

MERIDIAN OIL

CASE # 10918

FEBRUARY 17, 1994

EXHIBIT 1

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN*

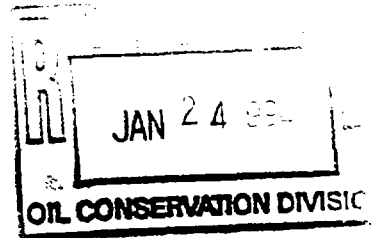
*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

January 24, 1994

HAND DELIVERED



Mr. William J. LeMay
Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail, 2nd Floor
Santa Fe, New Mexico 87501

Re: Neudecker #2 Well-35G-T29N,R10W
Zachry #11 Well-10M-T28N,R10W
Pierce Federal A #1 Well-34A-T29N,R10W
Application of Meridian Oil Inc.
for downhole commingling,
San Juan County, New Mexico

Dear Mr. LeMay:

On behalf of Meridian Oil Inc., please find enclosed our referenced application which we request be set for hearing on the next available Examiner's docket now scheduled for February 17, 1994.

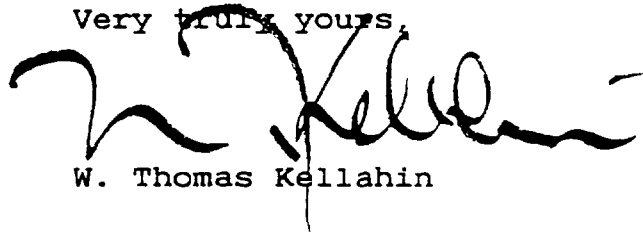
By copy of this letter and application, sent certified mail, we are notifying all interested parties of their right to appear at the hearing and participate in this case, including the right to present evidence either in support of or in opposition to the application and that failure to appear at the hearing may preclude them from any involvement in this case at a later date.

Mr. William J. LeMay
January 24, 1994
Page Two

Pursuant to the Division's Memorandum 2-90, all parties are hereby informed that if they appear in this case, then they are requested to file a Pre-Hearing Statement with the Division not later than 4:00 PM on Friday, February 11, 1994, with a copy delivered to the undersigned.

Also enclosed is our proposed advertisement of this case for the NMOCD docket.

Very truly yours,

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', is written over the typed name. The signature is fluid and cursive, with a large initial 'W' and a long, sweeping underline.

W. Thomas Kellahin

WTK/mg
Enclosure

cc: Meridian Oil Inc. and
By Certified Mail - Return Receipt
All Interested Parties

Mr. William J. LeMay
January 24, 1994
Page Two

PROPOSED ADVERTISEMENT

Case _____: Application of Meridian Oil Inc. for downhole commingling, San Juan County, New Mexico. Applicant seeks approval to downhole commingle Aztec-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of its:

(1) Neudecker #2 Well, located 1650 feet from north and east lines (Unit G) of 35, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 35 with the E/2 of said Section to be dedicated to coal gas production;

(2) Zachry #11 Well located 990 feet from the south and west lines (Unit M) of Section 10, T28N, R10W, an existing Pictured Cliffs formation well dedicated to a previously approved non-standard spacing unit consisting of part of sections 9 and 10 with all of Section 10 to be dedicated to coal gas production; and

(3) Pierce Federal A #1 Well located 990 feet from the north and east lines (Unit A) of Section 34, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 34 with the N/2 of said Section to be dedicated to coal gas production.

The Neudecker #2 Well is located approximately 3 miles south-southwest from Blanco, New Mexico.

The Zachry #11 Well is located approximately 4.5 miles southwest from Blanco, New Mexico.

The Pierce Federal A #1 Well is located approximately 3 miles southwest from Blanco, New Mexico.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

APPLICATION OF MERIDIAN OIL INC.
FOR DOWNHOLE COMMINGLING
SAN JUAN COUNTY, NEW MEXICO.

CASE:

A P P L I C A T I O N

Comes now MERIDIAN OIL INC., ("Meridian") by and through its attorneys, Kellahin and Kellahin, and applies to the New Mexico Oil Conservation Division for approval to downhole commingle Aztec-Pictured Cliffs Gas Pool and the Basin-Fruitland Coal Gas Pool production within the wellbore of:

(1) Neudecker #2 Well, located 1650 feet from north and east lines (Unit G) of 35, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 35 with the E/2 of said Section to be dedicated to coal gas production;

(2) Zachry #11 Well located 990 feet from the south and west lines (Unit M) of Section 10, T28N, -R10W, an existing Pictured Cliffs formation well dedicated to a previously approved non-standard spacing unit consisting of part of sections 9 and 10 with all of Section 10 to be dedicated to coal gas production; and

(3) Pierce Federal A #1 Well located 990 feet from the north and east lines (Unit A) of Section 34, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 34 with the N/2 of said Section to be dedicated to coal gas production.

In support of its application, Meridian states:

(1) Meridian is the operator of the:

(a) Neudecker #2 Well, located 1650 feet from north and east lines (Unit G) of 35, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 35 with the E/2 of said Section to be dedicated to coal gas production (See Exhibit A-1);

(b) Zachry #11 Well located 990 feet from the south and west lines (Unit M) of Section 10, T28N, R10W, an existing Pictured Cliffs formation well dedicated to a previously approved non-standard spacing unit consisting of part of sections 9 and 10 with all of Section 10 to be dedicated to coal gas production (See Exhibit B-2); and

(c) Pierce Federal A #1 Well located 990 feet from the north and east lines (Unit A) of Section 34, T29N, R10W, an existing Pictured Cliffs formation well dedicated to the NE/4 of Section 34 with the N/2 of said Section to be dedicated to coal gas production (See Exhibit C-1).

(2) Each well is to be recompleted so that production from the Basin-Fruitland Coal Gas Pool and the Aztec-Pictured Cliffs Gas Pool can be downhole commingled in the wellbore.

(3) The Neudecker #2 Well and the Pierce Federal A #1 Well are each at standard locations and within standard spacing and proration units for both the Aztec Pictured Cliffs Pool and the Basin Fruitland Coal Gas Pool.

(4) The Zachry #11 Well is located at a standard well location for the Aztec Pictured Cliffs Gas Pool and within a previously approved 258.01 acre non-standard proration and spacing unit for said pool consisting of lot 1 (NE/4NE/4), SE/4SE/4 of Section 9, lot 3 (NE/4SW/4), lot 4 (NW/4SW/4), S/2SW/4 of Section 10.

(5) The Zachry #11 Well also is located at a standard well location for the Basin Fruitland Coal Gas Pool and will be dedicated to a standard 259.2 acre proration and spacing unit for said pool consisting of all of Section 10.

(6) The ownership is not common for each well and its respective spacing and proration units in both pools.

(7) In accordance with Division Rule 303-C-1.(b), the Applicant states and will demonstrate at hearing:

1. That the Pictured Cliffs production in these wells is marginal and production cannot be economically continued unless it is done so by downhole commingling that production with Basin Fruitland Coal Gas Pool production in these wells.

2. That the downhole commingling in these wellbores is necessary because it is not otherwise economic to attempt to drill and complete a separate well for Fruitland Coal Gas production nor is it economic to attempt to dually complete those formations in these wells.

3. It is expected that the bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum.

4. That the value of the commingled production will not be less than the sum of the values of the individual production.

5. That there will be no crossflow between the two zones commingled.

(8) That the Basin Fruitland Coal Gas Pool production in this area of the basin should be marginally productive and cannot be economically produced unless it is done so by downhole commingling that production.

(9) Due to the nature of the Basin-Fruitland Coal Gas production, straight allocation of gas volumes from both zones is not appropriate. Meridian therefore seeks the adoption of a monthly allocation formula to be presented at the time of the hearing.

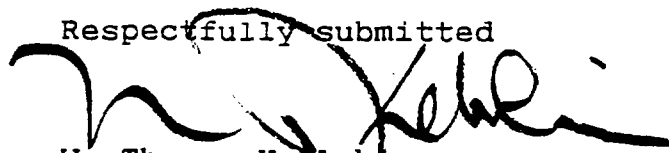
(10) Applicant requests that this matter be docketed for hearing on the Division's Examiner docket now scheduled for February 17, 1994.

(11) Copy of this application has been sent to all offsetting operators to the two spacing units for each well as set forth on Exhibits A-2, A-3, B-2, B-3, C-2 and C-3.

(12) A copy of this application has been sent to all owners of production within these spacing units who may be affected by downhole commingling.

WHEREFORE Applicant requests that this matter be set for hearing on February 17, 1994 before a duly appointed Examiner of the Oil Conservation Division and that after notice and hearing as required by law, the Division enter its order granting this application.

Respectfully submitted



W. Thomas Kellahin
KELLAHIN and KELLAHIN
P. O. Box 2265
Santa Fe, New Mexico 87501
(505) 982-4285
Attorneys for Applicant

AMOCO (PCD)

NM 9384(FrP)

Abnright(C)

Armenta(FrP)

NM 200

Armenta(G.C.P)

Candelaria(G.C.P)

Candelaria(ATG)

Maddox(G.C.P)

Pollock Con. DTG)

NM 9388

Pierce Fed. 'A'P)

Pierce(ATG)

Pierce A'

Zachery(PC)

S.W. PROD.(D)

Zachery(PCG)

Zachery Fed.(D)

NM 9384

Armenta(G.C.CD)

27

AMOCO(PCM)

Armenta Con. F(TG)

Maddox(G.C.P)

Ranero(G.C.ATCM)

Maddox(G.C.CD)

NM 9385

Pierce(ATG)

Zachery(D)

Zachery(G)

NM 200P

CONOSODI

Neudecker(FP)

Harner Fed.(D)

NM 9388

Zachery

UNION TEX(G)

PROPOSED COMMINGLING

AMOCO

SG NT(F)

SAN JUAN RIVER

AMOCO(PCM)

SG NT(F)

Cohn 29025(F)

Abrams(G.C.P)

25

Abrams(G.C.P)

Abrams(G.C.ATCM)

Abrams(G.C.P)

Abrams(G.C.ATCM)

Hare(P)

Lefkowitz Gas Con.(P)

SRC(P)

CONOCO OPER

28E

State Con. Z(P)

(TEXACO)

F.C. State Con.(P)

State Con. Y(P)

State Con. AF(MD)

State Con. X(P)

State Con. AG(MD)

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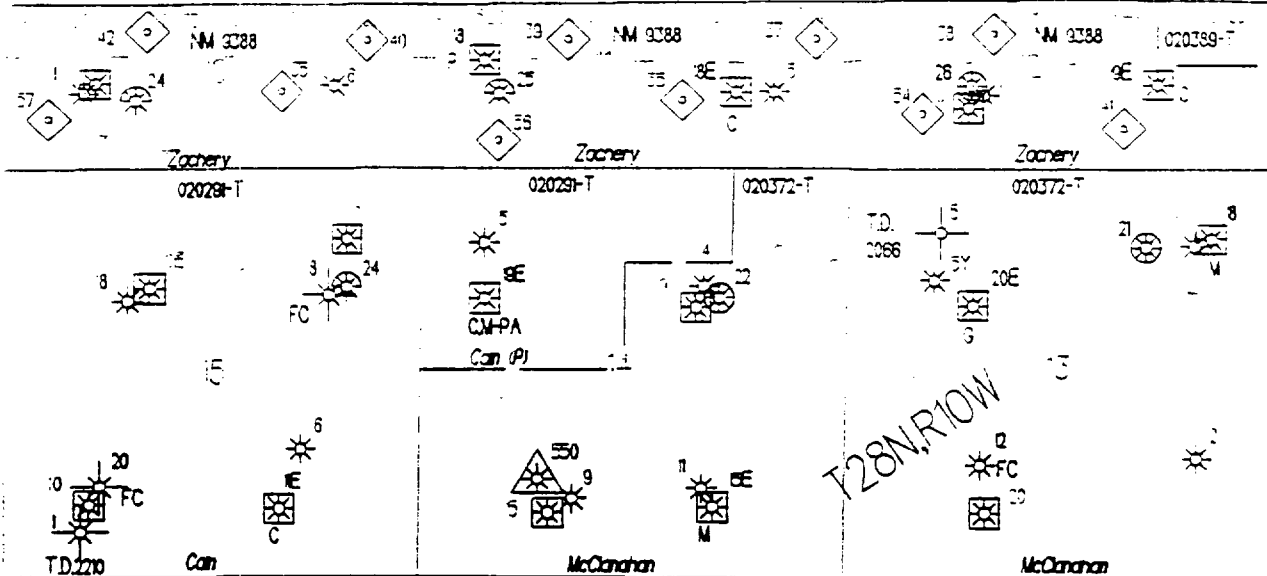
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- Exhibit A-1

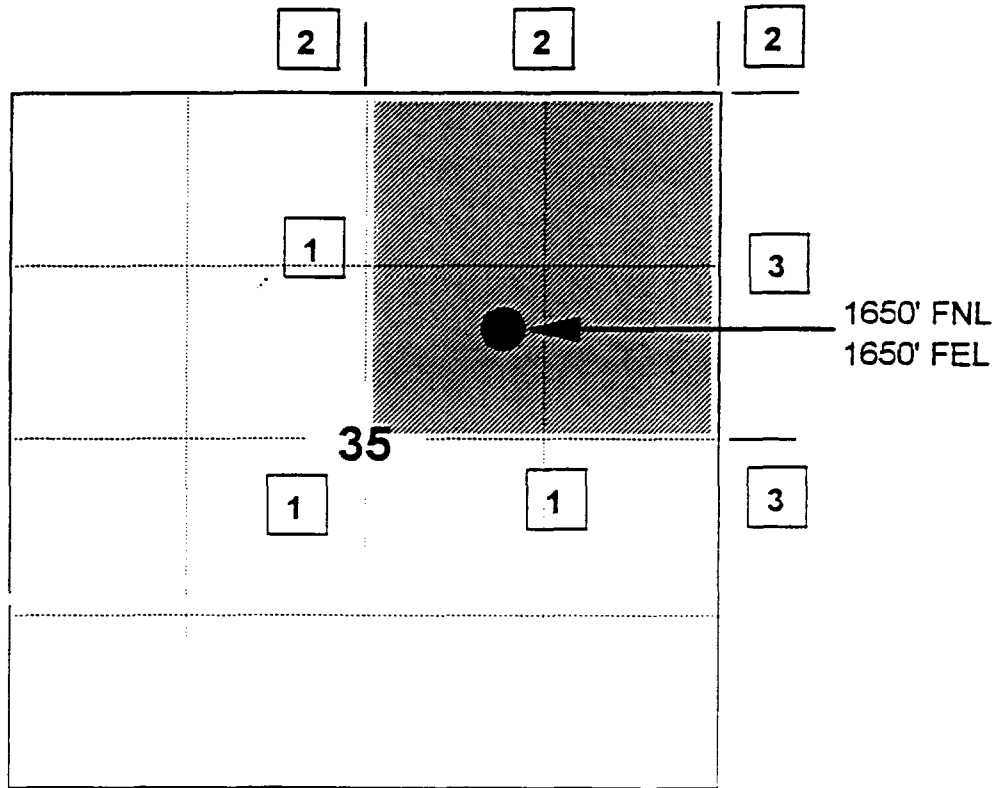
MERIDIAN OIL INC

NEUDECKER #2

OFFSET OPERATOR PLAT

Pictured Cliffs / Fruitland Coal Commingle

Township 29 North, Range 10 West



*Standard 640 acre
Section*

1) Meridian Oil Inc

2) Amoco Production Company

PO Box 800, Denver, CO 80202

3) Conoco, Inc.

PO Box 951063, Houston, TX 75395-1063

Exhibit A-2

Pictured Cliffs Formation

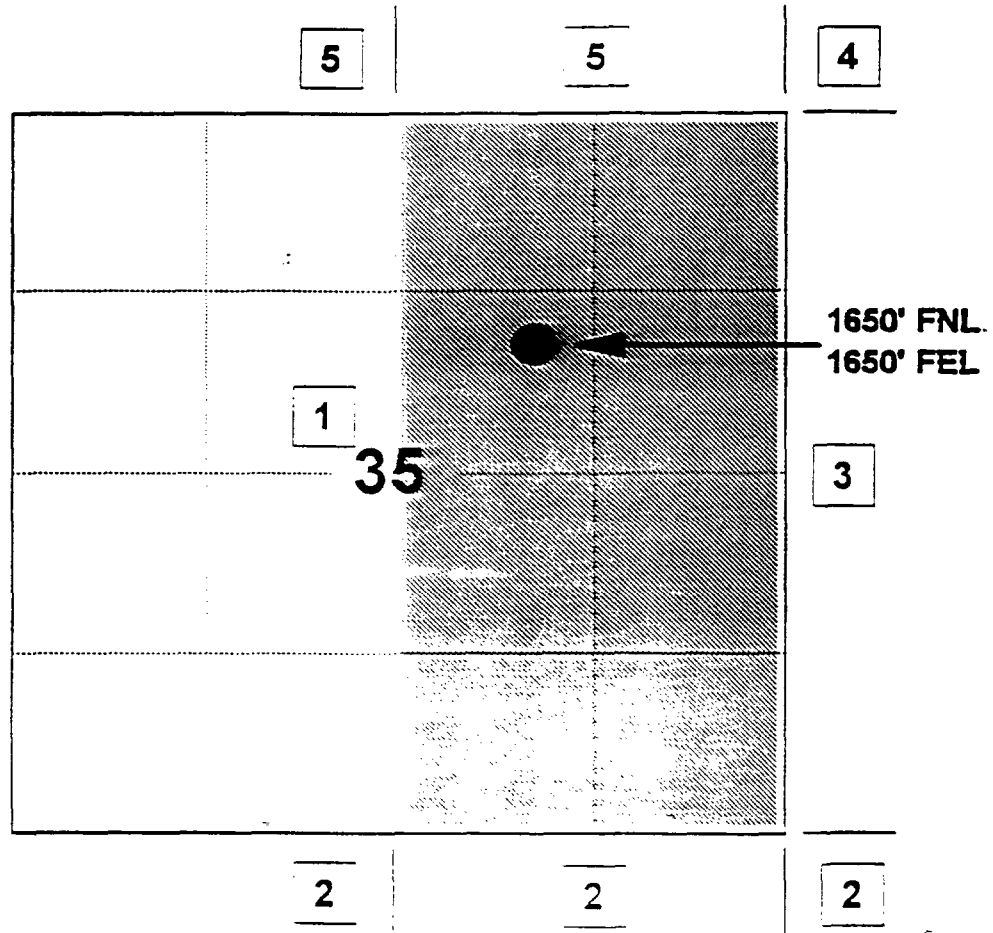
MERIDIAN OIL INC

NEUDECKER #2

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Commingle

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) Meridian Oil Inc & Southland Oil Company

3) Conoco, Inc.

PO Box 951063. Houston, TX 75395-1063

4) Incline Reserves, Inc.

1603 S.W. 37th St., Topeka, KS 66611

5) Amoco Production Co.

PO Box 800. Denver, CO 80202 &

S. G. Interests

811 Dallas, Ste 1505, Houston, TX 77002

- Exhibit B-1

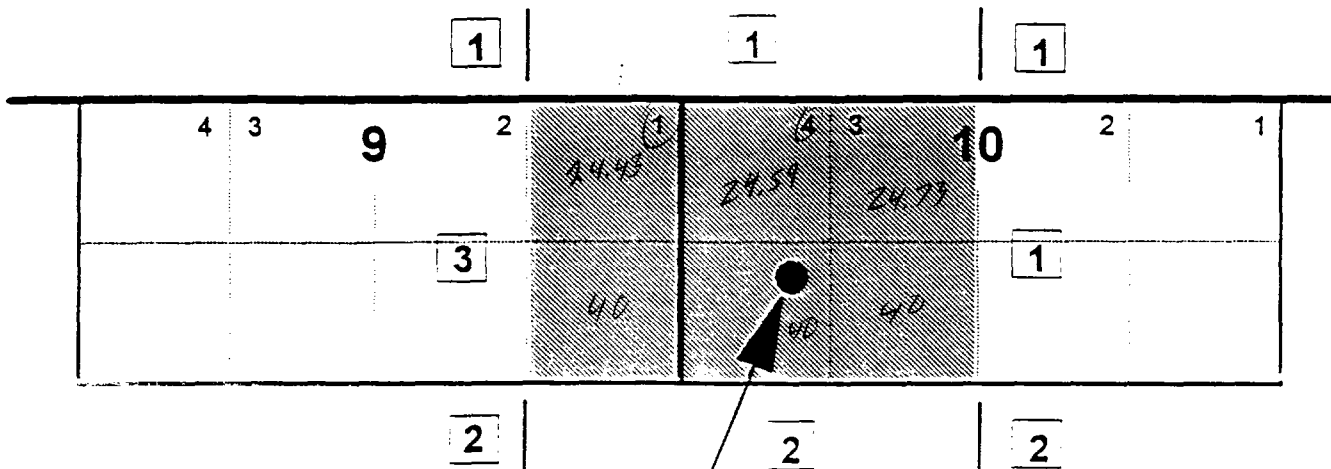
MERIDIAN OIL INC

ZACHRY #11

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs \ Fruitland Coal Commingle Well

Township 28 North, Range 10 West



990' FSL
990 FWL

24.43
24.59
49.02
24.73
73.75
12
153.75

1) Meridian Oil Inc

2) Southland Royalty Company

3) Texaco Exploration & Production Inc.

PO Box 2100, Denver, CO 80201

Exhibit B-2

Pictured Cliffs

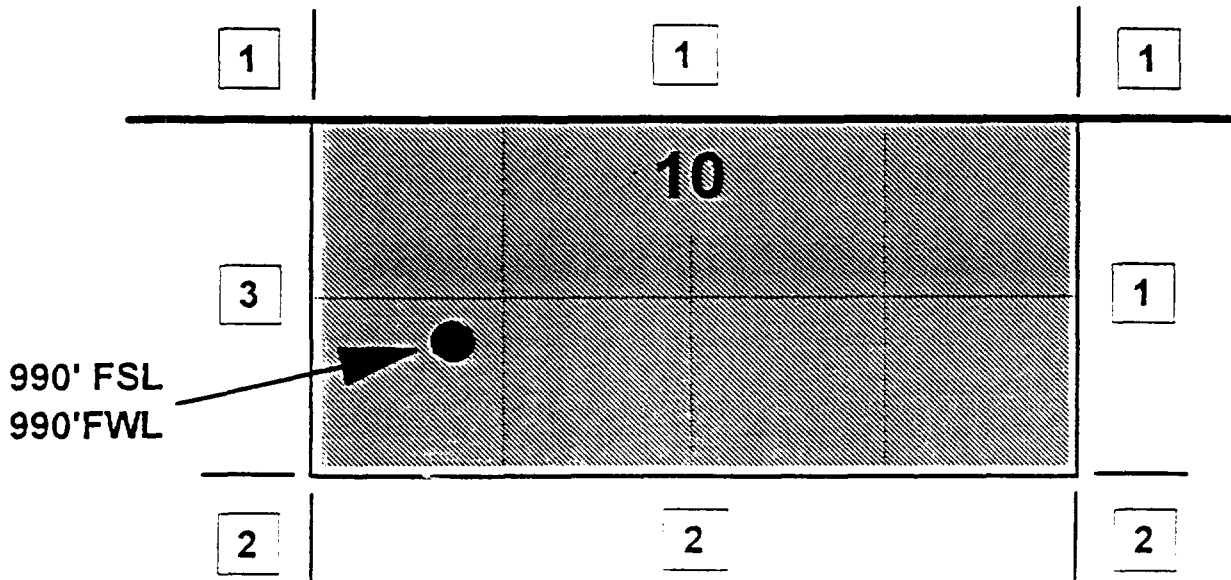
MERIDIAN OIL INC

ZACHRY #11

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs \ Fruitland Coal Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc

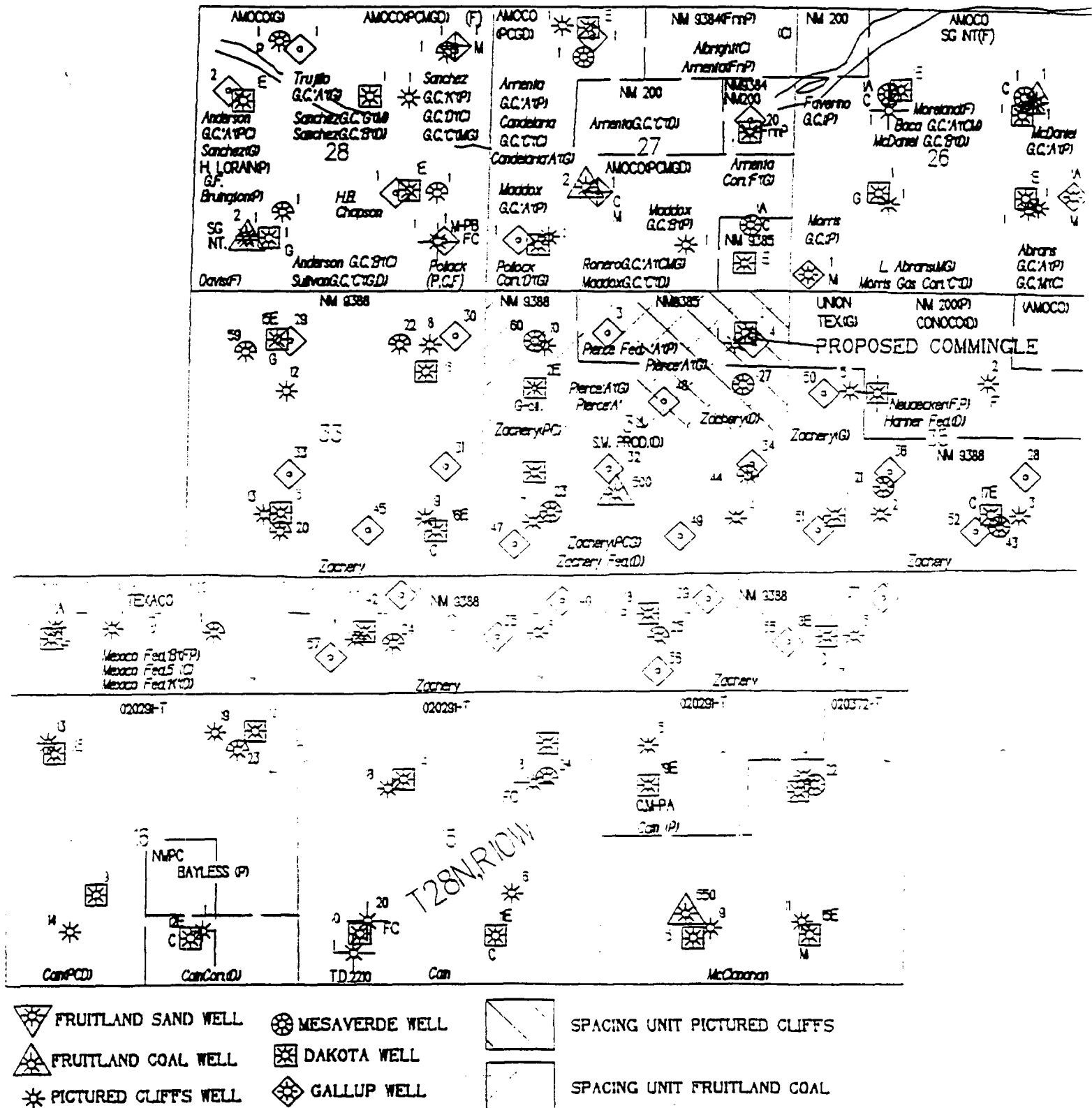
2) Southland Royalty Company

3) Texaco Exploration & Production Inc. PO Box 2100, Denver, CO 80201

Exhibit B-3

Fruitland Coal

PIERCE FEDERAL A #1 WELL NENE SECTION 34, T 29N, R10W SAN JUAN CO., NEW MEXICO



MERIDIAN OIL INC

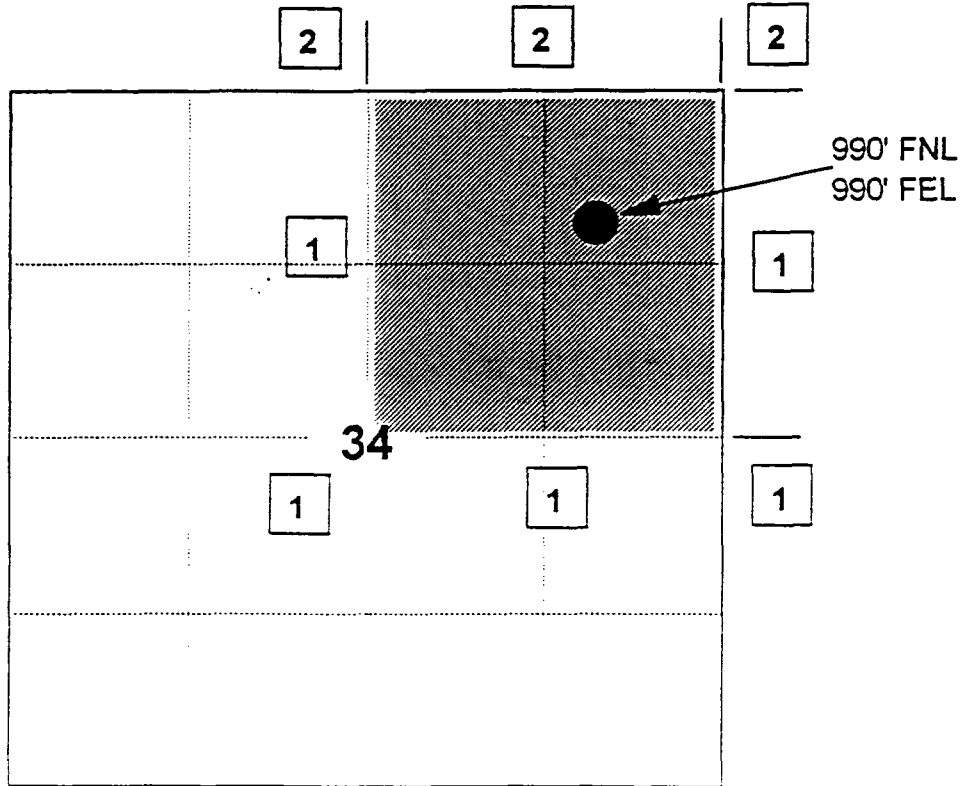
PIERCE FEDERAL A #1

OFFSET OPERATOR PLAT

Pictured Cliffs / Fruitland Coal Commingle

Township 29 North, Range 10 West

*Standard
640 Section*



1) Meridian Oil Inc

2) Amoco Production Company

PO Box 800, Denver, CO 80202

Exhibit C-2

Pictured Cliffs Formation

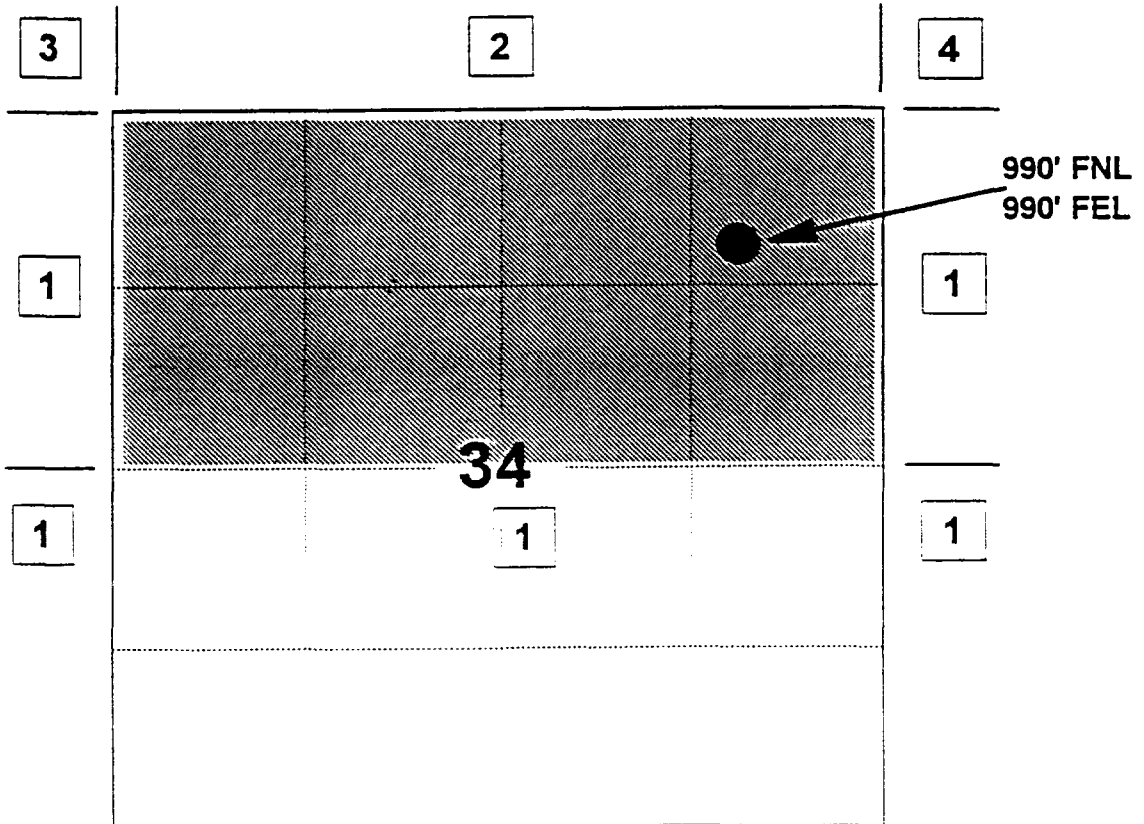
MERIDIAN OIL INC

PIERCE FEDERAL A #1

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Commingle Well

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) S G Interests 811 Dallas, Suite 1505, Houston, TX 77002

3) Amoco Production Company PO Box 800, Denver, CO 80201

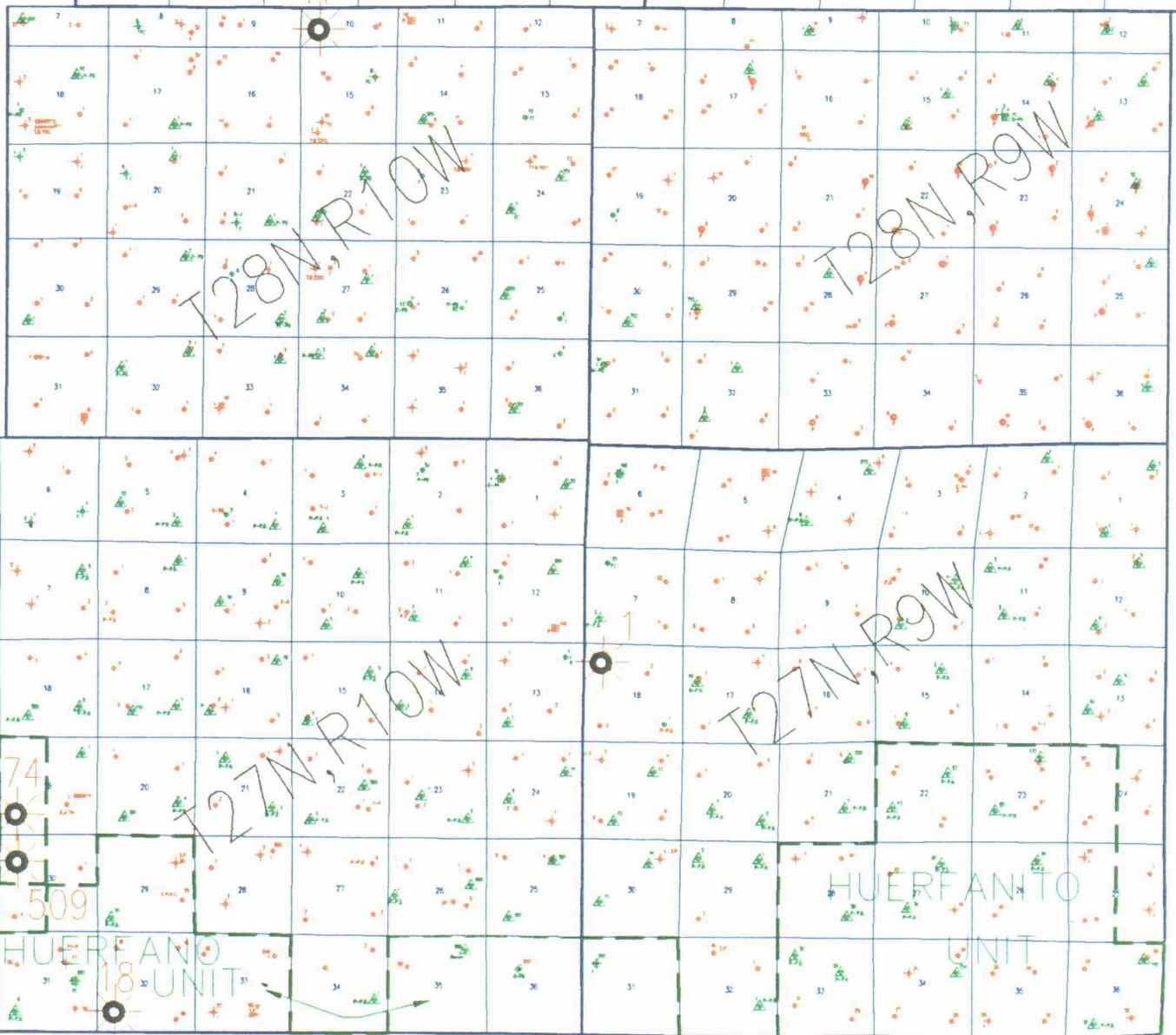
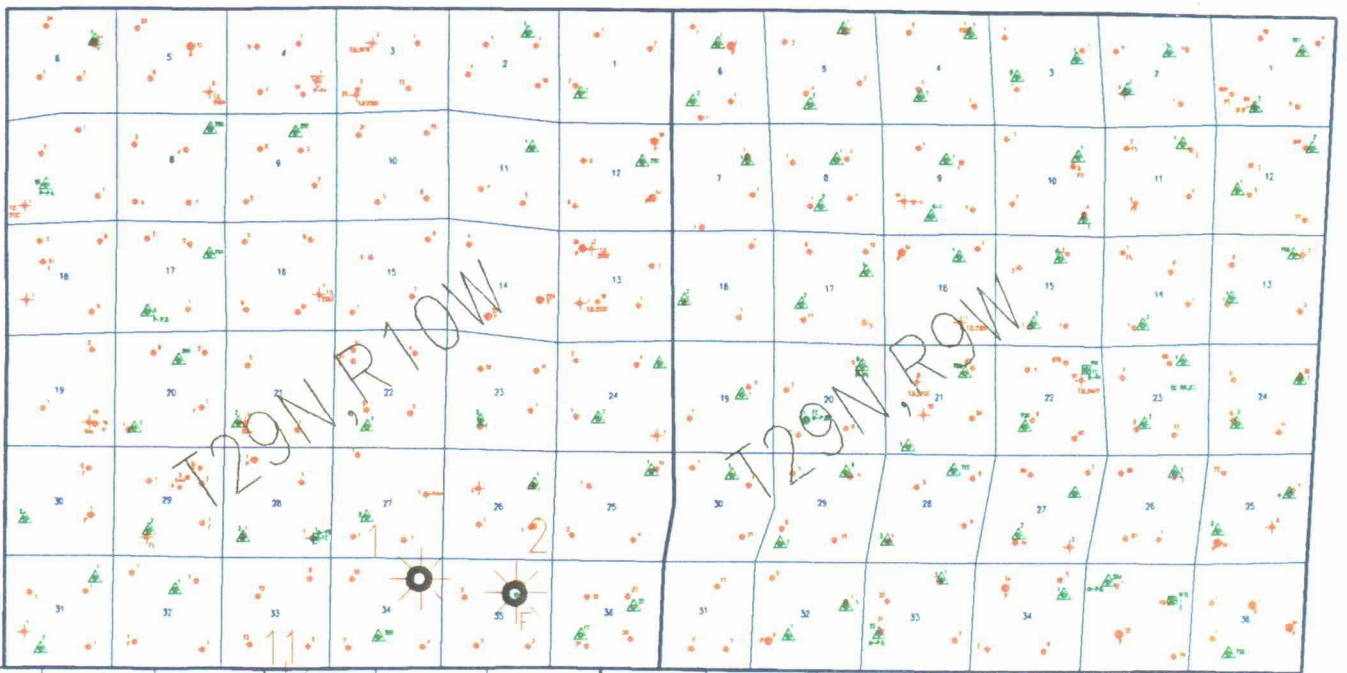
4) Conoco, Inc. 10 Desta Drive, Suite 100W, Midland, TX 79705-4500,

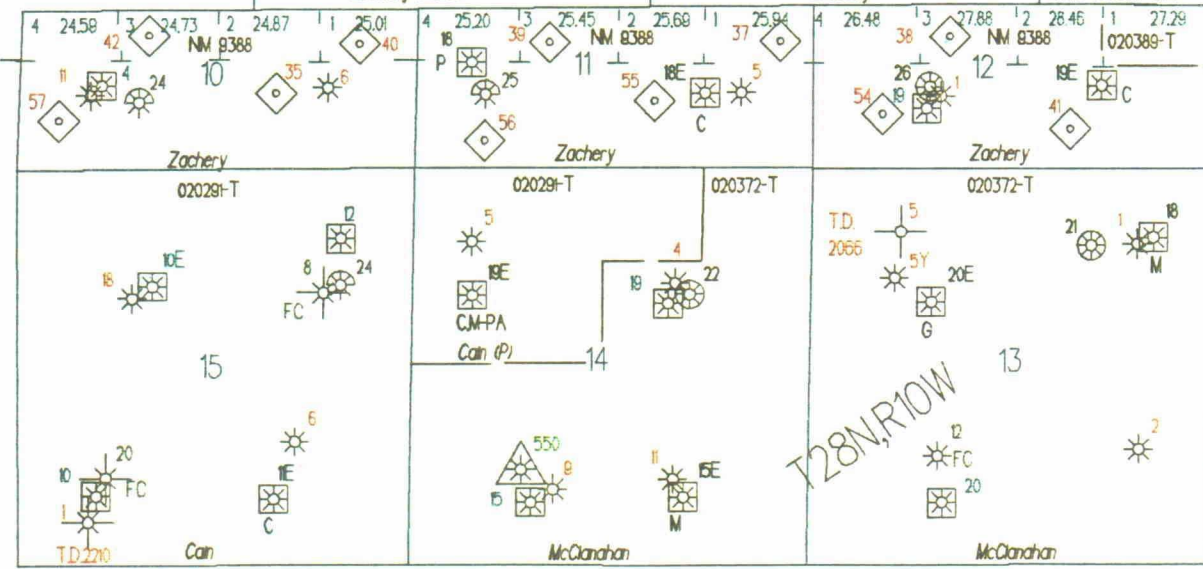
Amoco Production Company & S G Interests









Exhibit C-3

Fruitland Coal

EXHIBIT 2



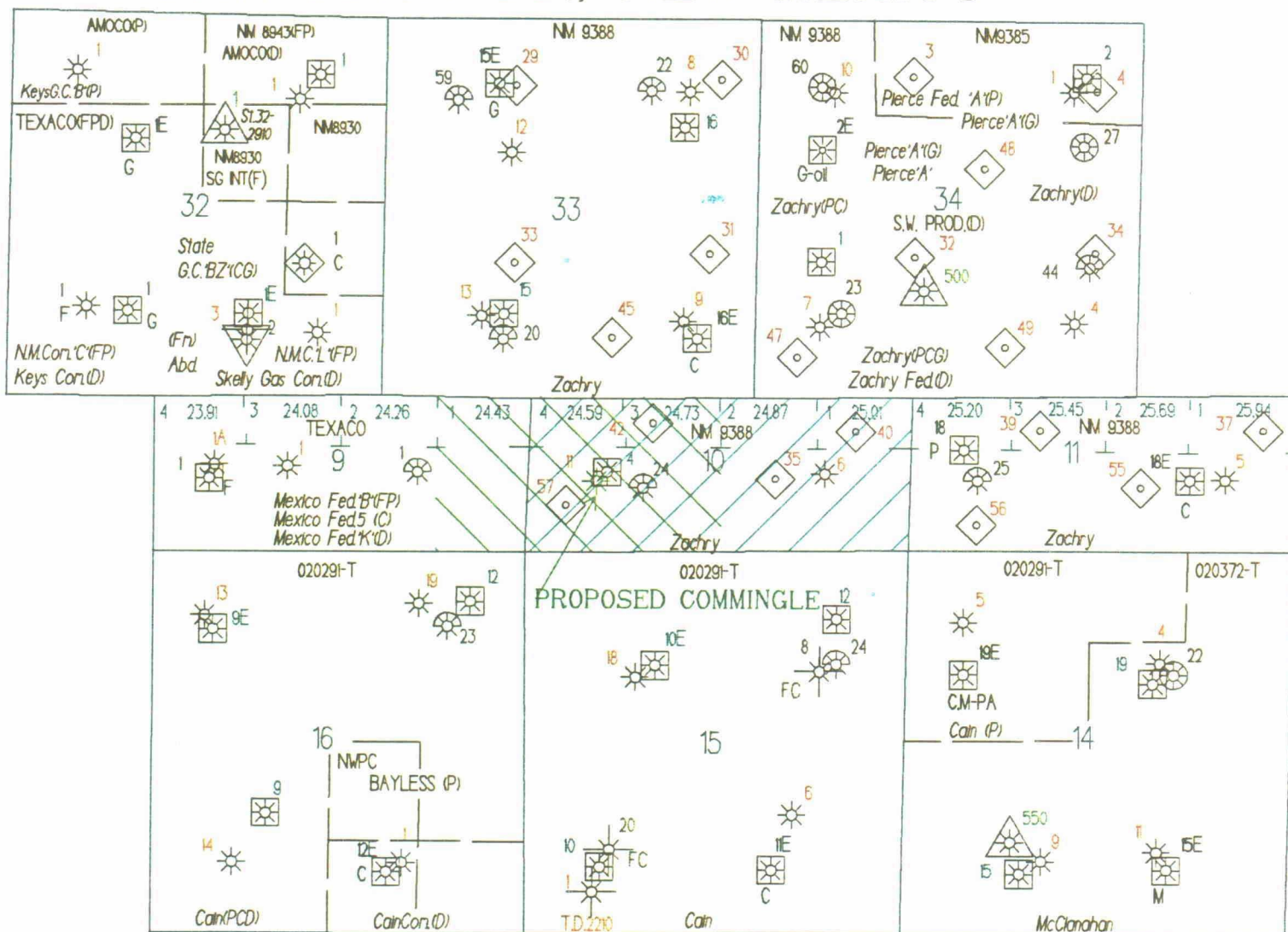


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|---|----------------------|---|----------------|---|------------------------------|
|  | FRUITLAND SAND WELL |  | MESAVERDE WELL |  | SPACING UNIT PICTURED CLIFFS |
|  | FRUITLAND COAL WELL |  | DAKOTA WELL |  | SPACING UNIT FRUITLAND COAL |
|  | PICTURED CLIFFS WELL |  | GALLUP WELL | | |

ZACHRY #11 WELL

SWSW SECTION 10, T28N, R10W

SAN JUAN CO., NEW MEXICO

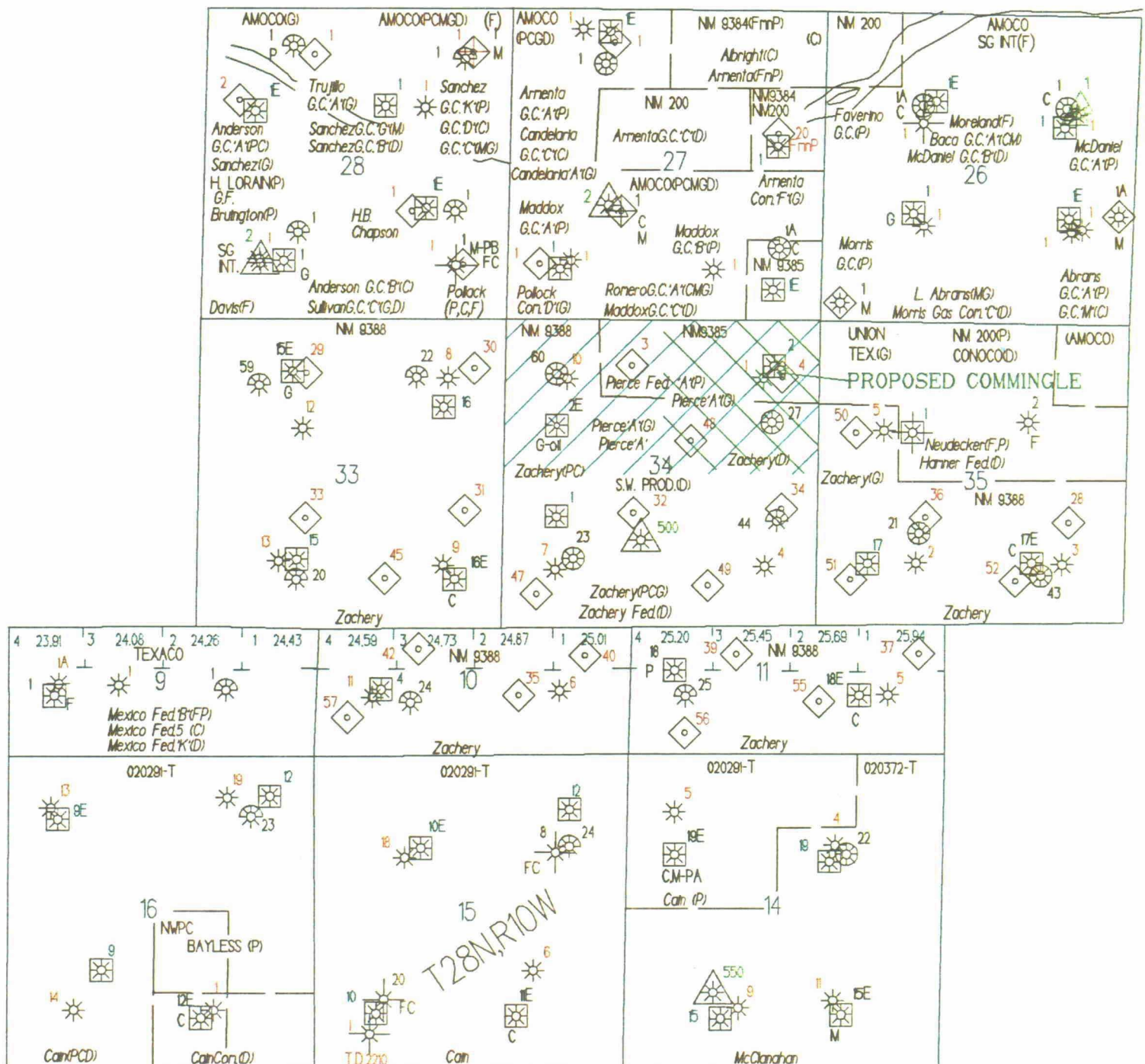


FRUITLAND SAND WELL
FRUITLAND COAL WELL
PICTURED CLIFFS WELL

MESAVERDE WELL
DAKOTA WELL
GALLUP WELL

SPACING UNIT PICTURED CLIFFS
SPACING UNIT FRUITLAND COAL

PIERCE FEDERAL A #1 WELL NENE SECTION 34, T239N, R10W SAN JUAN CO., NEW MEXICO



- | | | | | | |
|--|----------------------|--|----------------|--|------------------------------|
| | FRUITLAND SAND WELL | | MESAVERDE WELL | | SPACING UNIT PICTURED CLIFFS |
| | FRUITLAND COAL WELL | | DAKOTA WELL | | SPACING UNIT FRUITLAND COAL |
| | PICTURED CLIFFS WELL | | GALLUP WELL | | |

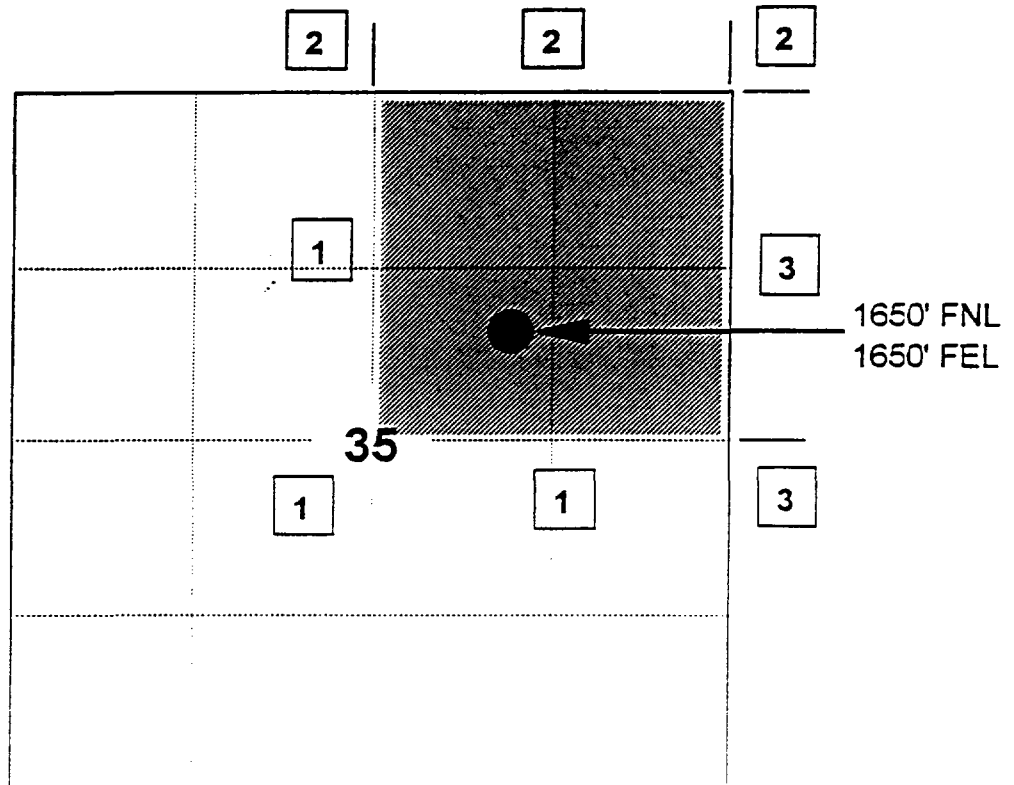
EXHIBIT 3

MERIDIAN OIL INC

NEUDECKER #2 OFFSET OPERATOR PLAT

Pictured Cliffs / Fruitland Coal Commingle

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) Amoco Production Company

PO Box 800, Denver, CO 80202

3) Conoco, Inc.

PO Box 951063, Houston, TX 75395-1063

Exhibit A-2

Pictured Cliffs Formation

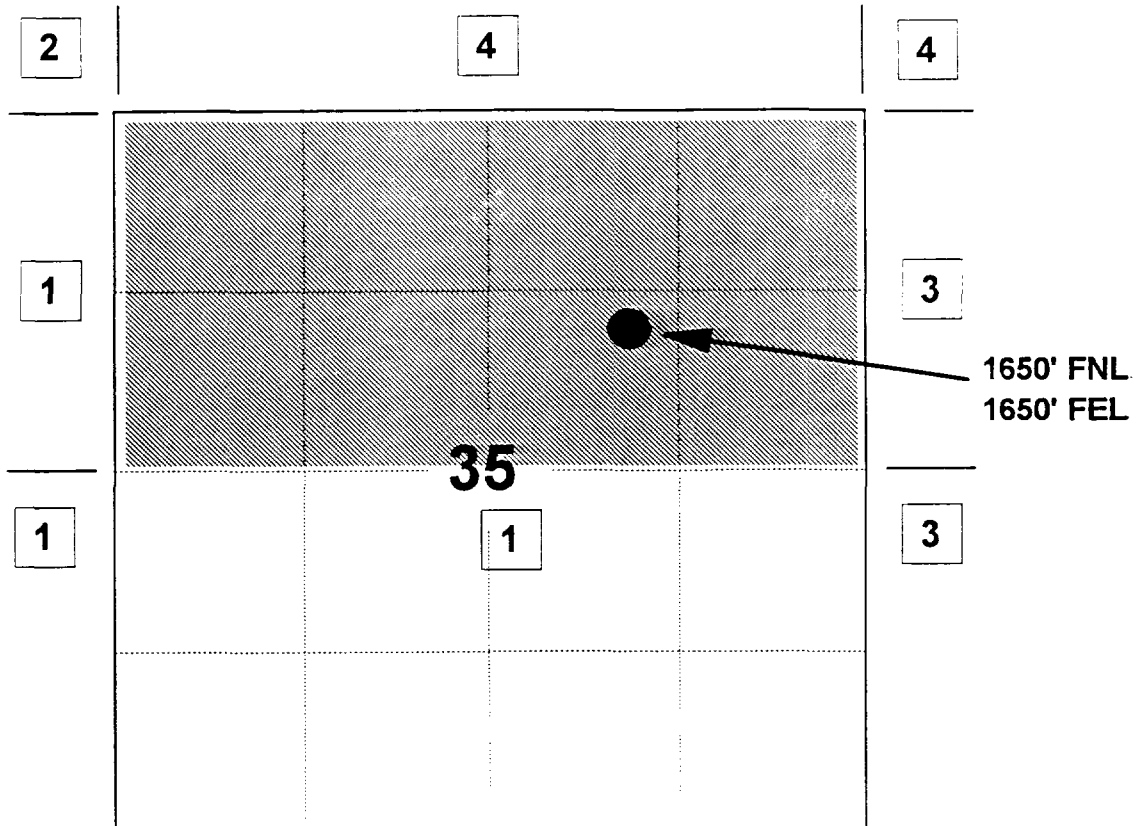
MERIDIAN OIL INC

NEUDECKER #2

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Commingle Well

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) S G Interests 811 Dallas, Suite 1505, Houston, TX 77002

3) Conoco, Inc. 10 Desta Drive, Suite 100W, Midland, TX 79705-4500

4) Amoco Production Company PO Box 800, Denver, CO 80201,
Conoco, Inc. & S G Interests

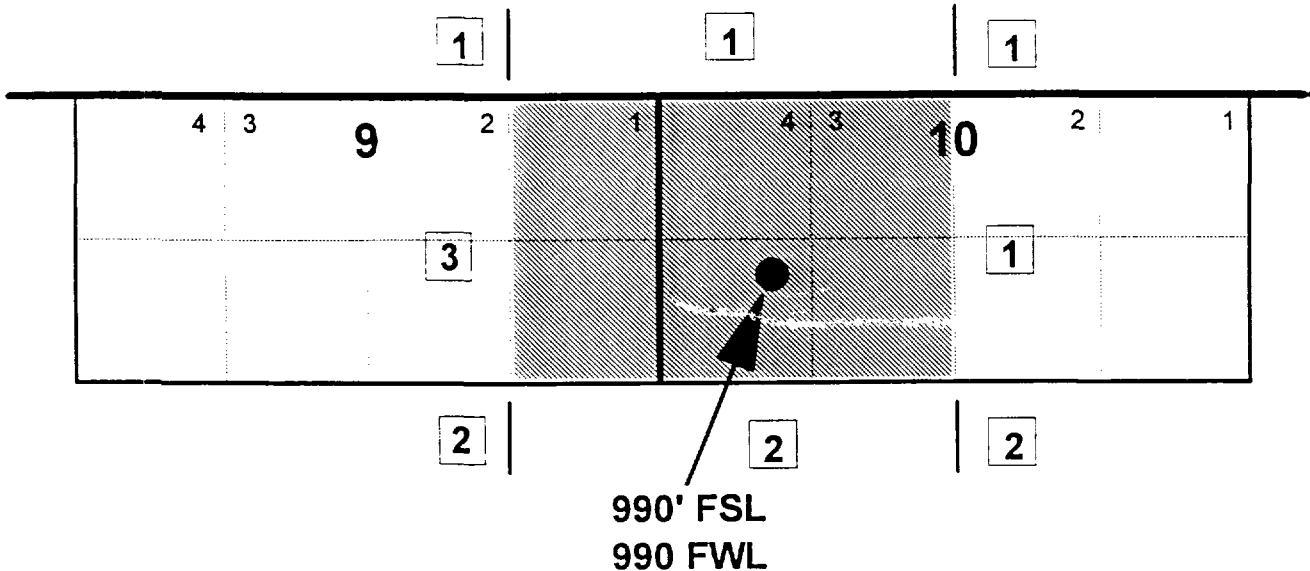
MERIDIAN OIL INC

ZACHRY #11

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs \ Fruitland Coal Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc

2) Southland Royalty Company

3) Texaco Exploration & Production Inc. PO Box 2100, Denver, CO 80201

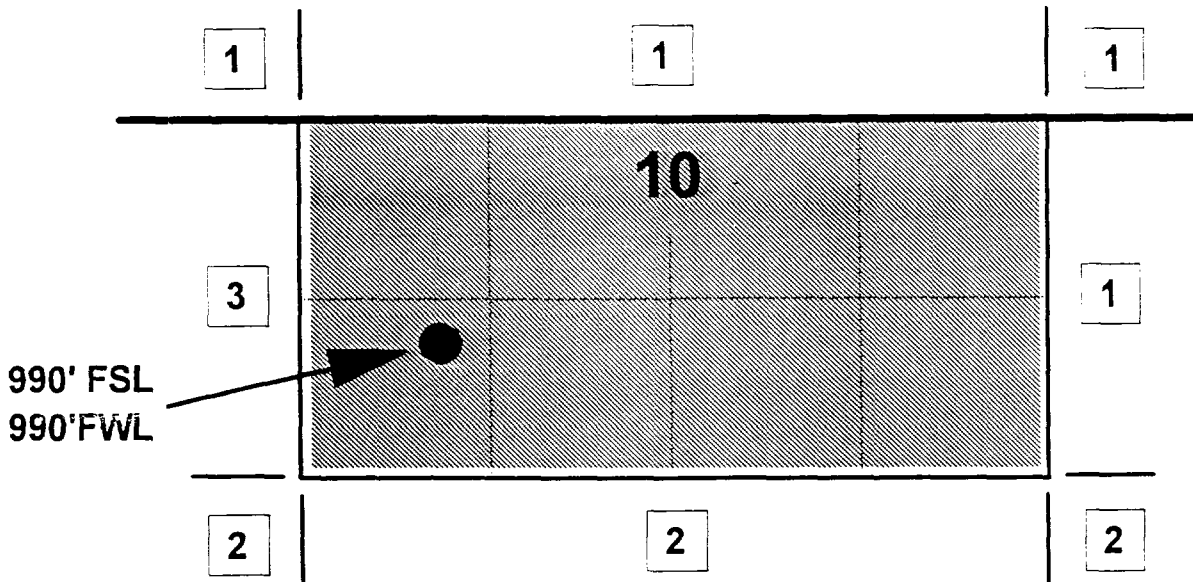
MERIDIAN OIL INC

ZACHRY #11

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs \ Fruitland Coal Commingle Well

Township 28 North, Range 10 West



1) Meridian Oil Inc

2) Southland Royalty Company

3) Texaco Exploration & Production Inc. PO Box 2100, Denver, CO 80201

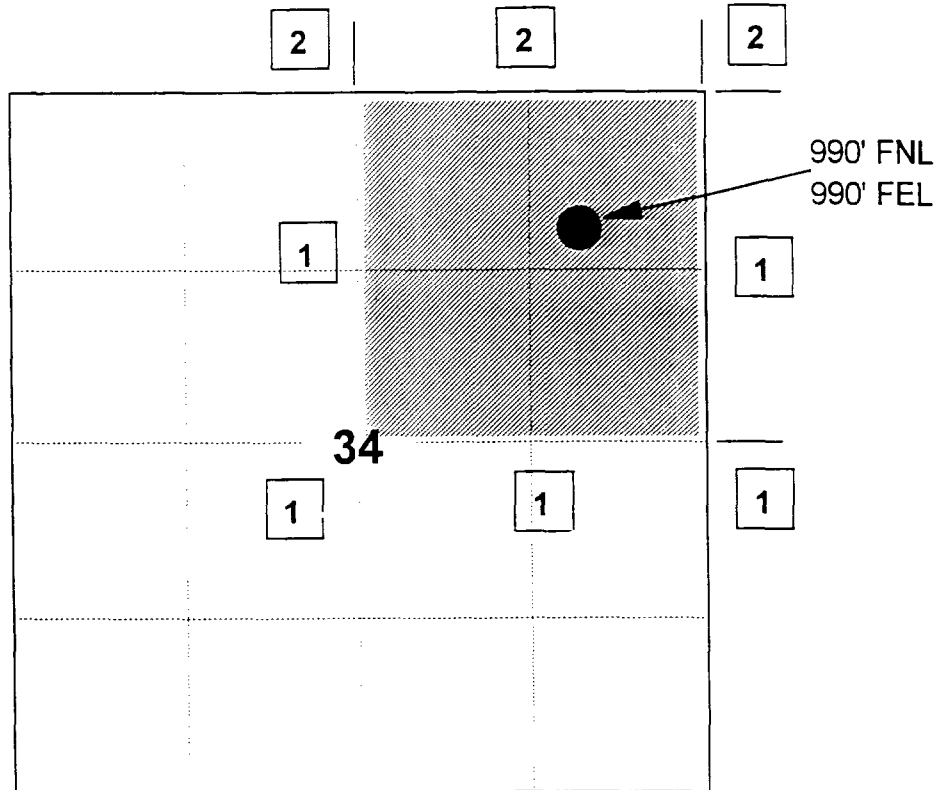
MERIDIAN OIL INC

PIERCE FEDERAL A #1

OFFSET OPERATOR PLAT

Pictured Cliffs / Fruitland Coal Commingle

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) Amoco Production Company

PO Box 800, Denver, CO 80202

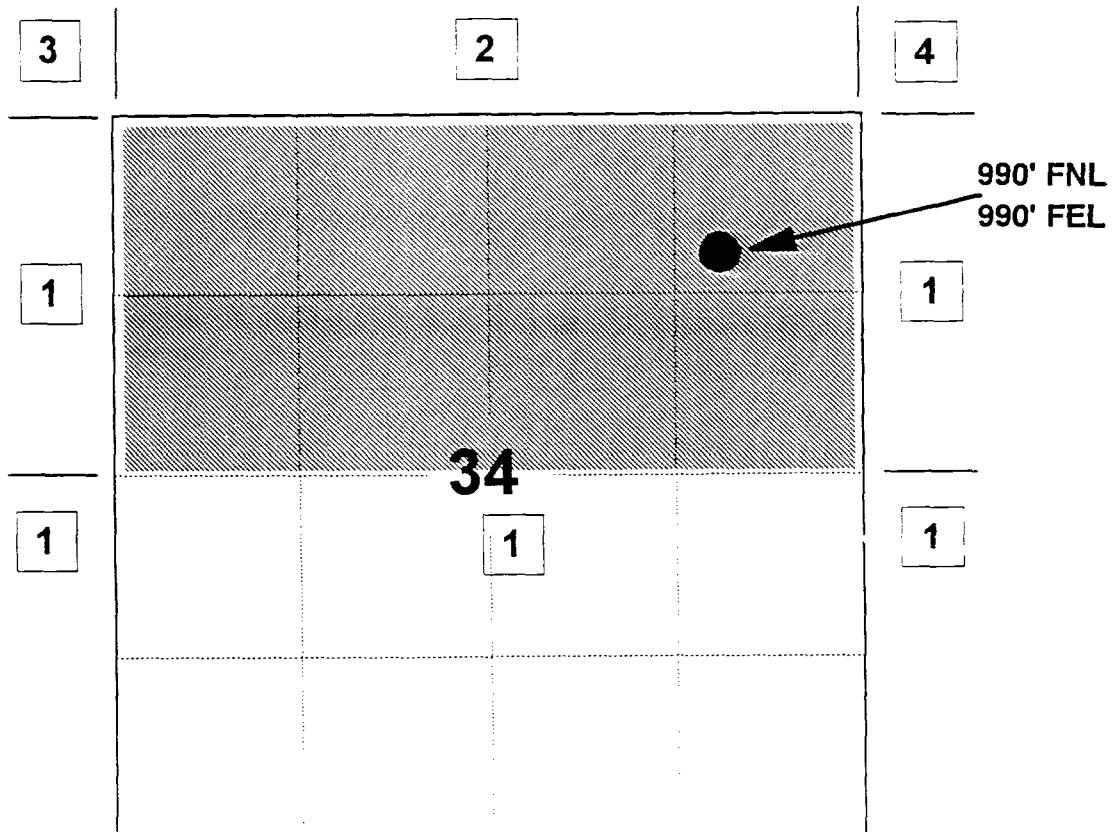
MERIDIAN OIL INC

PIERCE FEDERAL A #1

OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs / Fruitland Coal Commingle Well

Township 29 North, Range 10 West



1) Meridian Oil Inc

2) S G Interests 811 Dallas, Suite 1505, Houston, TX 77002

3) Amoco Production Company PO Box 800, Denver, CO 80201

4) Conoco, Inc. 10 Desta Drive, Suite 100W, Midland, TX 79705-4500.

Amoco Production Company & S G Interests

ADDRESS LIST FOR
NEUDECKER 2, ZACHRY 11, AND PIERCE FEDERAL A 1 WELLS

OWNER NAME	ADDRESS	ADDRESS	ADDRESS	ADDRESS	CITY	STATE	ZIP CODE	INTEREST	
✓ ALLISON A HENDERSON	C/O DAVID F HENDERSON AIF	PO BOX 831360			RICHARDSON	TX	75083	ORRI	
✓ BARBARA REESE DINGES	6510 SHADOW CREST				HOUSTON	TX	770746818	ORRI	
✓ CHASE OIL CORPORATION	PO BOX 276				ARTESIA	NM	882110276	ORRI	
✓ D R ZACHRY JR	510 DELLWOOD DR				MOUNT PLEASANT	TX	75455	ORRI	
✓ DAVID A PIERCE	PO BOX 4140				FARMINGTON	NM	87499	RI	
✓ DAVID A ROGERS	4855 N MESA ST STE 122				EL PASO	TX	79912	ORRI	
✓ DAVID A ROGERS TRUSTEE	JAS L FASHING IRREVOCABLE TRST	4855 N MESA ST STE 122			EL PASO	TX	79912	ORRI	
✓ DAVID ELBERT REESE	2203 N BELMONT DR				RICHMOND	TX	774695501	ORRI	
✓ DIRK VANHORN REEMTSMA	PO BOX 4140				FARMINGTON	NM	87499	RI	
✓ BUGAN PRODUCTION CORPORATION	PO BOX 420				FARMINGTON	NM	87499	ORRI	
✓ ELIZABETH GOODWIN REESE	7800 NAIRN				HOUSTON	TX	77074	ORRI	
✓ ENCAP INVESTMENTS LC	6688 N CENTRAL EXPY STE 1100				DALLAS	TX	75206	ORRI	
✓ EUNICE C DWIGHT	507 W 10TH				AMARILLO	TX	79101	ORRI	
✓ FIRST NATL BK AMARILLO	TRUSTEE OF THE HILLSON MINERAL	TRUST NEW MEXICO		TRUST DEPT	PO BOX 1331	AMARILLO	TX	79180	ORRI
✓ FRANCES H WEAVER	PO BOX 2102				EL PASO	TX	79951	ORRI	
✓ HAZEL ASHLEY BRACKEN	BAYOU BEND TOWERS #403	101 WESTCOTT			HOUSTON	TX	77007	ORRI	
✓ JAMES J JOHNSTON	ELEVEN GREENWAY PLZ STE 2608				HOUSTON	TX	770461105	ORRI	
✓ JERRY J ANDREW	408 LONGWOODS DR				FRUITLAND	NM	874161006	ORRI	
✓ JOHN B PIERCE	PO BOX 1006				RAILS	TX	79357	ORRI	
✓ K PREWITT & M CHESSER TRUSTEES	V A JOHNSTON FAMILY TRUST	PO BOX 925			HOUSTON	TX	77288	ORRI	
✓ L DORIS WILLIAMS ESTATE	WM P TRAYLOR & JOHN G HEARD	IND EXECS C/O BANK OF HOUSTON		ACCOUNT #06-3862-8	PO BOX 8306	HOUSTON	CA	947071412	RI
✓ LANCE BREWSTER REEMTSMA	57A EDGECROFT RD				KENSINGTON	CO	813022250	RI	
✓ MARGUERITE SULLIVAN FRAME	C/O SANDRA HURT	P O BOX 2250			DENVER	CO	80217	RI	
✓ MINERALS MANAGEMENT SERVICE	ROYALTY MANAGEMENT PROGRAM	PO BOX 5810			DALLAS	TX	752840738	ORRI	
✓ NATIONSBK OF TX NA TRSTE	EULA MAY JOHNSTON TR 661	TRUST OIL & GAS SECTION		PO DRAWER #40738	330 RD 4960	BLOOMFIELD	NM	87413	RI
✓ OPAL H SULLIVAN MARY H SIKES	& OTTO BISHEL CO-TRUSTEES	OPAL HELENE SULLIVAN REV TRUST		U/T/ADTD 4/7/88	HOUSTON	TX	77057	ORRI	
✓ PATTIE ANN BEAMON LUNDELL	1616 S VOSS RD STE 870				HOUSTON	TX	77056	ORRI	
✓ R E BEAMON III	A/K/A ROBERT E BEAMON III	THREE RIVERWAY STE 470			RICHARDSON	TX	75080	ORRI	
✓ REBECCA ANN REESE WARD	2210 CUSTER PARKWAY				LUBBOCK	TX	79410	ORRI	
✓ RICHARD LEE GRIFFITH	2704 20TH ST				TYLER	TX	75703	ORRI	
✓ ROGERS GIBBARD TRUST	C/O SUSAN ROGERS EVELAND	6804 LA COSTA DR			PANHANDLE	TX	79068	ORRI	
✓ SAN JUAN BASIN POOL LTD	BOX 1237				FARMINGTON	NM	87402	RI	
✓ SUSAN L PIERCE NELSON	4901 CRESTWOOD DR				AMARILLO	TX	79180	ORRI	
✓ THE LAURA A HILL TRUST	C/O FIRST NATL BK OF AMARILLO	TRUST DEPT ATTN CRAIG EVETTS		TRUST DEPT	PO BOX 1331	DALLAS	TX	75397	ORRI
✓ UNION OIL CO OF CALIF	PO BOX 9702135				AMARILLO	TX	791013317	ORRI	
✓ W H DWIGHT JR	507 W 10TH								

EXHIBIT 4

Newdecker #2

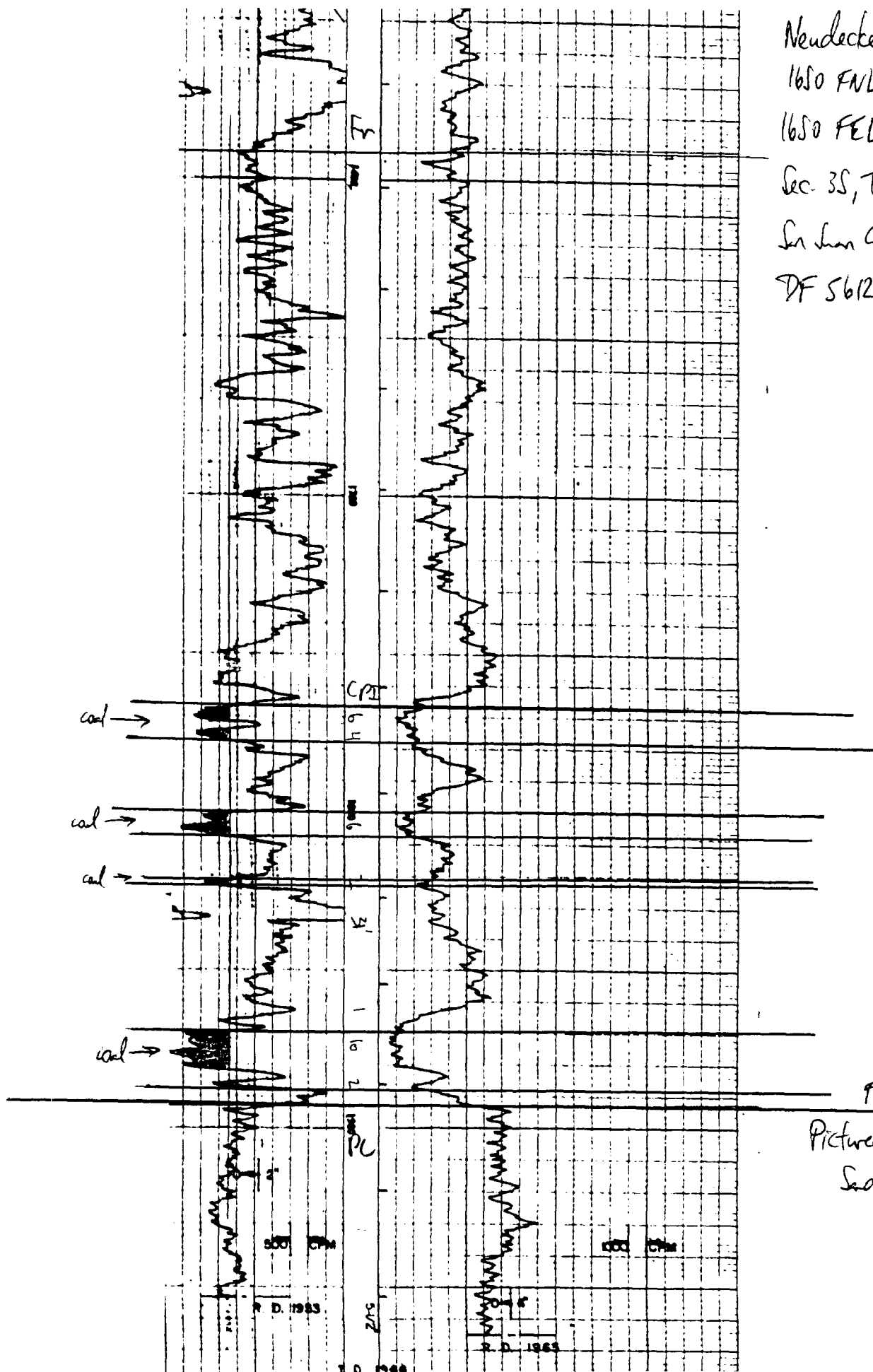
1650 FNL

1650 FEL

Sec. 3S, T29N, R10W

Lincoln Co., NM

DF 5612 ft est.



Fruitland Fm.

Pictured Cliffs

Sandstone

GR

Neutron

Zachry #57 662 FSL

S2S FWL

Sec. 10, T28N, R10W

KB 5838 ft

offset type log for

Zachry #11 990 FSL

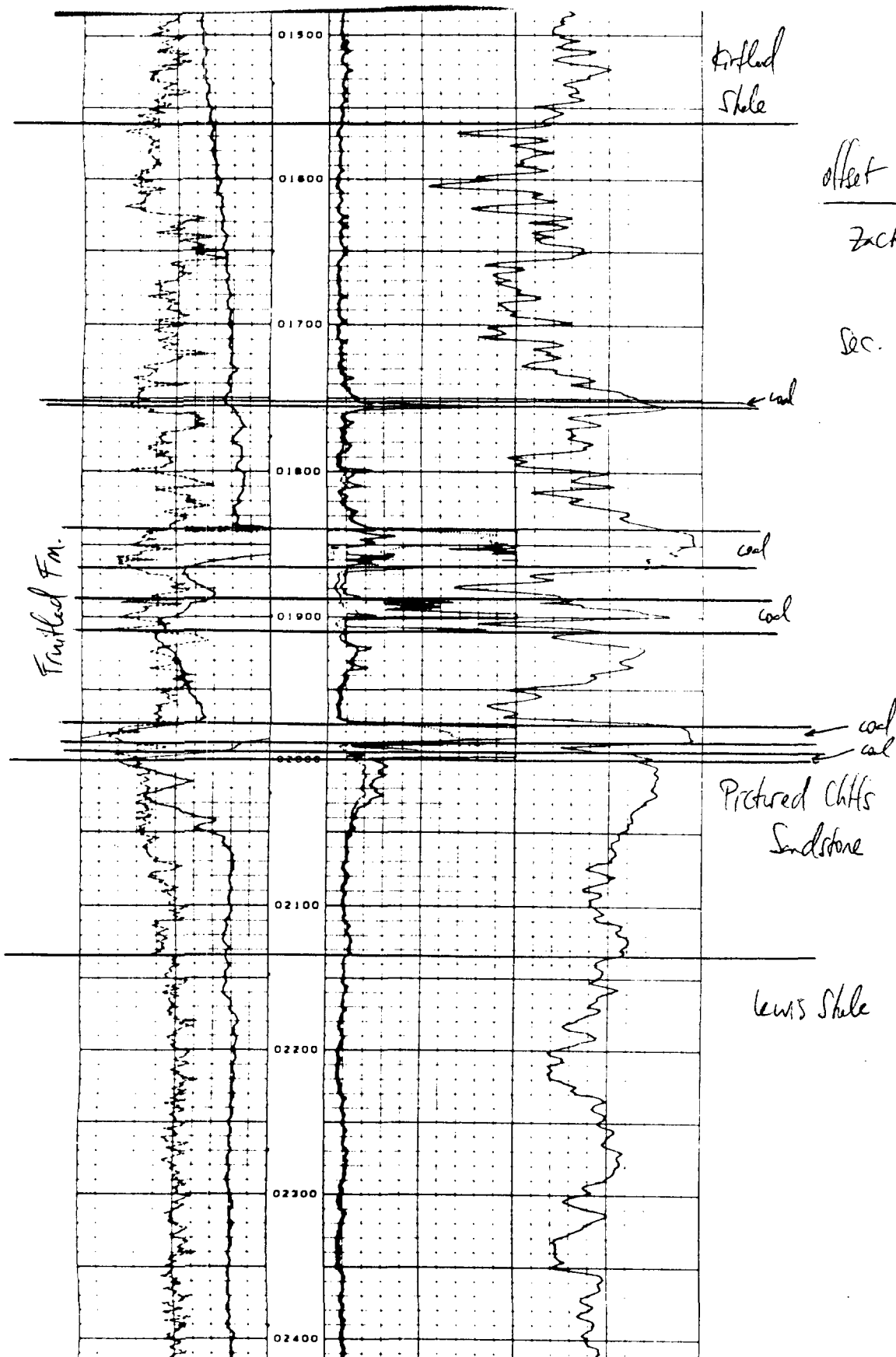
990 FWL

Sec. 10, T28N, R10W

In June 00, NM

KB 5821 ft

Zachry #11 depths are
estimated to be
17 feet shallower



Pierce A #1

990 FNL 990 FEL

Sec. 34, T29N, R10W

San Juan Co., NM

KB 5560 ft

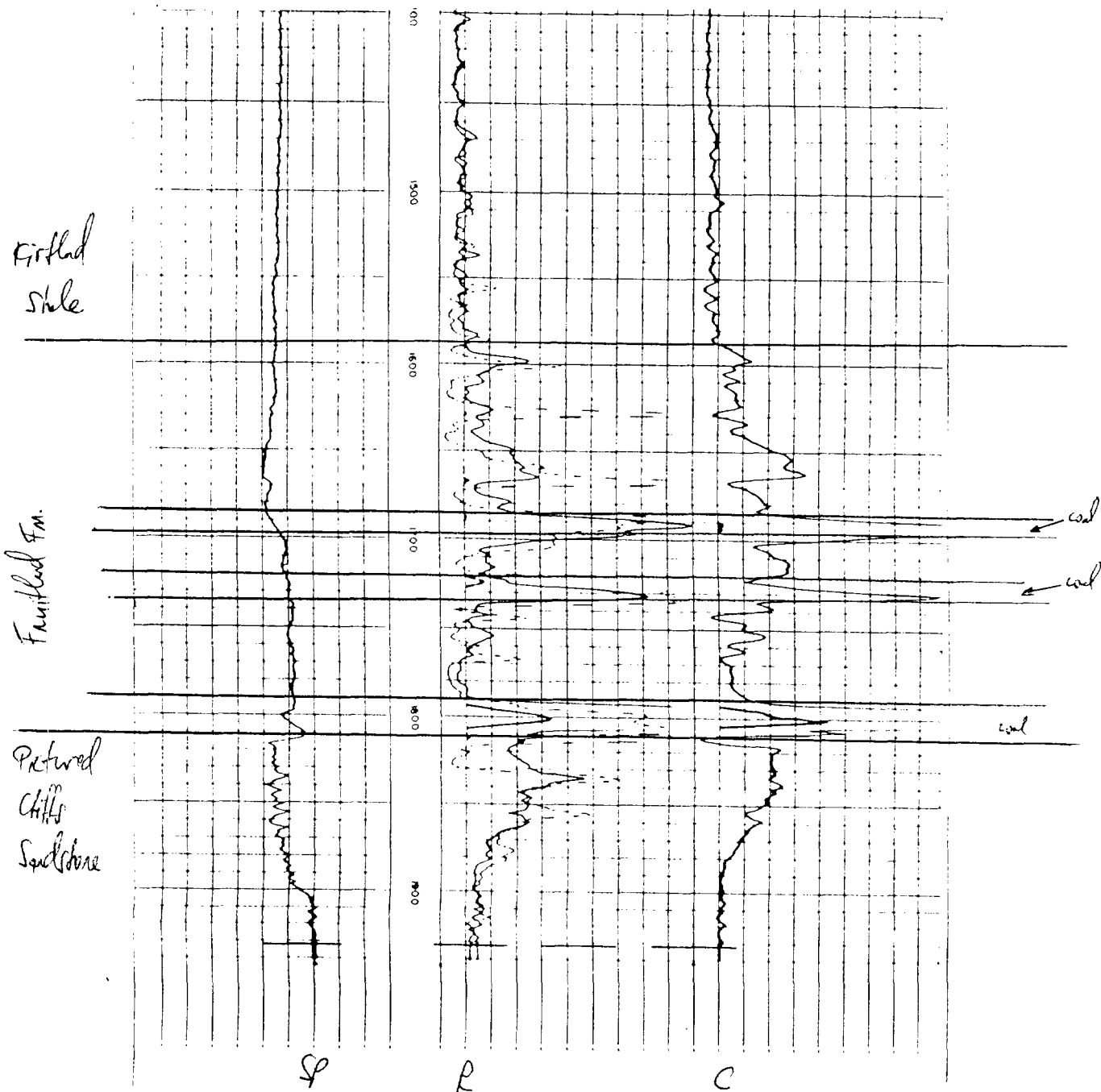


EXHIBIT 5

NEUDECKER #2

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$Q_t = Q_{ftc} + Q_{pc}$$

WHERE: Q_t = TOTAL MONTHLY PRODUCTION (MCF/MONTH)
 Q_{ftc} = FRUITLAND COAL (ftc) MONTHLY PRODUCTION
 Q_{pc} = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Q_{ftc} :

$$Q_{ftc} = Q_t - Q_{pc}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$Q_{pc} = Q_{pci} \times e^{\{-(D_{pc}) \times (t)\}}$$

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (DETERMINED FROM LAST MONTH OF PC ONLY PRODUCTION, PRIOR TO RECOMPLETION & COMMINGLE)
 D_{pc} = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS:
 $D_{pc} = (0.00356/M)$

THUS: $Q_{ftc} = Q_t - Q_{pci} \times e^{\{-(0.00356) \times (t)\}}$

WHERE: (t) IS IN MONTHS

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.

ZACHRY #11

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$\mathbf{Q_t = Q_{ftc} + Q_{pc}}$$

WHERE: Q_t = TOTAL MONTHLY PRODUCTION (MCF/MONTH)
 Q_{ftc} = FRUITLAND COAL (ftc) MONTHLY PRODUCTION
 Q_{pc} = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Q_{ftc} :

$$\mathbf{Q_{ftc} = Q_t - Q_{pc}}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$\mathbf{Q_{pc} = Q_{pci} \times e^{\{-(D_{pc}) \times (t)\}}}$$

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (DETERMINED FROM LAST MONTH OF PC ONLY PRODUCTION, PRIOR TO RECOMPLETION & COMMINGLE)

D_{pc} = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS:

$$\mathbf{D_{pc} = (0.00366/M)}$$

THUS: $Q_{ftc} = Q_t - Q_{pci} \times e^{\{-(0.00366) \times (t)\}}$

WHERE: (t) IS IN MONTHS

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.

PIERCE FEDERAL A #1

MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL EQUATION

$$\mathbf{Q_t = Q_{ftc} + Q_{pc}}$$

WHERE: Q_t = TOTAL MONTHLY PRODUCTION (MCF/MONTH)
 Q_{ftc} = FRUITLAND COAL (ftc) MONTHLY PRODUCTION
 Q_{pc} = PICTURED CLIFFS (pc) MONTHLY PRODUCTION (MCF/MONTH)

REARRANGING THE EQUATION TO SOLVE FOR Q_{ftc} :

$$\mathbf{Q_{ftc} = Q_t - Q_{pc}}$$

ANY PRODUCTION RATE OVER WHAT IS CALCULATED FOR THE PICTURED CLIFFS (PC) USING THE APPLIED FORMULA IS FRUITLAND COAL (FTC) PRODUCTION.

PICTURED CLIFFS (PC) FORMATION PRODUCTION FORMULA IS:

$$\mathbf{Q_{pc} = Q_{pci} \times e^{\{-(D_{pc}) \times (t)\}}}$$

WHERE: Q_{pci} = INITIAL PC MONTHLY FLOW RATE (DETERMINED FROM LAST MONTH OF PC ONLY PRODUCTION, PRIOR TO RECOMPLETION & COMMINGLE)

D_{pc} = PICTURED CLIFFS MONTHLY DECLINE RATE CALCULATED FROM DECLINE CURVE AND MATERIAL BALANCE ANALYSIS:

$$\mathbf{D_{pc} = (0.00347/M)}$$

THUS: $Q_{ftc} = Q_t - Q_{pci} \times e^{\{-(0.00347) \times (t)\}}$

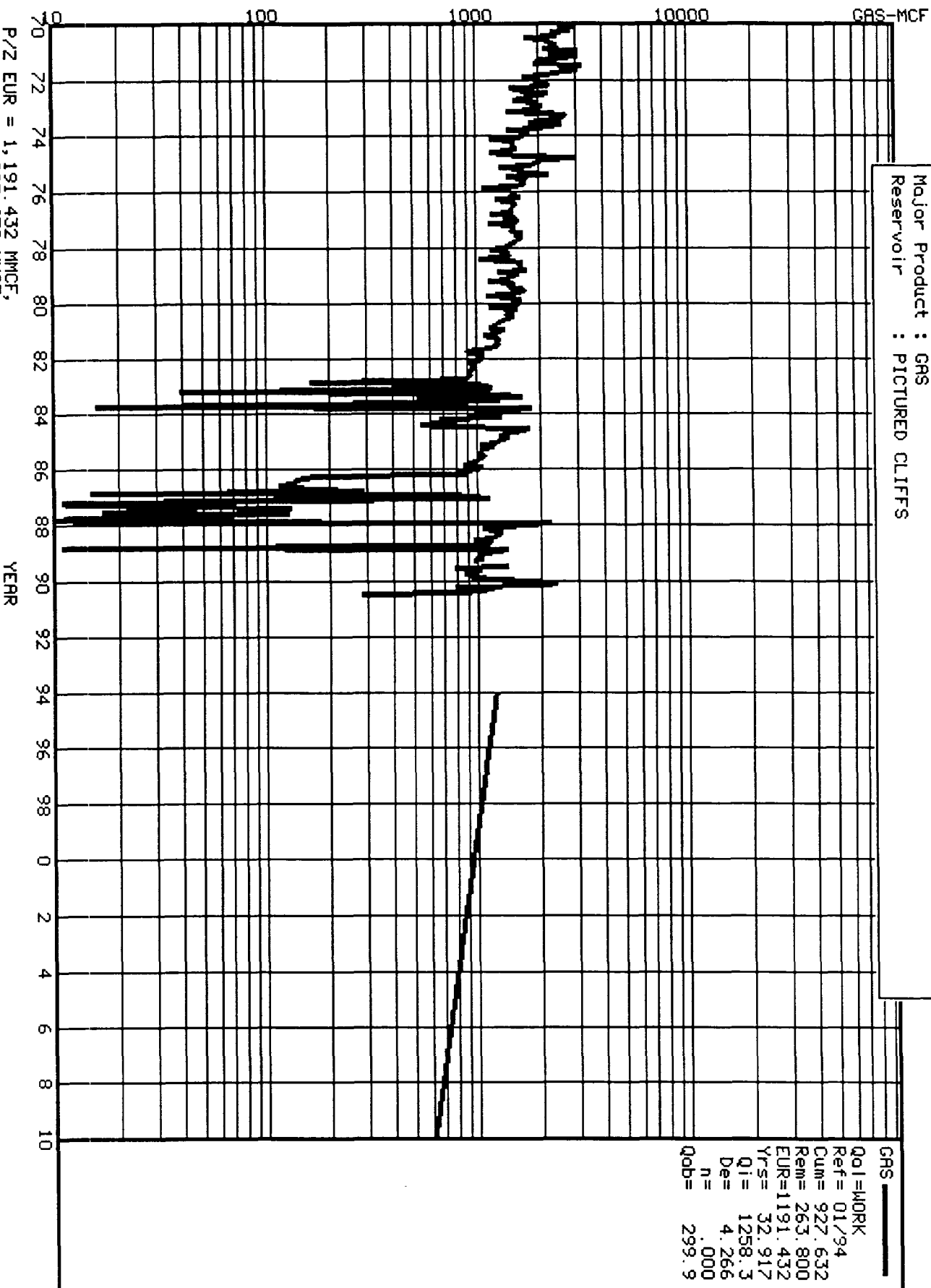
WHERE: (t) IS IN MONTHS

REFERENCE: Thompson, R. S., and Wright, J. D., "Oil Property Evaluation", pages 5-2, 5-3, 5-4.

EXHIBIT 6

Lease : NEUDECKER
 Field : AZTEC PICTURED CLIFFS (GAS)
 Location : 029N010W35G
 County, St : SAN JUAN NM
 Major Product : GAS
 Reservoir : PICTURED CLIFFS

2



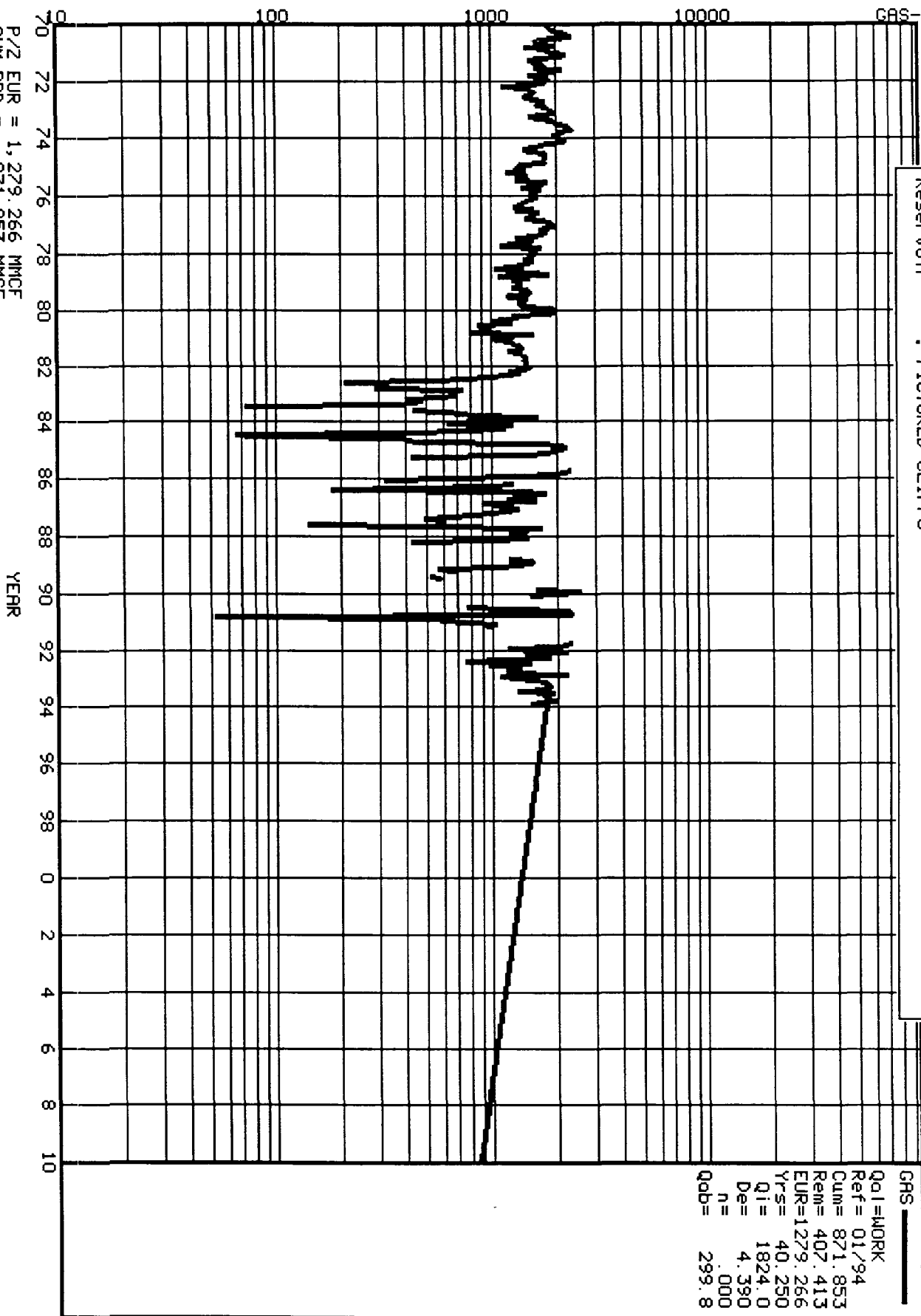
GAS ———
 Qo1=WORK
 Ref= 01/94
 Cum= 927.632
 Rem= 263.800
 EUR=1191.432
 Yrs= 32.917
 Q1= 1258.3
 De= 4.266
 n= .000
 Qob= 299.9

P/Z EUR = 1,191.432 MMCF,
 CUM PRD = 927.632 MMCF,
 REM RSV = 263.800 MMCF,
 WELL BLIND PLRTED

Lease : ZACHRY
 Field : AZTEC PICTURED CLIFFS (GRS)
 Location : 028N010W10M
 County, St : SAN JUAN NM
 Major Product : GRS
 Reservoir : PICTURED CLIFFS

11

GRS-MCF

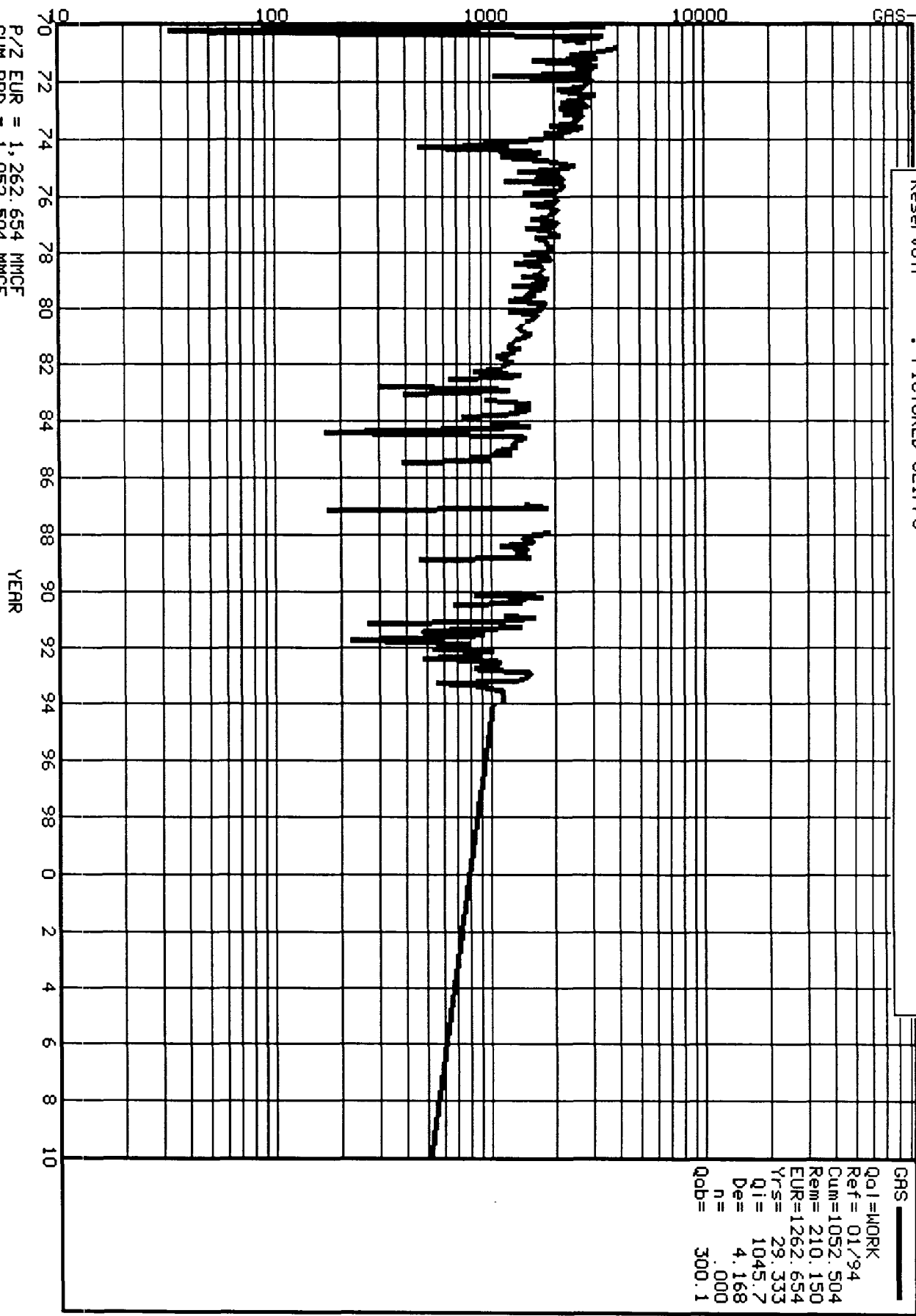


P/Z EUR = 1,229.266 MMCF
 CUM PRD = 821.853 MMCF
 REM RSV = 407.413 MMCF

YEAR

GRS ———
 Qo1=WORK
 Ref= 01/94
 Cum= 821.853
 Rem= 407.413
 EUR=1229.266
 Yrs= 40.250
 Q1= 1824.0
 De= 4.390
 n= .000
 Qob= 299.8

Lease : PIERCE FEDERAL A 1
 Field : AZTEC PICTURED CLIFFS (GAS)
 Location : 029N010W34R
 County, St : SAN JUAN NM
 Major Product : GAS
 Reservoir : PICTURED CLIFFS



P/Z EUR = 1,262.654 MMCF
 CUM PRD = 1,052.504 MMCF
 REM RSV = 210.150 MMCF

GAS ———
 QoI=WORK
 Ref= 01/94
 Cum=1052.504
 Rem= 210.150
 EUR=1262.654
 Yrs= 29.333
 Qi= 1045.7
 De= 4.168
 n= .000
 Qob= 300.1