



DNE

4-8-96

Rcv'd 3-18-96

Southern

Rockies

Business

Unit

March 12, 1996

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

Application for Exception to Rule 303-C

Downhole Commingling

Lackey #1E Well

1540 FSL & 940' FEL, Unit I Section 23-T28N-R9W

Blanco Mesaverde (Pool IDN 72319) and Basin Dakota (Pool IDN 71599) Pools

San Juan County, New Mexico

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Blanco Mesaverde and Basin Dakota Pools in the Lackey #1E well referenced above. The Lackey #1E is currently completed in the Dakota formation. We plan to recomplete the well in the Mesaverde with both the Mesaverde and Dakota formations being downhole commingled in the wellbore. The two zones are expected to produce at a total commingled rate of about 204 MCFD with less than 2 BCPD. The ownership (WI, RI, ORI) of these pools is not 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 and all interest owners involved in the two formations 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. The Dakota formation has been on production in this well for some time and the Mesaverde production has been well established in this area. We recommend that the Dakota formation gas and condensate be allocated based on current rates from the area while production for the Mesaverde be allocated from offset information. The Dakota is currently producing 96 MCFD with 1.5 BCPD while the Mesaverde offsets are averaging 108 MCFD with 0.57 BCPD. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 53% of gas production and 28 % of condensate production. The Dakota would be allocated at 47% of gas production and 72 % of 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 production plot and a C-102 for each formation. This spacing unit is located on a federal lease (SF-077112) 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: Mark Rothenberg
Patty Haefele
Wellfile
Proration file

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: Lackey

Well Number: 1E

Well Location: 1540' FSL & 940' FEL
Unit I Section 23-T28N-R9W
San Juan County, New Mexico

Pools Commingled: Blanco Mesaverde Pool
Basin Dakota 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 offsets produced an average stabilized rate of 108 MCFD and 0.57 BCPD over the past 4 months. The Basin Dakota zone produced at an average rate of about 96 MCFD and 1.5 BCPD over the same period.

- (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.

Basin Dakota Completion:

Historical production curve attached.

Blanco Mesaverde Completion:

Offset production curves 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 7-day shut-in pressures for the Dakota and from post frac pressure buildup tests on offset Mesaverde wells for the Mesaverde. Estimated bottomhole pressure in the Dakota formation is 430 PSI while the estimated bottomhole pressure in the Mesaverde is 619 PSI.

- (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 fluids that are expected to 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:

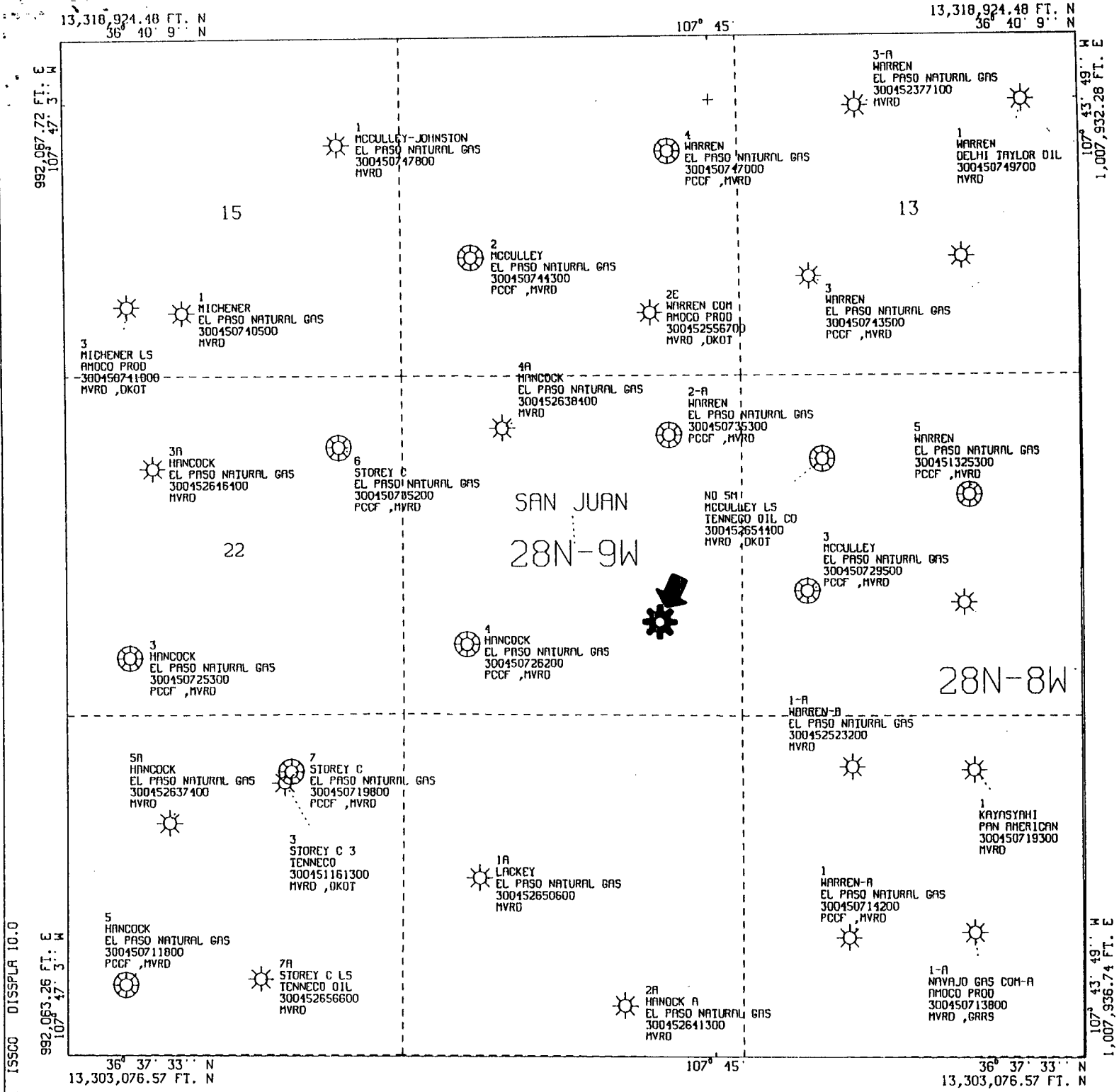
The allocation method that we plan to use for this commingled well is as follows. The Dakota formation has been on production in this well for some time and the Mesaverde production has been well established in this area. We recommend that the Dakota formation gas and condensate be allocated based on current rates from the area while production for the Mesaverde be allocated from offset information. The Dakota is currently producing 96 MCFD with 1.5 BCPD while the Mesaverde offsets are averaging 108 MCFD with 0.57 BCPD. The recommended allocation percentages after downhole commingling would be set as a percentage of the total rate with the Mesaverde attributing 53% of gas production and 28 % of condensate production. The Dakota would be allocated at 47% of gas production and 72 % of 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.

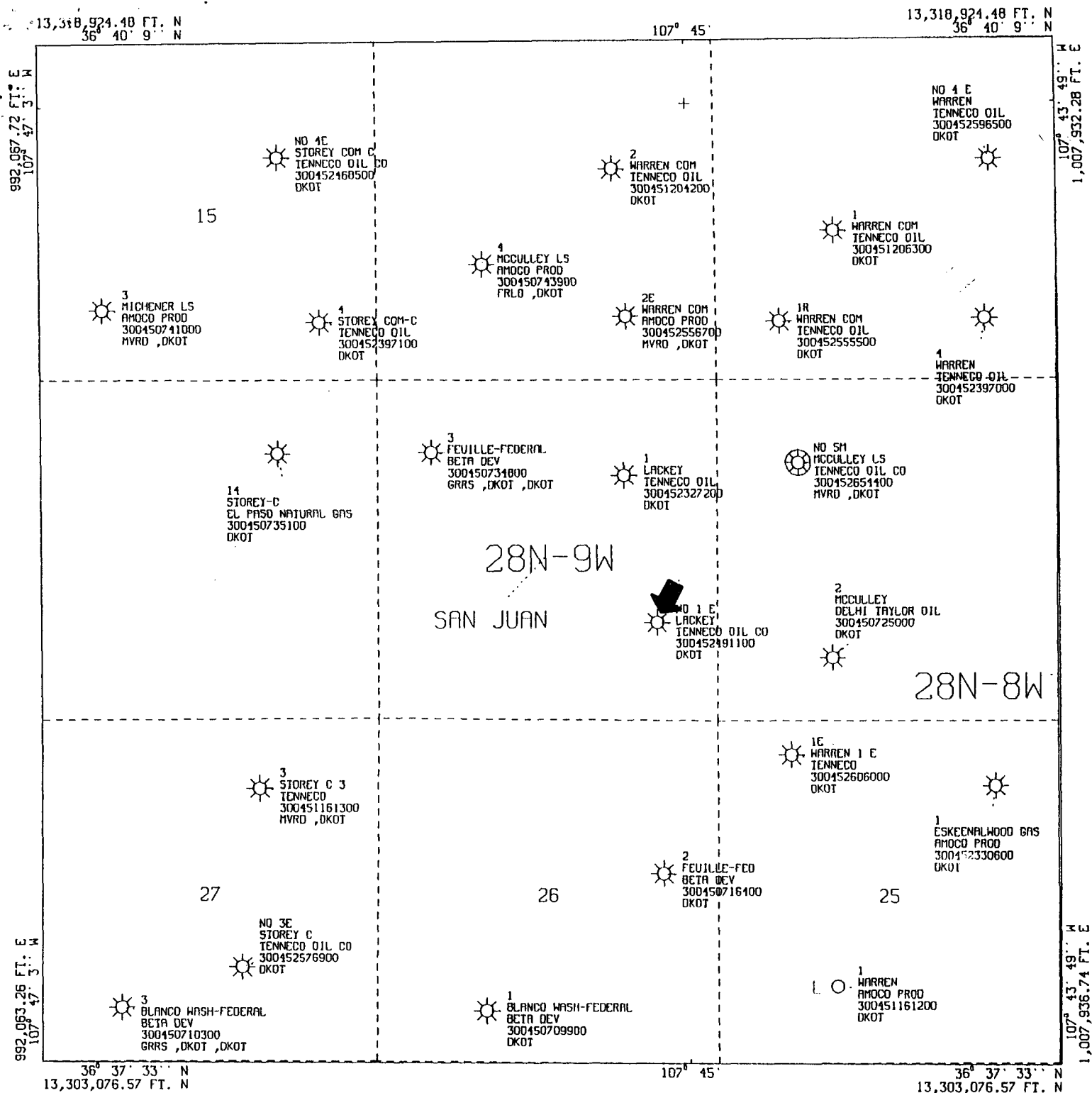


All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY
PLAT MAP
Lackey 1E
Mesaverde

POLYCONIC CENTRAL MERIDIAN - 107° 45' 26" W LON
SPHEROID - 6

SCALE 1 IN. = 2,000 FT. DEC 4, 1995



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AMOCO PRODUCTION COMPANY
PLAT MAP
Lackey 1E
Dakota

POLYCONIC CENTRAL MERIDIAN - 107° 45' 26" W LON
SPHEROID - 6

SCALE 1 IN. = 2,000 FT. DEC 4, 1995

Operator TECNOCO OIL COMPANY		Lease LACHEY		Well No. 1E
Well Letter I	Section 23	Township 28N	Range 9W	County San Juan
Actual Footage Location of Well:				
1540	feet from the South	940	feet from the East	line
Ground Level Elev. 6130	Producing Formation Dakota	Pool Basin Dakota	Dedicated Acreage: 3.25 Acres	

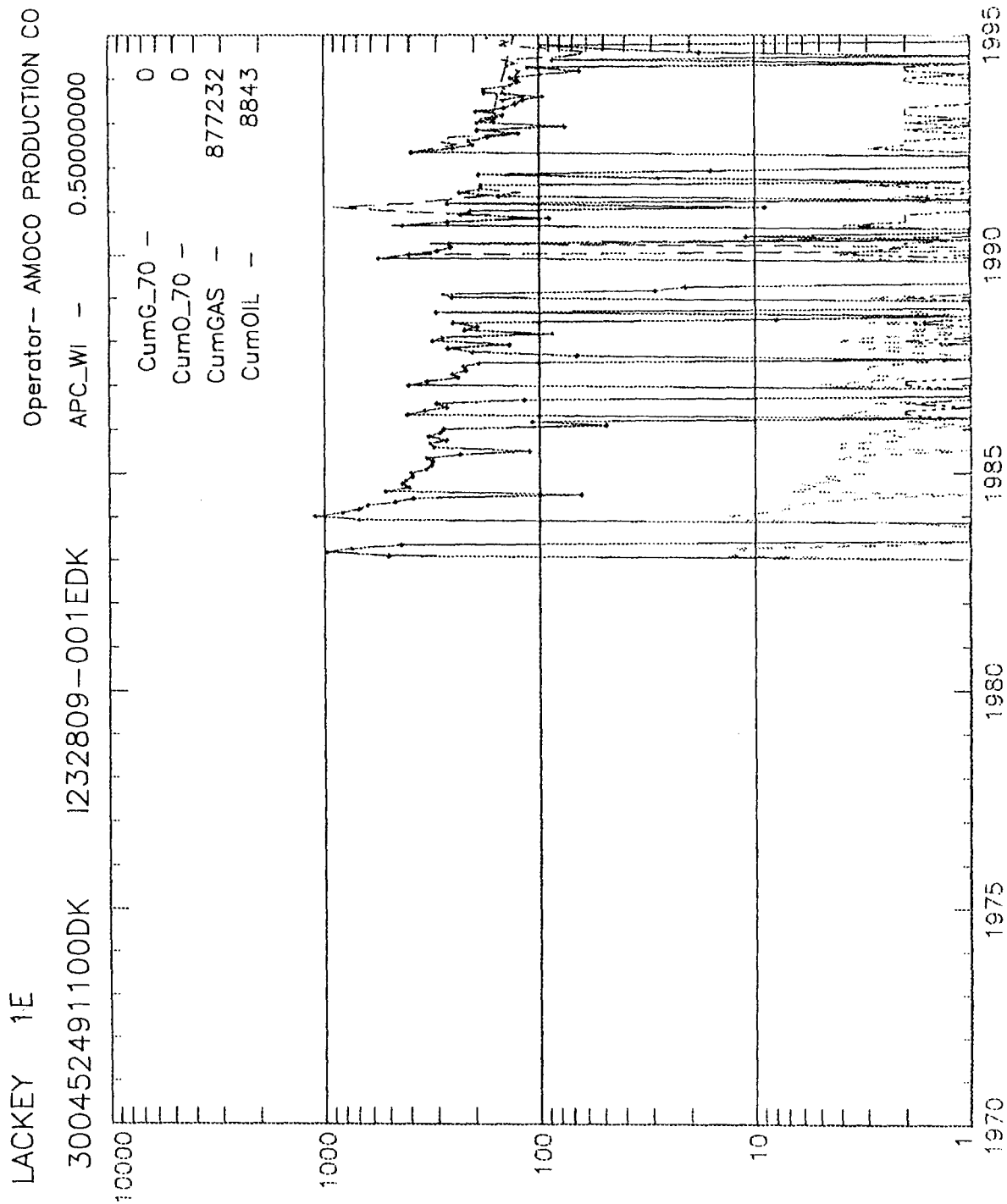
1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is 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.

For all wells within the spacing unit	CERTIFICATION
	I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <i>R. A. Mishler</i>
	Name R. A. Mishler
	Position Sr. Production Analyst
	Company Tenneco Oil Company
	Date February 5, 1981
I hereby certify that the well location shown on this plot 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: SEP 1 1980 August 9, 1980	
Registered Professional Engineer and/or Land Surveyor <i>Fred B. Kerr Jr.</i> Fred B. Kerr Jr.	
Certificate No. 111	



Current Production and Estimated Production Based on Offsets

<u>WELLNAME</u>	<u>LOCATION</u>	<u>CURRENT MCFD</u>	<u>LAST 4MO AVE MCFD</u>	<u>4 MO BOPD</u>
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DAKOTA

LACKEY 1E	I23-28-09	96	114	1.50
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OFFSETS IN MESAVERDE

WARREN A LS 1A	C25-28-09	76	82	1.00
MCCULLEY LS 3	L24-28-09	50	55	0.50
WARREN A LS 2	A23-28-09	200	125	0.20

<u>AVERAGE</u>		<u>108</u>	<u>87</u>	<u>0.57</u>
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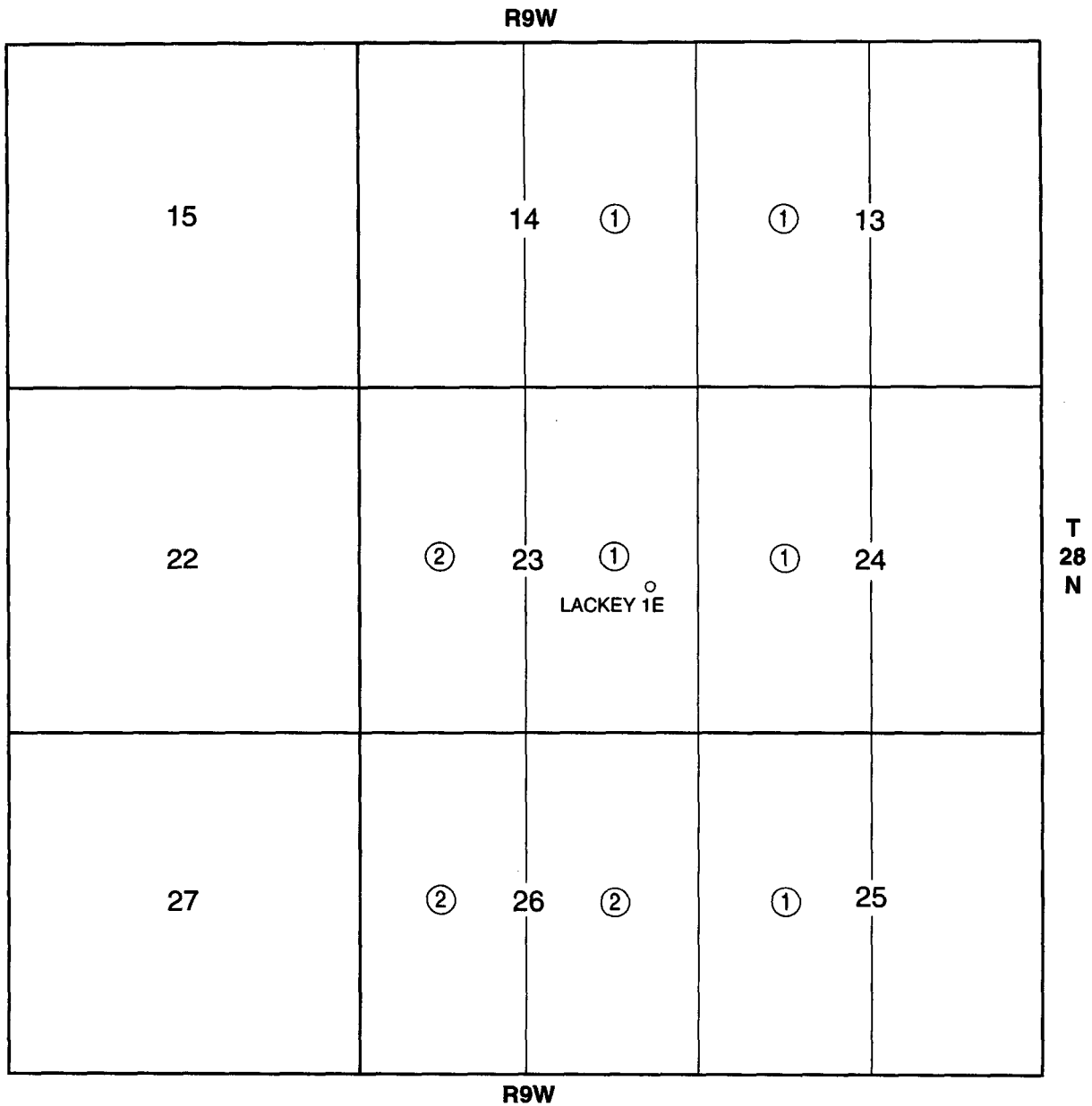
Amoco Production Company

Offset Operator Plat

Lackey 1E

T28N-R9W Sec. 23

Dakota Formation



① Amoco Production Company

② Conoco Inc.

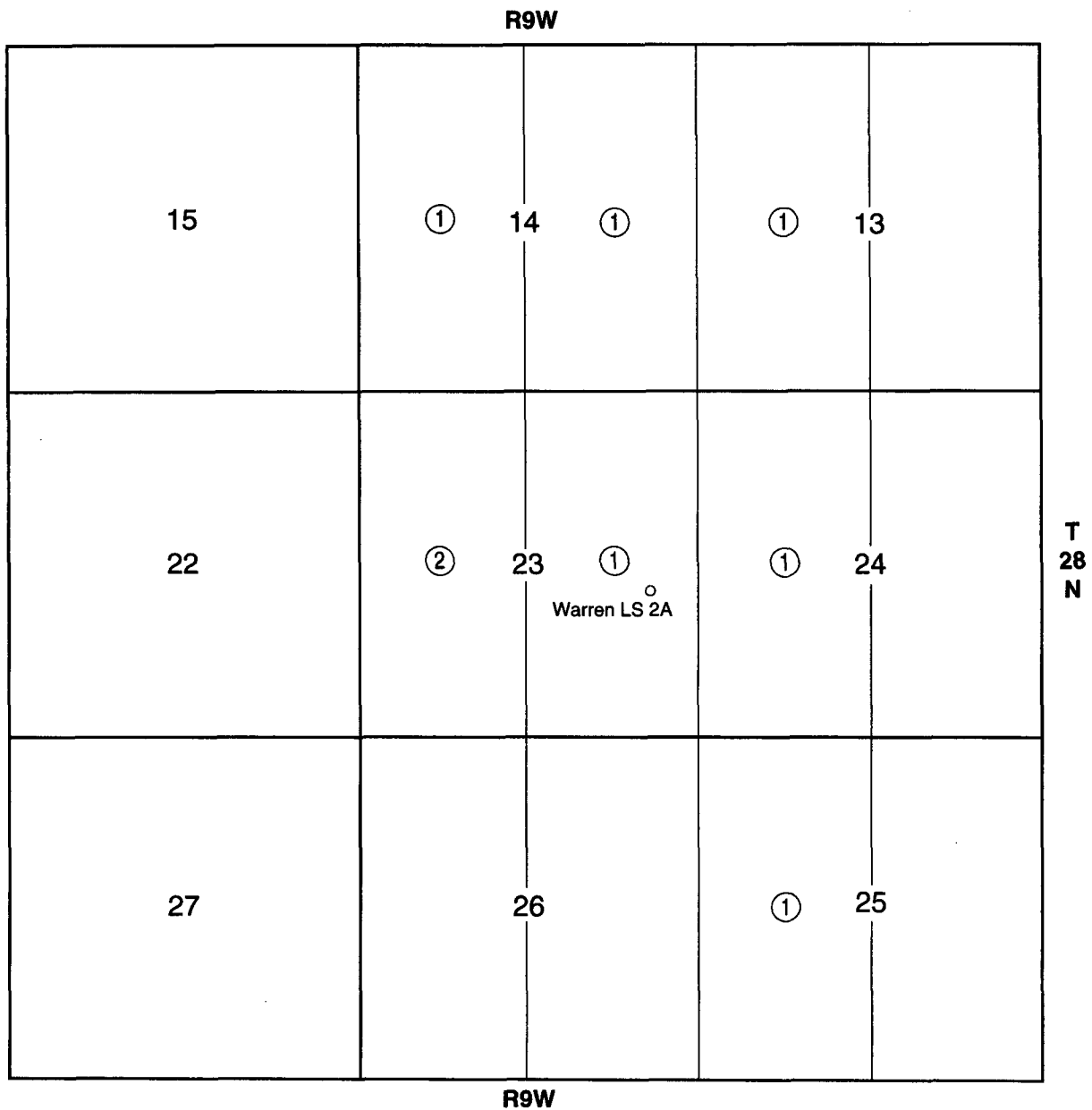
Amoco Production Company

Offset Operator Plat

Warren A LS 2A

T28N-R9W Sec. 23

Mesaverde Formation



① Amoco Production Company

② Meridian Oil Production Inc.

LIST OF ADDRESSES FOR OFFSET OPERATORS

Lackey #1E

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

2 Conoco, Inc.
10 Desta Drive West
Midland, Texas 79705

69895500 00001 617000 00 AMOCO PRODUCTION COMPANY P O BOX 591 TULSA	ZJAM63 OK 74102-0591	69895500 00001 603416 25 CONOCO INC P O BOX 951063 DALLAS	ZJAM63 TX 75395-1063
69895500 00001 684722 00 JERRY J ANDREW 408 LONGWOODS HOUSTON	ZJAM63 TX 77024-5617	69895500 00001 378966 00 JEREMY S DAVIS 7539 BROMPTON BLVD HOUSTON	ZJAM63 TX 77025-2267
69895500 00001 146802 00 PAMELA GRAY BALDWIN TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049313 P O BOX 200555 HOUSTON	ZJAM63 TX 77216-0555	69895500 00001 918304 00 WATERS S DAVIS III TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049308 P O BOX 200555 HOUSTON	ZJAM63 TX 77216-0001
69895500 00001 682516 00 R E BEAMON III SUITE 470 THREE RIVERWAY HOUSTON	ZJAM63 TX 77056-1942	69895500 00001 297950 00 BARBARA REESE DINGES 6510 SHADOW CREST HOUSTON	ZJAM63 TX 77074-6818
69895500 00001 923293 00 HARRY B BOTTS 12426 KIMBERLEY LANE HOUSTON	ZJAM63 TX 77024-4115	69895500 00001 114754 01 LOUIS DREYFUS NATURAL GAS CORP REMITTANCE ADDRESS P O BOX 850163 OKLAHOMA CITY	ZJAM63 OK 73185-0163
69895500 00001 762567 00 HAZEL ASHLEY BRACKEN 101 WESTCOTT NO 403 HOUSTON	ZJAM63 TX 77007-7030	69895500 00001 127453 00 ENCAP INVESTMENTS L C 4600 GREENVILLE AVENUE, SUITE 160 DALLAS	ZJAM63 TX 75206-5036
69895500 00001 942456 00 LINDA BUSH P O BOX 164135 AUSTIN	ZJAM63 TX 78716-4135	69895500 00001 923217 00 ALBERT E FAGAN 505 HADLEY STREET HOUSTON	ZJAM63 TX 77002-8617
69895500 00001 124570 00 CHASE OIL CORPORATION P O BOX 1767 ARTESIA	ZJAM63 NM 88211-1767	69895500 00001 923324 00 M E FAGAN ROUTE 1 BOX 103 INEZ	ZJAM63 TX 77968-9802

69895500 00001 146798 00 DAVID H GRAY TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049309 P O BOX 200555 HOUSTON	ZJAM63	69895500 00001 680325 00 PATTIE BEAMON LUNDELL 1616 SOUTH VOSS #870 HOUSTON	ZJAM63
	TX 77216-0555		TX 77057-2626
69835900 00001 146799 00 JOHN L GRAY TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049310 P O BOX 200555 HOUSTON	ZJAM63	69895500 00001 683164 00 MARTHA H LYNCH TRUSTEE HARRY H LYNCH ATTNY-IN-FACT 1845 WOODALL RODGERS FREEWAY SUITE 1600 LOCK BOX 16 DALLAS	ZJAM63
	TX 77216-0555		TX 75201-2295
69895500 00001 149220 00 DAVID HENDERSON 9411 WINDING RIDGE DRIVE DALLAS	ZJAM63	69895500 00001 268550 29 MARATHON OIL COMPANY P O BOX 890882 DALLAS	ZJAM63
	TX 75238-1449		TX 75389-0882
69895500 00001 923202 00 W H HODGES 2724 UNIVERSITY BOULEVARD HOUSTON	ZJAM63	69895500 00001 146800 00 CYNTHIA GRAY MILANI TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049313 P O BOX 200555 HOUSTON	ZJAM63
	TX 77005-3440		TX 77216-0555
69895500 00001 105640 00 MARY ANNE AND ROBERT L HOWARD JOINT TENANTS 438 FOX BRIAR SUGARLAND	ZJAM63	69835900 00001 710000 01 MINERALS MANAGEMENT SERVICE ROYALTY MANAGEMENT PROGRAM PO BOX 5810 TA DENVER	ZJAM63
	TX 77478-3717		CO 80217-5810
69895500 00001 637894 00 EULA MAY JOHNSTON TST NATIONSBANK OF TEXAS NA TRUST DEPARTMENT #03 661 P O DRAWER 840738 DALLAS	ZJAM63	69895500 00001 105639 00 LLOYD J AND RUTH R MONEY 1990 TRUST DATED 10-9-90 LLOYD J AND RUTH R MONEY TRUSTEES 904 21ST STREET HERMOSA BEACH	ZJAM63
	TX 75284-0738		CA 90254-3105
69835900 00001 684723 00 JAMES J JOHNSTON P O BOX 570007 HOUSTON	ZJAM63	69895500 00001 776245 00 NORDAN TRUST LOUIS BELINSKY TRUSTEE 112 EAST PECAN SUITE 500 SAN ANTONIO	ZJAM63
	TX 77257-0007		TX 78205-1516
69895500 00001 509925 00 V A JOHNSTON FAMILY TRUST KATHERINE PREWITT AND MICHAEL A CHESSER CO-TRUSTEES P O BOX 925 RALLS	ZJAM63	69895500 00001 173984 00 PEARL NEUGENT NORDAN ESTATE MARIAN NORDAN HARWELL FOREIGN PERSONAL REPRESENTATIVE 112 EAST PECAN SUITE 500 SAN ANTONIO	ZJAM63
	TX 79357-0925		TX 78205-1516

69895500 00001 942458 00 MARY ANN PAGEBRAUER 636 A VALLE VISTA AENUE OAKLAND	ZJAM63 CA 94610-1922	69895500 00001 270025 00 LORENE RAYBOURN SMITH TESTAMENTARY TRUST CLAUD W AND JESSE S RAYBOURN CO-TRUSTEES 207 WILSHIRE LANE NEWARK	ZJAM63 DE 19711-2757
69835900 00001 926372 00 HARRY D PORTER REVOCABLE TRUST NATIONSBANK OF TEXAS NA TRUSTEE NO 15-020-6401500 C/O TRUST OIL AND GAS P O BOX 840738 DALLAS	ZJAM63 TX 75284-0738	69895500 00001 923307 00 JEANNETTE E SMYER RICHARD I SMYER ATTORNEY IN FACT 2309 EAST 1ST STREET TUCSON	ZJAM63 AZ 85719-4910
69895500 00001 297951 00 DAVID ELBERT REESE 2203 N BELMONT RICHMOND	ZJAM63 TX 77469-5501	69895500 00001 942457 00 RONALD ROGER STONE 27351 KUYKENDALL ROAD TOMBALL	ZJAM63 TX 77375-2637
69835900 00001 297953 00 ELIZABETH GOODWIN REESE 7800 NAIRN HOUSTON	ZJAM63 TX 77074-5321	69895500 00001 923318 00 G E THOMPSON P O BOX 111 ROUND TOP	ZJAM63 TX 78954-0111
69895500 00001 146801 00 CATHARINE GRAY REMENICK TEXAS COMMERCE BK AGENT AND ATY-N-FACT TRUST MINERALS SECTION 1049313 P O BOX 200555 HOUSTON	ZJAM63 TX 77216-0555	69835900 00001 144321 00 DORTHY M TUCKER ESTATE BRAD TUCKER EXECUTOR P O BOX 2822 HOUSTON	ZJAM63 TX 77252-2822
69895500 00001 748996 00 RIGERS GIBBARD TRUST ORVILLE C ROGERS, SUSAN EVELAND AND ELAINE GIBBARD ALLMAN TRUSTEES 6804 LA COSTA TYLER	ZJAM63 TX 75703-5750	69835900 00001 615188 03 UNION OIL COMPANY OF CALIFORNIA ATTN REVENUE ACCOUNTING P O BOX 841055 DALLAS	ZJAM63 TX 75284-1055
69835900 00001 946788 00 SAN JUAN BASIN POOL LIMITED BOX 1237 PANHANDLE	ZJAM63 TX 79068-1237	69895500 00001 923549 00 MARGARET HARDY VAN SANT P O BOX 817 LEAGUE CITY	ZJAM63 TX 77574-0817
69895500 00001 923219 00 J DOYLE SMITH 2339 SOUTHGATE BOULEVARD HOUSTON	ZJAM63 TX 77030-1137	69895500 00001 297952 00 REBECCA ANN REESE WARD 2210 CUSTER PARKWAY RICHARDSON	ZJAM63 TX 75080-2502

69895500 00001 ZJAM63
914070 00
GLADYS WATFORD TRUST
GLADYS WATFORD, TRUSTEE
P O BOX 571814
HOUSTON TX 77257-1814

69895500 00001 ZJAM63
753523 00
CAROL A ZAHARA
14926-81 B AVE
SURREY, BC, CAN, V3S 7V6

69835900 00001 ZJAM63
923378 00
RICHARD INGRAM SMYER
2309 EAST 1ST STREET
TUCSON AZ 85719-4910

F LOUIS TUCKER JR
6438 VANDERBILT
HOUSTON TX 77005

MARTHA M TUCKER
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21 BRIAR HOLLOW
HOUSTON TX 77027

MARGARET H VAN SANT EST
ROBERT M HARDY JR
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333 CLAY ST STE 3800
HOUSTON TX 77002-4102

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301 SAGE RD #3
HOUSTON TX 77056

ROBERT E BEAMON
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8701 S GESSNER
HOUSTON TX 77074