



COMPANY : PATTERSON PETROLEUM
LEASE : J.F. COOPER "19" STATE
WELL NO. : # 1
FIELD : WILDCAT
COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 03/22/04
D.S.T. NO. : 1
TEST TKT. NO. : 22821
INVOICE NO. : 20768
ORDER NO. :

FORMATION : PADDOCK
INTERVAL (ft) : 5870 TO 5900
TOTAL DEPTH (ft) : 5963
ELEVATION (ft) :

HOLE SIZE (in) : 8.750
DRILL PIPE ID (in) : 3.82
DRILL COLLAR ID(in): 2.25
DRILL COLLAR feet : 707

ANCHOR LENGTH (ft): 30
TOOL LENGTH (ft) : 106
TOOL O.D. (in) : 5
PACKER SIZE (in) : 7.50

RECORDER DATA
AK-1KUSTER / ZIPROBE

TOP RECORDER: IN
RECORDER NO. : 11026
CAPACITY (psi): 5025
DEPTH (ft) : 5856
CLOCK NO. : 17909
DURATION (hrs): 24

BOTTOM RECORDER: OUT
RECORDER NO. : 9634
CAPACITY (psi): 10000
DEPTH (ft) : 5888
CLOCK NO. : 9634
DURATION (hrs): 99

MUD PROPERTIES

MUD TYPE : FRESH WATER
MUD WT. (#/gal) : 8.40

WATER LOSS (cc) :
FILTER CAKE (in)
VISCOSITY (sec)

CHLORIDE PPM : 20000
RESISTIVITY(ohm-m): .40

EQUIPMENT DATA

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

ROTARY JARS : YES
NO. OF PACKERS : 3
SAFETY JOINT : YES
CIRCULATING SUB : YES
REVERSED OUT : YES

MULTIFLOW : NO
MILEAGE : NO
OPERATOR TIME : NO
OTHER : YES
ZI ELECTRONICS (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 : 7:23 PM

TOTAL TEST TIME: 336

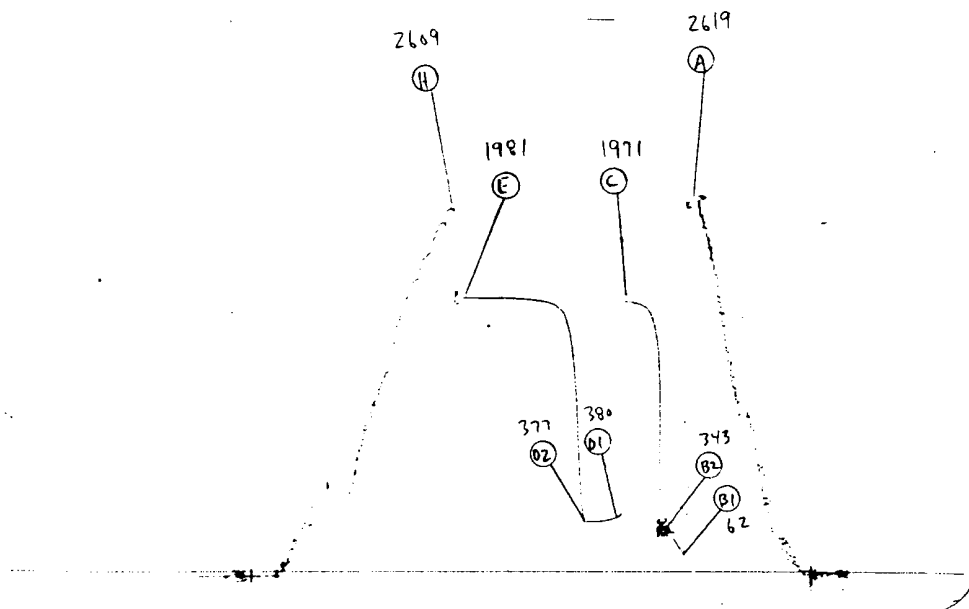
INITIAL FLOW : 35
SECOND FLOW : 62
THIRD FLOW :

INITIAL SHUT-IN: 58
SECOND SHUT-IN : 182
THIRD SHUT IN :

TEST TOOL OPERATOR: DANIEL SAMPLES

		CORRECTED READING	FIELD READING
A	INITIAL HYDROSTATIC:	2629 PSI	2629 PSI
B-1	INITIAL FIRST FLOW :	71 PSI	70 PSI
B-2	FINAL FIRST FLOW :	355 PSI	340 PSI
C	FIRST SHUT-IN :	1982 PSI	1980 PSI
D-1	INITIAL SECOND FLOW:	362 PSI	364 PSI
D-2	FINAL SECOND FLOW :	370 PSI	369 PSI
E	SECOND SHUT-IN :	1991 PSI	1991 PSI
H	FINAL HYDROSTATIC :	2620 PSI	2620 PSI

TKT- 22821 REC- 11026 WT- 5025
 AK-1 KUSTER 24 HR. CLOCK
 TOR RECORDER INSIDE

RECOVERY DATA

PIPE RECOVERY

B.H. TEMP. (deg F) : 104

SAMPLE CHAMBER

GAS TO SURFACE 30 MIN. INTO FINAL SHUT-IN PERIOD
 PULLED TO FLUID @ 800 FT. & REVERSED IN PIT AN EST;
 500 FT. OF FREE OIL (40.5 GRAVITY @ 60 DEGREES)
 210 FT. OF OIL & GAS CUT DRLG. FLUID (20% OIL)
 20,000 MG/L CHLORIDES- .40 OHMS @ 85 DEGREES
 90 FT. OF GAS CUT DRLG. FLUID (TRACE OF OIL)-BELOW
 CIRC SUB

350 LBS. OF PRESSURE
 1.10 CU. FT. OF GAS
 800 CC'S OF FREE OIL
 40.5 GRAVITY @ 60 DEGREES
 400 CC'S OF DRLG. FLUID

TEST REMARKS

TOOL OPENED WITH FAIR BLOW ON 1/8" CHOKE, 4 OZS. IN 5 MIN., 6 OZS. IN 10 MIN., 7.50 OZS. IN 15 MIN., CHANGED CHOKE TO 1/4" WITH 7 OZS. IN 20 MIN. & 4 OZS. AT END OF THE 30 MIN. FIRST FLOW PERIOD. REOPENED TOOL ON 1/4" WITH 1.5 OZS. IN 10 MIN., 6.5 OZS. IN 20 MIN., 14 OZS. IN 30 MIN., 19 OZS. IN 40 MIN., 26 OZS. IN 50 MIN. & 31 OZS. AT END OF THE 60 MIN. FINAL FLOW. GAS TO SURFACE 30 MIN. INTO FINAL SHUT-IN PERIOD.

Company Name PATTERSON PETRO.
Well Name J.F.COOPER "19" STATE #1; LEA,N.M.
Type of Test DST#1; STRADDLE: 30' TESTED; 25' OF PAY
Date(s) of Test 3/22/04; TESTER- DANIEL SAMPLES

RIG TESTERS INC #9634



Company Name
Well Name
Type of Test
Date(s) of Test

PATTERSON PETRO.
J.F. COOPER*19*STATE #1; LEA,N.M.; PADDOCK
DST#1; STRADDLE; 30' TESTED; 25' OF PAY
3/23/04; TESTER- DANIEL SAMPLES

RIG TESTERS INC #9635



INCREMENTAL PRESSURE DATA

RECORDER NO : 9634

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5888 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			71.50	.00
2.0	2.0			89.23	17.73
4.0	4.0			115.09	43.59
6.0	6.0			141.60	70.10
8.0	8.0			165.77	94.27
10.0	10.0			186.62	115.12
12.0	12.0			206.20	134.70
14.0	14.0			224.24	152.74
16.0	16.0			240.66	169.16
18.0	18.0			256.40	184.90
20.0	20.0			271.73	200.23
22.0	22.0			285.68	214.18
24.0	24.0			299.10	227.60
26.0	26.0			312.01	240.51
28.0	28.0			324.09	252.59
30.0	30.0			336.00	264.50
32.0	32.0			346.07	274.57
34.0	34.0			353.06	281.56
35.0	35.0			355.20	283.70
FIRST SHUT-IN					
35.0	35.0	.00	.000	355.20	.00
35.5	35.0	.50	70.960	478.00	122.80
36.0	35.0	1.00	35.980	699.28	344.08
36.5	35.0	1.50	24.320	890.40	535.20
37.0	35.0	2.00	18.490	997.05	641.85
37.5	35.0	2.50	14.992	1077.08	721.88
38.0	35.0	3.00	12.660	1138.10	782.90
38.5	35.0	3.50	10.994	1182.35	827.15
39.0	35.0	4.00	9.745	1226.31	871.11
39.5	35.0	4.50	8.773	1265.50	910.30
40.0	35.0	5.00	7.996	1297.75	942.55
41.0	35.0	6.00	6.830	1362.20	1007.00
42.0	35.0	7.00	5.997	1416.68	1061.48
43.0	35.0	8.00	5.373	1467.27	1112.07
44.0	35.0	9.00	4.887	1517.00	1161.80
45.0	35.0	10.00	4.498	1560.59	1205.39
47.0	35.0	12.00	3.915	1642.80	1287.60
49.0	35.0	14.00	3.499	1711.99	1356.79
51.0	35.0	16.00	3.186	1771.75	1416.55
53.0	35.0	18.00	2.943	1819.90	1464.70
55.0	35.0	20.00	2.749	1856.25	1501.05
58.0	35.0	23.00	2.521	1895.83	1540.63
61.0	35.0	26.00	2.345	1921.77	1566.57
64.0	35.0	29.00	2.206	1938.95	1583.75

INCREMENTAL PRESSURE DATA

RECORDER NO : 9634

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5888 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					
67.0	35.0	32.00	2.093	1950.69	1595.49
70.0	35.0	35.00	1.999	1958.82	1603.62
73.0	35.0	38.00	1.921	1964.85	1609.65
76.0	35.0	41.00	1.853	1969.45	1614.25
79.0	35.0	44.00	1.795	1972.86	1617.66
82.0	35.0	47.00	1.744	1975.76	1620.56
85.0	35.0	50.00	1.700	1977.87	1622.67
88.0	35.0	53.00	1.660	1979.70	1624.50
91.0	35.0	56.00	1.625	1981.39	1626.19
92.8	35.0	57.78	1.605	1982.20	1627.00
SECOND FLOW					
93.7	35.9			362.90	.00
96.7	38.9			368.90	6.00
99.7	41.9			371.80	8.90
102.7	44.9			371.50	8.60
105.7	47.9			370.00	7.10
108.7	50.9			369.40	6.50
111.7	53.9			369.80	6.90
114.7	56.9			369.00	6.10
117.7	59.9			367.50	4.60
120.7	62.9			366.40	3.50
123.7	65.9			365.20	2.30
126.7	68.9			364.70	1.80
129.7	71.9			363.50	.60
132.7	74.9			361.30	-1.60
135.7	77.9			359.30	-3.60
138.7	80.9			360.40	-2.50
141.7	83.9			362.30	-.60
144.7	86.9			364.30	1.40
147.7	89.9			366.30	3.40
150.7	92.9			368.10	5.20
153.7	95.9			370.20	7.30
155.3	97.5			370.80	7.90
SECOND SHUT-IN					
155.3	97.5	.00	.000	370.80	.00
156.3	97.5	1.00	98.500	534.40	163.60
157.3	97.5	2.00	49.750	731.72	360.92
158.3	97.5	3.00	33.500	926.40	555.60

INCREMENTAL PRESSURE DATA

RECORDER NO : 9634

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5888 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					
159.3	97.5	4.00	25.375	1108.22	737.42
160.3	97.5	5.00	20.500	1245.41	874.61
161.3	97.5	6.00	17.250	1352.40	981.60
162.3	97.5	7.00	14.929	1440.92	1070.12
163.3	97.5	8.00	13.188	1508.27	1137.47
164.3	97.5	9.00	11.833	1564.40	1193.60
165.3	97.5	10.00	10.750	1615.27	1244.47
167.3	97.5	12.00	9.125	1692.80	1322.00
169.3	97.5	14.00	7.964	1754.74	1383.94
171.3	97.5	16.00	7.094	1802.53	1431.73
173.3	97.5	18.00	6.417	1838.50	1467.70
175.3	97.5	20.00	5.875	1867.46	1496.66
178.3	97.5	23.00	5.239	1898.58	1527.78
181.3	97.5	26.00	4.750	1920.13	1549.33
184.3	97.5	29.00	4.362	1935.38	1564.58
187.3	97.5	32.00	4.047	1946.16	1575.36
190.3	97.5	35.00	3.786	1954.25	1583.45
193.3	97.5	38.00	3.566	1960.14	1589.34
200.3	97.5	45.00	3.167	1969.40	1598.60
205.3	97.5	50.00	2.950	1973.62	1602.82
210.3	97.5	55.00	2.773	1976.92	1606.12
215.3	97.5	60.00	2.625	1979.30	1608.50
220.3	97.5	65.00	2.500	1981.21	1610.41
225.3	97.5	70.00	2.393	1982.72	1611.92
230.3	97.5	75.00	2.300	1984.10	1613.30
235.3	97.5	80.00	2.219	1985.11	1614.31
240.3	97.5	85.00	2.147	1986.02	1615.22
245.3	97.5	90.00	2.083	1986.80	1616.00
250.3	97.5	95.00	2.026	1987.40	1616.60
255.3	97.5	100.00	1.975	1988.00	1617.20
260.3	97.5	105.00	1.929	1988.50	1617.70
265.3	97.5	110.00	1.886	1988.90	1618.10
270.3	97.5	115.00	1.848	1989.30	1618.50
275.3	97.5	120.00	1.813	1989.70	1618.90
280.3	97.5	125.00	1.780	1989.91	1619.11
285.3	97.5	130.00	1.750	1990.20	1619.40
290.3	97.5	135.00	1.722	1990.50	1619.70
295.3	97.5	140.00	1.696	1990.70	1619.90
300.3	97.5	145.00	1.672	1991.00	1620.20
305.3	97.5	150.00	1.650	1991.10	1620.30

PATTERSON PETROLEUM

J.F. COOPER "19" STATE # 1
D.S.T. NO. : 1

INCREMENTAL PRESSURE DATA

RECORDER NO : 9634

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 5888 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					
310.3	97.5	155.00	1.629	1991.21	1620.41
315.3	97.5	160.00	1.609	1991.40	1620.60
320.3	97.5	165.00	1.591	1991.60	1620.80
325.3	97.5	170.00	1.574	1991.70	1620.90
330.3	97.5	175.00	1.557	1991.82	1621.02
335.3	97.5	180.00	1.542	1992.00	1621.20
337.3	97.5	181.98	1.536	1991.90	1621.10

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)

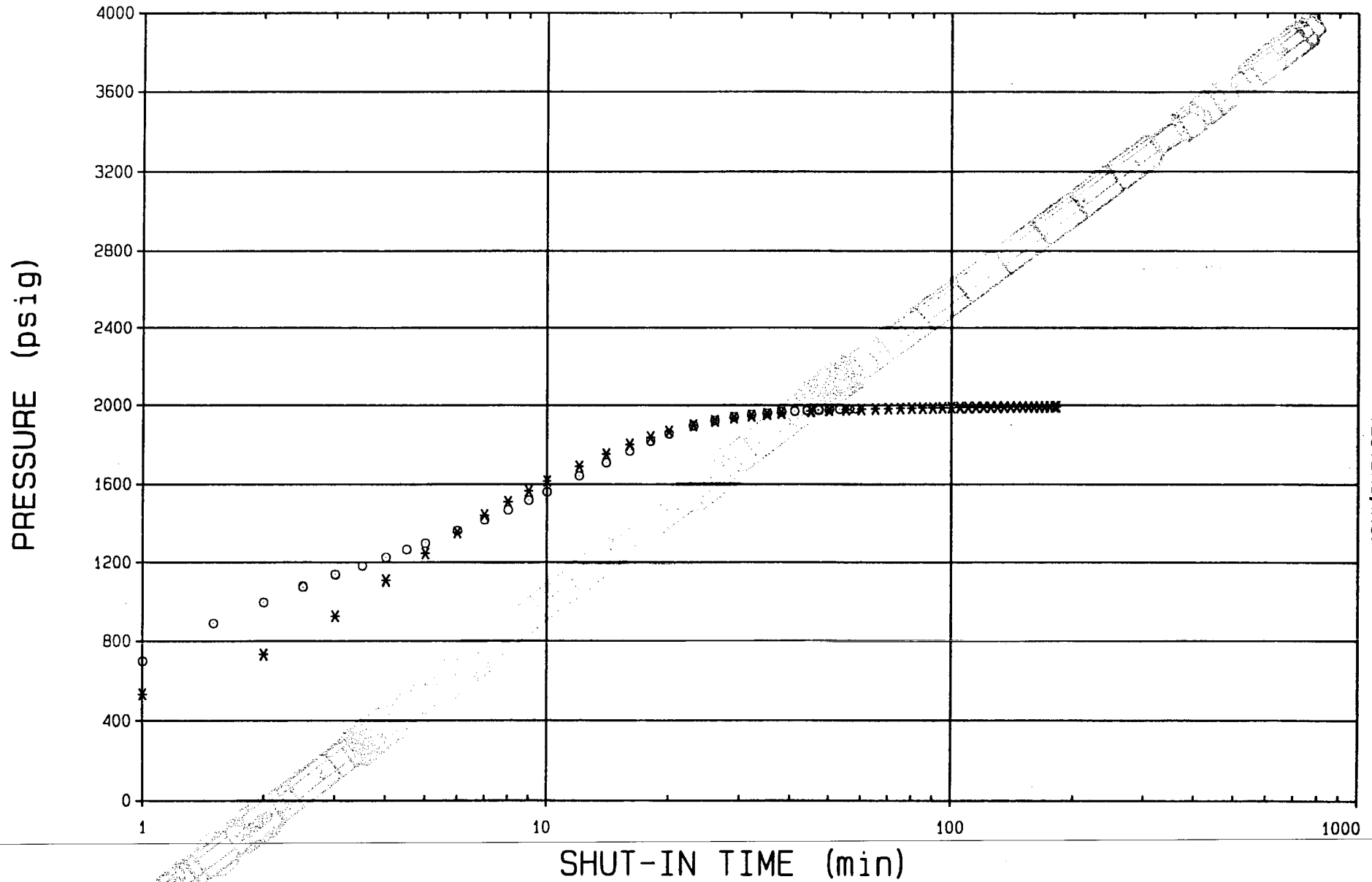
TKT- 22821 REC- 16709 WT- 7350

AK-1 KUSTER 24 HR. CLOCK

STRADDLE TEST BLANK-OFF CHART



PRESSURE TIME



PATTERSON PETROLEUM

J.F. COOPER "19" STATE # 1

○ FIRST SHUT-IN
* SECOND SHUT-IN



Well Test Report

RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM
PATTERSON PETROLEUM



Well identification

Well ID	J.F.COOPER"19"#1	Well location	N.W. HOBBS
County/District	LEA	State, Country	NEW MEXICO
Company	PATTERSON PETR.	Division	SNYDER

Fluid properties

Prod/Inj fluid	OIL	GOR	500:1
Water cut	0%	Condensate yield	UNKNOWN
API gravity	40.5	Gas spec. grav.	0.7
Viscosity	1.0079 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)	17.058 e-6/psi	Formation vol factor	1.2597 RB/STB

Reservoir properties

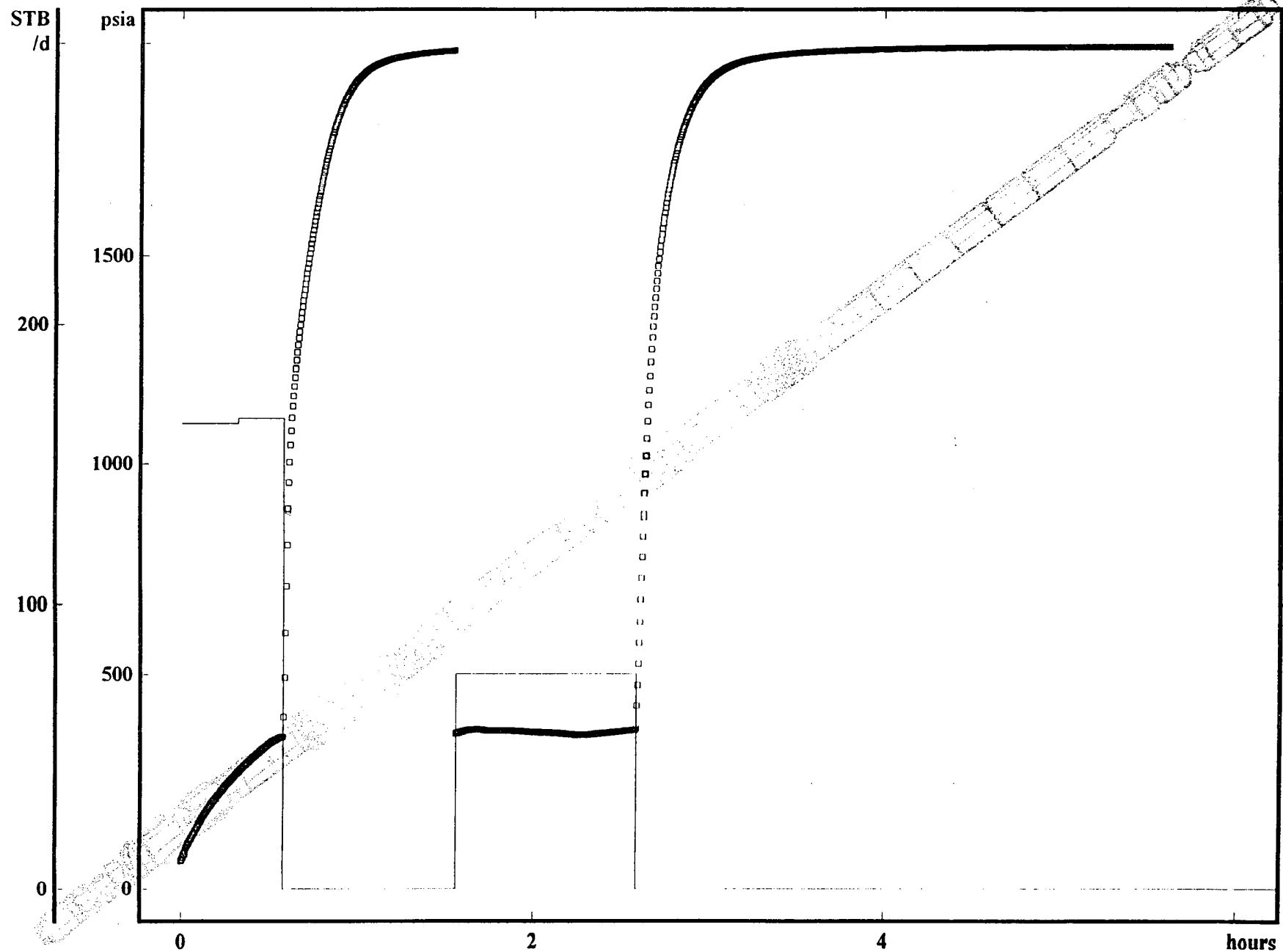
Porosity	0.12 frac	Formation thickness	25 ft
Wellbore radius	0.36458 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	104 deg F	Pressure for properties	2000 psia

Comments

THE DERIVATIVES INDICATE A RESERVOIR WITH MODERATE PERMEABILITY & HIGH SKIN. THE INITIAL SHUT-IN PERIOD ILLUSTRATES A MULTIPLE POROSITY RESPONSE DURING MID & LATE TIME DATA WITH TRUE RADIAL FLOW NOT BEING ACHIEVED WHICH WOULD MAKE RELIABILITY OF ITS CALCULATIONS SUBJECT TO QUESTION. THE SLOW DOWNWARD CURVE DURING LATE TIME DATA ON THE FINAL SHUT-IN PERIOD IS INDICATING PARTIALLY PENETRATED POROSITY OR POSSIBLY DUE TO VERTICAL FRACTURING WITH-IN INTERVAL TESTED. THE INCREASED SKIN FACTOR ON THE FINAL SHUT-IN WOULD BE ATTRIBUTABLE TO THE LIMITED FLOW FROM SPHERICAL FLOW. A REGRESSION VERIFIED MODEL ANALYSIS WAS PERFORMED TO BETTER DETERMINE FORMATION PARAMETERS & 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, 25 FT. OF NET PAY REPORTED AND AN AVERAGE (TIME WEIGHTED) PRODUCTION OF 75 BBLs. OF OIL 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. 114 FT. FROM WELLBORE.

PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

Pressure and flow rate vs time during test sequence

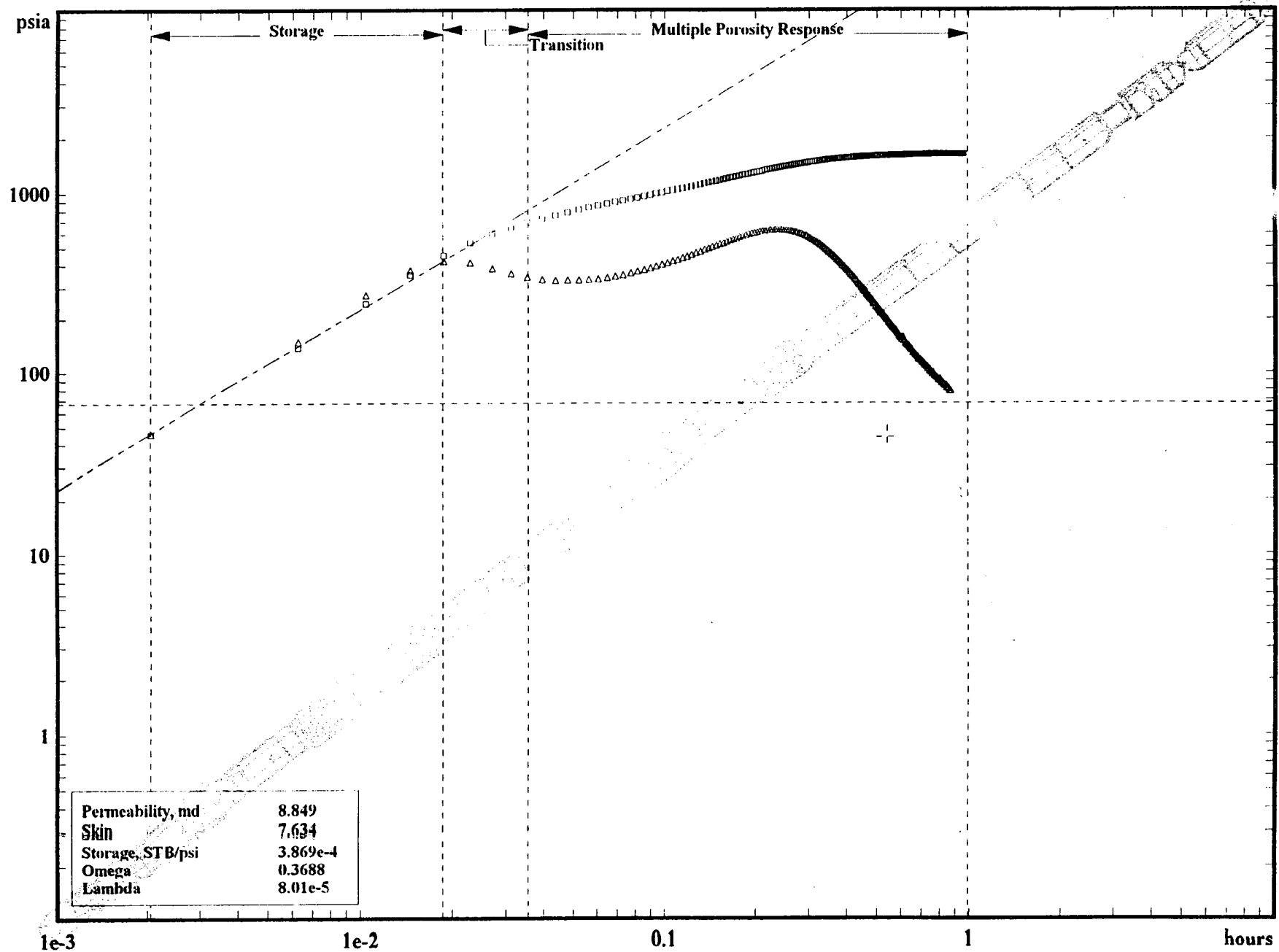


DST #1 5870 - 5900 FT. PADDOCK



PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

Diagnostic plot (pressure & time)



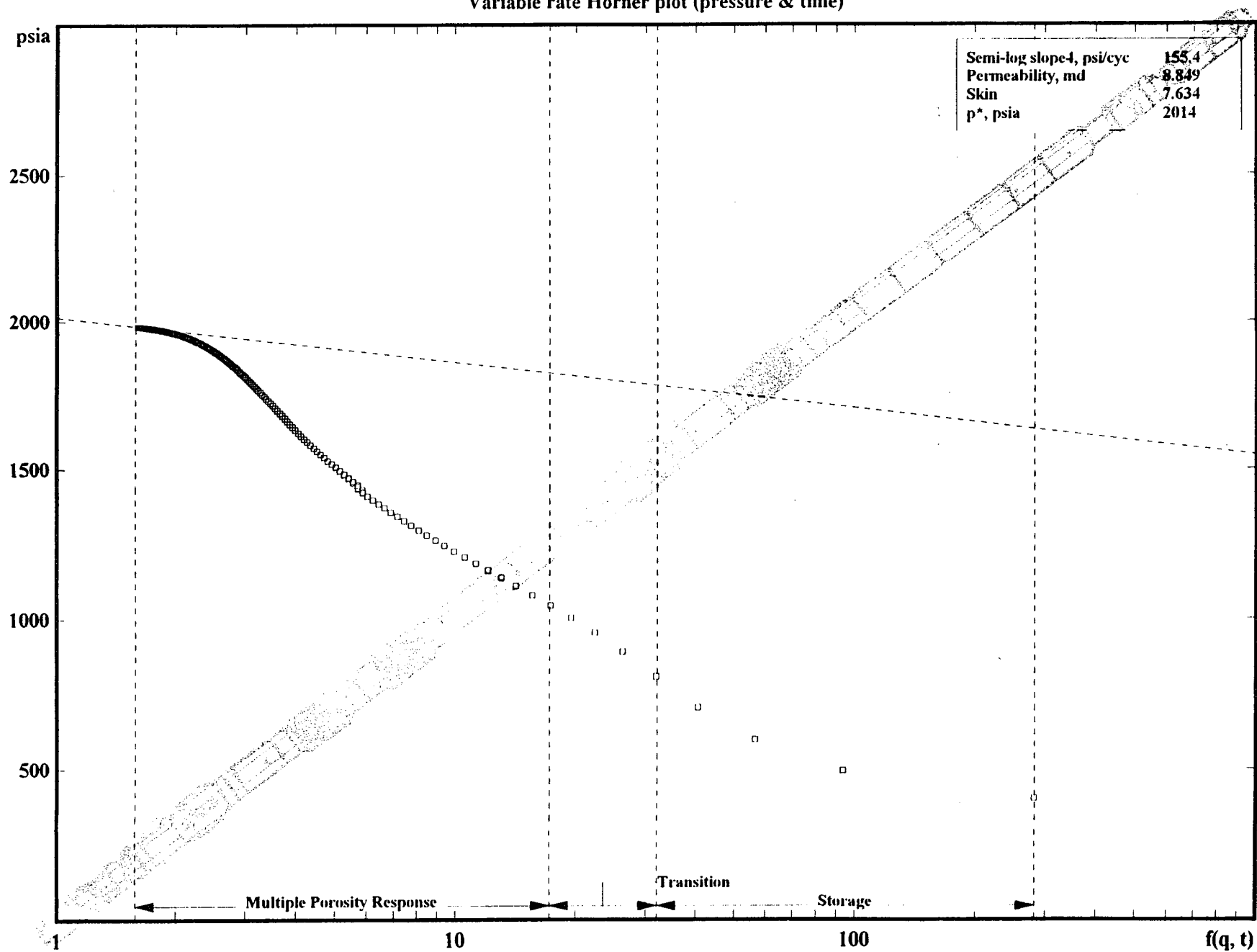
Permeability, md	8.849
Skin	7.634
Storage, STB/psi	3.869e-4
Omega	0.3688
Lambda	8.01e-5

INITIAL SHUT-IN PERIOD DST#1



PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

Variable rate Horner plot (pressure & time)

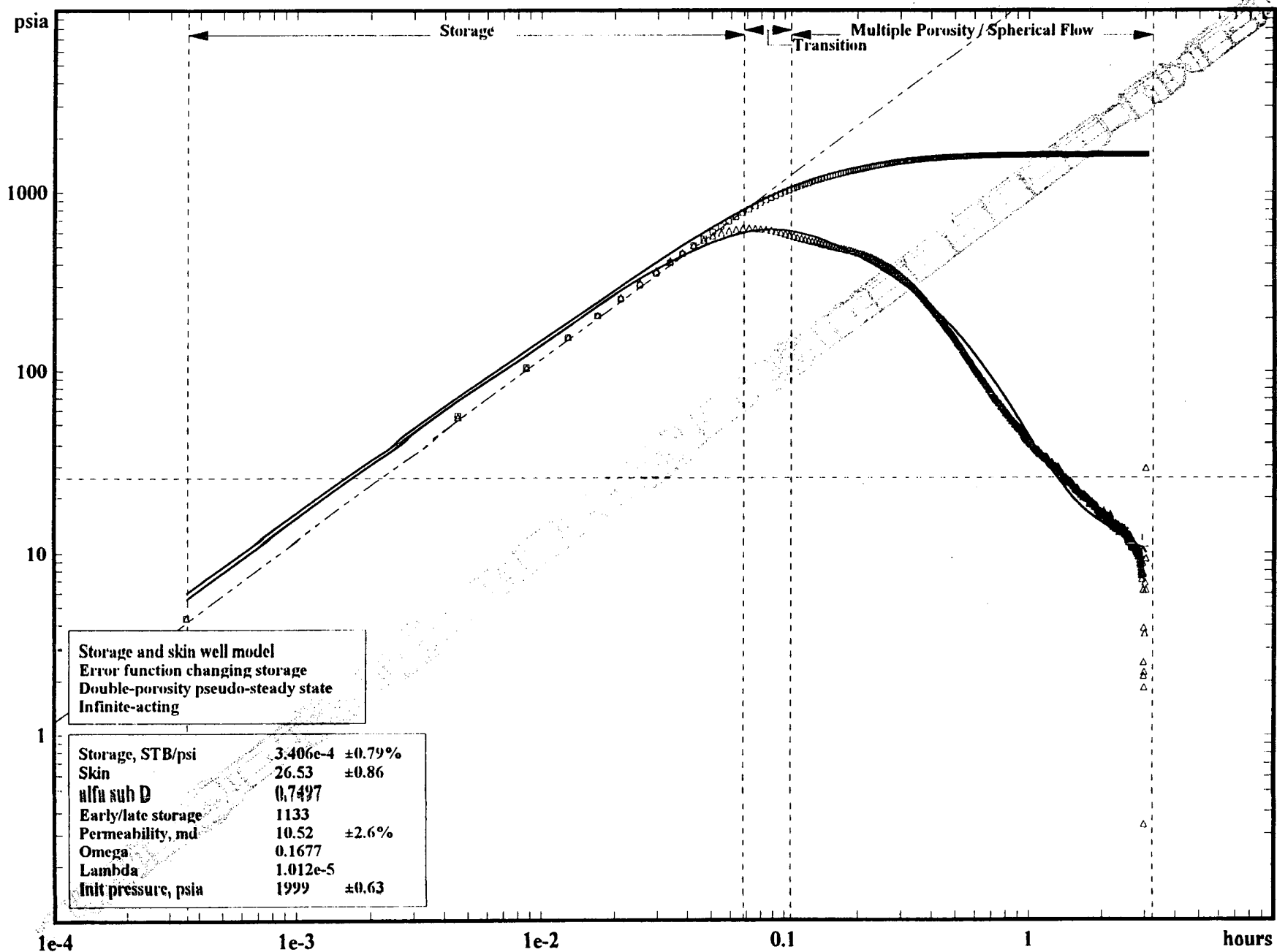


INITIAL SHUT-IN PERIOD DST#1



PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

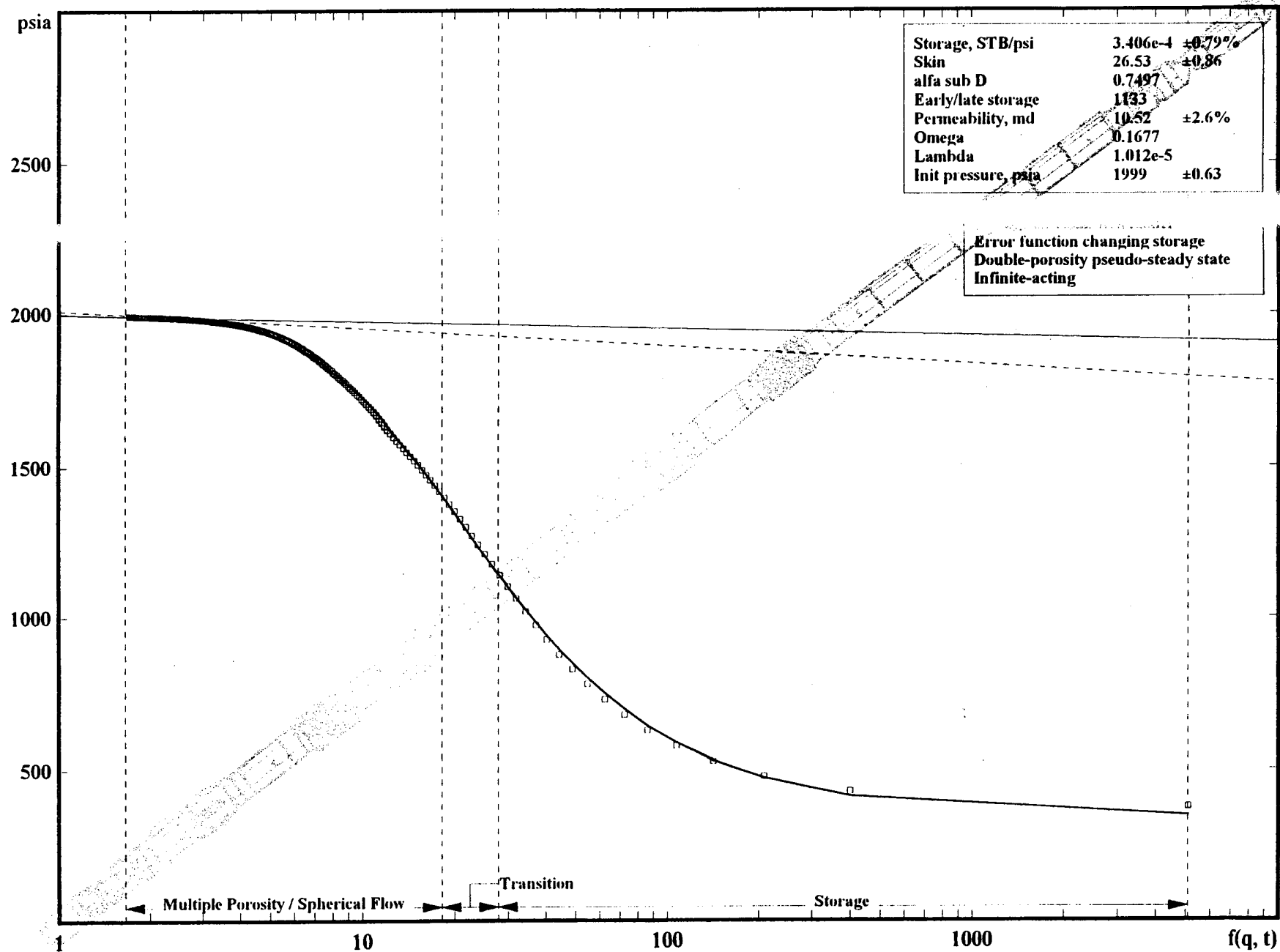
Diagnostic plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

Variable rate Horner plot (pressure & time)

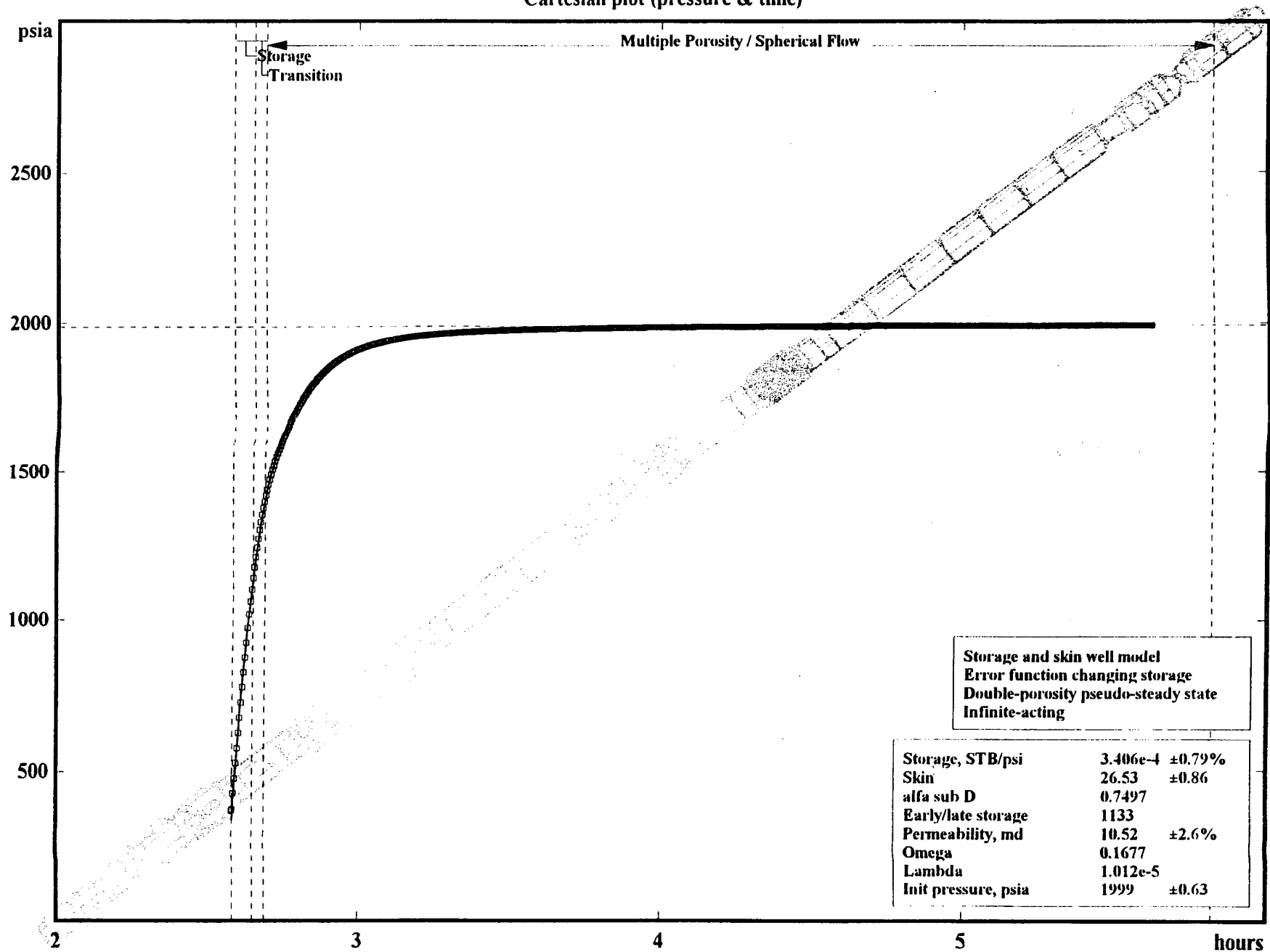


FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL



PATTERSON PETROLEUM J.F. COOPER "19" STATE #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

RIG
TESTERS, INC.