

8/2/99	8/23/99	DC	NW	DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
- Engineering Bureau -

2436

**ADMINISTRATIVE APPLICATION COVERSHEET**

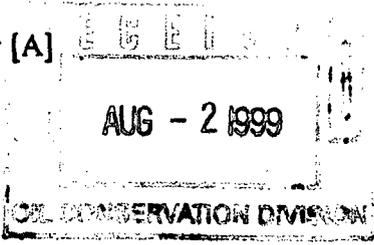
THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

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] or [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 further verify that all applicable API Numbers are included. 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.

John C. Thompson  
 Print or Type Name

Signature

Agent/Engineer  
 Title

7/29/99



**WALSH** ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting  
Lease Management  
Contract Pumping

7415 East Main  
Farmington, New Mexico 87402  
(505) 327-4892 • Fax: (505) 327-9834

**Ms. Lori Wrotenberry  
New Mexico Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87504**

**July 29, 1999**

*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.*

Dear Ms. Wrotenberry,

This is a request for administrative approval for downhole commingling of the production from the Basin Fruitland Coal and the Twin Mounds Fruitland Sand / Pictured Cliffs Ext.

I have attached for your review, an acreage plat outlining the dedicated acreage and offset operators. I have also included a proposed allocation formula with a short discussion of the history of the well.

The offset operators are being notified of this application by certified return receipt mail. Copies of these letters are enclosed.

Thank you for your consideration and approval of this application. If you have any questions or concerns please do not hesitate me anytime at (505) 327-4892.

Sincerely

John C. Thompson  
Engineer

IT

Enclosures

**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, Artec, 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

**EXISTING WELLBORE**

YES  NO

**APPLICATION FOR DOWNHOLE COMMINGLING**

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

Operator WF Federal 29 Address 1 B 29-30N-14W San Juan County

Lease 1 Well No. B Unit Ltr. - Sec - Twp - Rge 29-30N-14W County San Juan

OGRID NO. 019219 Property Code \_\_\_\_\_ API NO. 30-045-29737 Spacing Unit Lease Types: (check 1 or more)  
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	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)	a.	a.
	b. (Original) 200	b.	b. 200
6. Oil Gravity (°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  
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 [Signature] TITLE Agent/Engineer DATE 7/30/99

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



**Richardson Operating Company**  
**WF Federal 29 #1**  
**Commingling Application**

The WF Federal 29-1 is a newly drilled Basin Fruitland Coal / <sup>Twin</sup> 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:

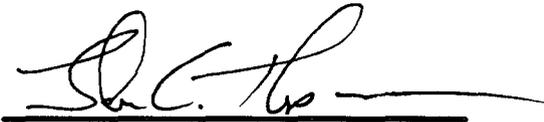
*Dugan Production Company*  
*Yates Petroleum Corporation*

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*

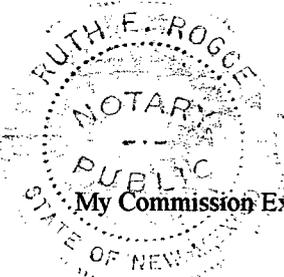
*Yates Petroleum Corporation*  
*Yates Drilling Company*  
*Abo Petroleum Corporation*  
*Myco Industries, Inc.*

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



My Commission Expires:  
July 31, 2001



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 1980, Hobbs, NM 88241-1980  
 District II  
 PO Drawer DD, Artes, NM 88211-0719  
 District III  
 1000 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  
**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**

1 API Number 30-045-29737		2 Pool Code B620		3 Pool Name Twin Mounds FR Sand PC	
4 Property Code		5 Property Name WF Federal			6 Well Number 29-1
7 OGRID No. 019219		8 Operator Name RICHARDSON OPERATING Co.			9 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

12 Dedicated Acres	13 Joint or Infill	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

16					17 OPERATOR CERTIFICATION
					<i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i>
					Signature 
					Printed Name John C. Thompson Title Agent Date 7/30/99
18 SURVEYOR CERTIFICATION					
<i>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.</i>					
Date of Survey 20 October '98 Signature of Seal of Professional Surveyor 					
Certificate Number 6844					

District I  
 PO Box 1980, Hobbs, NM 88241-1980  
 District II  
 PO Drawer DD, Artesia, NM 88211-0719  
 District III  
 1000 Rio Brazos Rd., Aztec, NM 87410  
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AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 AFI Number 38-045-29737		1 Pool Code 71639		1 Pool Name BASIN FRUITLAND COAL	
4 Property Code		4 Property Name WF Federal			4 Well Number 29-1
7 OGRID No. 019219		8 Operator Name RICHARDSON OPERATING Co.			9 Elevation 5554'

10 Surface Location

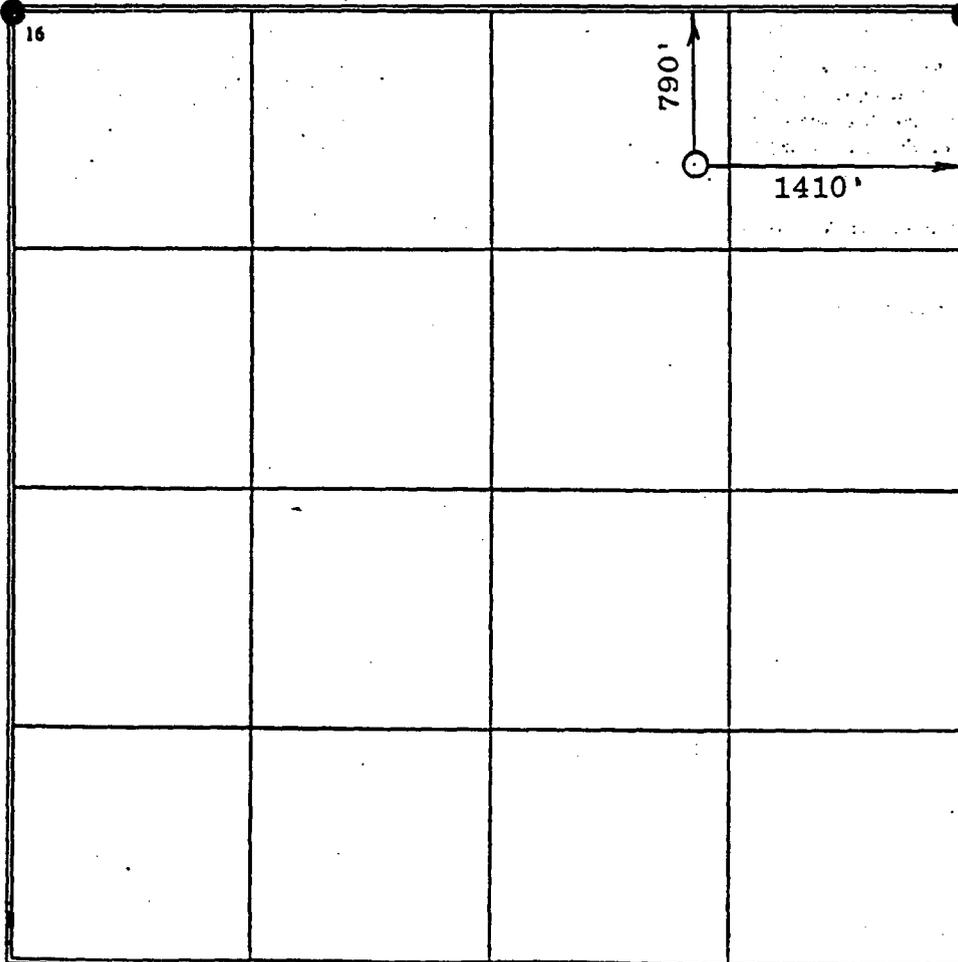
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I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

*John C. Thompson*  
 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

20 October '98  
 Date of Survey  
 Signature  
 Seal of Professional Surveyor  
 6844  
 6844  
 Certificate Number



**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting  
Lease Management  
Contract Pumping

7415 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 <sup>Twin</sup> 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

rr

Enclosure



**WALSH** ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting  
Lease Management  
Contract Pumping

7415 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**

*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 <sup>Twin</sup>Mounds Frt. Sand/ Pictured Cliffs Ext.*

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Sincerely,

John C. Thompson  
Engineer

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Enclosure



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7415 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**

*Re: Downhole Commingle Application  
Richardson Operating Company  
WF Federal 29-1  
790' FNL & 1410' FEL, Section 29, T30N, R14W  
San Juan County, New Mexico  
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Sincerely

John C. Thompson  
Engineer

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Contract Pumping

7415 East Main  
Farmington, New Mexico 87402  
(505) 327-4892 • Fax: (505) 327-9834

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

**July 29, 1999**

**Attn. Land Department**

**Re: Downhole Commingle Application  
Richardson Operating Company  
WF Federal 29 #1  
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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Enclosure