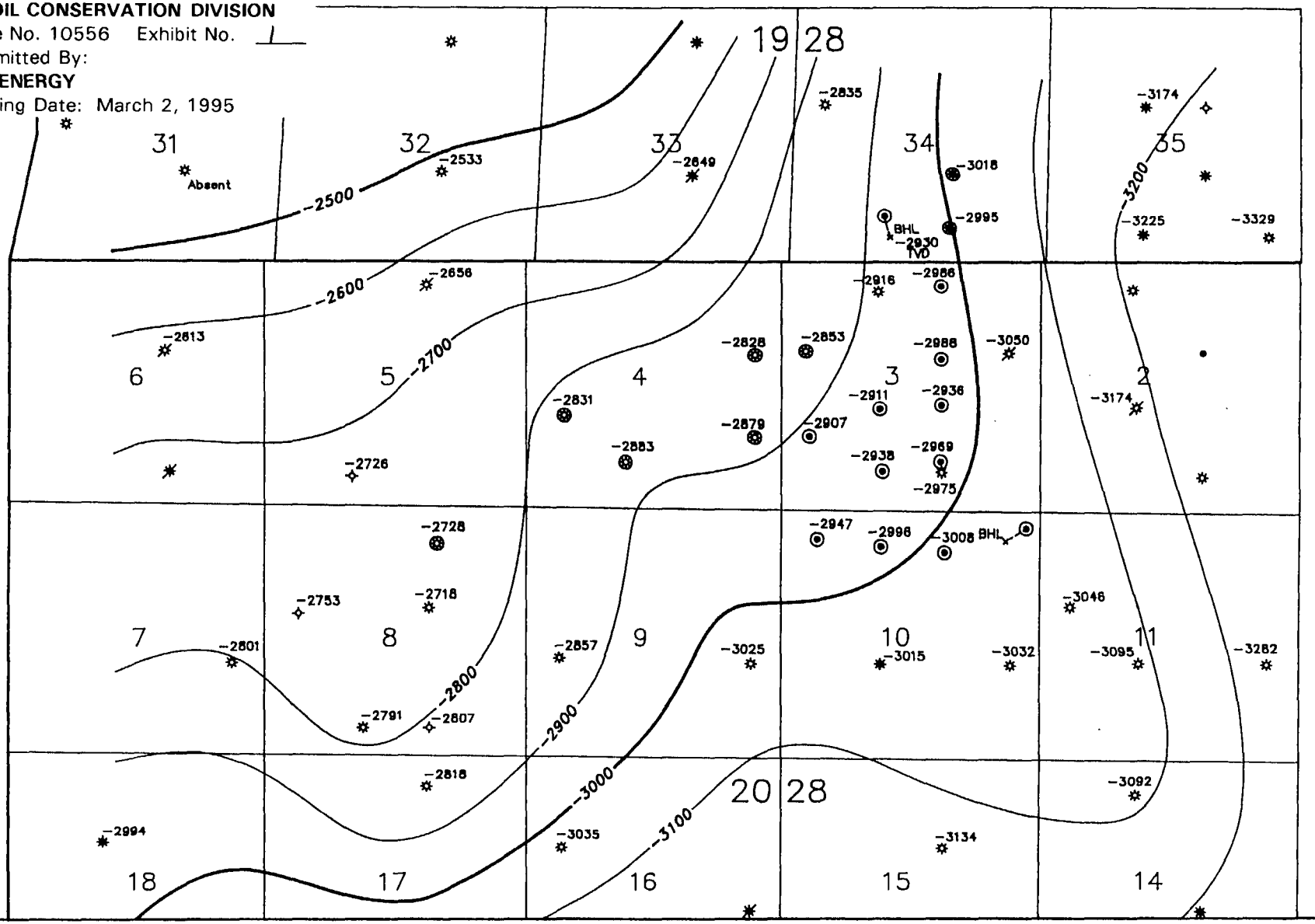
Chi Exhibits 1 through 19
Complete Set

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 1
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

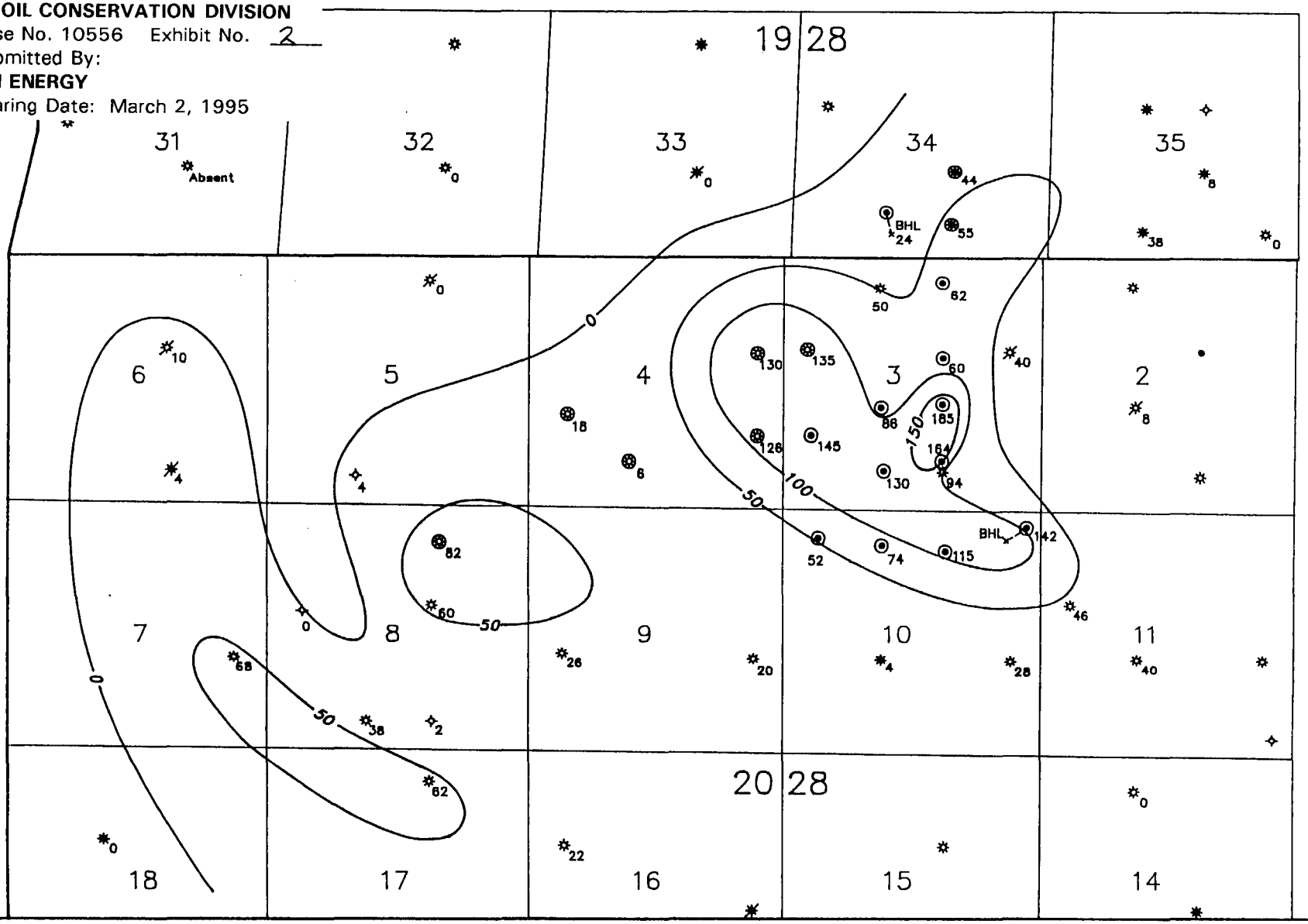


Old Millman Ranch Bone Spring Associated Eddy County, New Mexico

Structure Map Top of Bone Spring First Sand C.I. = 100'

Bone Spring or Deeper Wells Only 1":3000' M.D. Hayes 1/95

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 2
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995



Old Millman Ranch Bone Spring Associated Eddy County, New Mexico

Isopach Map Net Pay Bone Spring First Sand Ø > 12% C.I. = 50'

Bone Spring or Deeper Wells Only 1":3000' M.D. Hayes 1/95

Chi Energy, Inc.
Old Millman Ranch
1st Bone Spring Sand

Recommendation to Establish Final Field Rules

* **Associated Pool Designation**
* **80 Acre Gas Well Spacing**
* **40 Acre Oil well Spacing**
* **Maintain 5000:1 GOR Limitation**

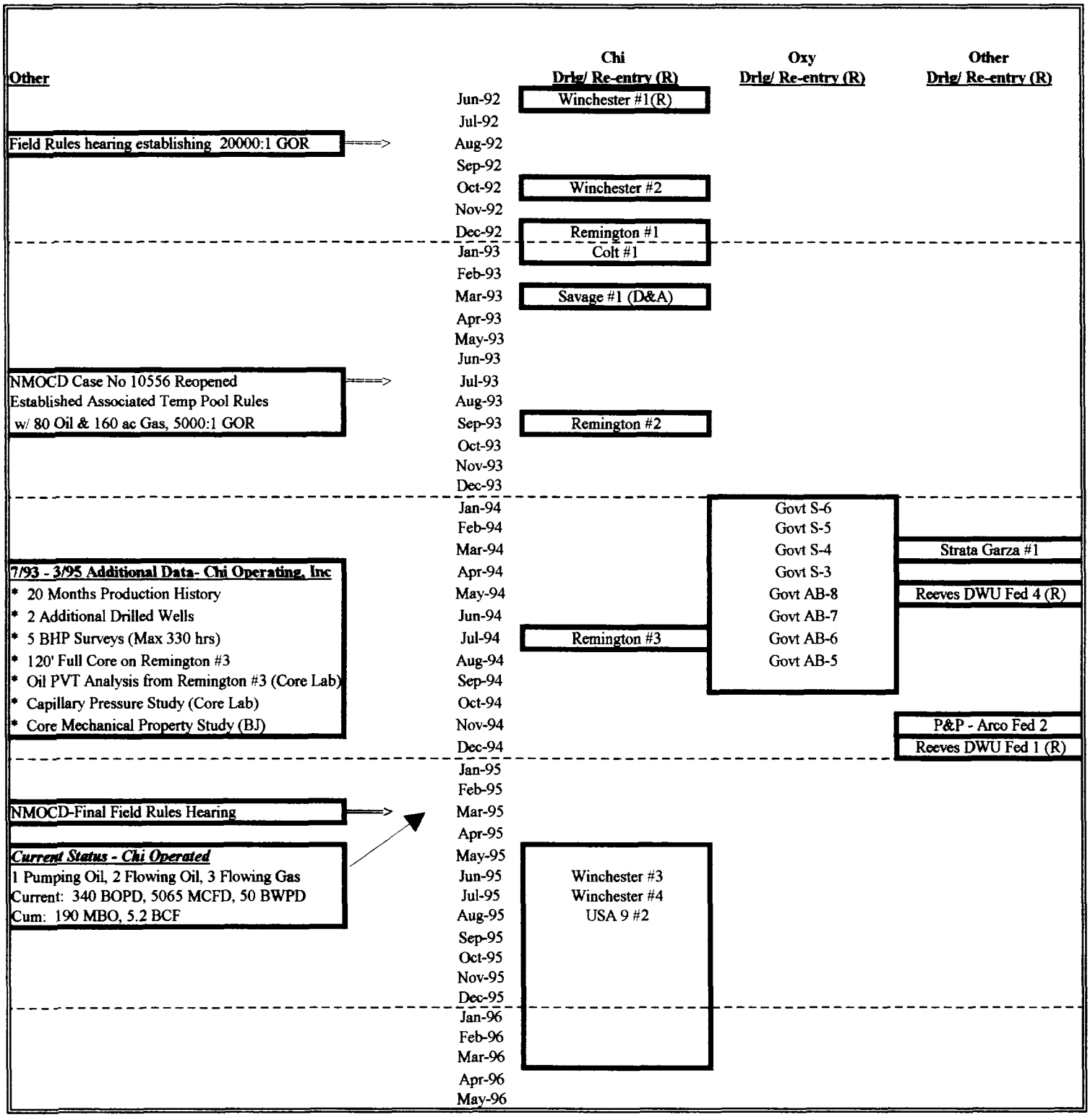
BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 3
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc.

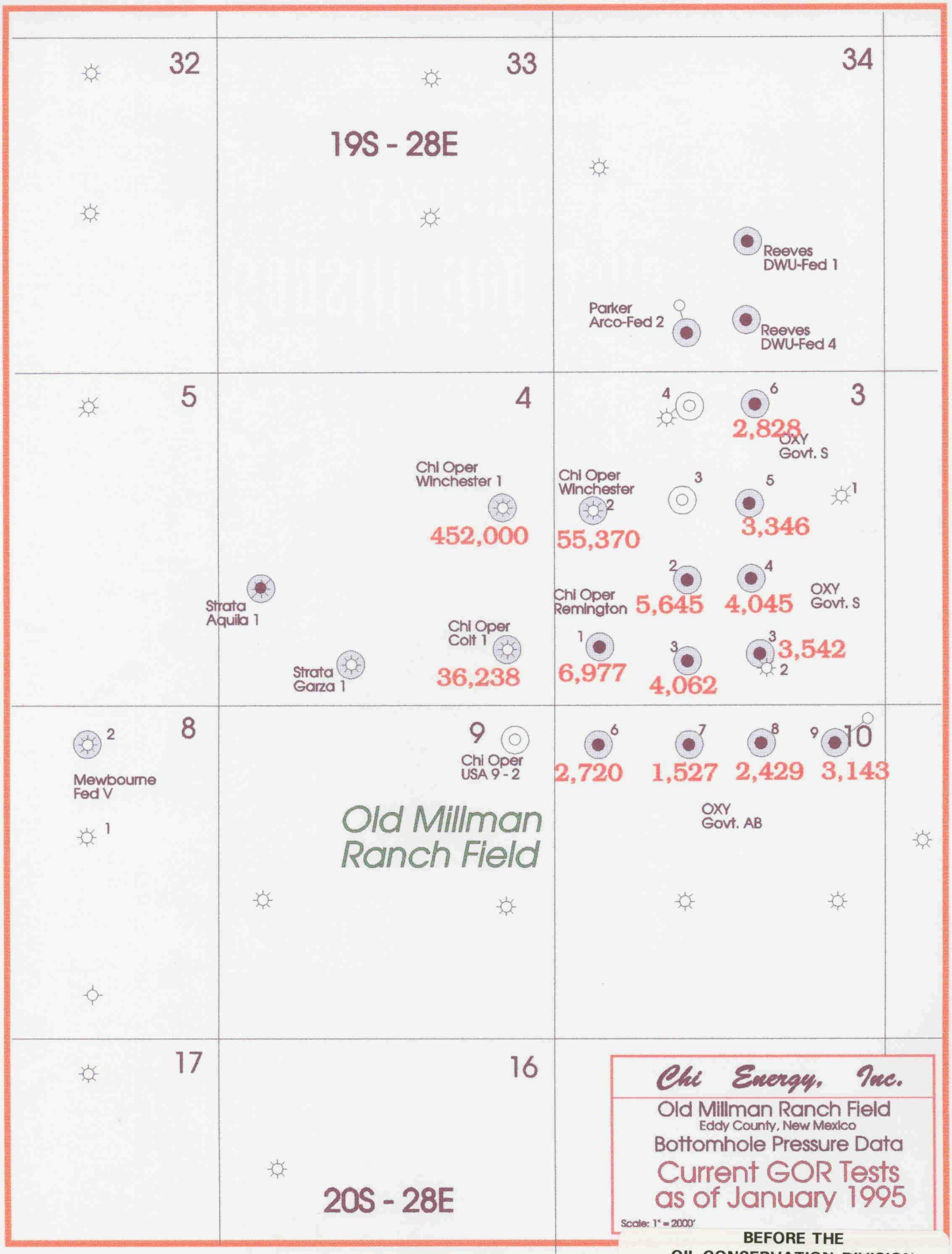
Old Millman Ranch

1st Bone Spring Sand

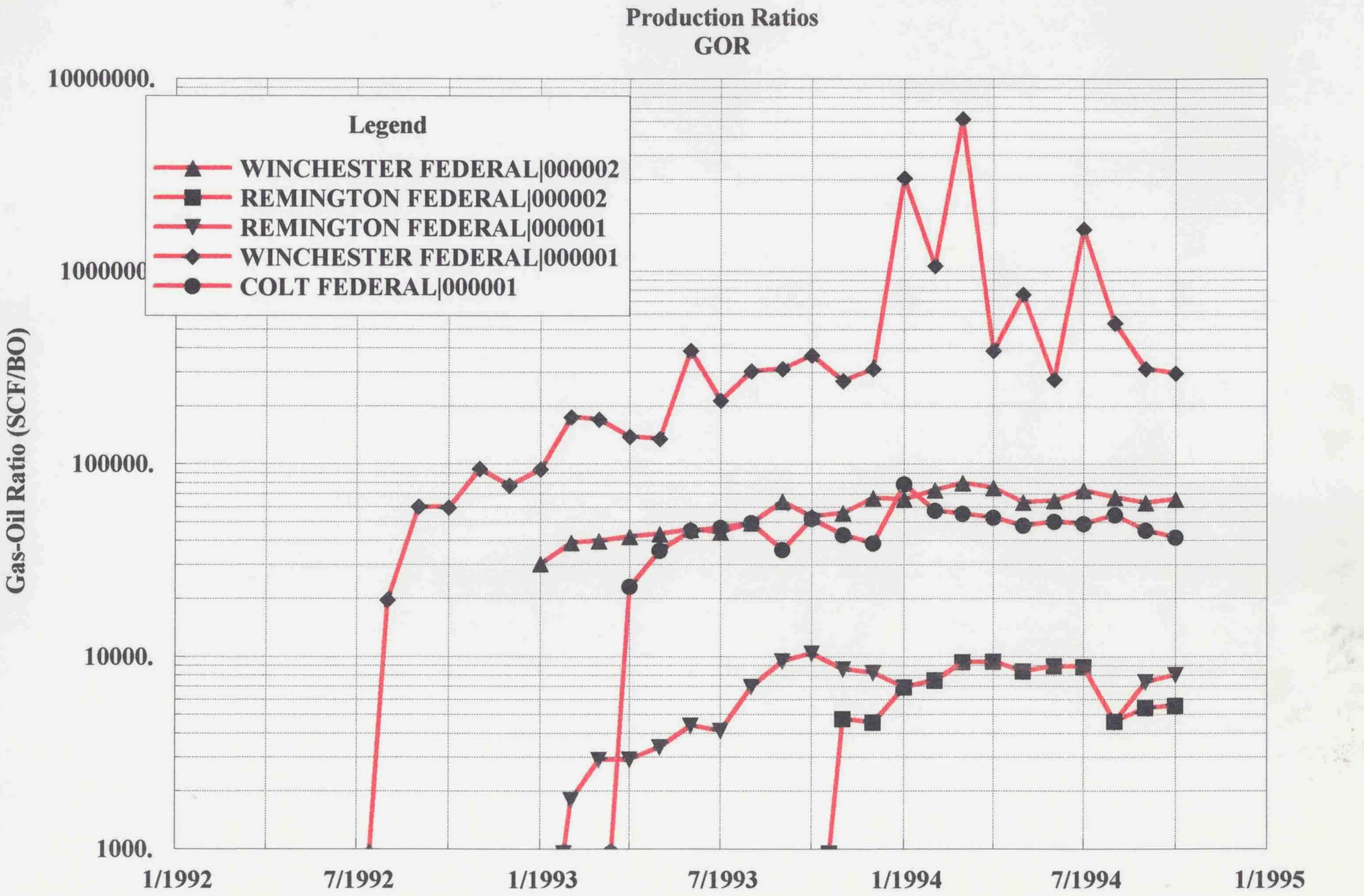
Time Line



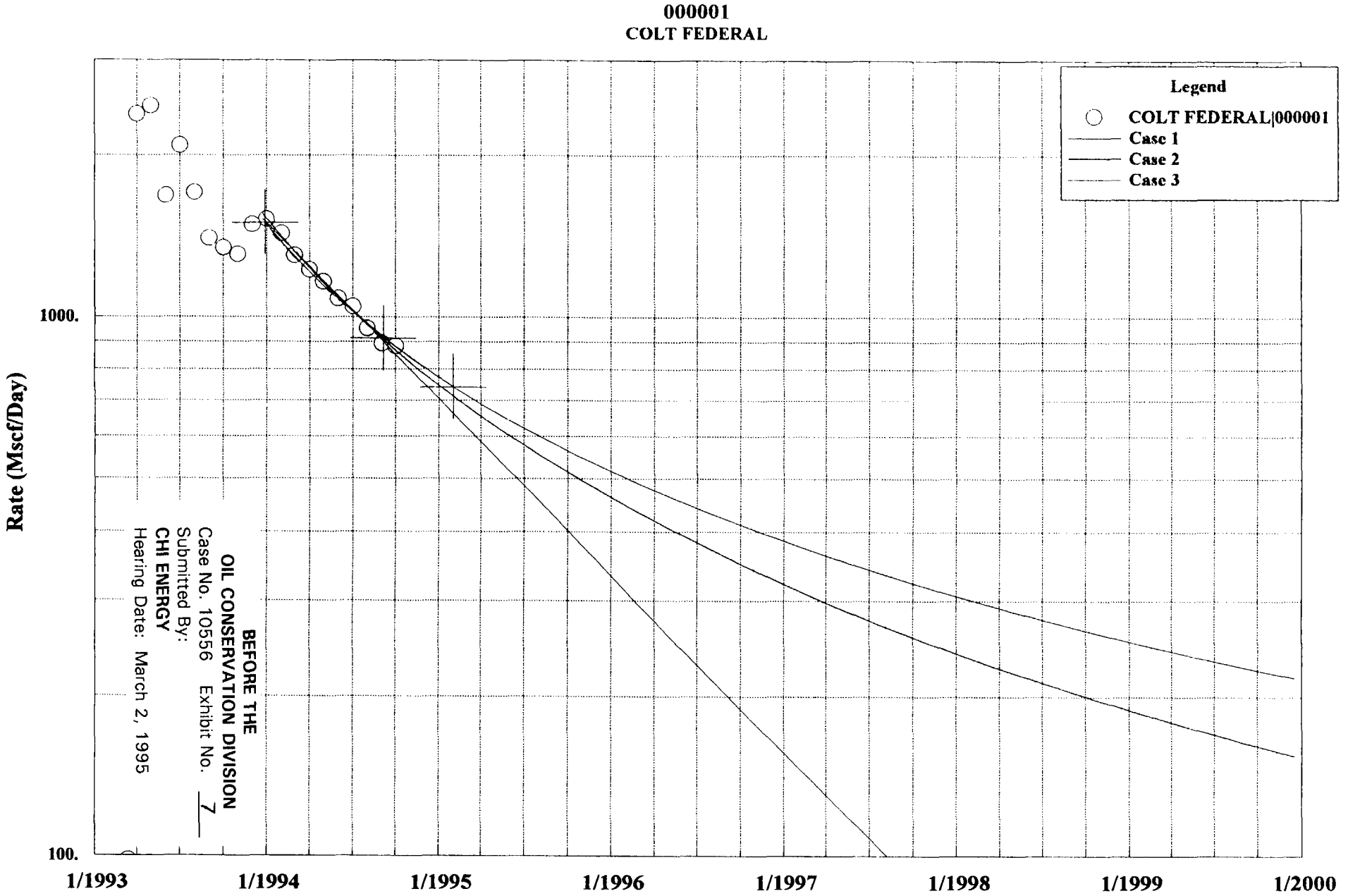
BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 4
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995



BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 5
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995



BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 6
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995


000001
COLT FEDERAL
Legend
COLT FEDERAL|000001
Case 1
Case 2
Case 3
Rate (Mscf/Day)
1000.
100.
1/1993
1/1994
1/1995
1/1996
1/1997
1/1998
1/1999
1/2000
BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 7
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc

Old Millman Ranch

1st Bone Spring Sand

Gas Well Drainage Calculations

Decline Curve Reserves - Gas, MMCF

	Data Through 11/94		Data through 2/95
	Exponential	Hyperbolic	Hyperbolic
Winchester #1	2,650	2,700	4,250
Winchester #2	2,600	2,650	3,250
Colt #1	1,200	1,750	2,350
Average	2,150	2,367	3,283

Well Pay and Cumulative Production Data

	Gross Pay, ft	Geol Net Pay, ft	55% Net Pay, ft	Nov-94 Cum, MMCF
Winchester #1	170	130	94	1,732
Winchester #2	200	135	110	1,552
Colt #1	215	126	118	833
Average	195	130	107	1,372
Total				4,117

Assume:

33% Sw	Capillary Pressure Average endpoints
12.8% Porosity	Average Core Phi for "Pay" as defined by >12% Density Log phi
195.53 Bgi (SCF/CF)	Compositional Analysis Correlations @ Pi=2432 psi
26.19 Bga	Compositional Analysis Correlations @ Pab=400 psi

Unit Recovery = 43,560 * phi * (1-Sw) * (Bgi-Bga) for Depletion drive

= 632,604 SCF/Ac*ft

= 632.604 MCF/Ac*ft

= 86.61% Recovery

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 4
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc

Old Millman Ranch

1st Bone Spring Sand

Gas Well Drainage Calculations

	Implied Drainage Areas, Acres		
	Data Through 11/94		Data through 2/95
	Exponential	Hyperbolic	Hyperbolic
Winchester #1	44.6	45.4	71.5
Winchester #2	37.4	38.1	46.7
Colt #1	16.1	23.4	31.5
Average	32.7	35.6	49.9

*Decline Curve Reserves/(55% Height*Unit Recvy)

Conclusion: Drainage areas for gas wells 32-50 Acres

Recommendation: 80 acre gas well spacing

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 9
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc

Old Millman Ranch

1st Bone Spring Sand

Decline Curve Reserves - Oil, MBO

	Data Through 11/94		Data through 2/95
	Exponential	Hyperbolic	Hyperbolic
Remington Fed #1 & #2	155	200	320

Well Pay and Cumulative Production Data

	Gross Pay, ft	Geol Net Pay, ft	55% Net Pay, ft	Nov-94 Cum, MBO	Nov-94 MMCF
Remington Fed #1	215	145	118	81	526
Remington Fed #2	240	86	132	39	257
Average	228	116	125	60	392
Total				120	783

Calculated Drainage Areas - Acres/Well

Recv % OOIP	Recv STB/Ac*ft	Data Through 11/94 Exp	Hyperbolic	Data through 2/95 Hyperbolic
22%	94.70	6.82	8.80	14.08 *
26%	112.98	5.72	7.38	11.80 *
32%	138.94	4.65	6.00	9.60 *
7.7%	33.27			40.08 **

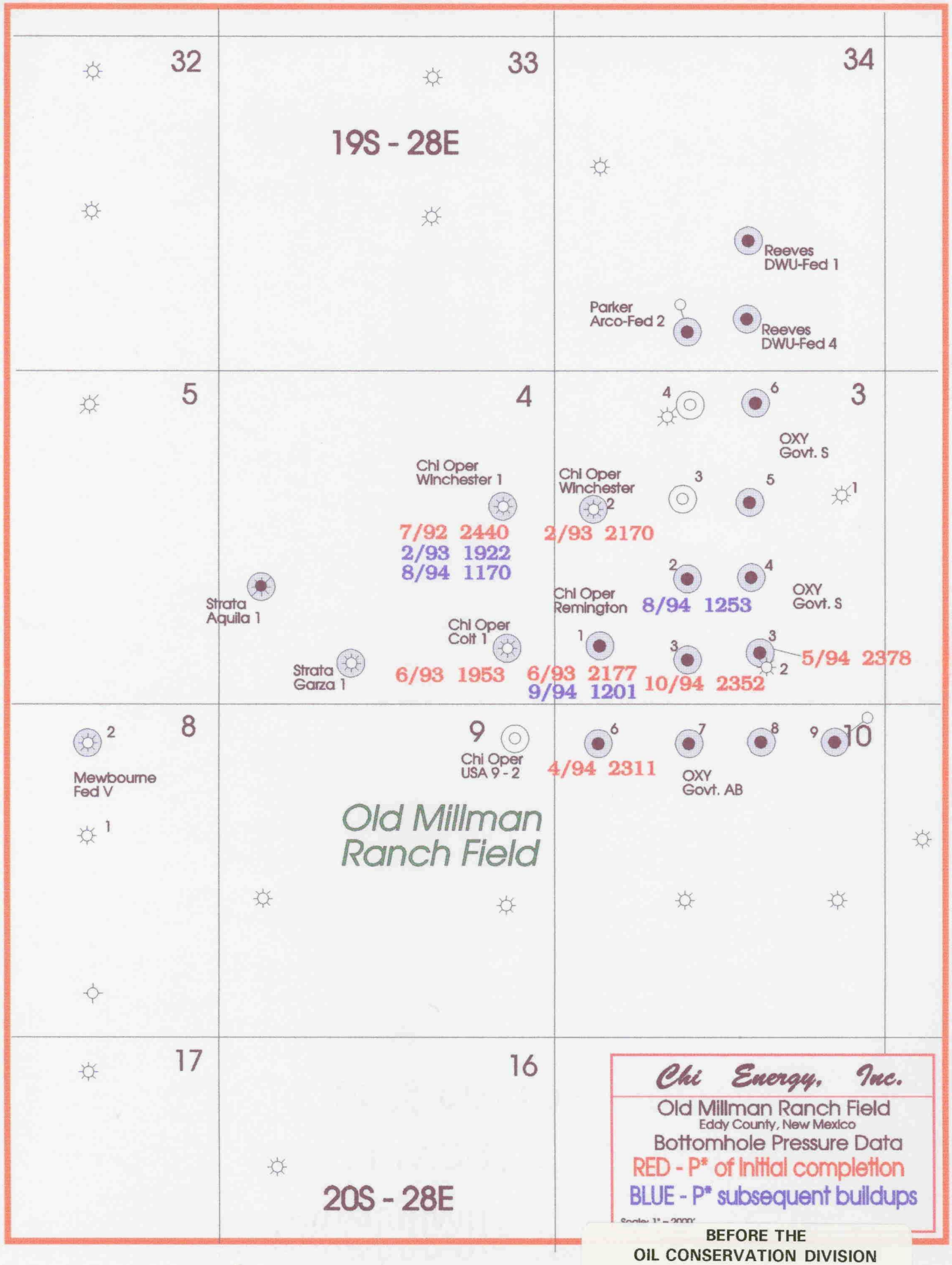
* Calculations utilize 120' net height average

** Final Calculation to show RF req'd f/ 40 acre drainage.

Conclusion: Drainage areas for oil wells range from 5 - 14 Acres

Recommendation: 40 Acre Oil Well Spacing

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 10
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995



Chi Energy, Inc.

Old Millman Ranch Field
Eddy County, New Mexico
Bottomhole Pressure Data
RED - P* of initial completion
BLUE - P* subsequent buildups

Scale: 1" = 2000'

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 11
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc.

Old Millman Ranch

1st Bone Spring Sand

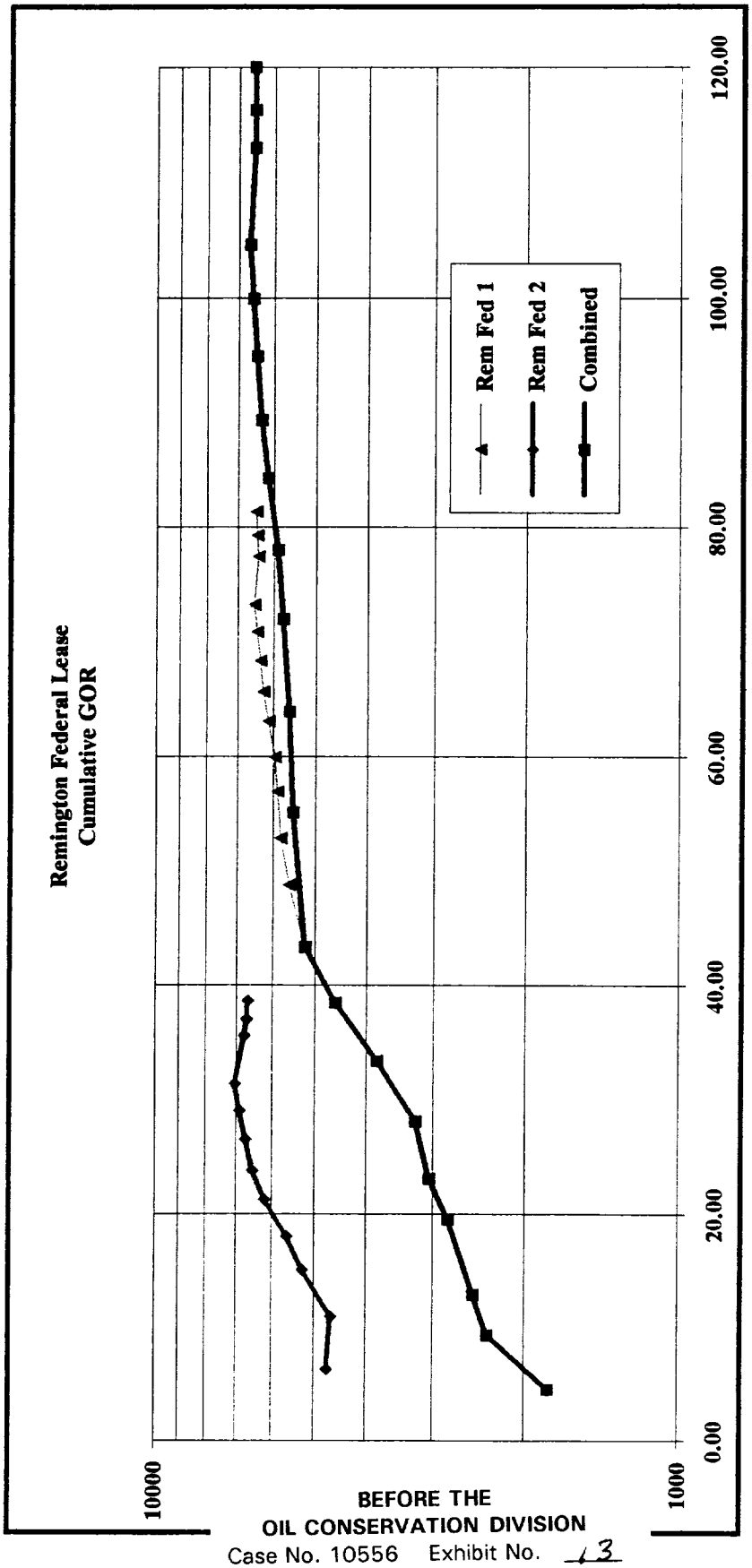
Current & Proposed Allowables - Chi Operating, Inc

	Type	80/160 BOPD	80/160 MCFD	40/80 BOPD	40/80 MCFD
Remington 1, 2 & 3	Oil	444	2,220	426	2,130
Winchester #1	Gas	222	2,220	142	1,420
Winchester #2	Gas	222	2,220	142	1,420
Colt #1	Gas	222	2,220	142	1,420
Current Totals		1,110	8,880	852	6,390
Winchester #3	Oil			142	710
Winchester #4	Oil			142	710
USA 9-2	Oil			142	710
Total		1,110	8,880	1,278	8,520

Oil Well Calculation:	Oil	= 222 BOPD per 80 acres	= 142 BOPD per 40 acres
	Assoc Gas	= 222 BOPD * 5000 GOR = 1,110 MCFD per 80 acres	= 142 BOPD * 5000 GOR
		= 1,110 MCFD per 80 acres	= 710 MCFD per 40 acres
Gas Well Calculation:	Oil	= 222 BOPD per 160 acres	= 142 BOPD per 80 acres
	Gas	= 160 ac/80 ac * 222 BOPD * 5000 GOR	= 80 ac/40 ac * 142 BOPD * 5000 GOR
		= 2,220 MCFD	= 1,420 MCFD

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 12
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc.



BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 13
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

Chi Energy, Inc.
Old Millman Ranch
1st Bone Spring Sand

Recommendation to Establish Final Field Rules

* **Associated Pool Designation**
  - GOR Varies w/ Structure f/ >400,000 To +/- 2000 SCF/STB

* **80 Acre Gas Well Spacing**
  - Calculations show 32-50 Acre Avg Well Drainage

* **40 Acre Oil well Spacing**
  - Calculations show 5-14 Acre Avg Well Drainage for RF 22-32%
  - Calculations show 7.7% RF for 40 Acre Spacing
  - BHP data shows approx Original BHP on Remington #3

* **Maintain 5000:1 GOR Limitation**
  - Cum GOR data supports Continuation of 5000:1
  - BHP data indicates pressure drainage areas < 40 acres

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 14
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995

MEWBOURNE OIL COMPANY

500 W. TEXAS, SUITE 1020
MIDLAND, TEXAS 79701

(915) 682-3715
FAX (915) 685-4170

March 1, 1995

New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

Attn: Mr. David R. Catanach

Re: Old Millman Ranch - Bone Spring Pool
NMOCD Case #10,556
T19 & T20S - R28E
Eddy County, New Mexico

Dear Mr. Catanach:

Mewbourne Oil Company has operating interests in the captioned pool and respectfully requests that the Division establish the proposed final pool rules. We concur with the Associated Oil and Gas Pool designation.

We believe that establishment of 80-acre spacing for gas and 40-acre spacing for oil along with a 5000:1 GOR limitation will prevent economic waste and provide for orderly development of this pool. Mewbourne Oil Company supports the applicant in this proposal, which appears to be in the best interest of all concerned.

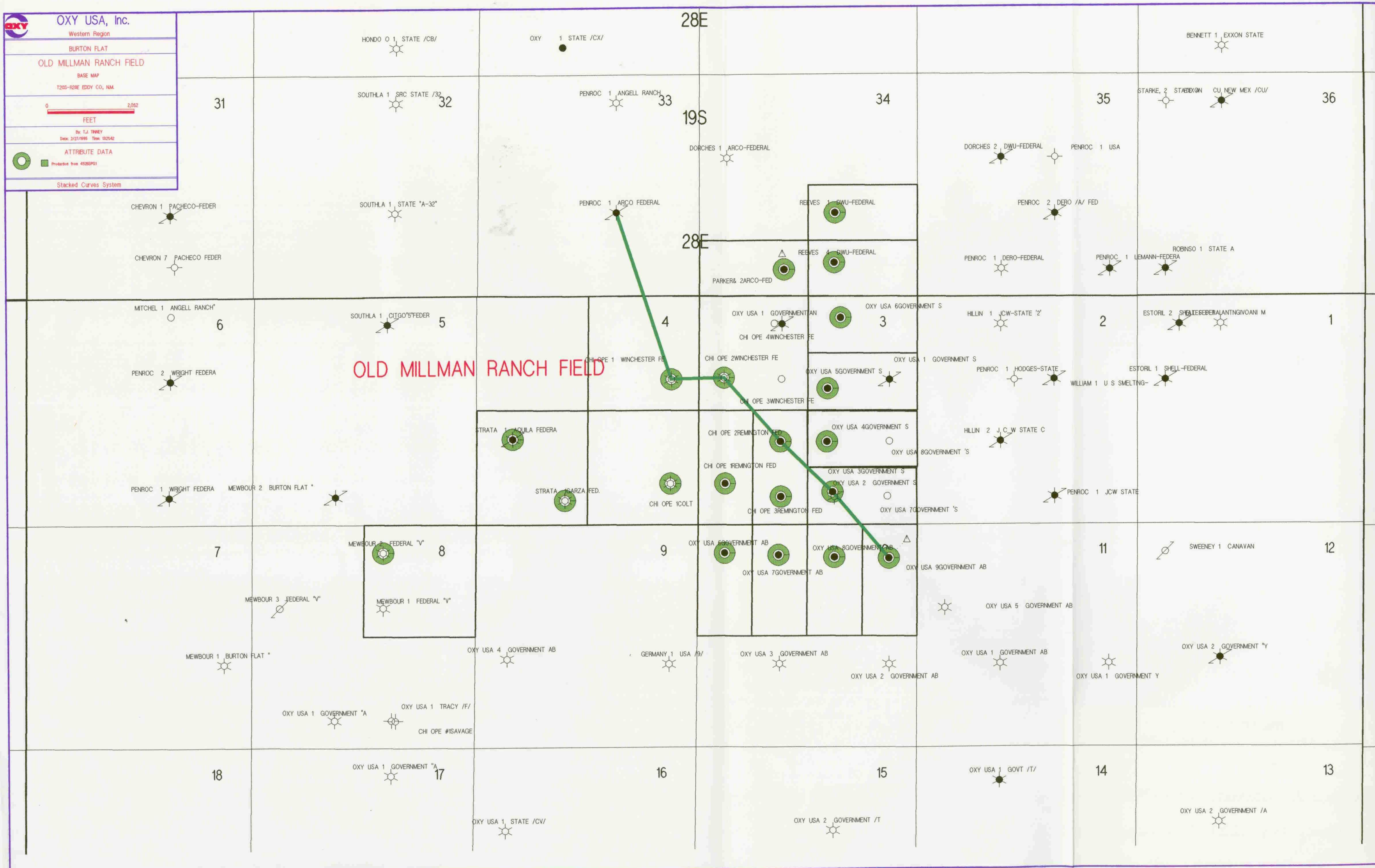
Sincerely,

MEWBOURNE OIL COMPANY

David C. Shatzer

David C. Shatzer
Geologist

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 10556 Exhibit No. 15
Submitted By:
CHI ENERGY
Hearing Date: March 2, 1995


OXY USA, Inc.
Western Region
BURTON FLAT
OLD MILLMAN RANCH FIELD
BASE MAP
T20S-R28E EDDY CO, NM.
0
2,062
FEET
By: T.J. TINNEY
ATTRIBUTE DATA
Stacked Curves System
OLD MILLMAN RANCH FIELD
28E
19S
28E
31
32
33
34
35
36
6
5
4
3
2
1
7
8
9
11
12
18
17
16
15
14
13
HONDO O 1 STATE /CB/
OXY 1 STATE /CX/
BENNETT 1 EXXON STATE
SOUTHLA 1 SRC STATE /32
PENROC 1 ANGELL RANCH
CU NEW MEX /CU/
DORCHES 1 ARCO-FEDERAL
DORCHES 2 DWU-FEDERAL
PENROC 1 USA
CHEVRON 1 PACHECO-FEDER
SOUTHLA 1 STATE "A-32"
PENROC 1 ARCO FEDERAL
REEVES 1 DWU-FEDERAL
PENROC 2 DERO /A/ FED
CHEVRON 7 PACHECO FEDER
REEVES 4 DWU-FEDERAL
PENROC 1 DERO-FEDERAL
PENROC 1 LEMANN-FEDERA
ROBINSO 1 STATE A
PARKER& 2ARCO-FED
MITCHEL 1 ANGELL RANCH"
SOUTHLA 1 CITGO"5"FEDER
OXY USA 1 GOVERNMENT AN
OXY USA 6GOVERNMENT S
HILLIN 1 JCW-STATE '2'
CHI OPE 4WINCHESTER FE
CHI OPE 1 WINCHESTER FE
CHI OPE 2WINCHESTER FE
OXY USA 1 GOVERNMENT S
PENROC 2 WRIGHT FEDERA
OXY USA 5GOVERNMENT S
PENROC 1 HODGES-STATE
ESTORIL 1 SHELL-FEDERAL
WILLIAM 1 U S SMELTING-
CHI OPE 3WINCHESTER FE
STRATA 1 AQUILA FEDERA
CHI OPE 2REMINGTON FED
OXY USA 4GOVERNMENT S
HILLIN 2 J C W STATE C
OXY USA 8GOVERNMENT 'S
CHI OPE 1REMINGTON FED
OXY USA 3GOVERNMENT S
PENROC 1 WRIGHT FEDERA
MEWBOUR 2 BURTON FLAT "
STRATA 1 GARZA FED.
CHI OPE 1COLT
OXY USA 2 GOVERNMENT S
PENROC 1 JCW STATE
CHI OPE 3REMINGTON FED
OXY USA 7GOVERNMENT 'S
MEWBOUR 2 FEDERAL "V"
OXY USA 8GOVERNMENT AB
SWEENEY 1 CANAVAN
OXY USA 7GOVERNMENT AB
OXY USA 9GOVERNMENT AB
MEWBOUR 3 FEDERAL "V"
MEWBOUR 1 FEDERAL "V"
OXY USA 5 GOVERNMENT AB
OXY USA 4 GOVERNMENT AB
MEWBOUR 1 BURTON FLAT "
GERMANY 1 USA /9/
OXY USA 3 GOVERNMENT AB
OXY USA 1 GOVERNMENT AB
OXY USA 2 GOVERNMENT "Y
OXY USA 2 GOVERNMENT AB
OXY USA 1 GOVERNMENT Y
OXY USA 1 TRACY /F/
OXY USA 1 GOVERNMENT "A
CHI OPE #1SAVAGE
OXY USA 1 GOVERNMENT "A
OXY USA 1 GOVT /T/
OXY USA 2 GOVERNMENT /A
OXY USA 1 STATE /CV/
OXY USA 2 GOVERNMENT /T

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 10556 (Reopened) Exhibit No. 1

Submitted by: OXY USA INC.

Hearing Date: March 2, 1995

OXY USA, Inc.

Western Region

BURTON FLAT

OLD MILLMAN RANCH FIELD

STRUCTURE 1ST BONE SPRING SAND

T20S-R28E EDDY CO, NM.

0 2,052

FEET

By: T.J. TINNEY

Date: 2/27/1996 Time: 8:24:11

POSTED DATA

TOP2BSPGSA (SS) - TOP OLD MILLMAN RANCH PAY

CONTOURS

STRUCTURE 1ST BONE SPRING SAND

Contour Interval = 50

ATTRIBUTE DATA

Production from 4925SPGS

Stacked Curves System

OLD MILLMAN RANCH FIELD

28E

19S

HONDO O 1 STATE /CB/

OXY 1 STATE /CX/

SOUTHLA 1 SRC STATE /32 -2559

PENROC 1 ANGELL RANCH -2681

DORCHES 1 ARCO-FEDERAL -2878

SOUTHLA 1 STATE "A-32" -2550

PENROC 1 ARCO FEDERAL -2652

REEVES 1 DWU-FEDERAL -3015

REEVES 4 DWU-FEDERAL -2996

-2920

PARKER& 2ARCO-FED

CHEVRON 7 PACHECO FEDER

DORCHES 2 DWU-FEDERAL -3180

PENROC USA -3247

PENROC 2 DERO /A/ FED -3252

PENROC 1 DERO-FEDERAL -3200

PENROC 1 LEMANN-FEDERA -3344

ROBINSO 1 STATE A

BENNETT 1 EXXON STATE

STARKE, 2 STATE/EXXON CU NEW MEX /CU/ -3432

MITCHEL 1 ANGELL RANCH"

SOUTHLA 1 CITGO"5"FEDER

OXY USA 1 GOVERNMENT/AN -2919

OXY USA 6GOVERNMENT S -2984

CHI OPE 4WINCHESTER FE

CHI OPE 1 WINCHESTER FE -2927

CHI OPE 2WINCHESTER FE -2853

OXY USA 5GOVERNMENT S -2970

CHI OPE 3WINCHESTER FE

OXY USA 1 GOVERNMENT S -308

HILLIN 1 JCW-STATE 2 -3228

ESTORIL 2 SHELL-FEDERAL ANTNGIVOANI M -3436

PENROC 1 HODGES-STATE -3230

WELHAM 1 U S SMELTING -3256

ESTORIL 1 SHELL-FEDERAL -3433

PENROC 2 WRIGHT FEDERA

STRATA 1 AQUILA FEDERA -2824

CHI OPE 2REMINGTON FED -2911

OXY USA 4GOVERNMENT S -2986

OXY USA 8GOVERNMENT 'S

HILLIN 2 JCW STATE C -3173

CHI OPE 1REMINGTON FED -2878

CHI OPE 1REMINGTON FED -2903

OXY USA 3GOVERNMENT S

OXY USA 2 GOVERNMENT S -2974

-2973

STRATA 1GARZA FED. -2881

CHI OPE 3REMINGTON FED

OXY USA 7GOVERNMENT 'S

PENROC 1 WRIGHT FEDERA -2691

MEWBOUR 2 BURTON FLAT " -2727

PENROC -3252 JCW STATE

MEWBOUR 3 FEDERAL "V" -2728

OXY USA 6GOVERNMENT AB -2943

-2994

OXY USA 8GOVERNMENT AB -3008

-3018

OXY USA 7GOVERNMENT AB

OXY USA 9GOVERNMENT AB

SWEENEY 1 CANAVAN

MEWBOUR 3 FEDERAL "V" -2756

MEWBOUR 1 FEDERAL "V" -2746

-3045

OXY USA 5 GOVERNMENT AB

MEWBOUR 1 BURTON FLAT " -2802

OXY USA 4 GOVERNMENT AB -2856

GERMANY 1 USA /9/ -3024

OXY USA 3 GOVERNMENT AB -3014

-3038

OXY USA 2 GOVERNMENT AB

OXY USA 1 GOVERNMENT AB -3094

-3311

OXY USA 1 GOVERNMENT Y

OXY USA 2 GOVERNMENT "Y -3474

OXY USA 1 GOVERNMENT "A -2812

OXY USA 1 TRACY /F/ -2808

CHI OPE #1SAVAGE

OXY USA 1 GOVERNMENT "A -2818

OXY USA 1 STATE /CV/ -3048

OXY USA 2 GOVERNMENT /T -3135

OXY USA 1 GOVT /T/ -3111

OXY USA 2 GOVERNMENT /A -3413

-2600 -2700 -2800 -2900 -3000 -3100 -3200 -3300 -3400 -3500

31 32 33 34 35 36

6 5 4 3 2 1

7 8 9 10 11 12

18 17 16 15 14 13

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 10556 (Reopened) Exhibit No. 2

Submitted by: OXY USA INC.

Hearing Date: March 2, 1995