



3.8.95

1104

Midland Division
Exploration Production

OIL CONSERVATION DIVISION
RECEIVED

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Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

February 15, 1995

State of New Mexico
Energy & Minerals Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

**Re: Application to Downhole Commingle
Mesaverde and Dakota Gas Production in the
State Com AF No. 28, 900' FNL & 1800' FEL, Unit B
Sec. 36, T-29N, R-10W, San Juan County, New Mexico**

Gentlemen:

It is proposed to downhole commingle the Mesaverde and Dakota zones in this well to maintain economic operation and to maximize the efficient and effective recovery of gas at this location. Economic evaluation of the continued operation of this well as a dual completion has shown that it can only be economically maintained if it can be downhole commingled and operated as a single completion.

The Mesaverde and Dakota producing rates have declined to marginal levels of 172 MCFGPD and 91 MCFGPD respectively. Elimination of excess operational equipment and operating expense associated with dual operation would contribute to the maximization of the producing lives and recoveries from each pool. Downhole commingling would permit the elimination of one tubing string, one separator and one tank now required for the operation of this dual completion and would eliminate maintenance costs of maintaining isolation of the two completions.

The following attachments are submitted in support of this application:

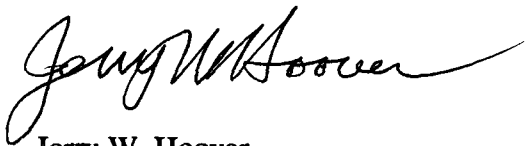
1. EXHIBIT A is a plat (a) showing all Mesaverde wells on the lease, (b) indicating the subject well, (c) identifying offset operators, and (d) outlining the current Mesaverde proration unit.
2. EXHIBIT B is a plat (a) showing all Dakota wells on the lease, (b) indicating the subject well, (c) identifying offset operators, and (d) outlining the current Dakota proration unit.
3. EXHIBIT C is a GOR test form (C-116) with the most recent tests for each completion.
4. EXHIBIT D and E are current decline curves for Mesaverde and Dakota gas production.
5. Bottom hole pressures at a common datum of 5000 feet are 405 and 261 psig for the Mesaverde and Dakota respectively.

6. EXHIBITS F and G are typical water analyses for Mesaverde and Dakota production which do not indicate any anticipated incompatibilities in the mixture of these fluids.
7. Oil gravities for both pools are identically in the 44-45° API range and commingling does not result in a change in sales value.
8. WI, RI, and ORRI ownerships are identical for both formations.
9. EXHIBITS H and I are Mesaverde and Dakota gas analyses. BTU values are very similar for both pools and since sales are based on a \$/BTU rate, revenue for the combined gas stream will be the same as for the separated sales streams of the dual completion. Therefore, there would be no revenue or royalty loss due to commingling.
10. Allocation percentages based on the C-116 tests included in this application are suggested as follows:

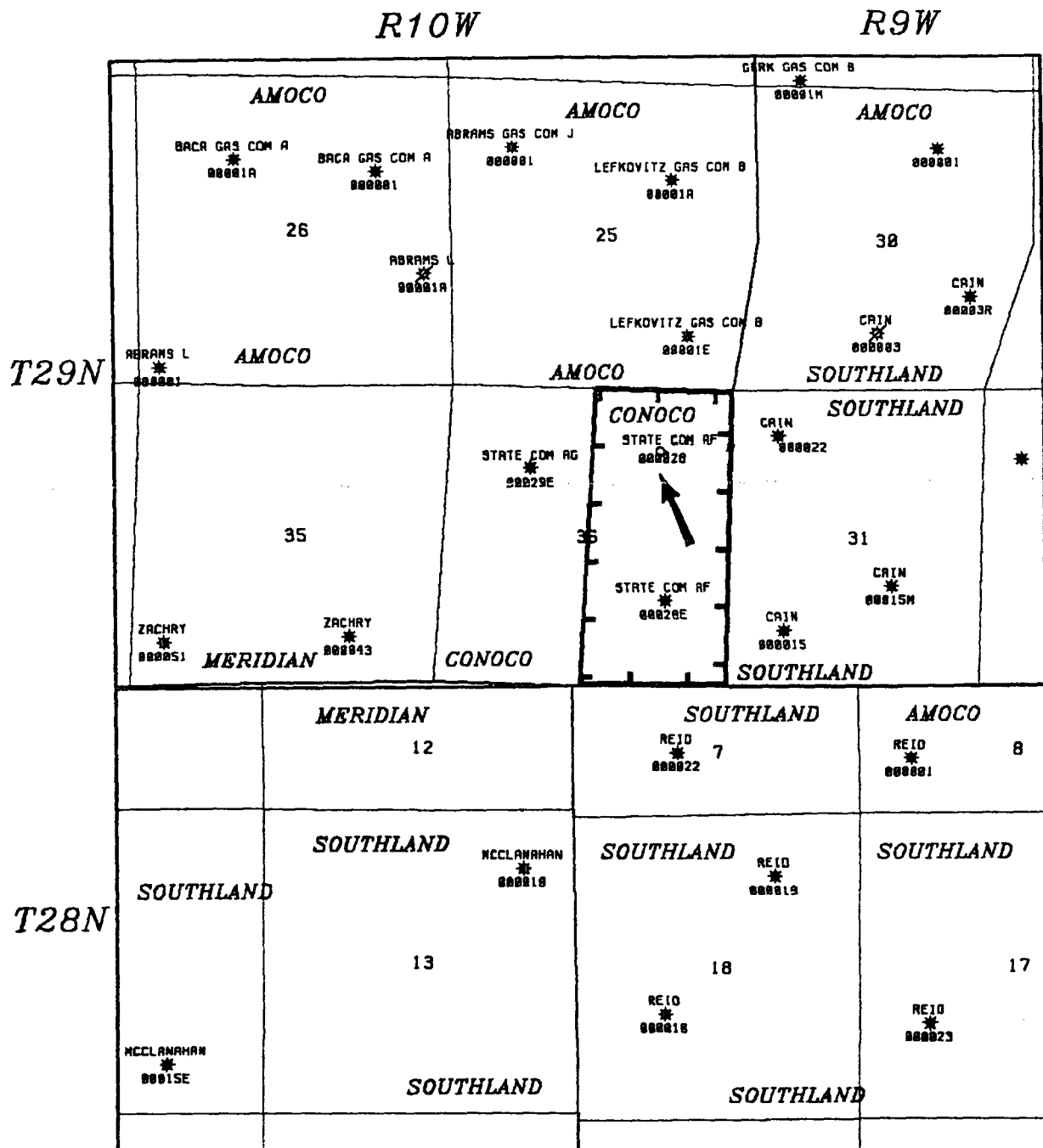
	<u>Water</u>	<u>Oil</u>	<u>Gas</u>
Blanco Mesaverde	33%	67%	65%
Basin Dakota	67%	33%	35%

11. Copies of this application were sent by certified mail to each offset operator as identified on EXHIBITS A and B. Copies of the certified mail receipts to them are included as EXHIBIT J. Since this well involves state minerals, a copy was also sent to the State Land Office for their approval.

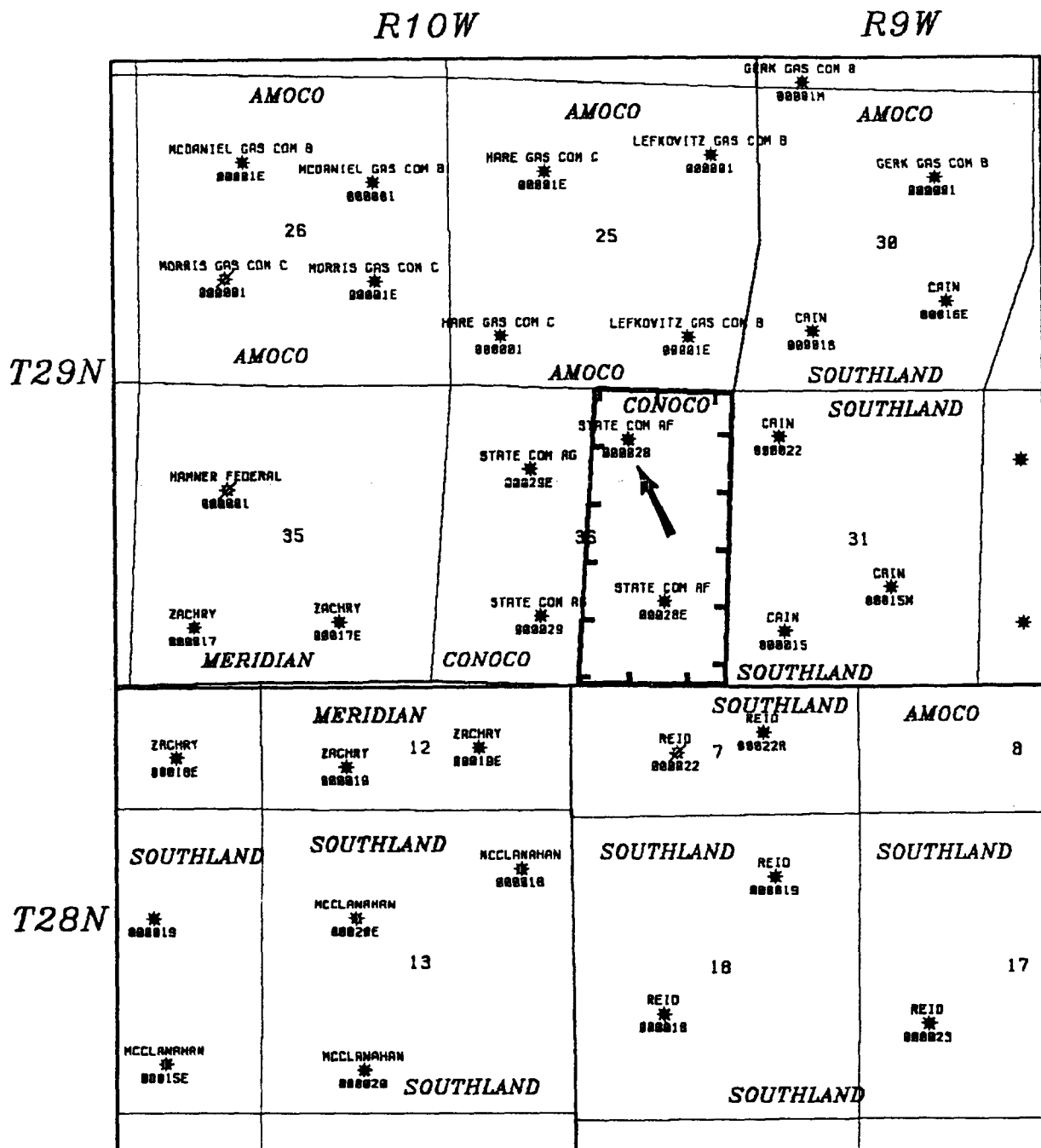
Very truly yours,



Jerry W. Hoover
Sr. Conservation Coordinator



MESA VERDE WELLS
State Com AF No. 28



DAKOTA WELLS
State Com AF No. 28

Submit 2 copies to Appropriate District Office.

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Form C-1116
Revised 1/1/89

GAS - OIL RATIO TEST

Operator		Pool		County										
CONOCO INC.		Blanco Mesaverde / Basin Dakota		San Juan										
Address		TYPE OF TEST - (X)		Completion		Special								
10 DESTA DR STE 100W, MIDLAND, TX 79705		SCHEDULED		COMPLETION		SPECIAL								
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL.	
		U	S	T						R	WATER BBL.S.	GRAV. OIL		OIL BBL.S.
State Com AF (Mesaverde)	28	B	36	29N	10W	4/94				720	1	4	172	
	28	B	36	29N	10W	4/94				720	2	2	91	
State Com AF (Dakota)														

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

Jerry W. Hoover
Signature
Jerry W. Hoover Sr. Conservation Coordinator
Printed name and title
2/9/95
Date
(915) 686-65
Telephone No.

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in that well can be assigned increased allowables when authorized by the Division.
Gas volumes must be reported in MCP measured at a pressure base of 15.025 psia and a temperature of 60° F.
Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

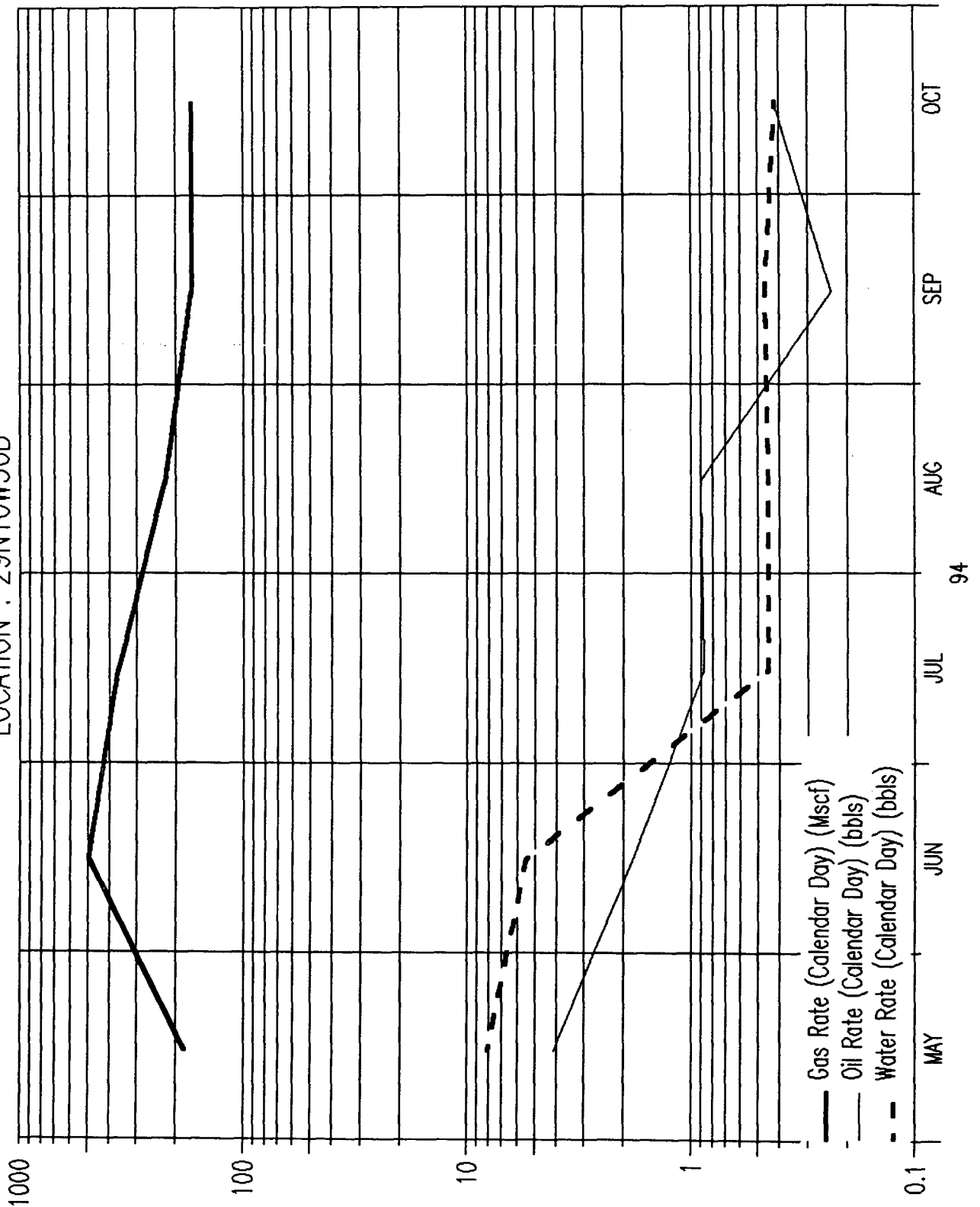
See Rule 301, Rule 1116 & appropriate pool rules.)

EXHIBIT C



STATE COM AF 000028 ZONE : MVRD
STATUS : ACT OPERATOR : CONOCO INC

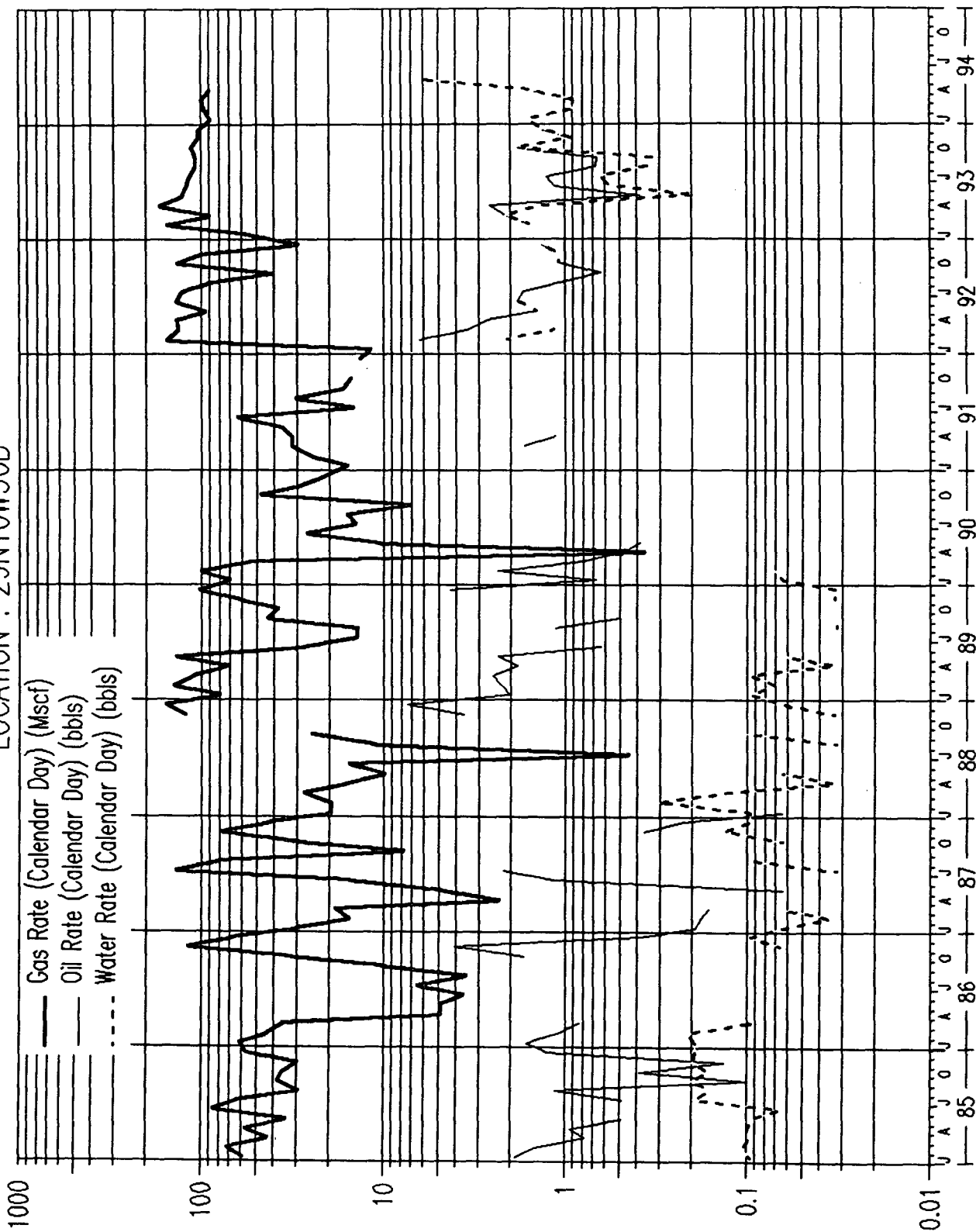
LOCATION : 29N10W36B





STATE COM AF 000028 ZONE : DKOT
STATUS : ACT OPERATOR : CONOCO INC

LOCATION : 29N10W36B



TYPICAL MESAVERDE

WATER ANALYSIS REPORT

Company : CONOCO
Address : FARMINGTON N.M.
Lease : SAN JUAN
Well : FED. 6E MV
Sample Pt. :

Date : 2-12-94
Date Sampled : 2-10-94
Analysis No. :

ANALYSIS		mg/L		* meq/L
-----		----		-----
1. pH	7.0			
2. H2S	0			
3. Specific Gravity	1.01			
4. Total Dissolved Solids		38649.3		
5. Suspended Solids				
6. Dissolved Oxygen				
7. Dissolved CO2				
8. Oil In Water				
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	878.0	HCO3	14.4
12. Chloride	Cl	22600.0	Cl	637.5
13. Sulfate	SO4	194.0	SO4	4.0
14. Calcium	Ca	120.0	Ca	6.0
15. Magnesium	Mg	121.5	Mg	10.0
16. Sodium (calculated)	Na	14712.8	Na	640.0
17. Iron	Fe	1.0		
18. Barium	Ba	22.0		
19. Strontium	Sr	0.0		
20. Total Hardness (CaCO3)		800.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter		Compound	Equiv wt X meq/L	= mg/L

+-----+				
6 *Ca <----- *HCO3	14	Ca(HCO3)2	81.0	6.0 485
/----->		CaSO4	68.1	
10 *Mg -----> *SO4	4	CaCl2	55.5	
<-----/		Mg(HCO3)2	73.2	8.4 615
640 *Na -----> *Cl	638	MgSO4	60.2	1.6 96
+-----+		MgCl2	47.6	
Saturation Values Dist. Water 20 C		NaHCO3	84.0	
CaCO3	13 mg/L	Na2SO4	71.0	2.4 174
CaSO4 * 2H2O	2090 mg/L	NaCl	58.4	637.5 37257
BaSO4	2.4 mg/L			

REMARKS:

Petrolite Oilfield Chemicals Group

Respectfully submitted,
D. STEWART

EXHIBIT F

TYPICAL MESAVERDE
SCALE TENDENCY REPORT

Company	: CONOCO	Date	: 2-12-94
Address	: FARMINGTON N.M.	Date Sampled	: 2-10-94
Lease	: SAN JUAN	Analysis No.	:
Well	: FED. 6E MV	Analyst	: D. STEWART
Sample Pt.	:		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO₃ Scaling Tendency

S.I. =	-0.2	at	80 deg. F	or	27 deg. C
S.I. =	-0.1	at	100 deg. F	or	38 deg. C
S.I. =	-0.1	at	120 deg. F	or	49 deg. C
S.I. =	0.0	at	140 deg. F	or	60 deg. C
S.I. =	0.1	at	160 deg. F	or	71 deg. C

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	4909	at	80 deg. F	or	27 deg C
S =	5017	at	100 deg. F	or	38 deg C
S =	5046	at	120 deg. F	or	49 deg C
S =	5055	at	140 deg. F	or	60 deg C
S =	4983	at	160 deg. F	or	71 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
D. STEWART

TYPICAL DAKOTA

WATER ANALYSIS REPORT

Company : CONOCO	Date : 2-12-94
Address : FARMINGTON N.M.	Date Sampled : 2-10-94
Lease : SAN JUAN	Analysis No. :
Well : FED. 6E DK	
Sample Pt. :	

ANALYSIS	mg/L	* meq/L
-----	----	-----
1. pH	7.0	
2. H2S	0	
3. Specific Gravity	1.01	
4. Total Dissolved Solids	4359.2	
5. Suspended Solids		
6. Dissolved Oxygen		
7. Dissolved CO2		
8. Oil In Water		
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 646.0	HCO3 10.6
12. Chloride	Cl 2100.0	Cl 59.2
13. Sulfate	SO4 12.5	SO4 0.3
14. Calcium	Ca 40.0	Ca 2.0
15. Magnesium	Mg 24.3	Mg 2.0
16. Sodium (calculated)	Na 1519.4	Na 66.1
17. Iron	Fe 5.0	
18. Barium	Ba 12.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO3)	200.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
+-----+	+-----+	+-----+	+-----+
2 *Ca <----- *HCO3	11	Ca(HCO3)2	81.0 2.0 162
/----->		CaSO4	68.1
2 *Mg -----> *SO4	0	CaCl2	55.5
<-----/		Mg(HCO3)2	73.2 2.0 146
66 *Na -----> *Cl	59	MgSO4	60.2
		MgCl2	47.6
Saturation Values Dist. Water 20 C		NaHCO3	84.0 6.6 554
CaCO3	13 mg/L	Na2SO4	71.0 0.3 18
CaSO4 * 2H2O	2090 mg/L	NaCl	58.4 59.2 3462
BaSO4	2.4 mg/L		

REMARKS:

Petrolite Oilfield Chemicals Group

Respectfully submitted,
D. STEWART

EXHIBIT G

TYPICAL DAKOTA

SCALE TENDENCY REPORT

Company	: CONOCO	Date	: 2-12-94
Address	: FARMINGTON N.M.	Date Sampled	: 2-10-94
Lease	: SAN JUAN	Analysis No.	:
Well	: FED. 6E DK	Analyst	: D. STEWART
Sample Pt.	:		

STABILITY INDEX CALCULATIONS (Stiff-Davis Method) CaCO₃ Scaling Tendency

S.I. =	-0.4	at	80 deg. F	or	27 deg. C
S.I. =	-0.3	at	100 deg. F	or	38 deg. C
S.I. =	-0.3	at	120 deg. F	or	49 deg. C
S.I. =	-0.2	at	140 deg. F	or	60 deg. C
S.I. =	-0.2	at	160 deg. F	or	71 deg. C

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS (Skillman-McDonald-Stiff Method) Calcium Sulfate

S =	1772	at	80 deg. F	or	27 deg C
S =	1783	at	100 deg. F	or	38 deg C
S =	1774	at	120 deg. F	or	49 deg C
S =	1760	at	140 deg. F	or	60 deg C
S =	1721	at	160 deg. F	or	71 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
D. STEWART



1115 Farmington Avenue
Farmington, N.M. 87401
(505) 325-6622

Analysis No. CON40167
Cust. No. 18300-10020

WELL/LEASE INFORMATION

Company : CONOCO, INC.
Well Name : STATE COM AF #28
County : SAN JUAN
State : NM
Location :
Fld/Formation : MESAVERDE
Cust.Stn.No. : 066-10-069

Source :
Pressure : 113 PSIG
Sample Temp. : 37 DEG.F
Well Flowing : NO
Date Sampled : 12/22/94
Sampled By : JOHNNY L NELSON
Foreman/Engr :

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.378	0.0000	0.00	0.0037
CO2	0.505	0.0000	0.00	0.0077
METHANE	75.327	0.0000	762.53	0.4172
ETHANE	12.358	3.3058	219.19	0.1283
PROPANE	7.131	1.9653	179.84	0.1086
I-BUTANE	1.275	0.4171	41.56	0.0256
N-BUTANE	1.786	0.5631	58.40	0.0358
I-PENTANE	0.510	0.1866	20.45	0.0127
N-PENTANE	0.368	0.1333	14.79	0.0092
HEXANES	0.362	0.1579	18.61	0.0116
TOTAL	100.000	6.7291	1315.37	0.7604

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0040
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1320.6
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1297.7
REAL SPECIFIC GRAVITY 0.7631

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER # : A002
CYLINDER PRESSURE : 111 PSIG
DATE RUN : 12/23/94
ANALYSIS RUN BY : BILL STOWE

EXHIBIT H



1115 FARMINGTON AVE. - FARMINGTON, NM 87401

(505) 325-6622

ANALYSIS NO: CON30110

WELL/LEASE INFORMATION

COMPANY: CONOCO, INC. PRESSURE: 94 PSIG
WELL NAME: STATE COM AF #28 SAMPLE TEMP.: 88 DEG.F
LOCATION: WELL FLOWING: YES
COUNTY: SAN JUAN DATE SAMPLED: 6/29/93
FORMATION: DAKOTA SAMPLED BY: RICHARD A. FARMER
METER NO.: 066-010-069
EFFECTIVE: JULY 1, 1993 - DECEMBER 31, 1993

REMARKS:

ANALYSIS

COMPONENT	MOLE %	GPM	*B.T.U.	*SP. GR.
NITROGEN	0.160	0.0000	0.000	0.0016
CO2	0.925	0.0000	0.000	0.0141
1ETHANE	88.444	0.0000	895.30	0.4899
ETHANE	6.585	1.7615	116.80	0.0684
PROPANE	2.307	0.6358	58.18	0.0351
I-BUTANE	0.460	0.1506	15.01	0.0092
N-BUTANE	0.516	0.1628	16.88	0.0104
I-PENTANE	0.213	0.0780	8.54	0.0053
N-PENTANE	0.136	0.0492	5.46	0.0034
HEXANE	0.254	0.1110	13.08	0.0082
TOTAL	100.000	2.9489	1129.25	0.6456

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

COMPRESSIBILITY FACTOR (1/Z) 1.0028
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1132.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1112.7
REAL SPECIFIC GRAVITY 0.6469

ANALYSIS RUN AT 14.73 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 80 PSIG

CYLINDER NO.: GAS-011

DATE RUN: 7/1/93

ANALYSIS RUN BY: EXHIBIT I

Z 111 001 152

**Receipt for
Certified Mail**

No Insurance Coverage Provided

Southland Royalty Co.
 & Meridian Oil Inc.
 P.O. Box 4289
 Farmington, NM 87499

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 2/15/95	

Z 111 001 150

**Receipt for
Certified Mail**

No Insurance Coverage Provided

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

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 2/15/95	

Z 111 001 154

**Receipt for
Certified Mail**No Insurance Coverage Provided
Signature for International Mail

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

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 2/15/95	

EXHIBIT J