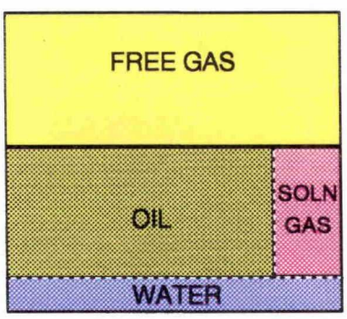
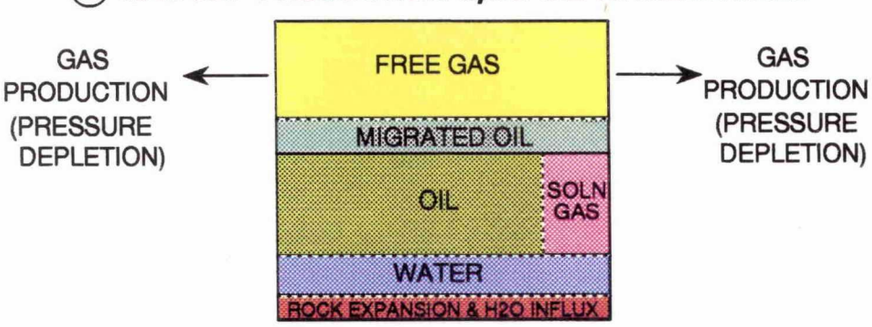
SOUTH DAGGER DRAW POOL

IDEALIZED ZONAL FLUID DISTRIBUTIONS
AND
PRODUCTION SCENARIOS

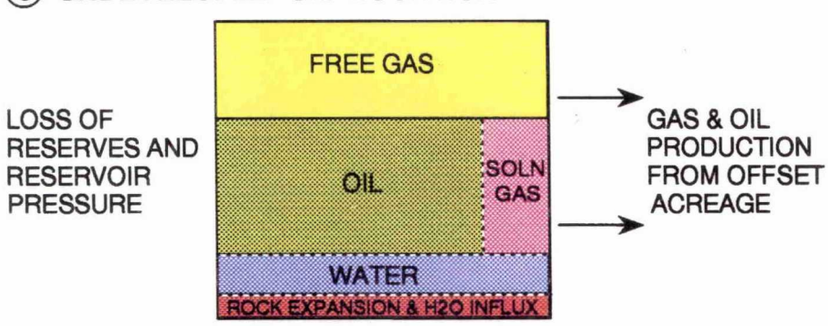
① INITIAL CONDITIONS



② GAS CAP PRODUCTION W/NO OIL WITHDRAWALS



③ UNDEVELOPED OIL LOCATION



NET EFFECT:

A. OIL LOST TO RESIDUAL OIL SATURATION IN GAS CAP.

B. OIL AND GAS LOST OFF LEASE BY COMPETITOR'S OFFSET WELLS.

C. RESERVOIR PRESSURE WILL BE LESS RESULTING IN LOWER DELIVERABILITY RATES AND ULTIMATE OIL RECOVERY.

BEFORE AN EXAMINER OF THE OIL CONSERVATION DIVISION

EXHIBIT NO. 15
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993

SOUTH DAGGER DRAW POOL
UNACCESSIBLE OIL & GAS RECOVERY TARGET
Conoco Acreage - South/2 Section 35

1. **Undeveloped Oil Reserves - Volumetric Analysis**

Volumetric Parameters	Source
Area = 214 acres	Geologic Mapping
Net Pay = 44 ft	Open Hole Logs
Porosity = 4.0%	Open Hole Logs
S_w = 50%	Log Analysis & Pcap Data
B_o = 1.423 bbl/stb	PVT Analysis
Rec Factor = 21%	Field Knowledge & Arps corr.

Original Oil-in-Place (OOIP) = 7758 A h ⌀ $(1-S_w)/ B_o$

OOIP = (7758 bbl/ac-ft)(214 ac)(44 ft)(0.04)(1 - 0.5)/(1.423 bbl/stb)

OOIP = 1,026,695 STB

Oil Reserves = Original Oil-in-Place * Recovery Factor

Reserves = (1,026,695 STB)(0.21) = **215,606 STB**

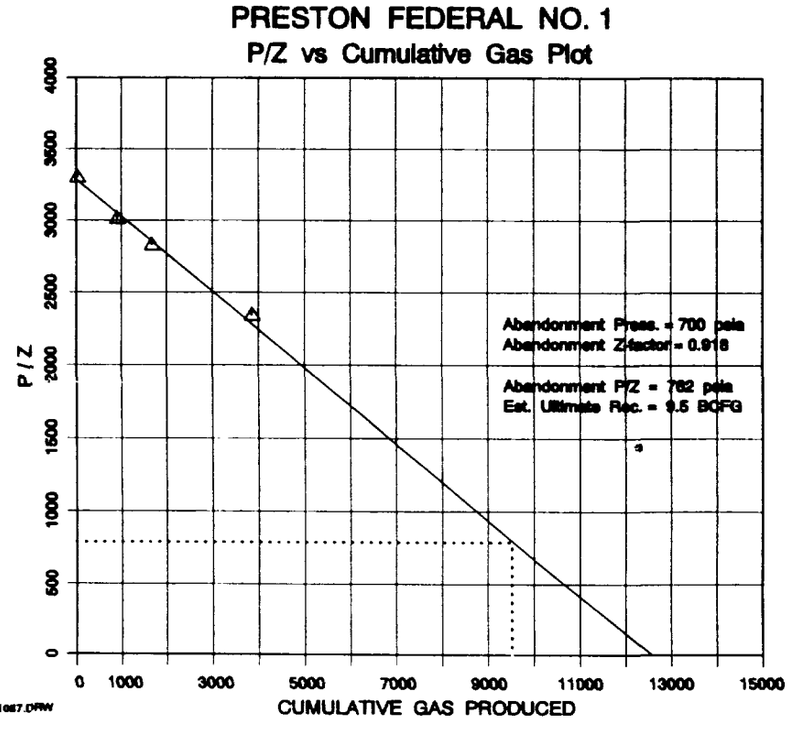
2. **Unrecovered Gas Reserves - Preston Fed No. 1 - Volumetric Analysis**

Est. Ultimate Recovery from P/z vs. Gp plot = 9.5 BCFG

Cumulative Production through November 1993 = 4.8 BCFG

Gas Reserves = Est. Ultimate Recovery - Cumulative Production

Gas Reserves = 9.5 BCFG - 4.8 BCFG = **4.7 BCFG**



BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 16
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993

VALUE COMPARISON OF OIL vs. GAS
Equivalent Reservoir Volumes

Product Prices and Producing Costs

1 STB of Oil = $17.60 Gross
Production Cost = $7.44/STB Gross
1 MSCF = $1.57 Gross
Production Cost = $0.25/MSCF Gross

Reservoir Equivalent Volumes

(1 STB)(1.423 Rbl/STB) = 1.423 Rbl

(1 MSCF)(1.115 Rbl/MSCF) = 1.115 Rbl

Net Revenue of Reservoir Volume

$ Rbl Oil = ($17.60 - $7.44)/(1.423 Rbl) = $7.14/Rbl

$ Rbl Gas = ($1.57 - $0.25)/(1.150 Rbl) = $1.15/Rbl

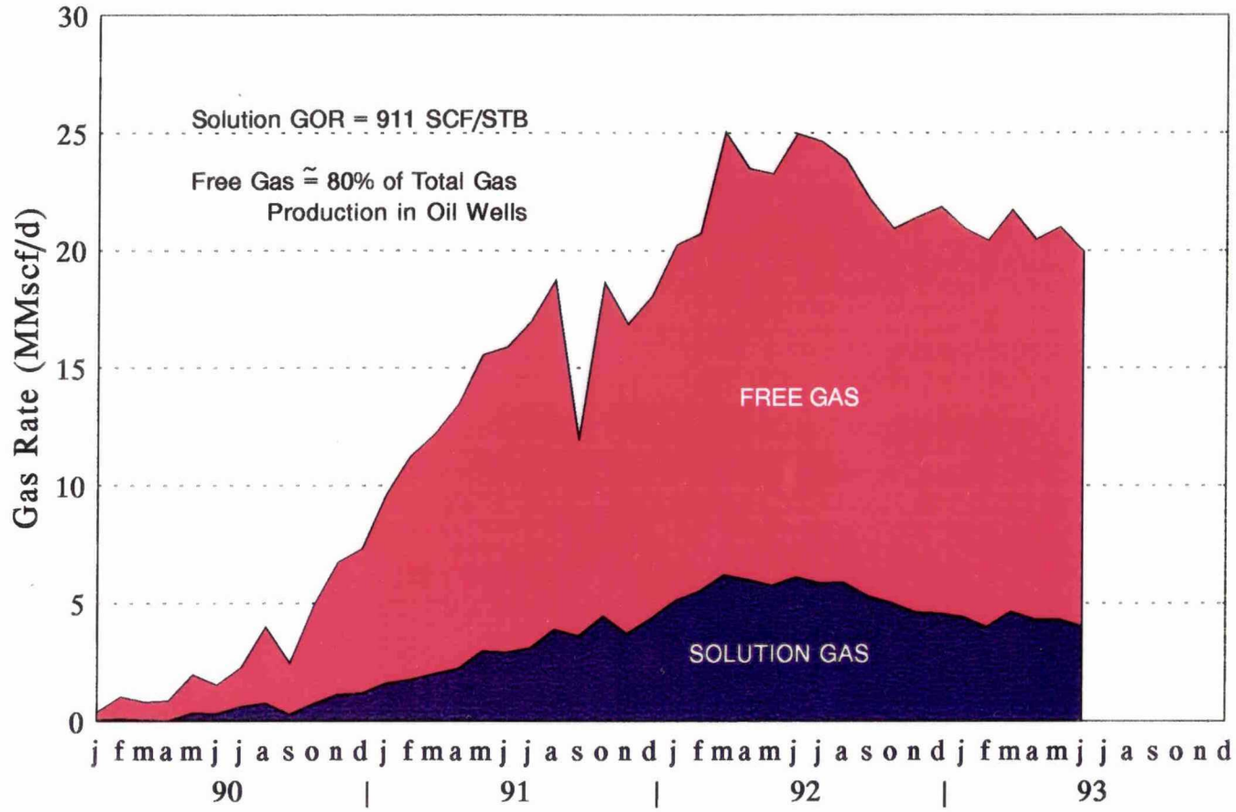
Oil to Gas Value Comparison

Value Ratio = ($7.14/Rbl Oil)/($1.15/Rbl Gas) = 6.2

SOUTH DAGGER DRAW POOL

Oil Well Associated Gas Production

(Wells with Producing GOR < 30,000 scf/stb)



BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 18

CASE NO.: 10881

Submitted by: Conoco Inc.

Hearing Date: Dec 2, 1993

SOUTH DAGGER DRAW POOL
RESERVOIR FLUID ANALYSIS FROM CORRELATIONS

Pressure (Psi)	Soln GOR (scf/stb)	Oil FVF (bbl/stb)	Gas FVF (bbl/Mscf)
2500	911	1.5007	0.8935
2250	872	1.4889	0.9873
2000	758	1.4231	1.1150
1750	646	1.3603	1.2928
1500	537	1.3008	1.5462
1250	432	1.2447	1.9186
1000	332	1.1924	2.4930
750	236	1.1444	3.4580

Note: Solution GOR calculated from the Lasater correlation
Oil FVF calculated from the Vazquez & Beggs correlation

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 19
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993

SOUTH DAGGER DRAW POOL
HIGH GOR WELLS (Greater than 30,000 scf/stb)

A. CURRENT DATA

	Well	Location (Sec Twp Rge)	Ave 1993 Production Rates (BOPD)	(MCFD)	(BWPD)	Gas-Oil Ratio (scf/stb)
	Judith "AIJ" Fed No. 1	9P 20S 24E	3	1,447	290	482,333
	Algerita "AHR" St. No. 1	16H 20S 24E	28	4,060	151	145,000
*	Hillview "AHE" Fed No. 11	23K 20S 24E	44	1,477	338	33,568
	Mojave "AJY" Com No. 1	35I 20S 23E	9	1,397	336	155,222
*	Carl "TP" Com No. 1	22I 20S 24E	4	1,135	299	283,750
	Carl "TP" Com No. 2	22K 20S 24E	4	821	216	205,250
	Preston Federal No. 1	35L 20S 24E	3	788	295	262,667
	Indian Hills State No. 1	36G 20S 24E	10	847	192	84,700
*	Saguaro "AGS" Fed No. 2	15F 20S 24E	28	2,380	520	85,000
*	Sara "AHA" No. 2	15H 20S 24E	10	1,068	636	106,800

* Denotes Well is Classified as an Oil Well on Petroleum Information Well Completion Reports

B. CUMULATIVE DATA

	Well	Location (Sec Twp Rge)	Cumulative Production (MBO)	(MMCFG)	(MBW)	Gas-Oil Ratio (scf/stb)
	Judith "AIJ" Fed No. 1	9P 20S 24E	1.9	797	155	410,402
	Algerita "AHR" St. No. 1	16H 20S 24E	34.9	4,078	111	116,862
*	Hillview "AHE" Fed No. 11	23K 20S 24E	32.1	1,091	341	33,936
	Mojave "AJY" Com No. 1	35I 20S 23E	3.4	509	98	151,208
*	Carl "TP" Com No. 1	22I 20S 24E	4.9	883	374	180,375
	Carl "TP" Com No. 2	22K 20S 24E	3.1	604	214	196,044
	Preston Federal No. 1	35L 20S 24E	24.0	4,066	3,148	169,349
	Indian Hills State No. 1	36G 20S 24E	2.5	365	35	145,956
*	Saguaro "AGS" Fed No. 2	15F 20S 24E	18.2	2,346	689	128,947
*	Sara "AHA" No. 2	15H 20S 24E	7.9	649	518	82,097

* Denotes Well is Classified as an Oil Well on Petroleum Information Well Completion Reports

NOTE: ALL DATA WAS SOURCED FROM DWIGHT'S ENERGY DATA, INC. THRU JUNE 93

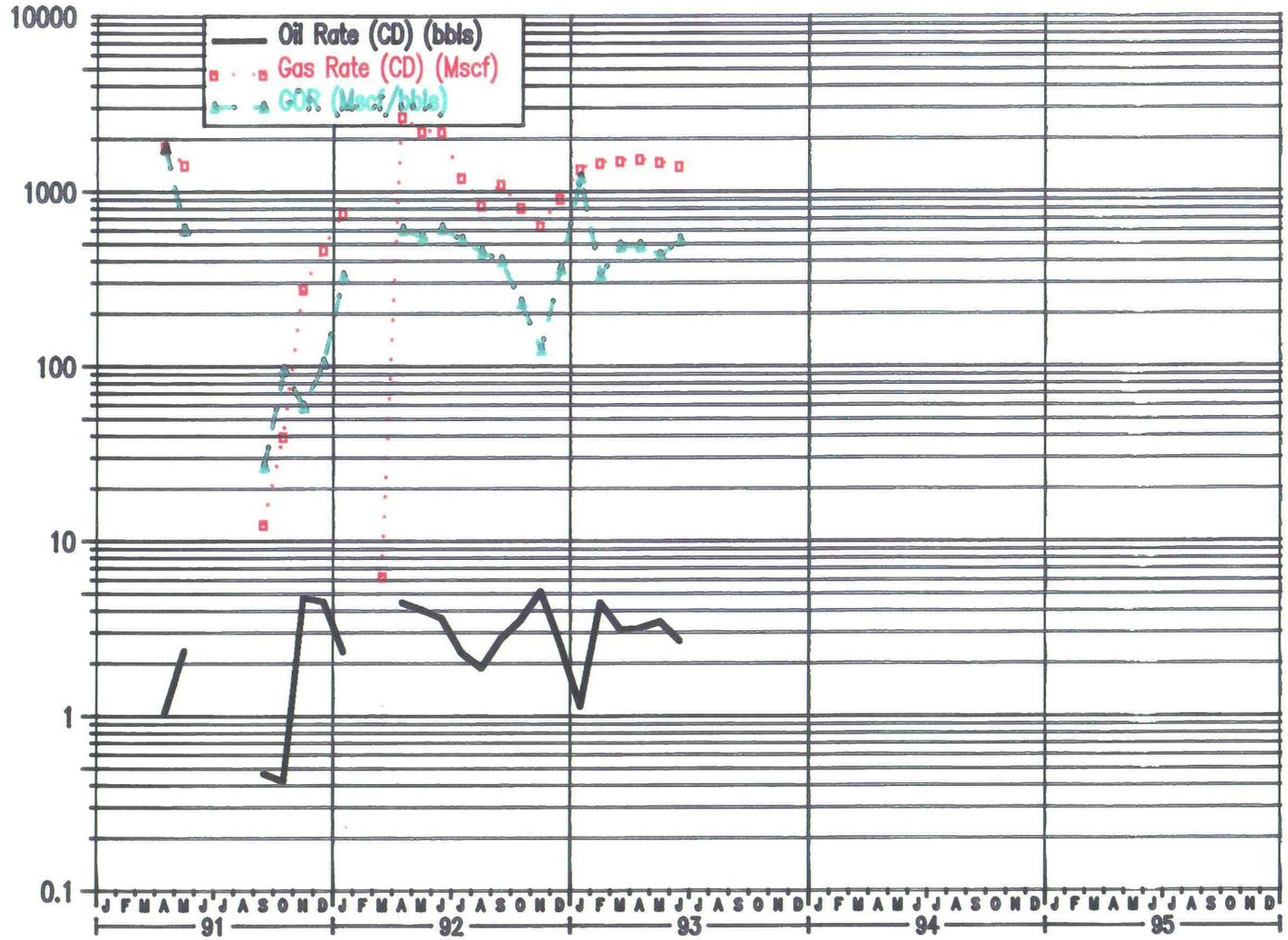
BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 20
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

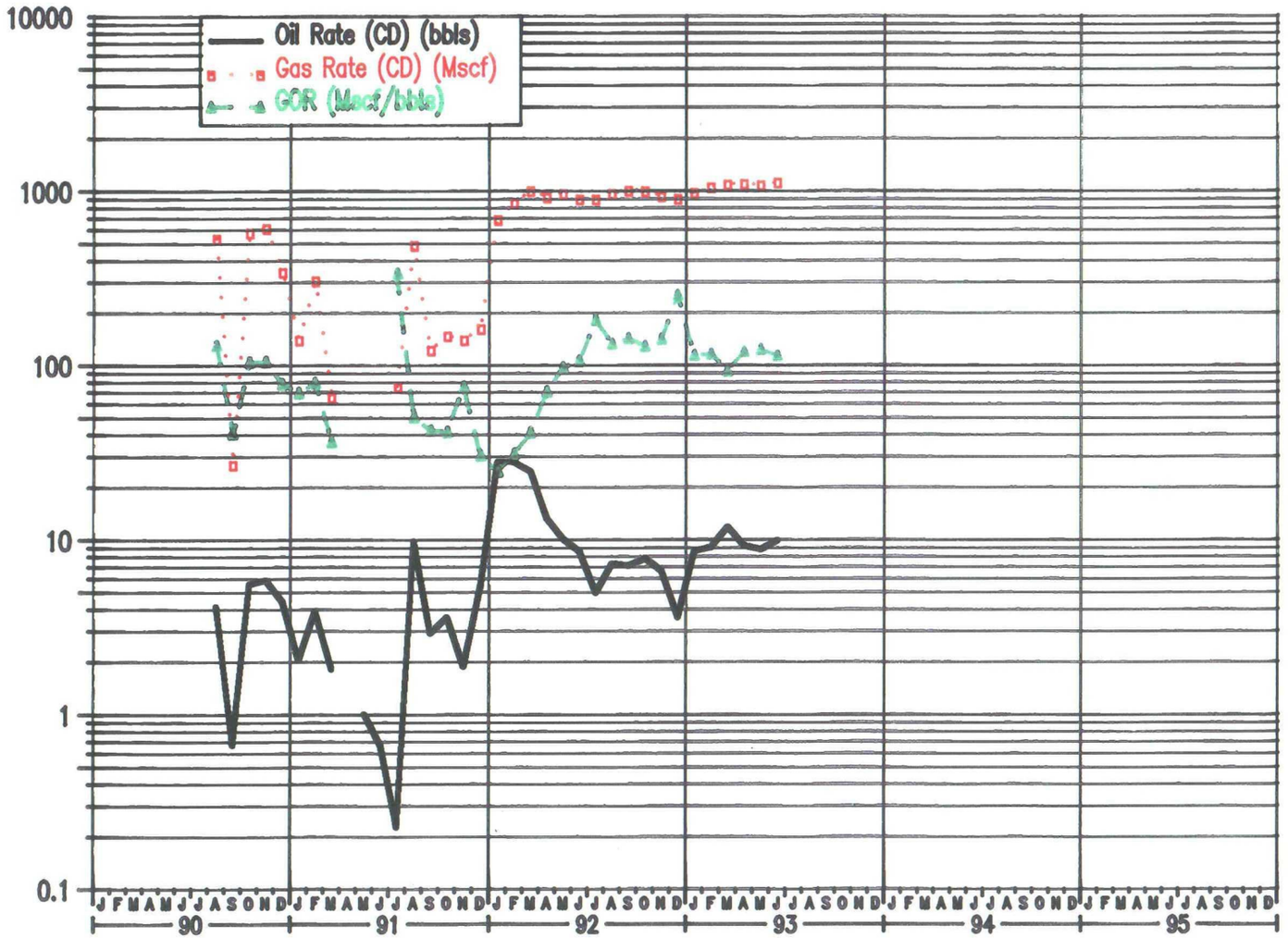
EXHIBIT NO. 21 A-J
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993

JUDITH AIJ FEDERAL NO. 1



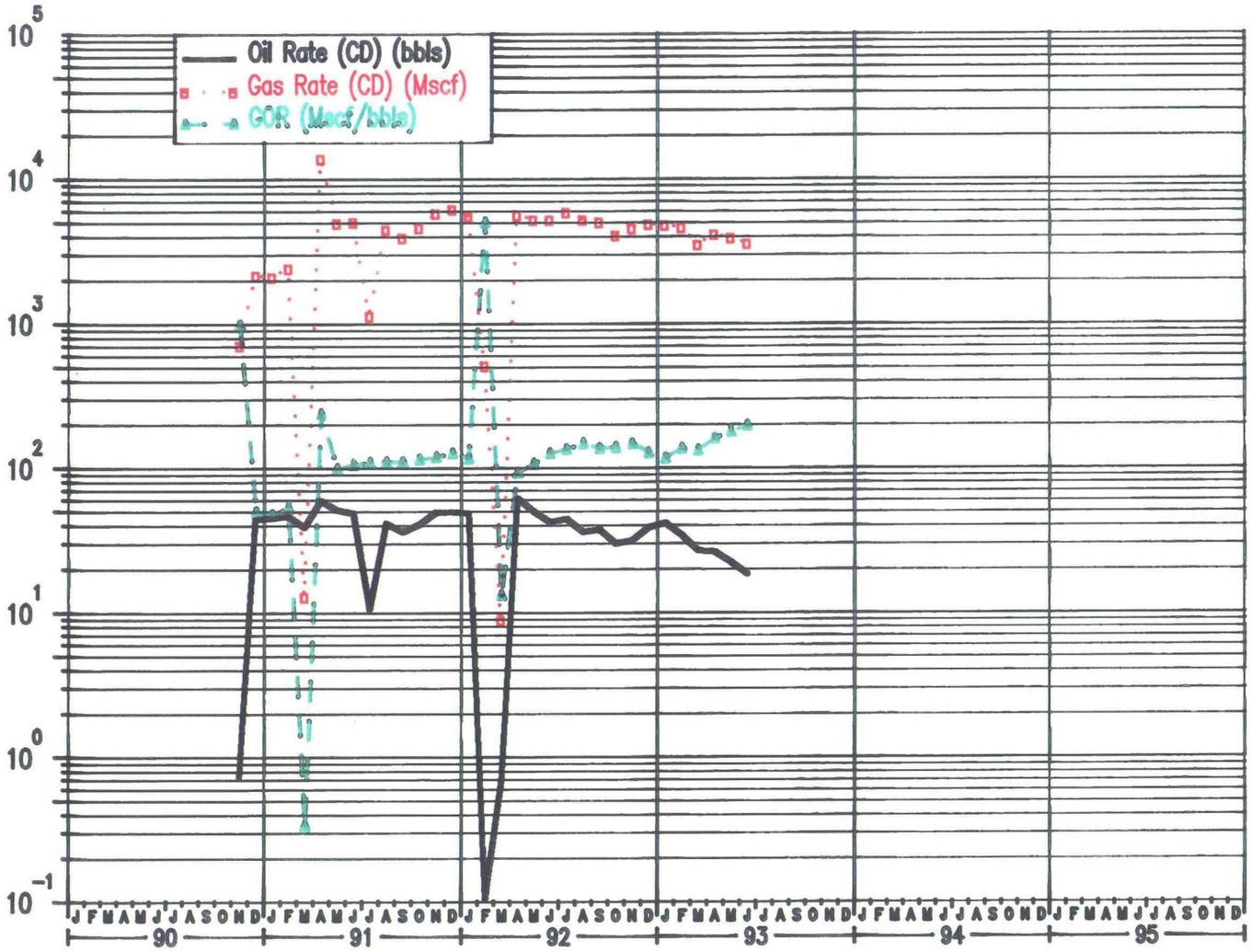
A

SARA AHA NO. 2



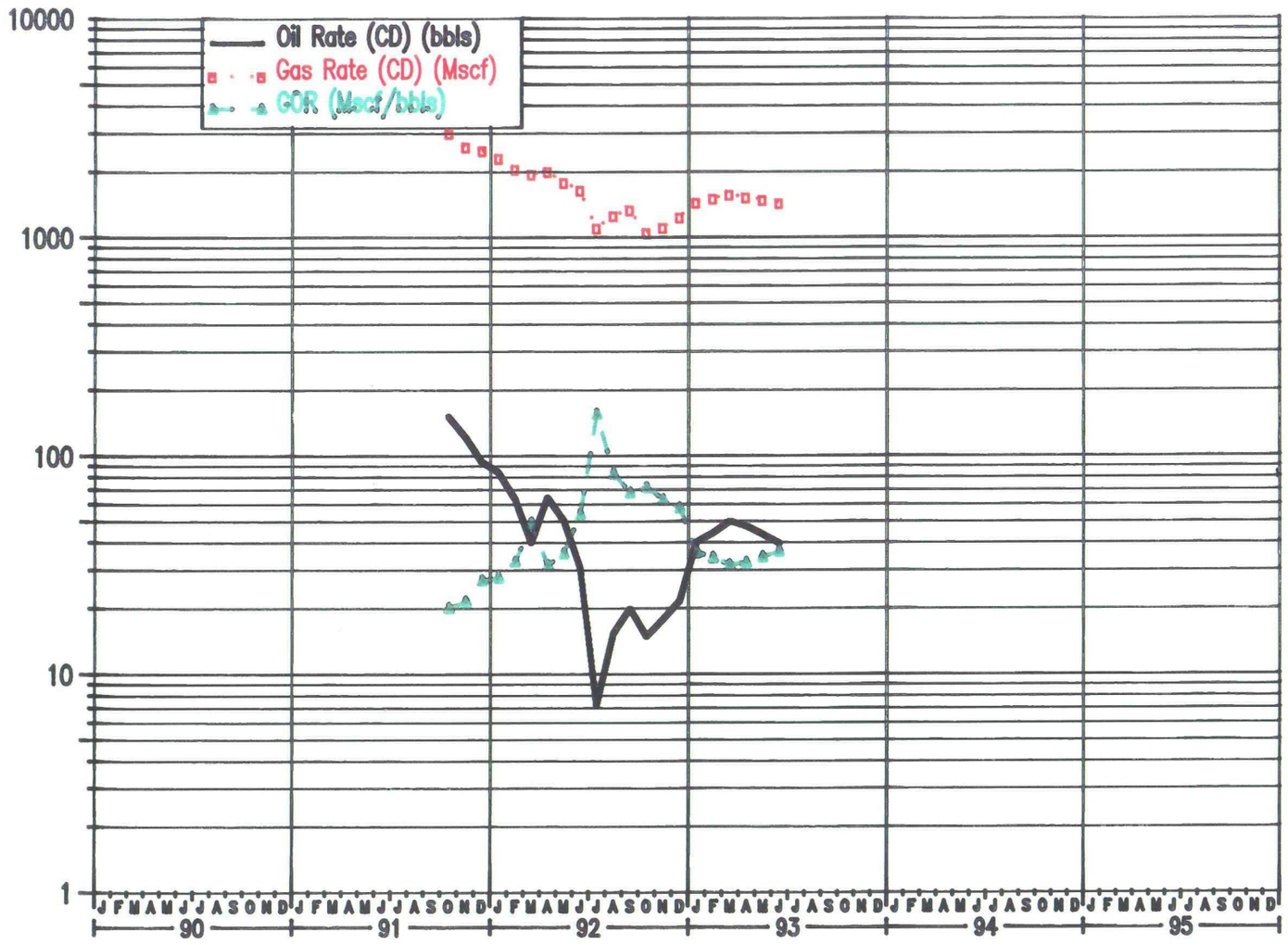
J

ALGERITA AHR STATE NO. 1



B

HILL VIEW AHE FEDERAL COM NO. 11



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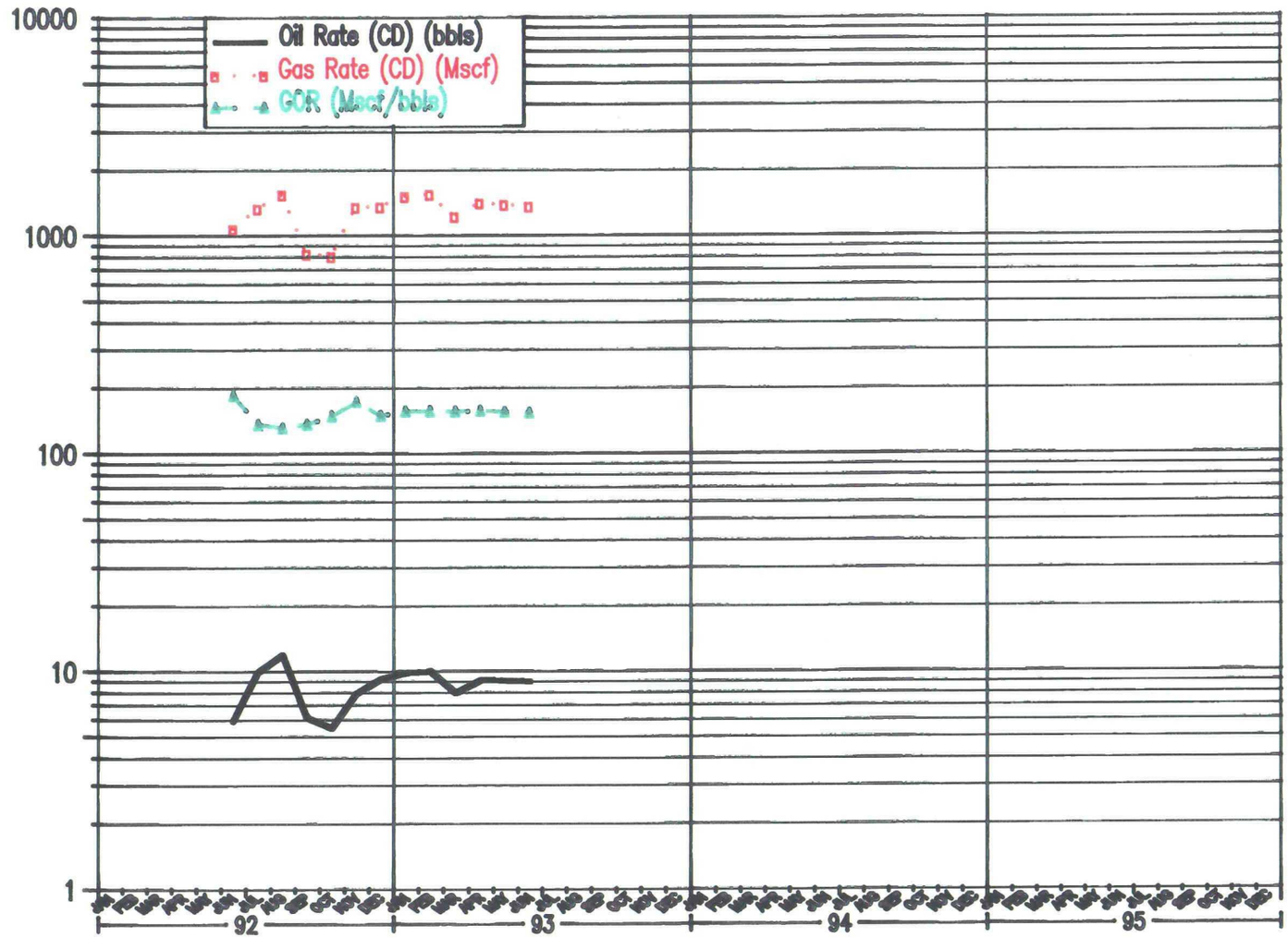
MOJAVE AJY COM NO. 1



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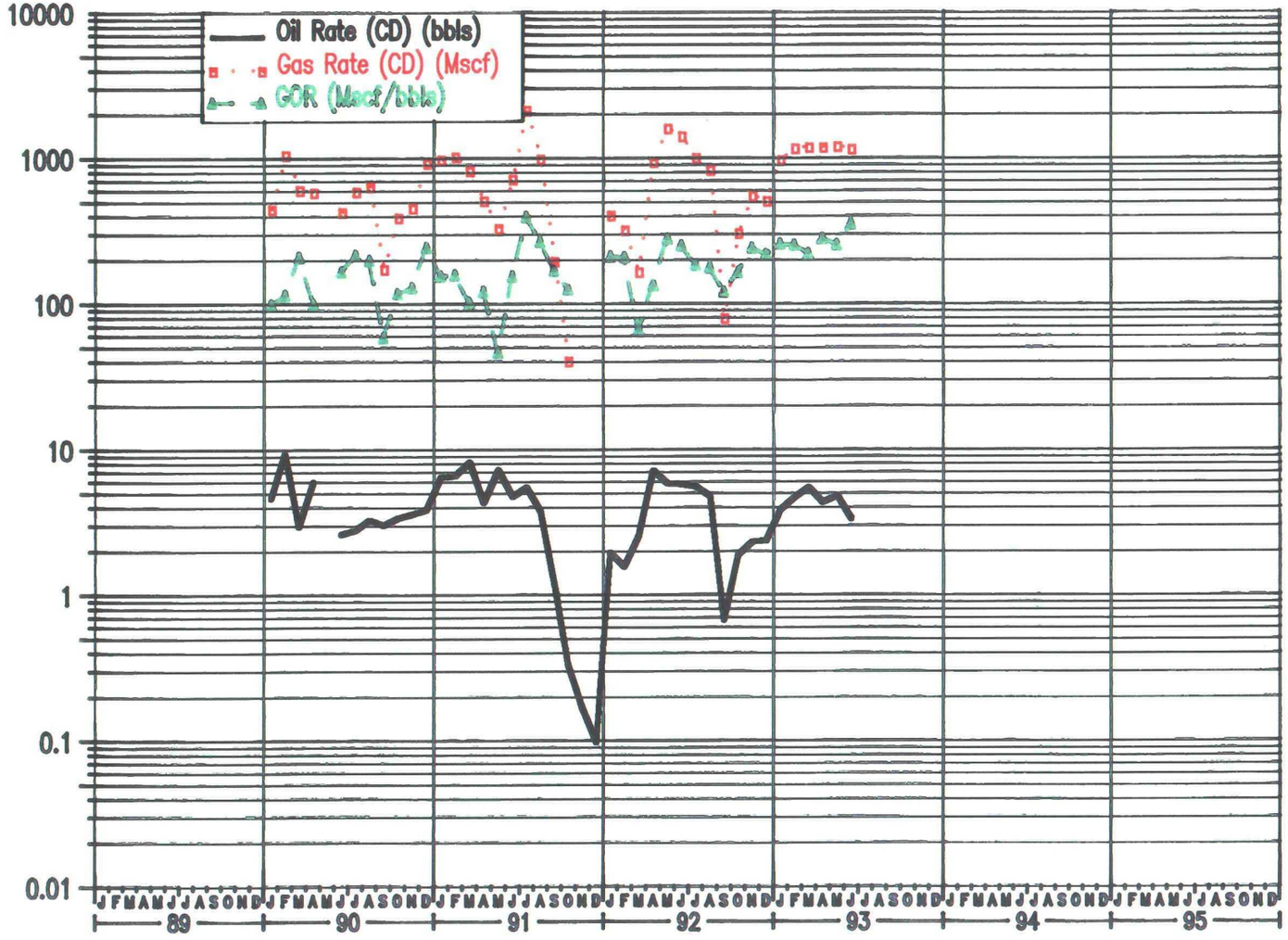
CARL TP COM NO. 1



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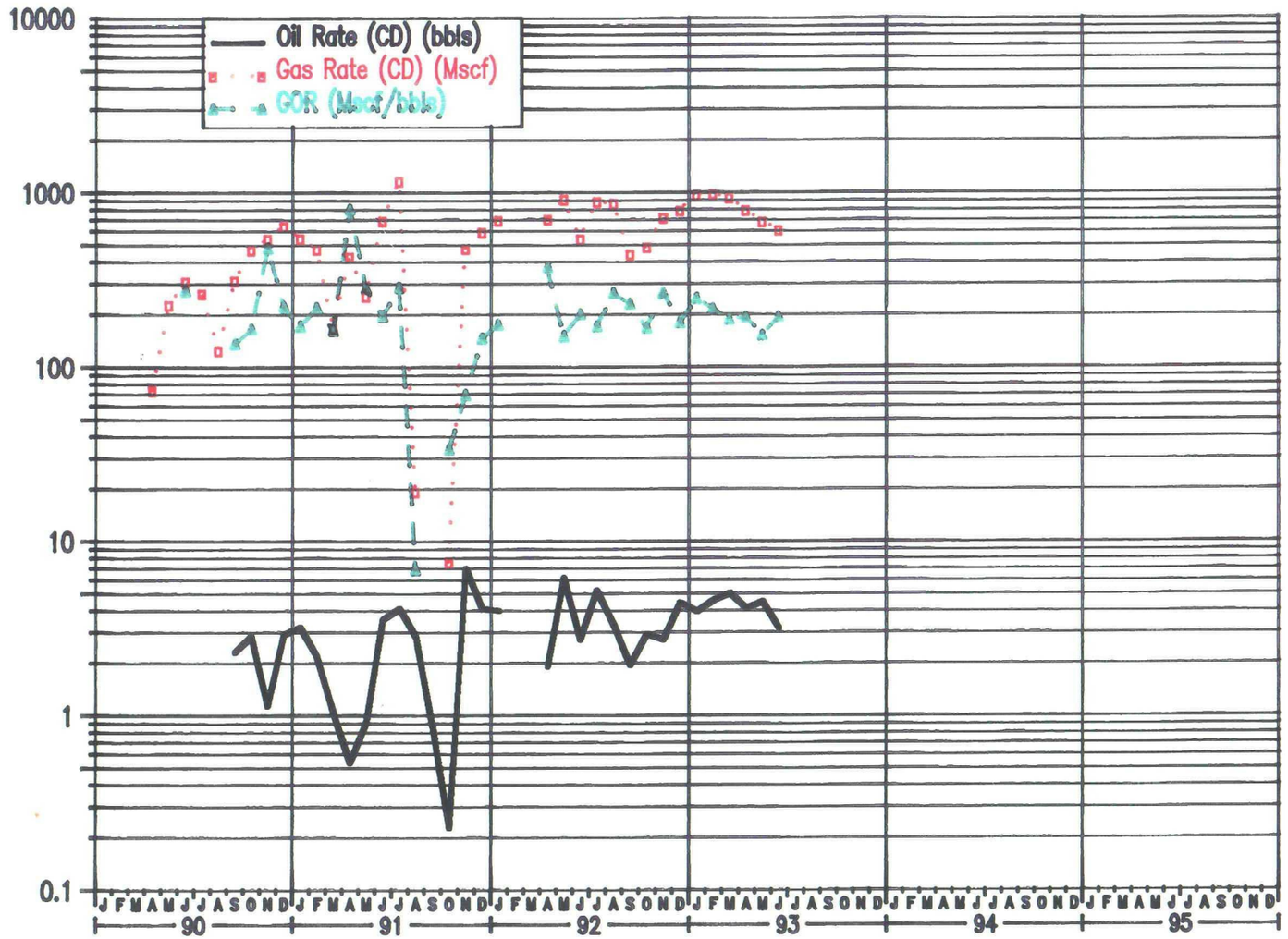
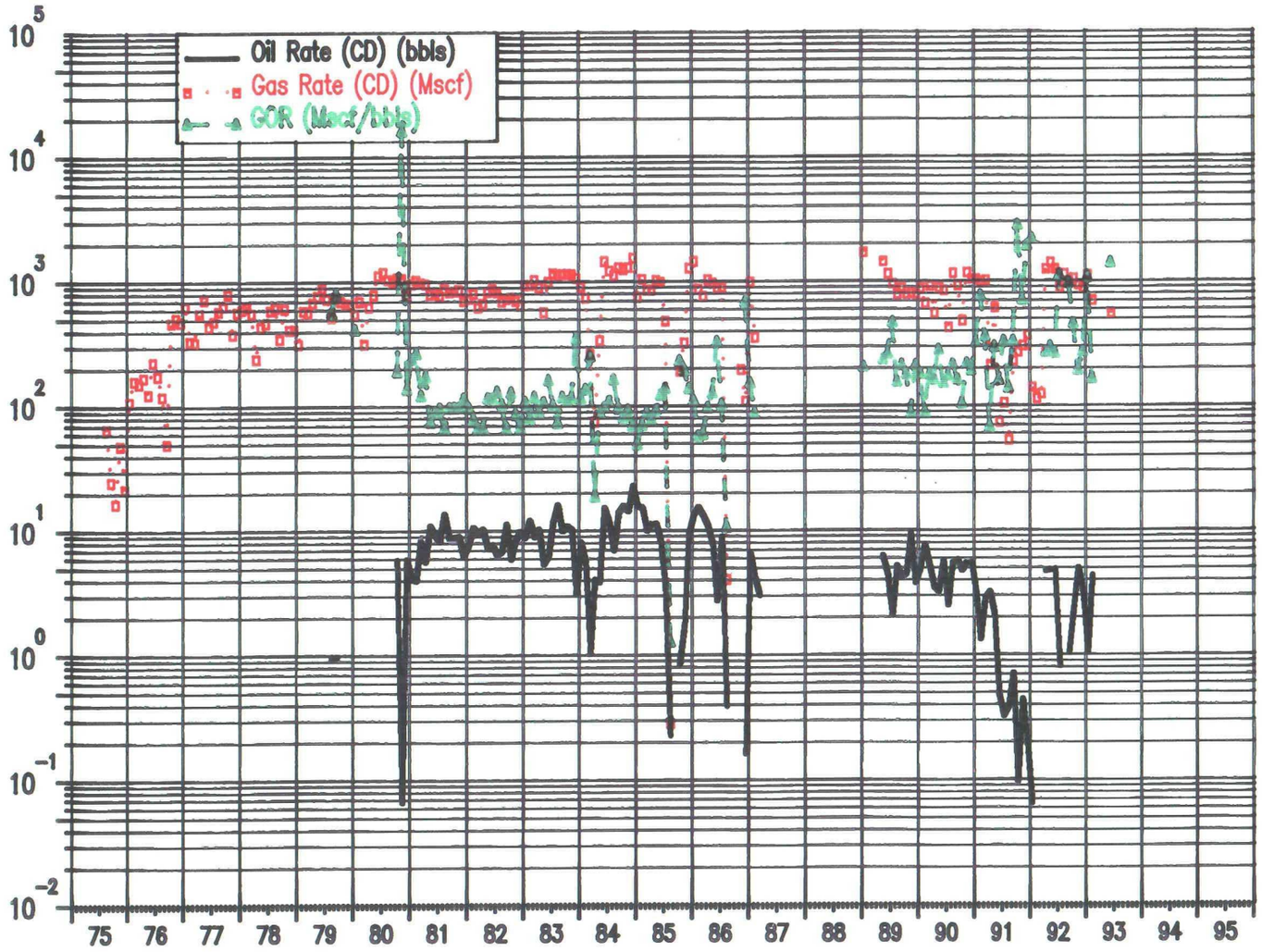
CARL TP COM NO. 2



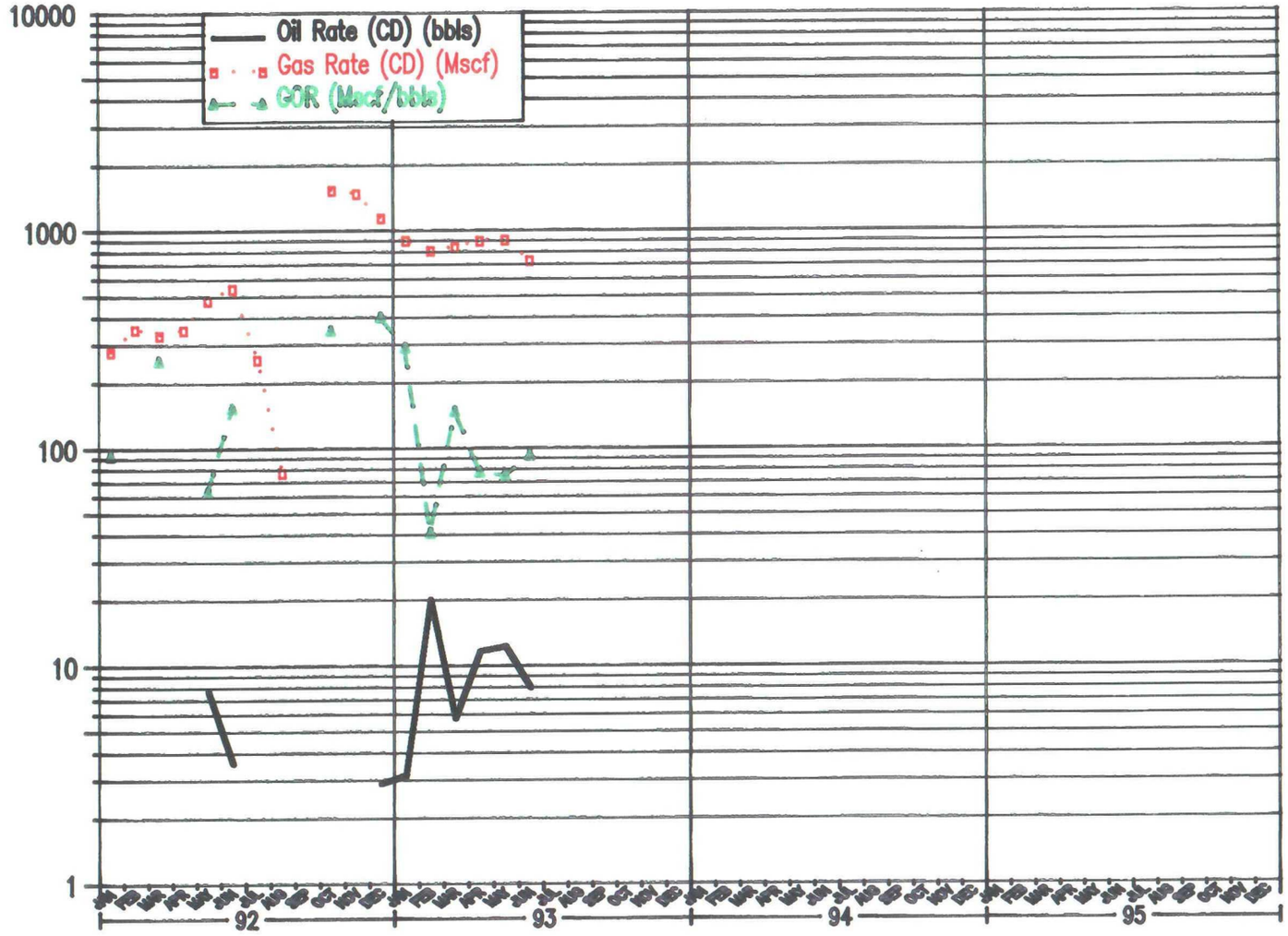
F

PRESTON FEDERAL NO. 1



G

INDIAN HILLS STATE COM NO. 1



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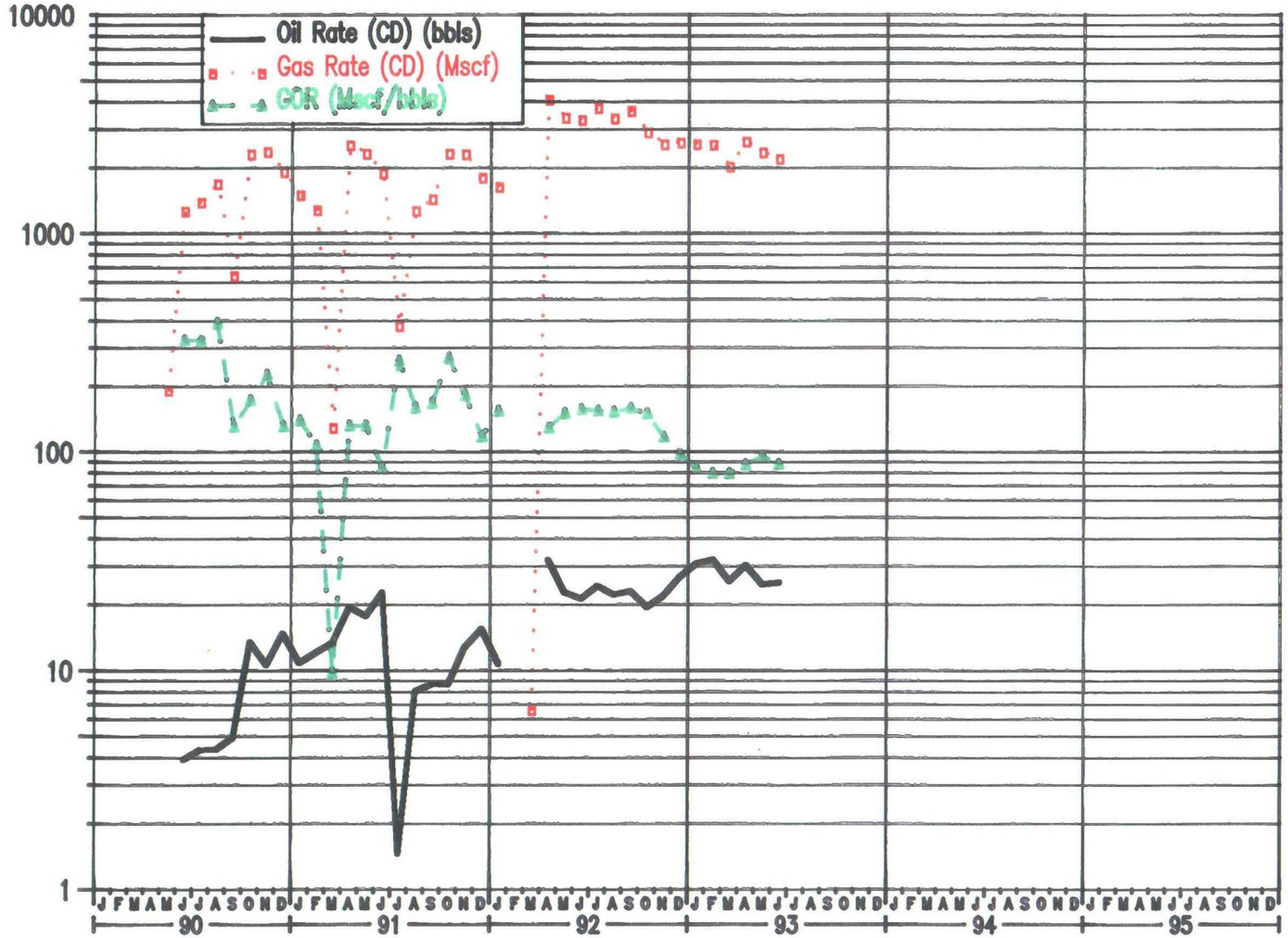
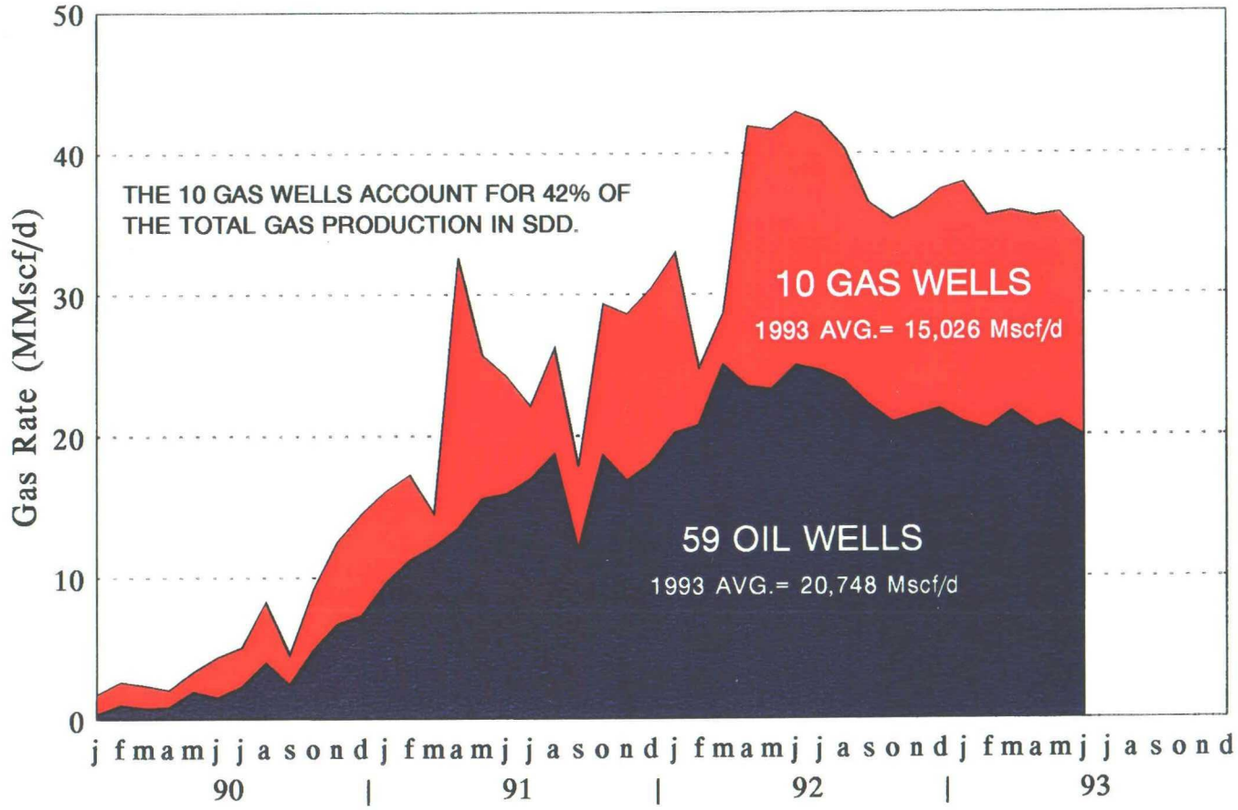
SAGUARO AGS FEDERAL COM NO. 2



SOUTH DAGGER DRAW POOL

Total Gas Production by Well Type

(Gas Well = Producing GOR > 30,000 scf/stb)



BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 22

CASE NO.: 10881

Submitted by: Conoco Inc.

Hearing Date: Dec 2, 1993

SOUTH DAGGER DRAW POOL
DETERMINATION OF NEW LIMITING GAS-OIL RATIO

DETERMINATION OF PROPOSED LIMITING GAS-OIL RATIO FOR THE SOUTH DAGGER DRAW POOL

1. Using 1993 Production Data (1/93 through 6/93)

Limiting GOR = (Total Gas)/(Total Oil)

Limiting GOR = (3,784,419,000 SCFG)/(859,651 STBO) = 4,402 SCF/STB

2. Using 1993 Average Production Rates

Limiting GOR = (Ave. Well Gas Rate)/(Ave. Well Oil Rate)

Limiting GOR = (364,000 SCFD)/(83 BOPD) = 4,385 SCF/STB

3. Using Cumulative Production Volumes

Limiting GOR = (Cumulative Gas)/(Cumulative Oil)

Limiting GOR = (19,390,677,000 SCFG)/(4,538,967 STBO) = 4,272 SCF/STB

CONOCO RECOMMENDS A NEW LIMITING GAS-OIL RATIO OF 4,500 SCF/STB

NOTE:

The net effect of reducing the limiting gas-oil ratio to 4500 SCF/STB in the South Dagger Draw Pool is to limit total gas production for each proration unit to 6,300,000 SCF/d from all wells, both oil and gas combined.

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 24
CASE NO.: 10881
Submitted by: Conoco Inc.
Hearing Date: Dec 2, 1993