



COMPANY : PATTERSON PETROLEUM INC.
LEASE : HAWKEYE STATE 30
WELL NO. : # 1
FIELD : WILDCAT
COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 01-11-00
D.S.T. NO. : 2
TEST TKT. NO. : 20748
INVOICE NO. : 18998
ORDER NO. :

FORMATION	:	WOLFCAMP	HOLE SIZE (in)	:	7.875	ANCHOR LENGTH (ft):	13
INTERVAL (ft)	:	10780 TO 10793	DRILL PIPE ID (in)	:	3.82	TOOL LENGTH (ft)	: 63
TOTAL DEPTH (ft):	:	10793	DRILL COLLAR ID(in):	:	2.25	TOOL O.D. (in)	: 5
ELEVATION (ft)	:	4086	DRILL COLLAR feet	:	651	PACKER SIZE (in)	: 7.00

RECORDER DATA
AK-1KUSTER / AMERADA

TOP RECORDER: IN
RECORDER NO. : 86973
CAPACITY (psi): 10000
DEPTH (ft) : 10758
CLOCK NO. : 86973
DURATION (hrs): 96

BOTTOM RECORDER: OUT
RECORDER NO. : 13815
CAPACITY (psi): 8275
DEPTH (ft) : 10790
CLOCK NO. : 17180
DURATION (hrs): 24

MUD PROPERTIES

MUD TYPE : GEL/STARCH
MUD WT. (#/gal) : 9.10

WATER LOSS (cc) : 15.0
FILTER CAKE (in) : 1/32
VISCOSITY (sec) : 35

CHLORIDE PPM : 51000
RESISTIVITY(ohm-m): .180

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 : NO
OTHER : YES
AMERADA 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 : 1:30 AM

TOTAL TEST TIME: 331

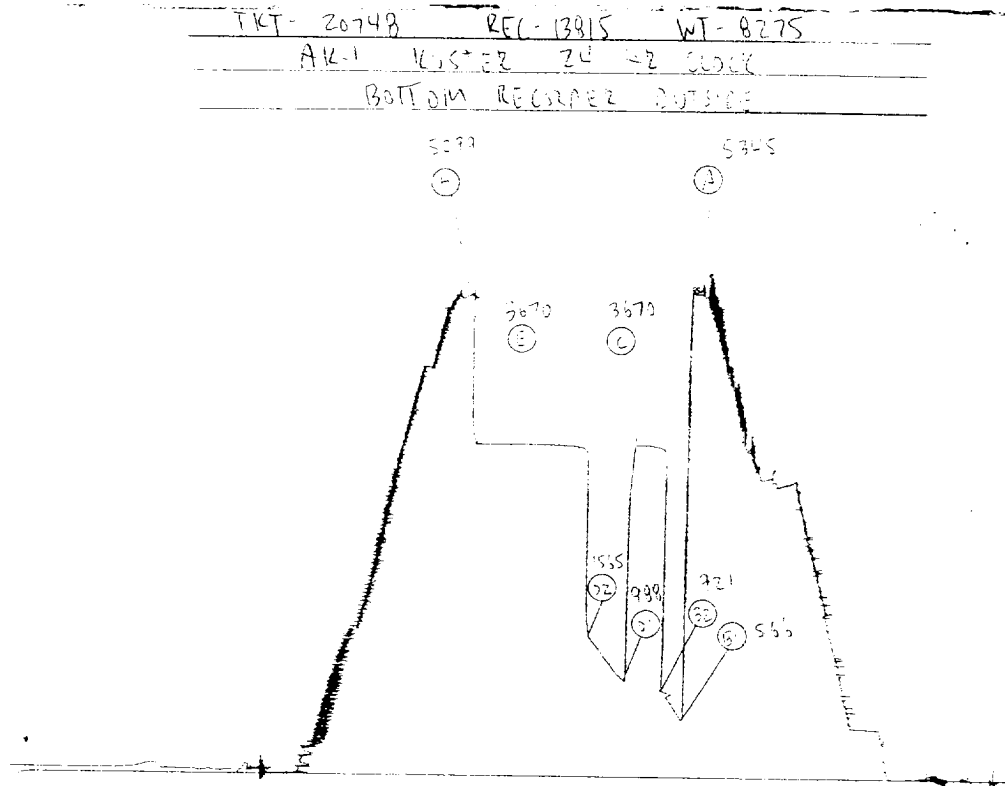
INITIAL FLOW : 30
SECOND FLOW : 60
THIRD FLOW :

INITIAL SHUT-IN: 60
SECOND SHUT-IN : 182
THIRD SHUT IN :

TEST TOOL OPERATOR: TOMMY WILLIAMS

25
MAY 1968
Received
MAY 1968

	CORRECTED READING	FIELD READING
A INITIAL HYDROSTATIC:	5345 PSI	5432 PSI
B-1 INITIAL FIRST FLOW :	566 PSI	607 PSI
B-2 FINAL FIRST FLOW :	921 PSI	929 PSI
C FIRST SHUT-IN :	3670 PSI	3695 PSI
D-1 INITIAL SECOND FLOW:	988 PSI	1018 PSI
D-2 FINAL SECOND FLOW :	1565 PSI	1585 PSI
E SECOND SHUT-IN :	3670 PSI	3713 PSI
H FINAL HYDROSTATIC :	5299 PSI	5415 PSI

RECOVERY DATA

PIPE RECOVERY
 RAN 1060 FT. OF WATER BLANKET
 3,000 MG/L CHLORIDES- 2.3 OHMS @ 85 DEGREES
 2510 FT. OF TOTAL FLUID
 650 FT. OF WATER BLANKET
 186 FT. OF MUDDY SULPHUR WATER
 1674 FT. OF SULPHUR CUT WATER
 51,000 MG/L CHLORIDES- .180 OHMS @ 85 DEGREES

B.H. TEMP. (deg F) : 153

SAMPLE CHAMBER

500 LBS. OF PRESSURE
 .55 CU. FT. OF GAS
 2000 CC'S OF SULPHUR CUT WATER
 51,000 MG/L CHLORIDES
 .180 OHMS @ 85 DEGREES

TEST REMARKS

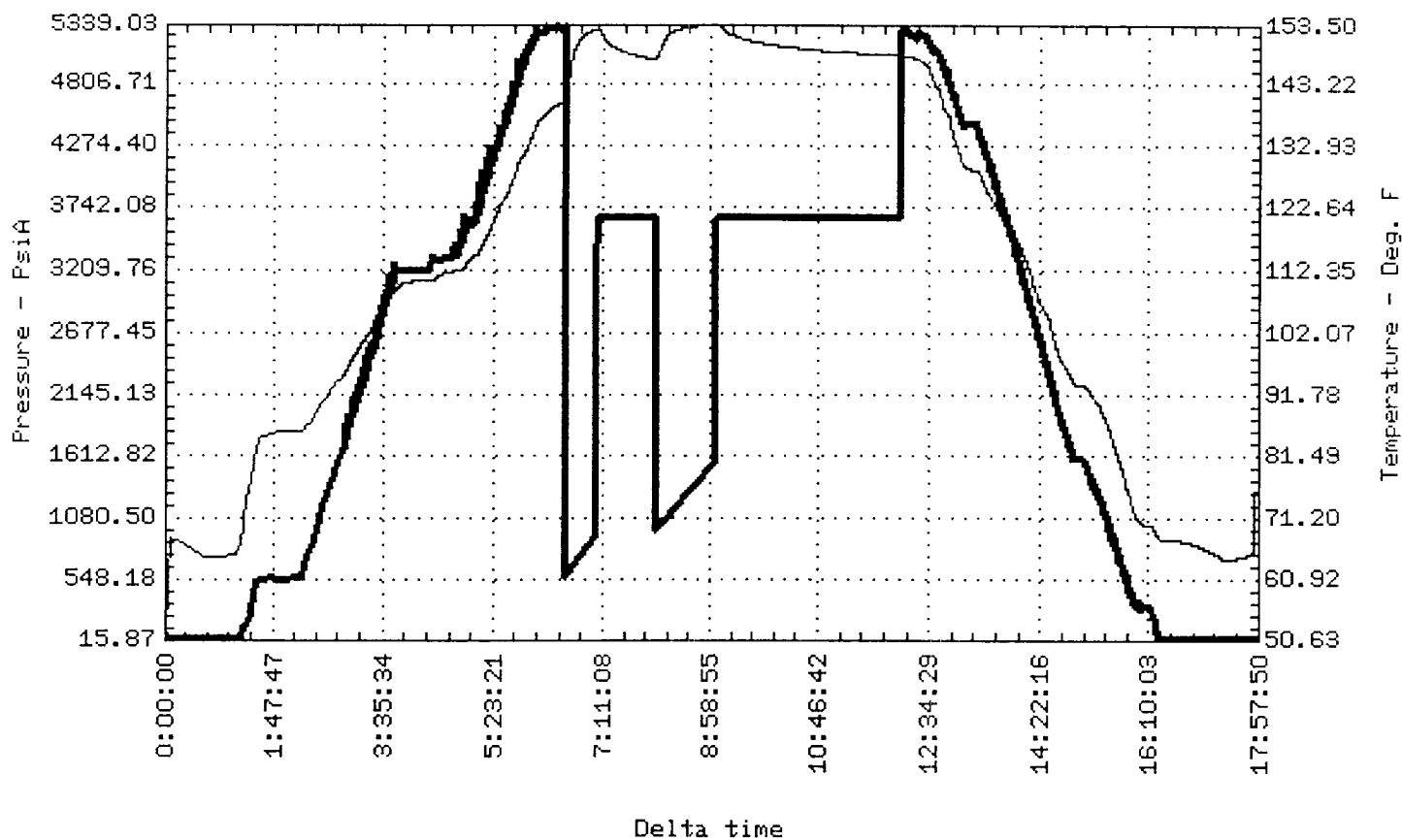
TOOL OPENED WITH VERY WEAK BLOW (1" IN WATER) WHICH INCREASED TO GOOD BLOW (18" IN WATER) IN 14 MIN., 7 OZS. ON 1/4" CHOKE IN 20 MIN. & DECREASED TO 3 OZS. AT END OF THE 30 MIN. FIRST FLOW. REOPENED TOOL WITH VERY WEAK BLOW (1" IN WATER) WHICH INCREASED TO GOOD BLOW (18" IN WATER) IN 14 MIN., 9.5 OZS. IN 20 MIN. WHICH DECREASED TO 6 OZS. ON 1/4" IN 30 MIN., 4 OZS. IN 45 MIN. & 2.5 OZS. AT END OF THE 60 MIN. FINAL FLOW.

LOGGED PRESSURE / TEMPERATURE DATA

File name: PATT2

Company : PATTERSON PTEROLEUM L.L.C.
Client : LANEY ASHWORTH
Gauge number : 86973
Well name : HAWKEYE STATE "30"
Well number : 1
Test number : 2
Field name : WILDCAT
Test operator: TOMMY WILLIAMS
Comments : 10780-10793 FT.(WOLFCAMP)
: 9 FT. OF PAY
:

Starting date: 01/11/2000
time: 01:30:39



INCREMENTAL PRESSURE DATA

RECORDER NO : 86973

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 10758 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			554.10	.00
2.0	2.0			595.79	41.69
4.0	4.0			618.27	64.17
6.0	6.0			643.23	89.13
8.0	8.0			669.43	115.33
10.0	10.0			692.97	138.87
12.0	12.0			713.48	159.38
14.0	14.0			735.77	181.67
16.0	16.0			758.39	204.29
18.0	18.0			780.40	226.30
20.0	20.0			803.52	249.42
22.0	22.0			826.72	272.62
24.0	24.0			849.85	295.75
26.0	26.0			872.50	318.40
28.0	28.0			894.82	340.72
29.9	29.9			916.20	362.10
FIRST SHUT-IN					
29.9	29.9	.00	.000	916.20	.00
30.4	29.9	.50	60.760	2448.37	1532.17
30.9	29.9	1.00	30.880	3602.45	2686.25
31.4	29.9	1.50	20.920	3654.75	2738.55
31.9	29.9	2.00	15.940	3655.66	2739.46
32.4	29.9	2.50	12.952	3655.93	2739.73
32.9	29.9	3.00	10.960	3656.25	2740.05
33.4	29.9	3.50	9.537	3656.52	2740.32
33.9	29.9	4.00	8.470	3656.82	2740.62
34.4	29.9	4.50	7.640	3656.95	2740.75
34.9	29.9	5.00	6.976	3657.27	2741.07
35.9	29.9	6.00	5.980	3657.18	2740.98
36.9	29.9	7.00	5.269	3657.49	2741.29
37.9	29.9	8.00	4.735	3657.60	2741.40
38.9	29.9	9.00	4.320	3657.70	2741.50
39.9	29.9	10.00	3.988	3657.80	2741.60
41.9	29.9	12.00	3.490	3657.90	2741.70
43.9	29.9	14.00	3.134	3658.09	2741.89
45.9	29.9	16.00	2.868	3658.10	2741.90
47.9	29.9	18.00	2.660	3658.10	2741.90
49.9	29.9	20.00	2.494	3658.16	2741.96
51.9	29.9	22.00	2.358	3658.20	2742.00
53.9	29.9	24.00	2.245	3658.20	2742.00
55.9	29.9	26.00	2.149	3658.20	2742.00
57.9	29.9	28.00	2.067	3658.20	2742.00
59.9	29.9	30.00	1.996	3658.10	2741.90
61.9	29.9	32.00	1.934	3658.19	2741.99

INCREMENTAL PRESSURE DATA

RECORDER NO : 86973

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 10758 ft

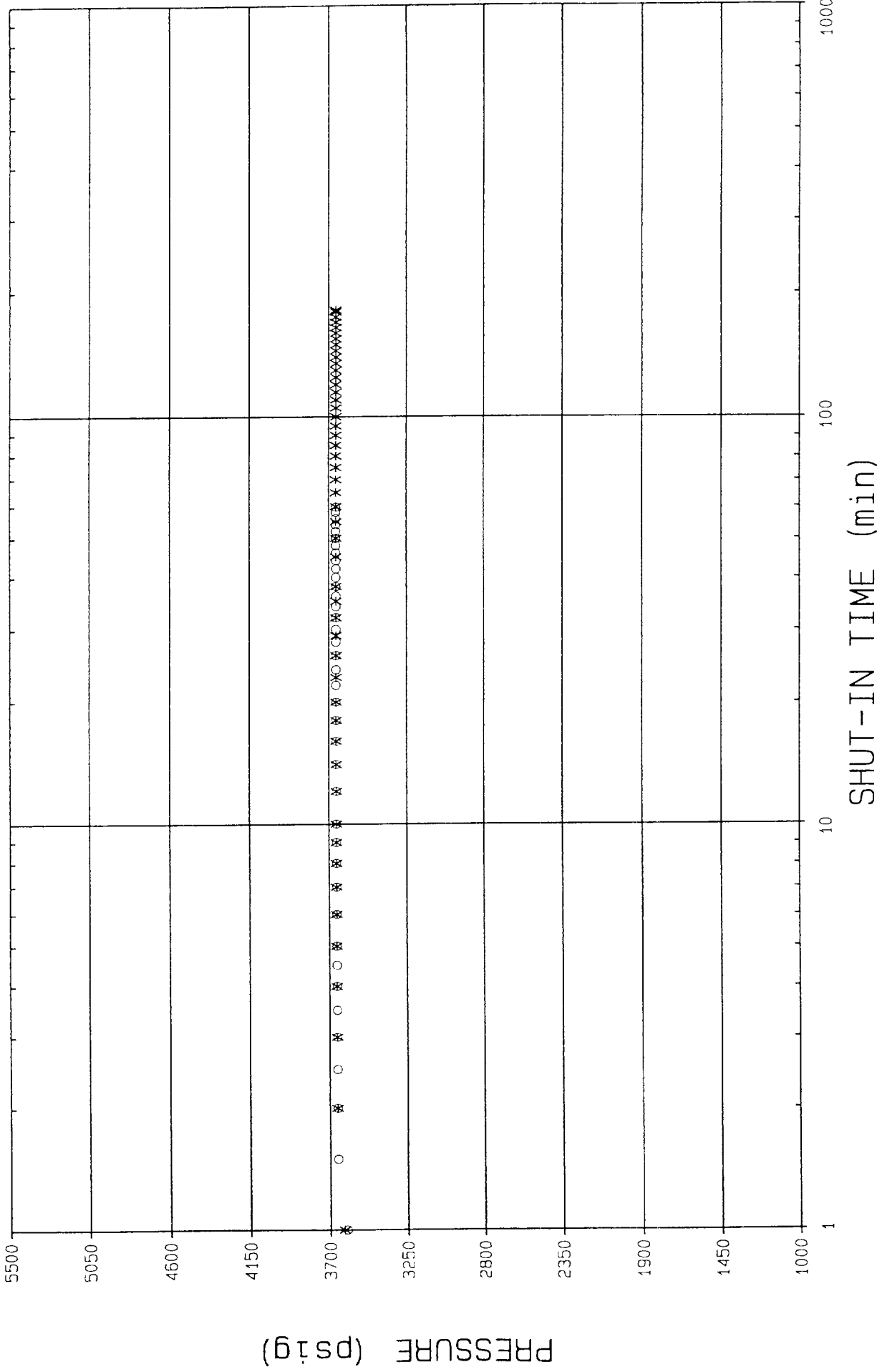
ELAPSED TIME ---MIN----	TOTAL FLOW TIME, T ---MIN----	INCREMENTAL SHUT-IN TIME, DT ---MIN----	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
SECOND SHUT-IN					
159.8	90.1	10.00	10.006	3657.90	2106.00
161.8	90.1	12.00	8.505	3657.90	2106.00
163.8	90.1	14.00	7.433	3658.00	2106.10
165.8	90.1	16.00	6.629	3658.00	2106.10
167.8	90.1	18.00	6.003	3658.10	2106.20
169.8	90.1	20.00	5.503	3658.10	2106.20
172.8	90.1	23.00	4.916	3658.14	2106.24
175.8	90.1	26.00	4.464	3658.20	2106.30
178.8	90.1	29.00	4.106	3658.20	2106.30
181.8	90.1	32.00	3.814	3658.20	2106.30
184.8	90.1	35.00	3.573	3658.20	2106.30
187.8	90.1	38.00	3.370	3658.20	2106.30
194.8	90.1	45.00	3.001	3658.30	2106.40
199.8	90.1	50.00	2.801	3658.30	2106.40
204.8	90.1	55.00	2.637	3658.30	2106.40
209.8	90.1	60.00	2.501	3658.30	2106.40
214.8	90.1	65.00	2.386	3658.36	2106.46
219.8	90.1	70.00	2.287	3658.40	2106.50
224.8	90.1	75.00	2.201	3658.40	2106.50
229.8	90.1	80.00	2.126	3658.40	2106.50
234.8	90.1	85.00	2.060	3658.40	2106.50
239.8	90.1	90.00	2.001	3658.40	2106.50
244.8	90.1	95.00	1.948	3658.40	2106.50
249.8	90.1	100.00	1.901	3658.40	2106.50
254.8	90.1	105.00	1.858	3658.40	2106.50
259.8	90.1	110.00	1.819	3658.40	2106.50
264.8	90.1	115.00	1.783	3658.40	2106.50
269.8	90.1	120.00	1.751	3658.40	2106.50
274.8	90.1	125.00	1.720	3658.50	2106.60
279.8	90.1	130.00	1.693	3658.50	2106.60
284.8	90.1	135.00	1.667	3658.50	2106.60
289.8	90.1	140.00	1.643	3658.50	2106.60
294.8	90.1	145.00	1.621	3658.50	2106.60
299.8	90.1	150.00	1.600	3658.50	2106.60
304.8	90.1	155.00	1.581	3658.50	2106.60
309.8	90.1	160.00	1.563	3658.50	2106.60
314.8	90.1	165.00	1.546	3658.50	2106.60
319.8	90.1	170.00	1.530	3658.56	2106.66
324.8	90.1	175.00	1.515	3658.60	2106.70
329.8	90.1	180.00	1.500	3658.60	2106.70
331.8	90.1	181.98	1.495	3658.60	2106.70

REMARKS

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



PRESSURE TIME



PATTERSON PETROLEUM LLC.
HAWKEYE STATE "30" # 1

○ FIRST SHUT-IN
* SECOND SHUT-IN



Well Test Report

RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM
PATTERSON PETROLEUM INC.

1

Well identification

Well ID	HAWKEYE "30" #1	Well location	N.W. BUCKEYE
County/District	LEA	State, Country	NEW MEXICO
Company	PATTERSON PETR	Division	SNYDER

Fluid properties

Prod/Inj fluid	WATER	GOR	
Water cut	100%	Condensate yield	UNKNOWN
API gravity		Gas spec. grav.	0.7
Viscosity	0.4657 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)	12.426 e-6/psi	Formation vol factor	1.0173 RB/STB

Reservoir properties

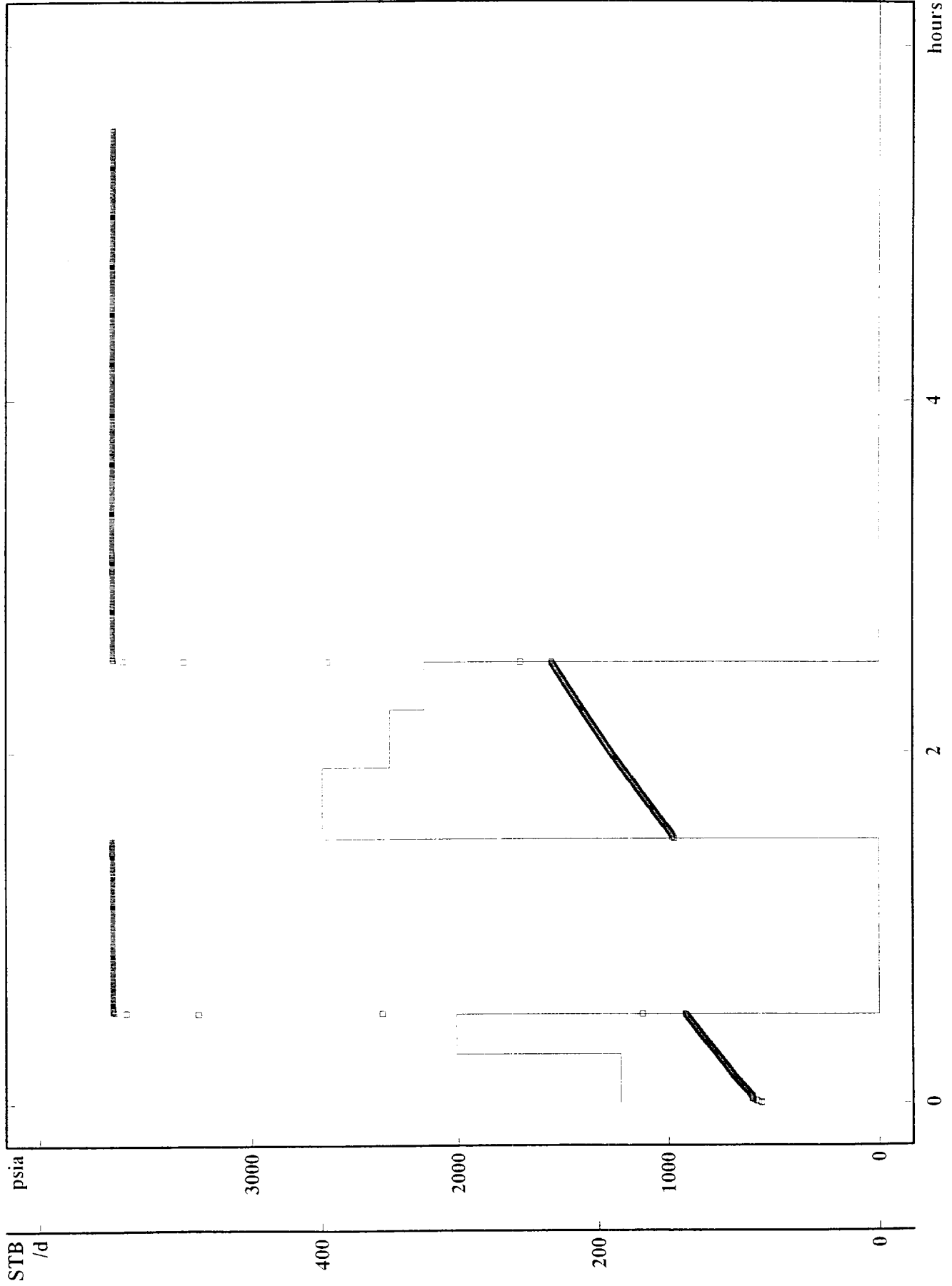
Porosity	0.14 frac	Formation thickness	9 ft
Wellbore radius	0.32813 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	153 deg F	Pressure for properties	3658.6 psia

Comments

THE DERIVATIVES INDICATE A HETEROGENEOUS RESERVOIR WITH HIGH PERMEABILITY AND HIGH SKIN FACTOR. THE SHUT-INS APPEAR TO HAVE REACHED RADIAL FLOW AS INDICATED ON DERIVATIVES. THE FIXED PARAMETERS USED WERE AN EST. 14% POROSITY, 9 FT. OF NET PAY REPORTED AND AN AVERAGE PRODUCTION OF 358 BBLs. OF FLUID FOR THE FINAL FLOW PERIOD. THE RATES WERE BASED ON DENSITY OF FLUID RECOVERED VS. FLOWING PRESSURES.

PATTERSON PETROLEUM INC. HAWKEYE STATE "30" #1

Pressure and flow rate vs time during test sequence



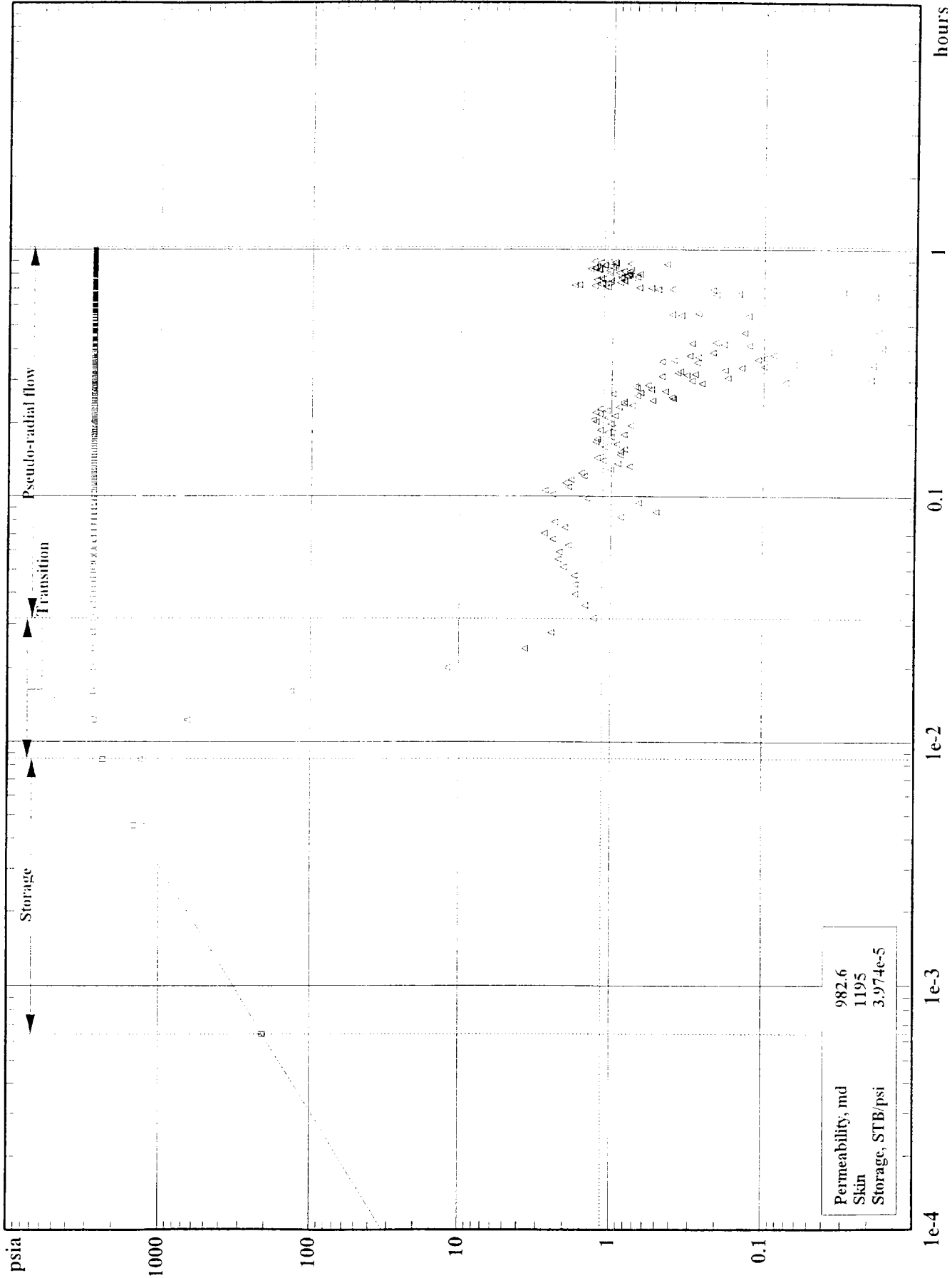
DST #2 10780 - 10793 FT. WOLFCAMP

AS
APR 1983
received
Unit
1983

PATTERSON PETROLEUM INC. HAWKEYE STATE "30" #1



Diagnostic plot (pressure & time)

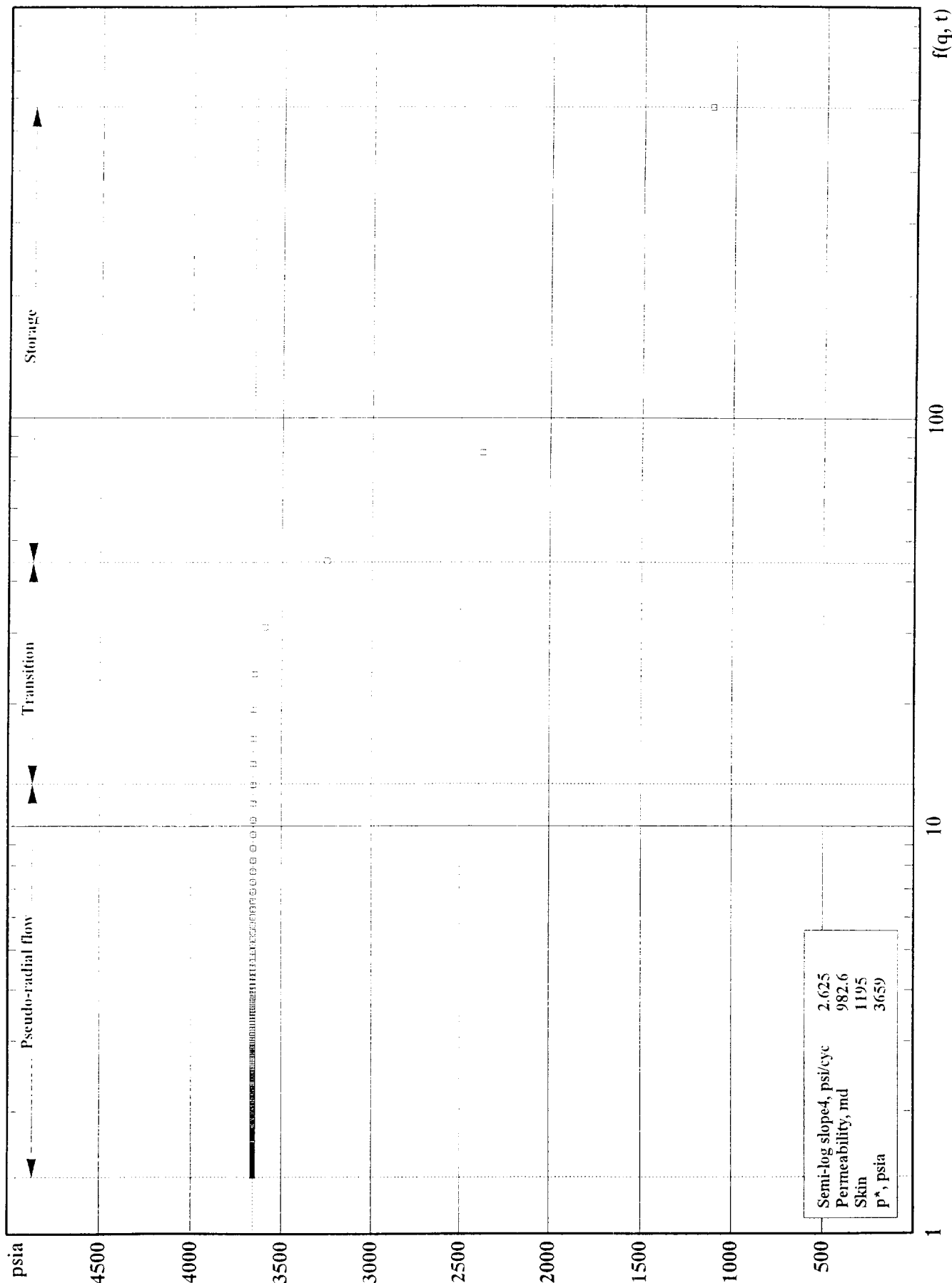


INITIAL SHUT-IN PERIOD DST#2

PATTERSON PETROLEUM INC. HAWKEYE STATE "30" #1



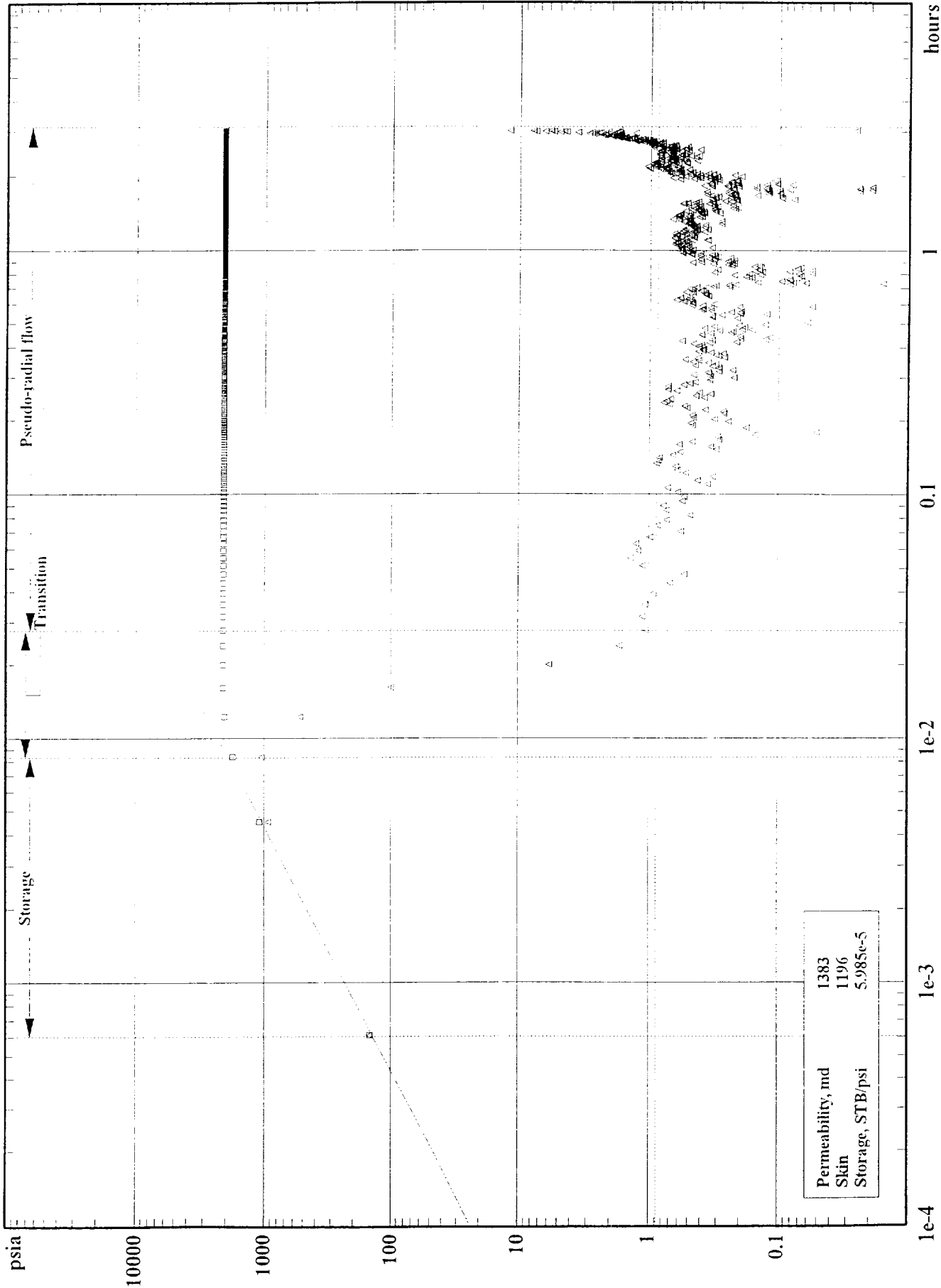
Variable rate Horner plot (pressure & time)



INITIAL SHUT-IN PERIOD DST#2



Diagnostic plot (pressure & time)

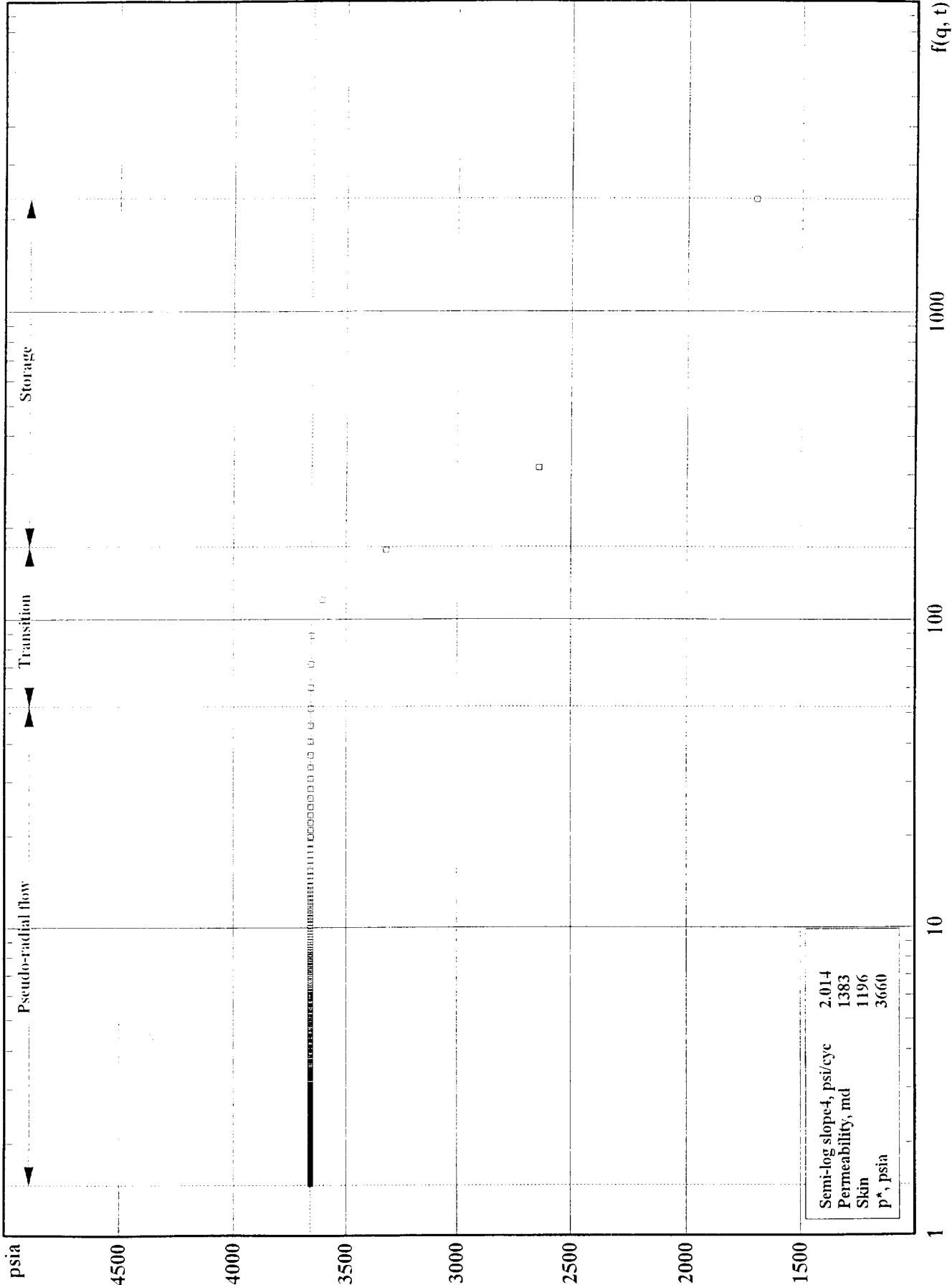


Permeability, md	1383
Skin	1196
Storage, STB/psi	5.985e-5

FINAL SHUT-IN PERIOD DST#2

PATTERSON PETROLEUM INC. HAWKEYE STATE "30" #1

Variable rate Horner plot (pressure & time)



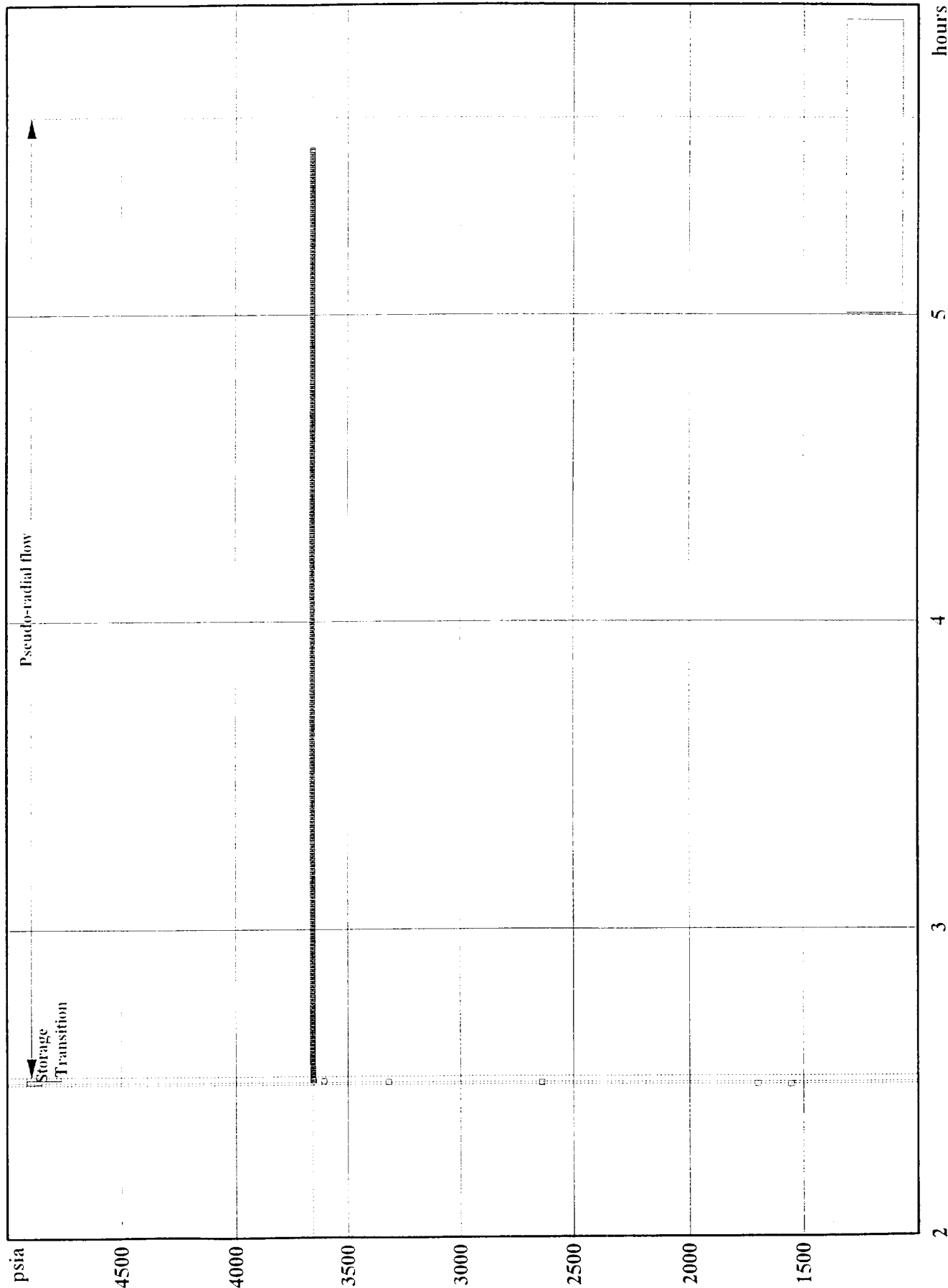
FINAL SHUT-IN PERIOD DST#2



45
APR 2003
Received
Hubbs
Lab

PATTERSON PETROLEUM INC. HAWKEYE STATE "30" #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST#2

Received
JAN 27 1972
KING
215