

## **Ernie Busch**

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**From:** Ernie Busch  
**To:** Ben Stone  
**Subject:** AMOCO HEATON LS#8(DHC)  
**Date:** Thursday, March 21, 1996 1:27PM  
**Priority:** High

B-30-31N-11W  
RECOMMEND: APPROVAL

OPERATOR: LOUIS DREYFUS NATURAL GAS CORP

**| ORCID: 025773**

MONTH/YEAR 08/95

----- PAGE 21 OF 26 -----

7			INJECTION			PRODUCTION					DISPOSITION OF OIL, GAS, AND WATER							
POOL NO. AND NAME	PROPERTY NO. AND NAME	WELL NO. AND U-I-S-T-R	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
API NUMBER			C	D	E	C	OIL/COND- ENSATE PRODUCED	BBL'S OF WATER PRODUCED	GAS PRODUCED (MCF)	DAYS PRODUCED	C	POINT OF DISPOS- ITION	GAS BTU OR OIL GRAV	OIL ON HAND AT BEGINNING OF MONTH	VOLUME (BBL'S/MCF)	TRANS- PORTER COR'D	C	OIL ON HAND AT END OF MONTH
			1			2					3						4	
0088	B-12-27N-12W	30-045-27B32	F				0	64	1067	31								
009	1-01-27N-12W	30-045-06B32	F				0	0	419	31								
010	1-01-27N-12W	30-045-06B30	F				0	0	23	30								
011	G-03-27N-12W	30-045-06B95	F				0	21	2997	31								
012	C-10-27N-12W	30-045-06B33	F				0	0	411	31								
013	1-11-27N-12W	30-045-06B56	F				0	0	288	30								
											G	1194.130	1130		23	025244		
											G	1194.230	1102		580	025244		
											G	1194.330	1000		379	025244		
											G	1194.430	1161		2997	025244		
											G	1194.530	1148		411	025244		
											G	1194.630	1174		956	025244		
											G	1194.730	1153		288	025244		
											G	1194.930	1018		869	025244		
											G	1195.030	1020		1194	025773		
											G	1195.130	1022		46	025773		
											G				75		U	
											G				242		V	
											W	1194.450			21		O	



**Southern**

**Rockies**

**Business**

**Unit**

March 4, 1996

Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
2040 S. Pacheco Street  
P. O. Box 6429  
Santa Fe, NM 87505

**RECEIVED**  
MAR 11 1996

**OIL CON. DIV.**  
**DIST. 3**

**Application for Exception to Rule 303-C**

**Downhole Commingling**

**Heaton LS #8 Well**

**990' FNL & 1650' FEL, Unit B Section 30-T31N-R11W**

**Aztec Pictured Cliffs (Pool IDN 71280) and Blanco Mesaverde (Pool IDN 72319) Pools**

**San Juan County, New Mexico**

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Aztec Pictured Cliffs and Blanco Mesaverde Pools in the Heaton LS #8 well referenced above. The Heaton LS #8 is currently a dual completion in the Pictured Cliffs and Mesaverde formations. We plan to complete the well with both the Pictured Cliffs and Mesaverde formations being downhole commingled in the wellbore. This well will benefit from downhole commingling because of the reduced costs of operation offered by commingling. The two zones are expected to produce at a total commingled rate of about 52 MCFD with less than 1 BCPD. The ownership (WI, RI, ORI) of these pools is common in this wellbore. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserves and violation of correlative rights. Offset operators to this well will receive a copy of this application by certified mail.

The allocation method that we plan to use for this commingled well is as follows. Both formations have been producing at stabilized rates for some time. We recommend that the Mesaverde and Pictured Cliffs formations gas and condensate be allocated based on current rates. The Mesaverde is currently producing at 42 MCFD with 0.19 BCPD while the Pictured Cliffs is currently producing 10 MCFD with no condensate. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 80% of gas production and 100% of condensate production. The Pictured Cliffs would be allocated at 20% of gas production and no condensate production. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

Attached to aid in your review are plats showing the location of the well and offset wells in the same formation, a historical and recent production plot and a C-102 for each formation. This spacing unit

is located on a federal lease (SF-078097) and we will send a copy of the application to the BLM as their notice. Should you have questions concerning this matter, please contact me at (303) 830-5344.

Sincerely,



Pamela W. Staley

Enclosures

cc: Khanh Vu  
Gail Jefferson

Frank Chavez, Supervisor  
NMOCD District III  
1000 Rio Brazos Road  
Aztec, NM 87410

Duane Spencer  
Bureau of Land Management  
1235 La Plata Hwy.  
Farmington, NM 87401

**Application for Exception to Rule 303: SEGREGATION OF PRODUCTION FROM POOLS**

**Requirements**

- (1) Name and address of the operator:

Amoco Production Company  
P.O. Box 800  
Denver, CO 80201

- (2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name: Heaton LS  
  
Well Number: 8  
Well Location: 990' FNL & 1650' FEL  
Unit B Section 30-T31N-R11W  
San Juan County, New Mexico  
  
Pools Commingled: Blanco Mesaverde Pool  
Aztec Pictured Cliffs Pool

- (3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached

- (4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

The Blanco Mesaverde produced an average stabilized rate of 42 MCFD and 0.19 BCPD. The Aztec Pictured Cliffs zone produced at an average rate of about 10 MCFD and no condensate.

- (5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes.

Blanco Mesaverde Completion:  
Aztec Pictured Cliffs Completion:

Historical production curve attached.  
Historical production curve attached.

- (6) Estimated bottomhole pressure for each zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Bottomhole pressures were estimated from 72 hour shut-in pressures during a packer leakage test for the well. Estimated bottomhole pressure in the Pictured Cliffs formation is 566 PSI while the estimated bottomhole pressure in the Mesaverde is 640 PSI. See attached calculations.

- (7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The two formations do not produce any measurable amount of fluids and therefore are not expected to any effect that would prohibit commingling, or promote the creation of emulsions or scale.

- (8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams:

Since the BTU content of the produced gasses are very similar, we would expect the commingled production to have a similar value as the sum of the individual streams.

- (9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

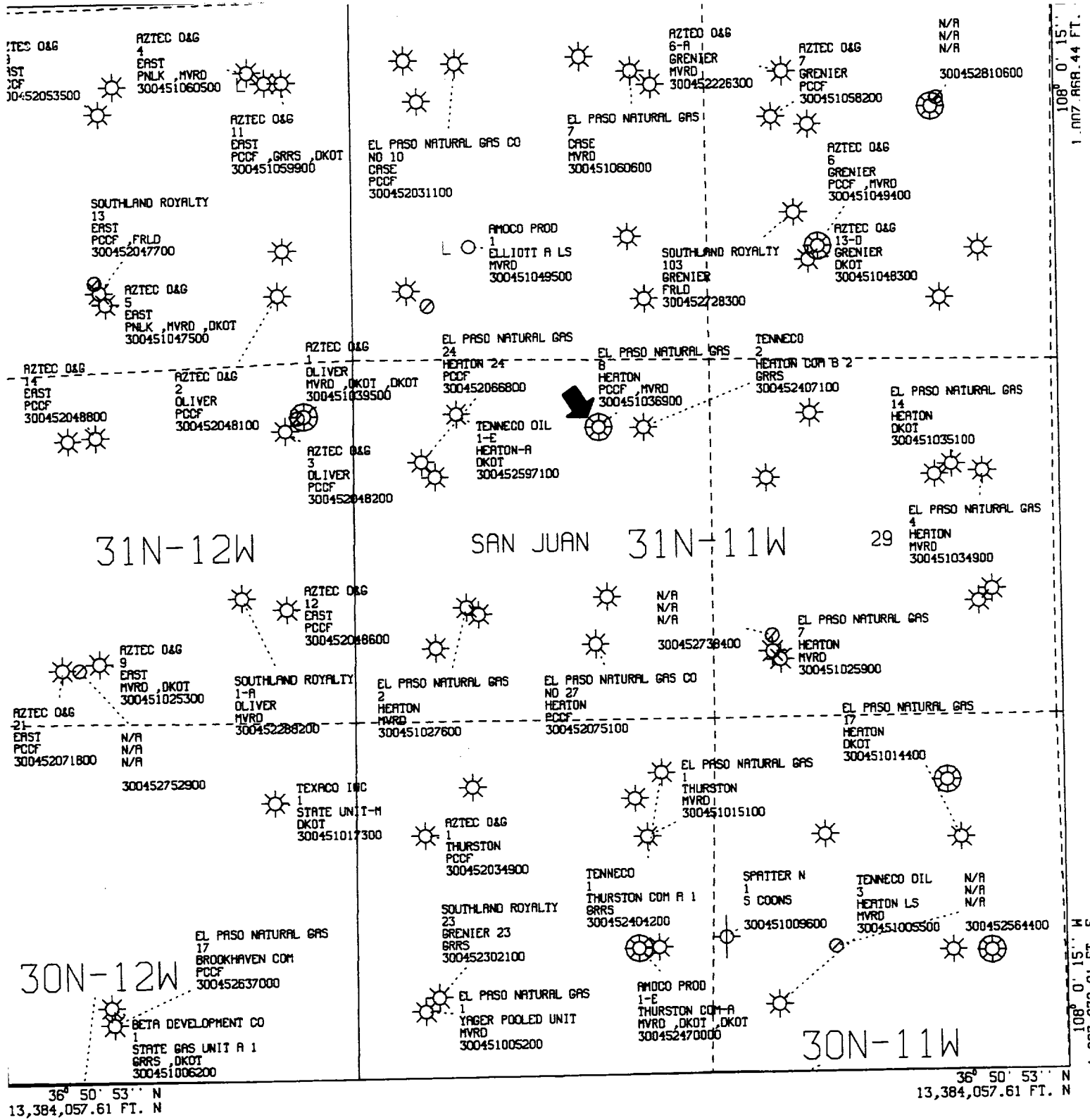
The allocation method that we plan to use for this commingled well is as follows. Both formations have been producing at stabilized rates for some time. We recommend that the Mesaverde and Pictured Cliffs formations gas and condensate be allocated based on current rates. The Mesaverde is currently producing at 42 MCFD with 0.19 BCPD while the Pictured Cliffs is currently producing 10 MCFD with no condensate. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 80% of gas production and 100% of condensate production. The Pictured Cliffs would be allocated at 20% of gas production and no condensate production. The actual commercial value of the commingled production will not be less than the sum of the values of the production from each of the common sources of supply.

- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

BLM will receive a copy of this application by certified mail. The offsetting operators listed on the attached sheet will receive a copy of this application by certified mail.

- (11) Referencing NMOCD Order No. 10470 Rule 303 (D) (11): In a case where there is diversity of ownership between the zones to be commingled (including working royalty, or overriding royalty interest), the applicant shall submit a statement that all such interest owners have been notified in writing of the proposed commingling.

All interest owners in the two formations will receive a copy of this application by certified mail.



All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

POLYCONIC CENTRAL MERIDIAN - 108° 1' 52" W LON  
SPHEROID - 6

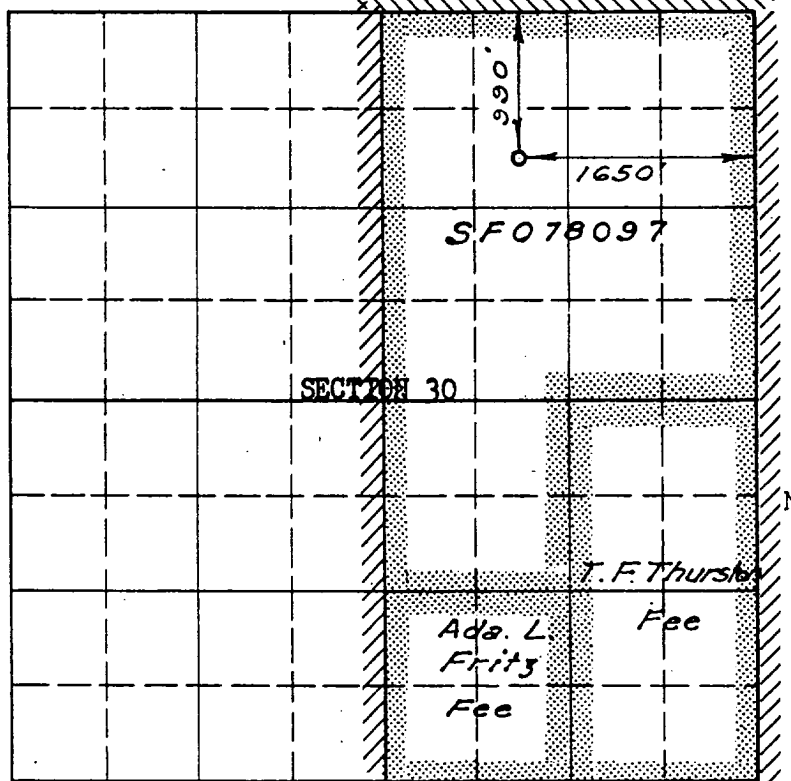
AMOCO PRODUCTION COMPANY  
PLAT MAP  
Heaton LS 8  
Offset Wells  
SCALE 1 IN. = 2,000 FT. APR 28, 1995

## OIL CONSERVATION COMMISSION

## WELL LOCATION AND/OR GAS PRODUCTION PLAT

DATE March 1, 1956OPERATOR EL PASO NATURAL GAS COMPANY LEASE HEATON SE 078097WELL NO. 8 SECTION 30 TOWNSHIP 31N RANGE 11W NMPMLOCATED 990 FEET FROM NORTH LINE 1650 FEET FROM EAST LINESAN JUAN COUNTY, NEW MEXICOG. L. ELEVATION 5910NAME OF PRODUCING FORMATION MESA VERDE POOL BLANCO DEDICATED ACREAGE 320 ACRES  
(1880 PLAT)

Note: All distances must be from outer boundaries of section.



Scale 4 inches equal 1 mile

RECEIVED  
MAR 7 1956  
LAND SURVEY  
NEW MEXICO

## NOTE

This section of  
form is to be use  
for gas wells onl

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Date Surveyed FEBRUARY 21, 1956

E. O. Walker  
Registered Professional Engineer and/Land Surveyor

1. Is this well a Dual Comp.  
Yes \_\_\_\_\_ No X
2. If the answer to Question 1 is yes, are there any other dually completed wells within the dedicated acreage.  
Yes \_\_\_\_\_ No \_\_\_\_\_

Name Ewell WoodPosition Petroleum EngineerRepresenting El Paso Natural GasAddress Box 997, Farmington, N.M.

(Seal)



MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

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

Operator <b>EL PASO NATURAL GAS COMPANY</b>			Lease <b>HEATON (SF 078097)</b>		Well No. <b>8</b>
Unit Letter <b>B</b>	Section <b>30</b>	Township <b>31-N</b>	Range <b>11-W</b>	County <b>SAN JUAN</b>	
Actual Footage Location of Well: <b>990</b> feet from the <b>N</b> line and <b>1650</b> feet from the <b>E</b> line					
Ground Level Elev: <b>5920 DF</b>	Producing Formation <b>PICTURED CLIFFS &amp; MESA VERDE</b>		Pool <b>AZTEC PC BLANCO MV</b>	Dedicated Acreage: <b>320.00 MV 160.00 PC</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. **1.00**
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 Communitization

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. **THIS PLAT REISSUED TO SHOW CORRECTED ACREAGE AS PER LETTER N.M.O.C. DATED 2-14-68.**

	<p style="text-align: center;"><b>CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p style="text-align: right;"><i>Carl E. Matthews</i></p> <p>Name <b>Petroleum Engineer</b></p> <p>Position <b>El Paso Natural Gas Co.</b></p> <p>Company <b>March 11, 1968</b></p> <p>Date</p>
	<p>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.</p> <p style="text-align: right;"> </p> <p>Date Surveyed <b>MAR 12 1968</b></p> <p>Registered Professional Engineer and/or Land Surveyor.</p> <p>Certificate No.</p>

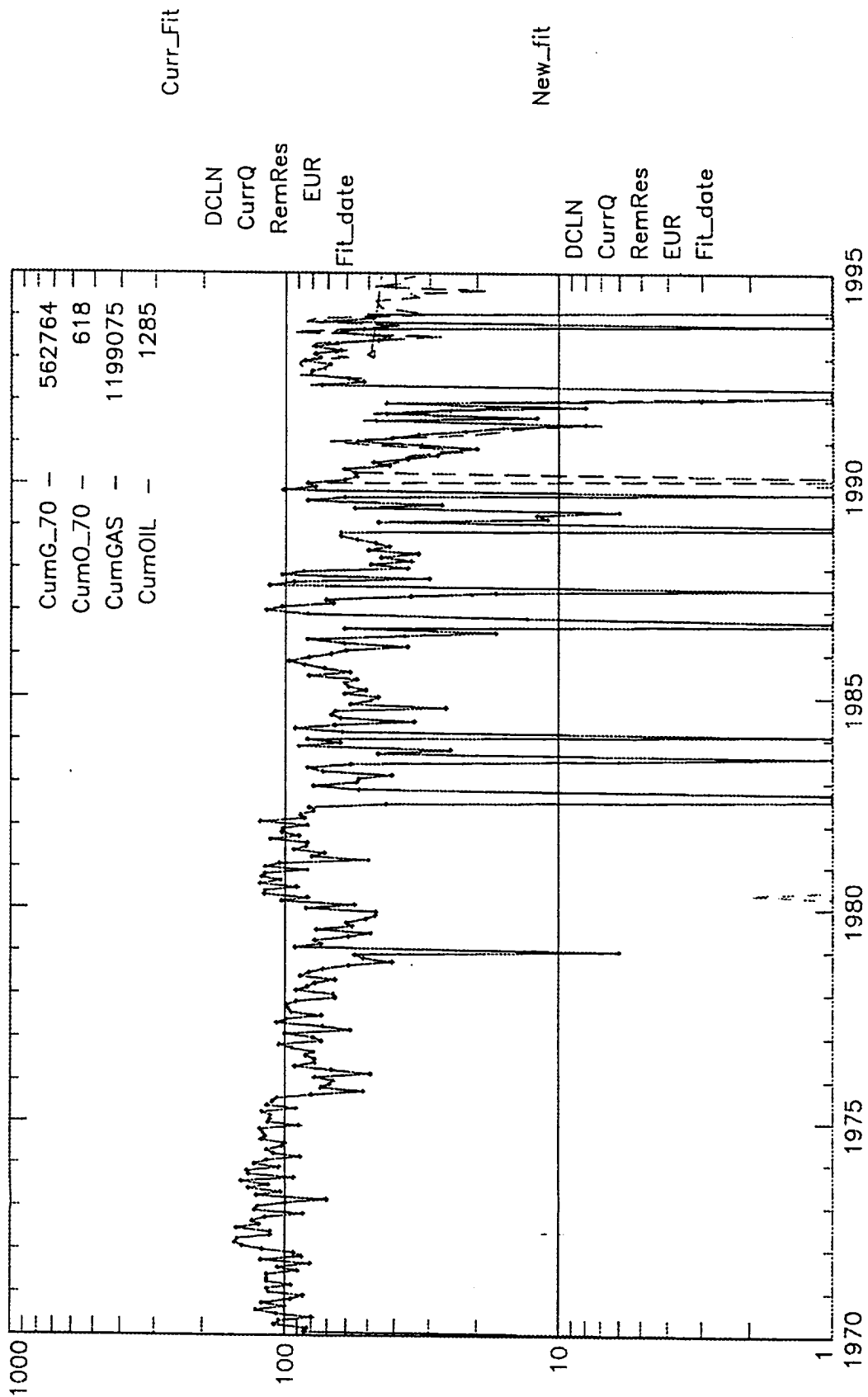
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HEATON LS 8

Operator- AMOCO PRODUCTION CO

300451036900MV B303111-008 MV

APC\_WI - 0.50000000

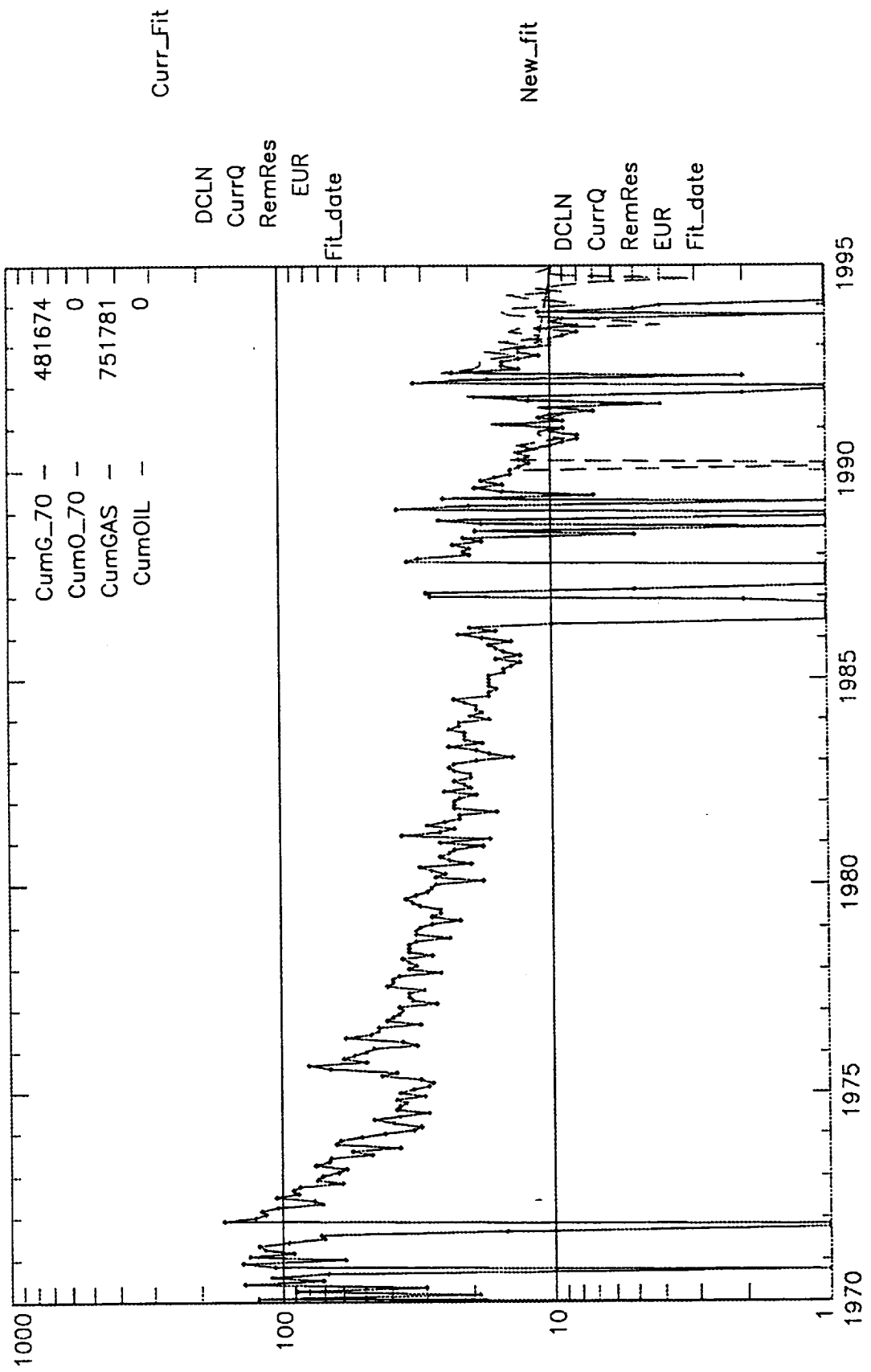


Engr: zdws22

HEATON LS 8

Operator- AMOCO PRODUCTION CO

300451036900PC B303111-008 PC APC\_WI - 0.50000000



OIL CONSERVATION DIVISION  
NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

B-30-31-11

Operator: AMOCO PRODUCTION COMPANY Lease/Well #: HEATON LS 008  
Meter #: 71380 RTU: 0-000-00 County: SAN JUAN

	NAME RESERVOIR OR POOL	TYPE PROD	METHOD PROD	MEDIUM PROD
UPR COMP	HEATON LS 008 BMV 71380 <i>PC</i>	GAS	FLOW	TBG
LWR COMP	HEATON LS 008 APC 71577 <i>MV</i>	GAS	FLOW	CSG

PRE-FLOW SHUT-IN PRESSURE DATA

	Hour/Date Shut-In	Length of Time Shut-In	SI Press. PSIG	Stabilized
UPR COMP	06/15/94			
LWR COMP	06/15/94	144 HRS. 6 DAYS	372	YES
		72	261	yes

FLOW TEST DATE NO. 1

Commenced at (hour,date)*		10:20 A.M. - 6-15-94		143179 METER* Zone Producing (Upr/Lwr)	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		Prod Temp.	REMARKS
		Upper MV	Lower PC		
06/15/94	Day 1	220 #	259 #		Both Zones SI
06/16/94	Day 2	320 #	259 #		Both Zones SI
06/17/94	Day 3	359 #	281 #		Both Zones SI
06/18/94	Day 4	372	261		flowed lower zone
06/19/94	Day 5	381	134		
06/20/94	Day 6	381 #	120 #		
Production rate during test					

Production rate during test

Oil: \_\_\_\_\_ BOPD based on \_\_\_\_\_ BBLs in \_\_\_\_\_ Hrs \_\_\_\_\_ Grav \_\_\_\_\_ GOR \_\_\_\_\_  
Gas: \_\_\_\_\_ MFCPD: Tested thru (Orifice or Meter): METER \_\_\_\_\_  
MID-TEST SHUT-IN PRESSURE DATA

	Hour, Date SI	Length of Time SI	SI Press. PSIG	Stabilized (yes/no)
UPR COMP				1994
LWR COMP				OIL CON. DIV. DIST. 3

(Continue on reverse side)

LOOSENED HUB ON GADDER C.V. VENT CONTROLLER.

***ESTIMATED BOTTOMHOLE PRESSURES BY FORMATION***

Heaton LS #8

PC Perforations at 2412-2448' midperf at 2430'  
MV Perforations at 4706-4778' midperf at 4742'

6/94 shut in pressures --- MV =261 PSIG  
PC =372 PSIG

GRADIENT = 0.08 PSI/FT

MV BHP = 261 PSIG + 4742' X 0.08 PSIG  
= 640 PSIG

PC BHP = 372 PSIG +2430' X 0.08 PSIG  
=566 PSIG

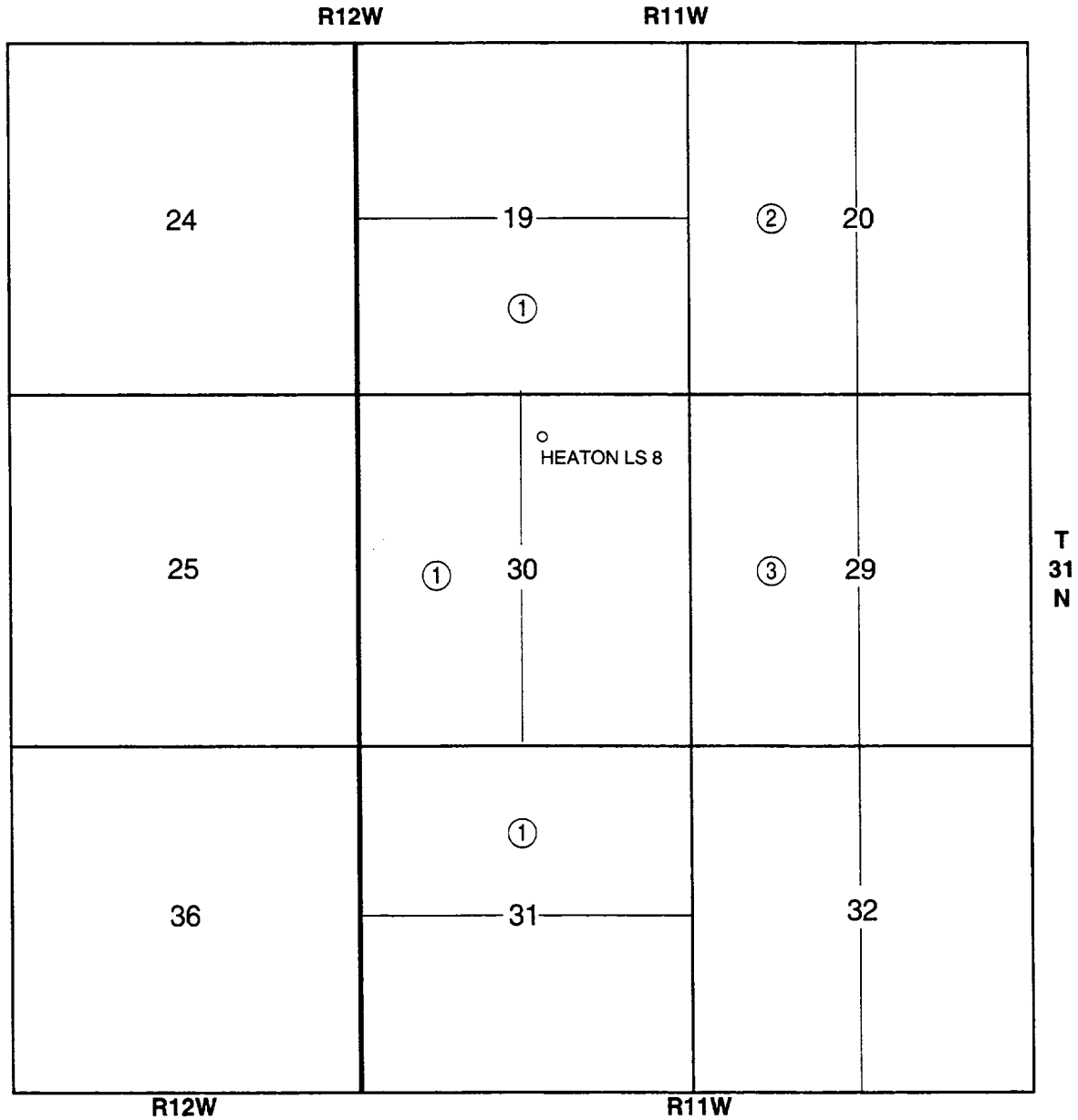
**Amoco Production Company**

Offset Operator Plat

Heaton LS 8

T31N-R11W Sec. 30

Blanco Mesaverde Formation



- ① Amoco Production Company
- ② Southland Royalty Company
- ③ Meridian Oil Production Inc.

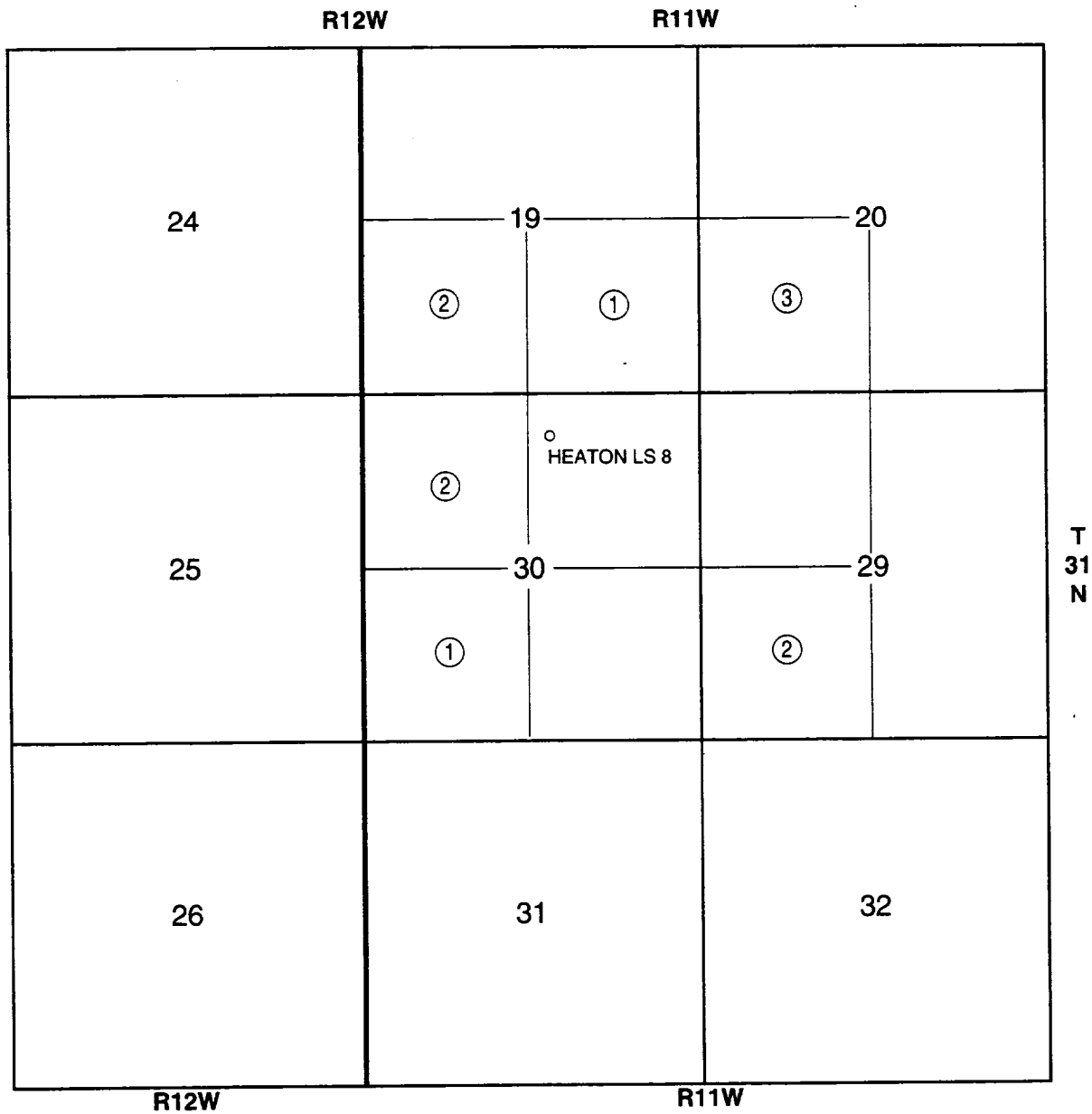
**Amoco Production Company**

Offset Operator Plat

Heaton LS 8

T31N-R11W Sec. 30

Aztec Pictured Cliffs Formation



- ① Amoco Production Company
- ② Meridian Oil Production Inc.
- ③ Southland Royalty Company

**LIST OF ADDRESSES FOR OFFSET OPERATORS**

Heaton LS #8

*1* Meridian Oil, Inc.  
P.O. Box 4289  
Farmington, NM 87499



69940600 00001  
617000 00  
-MOOD PRODUCTION COMPANY  
P O BOX 591  
TULSA

ZJAM63  
OK 74102-0591

69884800 00001  
129569 00  
MITZI EASLEY  
3900 DOMINION COVE  
AUSTIN

ZJAM63  
TX 78759-7300

69884800 00001  
129567 00  
BETSY BRYANT  
2201 BROOKHOLLOW  
ABILENE

ZJAM63  
TX 79605-5507

69884800 00001  
120851 00  
GROVER BROTHERS PARTNERSHIP  
P O BOX 3666  
MIDLAND

ZJAM63  
TX 79702-3666

69884800 00001  
924261 00  
HARRIET BUCHENAU  
P O BOX 867585  
PLANO

ZJAM63  
TX 75086-7585

69884800 00001  
910310 00  
ALFRED LUKE FRITZ  
33766 WHITE OAK ROAD  
CORVALLIS

ZJAM63  
OR 97333-2436

69884800 00001  
926545 00  
WILLIAM J CAREY  
C/O COMERICA BANK TEXAS  
P O BOX 650282  
DALLAS

ZJAM63  
TX 75265-0282

69884800 00001  
910311 00  
JOHN CARL FRITZ  
5342 N WOODSON  
FRESNO

ZJAM63  
CA 93711-2763

69884800 00001  
603416 25  
CONOCO INC  
P O BOX 951063  
DALLAS

ZJAM63  
TX 75395-1063

69884800 00001  
634423 00  
ARDEN R GROVER  
P O BOX 3666  
MIDLAND

ZJAM63  
TX 79702-3666

69884800 00001  
134698 00  
CROSS TIMBERS OIL COMPANY  
P O BOX 840287  
DALLAS

ZJAM63  
TX 75284-0287

69884800 00001  
923261 00  
PAUL B AND SUSAN D HORTON  
C/O MCCALL PARKHURST AND HORTON  
900 MAXUS ENERGY TOWER  
717 NORTH HARWOOD SUITE 900  
DALLAS

TX 75201-6587

69884800 00001  
923334 00  
JULIA M CRUTCHER ESTATE  
WILLIAM CAREY CRUTCHER, EXECUTOR  
C/O COMMUNITY BANK  
P O BOX 737  
KATY

ZJAM63  
TX 77492-0737

69940600 00001  
283401 00  
RICHARD A JENNINGS TRUSTEE  
P O BOX 3759  
MIDLAND

TX 79702-3759

69884800 00001  
114754 01  
LOUIS DREYFUS NATURAL GAS CORP  
REMITTANCE ADDRESS  
P O BOX 850163  
OKLAHOMA CITY

ZJAM63  
OK 73185-0163

69884800 00001  
252130 01  
W L JENNINGS  
BILLY G EDWARDS ATTY IN FACT  
P O BOX 117  
ABILENE

ZJAM63  
TX 79604-0117

69940600 00001 632077 00 W D KENNEDY 550 W TEXAS #1225 MIDLAND	ZJAM63  TX 79701-4266	69940600 00001 133354 00 HENRIETTA E SCHULTZ TRUSTEE LINCOLN PLAZA SUITE 2160 LB-1 500 NORTH AKARD DALLAS	ZJAM63  TX 75201-3360
69940600 00001 242970 00 JAMES R E TUN JR P O BOX 10561 MIDLAND	ZJAM63  TX 79702-7561	69884800 00001 924818 00 RICHARD L AND BEULAH THURSTON JT BOX 12 ROAD 2720 AZTEC	ZJAM63  NH 87410-0012
69940600 00001 268550 13 MARATHON OIL COMPANY P O BOX 899882 DALLAS	ZJAM63  TX 75389-0882	69940600 00001 120105 00 JULIA ELIZABETH WILLIAMS 1594 AVILA DRIVE TULANE	ZJAM63  CA 93274-2315
69940600 00001 926304 00 SARAH S MIMS TRUST WILLIAM L MADSEN AND SARAH S MIMS CO-TRUSTEES P O BOX 111846 CARROLLTON	ZJAM63  TX 75011-1846	69884800 00001 115015 00 JAMES B WOLFSON 2169 E HILLVIEW AVE FRESNO	ZJAM63  CA 93720-4104
69940600 00001 710000 01 MINERALS MANAGEMENT SERVICE ROYALTY MANAGEMENT PROGRAM PO BOX 5810 FA DENVER	ZJAM63  CU 80217-5810	69884800 00001 115016 00 WILLIAM F WOLFSON 7957 EAST COLETIE CIRCLE #186 TUCSON	ZJAM63  AZ 85710-2484
69884800 00001 929031 00 MOORE LOYAL TRUST LEE WAYNE MOORE TRUSTEE 403 NORTH MARIEFIELD MIDLAND	ZJAM63  TX 79701-4323		
69940600 00001 129568 00 SUSAN RITTER P O BOX 162606 AUSTIN	ZJAM63  TX 78716-2606		
69884800 00001 115018 00 CYMA B RUSSELL 6132 HIGHGATE LANE DALLAS	ZJAM63  TX 75214-2154		