



Patterson Petroleum LP
Nathaniel 29 State #1
M-29-17s-34e, 660/S & 990/W
API # 30-025-37291

COMPANY : PATTERSON PETROLEUM L.P.
LEASE : NATHANIEL "29" STATE
WELL NO. : # 1
FIELD : VACUUM, MORROW
COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 08/25/05
D.S.T. NO. : 1
TEST TKT. NO. : 23402
INVOICE NO. : 21397
ORDER NO. :

FORMATION : WOLFCAMP
INTERVAL (ft) : 10490 TO 10560
TOTAL DEPTH (ft) : 10560
ELEVATION (ft) : 4085

HOLE SIZE (in) : 8.750
DRILL PIPE ID (in) : 3.64
DRILL COLLAR ID(in) : 2.25
DRILL COLLAR feet : 840
ANCHOR LENGTH (ft): 70
TOOL LENGTH (ft) : 49
TOOL O.D. (in) : 5
PACKER SIZE (in) : 7.50

RECORDER DATA
AK-1KUSTER / ZIPROBE

TOP RECORDER: IN
RECORDER NO. : 50014
CAPACITY (psi): 10000
DEPTH (ft) : 10495
CLOCK NO. : 50014
DURATION (hrs): 99

BOTTOM RECORDER: OUT
RECORDER NO. : 9628
CAPACITY (psi): 10000
DEPTH (ft) : 10497
CLOCK NO. : 9628
DURATION (hrs): 99

MUD PROPERTIES

MUD TYPE : FRESH WATER
MUD WT. (#/gal) : 8.60

WATER LOSS (cc) :
FILTER CAKE (in) :
VISCOSITY (sec) : 28
CHLORIDE PPM : 1000
RESISTIVITY(ohm-m): 6.80

EQUIPMENT DATA

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

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

MULTIFLOW : NO
MILEAGE : NO
OPERATOR TIME : NO
OTHER : YES
ELEC.RECORDERS(2)

SUCCESSFUL : YES

PACKER FAILURE : NO
TOOL PLUG : NO

DECIDED NOT TO TEST : NO

FAIL TO REACH BOTTOM : NO

TIME INTERVAL DATA (min)

TOOL OPENED : 1:30 AM

TOTAL TEST TIME: 346

INITIAL FLOW : 16
SECOND FLOW : 58
THIRD FLOW :

INITIAL SHUT-IN: 59
SECOND SHUT-IN : 213
THIRD SHUT IN :

TEST TOOL OPERATOR: TOMMY WILLIAMS

PATTERSON PETROLEUM L.P.



NATHANIEL "29" STATE # 1
D.S.T. NO. : 1

A INITIAL HYDROSTATIC:
B-1 INITIAL FIRST FLOW :
B-2 FINAL FIRST FLOW :
C FIRST SHUT-IN :
D-1 INITIAL SECOND FLOW:
D-2 FINAL SECOND FLOW :
E SECOND SHUT-IN :
H FINAL HYDROSTATIC :

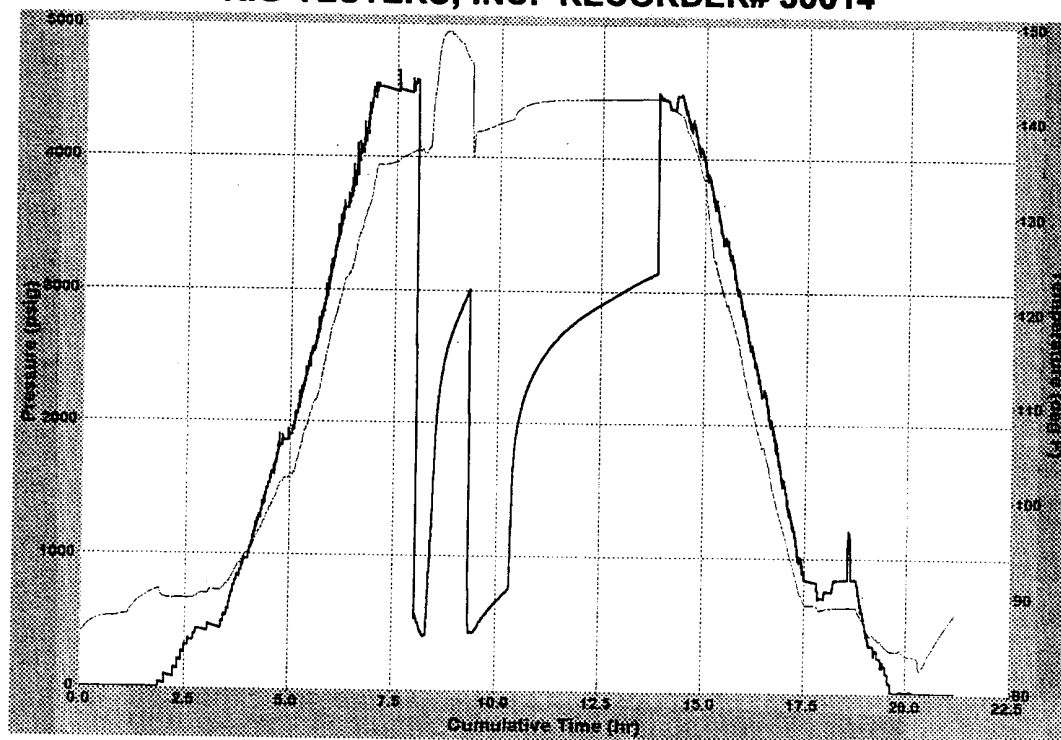
CORRECTED READING

4594 PSI
578 PSI
430 PSI
3020 PSI
440 PSI
772 PSI
3154 PSI
4489 PSI

FIELD READING

4580 PSI
548 PSI
430 PSI
3120 PSI
440 PSI
772 PSI
3154 PSI
4490 PSI

RIG TESTERS, INC. RECORDER# 50014



RECOVERY DATA

PIPE RECOVERY

B.H. TEMP. (deg F) : 149

SAMPLE CHAMBER

GAS TO SURFACE 5 MIN. INTO INITIAL SHUT-IN PERIOD
PULLED TO FLUID @ 1830 FT. & REVERSED IN PIT AN EST;
1400 FT. OF FREE OIL (43 GRAVITY @ 82 DEGREES)
300 FT. OF OIL & PARAFFIN (30% OIL)
40 FT. OF SALTWATER
56,000 MG/L CHLORIDES- .161 OHMS @ 85 DEGREES
90 FT. OF SALTWATER-BELOW CIRC SUB (56,000 MG/L CHL)

700 LBS. OF PRESSURE
2.50 CU. FT. OF GAS
620 CC'S OF FREE OIL
41.2 GRAVITY @ 60 DEGREES
400 CC'S OF SALTWATER
56,000 MG/L CHLORIDES
.161 OHMS @ 85 DEGREES

TEST REMARKS

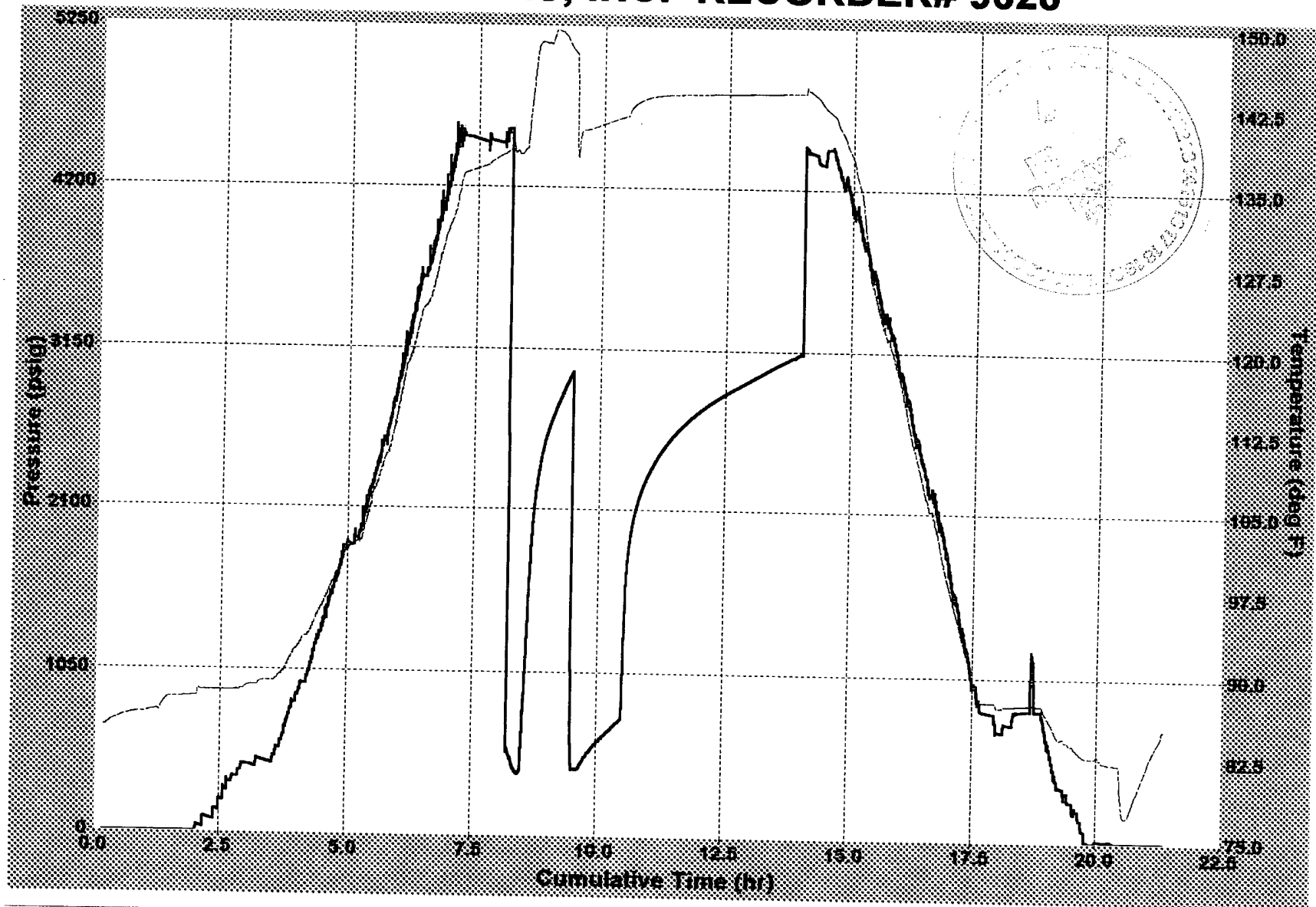
TOOL OPENED WITH GOOD BLOW ON 1/4" CHOKE IN 1 MIN. & BUILT TO 28.5 LBS.
AT END OF 15 MIN. FIRST FLOW. (GAS TO SURFACE 5 MIN. INTO INITIAL SHUT-IN PERIOD). REOPENED TOOL ON 1/4" CHOKE WITH 22 LBS.(53 MCFPD) IN 15 MIN., 38 LBS.(77 MCFPD) IN 30 MIN., 51 LBS.(96 MCFPD) IN 45 MIN. & 52 LBS.(98 MCFPD) AT END OF THE 60 MIN. FINAL FLOW PERIOD.



Company Name PATTERSON PETROLEUM L.P.
Well Name NATHANIEL "29" STATE #1
Type of Test DST #1 (10490-10560 FT.; WOLFCAMP)
Date(s) of Test 8-25-05



RIG TESTERS, INC. RECORDER# 9628





INCREMENTAL PRESSURE DATA

RECORDER NO : 50014

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 10495 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			578.80	.00
2.0	2.0			538.92	-39.88
4.0	4.0			514.45	-64.35
6.0	6.0			479.70	-99.10
8.0	8.0			448.02	-130.78
10.0	10.0			425.23	-153.57
12.0	12.0			413.60	-165.20
14.0	14.0			414.27	-164.53
16.0	16.0			430.90	-147.90
FIRST SHUT-IN					
16.0	16.0	.00	.000	430.90	.00
16.5	16.0	.50	33.040	499.35	68.45
17.0	16.0	1.00	17.020	564.47	133.57
17.5	16.0	1.50	11.680	636.30	205.40
18.0	16.0	2.00	9.010	708.17	277.27
18.5	16.0	2.50	7.408	778.84	347.94
19.0	16.0	3.00	6.340	843.80	412.90
19.5	16.0	3.50	5.577	916.16	485.26
20.0	16.0	4.00	5.005	979.24	548.34
20.5	16.0	4.50	4.560	1048.70	617.80
21.0	16.0	5.00	4.204	1117.51	686.61
22.0	16.0	6.00	3.670	1244.50	813.60
23.0	16.0	7.00	3.289	1377.27	946.37
24.0	16.0	8.00	3.003	1544.27	1113.37
25.0	16.0	9.00	2.780	1688.80	1257.90
26.0	16.0	10.00	2.602	1812.95	1382.05
28.0	16.0	12.00	2.335	2007.00	1576.10
30.0	16.0	14.00	2.144	2145.01	1714.11
32.0	16.0	16.00	2.001	2246.53	1815.63
34.0	16.0	18.00	1.890	2329.60	1898.70
36.0	16.0	20.00	1.801	2400.06	1969.16
39.0	16.0	23.00	1.697	2486.36	2055.46
42.0	16.0	26.00	1.616	2559.17	2128.27
45.0	16.0	29.00	1.552	2615.48	2184.58
48.0	16.0	32.00	1.501	2669.05	2238.15
51.0	16.0	35.00	1.458	2718.21	2287.31
54.0	16.0	38.00	1.422	2763.02	2332.12
57.0	16.0	41.00	1.391	2803.99	2373.09
60.0	16.0	44.00	1.364	2843.07	2412.17
63.0	16.0	47.00	1.341	2883.17	2452.27
66.0	16.0	50.00	1.320	2919.65	2488.75
69.0	16.0	53.00	1.302	2954.73	2523.83
72.0	16.0	56.00	1.286	2988.83	2557.93
75.0	16.0	58.98	1.272	3020.70	2589.80



INCREMENTAL PRESSURE DATA

RECORDER NO : 50014

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 10495 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
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SECOND FLOW

77.8	18.8			440.40	.00
80.8	21.8			448.90	8.50
83.8	24.8			443.20	2.80
86.8	27.8			461.10	20.70
89.8	30.8			487.50	47.10
92.8	33.8			522.10	81.70
95.8	36.8			543.90	103.50
98.8	39.8			561.50	121.10
101.8	42.8			585.00	144.60
104.8	45.8			604.30	163.90
107.8	48.8			625.90	185.50
110.8	51.8			641.00	200.60
113.8	54.8			659.10	218.70
116.8	57.8			672.10	231.70
119.8	60.8			689.40	249.00
122.8	63.8			703.10	262.70
125.8	66.8			721.70	281.30
128.8	69.8			740.00	299.60
131.8	72.8			753.00	312.60
134.8	75.8			766.30	325.90
136.0	77.0			772.50	332.10

SECOND SHUT-IN

136.0	77.0	.00	.000	772.50	.00
137.0	77.0	1.00	78.040	1031.01	258.51
138.0	77.0	2.00	39.520	1274.89	502.39
139.0	77.0	3.00	26.680	1488.40	715.90
140.0	77.0	4.00	20.260	1647.82	875.32
141.0	77.0	5.00	16.408	1748.17	975.67
142.0	77.0	6.00	13.840	1814.10	1041.60
143.0	77.0	7.00	12.006	1866.88	1094.38
144.0	77.0	8.00	10.630	1913.97	1141.47
145.0	77.0	9.00	9.560	1952.50	1180.00
146.0	77.0	10.00	8.704	1987.04	1214.54
148.0	77.0	12.00	7.420	2048.10	1275.60
150.0	77.0	14.00	6.503	2099.49	1326.99
152.0	77.0	16.00	5.815	2143.06	1370.56
154.0	77.0	18.00	5.280	2182.80	1410.30
156.0	77.0	20.00	4.852	2218.64	1446.14

PATTERSON PETROLEUM L.P.


 NATHANIEL "29" STATE # 1
 D.S.T. NO. : 1

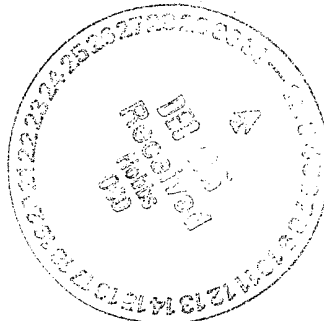
INCREMENTAL PRESSURE DATA

RECORDER NO : 50014

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 10495 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					
159.0	77.0	23.00	4.350	2265.81	1493.31
162.0	77.0	26.00	3.963	2307.67	1535.17
165.0	77.0	29.00	3.657	2345.06	1572.56
168.0	77.0	32.00	3.408	2379.32	1606.82
171.0	77.0	35.00	3.201	2410.80	1638.30
174.0	77.0	38.00	3.027	2439.99	1667.49
181.0	77.0	45.00	2.712	2501.30	1728.80
186.0	77.0	50.00	2.541	2541.17	1768.67
191.0	77.0	55.00	2.401	2577.28	1804.78
196.0	77.0	60.00	2.284	2610.90	1838.40
201.0	77.0	65.00	2.185	2641.92	1869.42
206.0	77.0	70.00	2.101	2670.41	1897.91
211.0	77.0	75.00	2.027	2697.10	1924.60
216.0	77.0	80.00	1.963	2722.01	1949.51
221.0	77.0	85.00	1.906	2745.32	1972.82
226.0	77.0	90.00	1.856	2767.30	1994.80
231.0	77.0	95.00	1.811	2788.38	2015.88
236.0	77.0	100.00	1.770	2808.03	2035.53
241.0	77.0	105.00	1.734	2827.10	2054.60
246.0	77.0	110.00	1.700	2845.38	2072.88
251.0	77.0	115.00	1.670	2862.75	2090.25
256.0	77.0	120.00	1.642	2879.70	2107.20
261.0	77.0	125.00	1.616	2896.26	2123.76
266.0	77.0	130.00	1.593	2911.95	2139.45
271.0	77.0	135.00	1.571	2927.40	2154.90
276.0	77.0	140.00	1.550	2942.86	2170.36
281.0	77.0	145.00	1.531	2957.85	2185.35
286.0	77.0	150.00	1.514	2973.30	2200.80
291.0	77.0	155.00	1.497	2988.68	2216.18
296.0	77.0	160.00	1.482	3004.05	2231.55
301.0	77.0	165.00	1.467	3019.50	2247.00
306.0	77.0	170.00	1.453	3035.26	2262.76
311.0	77.0	175.00	1.440	3050.45	2277.95
316.0	77.0	180.00	1.428	3065.70	2293.20
321.0	77.0	185.00	1.416	3080.45	2307.95
326.0	77.0	190.00	1.405	3094.65	2322.15
331.0	77.0	195.00	1.395	3108.50	2336.00
336.0	77.0	200.00	1.385	3122.26	2349.76
341.0	77.0	205.00	1.376	3133.25	2360.75
346.0	77.0	210.00	1.367	3147.10	2374.60



PATTERSON PETROLEUM L.P.



NATHANIEL "29" STATE # 1
D.S.T. NO. : 1

INCREMENTAL PRESSURE DATA

RECORDER NO : 50014

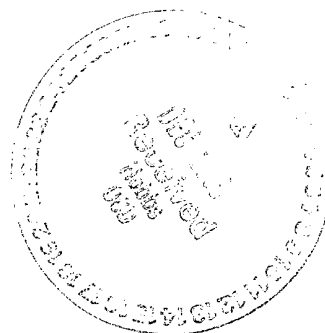
RECORDER CAPACITY : 10000 psi

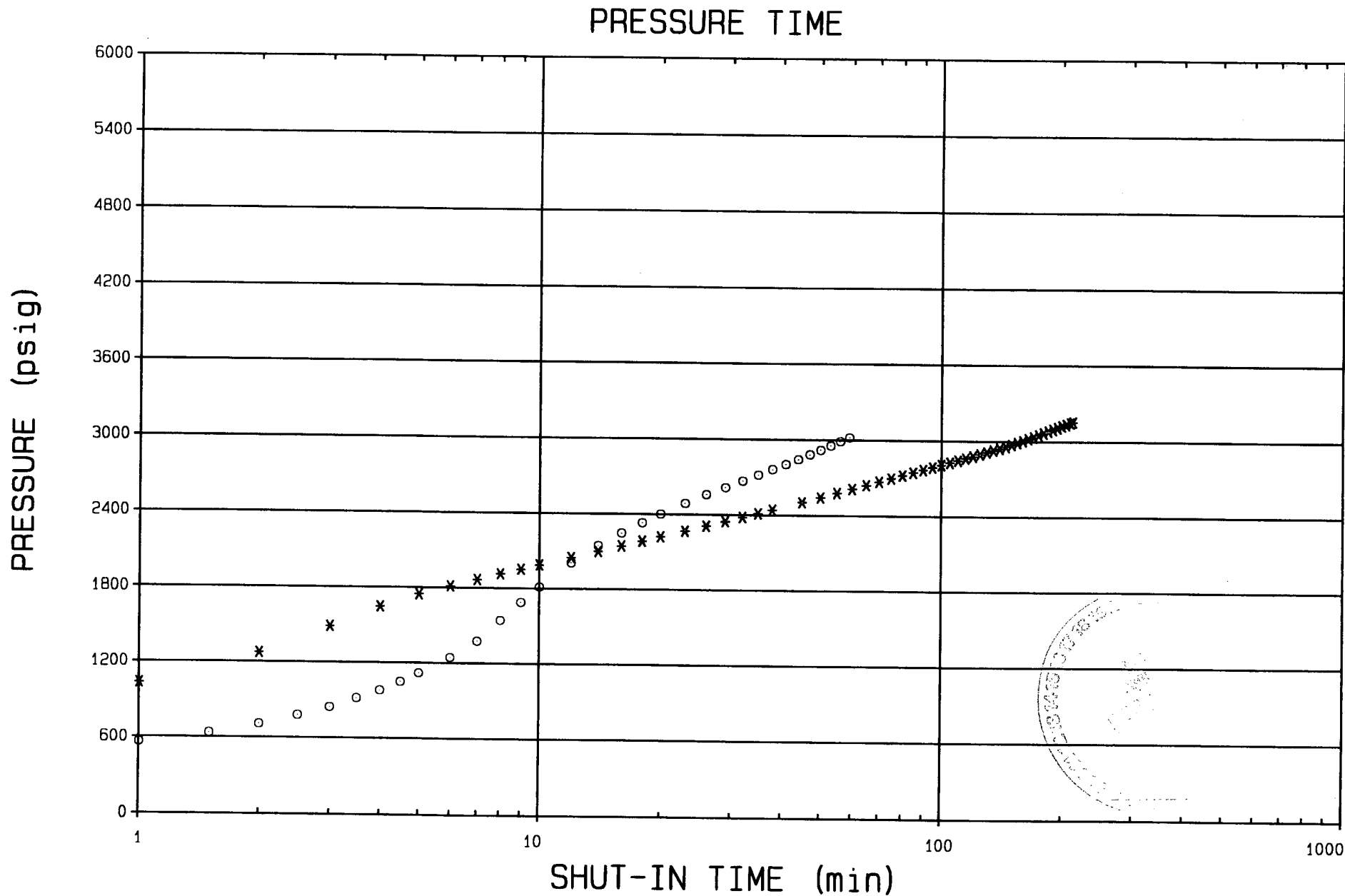
RECORDER DEPTH : 10495 ft

ELAPSED TIME ---MIN----	TOTAL FLOW TIME, T ---MIN----	INCREMENTAL SHUT-IN TIME, DT ---MIN----	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
349.0	77.0	213.00	1.362	3154.80	2382.30

REMARKS

THE INCREMENTAL DATA, PLOTS AND ANALYSIS ARE FROM THE ELECTRONIC RECORDER
PLEASE REFER TO DERIVATIVE DIAGNOSTICS ANALYSIS FOR FURTHER INFORMATION
(DST PRESSURE ASCII FILES ARE AVAILABLE ON DISKETTE UPON REQUEST)





RTG
TESTERS, INC.

RECEIVED
OCT 10 1964
10:10 AM
1000

PATTERSON PETROLEUM L.P.
JATHANIEL "29" STATE # 1

o FIRST SHUT-IN
* SECOND SHUT-IN



Well Test Report

RigTesters, Inc.

ABILENE - MIDLAND - GRAHAM

PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Well identification

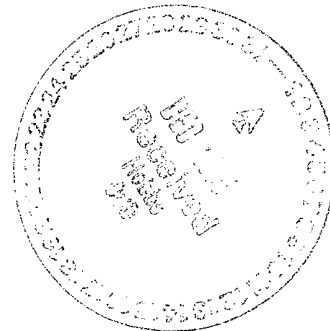
Well ID	NATHANIEL "29" #1	Well location	N.W. HOBBS
County/District	LEA	State, Country	NEW MEXICO
Company	PATTERSON PET.	Division	SNYDER

Fluid properties

Prod/Inj fluid	OIL/WATER	GOR	500:1
Water cut	39%	Condensate yield	UNKNOWN
API gravity	41.2	Gas spec. grav.	0.7
Viscosity	0.64202 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)	13.54 e-6/psi	Formation vol factor	1.1733 RB/STB

Reservoir properties

Porosity	0.12 frac	Formation thickness	50 ft
Wellbore radius	0.36458 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	149 deg F	Pressure for properties	3839 psia

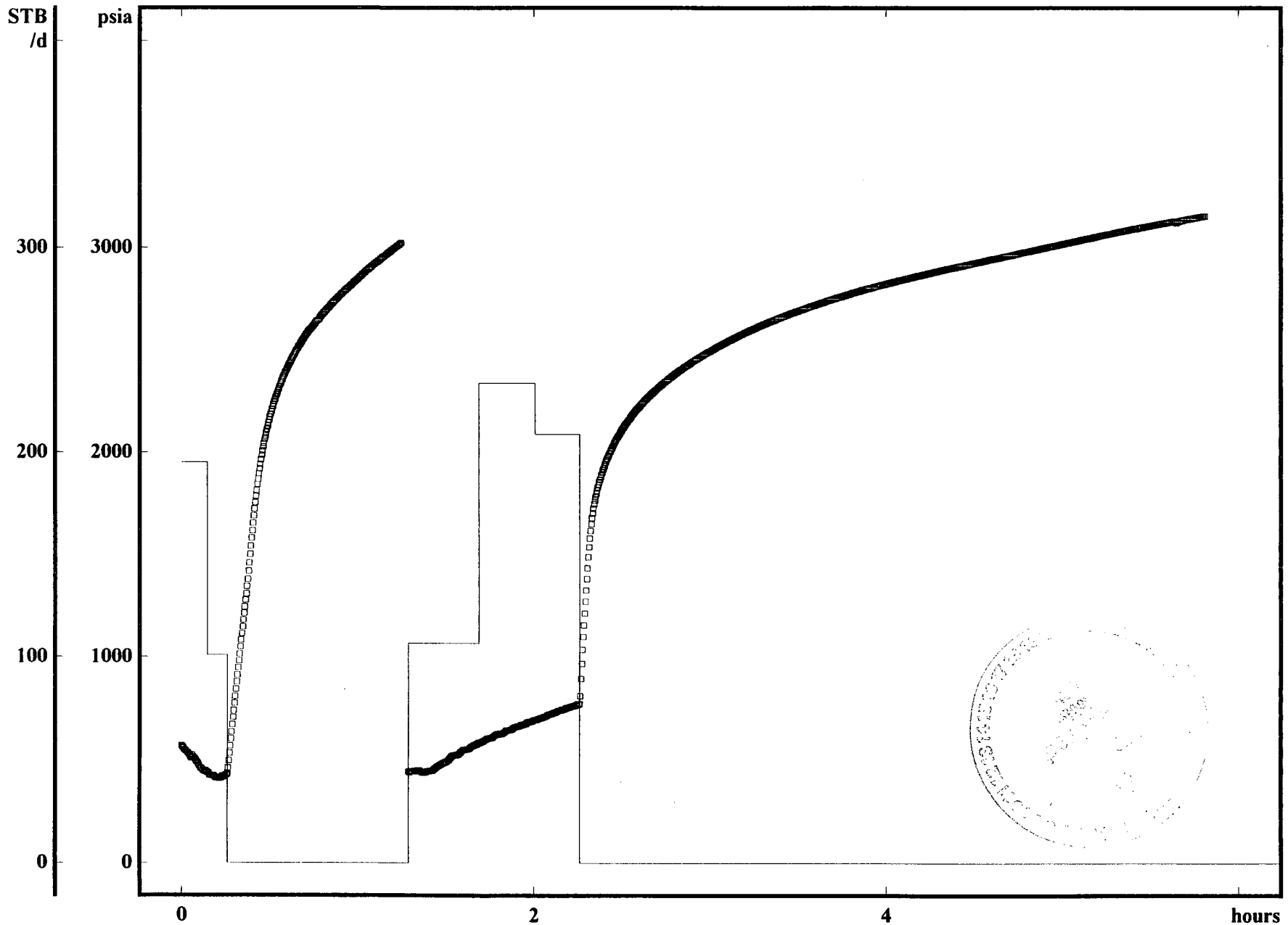


Comments

THE DERIVATIVES INDICATE A RESERVOIR WITH LOW PERMEABILITY AND NO (NEGATIVE) SKIN. BOTH SHUT-IN PERIODS INDICATE DURING MID TIME DATA A DUAL (FRACTURED) POROSITY RESPONSE WITH THE SEVERE LATE TIME INCREASE BEING INDICATIVE OF MULTIPLE BARRIERS THAT ARE APPROX. 17.52 FT. & 4.564 FT. AWAY FROM WELLBORE. A REGRESSION VERIFIED MODEL ANALYSIS WAS PERFORMED TO BETTER DETERMINE FORMATION PARAMETERS AND IS REPRESENTED BY A SOLID LINE PLOTTED OVER ACTUAL DATA WITH CONFIDENCE INTERVALS (MARGIN OF ERROR) SHOWN NEXT TO MAJOR PARAMETERS. THE FIXED PARAMETERS USED WERE AN EST. 12% POROSITY, 50 FT. OF NET PAY REPORTED AND AN AVERAGE (TIME WEIGHTED) PRODUCTION OF 175 BBLs. OF FLUID (61% OIL-39% WATER; ACCORDING TO SAMPLE CHAMBER RECOVERY) FOR THE FINAL FLOW PERIOD. THE RATES WERE BASED ON DENSITY OF FLUID RECOVERED VS. FLOWING PRESSURES. THE TOTAL RADIUS OF INVESTIGATION CALCULATED TO APPROX. 36 FT. FROM WELLBORE.

PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Pressure and flow rate vs time during test sequence

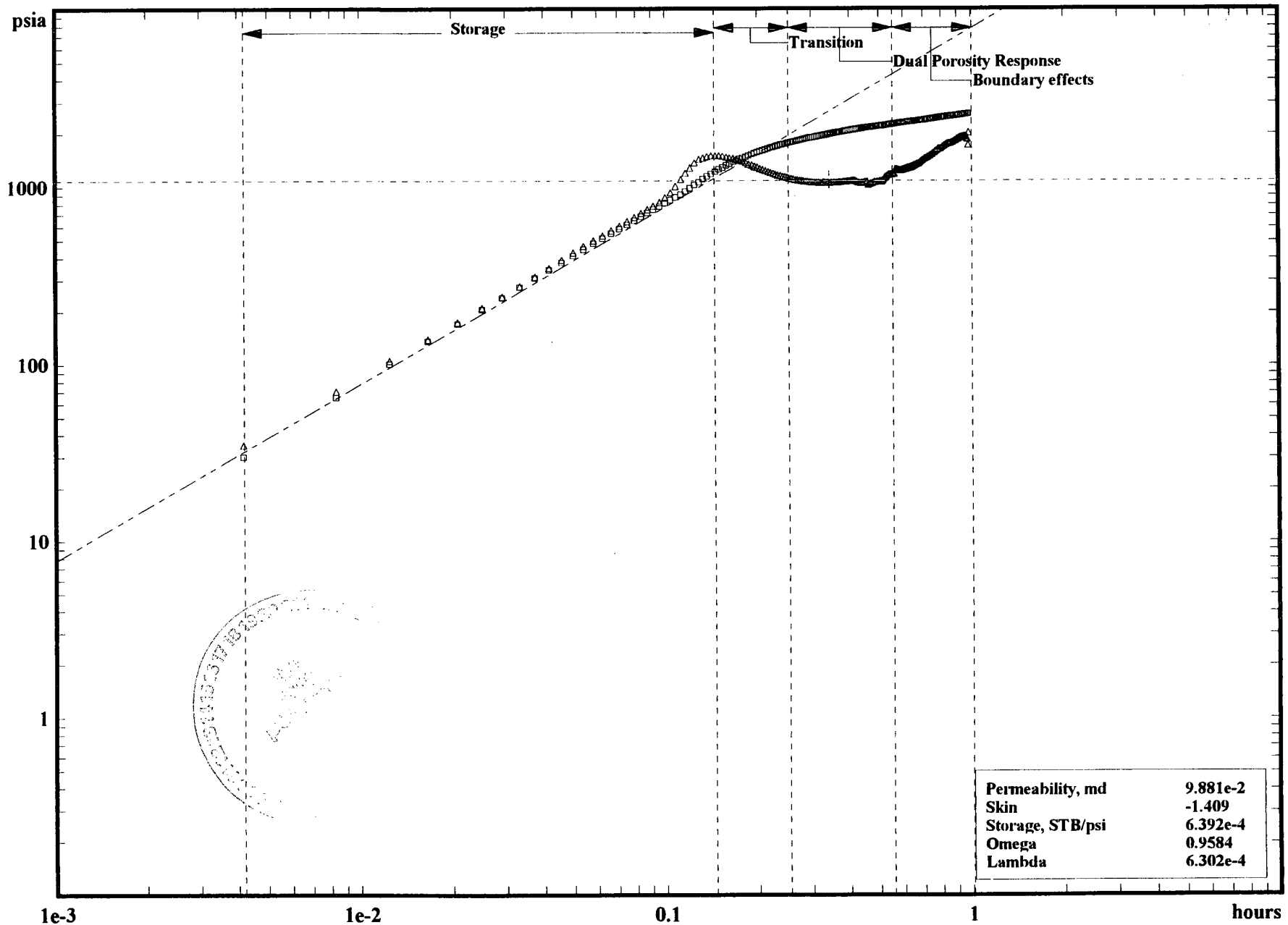


DST #1 10490 - 10560 FT. WOLFCAMP



PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Diagnostic plot (pressure & time)

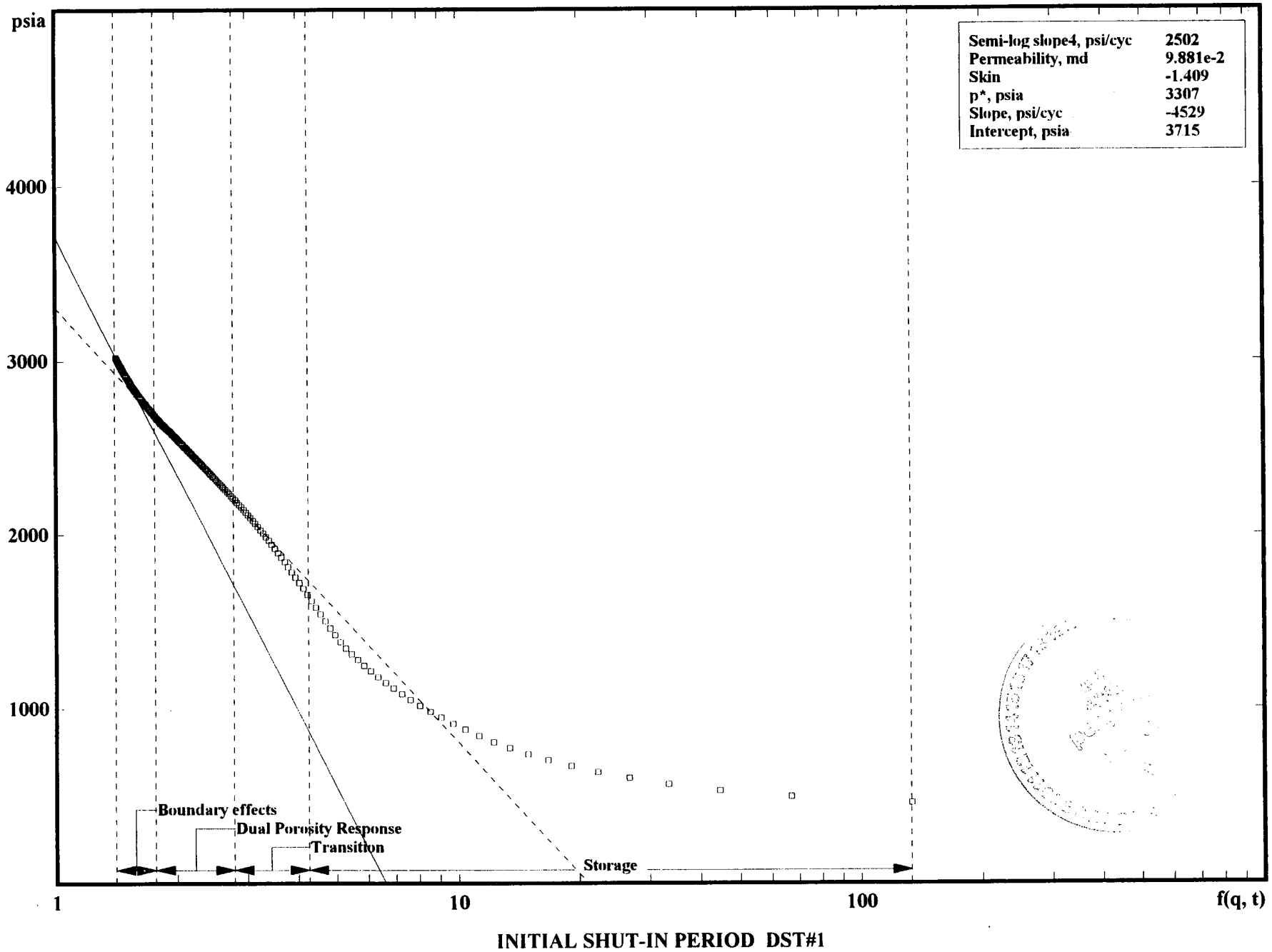


Permeability, md	9.881e-2
Skin	-1.409
Storage, STB/psi	6.392e-4
Omega	0.9584
Lambda	6.302e-4

INITIAL SHUT-IN PERIOD DST#1

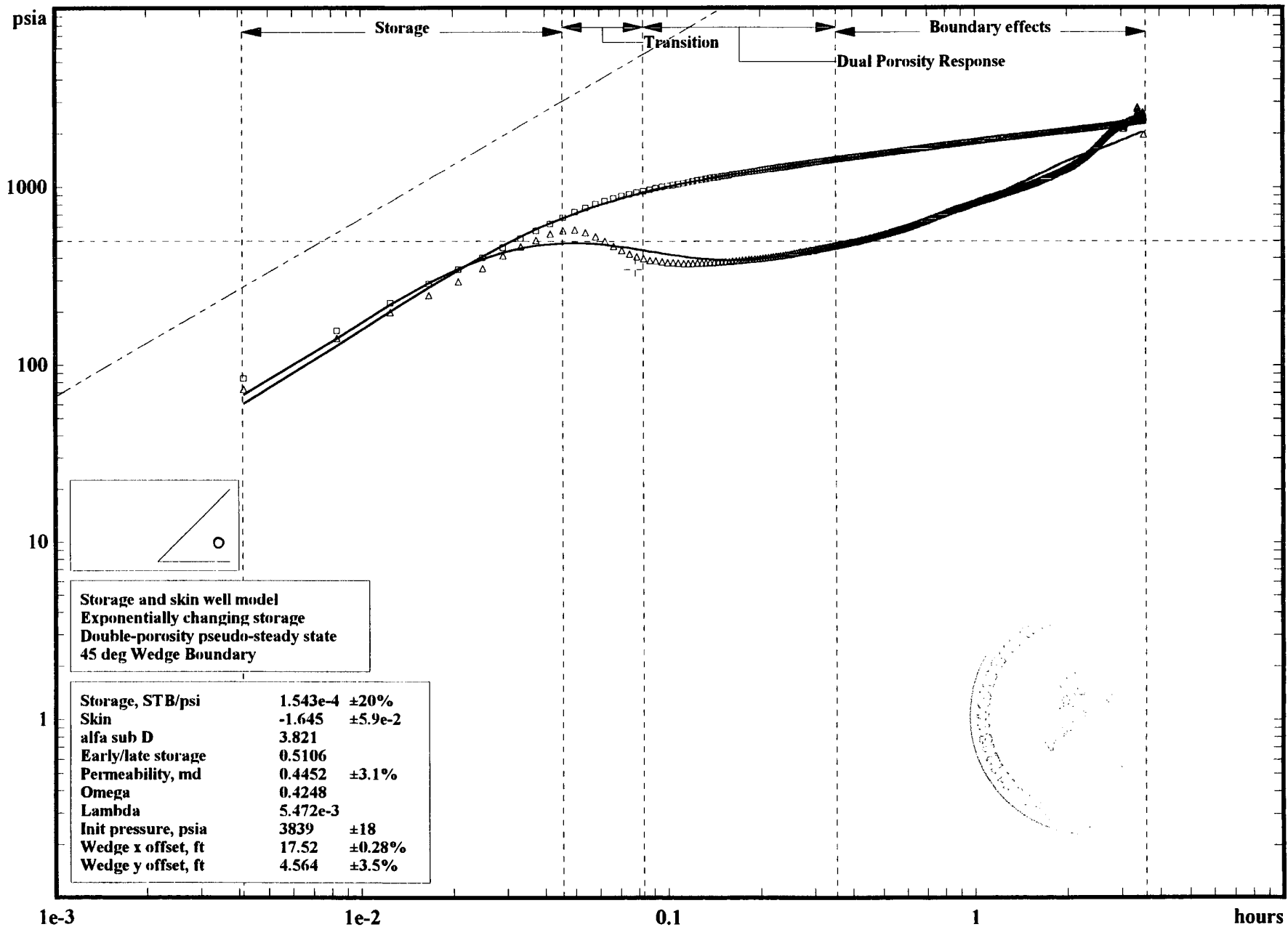
PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Variable rate Horner plot (pressure & time)



PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

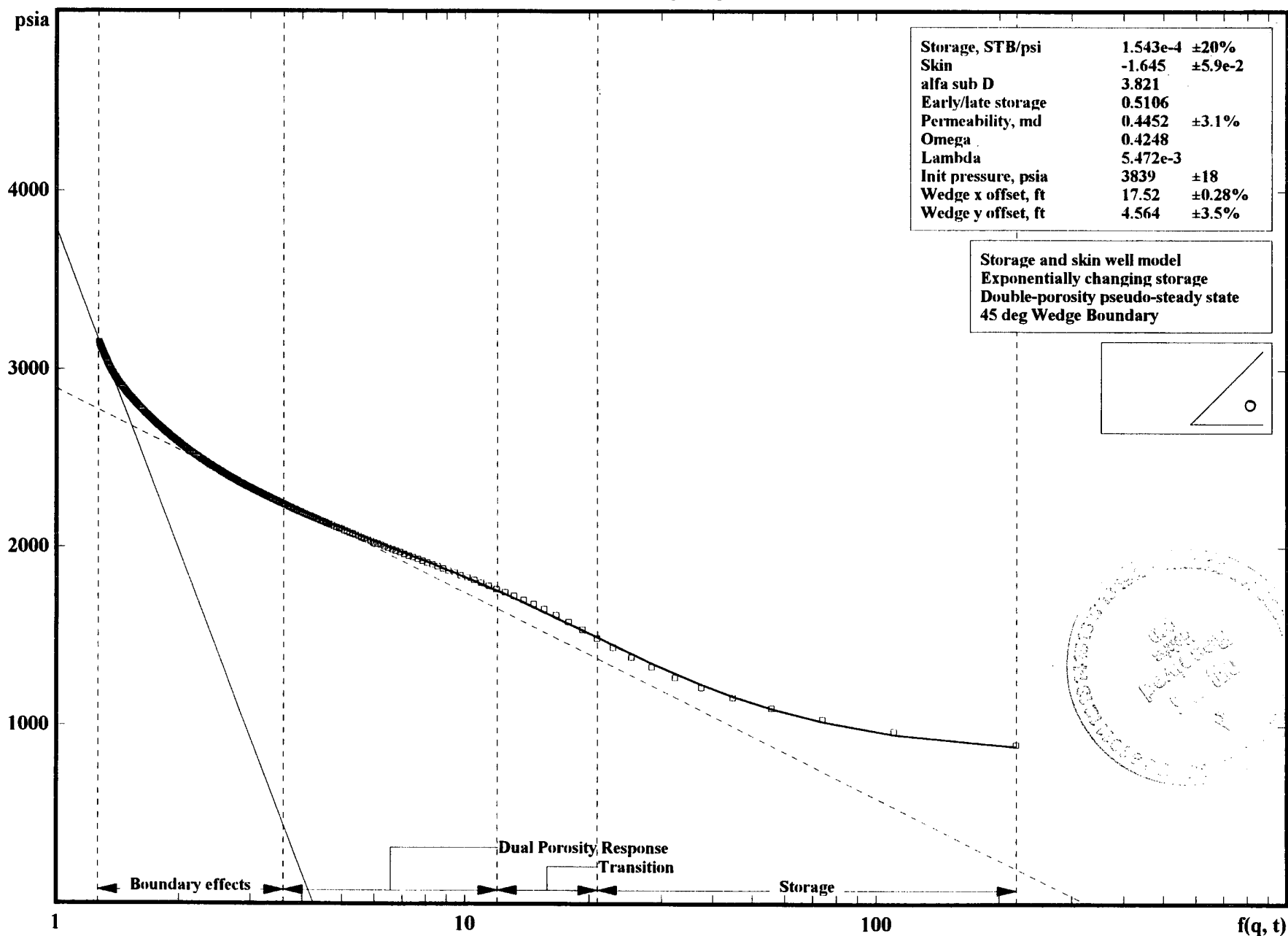
Diagnostic plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Variable rate Horner plot (pressure & time)

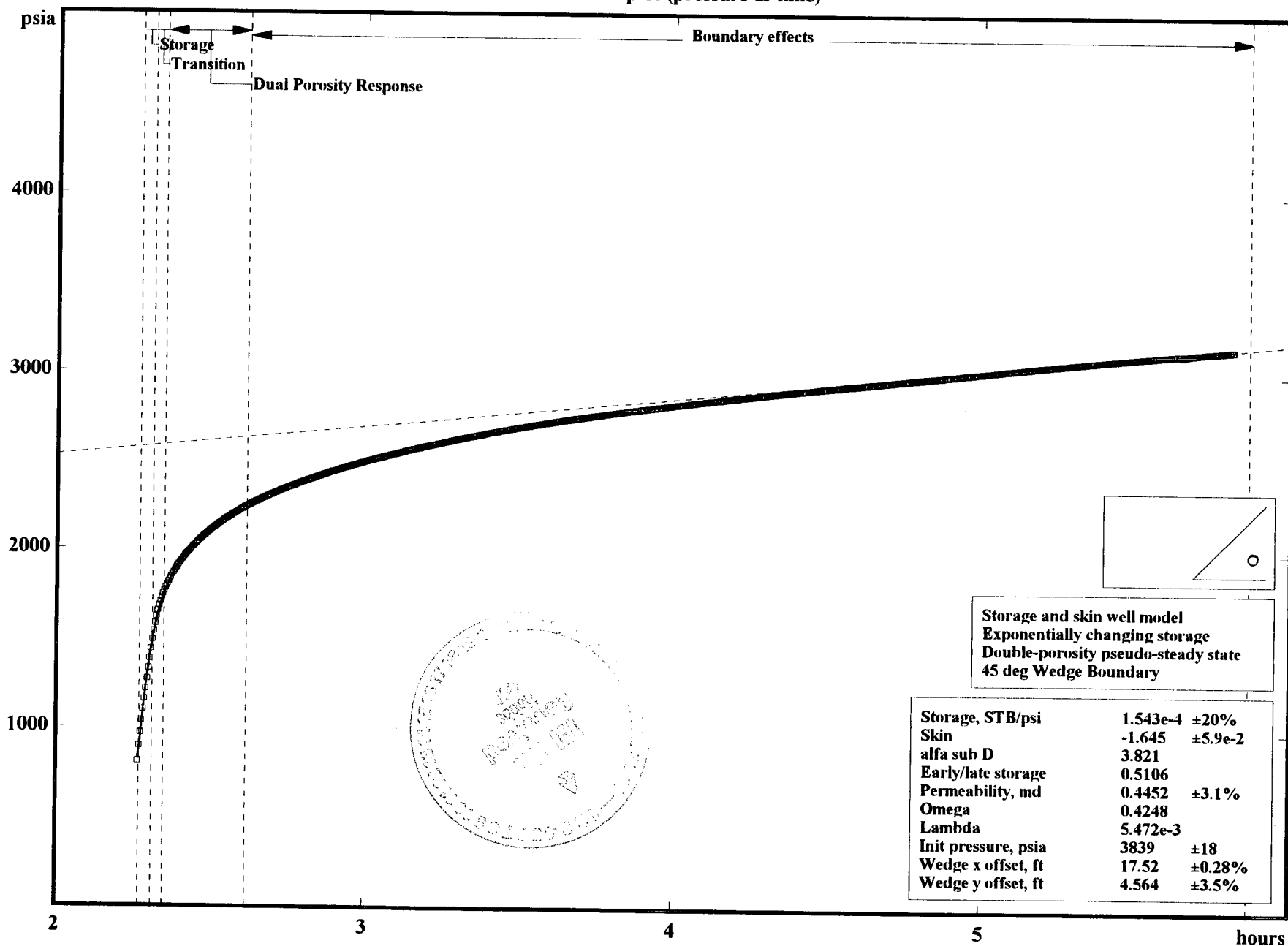


FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

RIG
TESTERS, INC.

PATTERSON PETROLEUM L.P. NATHANIEL "29" STATE #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

