

WALTER LAKE BONE SPRING FIELD
Well Summary

Ag Dr. G. 7,750
40 10-310

WELL	LOCATION	COMPLETION DATE	CURRENT STATUS	MONTH OF LATEST PRODUCTION	MONTHLY				WTRCUT %
					OIL BBL	GAS MCF	WATER BBL	GOR scf/bbl	
NELSON 3 FEDERAL #8	3C 18S 30E	02-Sep-88	PRODUCING	Jun-93	33	300	4	9091	10.8
NELSON 3 FEDERAL #9	3J 18S 30E	27-Feb-88	PRODUCING	Jun-93	343	2790	86	8134	20.0
NELSON 3 FEDERAL #10	3O 18S 30E	22-Aug-93	SI	Sep-93	145	126	2748	869	95.0
LOCO HILLS STATE #2	2L 18S 30E	25-Apr-91	PRODUCING	Sep-93	544	1834	60	3371	9.9
LOCO HILLS STATE #3	2K 18S 30E	24-Jan-92	PRODUCING	Sep-93	786	5668	217	7211	21.6
LOCO HILLS STATE #4	2N 18S 30E	09-Jun-92	PRODUCING	Sep-93	1693	10778	500	6366	22.8
CEDAR BREAKS 2 STATE #4	2O 18S 30E	01-Sep-93	PRODUCING	Sep-93	2223	16621	328	7477	12.9
FEDERAL 'AML' #1	2J 18S 30E	15-Apr-93	PRODUCING	Aug-93	1152	11620		10087	0.0
FEDERAL 'MZ' #2	11C 18S 30E	21-Sep-93	SI	Sep-93	244	472	198	1934	44.8
									24 Hour Potential Test

8664 8867
9.9 31.0 977 31
585 1814 31 9501 51237
60.0 1861 31 9781 51255
22.8 On Artificial Lift 10/21/93

11620 11942
33 973 29

232530
11250

Walter Lake Aml-
State No. 1
T-2 - 10/2/93
Cable

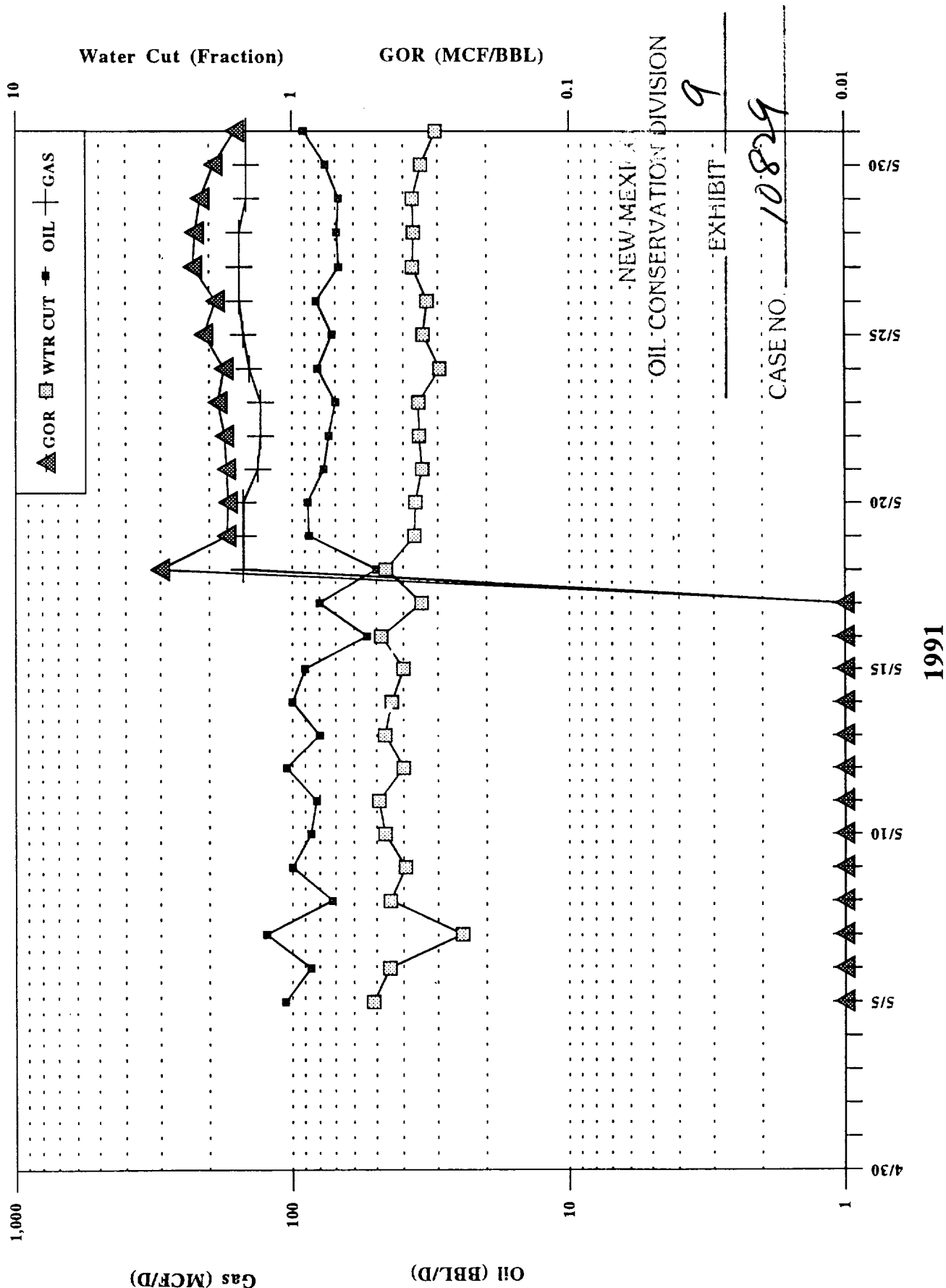
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OIL CONSERVATION DIVISION

8

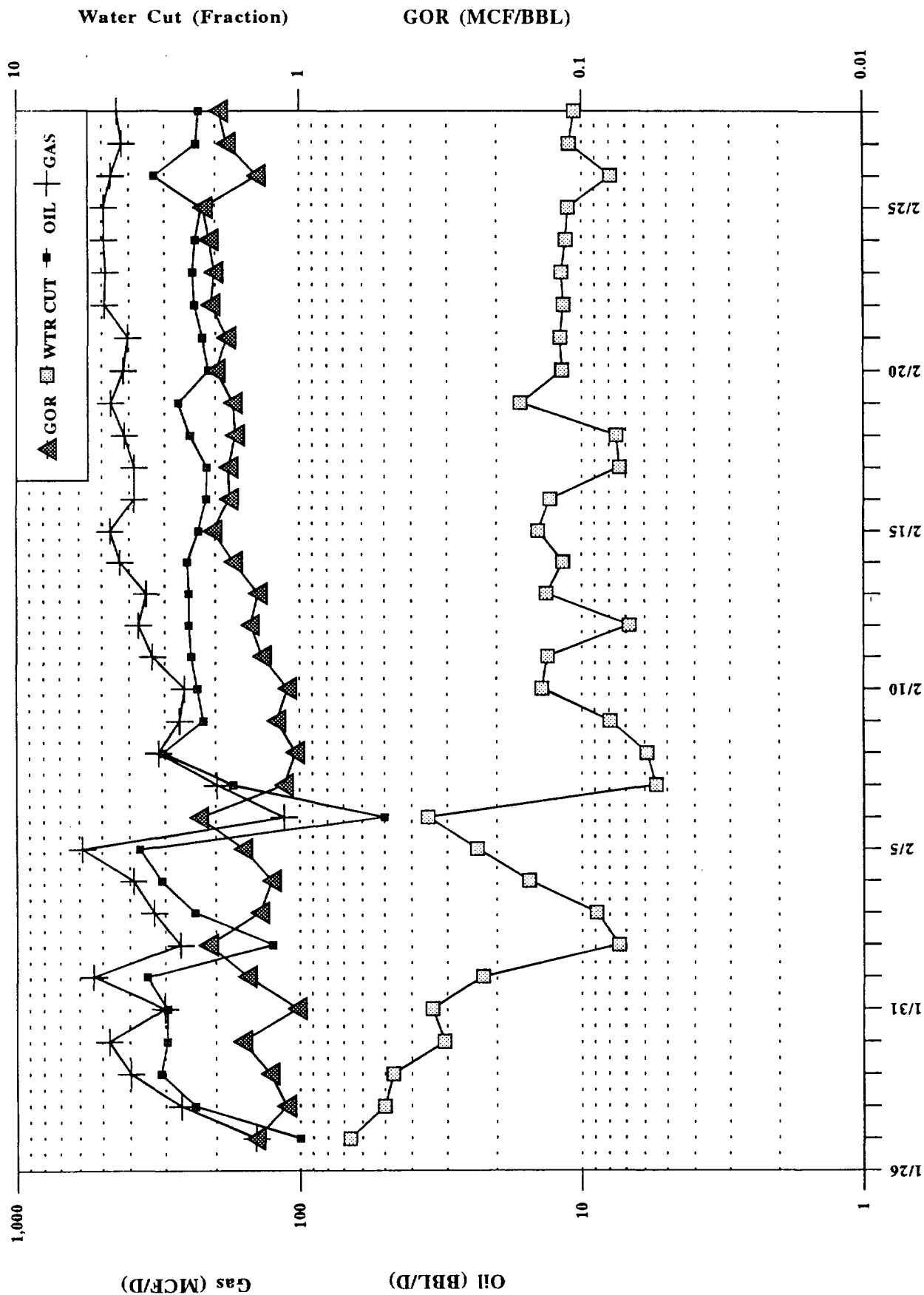
EXHIBIT

CASE NO. 10829

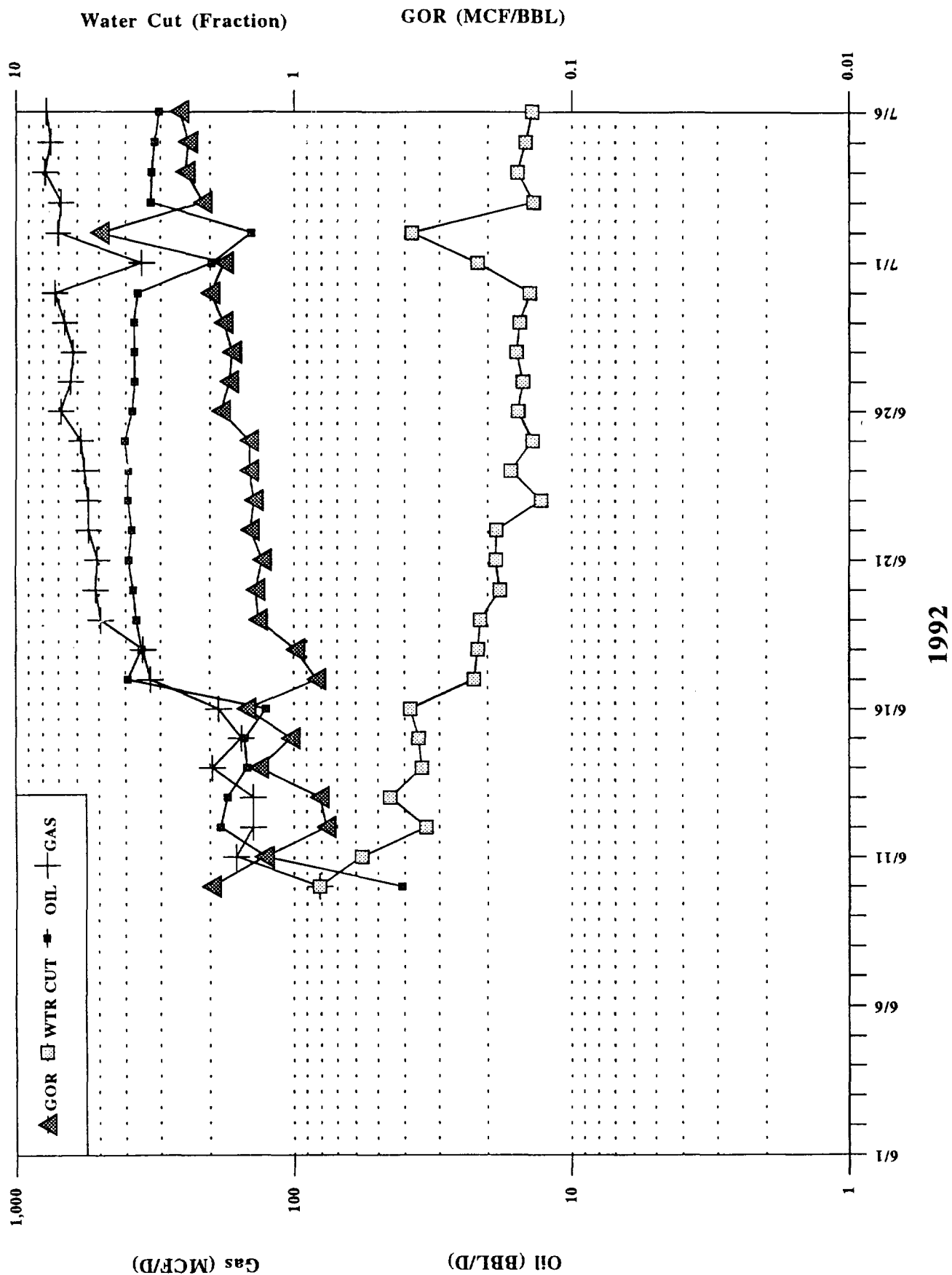
LOCO HILLS STATE #2
Walters Lake Bone Spring
Eddy County, New Mexico



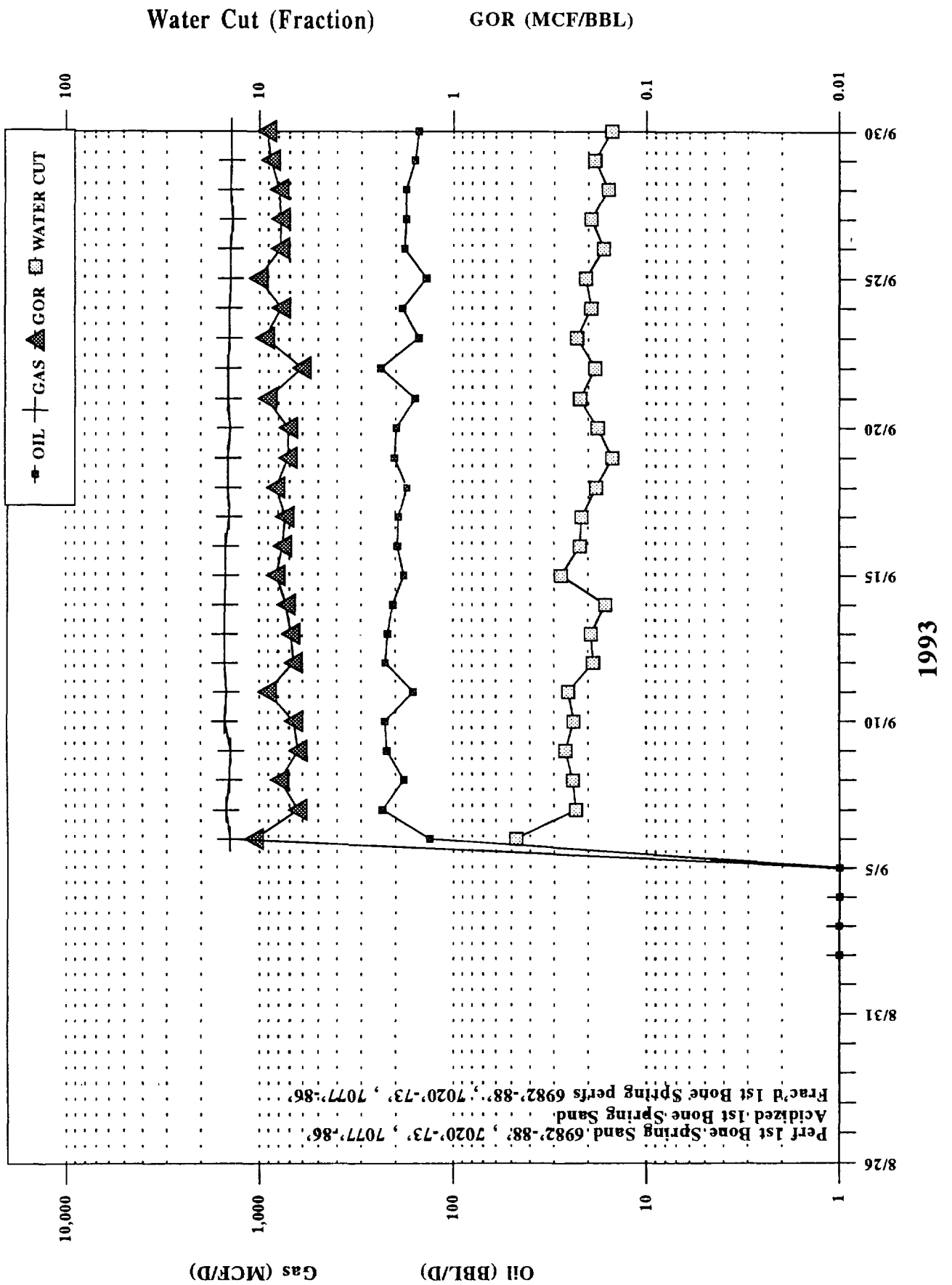
LOCO HILLS STATE #3
Walters Lake Bone Spring
Eddy County, New Mexico



LOCO HILLS STATE #4
Walters Lake Bone Spring
Eddy County, New Mexico



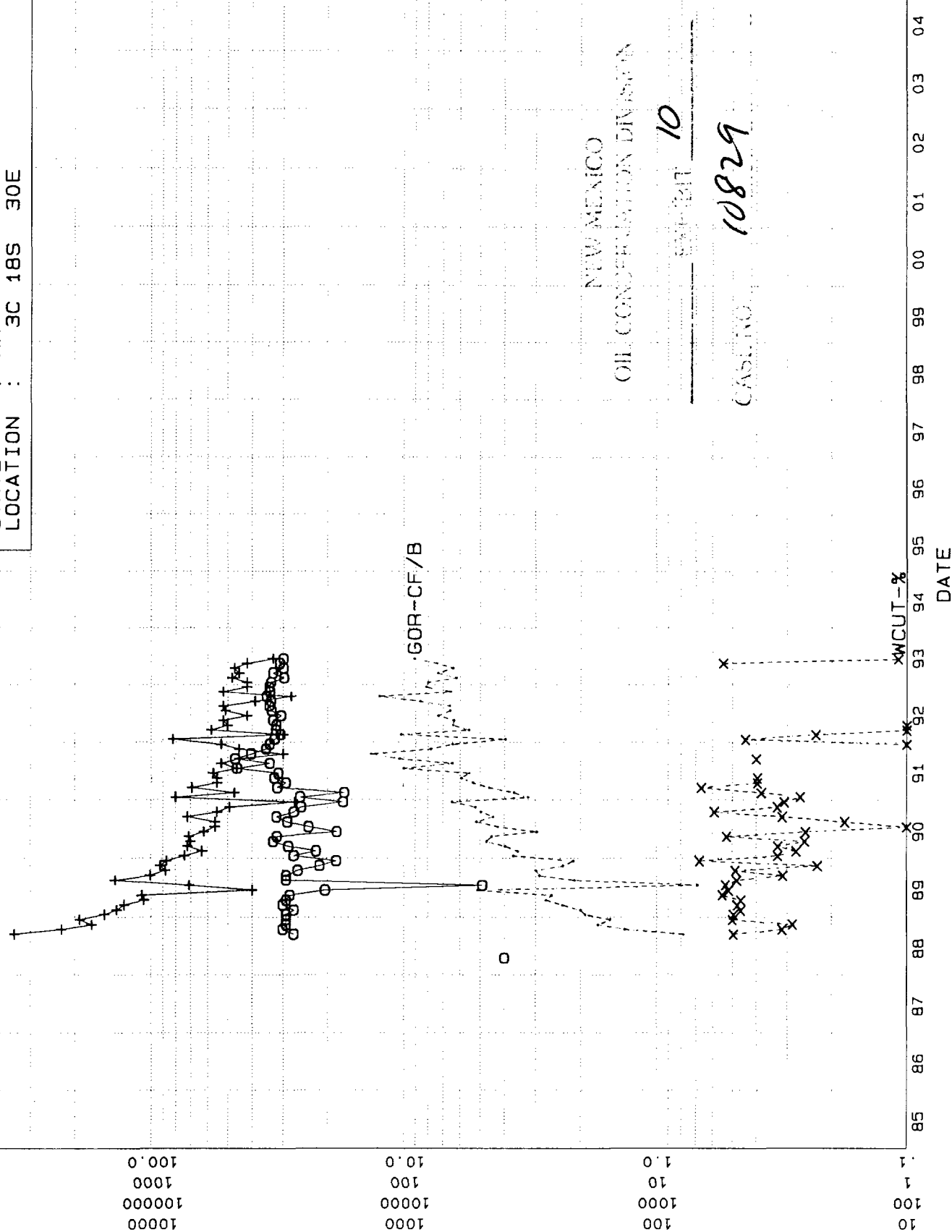
CEDAR BREAKS "2" STATE #4
Walters Lake Bone Spring
Eddy County, New Mexico



W CUT-%
GOR-CF/B
GAS-MCF
OIL-BBL

OIL-BBL + + + +
Ref= 06/93
Cum= 4.387
GAS-MCFG-Q-Q
Ref= 06/93
Cum= 17.174

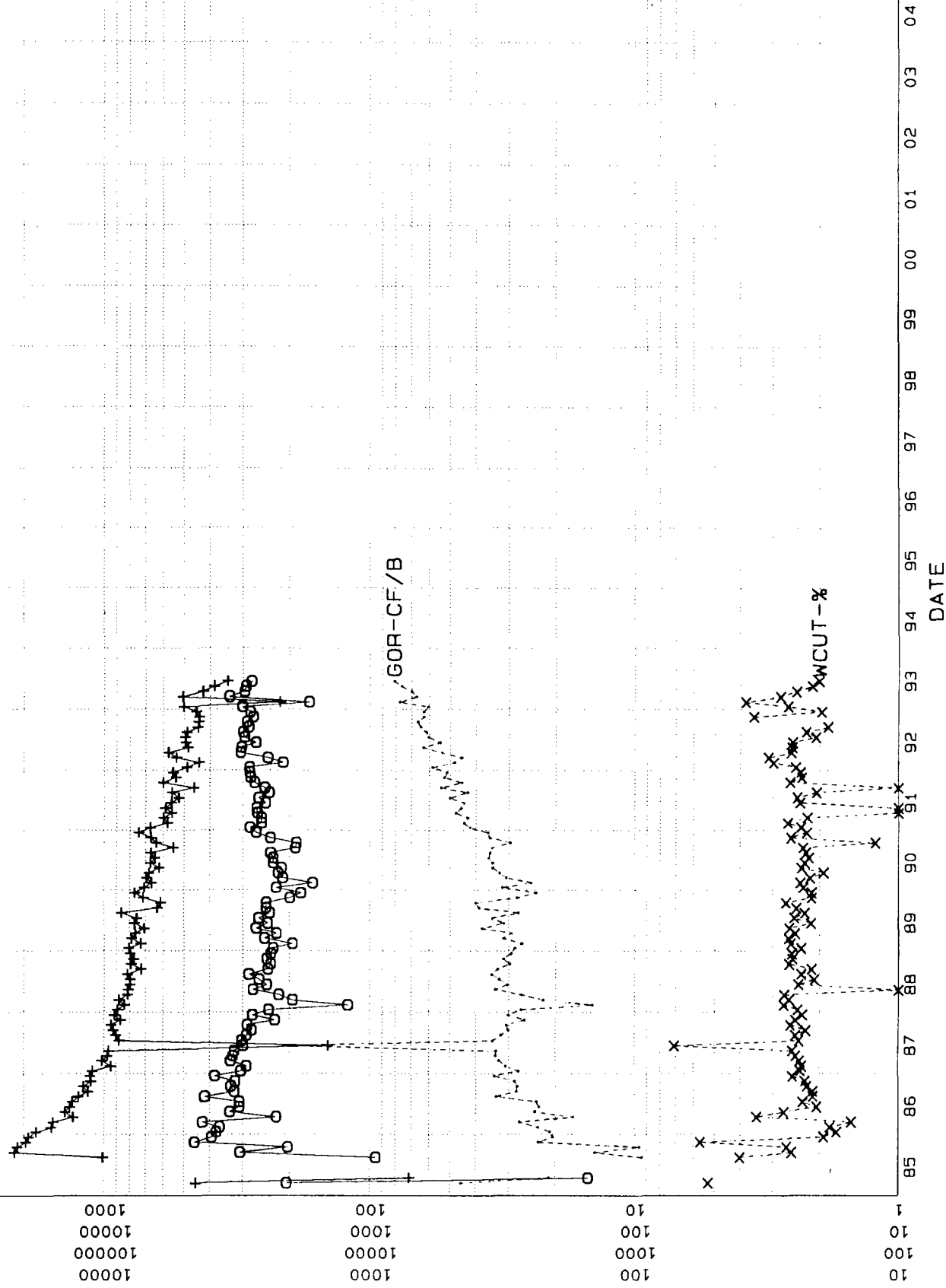
WELL : NELSON 3 FEDERAL #8
FIELD : WALTERS LAKE BONE SPRING
RESERVOIR : BONE SPRING
COUNTY : EDDY
STATE : NM
LOCATION : 3C 18S 30E



WCU-%
GOR-CF/B
GAS-MCF
OIL-BBL

OIL-BBL + + + +
Ref= 06/93
Cum= 77.955
GAS-MCF 0-0-0
Ref= 06/93
Cum= 257.279

WELL : : : : :
FIELD : : : : :
RESERVOIR : : : : :
COUNTY : : : : :
STATE : : : : :
LOCATION : : : : :
NELSON 3 FEDERAL #9
WALTER LAKE BONE SPRING
BONE SPRING
EDDY
NM
3J 18S 30E



WCUt-%
GOR-CF/B
GAS-MCF
OIL-BBL

10000
100000
1000000
1000

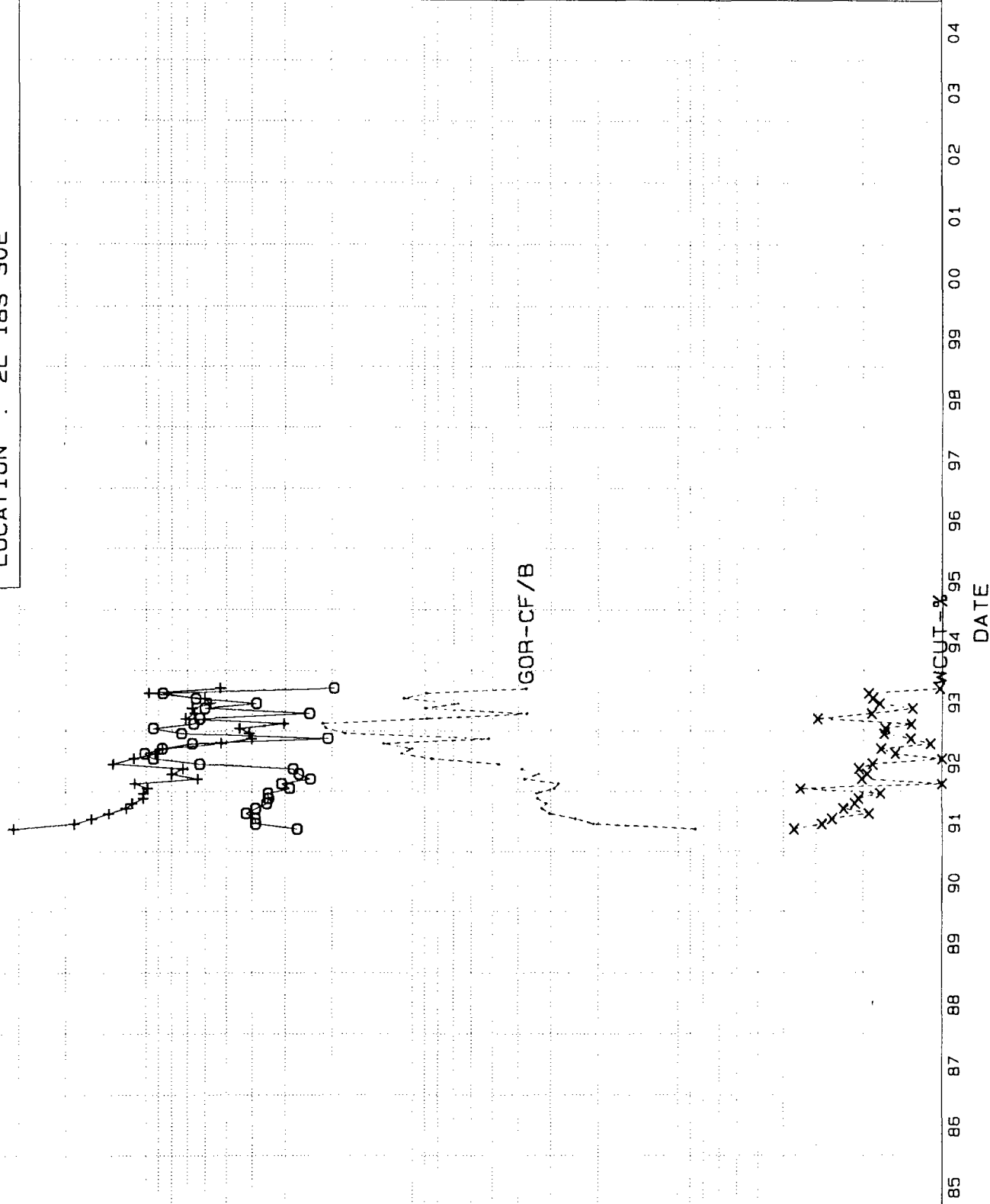
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WELL :
FIELD :
RESERVOIR :
COUNTY :
STATE :
LOCATION :
LOC HILLS STATE #2
WALTERS LAKE BONE SPRING
BONE SPRING
EDDY
NM
2L 18S 30E

OIL-BBL + + + + +
Ref= 09/93
Cum= 27.667
GAS-MCF 0-0-0
Ref= 09/93
Cum= 145.420



WCU%-
GOR-CF/B
GAS-MCF
OIL-BBL

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100000
1000000
1000000

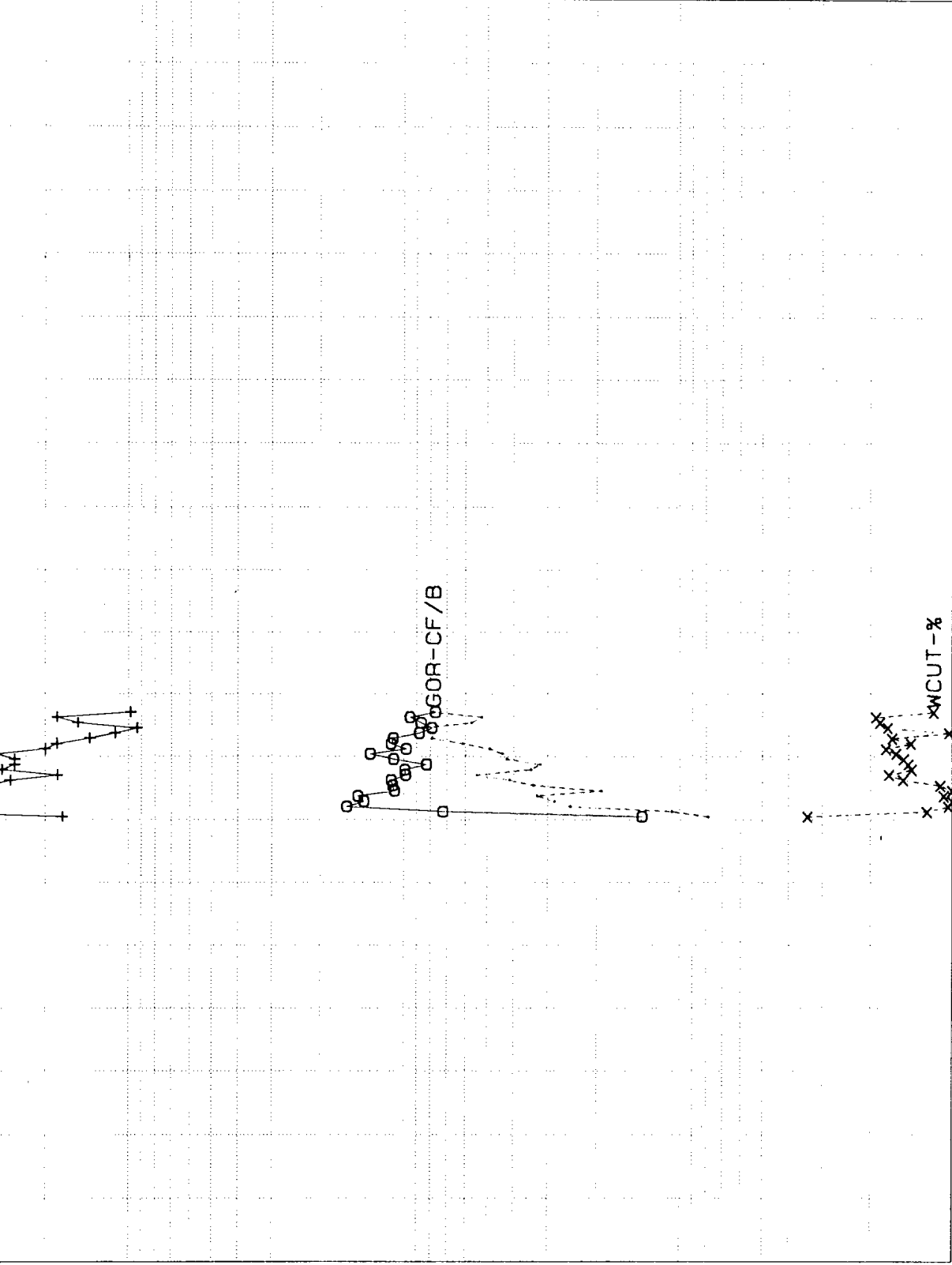
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OIL-BBL +---+
Ref= 09/93
Cum= 60.316
GAS-MCFG-O-O
Ref= 09/93
Cum= 212.850

WELL : LOCO HILLS STATE #3
FIELD : WALTERS LAKE BONE SPRING
RESERVOIR : BONE SPRING
COUNTY : EDDY
STATE : NM
LOCATION : 2K 18S 30E



85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
DATE

WCU%-
GOR-CF/B
GAS-MCF
OIL-BBL

10000
100000
1000000

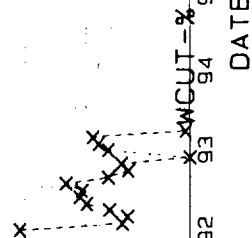
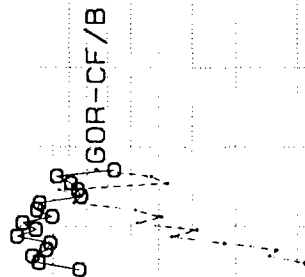
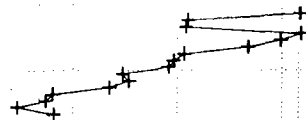
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10000
10

10
100
1000

OIL-BBL +--+
Ref= 09/93
Cum= 42.257
GAS-MCFO-O-O
Ref= 09/93
Cum= 161.873

WELL : LOCO HILLS STATE #4
FIELD : WALTERS LAKE BONE SPRING
RESERVOIR : BONE SPRING
COUNTY : EDDY
STATE : NM
LOCATION : 2N 18S 30E



DATE
85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

WCU-%
GOR-CF/B
GAS-MCF
OIL-BBL

10000
100000
1000000

1000
10000
100000

100
1000
10000

10
100
1000

OIL-BBL + + +
Ref= 09/93
Cum= 5.591
GAS-MCF 0-0-0
Ref= 09/93
Cum= 33.362

WELL : CEDAR BREAKS "2" STATE #
FIELD : WALTERS LAKE BONE SPRING
RESERVOIR : BONE SPRING
COUNTY : EDDY
STATE : NM
LOCATION : 20 18S 30E

+

0

GOR-CF/B

WCU-%

85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
DATE

WCU-%
GOR-CF/B
GAS-MCF
OIL-BBL

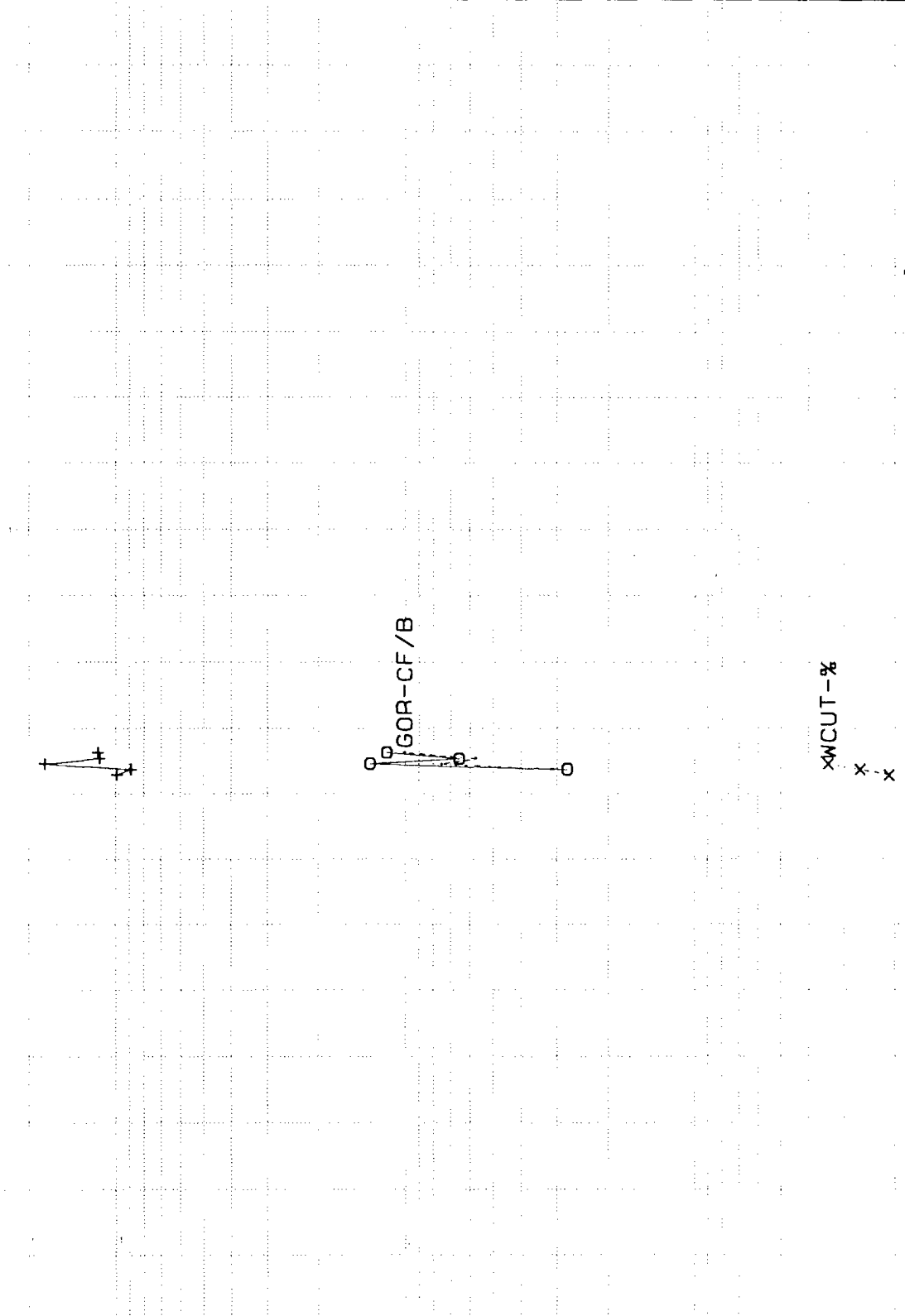
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10000
100000

100
1000
10000

10
100
1000

WELL :
FIELD :
RESERVOIR :
COUNTY :
STATE :
LOCATION :
YATES AML STATE #1
WALTERS LAKE BONE SPRING
BONE SPRING
EDDY
NM
2J 18S 30E
OIL-BBL + + + +
Ref= 08/93
Cum= 5.932
GAS-MCF 0-0-0
Ref= 08/93
Cum= 34.192

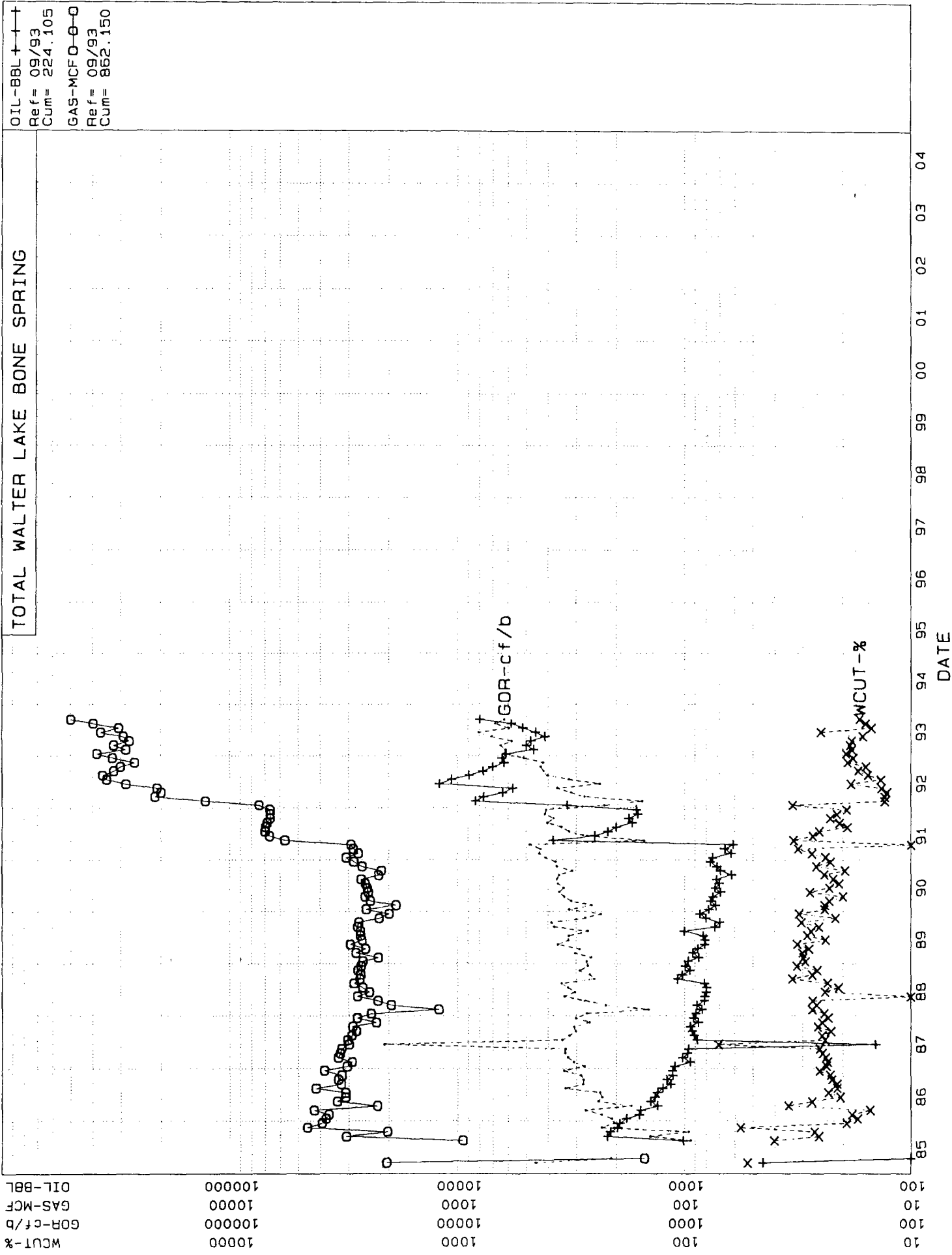


85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
DATE

OIL-BBL + + +
 Ref = 09/93
 Cum = 224.105

GAS-MCF O-O
 Ref = 09/93
 Cum = 862.150

TOTAL WALTER LAKE BONE SPRING



Wcut-%
 GOR-cf/b
 GAS-MCF
 OIL-BBL

100000
 1000000
 1000000
 1000000

1000
 10000
 10000
 10000

100
 100
 100
 100

10
 10
 10
 10

WALTER LAKE BONE SPRING
First Bone Spring Penetrations

Well	AQUA			PINK			AQUA			PINK			TOTAL			EST. ULT			EST. ACRES	STATUS
	Net	Por	%	Net	Por	%	QIP	MSTB	GIP	QIP	MSTB	GIP	QIP	MSTB	GIP	OIL	GAS	% RECOV.		
Nelson 8	14	14		14	13		249.1		298.9	231.3		277.6	480.4		576.5	5.5	30		61	Producer
Nelson 9	9	10		10	9.5		114.4		137.3	120.7		144.9	235.1		282.1	110	468	22.9	61	Producer
Nelson 10	4	12		10	10		61.0		73.2	127.1		152.5	188.1		225.7	1		0.4	1	Shut In
Loco Hills State #1	8	11		1	12		111.8		134.2	15.3		18.3	127.1		152.5	54	286	42.5	113	Producer
Loco Hills State #2	21	16		41	12		427.0		512.4	625.3		750.4	1052.3		1262.8	89	636	8.5	23	Producer
Loco Hills State #3	7	9		45	11.5		80.1		96.1	657.7		789.3	737.8		885.3	93	820	12.6	34	Producer
Loco Hills State #4	24	14		18	8.5		427.0		512.4	194.5		233.3	621.5		745.8			0.0		
State CE #1	2	8		8	9		20.3		24.4	91.5		109.8	111.8		134.2	0.5	6.1	0.4	1	Recompleted
Cedar Breaks 2 ST 1	0			22	11		0.0		0.0	307.6		369.1	307.6		369.1			0.0		
Cedar Breaks 2 ST 2	2	9		40	9.5		22.9		27.5	483.0		579.5	505.8		607.0			0.0		
Cedar Breaks 2 ST 3	3	10		29	10.9		38.1		45.8	401.7		482.1	439.9		527.8	95	404	21.6	58	Producer
Cedar Breaks 2 ST 4	0			1	9		0.0		0.0	11.4		13.7	11.4		13.7			0.0		
Yates AML #1	11	14		14	10		195.7		234.9	177.9		213.5	373.7		448.4			0.0		
Yates MZ #2																				
AVG / TOTAL	8.1	11.5		19.5	10.5		1747.5		2097.0	3445.0		4134.0	5192.5		6231.0	448.0	2650.1	8.6	41.5	

Porosity is estimated average Neutron porosity
Sw is Assumed to be 0.40
Area is 40 Acres
Bo from correlations is 1.35
Rs from correlations is 1200 scf/stb

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EXHIBIT 11

CASE NO. 10829

"11. **Maximum Efficient Rate (MER).** Many studies indicate that the recovery from true solution gas-drive reservoirs by primary depletion is essentially independent of both individual well rates and total or reservoir production rates. Kelly, Tracy, and Roe have shown that this is true even for reservoirs with severe permeability stratification where the strata are separated by impermeable barriers and are hydraulically connected only at the wells. The Gloyd-Mitchell zone of the Rodessa Field (see Chapter 3, Sec. 7) is an example of a solution gas-drive reservoir which is essentially not *rate sensitive*, i.e., the recovery is unrelated to the rate at which the reservoir is produced."

APPLIED PETROLEUM RESERVOIR ENGINEERING
CRAFT and HAWKINS, 1959, pg.197

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EXHIBIT 12
CASE NO. 10829

"Dissolved-gas-drive pools in class 3 have reservoir and fluid characteristics so unfavorable that reduction in rate of oil production would have no appreciable effect on ultimate oil recovery. Reservoirs placed in this category may have thin formations of little structural relief, low formation permeability, high oil viscosity, or extreme lenticularity or irregularity of the producing formation. For pools having no free gas cap, no potential water drive, and physical conditions that prevent segregation of fluids by gravity, it has not been demonstrated that reduction in rate of production can bring about any improvement in the recovery efficiency. It is doubtful, according to current understanding, that a pool of this sort has an MER."

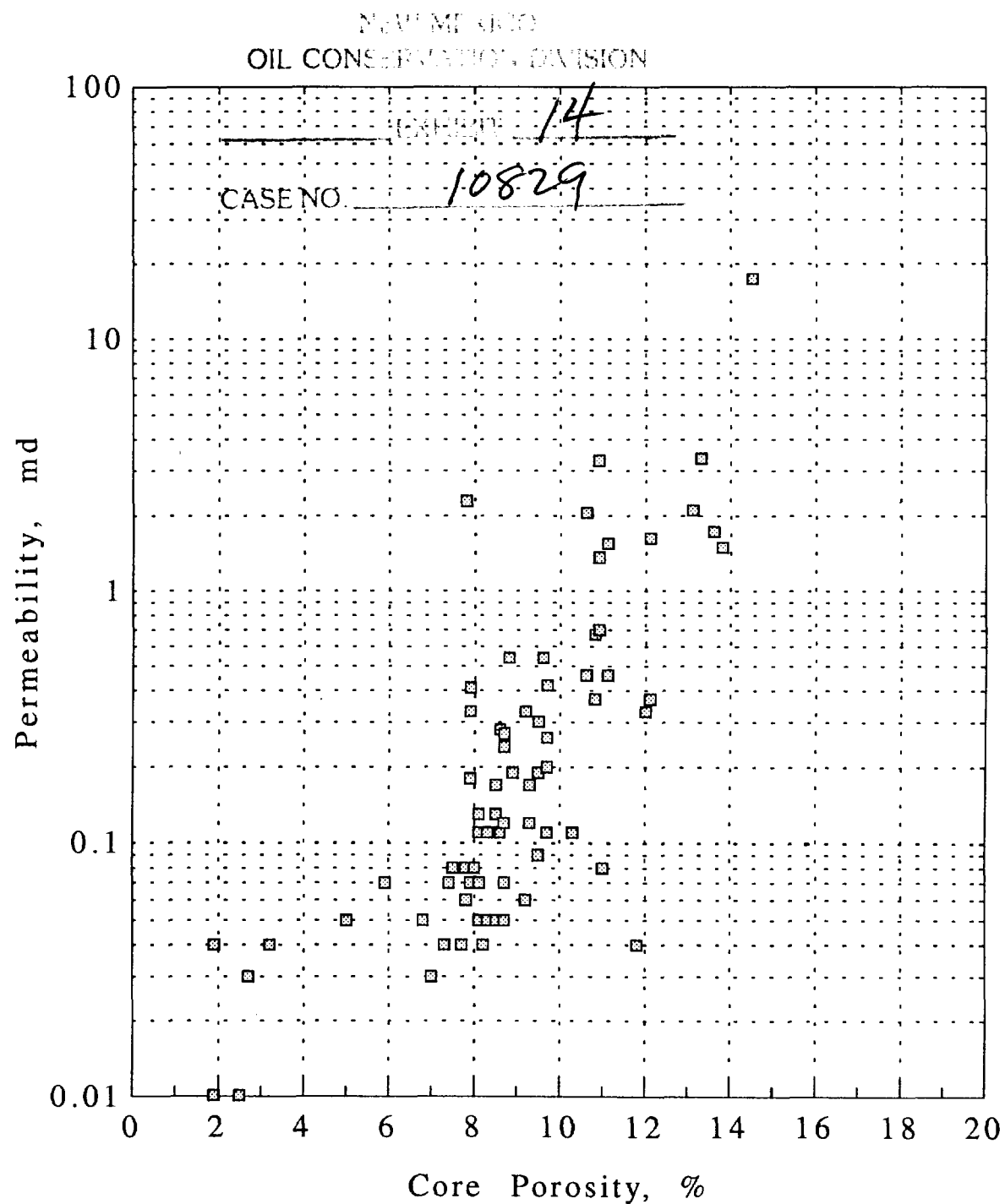
PETROLEUM PRODUCTION HANDBOOK VOL.II
THOMAS C. FRICK, 1962, pg.33-25

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EXHIBIT 13
CASE NO. 10829

Core Porosity vs Core Permeability

Cedar Breaks 2 State #4
Walter Lakes Bone Spring Field



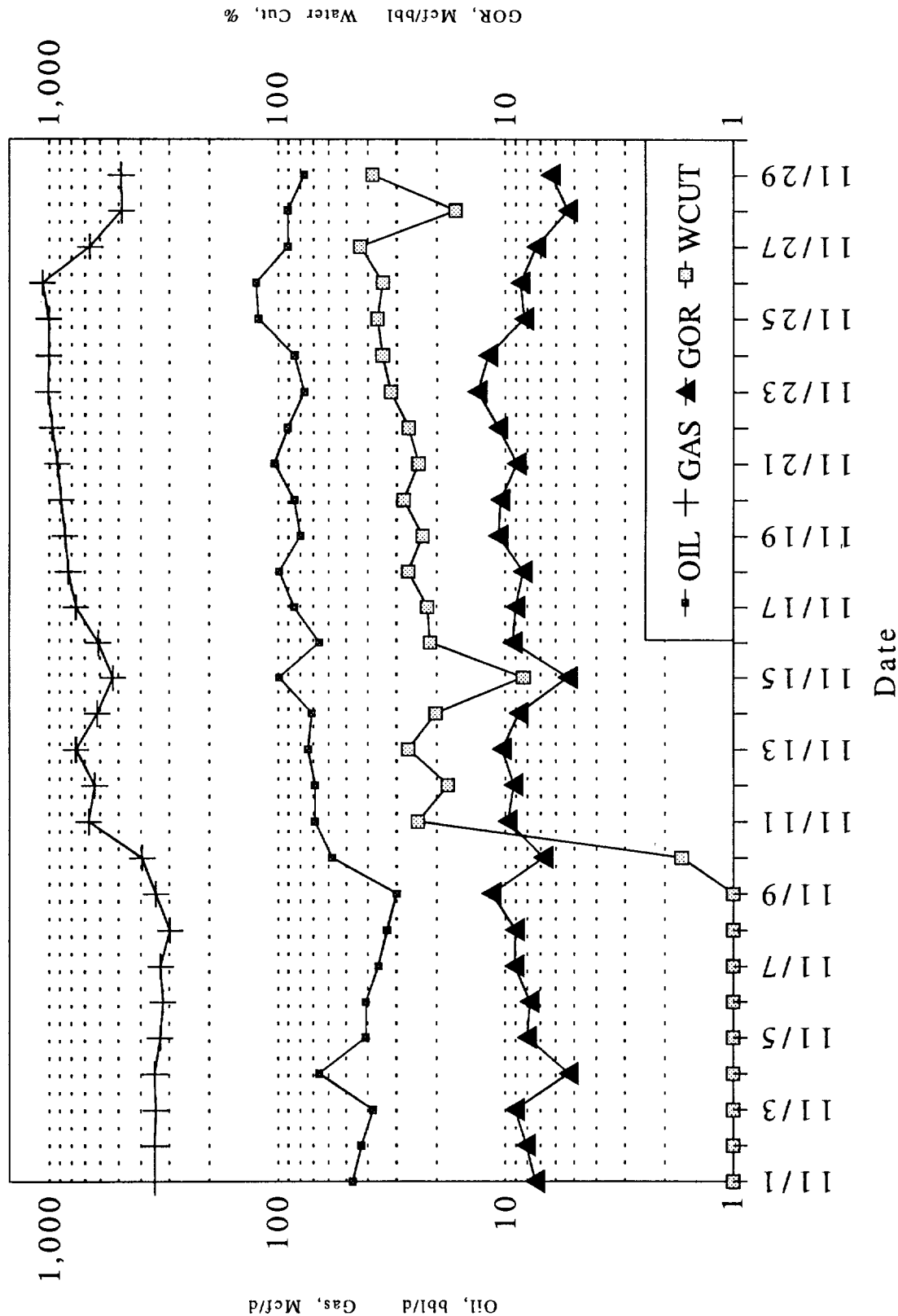
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OIL CONSERVATION DIVISION

CEDAR BREAKS 2 STATE #4

Walters Lake Bone Spring
Eddy County, New Mexico

EX-1287 15

CASE NO. 10829



CEDAR BREAKS 2 STATE #4

Walters Lake Bone Spring
Eddy County, New Mexico

EXHIBIT

CASE NO.

