

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 87505-8429

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

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☐ YES ☒ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Conoco Inc.

10 Desta Dr. Ste 100W, Midland, Tx. 79705-4500

Ludwick LS

#21M

Section 31, T-30-N, R-10-W, C

San Juan

Lease

Well No

Unit Ltr Sec Twp Rge

County

OGRID NO. 005073

Property Code

API NO.

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	Blanco Mesaverde 72319		Basin Dakota 71599
2. TOP and Bottom of Pay Section (Perforations)	4400-5000'		6865-6965'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Expected Flowing		Expected Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a (Current) 609 b(Original) 1229	a. b.	a. 768 b. 2493
6. Oil Gravity (*API) or Gas BT Content	1200est		1200est
7. Producing or Shut-In?			
Production Marginal? (yes or no)	No		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, date and oil/gas/water rates of recent test (within 60 days)	To be supplied upon Completion Date Rates	To be supplied upon Completion Date Rates	To be supplied upon Completion 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?
If not, have all working, overriding, and royalty interests been notified by certified mail?
Have all offset operators been given written notice of the proposed downhole commingling?
☒ Yes ☐ No ☒ Yes ☐ No ☒ 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 others ☒ 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 Kay Maddox TITLE Regulatory Agent DATE 3/26/98

TYPE OR PRINT NAME Kay Maddox TELEPHONE NO. (915) 686-5798

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
BLM

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.

MAR 30 PM 1:55
000 TARMINGTON, NM

5. Lease Designation and Serial No.

SF-078194

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Ludwick LS # 21M

9. API Well No.

3004S2956S

10. Field and Pool, or Exploratory Area

Blanco Mesaverde/Basin Dakota

11. County or Parish, State

San Juan, NM

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

CONOCO INC.

3. Address and Telephone No.

10 DESTA DR. STE. 100W, MIDLAND, TX. 79705-4500 (915) 686-5424

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

Section 31, T-30-N R-10-W, C
820' FNL & 1605' FWL

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Repon
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☒ Altering Casing
☒ Other Downhole Commingle
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracrunng
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Repon result of multiple completion Wdi
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 markers and zones pertinent to this work.)*

It is proposed to downhole commingle the Mesaverde & Dakota in this well

RECEIVED
OCT 19 1998
OIL CON. DIV
DIST. 3

APPROVAL

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

Signed Kay Maddox

Title Kay Maddox
Regulatory Agent

Date March 26, 1998

(This space for Federal or State office use)
/s/ Duane W. Spencer

Approved by _____ Title _____

Conditions of approval if any:

Date OCT 15 1998

BLM(6), NMOCD(1), SHEAR, PONCA, COST ASST, FILE ROOM

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.

*See Instruction on Reverse Side

NMOCD

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Santa Fe, New Mexico 87505-8429Form C-107-A
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APPLICATION FOR DOWNHOLE COMMINGLING

Conoco Inc.

10 Desta Dr. Ste 100W, Midland, Tx. 79705-4500

Operator

Address

Ludwick LS

#21M

Section 31, T-30-N, R-10-W, C

San Juan

Lease

Well No

Unit Ltr Sec Twp Rge

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OGRID NO. 005073

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5. Bottomhole Pressure	a (Current) 609	a.	a. 768
Oil Zones - Artificial Lift: Gas & Oil - Flowing: Estimated Current All Gas Zones: Measured Current Estimated Or Measured Original	b(Original) 1229	b.	b. 2493
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7. Producing or Shut-In?			
Production Marginal? (yes or no)	No		Yes
• If Shut-In give date and oil/gas/water rates of last production	Date Rates	Date Rates	Date Rates
Note For new zones with no production history applicant shall be required to attach production estimates and supporting data			
• If Producing, date and oil/gas/water rates of recent test (within 60 days)	Date Rates To be supplied upon Completion	Date Rates	Date Rates To be supplied upon Completion
8. Fixed Percentage Allocation Formula - % of 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?

If not, have all working, overriding, and royalty interests been notified by certified mail?
Have all offset operators been given written notice of the proposed downhole commingling?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 others ☒ Yes ☐ No13. 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

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- * Any additional statements, data, or documents required to support commingling.

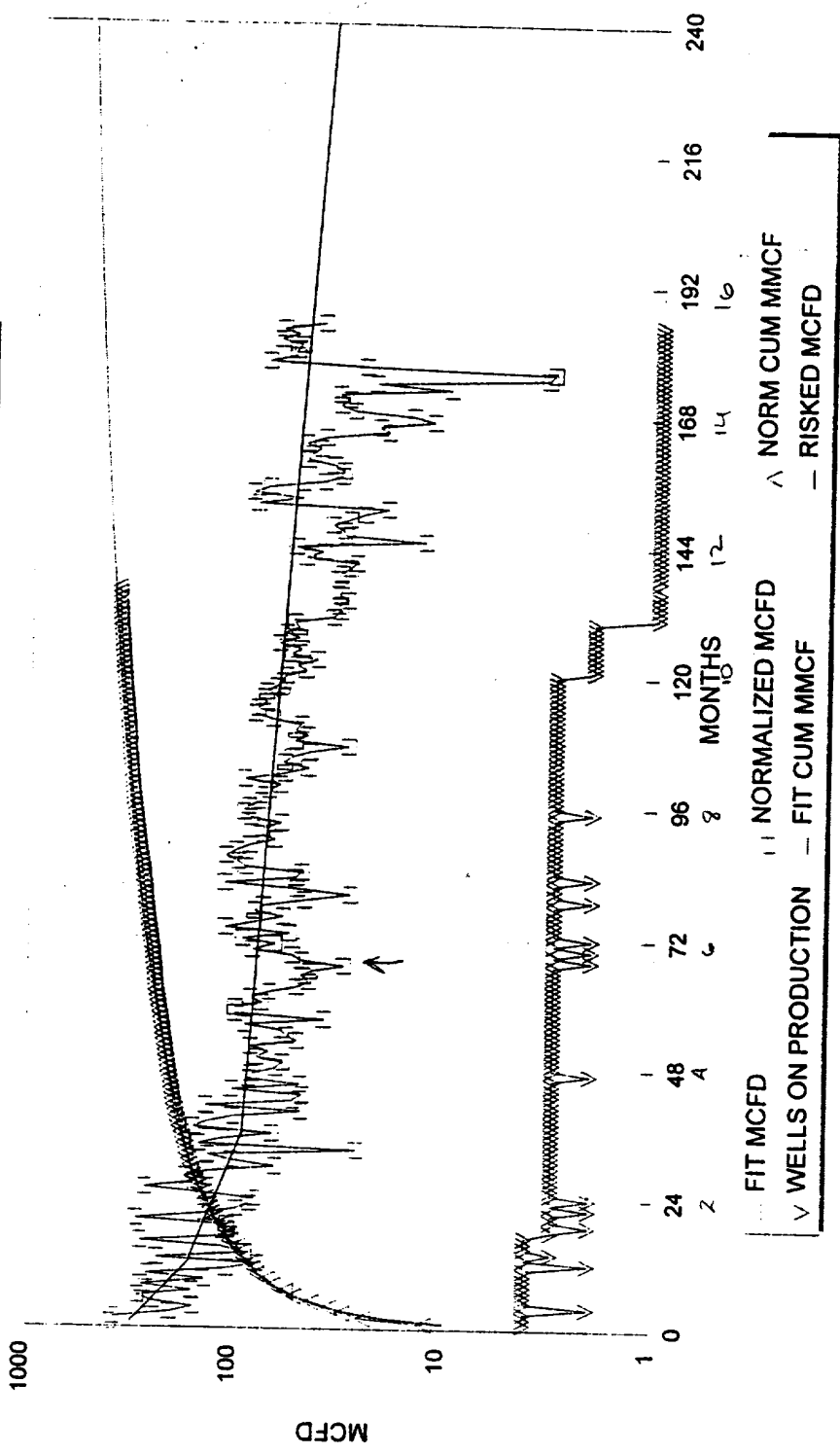
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kay Maddox TITLE Regulatory Agent DATE 3/26/98TYPE OR PRINT NAME Kay Maddox TELEPHONE NO. (915) 686-5798

APPLICATION FOR DOWNHOLE COMMINGLING
Ludwick LS 21M (31C 30N 10W)

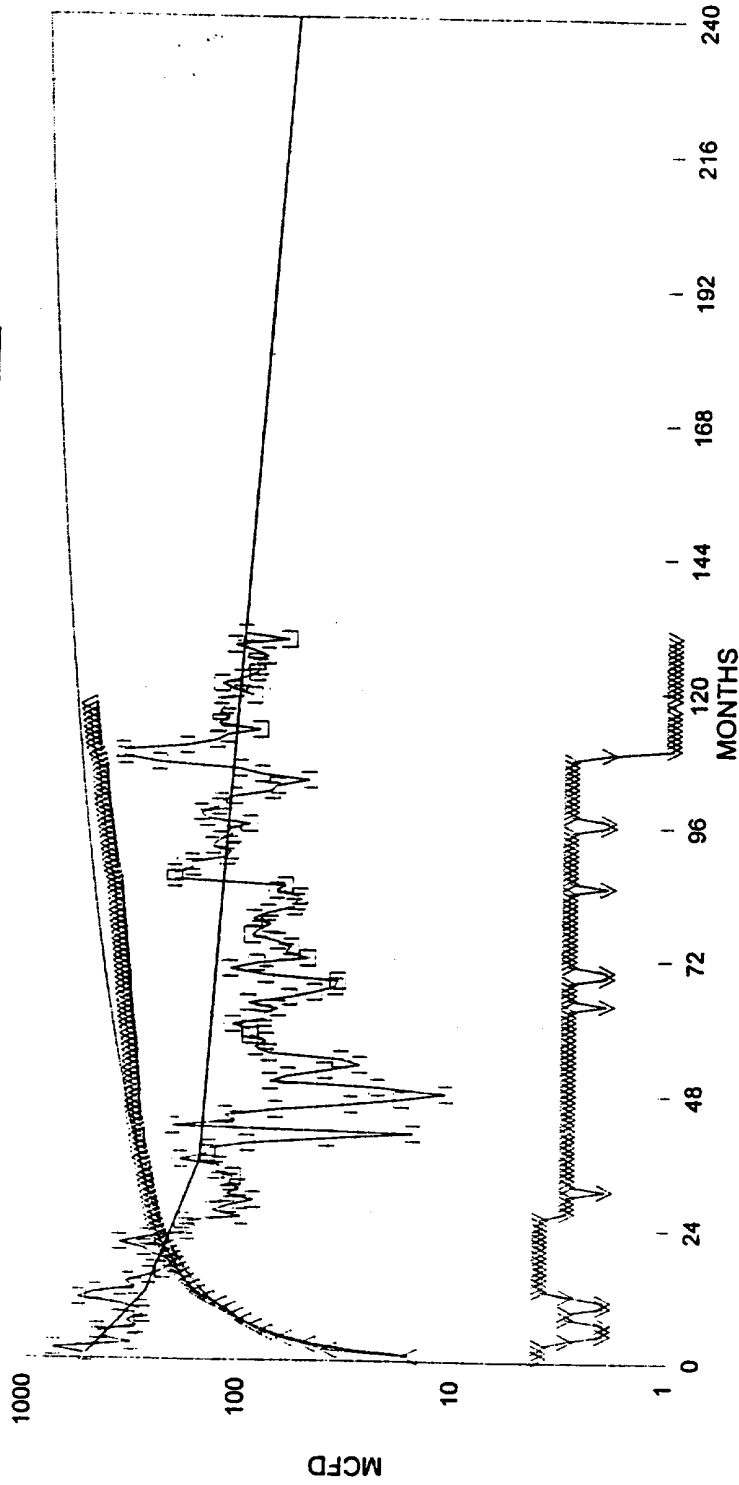
As shown in the attached production plot for offsets to the Ludwick LS 21M, estimated ultimate recoveries and initial production rates from infill wells to the Dakota formation are insufficient to justify drilling stand alone wells. Furthermore, production plots from each zone indicate a similar decline profile and a fixed allocation formula can be utilized. Upon completion, both zones will be tested and stabilized flow rates will be used to allocate production from each zone. This procedure is common practice in Burlington's 29-7 Unit and reference is made to Order R-10697 as it applies to downhole commingling of marginal zones and the allocation of production between such zones.

NORMALIZED DAKOTA PRODUCTION
4 WELLS SINCE 1980; OFFSET TO SECTION 36-30N-11W



NORMALIZED AVG:		RISKED AVG:		0% RISK	
648	MMCF EUR	648	MMCF EUR	325	MMCF IP
555	MMCF IN 20 YRS	555	MMCF IN 20 YRS	50.0%	DECLINE, 1ST 12 MONTHS
25	MMCF E.L.	25	MMCF E.L.	25.0%	DECLINE, NEXT 24 MONTHS
0.0050	bbl/mcf oil yield	0.0050	bbl/mcf oil yield	5.0%	FINAL DECLINE

NORMALIZED MESAVERDE PRODUCTION
4 WELLS SINCE 1980; OFFSET TO SECTION 36-30N-11W



- FIT MCFD
 - WELLS ON PRODUCTION
 - NORMALIZED MCFD
 - FIT CUM MMCF
 - NORM CUM MMCF
 - RISKED MCFD

NORMALIZED AVG:		RISKED AVG:	
1220 MMCF EUR	550 MCFD IP	1220 MMCF EUR	550 MCFD IP
940 MMCF IN 20 YRS	50% DECLINE, 1ST 12 MONTHS	940 MMCF IN 20 YRS	50.0% DECLINE, 1ST 12 MONTHS
25 MCFD E.L.	25% DECLINE, NEXT 24 MONTHS	25 MCFD E.L.	25.0% DECLINE, NEXT 24 MONTHS
0.0021 bbl/mcf oil yield	5.0% FINAL DECLINE	0.0021 bbl/mcf oil yield	5.0% FINAL DECLINE

Form C-102
Revised February 21, 1992
Instructions on back
Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

98 MAR 30 PM 1:55

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE, DEDICATION, PLAT

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320			

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

OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION			
15 1212.42'		1303.50'	
8 1605'		2607.00'	
2618.22'		5	
9		10	
10		11	
12		13	
14		15	
16		17	
18		19	
20		21	
1156.32'		1284.36'	
2507.00'		2644.62'	

17 OPERATOR CERTIFICATION

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

Mike L. Mankin

Signature

Mike L. Mankin

Printed Name

Right-Of-Way Agent

Title

3-3-98

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.

FEBRUARY 23, 1998

Date of Survey

Signature and Seal: *Neale C. Edwards*

NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED PROFESSIONAL SURVEYOR

6857

Certification Number

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

RECEIVED

5. LEASE DESIGNATION AND SERIAL NO

SF 078194

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME WELL NO

LUDWICK LS #21M

9. API WELL NO

10. FIELD AND POOL, OR WILDCAT

Blanco MV / Basin Dakota

11. SEC. T., R., M., OR BLK.
AND SURVEY OR AREA

Sec. 31, T30N, R10W

12. COUNTY OR PARISH

San Juan

13. STATE

NM

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONES ☐

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS AND TELEPHONE NO

10 Desta Dr. Ste 430E, Midland, Tx. 79705-4500

915-686-5794

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements *)

At surface

820' FNL & 1605' FWL

At proposed prod. zone

820' FNL & 1605' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

5. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

8. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

7392'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc)

6086' GR

22. APPROX. DATE WORK WILL START*

4/15/98

23

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	K-55, 9-5/8"	36#	250'	135 sxs, circ.
8-3/4"	K-55, 7"	23#	2800'	335 sxs, circ.
6-1/4"	K-55, 4-1/2"	9.5#	7092'	470 sxs, toc @ 2600'

It is proposed to drill a vertical wellbore to the Blanco Mesaverde and Basin Dakota Pools. NOS was filed 2/21/98. The well will be drilled and equipped according to the following additional attachments:

1. Well Location & Acreage Dedication Plat (C-102).
2. Proposed Well Plan Outline.
3. Cementing Plan.
4. Blowout Preventer Hookup.
5. Surface Use Plan with Production Facility Layout.
6. Pipeline survey plat.

This application includes ROW's for the well pad, access road and pipeline.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Mike L. Mankin TITLE Right-of-Way Agent DATE March 3, 1998
(This space for Federal or State office use)

PERMIT NO

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

TITLE

DATE

*See Instructions On Reverse Side

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

Conoco, Inc.
Ludwick LS #21M
Section 31, T-30-N, R-10-W, C
San Juan, New Mexico

RE: Application to Downhole Commingle (C-107A)

Notification Of Offset Operators:

Dugan Production Corp.
PO Box 420
Farmington, NM 87499-0420

Amoco
PO Box 800
Denver, CO 80201

Burlington Resources
PO Box 4239
Houston, TX 77210-4239



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410

(505) 334-6178 FAX: (505) 334-6170
<http://nemrds.state.nm.us/ocd/District/NM3district.htm>

RECEIVED
BLM

GARY E. JOHNSON
GOVERNOR

98 JUN 29 PM 12:57

Jennifer A. Salisbury
CABINET SECRETARY

070 FARMINGTON, NM

June 26, 1998

Kay Maddox
10 Desta Dr Ste 100W
Midland TX 79705-4500

Re: Ludwick LS #21M, C-31-30N-10W, API# 30-045-29565, DHC

Dear Ms. Maddox:

Your recommended allocation of commingled production for the referenced well is hereby accepted as follows:

	Gas	Oil
Blanco Mesaverde	77%	58%
Basin Dakota	23%	42%

Yours truly,

Ernie Busch
District Geologist/Deputy O&G Inspector

EB/mk

cc: Duane Spencer-BLM Farmington
David Catanach-NMOCD Santa Fe
well file