



COMPANY : COG OPERATING LLC.
 LEASE : WEST PEARL "36" STATE
 WELL NO. : # 1
 FIELD : WILDCAT (MORROW)
 COUNTY/STATE : LEA / NEW MEXICO

TEST DATE : 11/20/06
 D.S.T. NO. : 1
 TEST TKT. NO. : 23762
 INVOICE NO. : 21977
 ORDER NO. :



FORMATION : BONE SPRINGS
 INTERVAL (ft) : 9400 TO 9684
 TOTAL DEPTH (ft) : 9684
 ELEVATION (ft) : 3716

HOLE SIZE (in) : 8.750
 DRILL PIPE ID (in) : 3.82
 DRILL COLLAR ID (in) : 2.25
 DRILL COLLAR feet : 611

ANCHOR LENGTH (ft) : 284
 TOOL LENGTH (ft) : 54
 TOOL O.D. (in) : 5
 PACKER SIZE (in) : 7.50

RECORDER DATA AK-1KUSTER / ZIPROBE

TOP RECORDER: IN
 RECORDER NO. : 22027
 CAPACITY (psi) : 10000
 DEPTH (ft) : 9386
 CLOCK NO. : 22027
 DURATION (hrs) : 99

BOTTOM RECORDER: OUT
 RECORDER NO. : 13815
 CAPACITY (psi) : 8275
 DEPTH (ft) : 9681
 CLOCK NO. : 18405
 DURATION (hrs) : 24

MUD PROPERTIES

MUD TYPE : BRINE WATER
 MUD WT. (#/gal) : 10.0

WATER LOSS (cc) :
 FILTER CAKE (in) :
 VISCOSITY (sec) : 29

CHLORIDE PPM : 180000
 RESISTIVITY(ohm-m) : .033

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 : YES
 OTHER : YES
 ELECS(2) / FLOOR MANI.

SUCCESSFUL : YES

PACKER FAILURE : NO

TOOL PLUG : NO

DECIDED NOT TO TEST : NO

FAIL TO REACH BOTTOM : NO

TIME INTERVAL DATA (min)

TOOL OPENED : 10:15 AM

TOTAL TEST TIME: 435

INITIAL FLOW : 15
 SECOND FLOW : 120
 THIRD FLOW :

INITIAL SHUT-IN: 30
 SECOND SHUT-IN : 270
 THIRD SHUT IN :

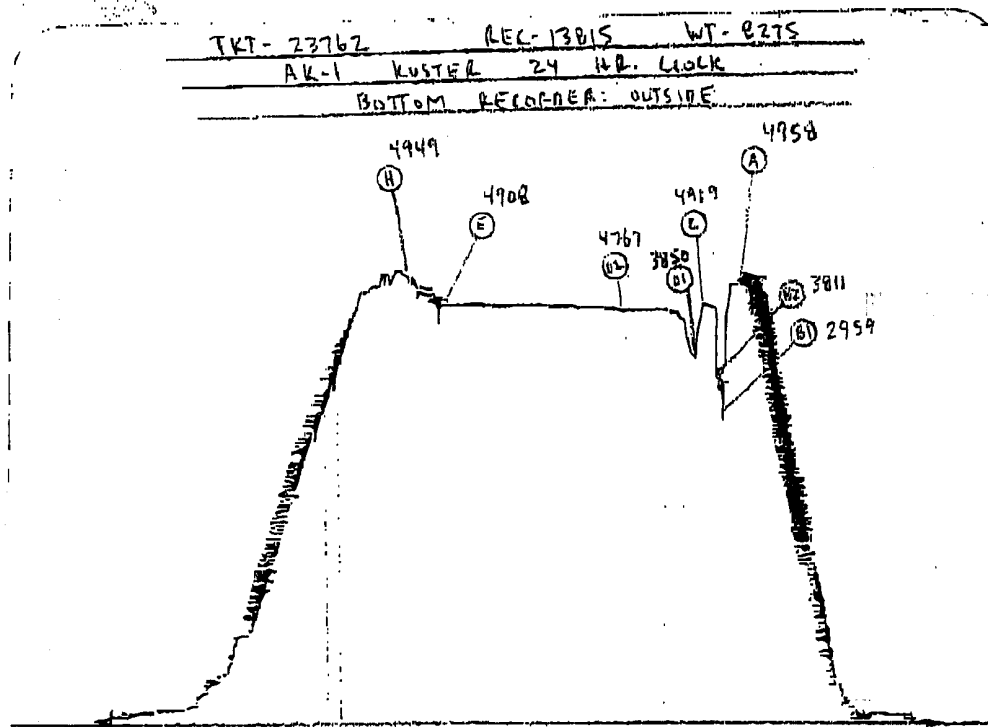
TEST TOOL OPERATOR: TOMMY WILLIAMS



COG OPERATING LLC.

WEST PEARL "36" STATE # 1
D.S.T. NO. :1

		CORRECTED READING	FIELD READING
A	INITIAL HYDROSTATIC:	4857 PSI	4857 PSI
B-1	INITIAL FIRST FLOW :	2872 PSI	2872 PSI
B-2	FINAL FIRST FLOW :	3723 PSI	3723 PSI
C	FIRST SHUT-IN :	4821 PSI	4821 PSI
D-1	INITIAL SECOND FLOW:	3737 PSI	3737 PSI
D-2	FINAL SECOND FLOW :	4665 PSI	4665 PSI
E	SECOND SHUT-IN :	4810 PSI	4809 PSI
H	FINAL HYDROSTATIC :	4848 PSI	4848 PSI



RECOVERY DATA

PIPE RECOVERY B.H. TEMP. (deg F) : 154
GAS TO SURFACE 10 MIN., DRLG. WATER 15 MIN. & OIL TO SURFACE 22 MIN. INTO FINAL FLOW PERIOD; FLOWED TO PIT DURING TEST; 6 BBLS. DRLG. WATER, 52 BBLS. OIL & 36 BBLS. FORMATION WATER (120,000 MG/L); PULLED 2 STANDS & REV. TO TANK AN ADDITIONAL; 12 BBLS OIL (39.8 GRAV. @ 60 DEG); 84 BBLS. FORMATION WATER (120,000 MG/L CHL. -.041 OHMS @ 85 DEG); 90 FT. FORMATION WATER -BELOW CIRC SUB(TOTAL=64 BBLS OIL & 120 BBLS. WATER)

SAMPLE CHAMBER

3200 LBS. OF PRESSURE
.75 CU. FT. OF GAS
200 CC'S OF FREE OIL
39.8 GRAVITY @ 60 DEGREES
1360 CC'S OF FORMATION WATER
110,000 MG/L CHLORIDES
.044 OHMS @ 85 DEGREES

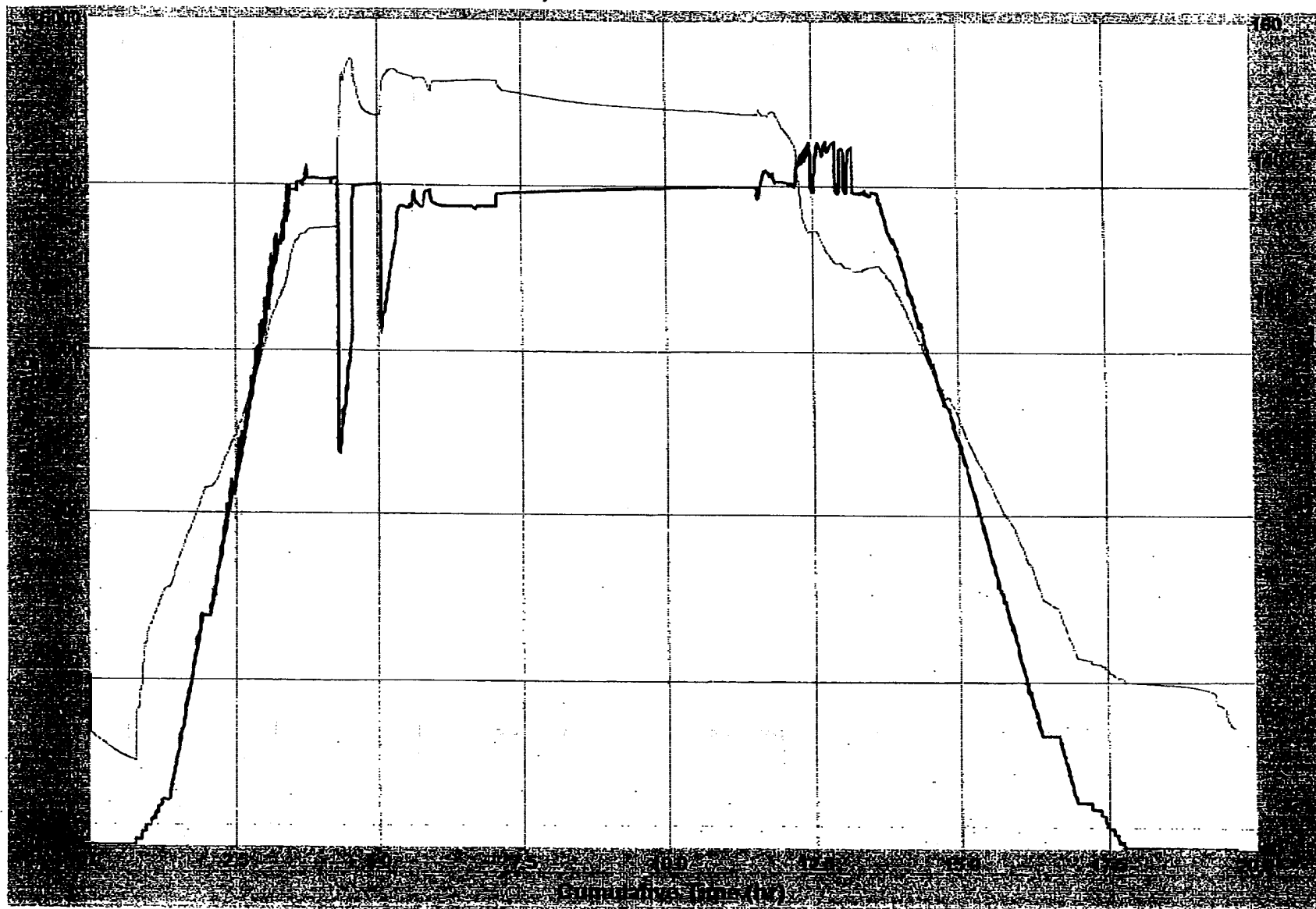
TEST REMARKS

TOOL OPENED WITH GOOD BLOW ON 1/4" CHOKE IN 1 MIN. & BUILT TO 14 LBS. AT END OF 15 MIN. FIRST FLOW. REOPENED TOOL WITH GOOD BLOW, GAS TO SURFACE IN 10 MIN. WITH 10 LBS. (83 MCFPD) ON 3/8" CHOKE, DRLG. WATER SURFACED IN 15 MIN. WITH 300 LBS. (FLUID), OIL SURFACED IN 22 MIN. WITH 385 LBS. (FLUID), 385 LBS. (FLUID) ON 1/2" IN 45 MIN., 325 LBS. (FLUID) IN 60 MIN., 295 LBS. (FLUID) IN 90 MIN. & 250 LBS. (FLUID) ON 1/2" AT END OF 120 MIN. FINAL FLOW (FLOWED DURING TEST; 6 BBLS. DRLG. WATER, 52 BBLS. OIL & 36 BBLS. WATER)

Company Name COG OPERATING LLC.
Well Name WEST PEARL "36" STATE #1
Type of Test DST #1 (9400-9684 FT.; BONE SPRINGS)
Date(s) of Test 11-20-06



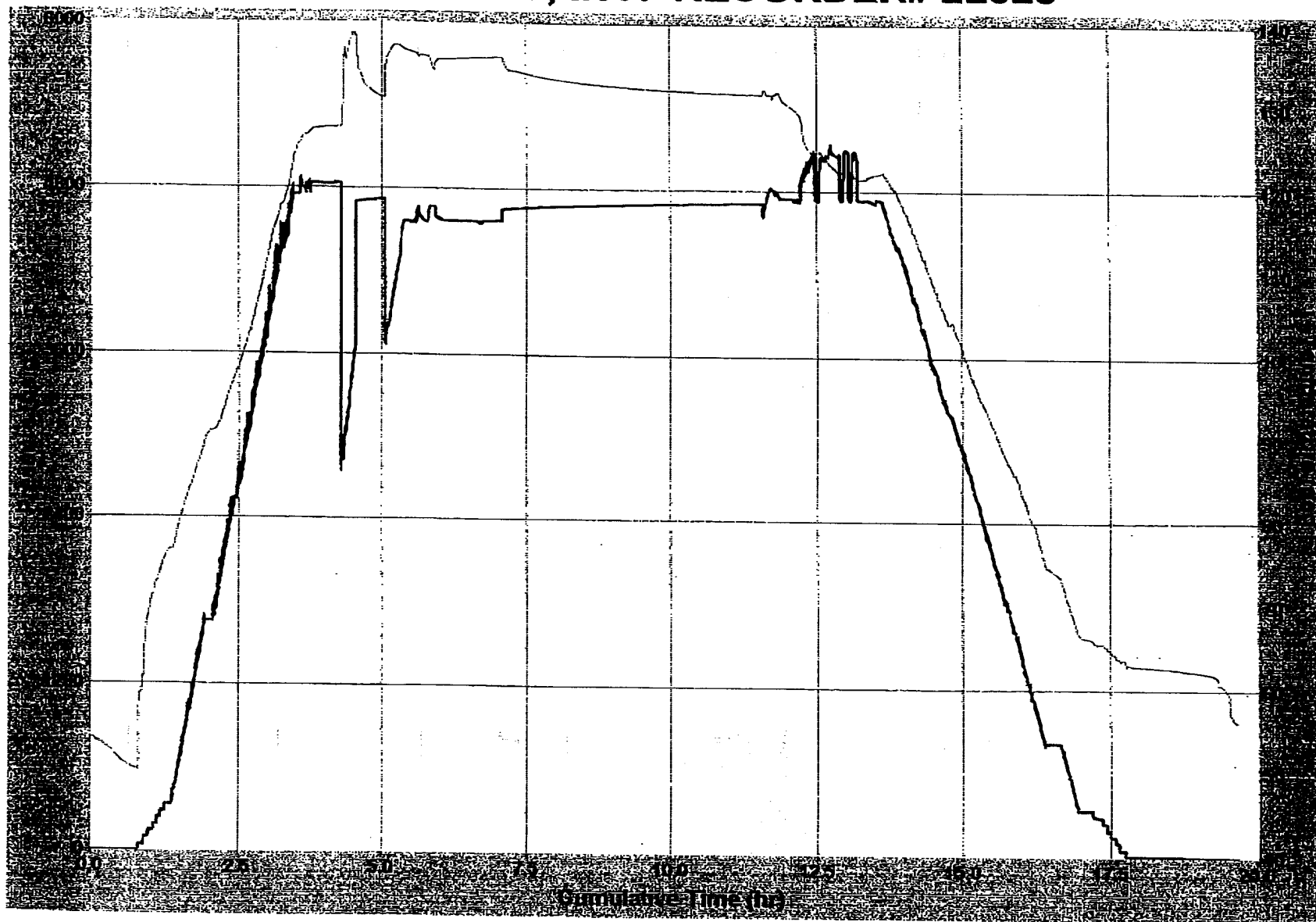
RIG TESTERS, INC. RECORDER# 22027



Company Name COG OPERATING LLC.
Well Name WEST PEARL "36" STATE #1
Type of Test DST #1 (9400-9684 FT.; BONE SPRINGS)
Date(s) of Test 11-20-06



RIG TESTERS, INC. RECORDER# 22028



COG OPERATING LLC.

WEST PEARL "36" STATE # 1
D.S.T. NO. : 1

INCREMENTAL PRESSURE DATA

RECORDER NO : 22027

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 9386 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			2872.10	.00
2.0	2.0			2935.76	63.66
4.0	4.0			3084.02	211.92
6.0	6.0			3189.00	316.90
8.0	8.0			3274.93	402.83
10.0	10.0			3474.93	602.83
12.0	12.0			3567.70	695.60
14.0	14.0			3669.45	797.35
15.0	15.0			3723.00	850.90
FIRST SHUT-IN					
15.0	15.0	.00	.000	3723.00	.00
15.5	15.0	.50	31.000	4797.59	1074.59
16.0	15.0	1.00	16.000	4801.67	1078.67
16.5	15.0	1.50	11.000	4803.10	1080.10
17.0	15.0	2.00	8.500	4803.55	1080.55
17.5	15.0	2.50	7.000	4802.73	1079.73
18.0	15.0	3.00	6.000	4803.40	1080.40
18.5	15.0	3.50	5.286	4805.05	1082.05
19.0	15.0	4.00	4.750	4806.35	1083.35
19.5	15.0	4.50	4.333	4806.70	1083.70
20.0	15.0	5.00	4.000	4807.01	1084.01
21.0	15.0	6.00	3.500	4808.40	1085.40
22.0	15.0	7.00	3.143	4809.68	1086.68
23.0	15.0	8.00	2.875	4810.87	1087.87
24.0	15.0	9.00	2.667	4811.20	1088.20
25.0	15.0	10.00	2.500	4810.99	1087.99
27.0	15.0	12.00	2.250	4812.00	1089.00
29.0	15.0	14.00	2.071	4812.60	1089.60
31.0	15.0	16.00	1.938	4813.58	1090.58
33.0	15.0	18.00	1.833	4814.30	1091.30
35.0	15.0	20.00	1.750	4814.97	1091.97
37.0	15.0	22.00	1.682	4816.10	1093.10
39.0	15.0	24.00	1.625	4817.50	1094.50
41.0	15.0	26.00	1.577	4818.77	1095.77
43.0	15.0	28.00	1.536	4820.27	1097.27
45.2	15.0	30.24	1.496	4821.90	1098.90
SECOND FLOW					
46.3	16.0			3737.50	.00
51.3	21.0			3988.76	251.26
56.3	26.0			4211.91	474.41
61.3	31.0			4394.80	657.30
66.3	36.0			4659.88	922.38

COG OPERATING LLC.

WEST PEARL "36" STATE # 1
D.S.T. NO. : 1

INCREMENTAL PRESSURE DATA

RECORDER NO : 22027

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 9386 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 FLOW					
71.3	41.0			4659.20	921.70
76.3	46.0			4656.20	918.70
81.3	51.0			4769.00	1031.50
86.3	56.0			4672.23	934.73
91.3	61.0			4668.00	930.50
96.3	66.0			4772.90	1035.40
101.3	71.0			4691.88	954.38
106.3	76.0			4672.40	934.90
111.3	81.0			4665.58	928.08
116.3	86.0			4665.20	927.70
121.3	91.0			4661.70	924.20
126.3	96.0			4663.52	926.02
131.3	101.0			4665.69	928.19
136.3	106.0			4665.30	927.80
141.3	111.0			4663.26	925.76
146.3	116.0			4655.57	918.07
151.3	121.0			4663.20	925.70
156.3	126.0			4664.31	926.81
161.3	131.0			4665.80	928.30
166.5	136.3			4665.70	928.20
SECOND SHUT-IN					
166.5	136.3	.00	.000	4665.70	.00
168.5	136.3	2.00	69.130	4752.29	86.59
170.5	136.3	4.00	35.065	4753.88	88.18
172.5	136.3	6.00	23.710	4755.10	89.40
174.5	136.3	8.00	18.033	4756.81	91.11
176.5	136.3	10.00	14.626	4758.00	92.30
178.5	136.3	12.00	12.355	4759.60	93.90
180.5	136.3	14.00	10.733	4760.71	95.01
182.5	136.3	16.00	9.516	4761.60	95.90
184.5	136.3	18.00	8.570	4762.30	96.60
186.5	136.3	20.00	7.813	4763.40	97.70
189.5	136.3	23.00	6.924	4764.71	99.01
192.5	136.3	26.00	6.241	4765.79	100.09
195.5	136.3	29.00	5.699	4766.81	101.11
198.5	136.3	32.00	5.258	4768.11	102.41
201.5	136.3	35.00	4.893	4769.31	103.61
204.5	136.3	38.00	4.586	4770.30	104.60

COG OPERATING LLC.


 WEST PEARL "36" STATE # 1
 D.S.T. NO. : 1

INCREMENTAL PRESSURE DATA

RECORDER NO : 22027

RECORDER CAPACITY : 10000 psi

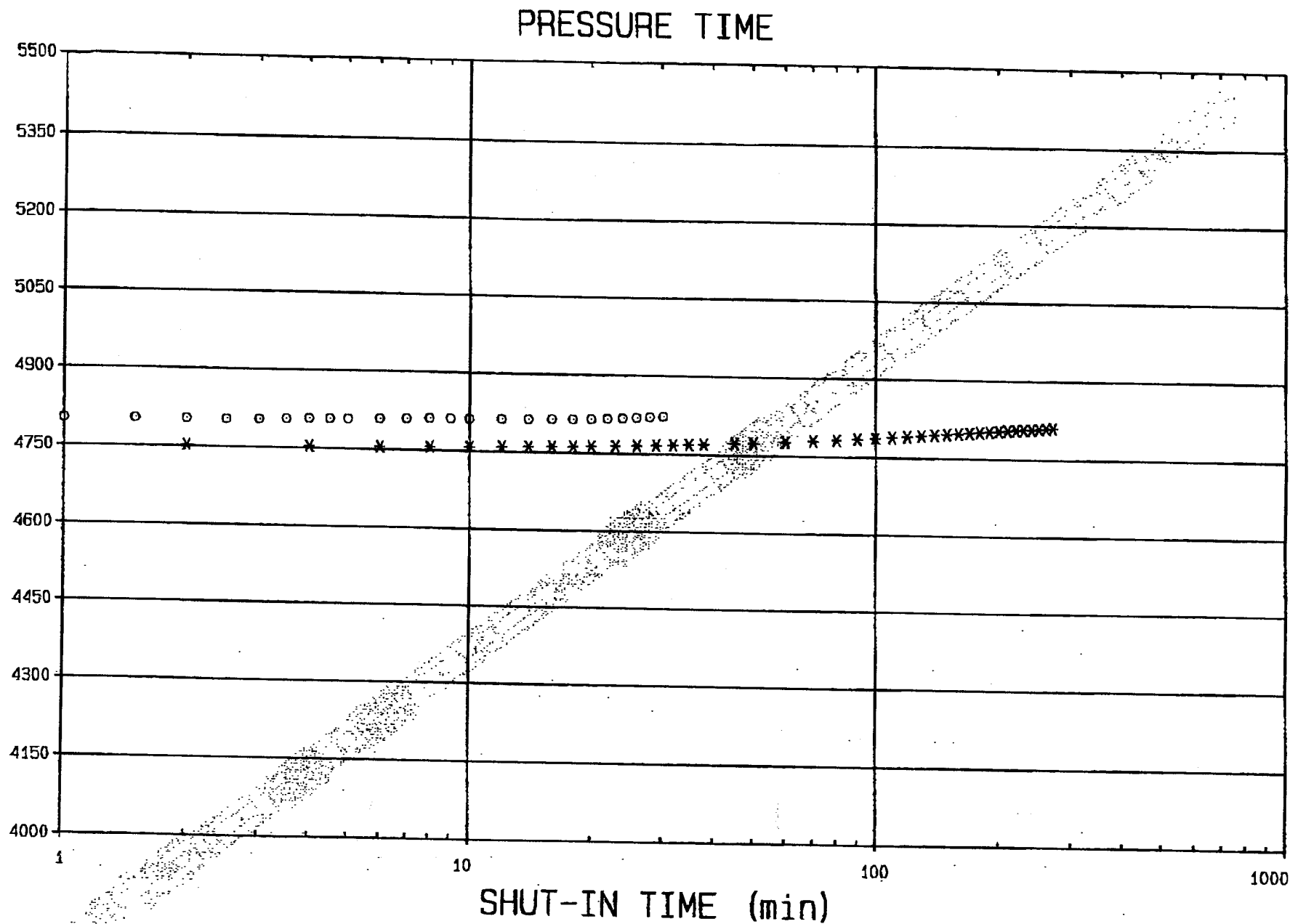
RECORDER DEPTH : 9386 ft

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			
211.5	136.3	45.00	4.028	4772.70	107.00
216.5	136.3	50.00	3.725	4774.20	108.50
226.5	136.3	60.00	3.271	4777.00	111.30
236.5	136.3	70.00	2.947	4779.78	114.08
246.5	136.3	80.00	2.703	4782.01	116.31
256.5	136.3	90.00	2.514	4784.50	118.80
266.5	136.3	100.00	2.363	4786.70	121.00
276.5	136.3	110.00	2.239	4788.80	123.10
286.5	136.3	120.00	2.136	4790.70	125.00
296.5	136.3	130.00	2.048	4792.59	126.89
306.5	136.3	140.00	1.973	4794.40	128.70
316.5	136.3	150.00	1.908	4796.10	130.40
326.5	136.3	160.00	1.852	4797.69	131.99
336.5	136.3	170.00	1.802	4799.20	133.50
346.5	136.3	180.00	1.757	4800.60	134.90
356.5	136.3	190.00	1.717	4801.89	136.19
366.5	136.3	200.00	1.681	4803.11	137.41
376.5	136.3	210.00	1.649	4804.70	139.00
386.5	136.3	220.00	1.619	4805.80	140.10
396.5	136.3	230.00	1.592	4806.71	141.01
406.5	136.3	240.00	1.568	4807.30	141.60
416.5	136.3	250.00	1.545	4808.41	142.71
426.5	136.3	260.00	1.524	4809.20	143.50
436.5	136.3	270.00	1.505	4810.30	144.60

REMARKS

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

PRESSURE (psig)



DOG OPERATING LLC.
WEST PEARL "36" STATE # 1

○ FIRST SHUT-IN
* SECOND SHUT-IN



RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM

COG OPERATING LLC. WEST PEARL "36" STATE #1

Well Identification

Well ID	W. PEARL "36" #1	Well location	W. HOBBS
County/District	LEA	State, Country	NEW MEXICO
Company	COG OPER. LLC.	Division	MIDLAND

Fluid properties

Prod/Inj fluid	OIL/WATER	GOR	500:1
Water cut	87%	Condensate yield	UNKNOWN
API gravity	39.8	Gas spec. grav.	0.7
Viscosity	0.57127 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)	9.7525 e-6/psi	Formation vol factor	1.0515 RB/STB

Reservoir properties

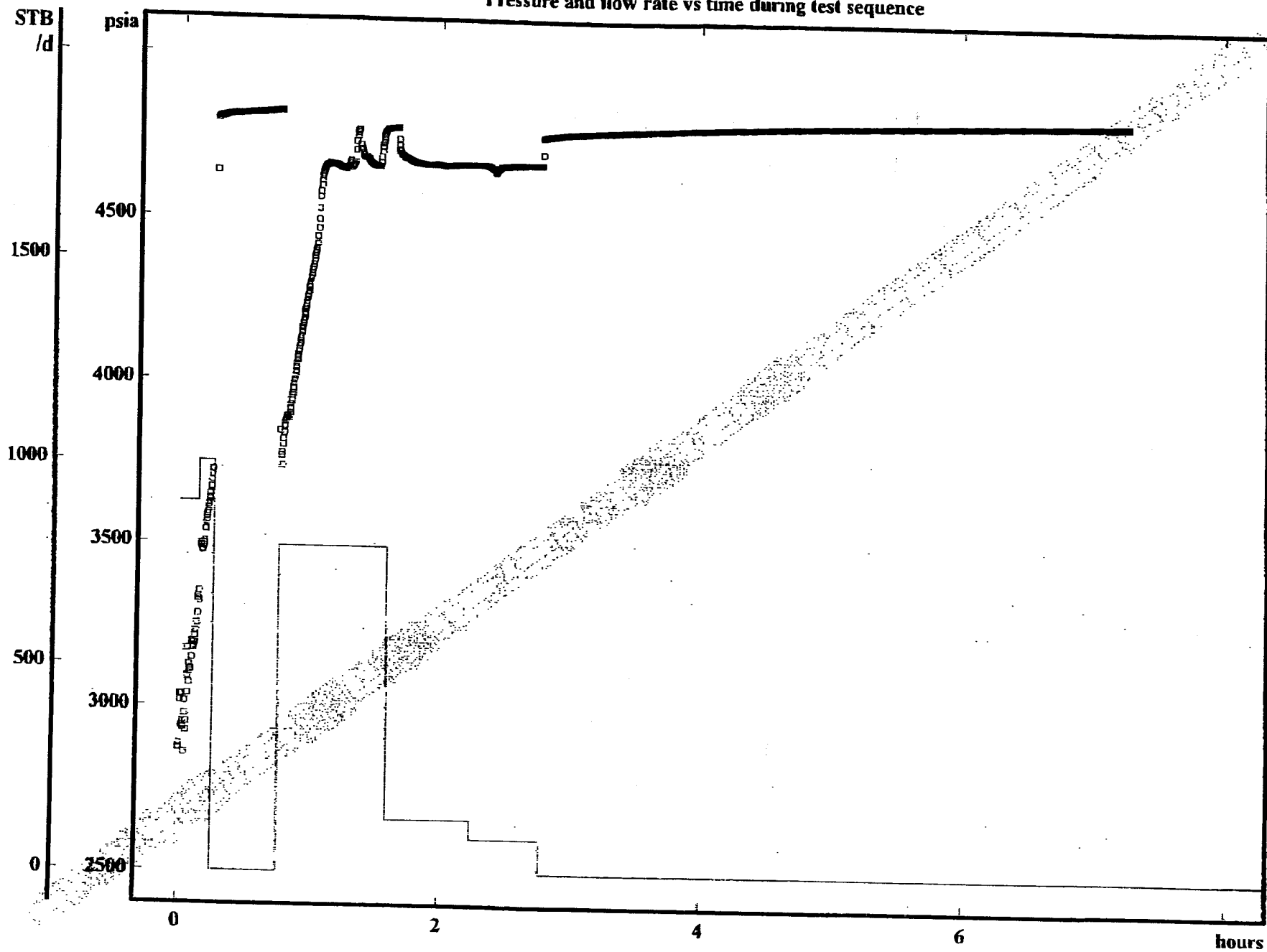
Porosity	0.16 frac	Formation thickness	3 ft
Wellbore radius	0.36458 ft	Prod-observer distance	N/A
Water-Oil Contact	UNKNOWN	Gas-Oil Contact	N/A
Gas-Water Contact	N/A	Rock compressibility	
Reservoir temperature	154 deg F	Pressure for properties	4845 psia

Comments

THE DERIVATIVES INDICATE A HETEROGENEOUS RESERVOIR WITH HIGH PERMEABILITY AND SKIN. BOTH SHUT-IN PERIODS INDICATE DURING MID TIME DATA A DUAL (VUGULAR/FRACTURED) POROSITY RESPONSE WITH THE LATE TIME INCREASE (4:1 SLOPE CHANGE) ON THE FINAL SHUT-IN PERIOD BEING INDICATIVE OF MULTIPLE BARRIERS (BOUNDARY EFFECTS). 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. 16% POROSITY, 3 FT. OF NET PAY REPORTED AND AN AVERAGE (TIME WEIGHTED) PRODUCTION OF 334 BBLs. OF FLUID (13% OIL-87% WATER; ACCORDING TO SAMPLE CHAMBER RECOVERY) FOR THE FINAL FLOW. THE RATES WERE BASED ON DENSITY OF FLUID RECOVERED VS. FLOWING PRESSURES. THE TOTAL RADIUS OF INVESTIGATION CALCULATED TO APPROX. 1200 FT. FROM WELLBORE.

COG OPERATING LLC. WEST PEARL "36" STATE #1

Pressure and flow rate vs time during test sequence

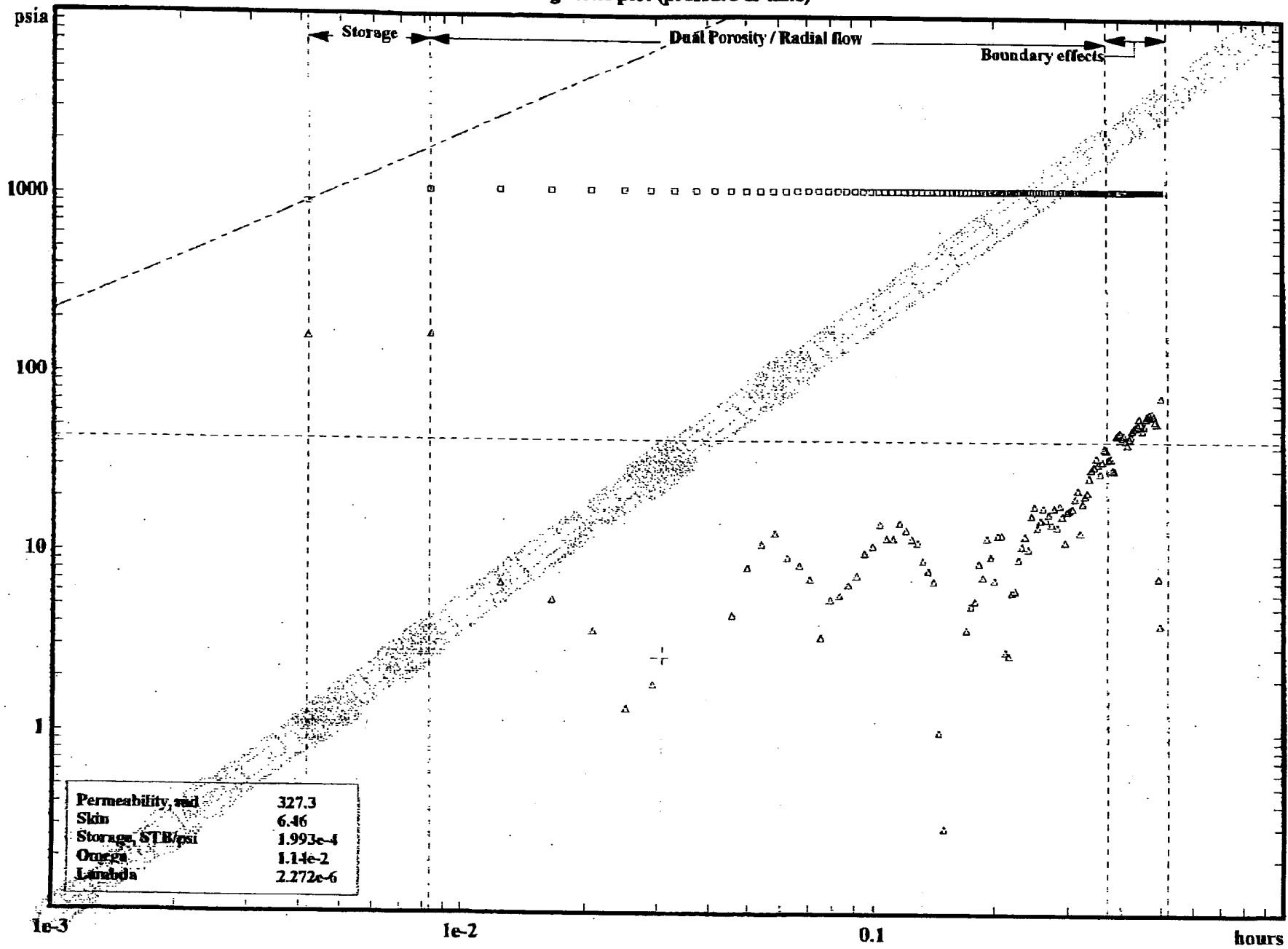


DST #1 9400 - 9684 FT.; BONE SPRINGS

RIG
TESTERS, INC.

COG OPERATING LLC. WEST PEARL "36" STATE #1

Diagnostic plot (pressure & time)

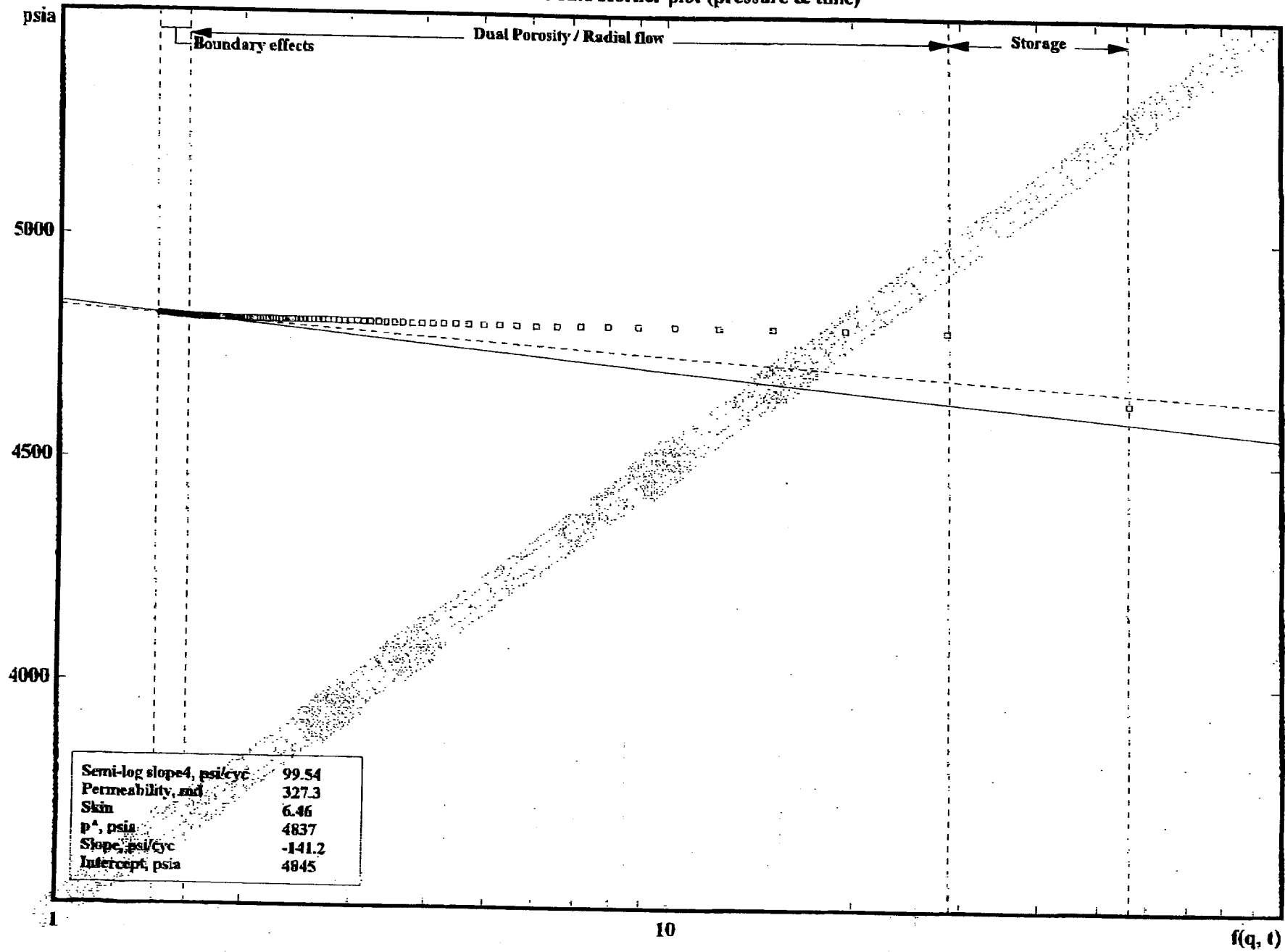


INITIAL SHUT-IN PERIOD DST#1



COG OPERATING LLC. WEST PEARL "36" STATE #1

Variable rate Horner plot (pressure & time)



INITIAL SHUT-IN PERIOD DST#1

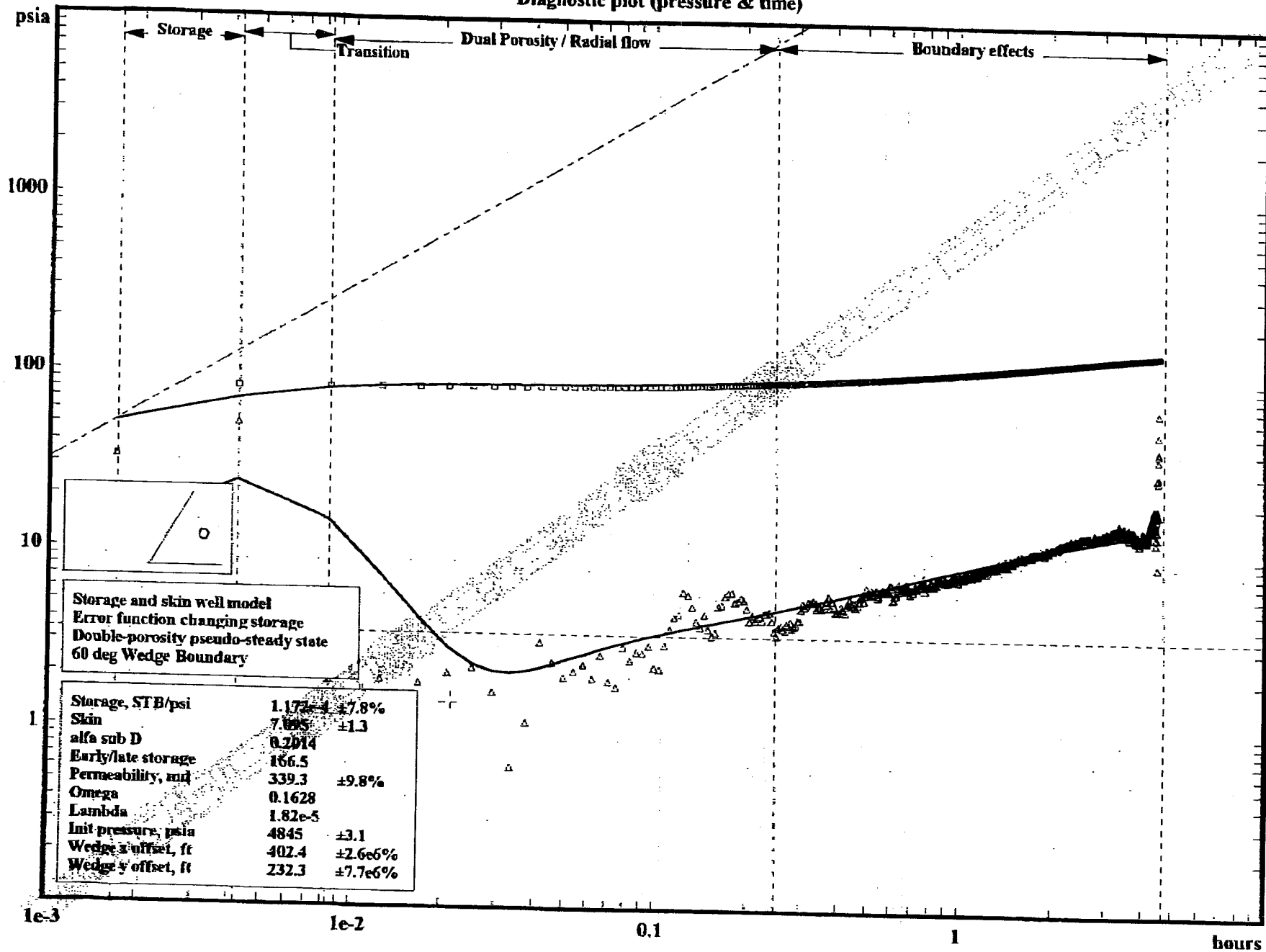
NOV-21-2006 13:20

RIG
TESTERS, INC.

P.13/16

COG OPERATING LLC. WEST PEARL "36" STATE #1

Diagnostic plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

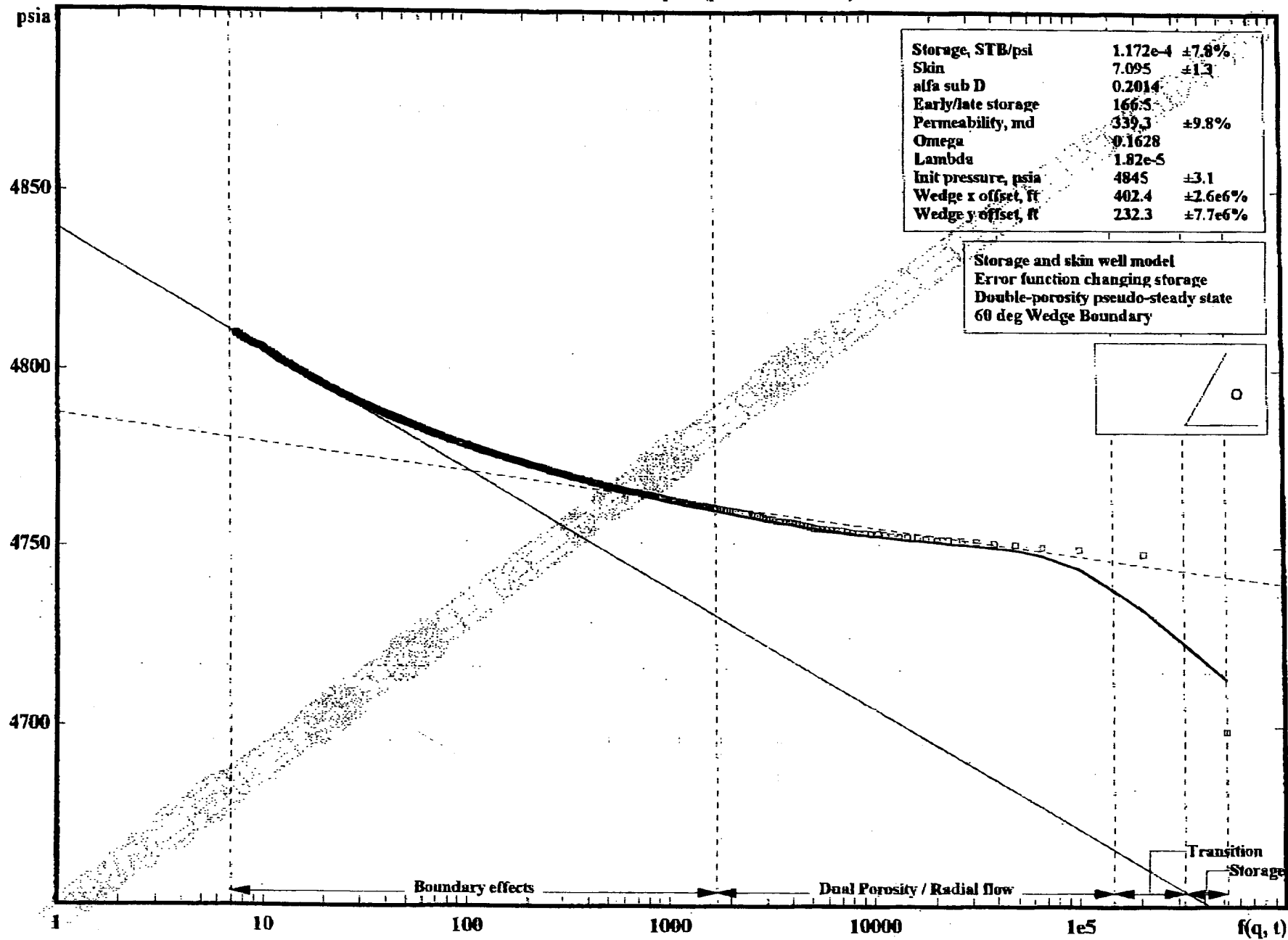


NOV-21-2006 13:20

P.14/15

COG OPERATING LLC. WEST PEARL "36" STATE #1

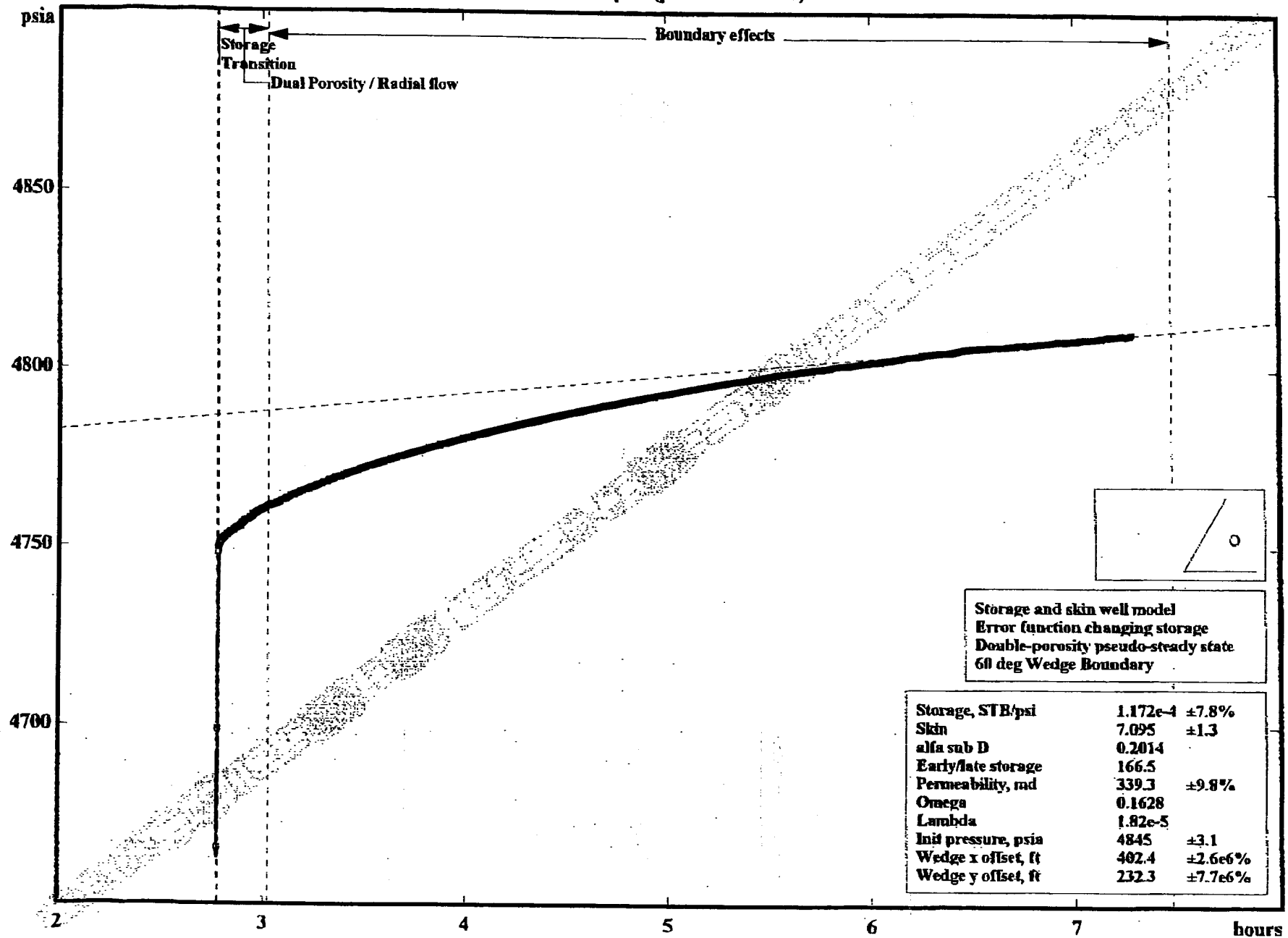
Variable rate Horner plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL

COG OPERATING LLC. WEST PEARL "36" STATE #1

Cartesian plot (pressure & time)



FINAL SHUT-IN PERIOD DST#1 REGRESSION VERIFIED MODEL