



COMPANY : SAHARA OPERATING COMPANY
LEASE : STAR "24"
WELL NO. : # 1
FIELD : WILDCAT
COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 03-20-98
D.S.T. NO. : 1
TEST TKT. NO. : 20352
INVOICE NO. : 18348
ORDER NO. :

FORMATION : PADDOCK
INTERVAL (ft) : 5480 TO 5604
TOTAL DEPTH (ft): 5604
ELEVATION (ft) :

HOLE SIZE (in) : 7.875
DRILL PIPE ID (in) : 3.75
DRILL COLLAR ID(in): 2.25
DRILL COLLAR feet : 547

ANCHOR LENGTH (ft): 125
TOOL LENGTH (ft) : 65
TOOL O.D. (in) : 5
PACKER SIZE (in) : 7.00

RECORDER DATA
AK1-KUSTER/STARBURST

TOP RECORDER: IN
RECORDER NO. : 20234
CAPACITY (psi): 10000
DEPTH (ft) : 5492
CLOCK NO. : 20234
DURATION (hrs): 96

BOTTOM RECORDER: OUT
RECORDER NO. : 6087
CAPACITY (psi): 5500
DEPTH (ft) : 5604
CLOCK NO. : 18074
DURATION (hrs): 18

MUD PROPERTIES

MUD TYPE : SALT / GEL
MUD WT. (#/gal) : 10.2

WATER LOSS (cc) : 5.60
FILTER CAKE (in) : 1/32
VISCOSITY (sec) : 32

CHLORIDE PPM : 175000
RESISTIVITY(ohm-m): .036

EQUIPMENT DATA

CONVENTIONAL : YES
STRADDLE : NO
SELECTIVE ZONE : NO
SAMPLE CHAMBER : YES
GAS ANALYSIS : NO

ROTARY JARS : YES
NO. OF PACKERS : 2
SAFETY JOINT : YES
CIRCULATING SUB : YES
REVERSED OUT : NO

MULTIFLOW : NO
MILEAGE : NO
OPERATOR TIME : YES
OTHER : YES
STARBURST ELECTRONIC

SUCCESSFUL : YES

PACKER FAILURE : NO
TOOL PLUG : NO

DECIDED NOT TO TEST : NO

FAIL TO REACH BOTTOM : NO

TIME INTERVAL DATA (min)

TOOL OPENED : 8:00 AM

TOTAL TEST TIME: 230

INITIAL FLOW : 10
SECOND FLOW : 58
THIRD FLOW :

INITIAL SHUT-IN: 30
SECOND SHUT-IN : 132
THIRD SHUT IN :

TEST TOOL OPERATOR: HARVEY MORRIS

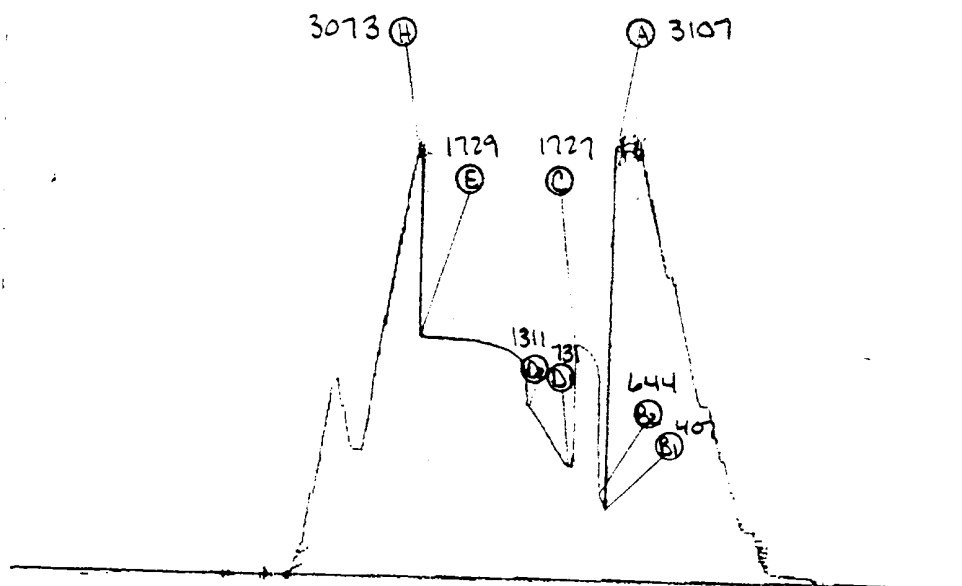
SAHARA OPERATING COMPANY



STAR "24" #1
D.S.T. NO. : 1

		CORRECTED READING	FIELD READING
A	INITIAL HYDROSTATIC:	3107 PSI	3144 PSI
B-1	INITIAL FIRST FLOW :	407 PSI	489 PSI
B-2	FINAL FIRST FLOW :	644 PSI	570 PSI
C	FIRST SHUT-IN :	1727 PSI	1706 PSI
D-1	INITIAL SECOND FLOW:	731 PSI	801 PSI
D-2	FINAL SECOND FLOW :	1311 PSI	1239 PSI
E	SECOND SHUT-IN :	1729 PSI	1719 PSI
H	FINAL HYDROSTATIC :	3073 PSI	3130 PSI

TKT-20352 REC-6087 WT-5500
AK-1 KUSTER 18 HR. CLOCK
BOTTOM RECORDER : OUTSIDE



RECOVERY DATA

PIPE RECOVERY

B.H. TEMP. (deg F) : 106

SAMPLE CHAMBER

PULLED TO FLUID @ 2800 FT. AND REVERSED INTO PIT:
300 FT. OF MUDDY DRG. FLUID (166,000 MG/L)
2500 FT. OF SULPHURWATER
67,000 MG/L CHLORIDES - .066 OHMS @ 85 DEGREES

1100 LBS. OF PRESSURE
1800 CC'S OF SULPHURWATER
25,000 MG/L CHLORIDES

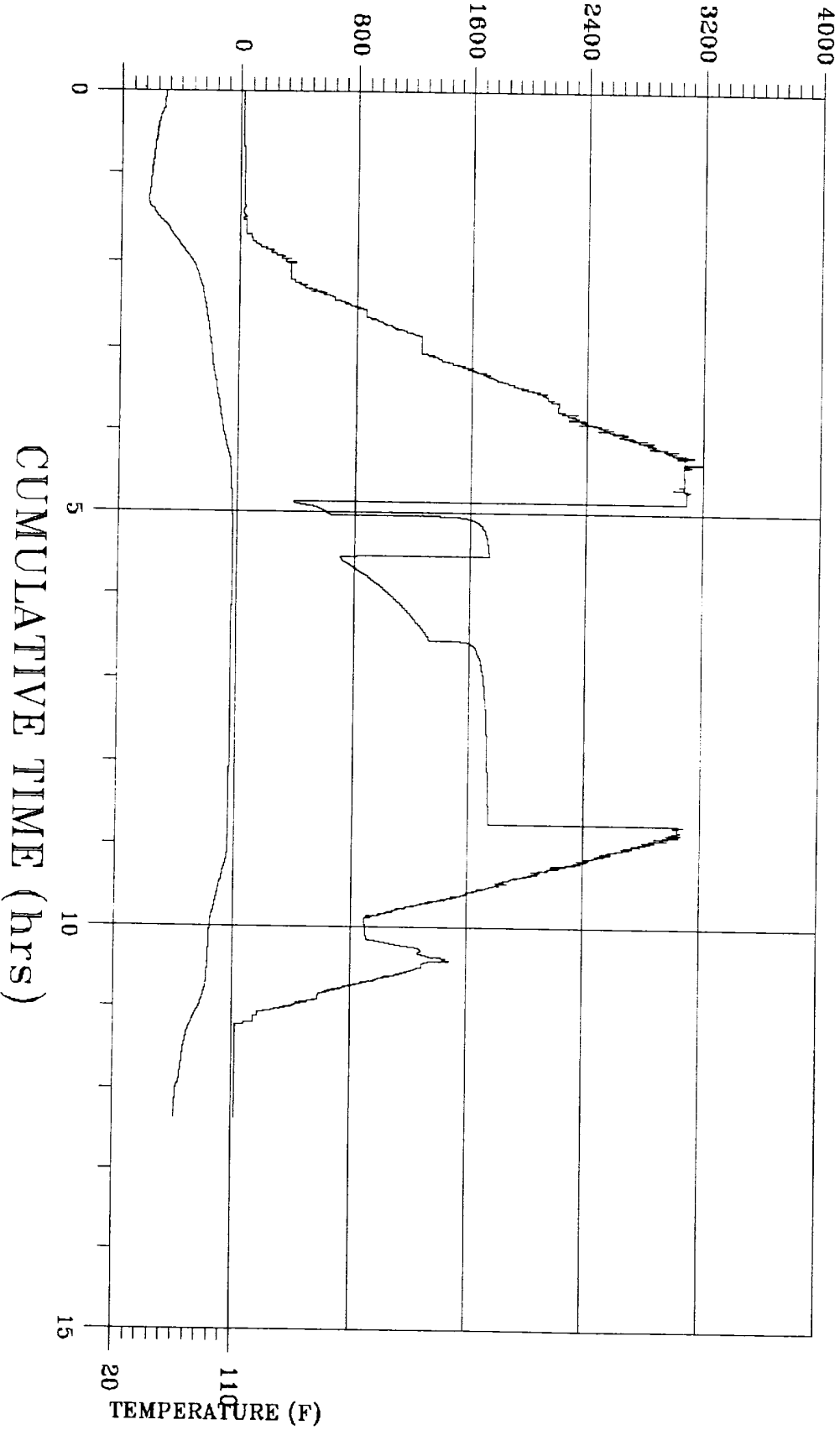
TEST REMARKS

TOOL OPENED WITH A WEAK BLOW WHICH INCREASED IN 2 MIN. TO A GOOD BLOW
THROUGHOUT THE 10 MIN. FIRST FLOW PERIOD. REOPENED TOOL WITH A WEAK BLOW
WHICH INCREASED IN 3 MIN. TO A GOOD BLOW THOURGHTOUT THE 60 MIN. FINAL FLOW
PERIOD



PRESSURE (PSIA)

SAHARA OPERATING COMPANY
STAR '24' #1 (LEA CO., NEW MEXICO)
Probe: 20234
Pressure vs Time
By RIG TESTERS INC.





INCREMENTAL PRESSURE DATA

RECORDER NO : 20234

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5492 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
FIRST FLOW					
.0	.0			365.70	.00
1.0	1.0			393.54	27.84
2.0	2.0			443.68	77.98
3.0	3.0			498.80	133.10
4.0	4.0			532.04	166.34
5.0	5.0			548.87	183.17
6.0	6.0			567.10	201.40
7.0	7.0			586.26	220.56
8.0	8.0			603.13	237.43
9.0	9.0			621.90	256.20
9.8	9.8			634.20	268.50
FIRST SHUT-IN					
9.8	9.8	.00	.000	634.20	.00
10.0	9.8	.25	40.120	1387.40	753.20
10.3	9.8	.50	20.560	1461.90	827.70
10.5	9.8	.75	14.040	1500.97	866.77
10.8	9.8	1.00	10.780	1524.05	889.85
11.0	9.8	1.25	8.824	1546.03	911.83
11.3	9.8	1.50	7.520	1563.40	929.20
11.5	9.8	1.75	6.589	1576.88	942.68
11.8	9.8	2.00	5.890	1588.73	954.53
12.0	9.8	2.25	5.347	1598.69	964.49
12.3	9.8	2.50	4.912	1605.27	971.07
12.5	9.8	2.75	4.556	1613.28	979.08
12.8	9.8	3.00	4.260	1619.80	985.60
13.0	9.8	3.25	4.009	1625.94	991.74
13.3	9.8	3.50	3.794	1631.82	997.62
13.5	9.8	3.75	3.608	1636.79	1002.59
13.8	9.8	4.00	3.445	1640.04	1005.84
14.0	9.8	4.25	3.301	1644.04	1009.84
14.3	9.8	4.50	3.173	1648.10	1013.90
14.5	9.8	4.75	3.059	1651.64	1017.44
14.8	9.8	5.00	2.956	1655.05	1020.85
15.8	9.8	6.00	2.630	1665.80	1031.60
16.8	9.8	7.00	2.397	1674.61	1040.41
17.8	9.8	8.00	2.223	1681.77	1047.57
18.8	9.8	9.00	2.087	1688.30	1054.10
19.8	9.8	10.00	1.978	1693.25	1059.05
21.8	9.8	12.00	1.815	1701.80	1067.60
23.8	9.8	14.00	1.699	1706.36	1072.16
25.8	9.8	16.00	1.611	1711.36	1077.16
27.8	9.8	18.00	1.543	1715.60	1081.40
29.8	9.8	20.00	1.489	1719.23	1085.03
31.8	9.8	22.00	1.445	1722.17	1087.97



INCREMENTAL PRESSURE DATA

RECORDER NO : 20234

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5492 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
FIRST SHUT-IN					
33.8	9.8	24.00	1.408	1724.90	1090.70
35.8	9.8	26.00	1.376	1727.53	1093.33
37.8	9.8	28.00	1.349	1729.90	1095.70
39.5	9.8	29.76	1.329	1731.60	1097.40
SECOND FLOW					
41.0	11.3			694.20	.00
46.0	16.3			758.81	64.61
51.0	21.3			832.18	137.98
56.0	26.3			902.40	208.20
61.0	31.3			967.08	272.88
66.0	36.3			1025.77	331.57
71.0	41.3			1080.00	385.80
76.0	46.3			1130.80	436.60
81.0	51.3			1177.31	483.11
86.0	56.3			1220.20	526.00
91.0	61.3			1259.75	565.55
96.0	66.3			1296.14	601.94
99.5	69.8			1320.40	626.20
SECOND SHUT-IN					
99.5	69.8	.00	.000	1320.40	.00
100.0	69.8	.50	140.560	1537.93	217.53
100.5	69.8	1.00	70.780	1573.46	253.06
101.0	69.8	1.50	47.520	1589.80	269.40
101.5	69.8	2.00	35.890	1601.64	281.24
102.0	69.8	2.50	28.912	1610.51	290.11
102.5	69.8	3.00	24.260	1616.30	295.90
103.0	69.8	3.50	20.937	1622.50	302.10
103.5	69.8	4.00	18.445	1626.91	306.51
104.0	69.8	4.50	16.507	1631.00	310.60
104.5	69.8	5.00	14.956	1635.33	314.93
105.5	69.8	6.00	12.630	1640.90	320.50
106.5	69.8	7.00	10.969	1646.65	326.25
107.5	69.8	8.00	9.723	1651.36	330.96
108.5	69.8	9.00	8.753	1653.90	333.50
109.5	69.8	10.00	7.978	1657.61	337.21
111.5	69.8	12.00	6.815	1663.70	343.30
113.5	69.8	14.00	5.984	1669.16	348.76
115.5	69.8	16.00	5.361	1673.98	353.58
117.5	69.8	18.00	4.877	1678.20	357.80



INCREMENTAL PRESSURE DATA

RECORDER NO : 20234

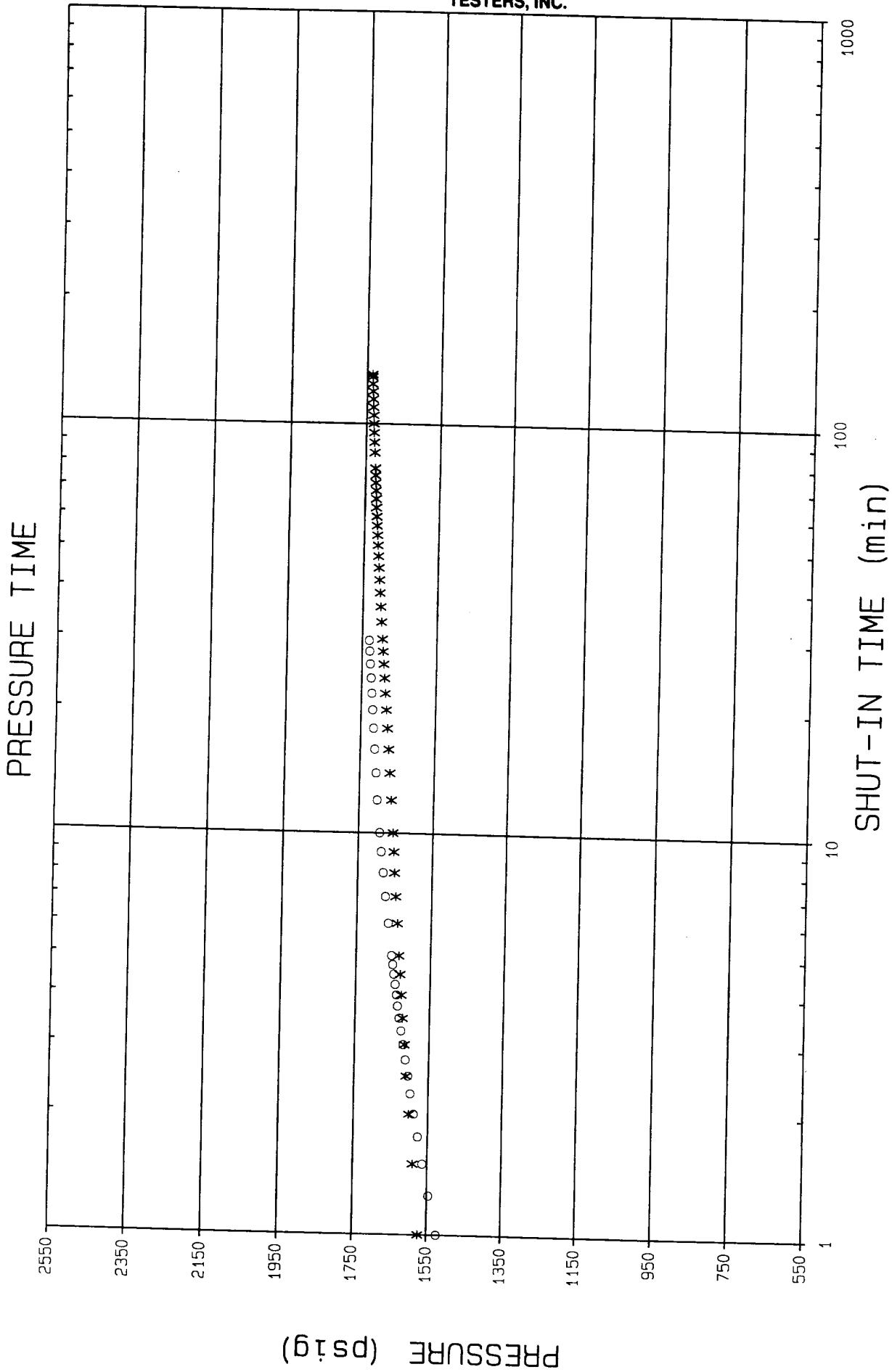
RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5492 ft

ELAPSED TIME ---MIN----	TOTAL FLOW TIME, T ---MIN----	INCREMENTAL SHUT-IN TIME, DT ---MIN----	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
SECOND SHUT-IN					
119.5	69.8	20.00	4.489	1682.14	361.74
121.5	69.8	22.00	4.172	1685.65	365.25
123.5	69.8	24.00	3.908	1688.70	368.30
125.5	69.8	26.00	3.684	1691.43	371.03
127.5	69.8	28.00	3.492	1693.95	373.55
129.5	69.8	30.00	3.326	1696.30	375.90
132.5	69.8	33.00	3.115	1699.50	379.10
135.5	69.8	36.00	2.938	1702.30	381.90
138.5	69.8	39.00	2.789	1704.70	384.30
141.5	69.8	42.00	2.661	1706.90	386.50
144.5	69.8	45.00	2.551	1708.90	388.50
147.5	69.8	48.00	2.454	1710.90	390.50
150.5	69.8	51.00	2.368	1712.80	392.40
153.5	69.8	54.00	2.292	1714.60	394.20
156.5	69.8	57.00	2.224	1716.30	395.90
159.5	69.8	60.00	2.163	1717.70	397.30
162.5	69.8	63.00	2.108	1719.10	398.70
165.5	69.8	66.00	2.057	1720.20	399.80
168.5	69.8	69.00	2.011	1721.30	400.90
171.5	69.8	72.00	1.969	1722.30	401.90
174.5	69.8	75.00	1.930	1723.20	402.80
177.5	69.8	78.00	1.895	1724.10	403.70
184.5	69.8	85.00	1.821	1726.31	405.91
189.5	69.8	90.00	1.775	1727.80	407.40
194.5	69.8	95.00	1.735	1729.11	408.71
199.5	69.8	100.00	1.698	1730.30	409.90
204.5	69.8	105.00	1.665	1731.20	410.80
209.5	69.8	110.00	1.634	1732.11	411.71
214.5	69.8	115.00	1.607	1733.01	412.61
219.5	69.8	120.00	1.582	1733.90	413.50
224.5	69.8	125.00	1.558	1734.80	414.40
229.5	69.8	130.00	1.537	1735.31	414.91
231.3	69.8	131.76	1.530	1735.60	415.20

REMARKS

THE INCREMENTAL DATA, PLOTS & ANALYSIS ARE FROM THE ELECTRONIC RECORDER.
PLEASE REFER TO THE DERIVATIVE DIAGNOSTICS FOR FURTHER INFORMATION.



AHARA OPERATING COMPANY
TAR "24" # 1

○ FIRST SHUT-IN
* SECOND SHUT-IN



Well Test Report

RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM
SAHARA OPERATING COMPANY

Well identification

Well ID	STAR "24" #1	Well location	
County/District	LEA	State, Country	NEW MEXICO
Company	SAHARA OPER. CO	Division	MIDLAND

Fluid properties

Prod/Inj fluid	WATER	GOR	N/A
Water cut	100%	Condensate yield	UNKNOWN
API gravity	N/A	Gas spec. grav.	0.7
Viscosity	0.7223 cp	Pseudo-critical T	382.97 deg R
Pseudo-critical P	664.37 psia	H2S mole fraction	UNKNOWN
CO2 mole fraction	UNKNOWN	N2 mole fraction	UNKNOWN
Compressibility(t)	11.234 e-6/psi	Formation vol factor	1.0067 RB/STB

Reservoir properties

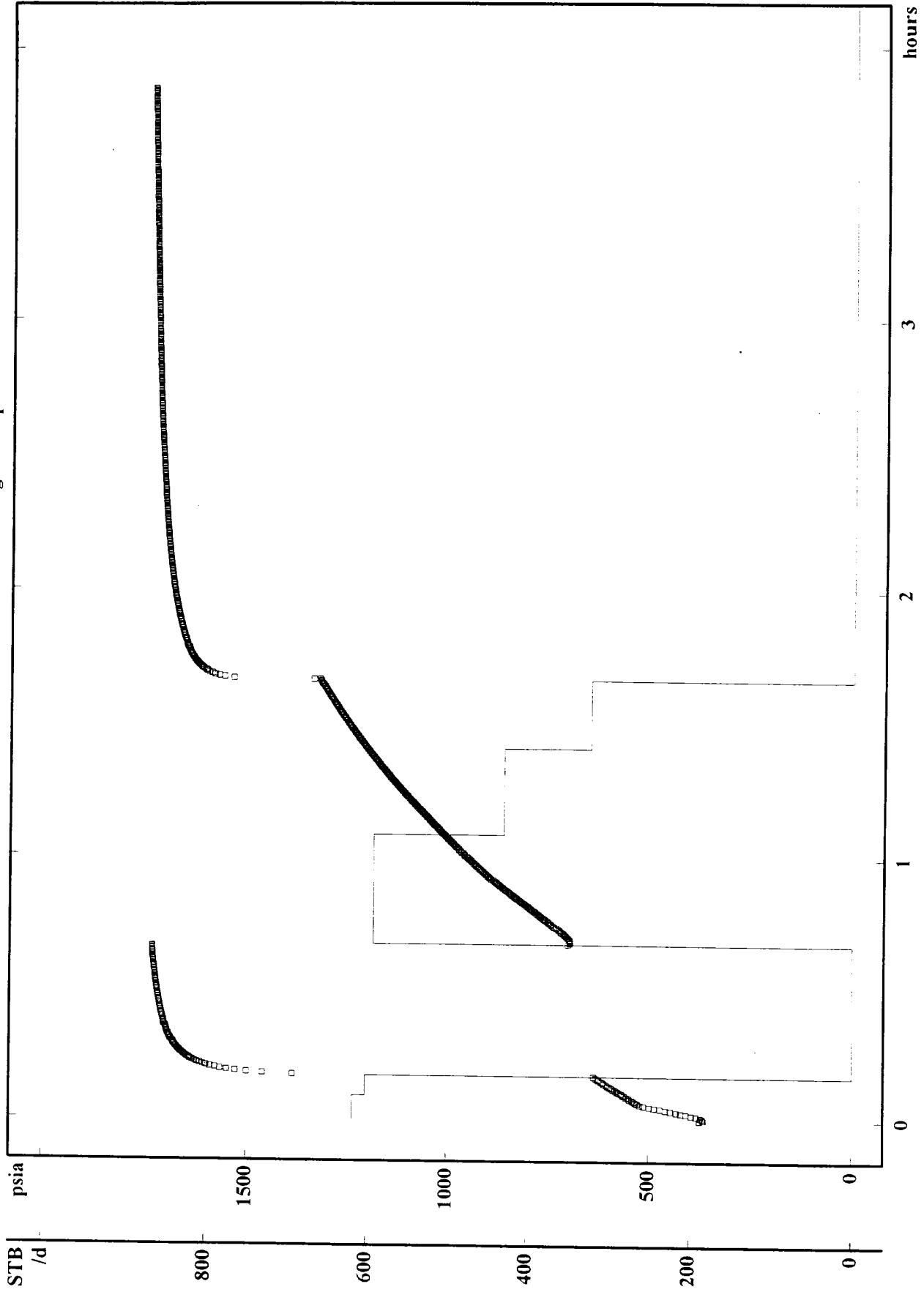
Porosity	0.14 frac	Formation thickness	80 ft
Wellbore radius	0.32813 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	106 deg F	Pressure for properties	1755.6 psia

Comments

THE DERIVATIVES INDICATE A RESERVOIR WITH MODERATE PERMEABILITY AND SLIGHT SKIN. THE SHUT-IN PERIODS HAD OBTAINED RADIAL FLOW AS INDICATED BY FLATTENING OF DERIVATIVE CURVES. A REGRESSION MODEL ANALYSIS WAS PERFORMED TO BETTER DETERMINE FORMATION PARAMETERS & IS REPRESENTED BY SOLID LINE PLOTTED OVER ACTUAL DATA WITH CONFIDENCE INTERVALS (MARGIN OF ERROR) SHOWN NEXT TO MAJOR CALCULATIONS. THE FIXED PARAMETERS USED WERE AN EST. 14% POROSITY, 80 FT. OF NET PAY AND AVERAGE PRODUCTION OF 461 BHPD FOR FINAL FLOW PERIOD. THE RATES WERE BASED ON DENSITY OF FLUID RECOVERED VS. FLOWING PRESSURES. THE TOTAL RADIUS OF INVESTIGATION CALCULATED TO APPROX. 97 FT. FROM THE WELLBORE.



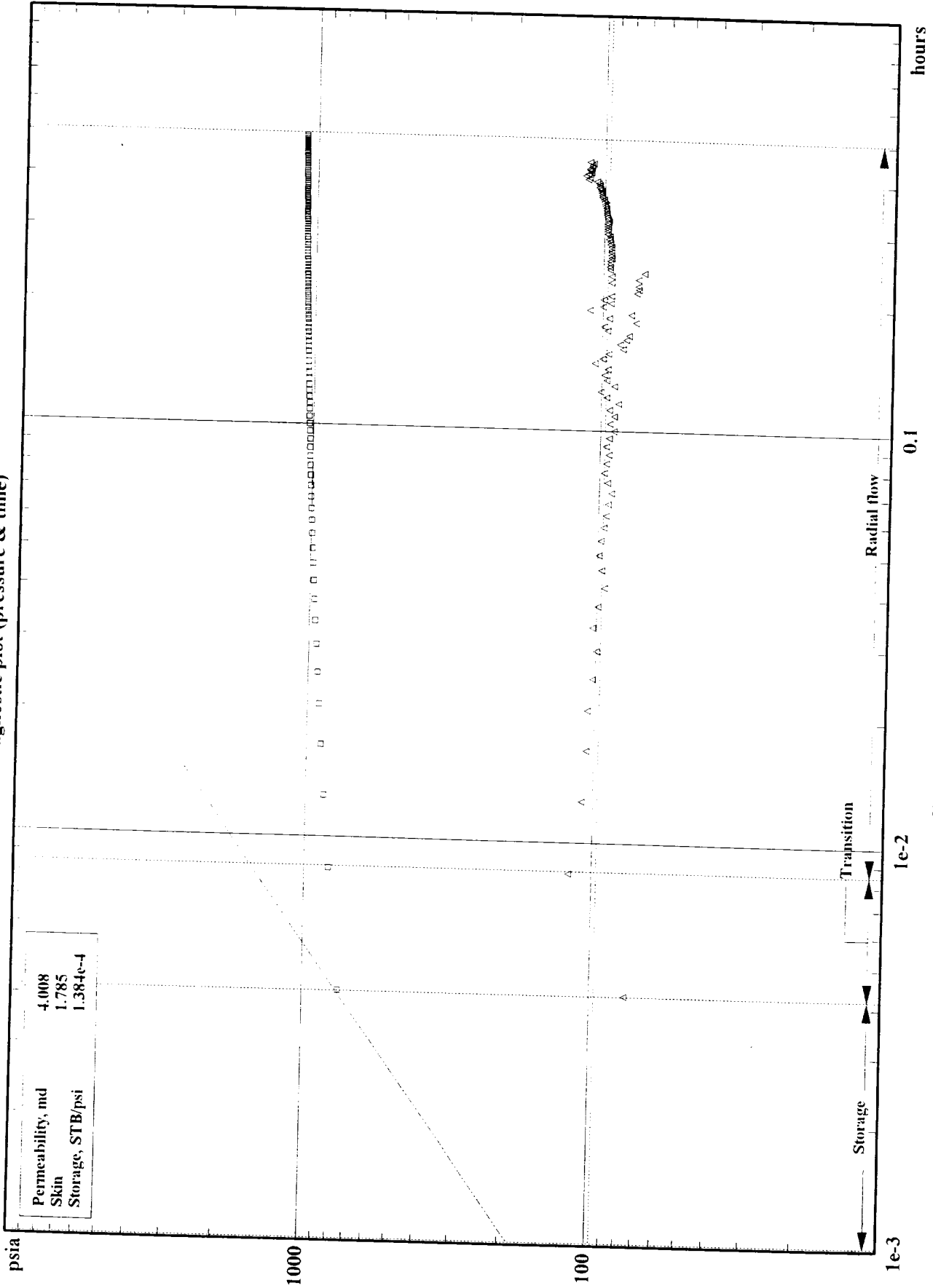
SAHARA OPERATING COMPANY STAR "24" #1
Pressure and flow rate vs time during test sequence



DST #1 5480 - 5604 FT. PADDOCK

SAHARA OPERATING COMPANY STAR "24" #1

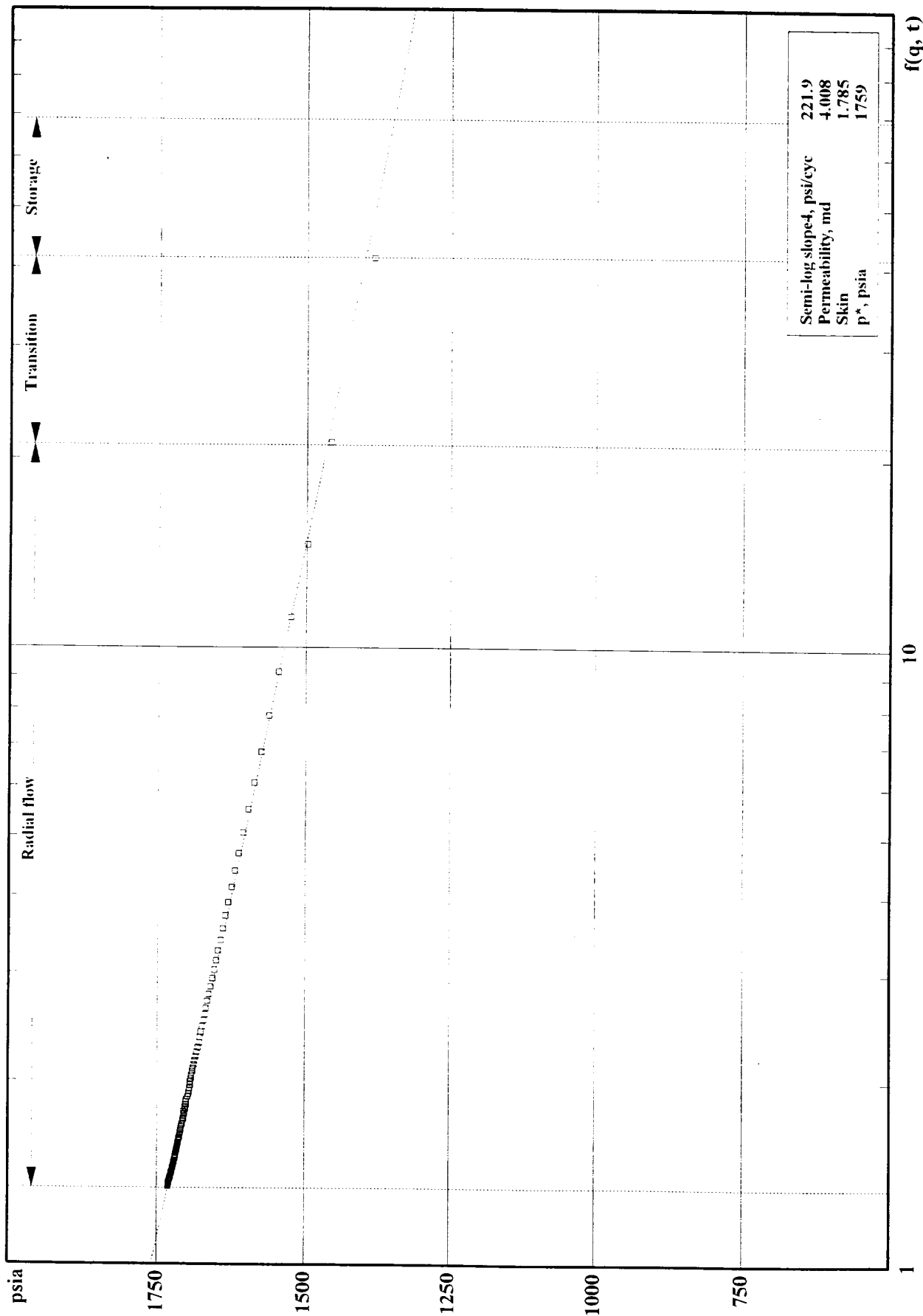
Diagnostic plot (pressure & time)



INITIAL SHUT-IN PERIOD DST #1

SAHARA OPERATING COMPANY STAR "24" #1

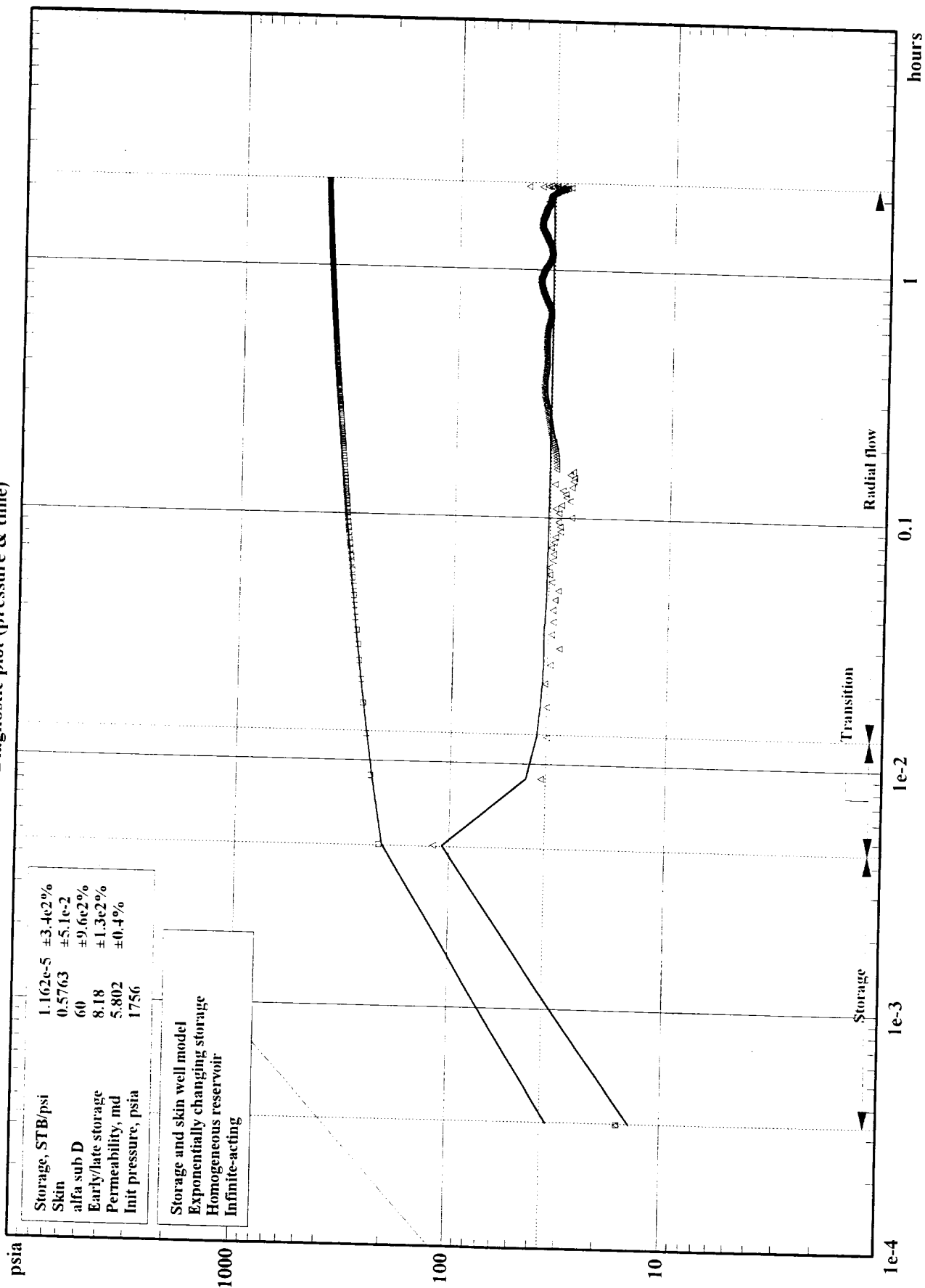
Variable rate Horner plot (pressure & time)



INITIAL SHUT-IN PERIOD DST #1

SAHARA OPERATING COMPANY STAR "24" #1

Diagnostic plot (pressure & time)

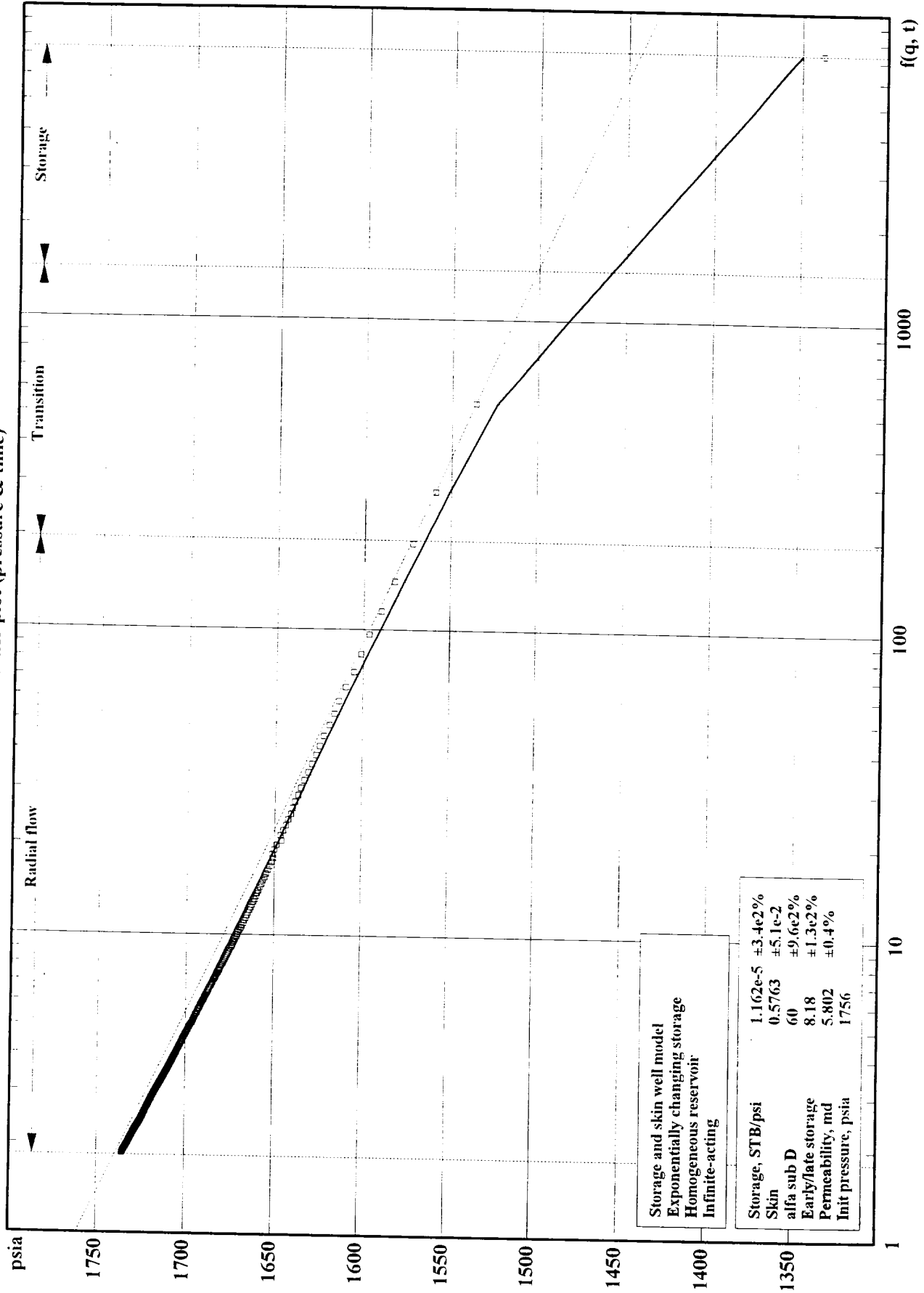


FINAL SHUT-IN PERIOD DST #1 REGRESSION VERIFIED MODEL



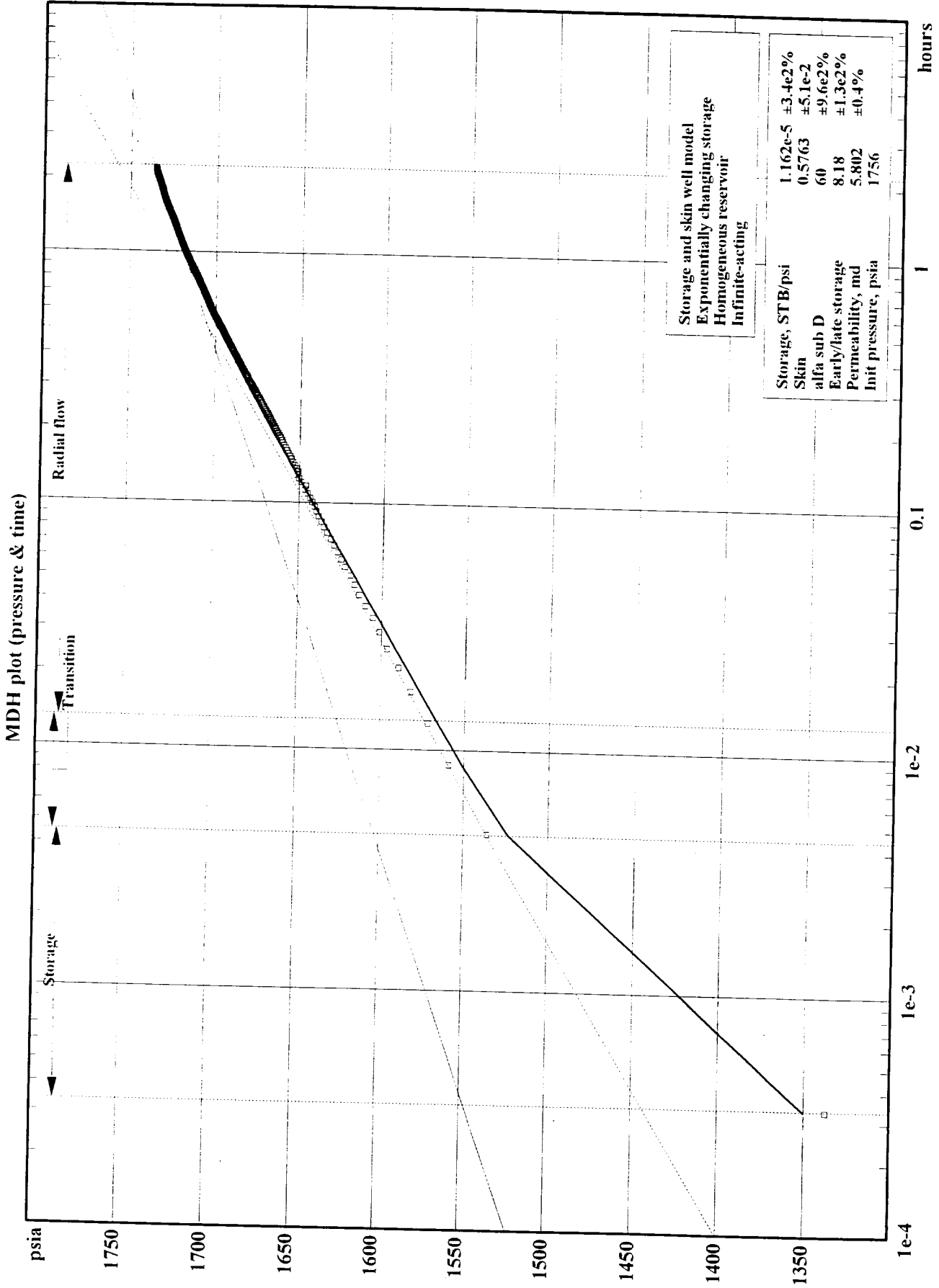
SAHARA OPERATING COMPANY STAR "24" #1

Variable rate Horner plot (pressure & time)



FINAL SHUT-IN PERIOD DST #1 REGRESSION VERIFIED MODEL

SAHARA OPERATING COMPANY STAR "24" #1

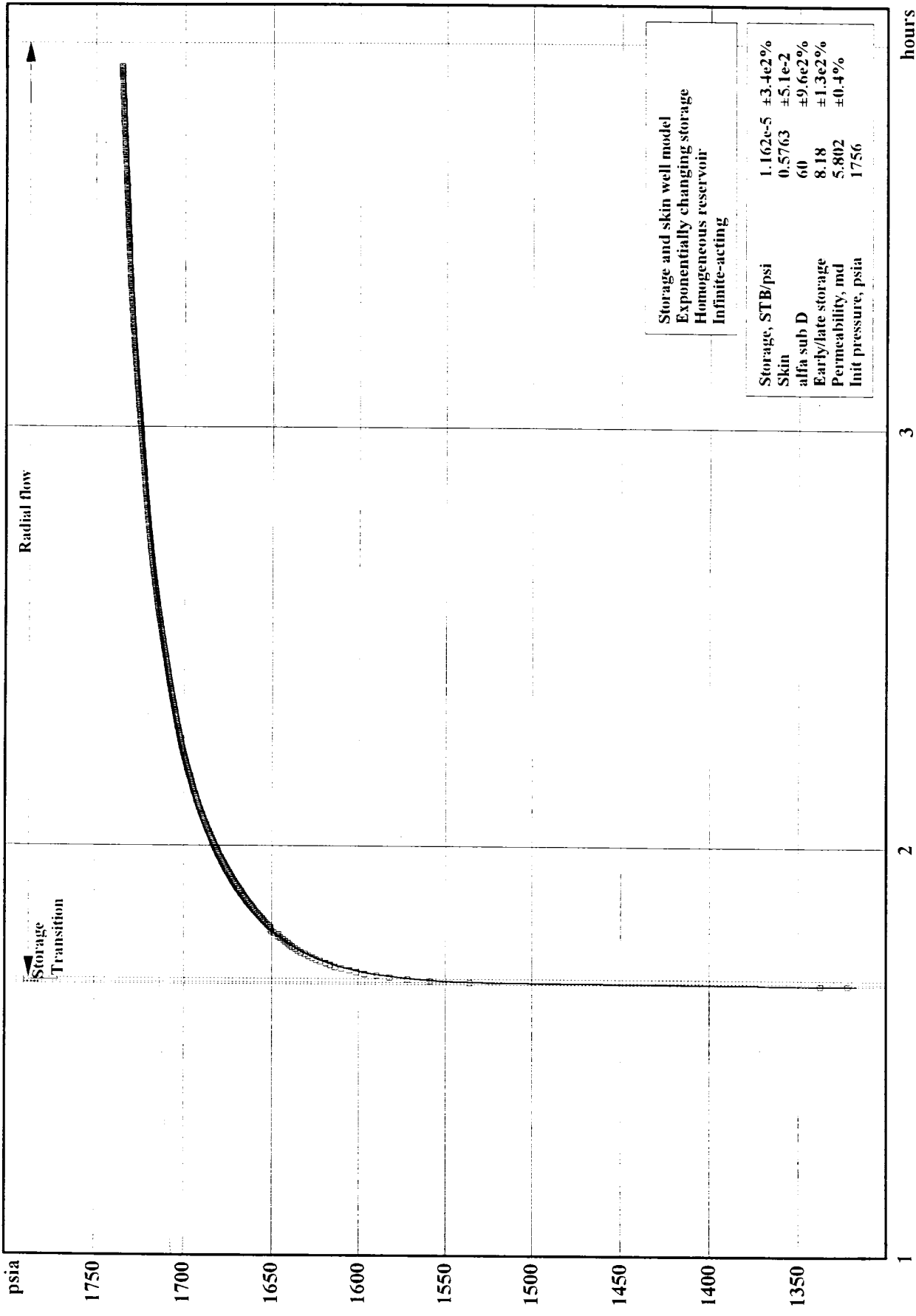


FINAL SHUT-IN PERIOD DST #1 REGRESSION VERIFIED MODEL



SAHARA OPERATING COMPANY STAR "24" #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST #1 REGRESSION VERIFIED MODEL