

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241 1980

State of New Mexico
Energy, Minerals and Natural Resources Department

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

DISTRICT II
811 South First St. Artesia NM 88210 2835

OIL CONSERVATION DIVISION

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

APPROVAL PROCESS:
 Administrative Hearing

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

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE
 YES NO

Operator: Conoco Inc. Address: 10 Desta Dr. Ste 100W, Midland, Tx. 79705-4500

Lease: Lodewick Well No: 4E Unit Ctr Sec Twp Rge: Section 18, T-27-N, R-9-W, A County: San Juan

OGRID NO. 005073 Property Code _____ API NO. 30-045-25550 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	Basin Fruitland Coal 71629		Basin Dakota 71599
2. TOP and Bottom of Pay Section (Perforations)	2314-2423'		6830-6994'
3. Type of production (Oil or Gas)	Gas (Expected)		Gas
4. Method of Production (Flowing or Artificial Lift)	Expected Flowing		Flowing
5. Bottomhole Pressure	a (Current)	a.	a.
Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	450 EST b(Original) 790		660 b. 2320
6. Oil Gravity (°API) or Gas BT Content	1120		1180
7. Producing or Shut-In?	To Be Completed		Producing
Production Marginal? (yes or no)	Yes (Expected)		Yes
• If Shut-In give date and oil/gas/water rates of lsst production <small>Note For new zones with no production history applicant shall be required to attach production estimates and supporting data</small>	Date Rates	Date Rates	Date Rates
• If Producing, date and oil/gas/water rates of recent test (within 60 days)	Est 8/98 Date Rates 200 MCFD, 0 BO, 0 BW Prod Allocation by Subtraction See Table	Date Rates	8/98 Date Rates 51 MCFD, 1 BO, 1 BW
8. Fixed Percentage Allocation Formula -% of each zone	Gas %	Gas %	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 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) _____

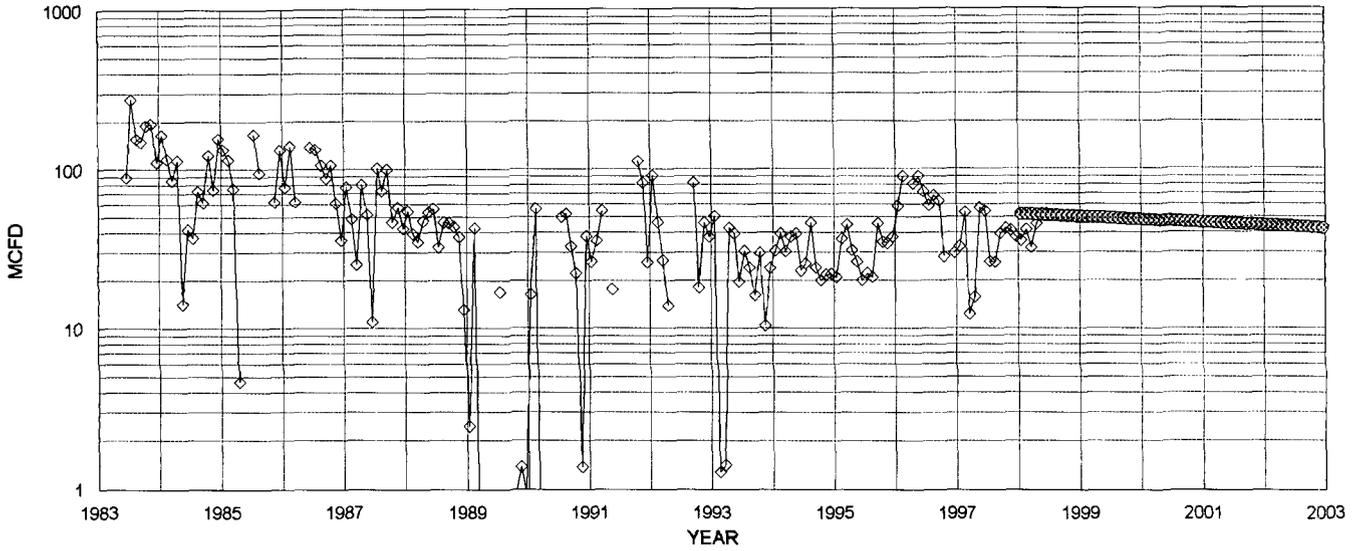
16. ATTACHMENTS

- * 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 Aug. 27, '98
TYPE OR PRINT NAME KAY MADDOX TELEPHONE NO. (915) 686-6548

**LODEWICK #4E DAKOTA PRODUCTION
SECTION 18A-27N-09W**



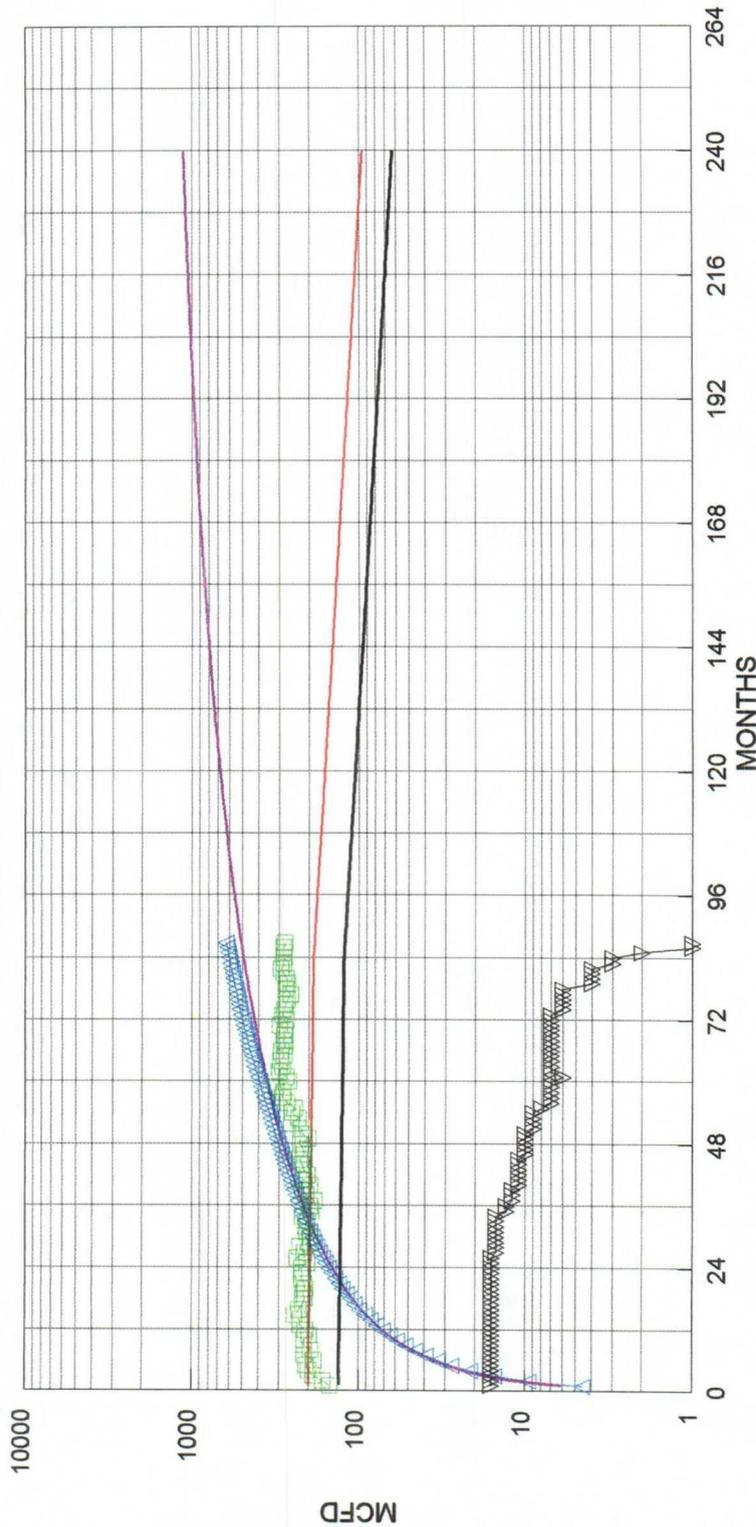
◇ DAKOTA MCFD ◇ FIT MCFD

DAKOTA HISTORICAL DATA	1ST PROD: 6/83	DAKOTA PROJECTED DATA
OIL CUM:	2.4 MBO	1/1/88 QI: 52 MCFD
GAS CUM:	263.5 MMCF	DECLINE RATE: 4.00% (EXPONENTIAL)
OIL YIELD:	0.0090 BBL/MCF	OIL YIELD: 0.0062 BBL/MCF, LAST 3 YEARS

YEAR	MID-YEAR AVG MCFD	MID-YEAR AVG BOPD
1988	51	0.32
1989	49	0.30
2000	47	0.29
2001	45	0.28
2002	43	0.27
2003	41	0.26
2004	40	0.25
2005	38	0.24
2006	37	0.23
2007	35	0.22
2008	34	0.21
2009	32	0.20
2010	31	0.19
2011	30	0.18
2012	29	0.18
2013	28	0.17
2014	28	0.18
2015	25	0.16
2016	24	0.15
2017	23	0.15
2018	22	0.14
2019	22	0.13
2020	21	0.13
2021	20	0.12
2022	19	0.12
2023	18	0.11
2024	18	0.11
2025	17	0.10
2026	16	0.10
2027	16	0.10

PRODUCTION FORECAST FOR SUBTRACTION METHOD COMMINGLE ALLOCATION

NORMALIZED FRUITLAND COAL PRODUCTION
 PROD. SINCE 1990; 17 FC WELLS LOCATED IN 27N-9W AND 27N-10W



— FIT MCFD
 ■ NORMALIZED MCFD
 ▲ NORM CUM MMCF
▼ WELLS ON PRODUCTION
 — FIT CUM MMCF
 — RISKED MCFD

Expected ~~Meaverde~~ Production - 200 MCFD for Yr. 1

FRUITLAND

NORMALIZED AVG: 1749 MMCF EUR 1142 MMCF IN 20 YRS 10 MCFD E.L. 0.0000 bbl/mcf oil yield	200 MCFD IP 1% DECLINE, 1ST 12 MONTHS 1% DECLINE, NEXT 72 MONTHS 5% FINAL DECLINE	RISKED AVG: 30% RISK 1132 MMCF EUR 755 MMCF IN 20 YRS 10 MCFD E.L. 0.0000 bbl/mcf oil yield	140 MCFD IP 1.0% DECLINE, 1ST 12 MONTHS 1.0% DECLINE, NEXT 72 MONTHS 5.0% FINAL DECLINE
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Dwights

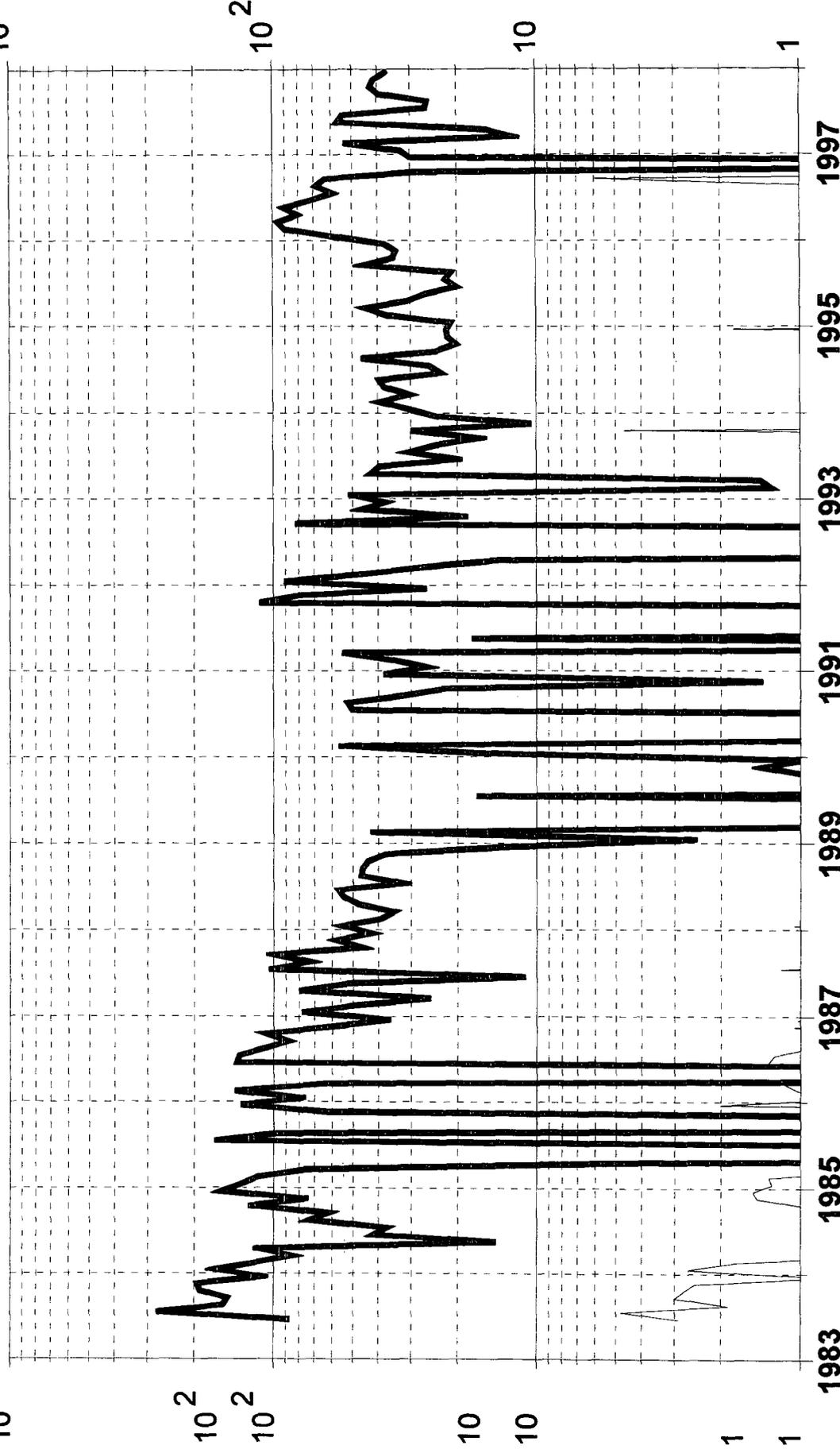
Lease: LODEWICK (4E)

Retrieval Code: 251,045,27N09W18A00DK

08/14/98

10³

10³



Oil (bbl/day)

Gas (mcf/day)

Water (bbl/day)

County: SAN JUAN, NIM	F.P. Date: 06/83
Field: BASIN (DAKOTA) DK	Oil Cum: 2316 bbl
Reservoir: DAKOTA	Gas Cum: 255.7 mmcf
Operator: CONOCO INC	Location: 18A 27N 9W

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

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

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 30-045-25550		2 Pool Code 71629		3 Pool Name Basin Fruitland Coal	
4 Property Code		5 Property Name Lodewick			6 Well Number # 4E
7 OGRID No. 005073		8 Operator Name Conoco Inc., 10 Desta Drive, Ste. 100W, Midland, TX 79705-4500			9 Elevation 6501'

10 Surface Location

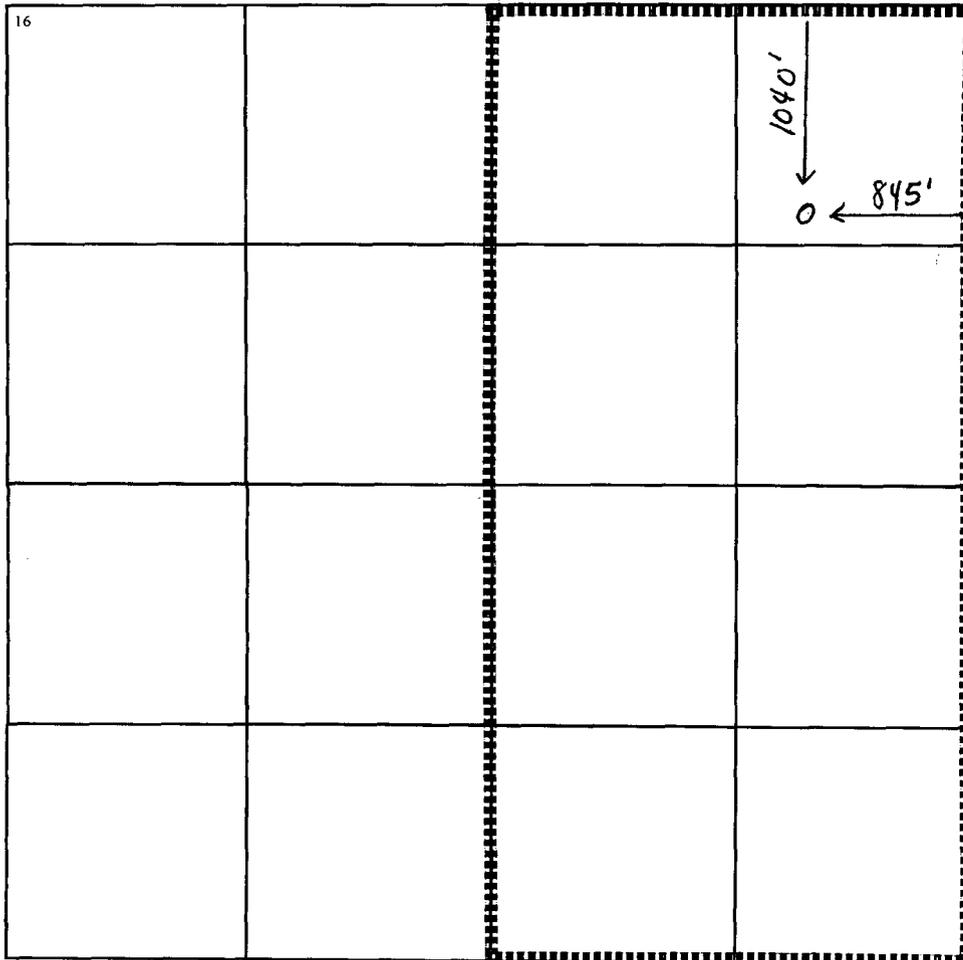
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	18	27N	9W		1040'	North	845'	East	San Juan

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	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



17 OPERATOR CERTIFICATION

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

Kay Maddox

Signature
Kay Maddox

Printed Name
Regulatory Agent

Title
Date August 12, 1998

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

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-78

STATE OF NEW MEXICO
OIL AND MINERALS DEPARTMENT

All distances must be from the outer boundaries of the Section.

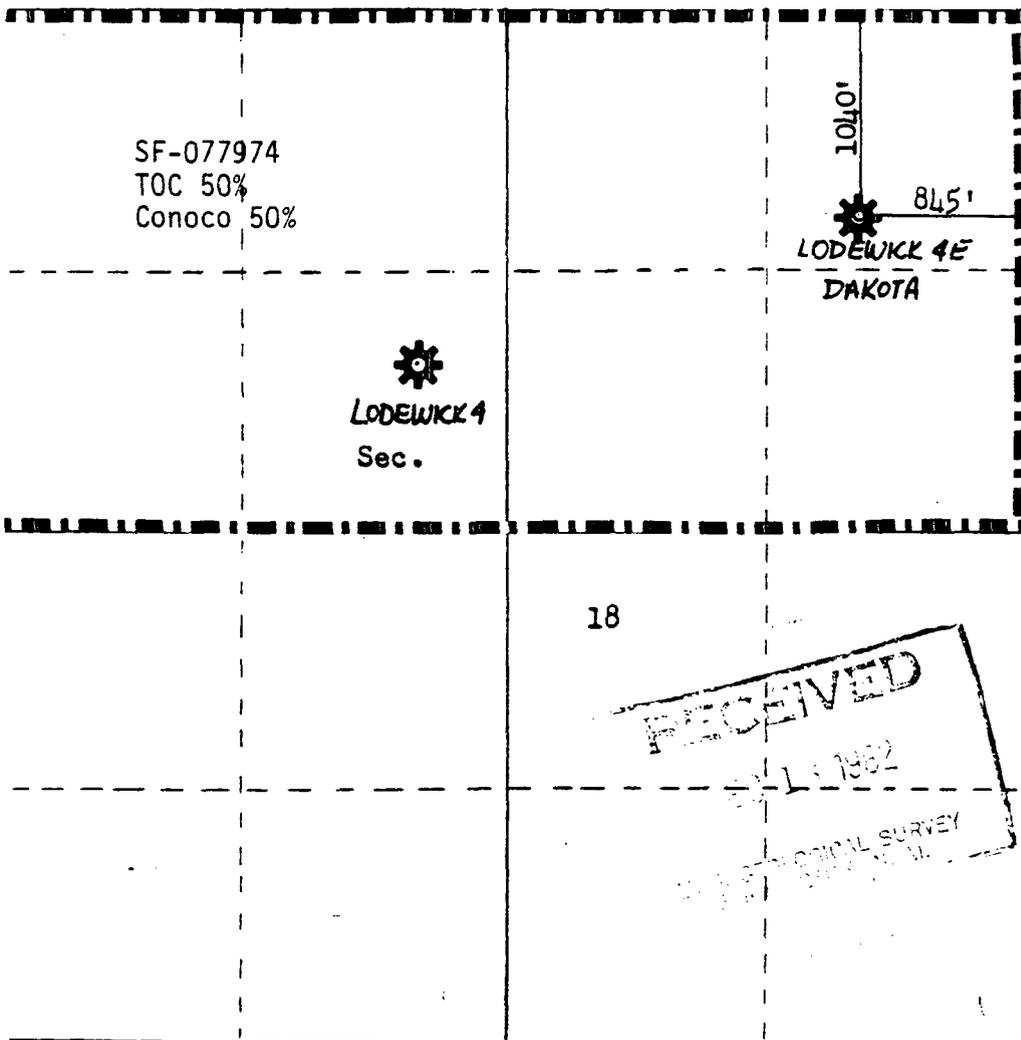
Operator TENNECO OIL COMPANY		Lease LODEWICK			Well No. LE
Unit Letter A	Section 18	Township 27N	Range 9W	County San Juan	
Actual Footage Location of Well: 1040 feet from the North line and 845 feet from the East line					
Ground Level Elev. 5501	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Ken Russell

Name
Ken Russell
Position
Sr. Production Analyst
Company
Tenneco Oil Company
Date
November 19, 1982

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 knowledge and belief.

ADMN 026116

Date Surveyed
September 1, 1982
Registered Professional Engineer and Land Surveyor
Fred B. Kerr Jr.
Fred B. Kerr Jr.
Certificate No. **2050**

ENGINEER

Scale: 1"=1000'

--QUICK BHP--

Calculate BHP and Z-factor from surface shut-in pressure

CURRENT PRESSURES

08/14/98

WELL NAME :	Lodewick 4E Dakota Current Pressure		
GAS GRAVITY:	0.66	% N2	0.20
CONDENSATE (YES=1):	0	% CO2	0.20 %
RESERVOIR TEMP:	176 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	671.09 %
DEPTH OF ZONE:	6,760 feet	Tc =	376.38
SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
563	660	0.9379	703

NOTE: Initial ISIP avg calc BHB '50's & 60'S wells

Current ISIP avg calc BHP most recent test dates

WELL NAME :	Lodewick 4E Dakota Initial Pressure		
GAS GRAVITY:	0.66	% N2	0.20
CONDENSATE (YES=1):	0	% CO2	0.20 %
RESERVOIR TEMP:	176 'F	% H2S	0.00 %
SURFACE TEMP:	60 'F	Pc =	671.09 %
DEPTH OF ZONE:	6,760 feet	Tc =	376.38
SURFACE PRES	BHP	Z	BHP/Z
psia	psia		psia
1,924	2,317	0.8599	2,694

Lodewick #4E
API # 30-045-25550
Section 18, T-27-N, R-9-W, A
San Juan County, NM

RE: Application to Downhole Commingle Fruitland Coal & Dakota

NOTIFICATION OF OFFSET OPERATORS:

Burlington Resources
PO Box 4289
Farmington, NM 87499

Amoco
PO Box 800
Denver, CO 80201

Universal Resources
1331 17th STE 300
Denver, CO 80202

A copy of the C-107A Downhole Commingle Application has been sent to the above listed parties.