephone No.

1700 Lincoln, Suite 1700, Denver, Colorado 80203 (303) 830-8000

4. Location of Well (Footage, T, R, M, or Survey Description)

660' FWL and 705' FSL (SW/4SW/4)

Sec. 13-T29N-R14W

5. Lease Designation and Serial No.

14-20-603-2198

6. If Indian, Allottee or Tribe Name

Navajo Tribal

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Navajo H #5

9. API Well No.

30-045-13101

10. Field and Pool, or Exploratory Area

W. Kutz PC / Basin FC

11. County or Parish, State

San Juan County, NM

12. CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Surface Casing/Cementing
	<input type="checkbox"/> Other: CHANGE OF OPERATOR
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form).

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work.

If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markets and zones pertinent to this work.)*

Please see attached State Forms to commingle production from the Fruitland Coal and the Pictured Cliffs Formation under the Navajo H 5 well.

14. I hereby certify that the foregoing is true and correct

Signed: Richard A. Williams

09/14/99

(This space for Federal or State office use)

Approved by: WAYNE TOWNSEND

Title: A. T. L.

Date: 9-20-99

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DATE IN	SUSPENSE	ENGINEER	LOGGED	TYPE
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
☐ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

David B. Richardson
Print or Type Name

David B. Richardson / Rsm
Signature

President
Title

9-14-99
Date

1625 N. French Dr., Hobbs, NM 88240

State of New Mexico
Energy, Minerals & Natural Resources

Form C-102
Revised March 17, 1994

District II

811 South First, Artesia, NM 88210

OIL CONSERVATION DIVISION

Submit to Appropriate District Office

District III

1000 Rio Brazos Rd., Aztec, NM 87410

2040 South Pacheco
Santa Fe, NM 87505

50 SEP 16 PM 1:02 State Lease - 4 Copies
Fee Lease - 3 Copies

District IV

2040 South Pacheco, Santa Fe, NM 87505

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-13101		² Pool Code 86620	³ Pool Name KUTZ WEST PICTURED CLIFFS
⁴ Property Code	⁵ Property Name NAVAHO H		⁶ Well Number 5
⁷ OGRID No. 019219	⁸ Operator Name RICHARDSON OPERATING COMPANY		⁹ Elevation 5278

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
M	13	29N	14W		705	South	660	West	San Juan

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 160	¹³ Joint or Infill Y	¹⁴ Consolidation Code			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

[illegible]

District I

1625 N. French Dr., Hobbs, NM 88240

District II

811 South First, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-102

Revised March 17, 1994

OIL CONSERVATION DIVISION

Submit to Appropriate District Office

2040 South Pacheco

Santa Fe, NM 87505

State Lease - 4 Copies

Fee Lease - 3 Copies

SEP 16 PM 1:02

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-13101	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code	⁵ Property Name NAVAHO H	⁶ Well Number 5
⁷ OGRID No. 019219	⁸ Operator Name RICHARDSON OPERATING COMPANY	⁹ Elevation 5278

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
M	13	29N	14W		705	South	660	West	San Juan

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 Y	¹⁴ Consolidation Code	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 style="text-align: center;"> <p>16</p> <p>RECEIVED SEP 23 1999 OIL CON. DIV. FOT. 3</p> <p>660 705</p> </div>	<div style="text-align: center;"> <p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>David B. Richardson / R</i> Signature</p> <p>Printed Name David B. Richardson Title President Date 9-14-99</p> </div>		
	<div style="text-align: center;"> <p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyer:</p> </div>		
	<p>Original on File</p> <p>Certificate Number</p>		

District I
PO-Box 1988, Hobbs, NM 88241-1988

District II

PO Drawer DD, Artesia, NM 88211-4719

District III

1000 Rio Brazos Rd., Aztec, NM 87418

District IV

PO Box 1088, Santa Fe, NM 87504-1088

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED
SEP 21 1999

Form C-102
Revised February 10, 1994

Instructions on back

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

OIL CONSERVATION DIVISION

PO Box 2088

Santa Fe, NM 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 71629	Pool Name Basin Fruitland Coal
Property Code	Property Name Navajo H	Well Number 5
OGRID No. 019219	Operator Name Richardson Operating Company	Elevation 5278' GL

Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South Line	Feet from the	East/West Line	County
M	13	29N	14W		705	S	660	W	San Juan

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

Dedicated Acres 320	Joint or Infill Y	Commodation Code	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		RECEIVED SEP 23 1999 OIL CON. DIV. DIST. 3	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Paul C. Thompson Signature Paul C. Thompson Printed Name Agent Title 4/20/99 Date
			18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was placed 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 8-20-99 Signature and Seal of Professional Surveyor: Telephone conversation w/ Jim Lavato (Farmington BLM) acreage dedication changed Certificate Number to S/2-13-29N-14W

RICHARDSON OPERATING COMPANY

Navajo H #5

Section 13, T29N, R14W

Commingling Application

Allocation Formula

The proposed well was plugged back from the Wildcat Mesa Verde and re-completed in the Basin Fruitland Coal and Twin Mounds Fruitland Sand - Pictured Cliffs. No production data is currently available. The Navajo Tribal H #15 located in the same section is the only Twin Mounds Fruitland Sand - Pictured Cliffs well that has recently produced (P&A 1998) in this township. There are two marginal Fruitland Coal wells that began producing in October 1997 in Section 36 of this township, the Camp David Commission #1 (cum 12,961 MCF) and the Henry #1 (Cum = 2,449 MCF).

As the Navajo H 15, the Camp David Commission #1 and the Henry #1 wells were only capable of marginal production from the Fruitland Coal and Pictured Cliffs formations, Richardson Operating Company proposes to down hole commingle the production in the Navajo H #5 well.

Based on the Bushman #1 (6-29N-14W) both the Pictured Cliffs and the Fruitland Coal zones have very similar bottom hole pressures of approximately 180 psig. Therefore, cross flow will not be a factor. It is anticipated that both zones will produce some water with no liquid hydrocarbons. Neither zone is fluid sensitive and the fluids from the two zones should be compatible.

Due to the lack of production data from the two zones, Richardson Operating Company proposes to allocate the production according to the following method.

- A. From the attached rate / time graph, the initial production of the neighboring Navajo Tribal H #15 in Section 13 can be calculated as 49 MCF/D with a decline rate of approximately 18%, therefore:
- B. **Pictured Cliffs Initial Rate from the Navaho #5** = $49 \text{ MCF/D} \times e^{-Dt}$, where $D = 18\% / \text{year}$ and $t = \text{time in years since first production}$.
- C. **Fruitland Coal Production** = Total Production – Pictured Cliffs Production.

Rate/Time Graph

Project: C:\Program Files\HS Energy\PTools30\PROJECTS\topco.MDB

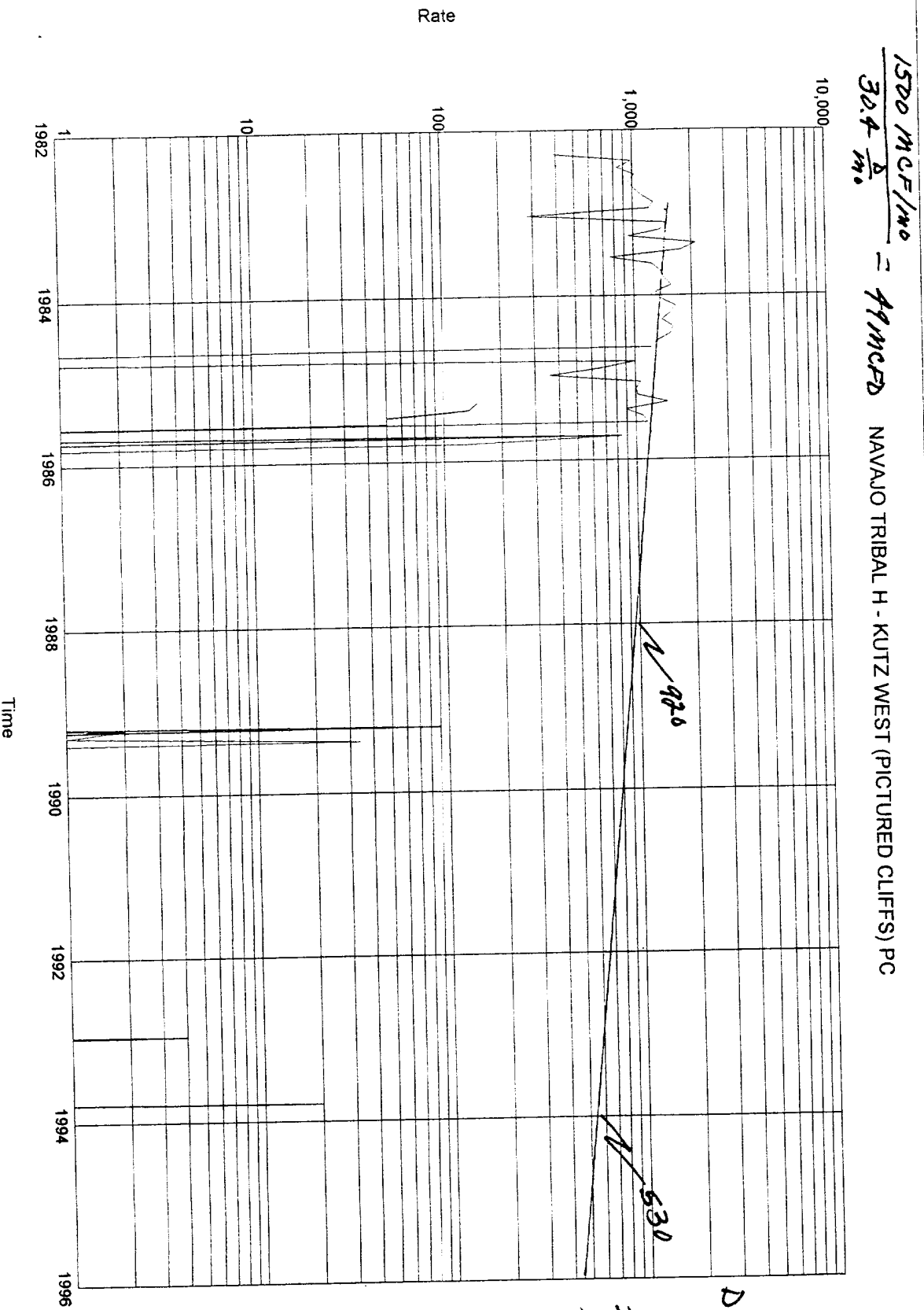
Date: 8/26/1999
Time: 4:50 PM

Lease Name:
County, ST:
Location:

NAVAJO TRIBAL H (15)
SAN JUAN, NM
29N-14W-13

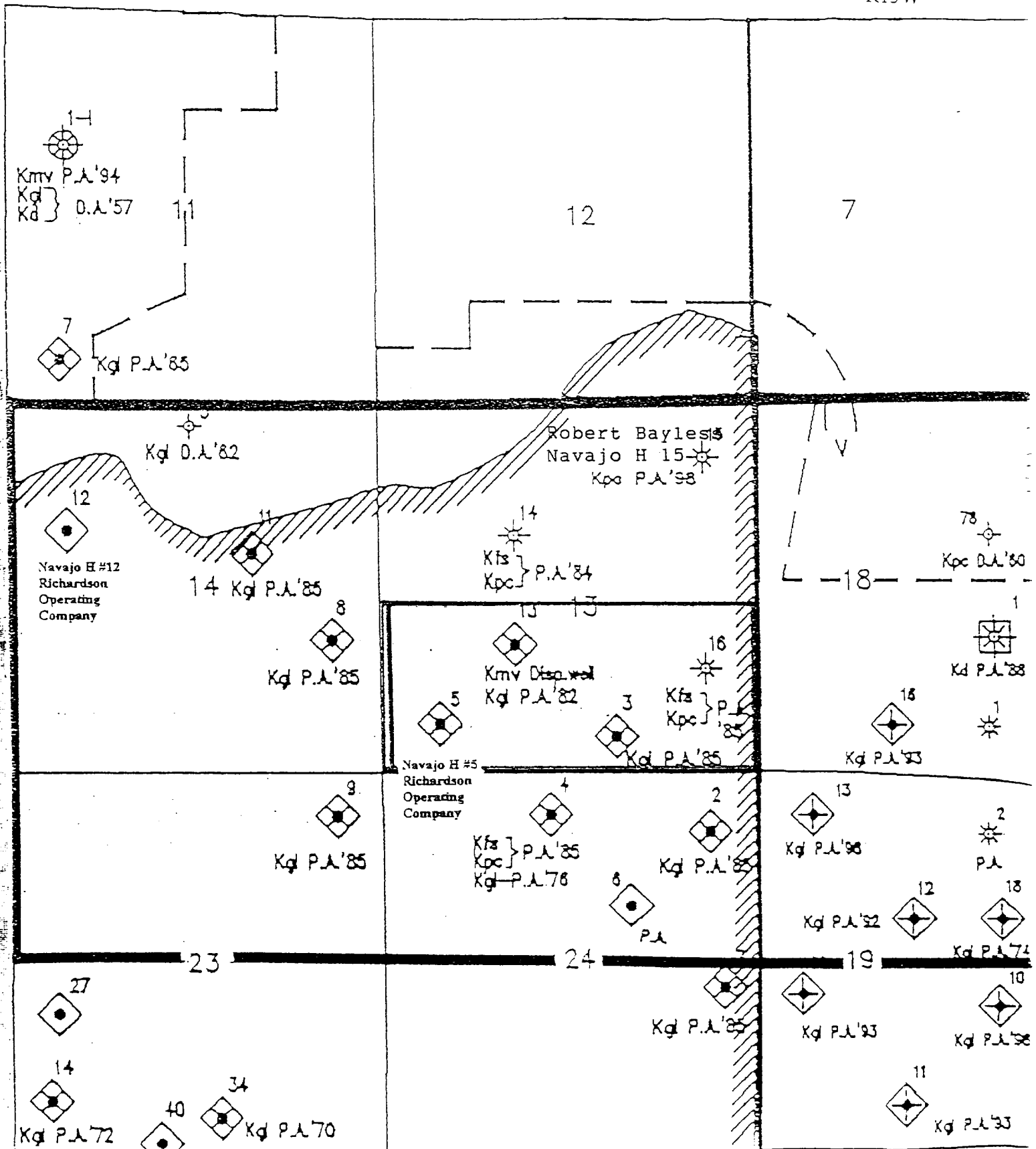
Field Name:
Operator:

KUTZ WEST (PICTURED CLIFFS) PC
BAYLESS ROBERT L



R14W

R13W



San Juan County, New Mexico

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1625 N. French Dr., Hobbs, NM 88240

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Form C-107-A
Revised August 1999

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Administrative ☒ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

SEP 15 1999 1:00

RICHARDSON OPERATING COMPANY

1700 LINCOLN STREET, SUITE 1700, DENVER, CO 80203

Operator

Address

NAVAJO FEDERAL

H 5

M

13-29N-14W

SAN JUAN

Lease

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6. Oil Gravity (^o API) or Gas BTU Content	1000		1000
7. Producing or Shut-In?			
Production Marginal? (yes or no)	YES		YES
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Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data			
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If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☐ No

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- * Notification list of working, overriding, and royalty interests for uncommon interest cases.
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I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE David B. Richardson / Rsm TITLE PRESIDENT DATE 9-14-99

TYPE OR PRINT NAME DAVID B. RICHARDSON TELEPHONE NO. (303) 830-8000