

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator CAPATAZ OPERATING, INC.						Lease or Unit Name RHINO					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/12/93		Well No. 1			
Completion Date 10/29/93		Total Depth 3153		Plug Back TD 3153		Elevation 3584		Unit Ltr. - Sec. - TWP - Rge. N11-20S-38E			
Csg. Size 5-1/2"		Wt. 15.5		d 4.95		Set At 3053		Perforations: Open Hole		County LEA	
						From: 3053		To: 3153			
Tbg. Size 2 3/8"		Wt. 4.7		d 1.995		Set At 3082		Perforations:		Pool South West House-YSR GAS	
						From:		To:			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE						Packer Set At None		Formation Yates			
Producing Thru TBG		Reservoir Temp. °F 104@3080		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection			
L 3080	H 3080	Gg .807	% CO ₂ 4.06	% N ₂ 28.04	% H ₂ S	Prover		Meter Run 4.026		Taps FLG	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1240		1249		24 HRS
1.	4	X	.500	200	10.00	72	973		1205		1 HR
2.	4	X	.500	200	22.00	70	880		1120		1 HR
3.	4	X	.500	200	44.00	65	742		990		1 HR
4.	4	X	.500	200	62.00	62	573		825		1 HR
5.											

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg.	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	1.182	46.17	213.2	.9887	1.113	1.018	61
2.	1.182	68.49	213.2	.9905	1.113	1.018	91
3.	1.182	96.85	213.2	.9952	1.113	1.018	129
4.	1.182	114.97	213.2	.9981	1.113	1.018	154
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	DRY GAS	Mcf/bbl
1.	.33	532	1.56	.965	A.P. I. Gravity of Liquid Hydrocarbons	DRY	Deg.
2.	.33	530	1.55	.965	Specific Gravity Separator Gas	.807	XXXXXXXXXX
3.	.33	525	1.54	.965	Specific Gravity Flowing Fluid	XXXXXX	
4.	.33	522	1.53	.965	Critical Pressure	*635	P.S.I.A.
5.					Critical Temperature	*340	R

NO.	P _i ²	P _w	P _w ²	P _e ² - P _w ²
1.		1240.7	1539.3	215.8
2.		1153.1	1329.6	425.5
3.		1022.3	1045.1	710.0
4.		856.2	733.1	1022.0
5.				

1) $\frac{P_e^2}{P_e^2 - P_w^2} = 1.717$

2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^a = 1.389$

AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^a = .214$

3) $\frac{P_e^2}{P_e^2 - P_w^2} = 1.717$

4) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^a = .214$

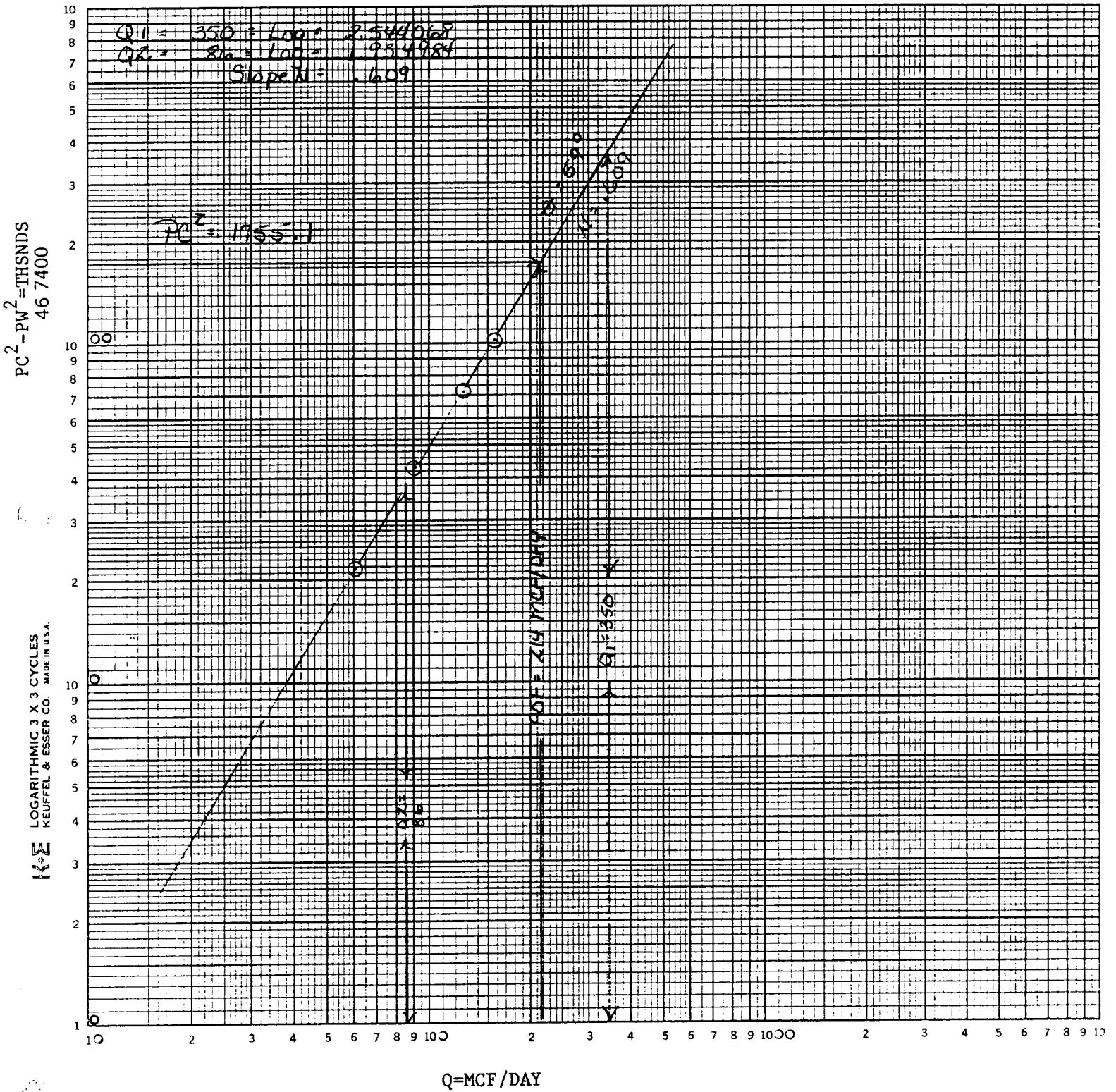
Absolute Open Flow 214 Mcfd @ 15.025		Angle of Slope θ 59		Slope, n .609	
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Remarks: * CORRECTED TO 4.06% CO₂ & 28.04% N₂. NO FLUID PRODUCED DURING THE TEST

*** BHP INSTRUMENT SET AT THIS DEPTH.

Approved By Division	Conducted By: JOHN WEST ENG. CO.	Calculated By: BM AND GW	Checked By: BM
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COPATAZ OPERATING CO.
 RHINO WELL NO. 1
 LEA COUNTY, NEW MEXICO
 SEPTEMBER 12, 1993



Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR:

John West Engineering
Attention: Mr. Buz Thomason
412 N. Dal Paso
Hobbs, New Mexico 88240

SAMPLE

IDENTIFICATION: Rhino No. 1

COMPANY: Copataz Operating Inc.

LEASE:

PLANT:

SAMPLE DATA: DATE SAMPLED: 09-13-93 11:00AM GAS (XX) LIQUID ()
ANALYSIS DATE: 09-13-93 SAMPLED BY: Buz Thomason
PRESSURE - PSIG ANALYSIS BY: Rolland Perry
SAMPLE TEMP. °F
ATMOS. TEMP. °F

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	28.04		
Carbon Dioxide (CO2)	4.06		
Methane (C1)	55.54		
Ethane (C2)	7.52	2.000	
Propane (C3)	2.96	0.812	
I-Butane (IC4)	0.33	0.107	
N-Butane (NC4)	0.79	0.248	
I-Pentane (IC5)	0.18	0.065	
N-Pentane (NC5)	0.21	0.075	
Hexane (C6)	0.37	0.160	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	3.467	
BTU/CU.FT. - DRY	838	MOLECULAR WT.	23.3672
AT 14.650 DRY	836		
AT 14.650 WET	819	26# GASOLINE -	0.383
AT 15.025 DRY	857		
AT 15.025 WET	861		
SPECIFIC GRAVITY -			
CALCULATED	0.807		
MEASURED			

COMPANY: JOHN WEST ENGINEERING COMPANY
CLIENT: CAPATAZ OPERATING INCORPORATED
GAUGE NUMBER: 14659N (O-3650#)
WELL NAME: RHINO
WELL NUMBER: 1
TEST NUMBER: 93-14-1760
LOCATION: LEA COUNTY, NEW MEXICO
TEST OPERATOR: RW & BT
COMMENTS: 4-POINT & BUILD-UP

POSITION	GAUGE SERIAL NUMBER
1	

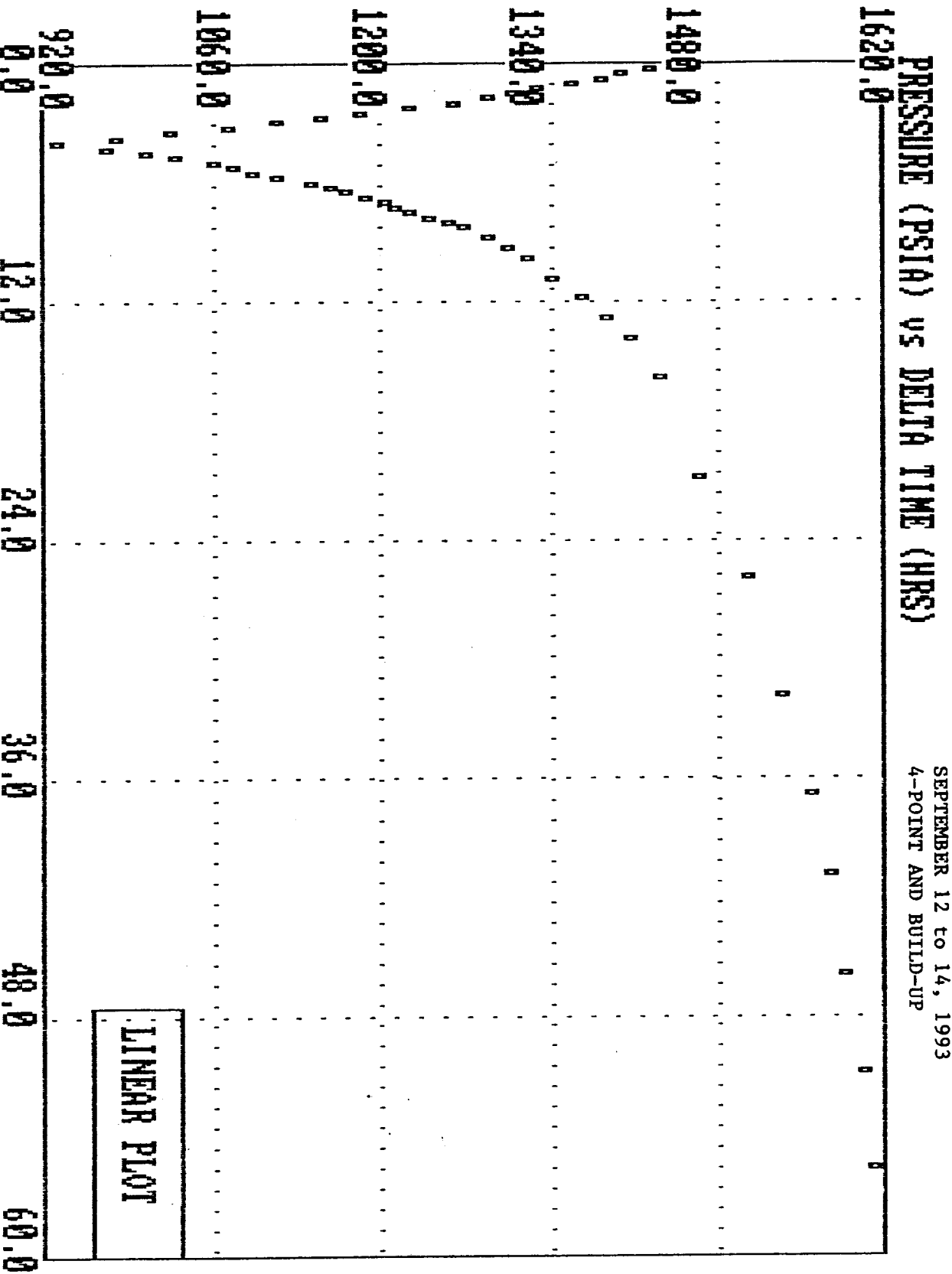
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DELTA TIME HRS	PRESSURE PSIA	COMMENTS
0.000	1453.00	FLOWING
0.083	1453.00	OPEN CHOKE
0.333	1422.00	
0.583	1398.00	
0.833	1380.00	
1.083	1359.00	END RATE I
1.333	1330.00	
1.583	1310.00	
1.833	1288.00	
2.083	1261.00	END RATE II
2.333	1223.00	
2.583	1182.00	
2.833	1150.00	
3.083	1115.00	END RATE III
3.333	1073.00	
3.583	1022.00	
3.833	978.00	
4.083	930.00	END RATE IV
4.083	930.00	S-IN/BEG. B-UP
4.333	969.00	
4.583	1002.00	
4.833	1029.00	
5.083	1060.00	
5.333	1075.00	
5.583	1093.00	
5.833	1115.00	
6.083	1142.00	
6.333	1157.00	
6.583	1170.00	
6.833	1188.00	
7.083	1201.00	
7.333	1212.00	
7.583	1223.00	
7.833	1239.00	
8.083	1254.00	
8.333	1268.00	
8.833	1287.00	
9.333	1303.00	
9.833	1319.00	
10.833	1343.00	
11.833	1365.00	
12.833	1365.00	
13.833	1405.00	
15.833	1432.00	
20.833	1465.00	
25.833	1506.00	
31.833	1533.00	
36.833	1557.00	
40.833	1572.00	
45.833	1596.00	

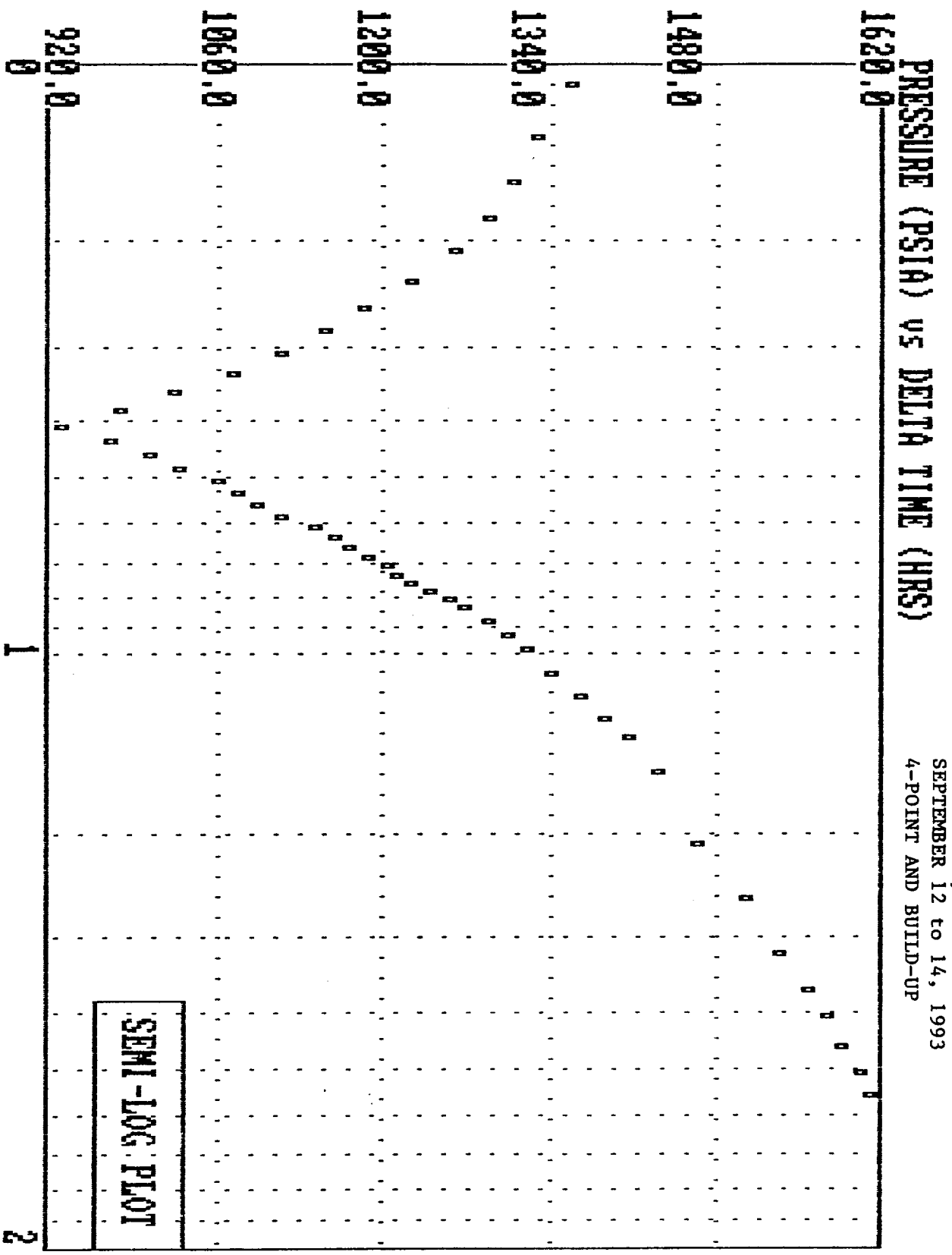
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DELTA TIME HRS	PRESSURE PSIA	COMMENTS
50.833	1601.00	
55.583	1610.00	END TEST

COPATAZ OPERATING CO.
RHINO WELL NO. 1
LEA COUNTY, NEW MEXICO
SEPTEMBER 12 to 14, 1993
4-POINT AND BUILD-UP

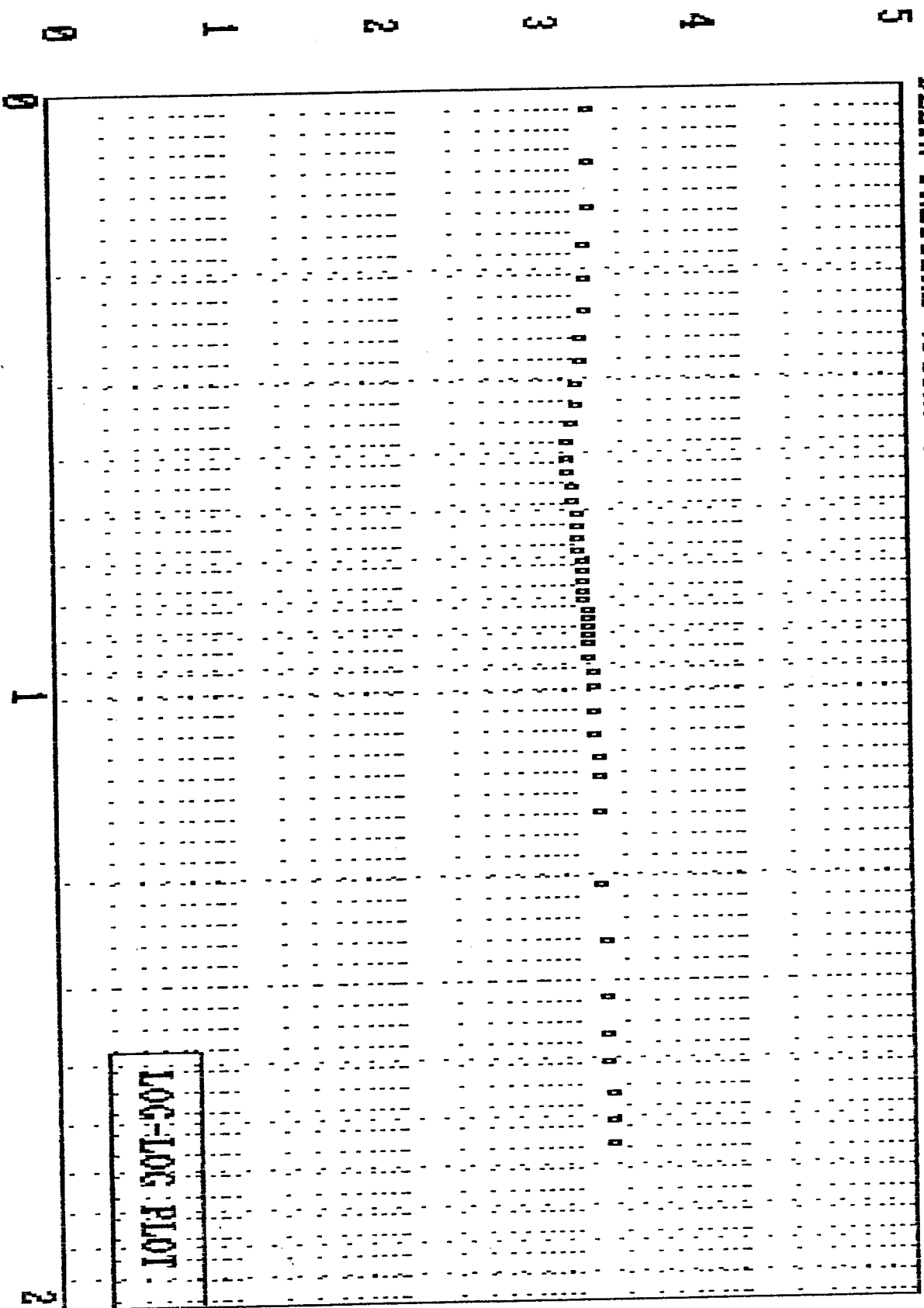


CONTINUED OF PREVIOUS CO.
RHINO WELL NO. 1
LEA COUNTY, NEW MEXICO
SEPTEMBER 12 to 14, 1993
4-POINT AND BUILD-UP



DELTA PRESSURE (PSIA) vs DELTA TIME (HRS)

COPATAZ OPERATING CO.
RHINO WELL NO. 1
LEA COUNTY, NEW MEXICO
SEPTEMBER 12 to 14, 1993
4-POINT AND BUILD-UP



COPATAZ OPERATING CO.
RHINO WELLS NO. 1
LEA COUNTY, NEW MEXICO
SEPTEMBER 12 to 14, 1993
4-POINT AND BUILD-UP

