

DATE IN 3/2/98	SUSPENSE 3/23/98	ENGINEER DC	LOGGED BY KN	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1890

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

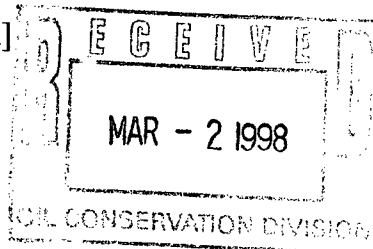
Check One Only for [B] and [C]

[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 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.

Kay Maddox
 Print or Type Name

Kay Maddox
 Signature

Regulatory Agent
 Title

2/24/98
 Date

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 Lackey B LS Well No 15 E Unit Ltr Sec Twp Rge Section 29, T-28-N, R-9-W, D County Rio Arriba

OGRID NO. 005073 Property Code _____ API NO. 30-045-23880 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	Otero Chacra 82329	Blanco Mesaverde 72319	Basin Dakota 71599
2. TOP and Bottom of Pay Section (Perforations)	3030-3142'	4043-4511'	6395-6604'
3. Type of production (Oil or Gas)	Gas	Gas	Gas
4. Method of Production (Flowing or Artificial Lift)	To Flow	To Flow	Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a (Current) 450	a. 527	a. 716
	b (Original) 930	b. 1148	b. 2352
6. Oil Gravity (°API) or Gas BT Content		1240	1246
7. Producing or Shut-In?	To be Completed	To be Completed	Producing
Production Marginal? (yes or no)	Yes	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, date and oil/gas/water rates of recent test (within 60 days)	Date Rates	Date Rates	Date Rates
	Allocation by Subtraction - See Attached table	Allocation by Subtraction - See Attached table	Est 1/98 34 MCFD, .36 BOPD, 0 BOPD
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 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 2/24/98

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

The Lackey B LS #15E was completed in the Dakota and first produced 9/80. Production is stable and future rates can be estimated reliably (See attached production plots).

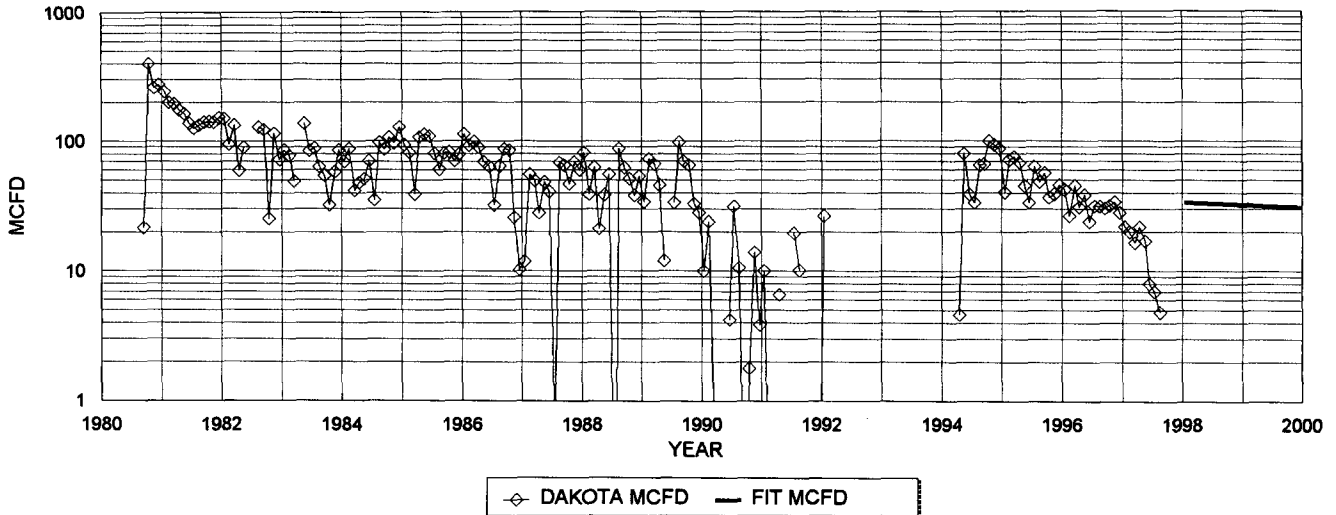
At this time we wish to recomplete uphole to the Mesaverde and Chacra and trimingle production. Attached normalized production plots from recent offsetting Mesaverde and Chacra wells shows that:

- 1) Production is clearly marginal from both zones
- 2) Rates & decline profiles are similar in both zones

For the above stated reasons we propose to allocate production as follows:

- Dakota production allocated by subtraction
- Remainder of production allocated by fixed percentage to Chacra & Mesaverde. Allocation percentage to be determined by SHORT (less than 1 week) production test

**LACKEY B LS 15E DAKOTA PRODUCTION
SECTION 29D-28N-09W**

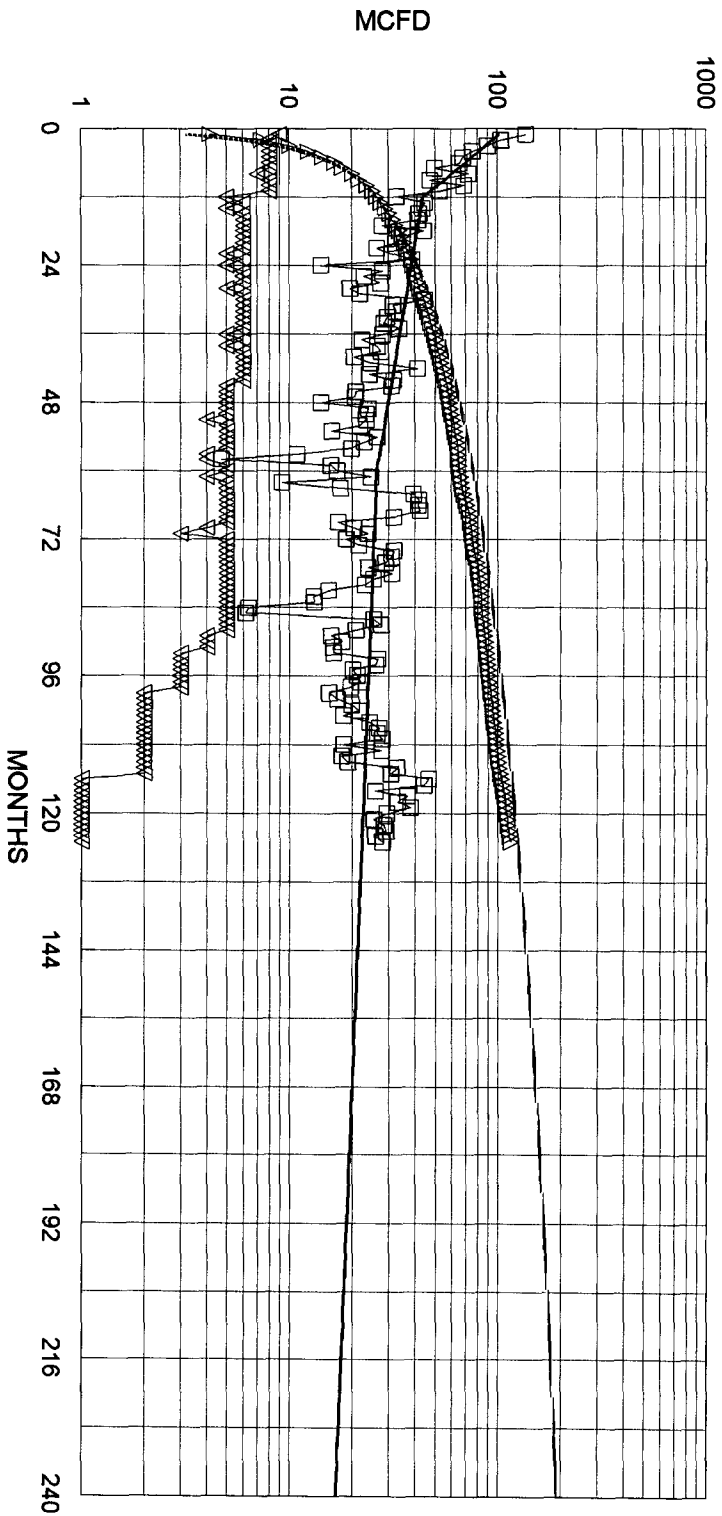


DAKOTA HISTORICAL DATA:		1ST PROD: 09/80	PROJECTED DATA	
OIL CUM:	3.56	MBO	1/1/98 QI:	34 MCFD
GAS CUM:	335.2	MMCF	DECLINE RATE:	4.5% (EXPONENTIAL)
CUM OIL YIELD:	0.0106	BBL/MCF		

	MID-YEAR AVG. MCFD	MID-YEAR AVG. BOPD
1998	33.3	0.35
1997	31.8	0.34
1998	30.3	0.32
1999	29.0	0.31
2000	27.7	0.29
2001	26.4	0.28
2002	25.2	0.27
2003	24.1	0.26
2004	23.0	0.24
2005	22.0	0.23
2006	21.0	0.22
2007	20.0	0.21
2008	19.1	0.20
2009	18.3	0.19
2010	17.5	0.19
2011	16.7	0.18
2012	15.9	0.17
2013	15.2	0.16
2014	14.5	0.15
2015	13.9	0.15
2016	13.2	0.14
2017	12.6	0.13
2018	12.1	0.13
2019	11.5	0.12
2020	11.0	0.12
2021	10.5	0.11
2022	10.0	0.11
2023	9.6	0.10
2024	9.2	0.10
2025	8.8	0.09
2026	8.4	0.09
2027	8.0	0.08
2028	7.6	0.08
2029	7.3	0.08
2030	7.0	0.07

PRODUCTION FORECAST FOR SUBTRACTION METHOD COMMINGLE ALLOCATION

NORMALIZED CHACRA PRODUCTION
9 WELLS SINCE 1986: TOWNSHIP WIDE: 28N 9W



NORMALIZED AVG:

273 MMCF EUR
193 MMCF IN 20 YRS
10 MCFD E.L.
0.0000 bbl/mcf oil yield

110 MCFD IP

60% DECLINE, 1ST 12 MONTHS
12% DECLINE, NEXT 48 MONTHS
3% FINAL DECLINE

RISKED AVG:

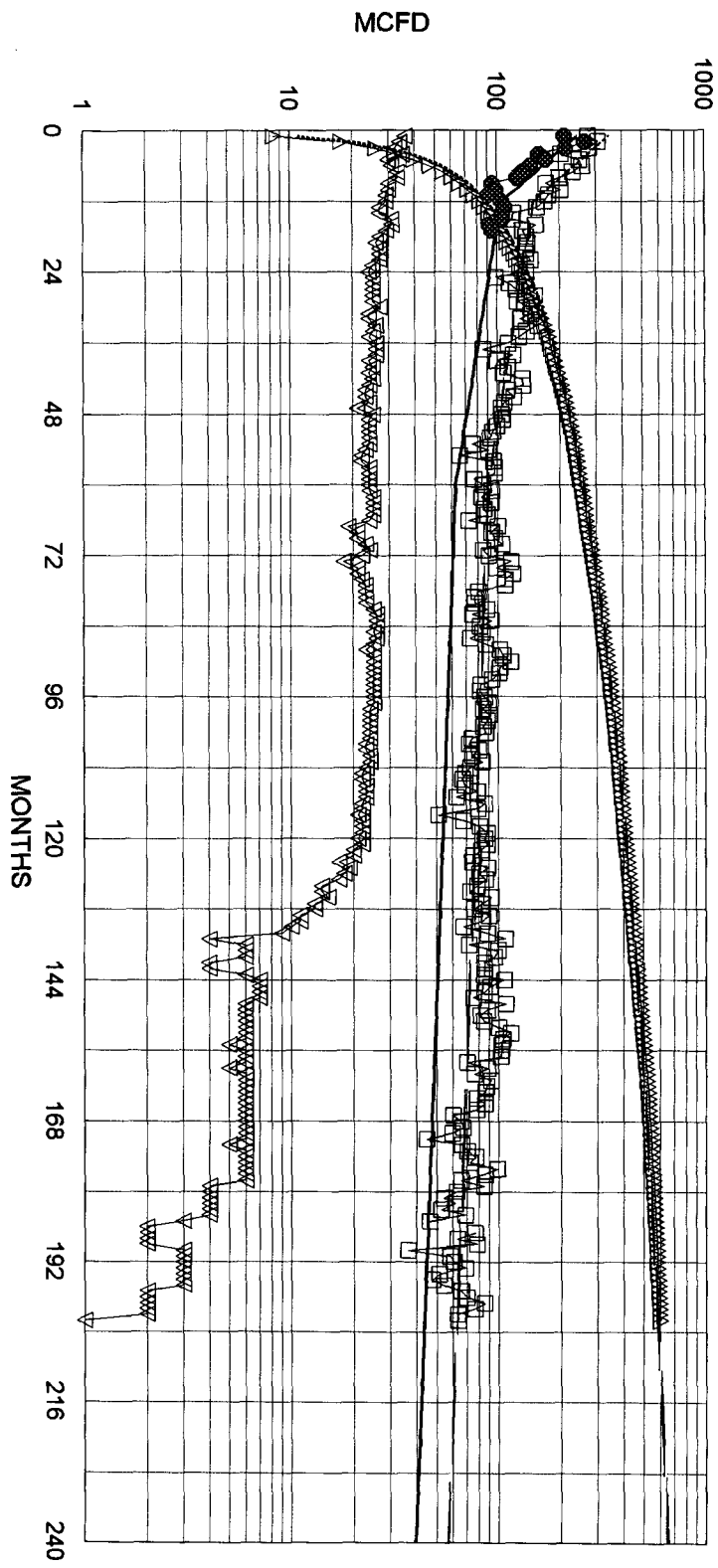
0% RISK

273 MMCF EUR
193 MMCF IN 20 YR
10 MCFD E.L.
0.0000 bbl/mcf oil yield

110 MCFD IP

60.0% DECLINE, 1ST 12 MONTHS
12.0% DECLINE, NEXT 48 MONTHS
3.0% FINAL DECLINE

NORMALIZED MESAVERDE PRODUCTION
36 WELLS SINCE 1980: 28N 9W TOWNSHIP WIDE



— FIT MCFD □ NORMALIZED MCFD △ NORM CUM MMCF ▽ WELLS ON PRODUCTIO
— FIT CUM MMCF — RISKED MCFD ◆ 9 WELLS SINCE '95

NORMALIZED AVG:

1099 MMCF EUR
658 MMCF IN 20 YRS
20 MCFD E.L.
0.0093 bbl/mcf oil yield

RISKED AVG:

30% RISK

375 MCFD IP
60% DECLINE, 1ST 12 MONTHS
12% DECLINE, NEXT 36 MONTHS
3.0% FINAL DECLINE

698 MMCF EUR
461 MMCF IN 20 YRS
20 MCFD E.L.
0.0093 bbl/mcf oil yield

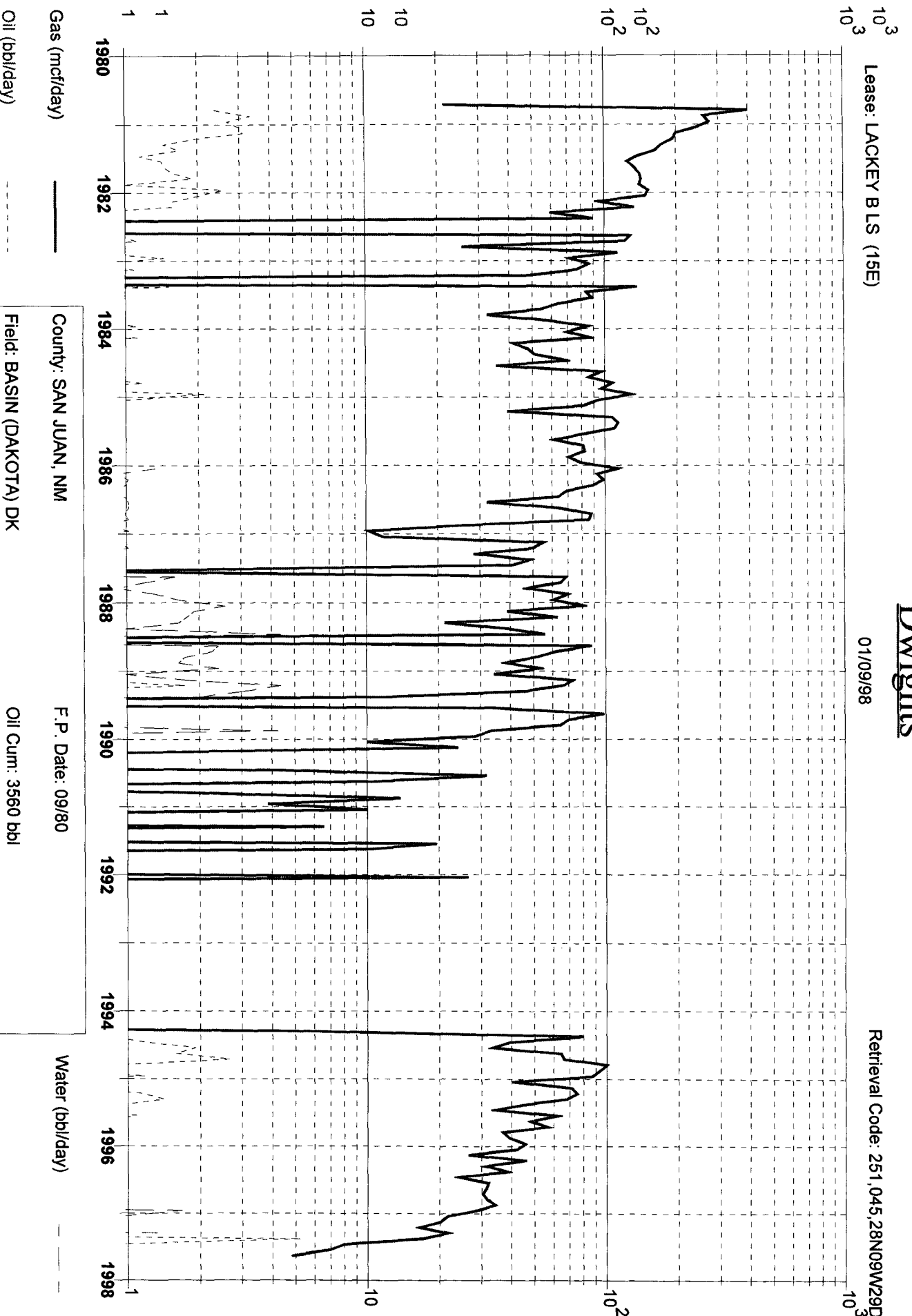
263 MCFD IP
60.0% DECLINE, 1ST 12 MONTHS
12.0% DECLINE, NEXT 36 MONTHS
3.0% FINAL DECLINE

Dwights

Lease: LACKEY B L S (15E)

01/09/98

Retrieval Code: 251,045,28N09W29D00DK



County: SAN JUAN, NM

Field: BASIN (DAKOTA) DK

Reservoir: DAKOTA

Operator: AMOCO PRODUCTION CO

F.P. Date: 09/80

Oil Cum: 3560 bbl

Gas Cum: 335.2 mmcf

Location: 29D 28N 9W

District I
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals & Natural Resources Department

Revised February 21, 1994

District II
PO Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

Submit to Appropriate District Office

District III
1000 Rio Brazos Rd. Aztec, NM 87410

PO Box 2088
Santa Fe, NM 87504-2088

State Lease - 4 Copies

District IV
PO Box 2088, Santa Fe, NM 87504-2088

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-23880		2 Pool Code 72319		3 Pool Name Blanco Mesaverde	
4 Property Code		5 Property Name Lackey BLS			6 Well Number 15 E
7 OGRID No. 005073		8 Operator Name Conoco Inc., 10 Desta Drive, Ste. 100W, Midland, TX 79705-4500			9 Elevation 5890'

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
D	29	28N	9W		790'	North	880'	West	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

16	790'			
880'				

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

Feb 24, 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

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
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Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-23880		2 Pool Code 82329		3 Pool Name Otero Chacra	
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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 160	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

Feb 24 '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

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

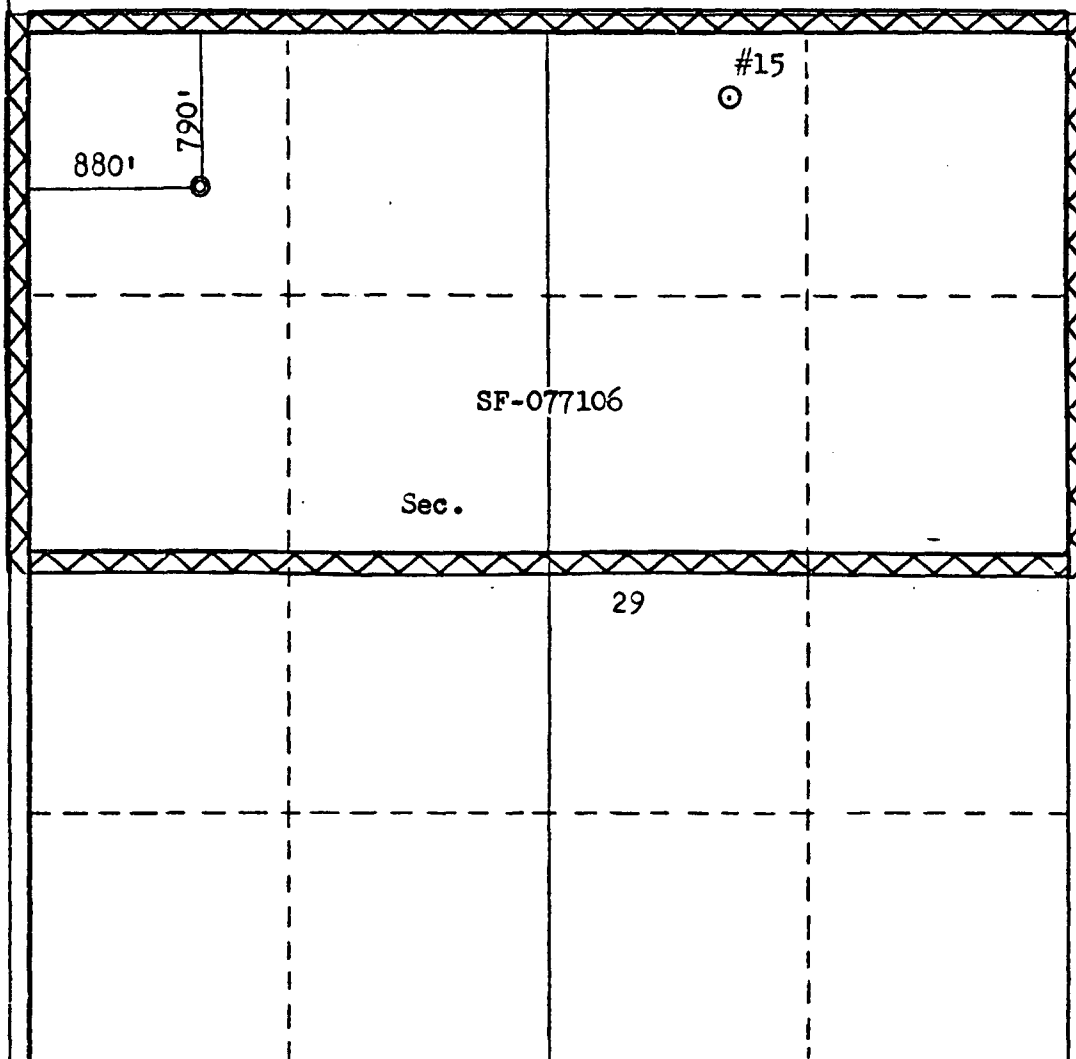
Operator EL PASO NATURAL GAS COMPANY			Lease LACKEY "B" (SF-077106)		Well No. 15-E
Unit Letter D	Section 29	Township 28N	Range 9W	County San Juan	
Actual Footage Location of Well: 790 feet from the North line and 880 feet from the West line					
Ground Level Elev. 5890	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 320.00 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.

Name _____

Position _____

Company _____

Date _____

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.

Date Surveyed _____

September 17, 1979

Registered Professional Engineer
and/or Land Surveyor

[Signature]
Arad B. Kern Jr.

Certificate No. _____

3950

Lackey B LS # 15E
Section 29, T-29-N, R-9-W, D
San Juan County, New Mexico
Downhole Commingle Application C-107A

Offset Operators:

Burlington Resources
PO Box 4289
Farmington, NM 87499

Amoco
PO Box 800
Denver, CO 80201

S & G Interests
811 Dallas STE 1505
Houston, TX 77002

Richardson Operating
1700 Lincoln St STE 1700
Denver, CO 80203