

DISTRICT I

P.O. Box 1988, Hobbs, NM 88241-1988

DISTRICT II

911 South First St., Artesia, NM 88210-2836

DISTRICT III

1000 Rio Grande Rd, Artes, NM 87410-1893

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429Form C-107-A
New 3-12-98

APPROVAL PROCESS:

Administrative ☐ Hearing ☐

EXISTING WELLBORE

YES ☐ NO ☐

APPLICATION FOR DOWNHOLE COMMINGLING

Operator **RICHARDSON OPERATING COMPANY** 1700 Lincoln, Suite 1700 Denver, CO 80203

Case **WF Federal 29** Well No. **1** Unit Loc. - Sec - Twp - Rge **B 29-30N-14W** County **San Juan County**

OGRID NO. **019219** Property Code **30-045-29737** Spacing Unit Lease Type: ☒ Federal ☐ State ☐ Landmark Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	71639 Basin Fruitland Coal		Twin Mounds FR Sand/PC
2. Top and Bottom of Pay Section (Perforations)	1053-1066'		1076'-1094'
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: Gas & Oil - Flowing: All Gas Zones: <u>Estimated</u> Or Measured Original	a. (Current) b. (Original) 200	a. b.	a. b. 200
6. Oil Gravity (° API) or Gas BTU Content	1000		1000
7. Producing or Shut-in?	Yes		Yes
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	Date: Rates:	Date: Rates:	Date: Rates:
• If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

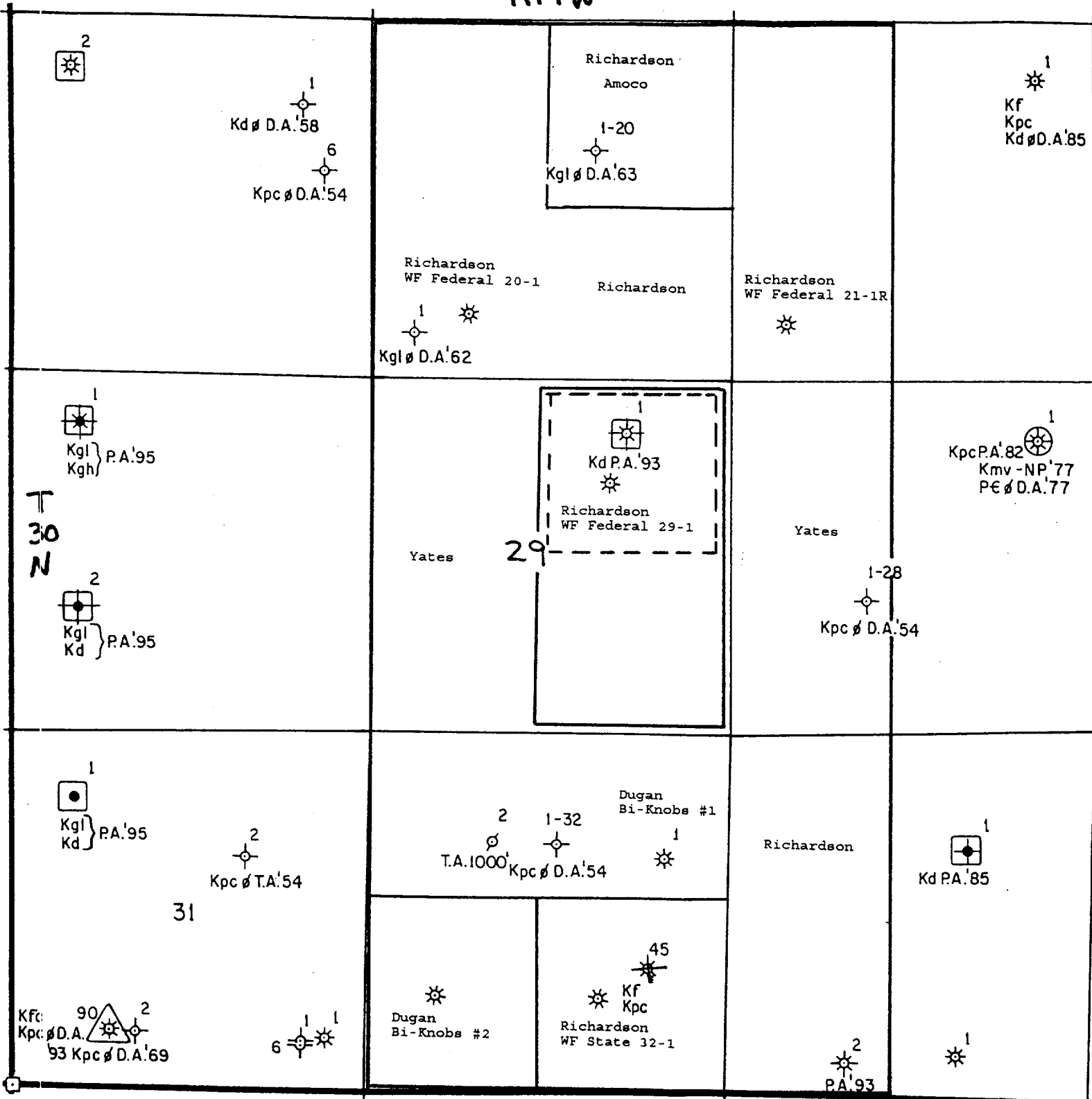
9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ No
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 John C. Thompson TITLE Agent/Engineer DATE 7/30/99

TYPE OR PRINT NAME John C. Thompson TELEPHONE NO. (505) 327-4892

R14W



Richardson Operating Company
WF Federal 29 #1
Commingling Application

The WF Federal 29-1 is a newly drilled Basin Fruitland Coal / ^{Twin} Mounds Frt. Sand Pictured Cliffs Ext. well. This is part of Richardson's development program in their WF (West Farmington) field. This is the only Pictured Cliffs well in this section. There are also no other Fruitland Coal wells in this section. The closest Fruitland Coal off set is Richardson's WF Federal 20 #1 (located in section 20, 30N, R14W) which has already been approved for down hole commingling.

Based on recent Richardson Operating wells in this township and the Ms. Nona #2 (which is located in section 15, 30N R14W), it is anticipated that both zones will have similar bottom hole pressures of approximately 200 psi. Both zones produce some water and no liquid hydrocarbons. Neither zone is fluid sensitive and fluids from the two zones are compatible.

Since neither zone has enough data to prepare a reliable production forecast, or predict the ultimate reserves, Richardson Operating proposes to allocate the production based on the initial production rates from the Pictured Cliffs. The well was perforated and stimulated in the Pictured Cliffs formation. The stimulation was then cleaned up and the well was then flow tested. The production based on the flow test will establish the baseline for the Pictured Cliffs production. The Fruitland Coal formation will be completed separately but it will have to be produced with the Pictured Cliffs. The Fruitland Coal production will be the total measured production minus the Pictured Cliffs baseline rate.

Assuming a 7% decline rate from the Pictured Cliffs the allocation formula is as follows:

Pictured Cliffs Production = Pictured Cliffs base rate $\times e^{-Dt}$, where $D = 7\%/yr$ and $t =$ time in years since first production.

Fruitland Coal Production = Total Production - Pictured Cliffs production.

WF Federal 29-1 Gas Production

The well was perforated and stimulated in the Pictured Cliffs. The well was allowed to flow back immediately after the stimulation. The well was then cleaned up and allowed to flow for 72 hrs. The well produced 45 MCF in the 72 hour test period. The calculated 24 hour flow rate was determined to 15 mcf/d. Richardson Operating proposes to use 15 mcf/d for the initial production from the Pictured Cliffs.

Richardson Operating Company

WF Federal 29 #1
790' FNL & 1410' FEL, Section 29, T30N, R14W
San Juan County, New Mexico
Basin Fruitland Coal and Twin Mounds Frt. Sand/ Pictured Cliffs Ext.

The following offset Operators have received written notice of the proposed downhole commingling application:

Dugan Production Company
Yates Petroleum Corporation

The following royalty and overriding royalty interest owners have received written notice of the proposed downhole commingling application:

Bureau of Land Management
Amoco Production Company
Dugan Production Company

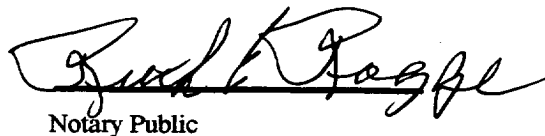
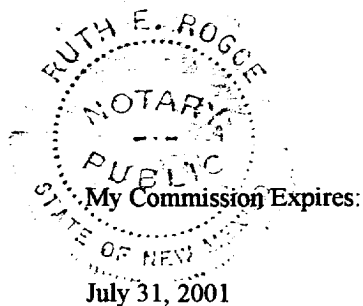
Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation
Myco Industries, Inc.

I certify that copies of the Application for Downhole Commingling has been mailed to the above operators and interest owners.



SAN JUAN COUNTY)
) ss
STATE OF NEW MEXICO)

The following instrument was acknowledged before me this 30 day of July 1999 by John C. Thompson



Notary Public

Richardson Operating Company
WF Federal #29-1

NOTIFICATION LIST

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

Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation
Myco Industries, Inc.
105 South Fourth Street
Artesia, New Mexico 88210

Amoco Production Company
P.O. Box 3092
Houston, TX 77253-3092

Dugan Production Corp.
P.O. Box 420
Farmington, NM 87401

Richardson Operating Company
WF Federal #29-1

Pictured Cliffs formation:

Township 30 North, Range 14 West, NMPM
Section 29: NE/4
Containing 160.00 acres, more or less
San Juan County, NM

Fruitland Coal formation:

Township 30 North, Range 14 West, NMPM
Section 29: E/2
Containing 320.00 acres, more or less
San Juan County, NM

Ownership in the E/2 of Section 29-T30N-R14W is uniform.

Working Interest:
Richardson Production Company

Royalty Interest:
USA NMNM-97843
USA NMNM-97844

Overriding Royalty Interest:
Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation
Myco Industries, Inc.

District I
PO Box 1988, Hobbs, NM 88241-1988
District II
PO Drawer DD, Aramis, NM 88211-0719
District III
1008 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

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

Form C-102
Revised February 21, 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 30-045-29737		* Pool Code 96620	* Pool Name Twin Mounds FR Sand PC
* Property Code	* Property Name WF Federal		* Well Number 29-1
* OGRID No. 019219	* Operator Name RICHARDSON OPERATING Co.		* Elevation 5554'

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
B	29	30 N.	14 W.		790	North	1410	East	San Juan

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

* Dedicated Acres	* Joint or Infill	* Consolidation 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									

790'

1410'

17 OPERATOR CERTIFICATION

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

Signature
John C. Thompson

Printed Name
Agent

Title
7/30/99

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
20 October '98

Signature and Seal of Professional Surveyor

6844

6844

Certificate Number

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1600 Rio Brazos 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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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-29737		Pool Code 71639	Pool Name BASIN FRUITLAND COAL
Property Code	Property Name WF Federal		Well Number 29-1
OGRID No. 019219	Operator Name RICHARDSON OPERATING Co.		Elevation 5554'

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
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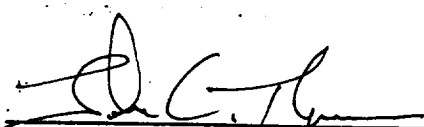
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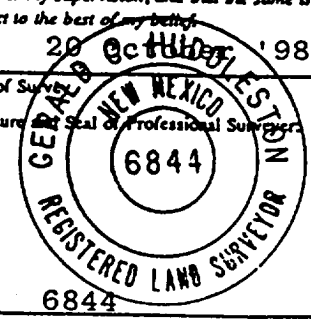
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Agent
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7/30/99
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20 October '98
Date of Survey

Signature
Seal of Professional Surveyor



6844
Certificate Number

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892 • Fax: (505) 327-9834

**Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation
Myco Industries, Inc.
105 South Fourth Street
Artesia, NM 88210**

July 29, 1999**Attn. Land Department**

*Re: Downhole Commingle Application
Richardson Operating Company
WF Federal 29-1
790' FNL & 1410' FEL, Section 29, T30N, R14W
San Juan County, New Mexico
Basin Fruitland Coal and ^{Twin} Mounds Frt. Sand/ Pictured Cliffs Ext.*

To Whom It May Concern,

Enclosed you will find a copy of the above referred to application that has been submitted to the New Mexico Oil Conservation Division for administrative approval. As royalty or overriding royalty interest owner you are being notified of this application pursuant to NMOCD rules.

If you desire to submit remarks concerning the application, please send them to Ms. Lori Wrotenberry, Director, New Mexico Oil Conservation Division, Santa Fe, New Mexico with in 20 days from the receipt of the notice. If you have no objection the proposal, no action is required on your part.

Thank you for your consideration in this matter and if you have any questions or concerns, please do not hesitate to contact me at 505-327-4892.

Sincerely,

John C. Thompson
Engineer

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Enclosure

**WALSH****ENGINEERING & PRODUCTION CORP.**Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892 • Fax: (505) 327-9834**Dugan Production Corp.
P.O. Box 420
Farmington, NM 87499****July 29, 1999****Attn. Land Department**

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**John C. Thompson
Engineer**

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Enclosure

**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87402
(505) 327-4892 • Fax: (505) 327-9834**Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401****July 29, 1999****Attn. Duane Spencer / Land Department**

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Richardson Operating Company
WF Federal 29-1
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San Juan County, New Mexico
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John C. Thompson
Engineer

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ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting
Lease Management
Contract Pumping7415 East Main
Farmington, New Mexico 87401
(505) 327-4892 • Fax: (505) 327-983

**Amoco Production Company
P.O. Box 3092
Houston, Texas 77253-3092**

July 29, 1999**Attn. Land Department**

***Re: Downhole Commingle Application
Richardson Operating Company
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790' FNL & 1410' FEL, Section 19, T30N, R14W
San Juan County, New Mexico
Basin Fruitland Coal and Twin Mounds Frt. Sand/ Pictured Cliffs Ext.***

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