

DISTRICT I
P.O. Box 1900, Hobbs, NM 88241-1900

DISTRICT II
911 South First St., Artesia, NM 88210-2026

DISTRICT III
1000 Rio Grande Rd., Artesia, NM 87410-1003

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
2040 S. Pecheo
Santa Fe, New Mexico 87505-6429

Form C-107-A
New 3-12-98

APPROVAL PROCESS:
___ Administrative ___ Hearing

EXISTING WELLBORE
___ YES ___ NO

APPLICATION FOR DOWNHOLE COMMINGLING

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

Well No. **1** Unit Loc. - Sec - Twp - Rge **M 16-30N-14W** County **San Juan County**


Lease **WF State 16** Spacing Unit Lease Types: Subject 1 or more Federal ___ State (Lease Fee ___)

OGRID NO. **019219** Property Code ___ API NO. **30-045-29750**

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Basin Fruitland Coal		Harper Hill FRT Sand/EC
2. Top and Bottom of Pay Section (Perforations)	1152-1162'		1170-1186'
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 Or Measured Original</u>	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: %

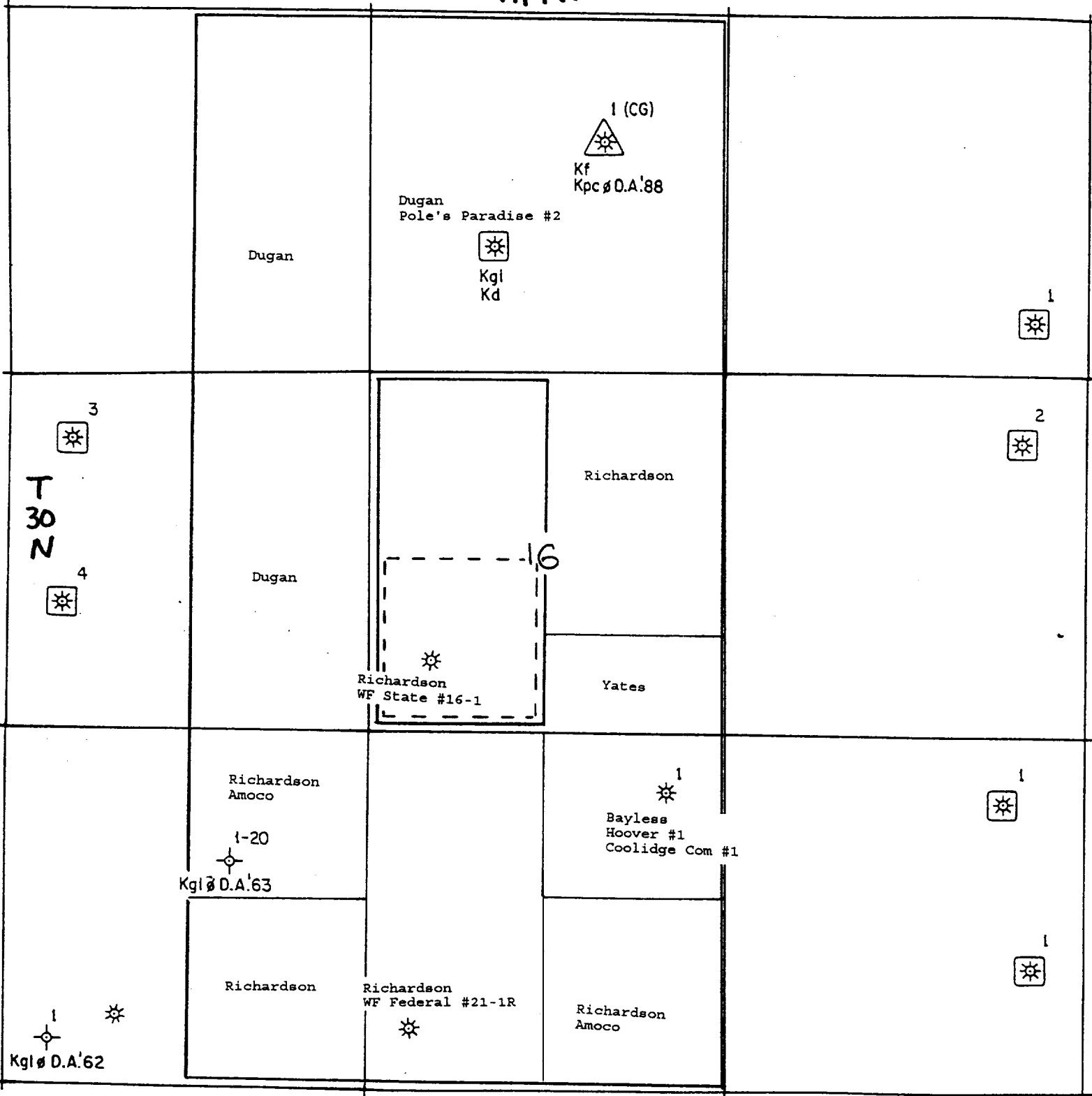
9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical 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-flown 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  TITLE Agent/Engineer DATE 7/27/99

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

R14W



Richardson Operating Company
WF State 16 #1
Commingling Application

The WF State 16-1 is a newly drilled Basin Fruitland Coal / Harper Hill 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 Ms. Nona #2 (located in section 15, 30N, R14W) which has recently been approved for down hole commingling of the Fruitland Coal and Pictured Cliffs formations.

Based on recent Richardson Operating wells in the southwest quarter of this township and the Ms. Nona #2, 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 State 16-1

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 State 16-1
930' FSL & 1115' FWL, Section 16, T30N, R14W
San Juan County, New Mexico
Basin Fruitland Coal and Harper Hill 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
Amoco Production Company
Robert L. Bayless*

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

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

*Amoco Production Company
Yates Petroleum Corporation
Yates Drilling Company
Abo Petroleum Corporation*

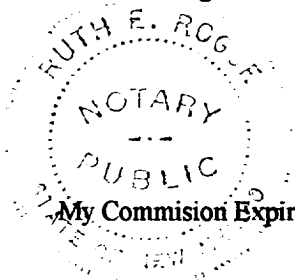
*Myco Industries, Inc.
Evko Development*

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



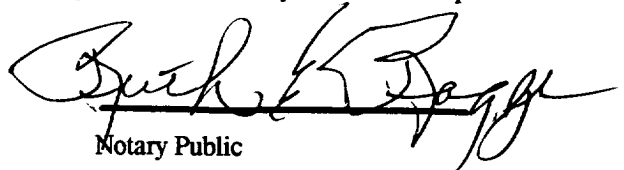
SAN JUAN COUNTY)
) ss
STATE OF NEW MEXICO)

The following instrument was acknowledged before me this 27 day of July, 1999 by John C. Thompson



My Commission Expires:

July 31, 2001



Notary Public

Richardson Operating Company
WF State #16-1

NOTIFICATION LIST

New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

Evko Development Company
P.O. Box 245
Sausalito, CA 94966

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

Robert L. Bayless
P.O. Box 168
Farmington, NM 87499

Richardson Operating Company
WF State #16-1

Pictured Cliffs formation:

Township 30 North, Range 14 West, NMPM
Section 16: SW/4
Containing 160.00 acres, more or less
San Juan County, NM

Fruitland Coal formation:

Township 30 North, Range 14 West, NMPM
Section 16: W/2
Containing 320.00 acres, more or less
San Juan County, NM

Working Interest:

Richardson Production Company

Non-Consent Working Interest:

Amoco Production Company

Royalty Interest:

State NM B11242-47
State NM B11571-54
State NM E3149-6
State NM V4832
State NM E70-39

Overriding Royalty Interest:

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

Hobbs, NM 88241-1980

State of New Mexico

Energy, Minerals & Natural Resources Department

Form O-102

Revised February 21, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

Alamogordo, NM 88211-0719

District III

10 Rio Brazos Rd., Alamogordo, NM 87410

District IV

Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION

PO Box 2088

Santa Fe, NM 87504-2088

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-29750		Pool Code 7/29/96863		Pool Name FRUITLAND COAL	
Property Code 23932		Property Name WELOCAT 30N4W16E1 PICTURED CLIFFS		Well Number 16 - 1	
OGRID No. 019219		Operator Name RICHARDSON OPERATING CO.		Elevation 5617'	

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
M	16	30 N.	14 W.		930	South	1115	West	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 3.30	Joint or Infill	Consolidation Code	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

	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief Cathleen Colby Signature Cathleen Colby Printed Name Land Manager Title 12-4-98 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 Signature and Seal of Professional Surveyor Certificate Number

Fruitland Coal
 Pictured Cliffs



**New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504**

July 27, 1999

Attn. Land Department

***Re: Downhole Commingle Application
Richardson Operating Company
WF State 16-1
930' FSL & 1115' FWL, Section 16, T30N, R14W
San Juan County, New Mexico
Basin Fruitland Coal and Harper Hill 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



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

July 27, 1999

**105 South Fourth Street
Artesia, New Mexico 88210**

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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

**Evko Development Company
P.O. Box 245
Sausalito, CA 94966**

July 27, 1999**Attn. Land Department**

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Petroleum Engineering Consulting
Lease Management
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7415 East Main
Farmington, New Mexico 87402
(505) 327-4892 • Fax: (505) 327-9834

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

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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**

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John C. Thompson
Engineer

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Robert L. Bayless
P.O. Box 168
Farmington, NM 87499

July 27, 1999

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