

VIA FEDERAL EXPRESS

March 14, 1996

Mr. William J. Lemay
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: GERONIMO FEDERAL WELL NO. 4
Geronimo (Delaware) Pool
Gem (Bone Spring) Pool
Lea County, New Mexico



Dear Mr. Lemay:

Mitchell Energy Corporation hereby respectfully requests an exception to Rule 303-A to downhole commingle the Delaware and Bone Spring zones in the subject well.

To aid you in processing this request, I have enclosed, in duplicate, the following:

- | | |
|--|--|
| 1) Present Wellbore Diagram | 6) Proposed Allocation Formula |
| 2) Proposed Wellbore Diagram | 7) Plat |
| 3) Well Chronological | 8) Memo stating that royalty and working interests are common for both zones |
| 4) Water Analysis for both zones | 9) Certificate of Service |
| 5) Production Decline Curves for each zone | |

Should you require additional information or if I can be of any further help in this matter, kindly advise.

Very truly yours,

MITCHELL ENERGY CORPORATION

George Mullen
Regulatory Affairs Specialist

GM:mw
303-Altr.GM

Enc.

cc: Manzano Oil Corporation
P.O. Box 2107
Roswell, NM 88202

Bureau of Land Management
620 East Greene St.
Carlsbad, NM 88220

Oil Conservation Division
P.O. Box 1980
Hobbs, NM 88240

Geronimo Federal #4
Geronimo (Delaware)
Lea Co., NM

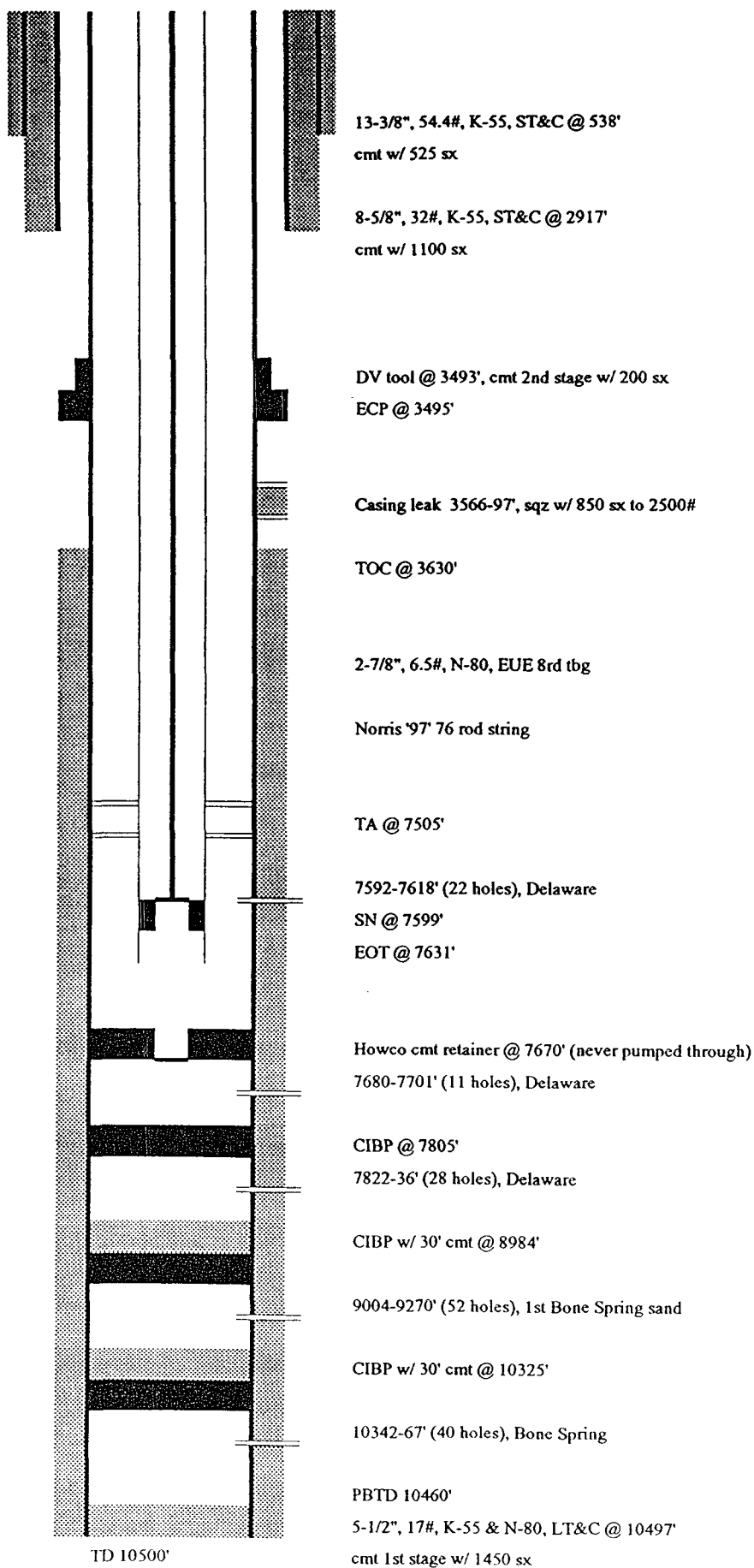
Unit F, Sec 31, T19S, R33E

JGC 6-29-95

Present

KB: 3588'

GL: 3577'



Geronimo Federal #4
Geronimo (Delaware & Bone Spring)
Lea Co., NM

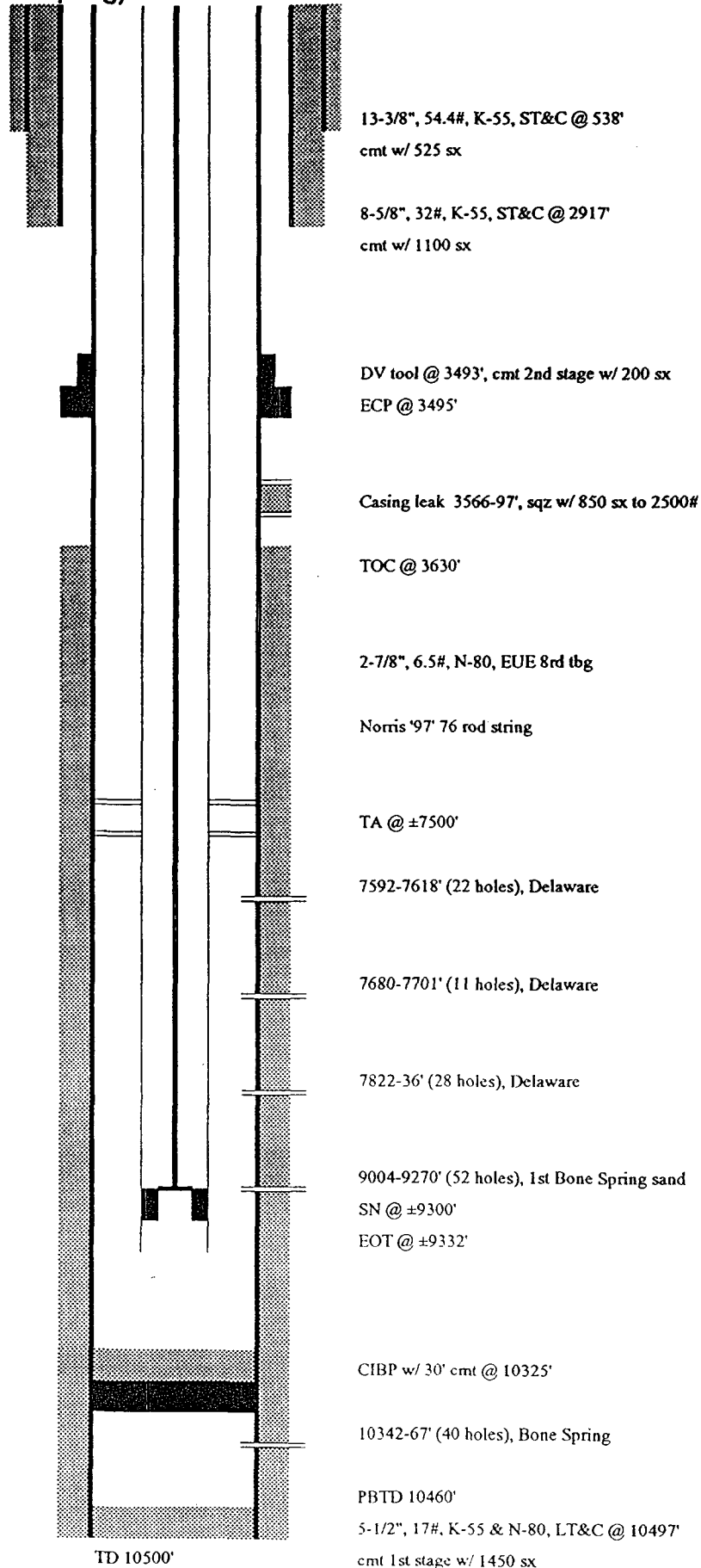
Unit F, Sec 31, T19S, R33E

JGC 6-29-95

Proposed

KB: 3588'

GL: 3577'



Geronimo Federal #4
Geronimo (Delaware)
Lea Co., NM
Well Chronological

8/07/95

Page 1

Date	Activity
7/10/91	Spud. 17-1/2" hole.
7/11/91	Set 13-3/8", 54.4#, K-55, ST&C @ 538'. Cmt w/ 525 sx C + 2% CaCl2 + 1/4#/sx FC. Cmt circ to surface.
7/15/91	Set 8-5/8", 32#, K-55, ST&C @ 2917'. 11" hole. Cmt w/ 800 sx lite + 15#/sx salt + 1/4#/sx FC followed by 300 sx C + 2% CaCl2. Cmt circ to surface.
8/06/91	TD 10500'. 7-7/8" hole. Ran temperature log showing fluid losses at approx. 3800' (dry drilling at TD).
8/08/91	Set 5-1/2", 17#, K-55 & N-80, LT&C @ 10497'. DV tool @ 3493'. ECP @ 3495'. PBTd 10415'. Cmt 1st w/ 1450 sx 50/50 Poz H + 2% gel + 0.7% CF2. Inflate ECP. Cmt 2nd w/ 200 sx C + 2% CaCl2.
8/16/91	Drill DV tool.
8/17/91	Drill cmt to 10460'. Test csg to 2000 psi.
8/19/91	Ran GR-CCL-CBL w/ TOC @ 3630'. No cmt above DV tool. Perf 10342-52' (20 holes) & 10357-67' (20 holes), Bone Spring.
8/20/91	Acidize 10342-67' (40 holes total) w/ 4000 gals 15% HCL.
8/21/91	Set Lufkin M640-305-168 pumping unit.
8/22/91	Ran 2-7/8" tbg for pumping hookup. EOT @ 10401', SN @ 10369', & TA @ 10212'.
8/23/91	Ran Norris '97' 76 rod string.
9/01/91	P-24, TP & CP 30 psi, 3 BO, 7 BW, well pumped off.
9/06/91	Began workover to move uphole.
9/09/91	Set CIBP @ 10325' capped w/ 30' cmt. Perf 1st Bone Spring sand 9158-68' (6 holes), 9184-90' (4 holes), 9198-9216' (10 holes), & 9265-70' (6 holes). Acidize 9158-9270' (26 holes total) w/ 1375 gals 15% HCL.
9/10/91	Frac 9158-9270' w/ 42000 gals 40# gel + 63000# 20/40 Ottawa + 42000# 16/30 resin coated.
9/11/91	Perf 9004-12 (9 holes) & 9046-78' (17 holes).

Geronimo Federal #4
Geronimo (Delaware)
Lea Co., NM
Well Chronological

8/07/95

Page 2

Date	Activity
9/12/91	Acidize 9004-78' (26 holes total) w/ 1000 gals 15% HCL. Frac 9004-78' w/ 36500 gals 40# gel + 47000# 20/40 Ottawa + 30000# resin coated.
9/14/91	Ran 2-7/8" pumping hookup. EOT @ 8904', SN @ 8868', & TA @ 8551'.
9/16/91	Ran Norris '97' 76 rod string.
10/27/91	P-24, TP & CP 30 psi, 70 BO, 307 BW, 53 MCFPD, 12x144" SPM.
8/05/92	Install D-Jax POC.
2/18/93	Start Delaware recompletion.
2/19/93	Set CIBP @ 8984' capped w/ 30' cmt. Perf 7822-36' (28 holes). Acidize w/ 1500 gals 15% NeFe.
2/22/93	Frac 7822-36' w/ 13350 gals 35# linear gel + 26000 gals 35# x-link gel + 12840# 20/40 Ottawa (pipeline frac).
2/23/93	Ran 2-7/8" pumping hookup. EOT @ 7884', SN @ 7851' & TA @ 7784'. Ran rods & pump.
2/27/93	Well pumped off w/ no fluid entry.
3/04/93	Set CIBP @ 7805'. Perf 7680-92' (7 holes) & 7698-7701' (4 holes). Acidize 7680-7701' w/ 1500 gals 15% NeFe.
3/05/93	Perf 7592-95' (4 holes) & 7601-18' (18 holes).
3/06/93	Test csg from 7469' to surface to 3000 psi.
3/07/93	Ream through rough csg @ 3495' (ECP) w/ string mill. Acidize 7592-7618' w/ 2000 gals 15% NeFe.
3/08/93	Frac 7592-7701' (33 holes total) w/ 97000 gals gel + 221000# 16/30 Ottawa + 36000# 16/30 resin coated Ottawa.
3/11/93	Placed well on pump.
4/05/93	P-24, TP 100 psi, CP 20 psi, 47 BO, 45 MCFPD, 345 BW.
4/06/93	Set Howco cmt retainer @ 7670'. Rerun pumping hookup.
4/19/93	P-24, TP 50 pis, CP 30 psi, 55 BO, 235 BW, 40 MCFPD. FL @ 3560'.
5/06/93	Replace pump.

8/07/95

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Date	Activity
9/19/93	Pull rod on pump parted. Replaced pump.
10/16/93	Tbg leak, collar 10 jts above SN.
1/22/94	Pony rod part in top of string.
12/22/94	Rod part, 208th 3/4" rod (body break). Replaced pump.
3/31/95	Start workover to repair casing leak.
4/03/95	Locate hole between 3566 - 3597'. Pump into leak @ 600 psi @ 2.8 BPM. Set cmt retainer @ 3441'. Annulus test to 1500 psi.
4/04/95	1st sqz w/ 200 sx C + 2% CaCl2. Well on vacuum, overflush w/ 30 bbls. 2nd sqz w/ 500 gals Flochek followed by 200 sx C + 2% CaCl2. Overflush w/ 10 bbls.
4/05/95	3rd sqz, pump into hole @ 850 psi @ 2.5 BPM w/ FW followed by 250 sx lite + 4% gel + 10# gilsonite followed by 200 sx c + 3% CaCl2. Sqz to 2500#. Held for 5 min. Reverse out 2 bbls cmt.
4/06/95	Drill retainer & 130' cmt to 3571'. Test sqz to 1000 psi for 15 minutes.
4/07/95	RIH w/ 2-7/8", 6.5#, N-80, EUE 8rd pumping hookup. EOT @ 7631', SN @ 7599', & TA @ 7505'. RIH w/ 2-1/2" x 1-1/2" x 26' RHBC pump & Norris '97' rod string.



Champion
Technologies, Inc.

Committed To Improvement

DELAWARE

Water Analysis Report

Customer: Mitchell Energy

3/5/96

Address:

City:

State:

Zip:

Attention: Gary Butler

Date Sampled: 2/28/96

CC1: Herb Singleton

Date Received: 2/28/96

CC2: Greg Colburn

SALESMAN NAME: Mike Edwards

LEASE: Geronimo

SAMPLE POINT: Geronimo Fed #1

WELL: Geronimo Fed #1

REMARKS:

CHLORIDE: 168000

SULFATE: 380

BICARBONATE: 85

CALCIUM: 32481

MAGNESIUM: 4981

IRON: 6

BARIUM: 6

STRONTIUM: 1172

MEASURED pH: 6.21

TEMPERATURE: 86

DISSOLVED CO2: 395

MOLE PERCENT CO2 IN GAS:

DISSOLVED H2S: 0.0

PRESSURE (PSIA): 100

SODIUM (PPM): 61863

IONIC STRENGTH: 4.75

CALCITE (CaCO3) SI: -0.26

CALCITE PTB: N/A

GYPSUM (CaSO4) SI: -0.08

GYPSUM PTB: N/A

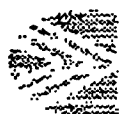
BARITE (BaSO4) SI: 0.94

BARITE PTB: 3.2

CELESTITE (SrSO4) SI: 0.61

CELESTITE PTB: 130.8

SI calculations based on Tomson-Oddo



Champion
Technologies, Inc.

Committed To Improvement

BONE SPRING

Water Analysis Report

Customer: Mitchell Energy

3/5/96

Address:

City:

State:

Zip:

Attention: Gary Butler

Date Sampled: 2/28/96

CC1: Herb Singleton

Date Received: 2/28/96

CC2: Greg Colburn

SALESMAN NAME: Mike Edwards

LEASE: Geronimo

SAMPLE POINT: Geronimo #5

WELL: Geronimo #5

REMARKS:

CHLORIDE: 100000

SULFATE: 529

BICARBONATE: 146

CALCIUM: 2325

MAGNESIUM: 534

IRON: 6

BARIUM: 3

STRONTIUM: 479

MEASURED pH: 6.52

TEMPERATURE: 86

DISSOLVED CO2: 526

MOLE PERCENT CO2 IN GAS:

DISSOLVED H2S: 0.0

PRESSURE (PSIA): 100

SODIUM (PPM): 61230

IONIC STRENGTH: 2.83

CALCITE (CaCO3) SI: -1.99

CALCITE PTB: N/A

GYPSUM (CaSO4) SI: -1.02

GYPSUM PTB: N/A

BARITE (BaSO4) SI: 0.58

BARITE PTB: 1.3

CELESTITE (SrSO4) SI: 0.23

CELESTITE PTB: 79.7

SI calculations based on Tomson-Oddo



Champion
Technologies, Inc.

Committed To Improvement

DELAWARE
Water Analysis Report

Customer: Mitchell Energy

3/5/96

Address:

City:

State:

Zip:

Attention: Gary Butler

Date Sampled: 2/28/96

CC1: Herb Singleton

Date Received: 2/28/96

CC2: Greg Colburn

SALESMAN NAME: Mike Edwards

LEASE: Geronimo

SAMPLE POINT: Geronimo #9

WELL: Geronimo #9

REMARKS:

CHLORIDE: 154000

SULFATE: 560

BICARBONATE: 109

CALCIUM: 28872

MAGNESIUM: 4860

IRON: 29

BARIUM: 4

STRONTIUM: 1110

MEASURED pH: 6.27

TEMPERATURE: 86

DISSOLVED CO2: 439

MOLE PERCENT CO2 IN GAS:

DISSOLVED H2S: 0.0

PRESSURE (PSIA): 100

SODIUM (PPM): 57281

IONIC STRENGTH: 4.36

CALCITE (CaCO3) SI: -0.37

CALCITE PTB: N/A

GYPSUM (CaSO4) SI: 0.02

GYPSUM PTB: 12.2

BARITE (BaSO4) SI: 0.85

BARITE PTB: 2.0

CELESTITE (SrSO4) SI: 0.70

CELESTITE PTB: 204.2

SI calculations based on Tomson-Oddo

PSD
 Phase
 Type
 Decline(%)
 qi
 Cum(M) 06/1995
 Remaining(M)
 Ultimate(M)
 OGRE Cum(M)
 OGRE Ult(M)
 Segment
 Type
 Decline(%)
 qi
 Limit
 Forecast
 Decline(%)
 q
 q actual
 Cum(M) 06/1995
 Remaining(M)
 OGRE Cum(M)

07/01/1995
 OIL
 Exp
 27.0
 380
 16.951
 8.523
 25.474
 0.000
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 Exp
 27.0
 380
 34 IMOS
 07/01/1995
 27.0
 375
 16.951
 8.523
 0.000

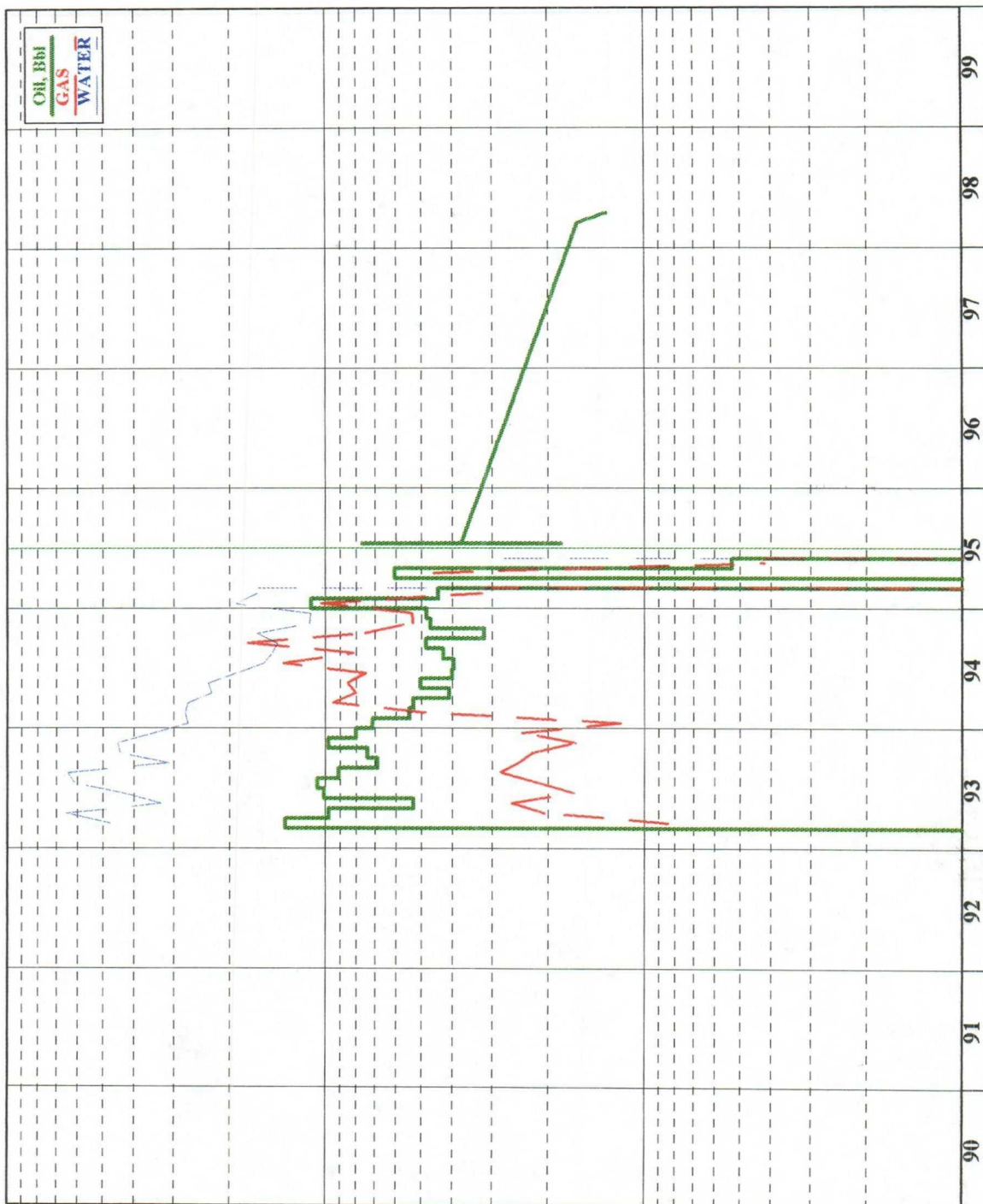
GERONIMO FEDERAL 004
LEA COUNTY, NM
GERONIMO;DELAWARE FIELD

10000
 10000
 10000

1000
 1000
 1000

100
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 100

10
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 10



PSD Phase Type Decline(%) q Cum(M) 02/1993 Remaining(M) Ultimate(M) OGRE Cum(M) OGRE Ult(M)

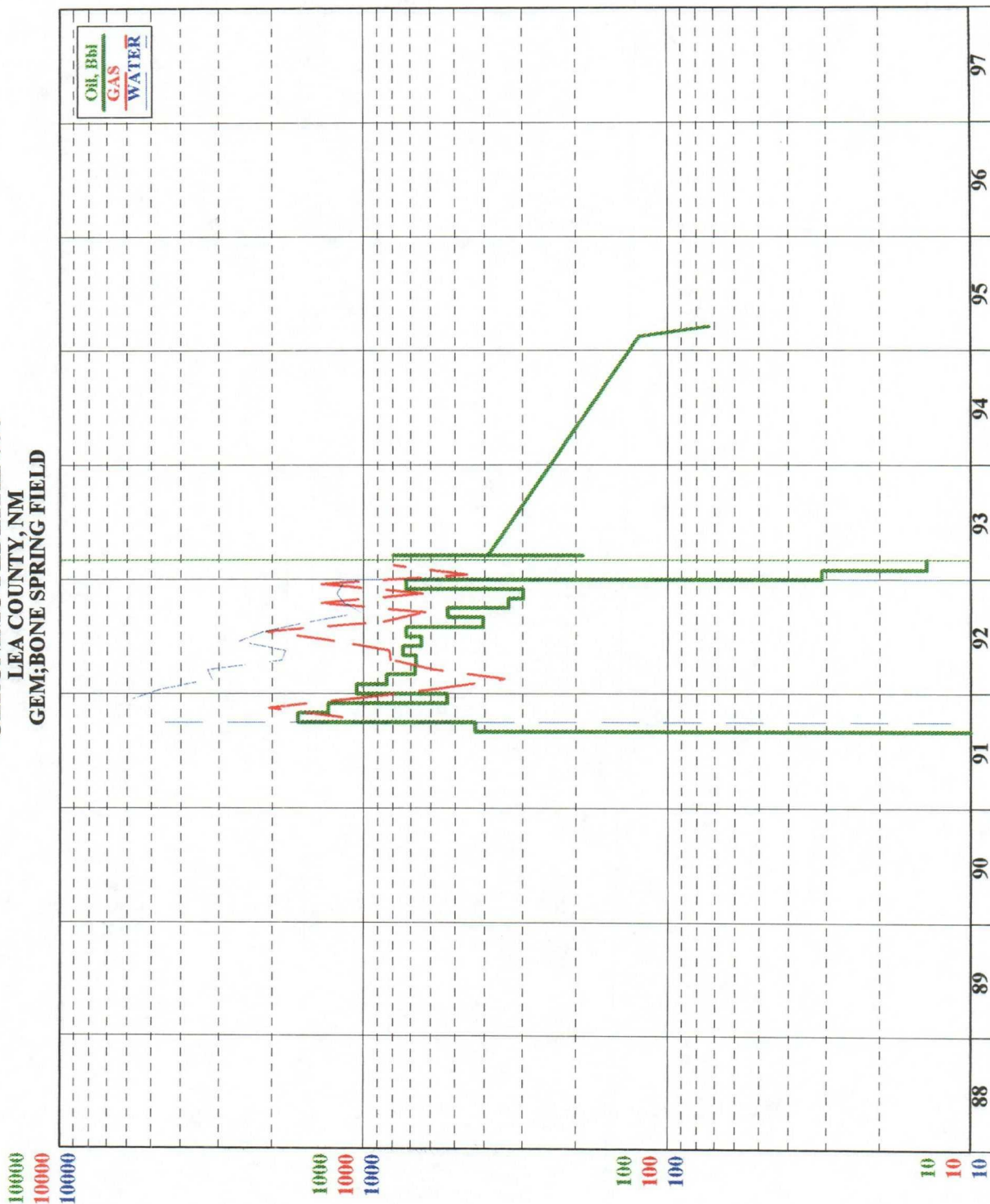
03/01/1993 OIL Exp 45.0 400 11.610 5.673 17.283 0.000 5.673

#01 Segment Type Decline(%) q Limit 25 IMOS

03/01/1993 Forecast Decline(%) q actual Cum(M) 02/1993 Remaining(M) OGRE Cum(M)

45.0 390 11.610 5.673 0.000

GERONIMO FEDERAL 004
LEA COUNTY, NM
GEM; BONE SPRING FIELD



GERONIMO FEDERAL #4

PROPOSAL TO COMMINGLE

PRODUCTION FROM GERONIMO (DELAWARE) & GEM (BONE SPRING) ZONES

PRODUCTION HISTORY

BONE SPRING					DELAWARE				
YR	MO	GAS (MCF)	OIL (BBL)	WATER (BBL)	YR	MO	GAS (MCF)	OIL (BBL)	WATER (BBL)
1991	9	0	430	4500	1993	3	84	1344	4760
	10	1177	1644	0		4	205	980	6511
	11	2049	1310	0		5	261	530	3295
	12	1051	530	5754		6	166	1015	4290
1992	1	571	1056	4650		7	213	1063	6137
	2	343	842	3160		8	282	912	6444
	3	595	677	3270		9	246	688	3120
	4	816	672	1860		10	223	738	4410
	5	825	743	1807		11	164	981	4500
	6	1249	646	2570		12	241	804	3475
	7	2096	725	2149	1994	1	118	713	2708
	8	861	405	1508		2	494	545	2764
	9	625	528	1020		3	948	531	2709
	10	1377	334	1163		4	801	410	2283
	11	639	299	1230		5	852	503	2336
	12	1378	724	1181		6	746	401	1914
1993	1	455	31	0		7	1360	396	1571
	2	799	14	0		8	816	428	1468
		16,906	11,610	35,822		9	1755	485	1417
						10	752	318	1647
						11	533	468	1127
						12	535	482	1117
					1995	1	1033	1111	1919
						2	322	443	1644
						3	0	0	0
						4	457	609	0
						5	42	53	274
						6	0	0	0
							11,564	7,896	26,898

12 mcs 92 = 11375
54

12 mcs 94 9710 46

Estimated Economic Remaining BONE SPRING Reserve = 5,700 BO

Estimated Economic Remaining DELAWARE Reserve = 8,500 BO

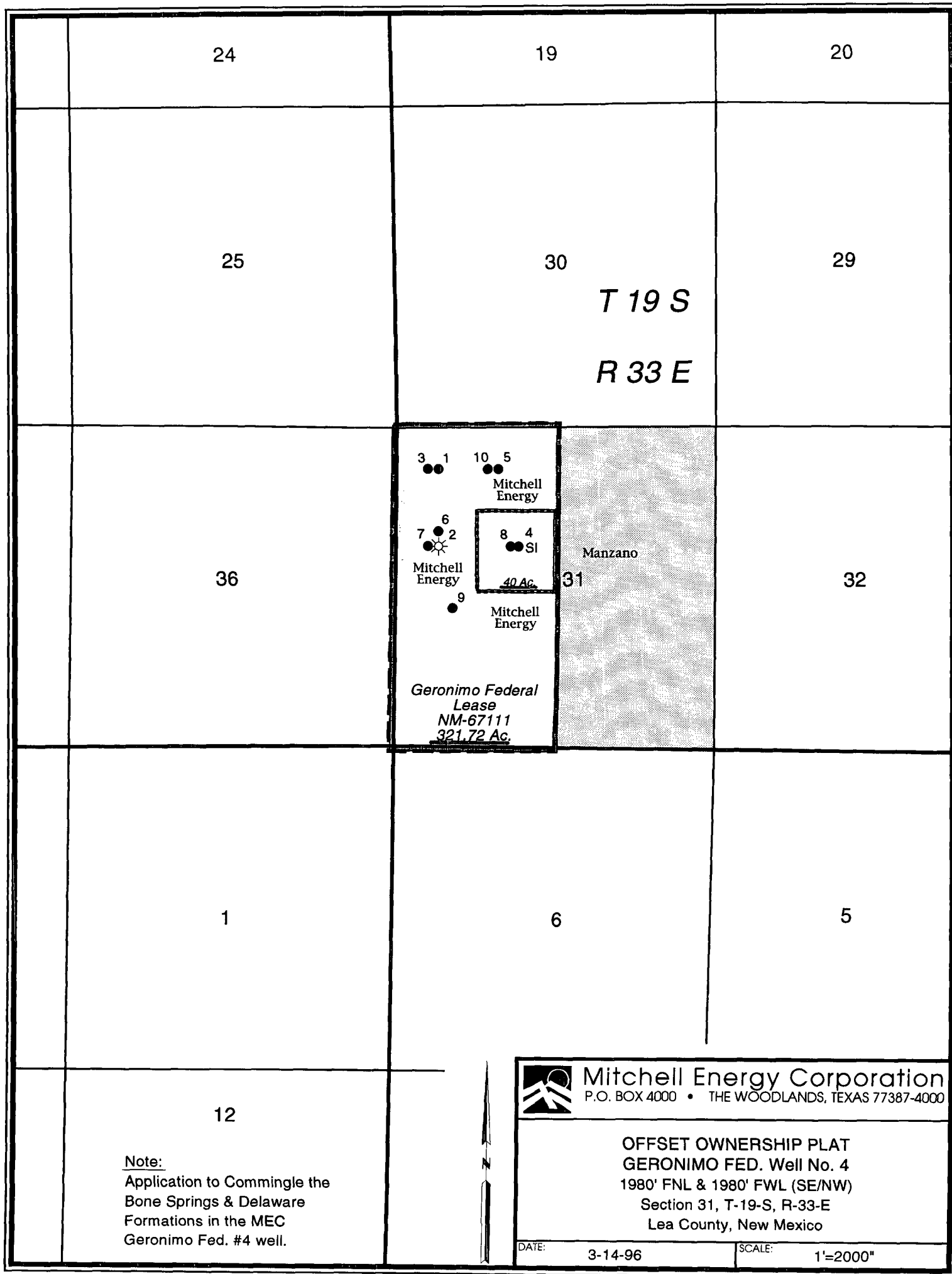
Combined Economic BONE SPRING & DELAWARE Reserve = 14,200 BO

Fraction of remaining reserve from BONE SPRING = $5,700/14,200 = .40$

Fraction of remaining reserve from DELAWARE = $8,500/14,200 = .60$

PROPOSED ALLOCATION FORMULA:

TOTAL PRODUCTION X (.40) = GEM (BONE SPRING) POOL
TOTAL PRODUCTION X (.60) = GERONIMO (DELAWARE) POOL



MEMORANDUM

TO: Jeff Williford / Production-Continental / Trident - 150

FROM: Mike O'Donnell / Property Administration / MND-1N

DATE: January 26, 1996

SUBJECT: **PROPOSED CASING LEAK SQUEEZE
& COMMINGLING OPERATIONS**
5023-04 Geronimo Federal Well No. 4
Lea County, New Mexico

RECEIVED

JAN 31 1996

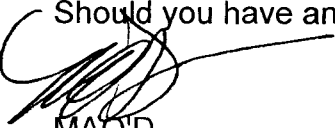
PRODUCTION
REGULATORY AFFAIRS

Pursuant to your memo dated January 9, 1996 to Pat Noyes regarding the above operations, we have reviewed the pertinent files and offer the following.

Our records indicate the subject well is located on the 321.72 gross and net acres covered by Federal Oil & Gas Lease NM NM-67111 (MEC # 40033-1), which is currently being maintained by production from the Geronimo Federal Wells No. 1, 2, 3, 5, 6, 7, 8, 9 & 10 (5023-01, 02, 03, 05, 06, 07, 08, 09 & 10).

MEC's rights extend to and cover both oil and gas at all depths and ownership is common at all depths. Therefore subject to regulatory approval production from the Delaware and the 1st Bone Spring are compatible for commingling.

Should you have any questions or if we can be of any assistance please advise.


MAO'D

cc: Roger B. Smith / Land / MND-4N
Larry Cunningham / Land / MND-4N
Pat Noyes / Production-Continental / MND-4N
Cheryl Thompson

PRODUCTION
REGULATORY DISTRICT

JUL 1 1996

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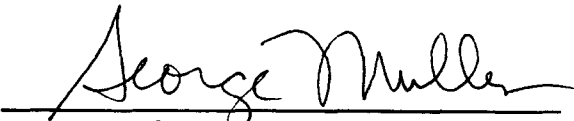
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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of Mitchell Energy Corporation's Application for Exception to Rule 303-A for its Geronimo Federal Well No. 4 was sent to each of the below named parties by certified mail on March 14, 1996.

Manzano Oil Corporation
P.O. Box 2107
Roswell, New Mexico 88202

Bureau of Land Management
620 East Greene St.
Carlsbad, New Mexico 88220


George Mullen