REPORT NO.
17134F DST 1

PAGE NO. 1

TEST DATE:
27-May-1987

WELL PERFORMANCE TESTING™ REPORT

A Production System Analysis (NODAL™)
Based On Model Verified™ Interpretation

FLOPETROL JOHNSTON
Schlumberger

Company: FORAN OIL COMPANY

Well: CAUDILL #1

TEST IDENTIFICATION

Test Type	MFE OH DST
Test No.	One
Formation	Strawn
Test Interval (ft)	11540 to 11599
Reference Depth	Kelly Bushing

WELL LOCATION

Field	E.Lovington W/C
County	Lea
State	New Mexico
Sec/Twn/Rng	8/ 16s/ 37e
Elevation (ft)	n/a

HOLE CONDITIONS

Total Depth (MD/TVD) (ft)	11599
Hole Size (in)	7 7/8
Casing/Liner I.D. (in)	--
Perf'd Interval/Net Pay (ft)	-- / 24
Shot Density/Diameter (in)	--

MUD PROPERTIES

Mud Type	LSND
Mud Weight (lb/gal)	8.7
Mud Resistivity (ohm.m)	1.7 at 65 F
Filtrate Resistivity (ohm.m)	--
Filtrate Chlorides (ppm)	1,200

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi)	5328
Gas Cushion Type	None
Surface Pressure (psi)	--
Liquid Cushion Type	Fresh Water
Cushion Length (ft)	985

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in)	10802 / 3.83
Collar Length (ft)/I.D. (in)	702 / 2.25
Packer Depths (ft)	11534, 11540
Bottomhole Choke Size (in)	15/16
Gauge Depth (ft)/Type	11593 / J-200

NET PIPE RECOVERY

Volume	Fluid Type	Properties
Reversed to	tank:	
985 feet	Cushion	500 PPM
20.4 Bbls	Oil	44.7 API at 60 F
9.1 Bbls	Water	Rw 0.26 at 65 F
		24,000 PPM

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
3.33 SCF	Gas	Corrected to Pwf
380 cc	Oil	44.7 API at 60 F
1140 cc	Water	Rw 0.26 at 65 F
		24,000 PPM
Pressure: 2300	GOR: 1393	GLR: 348

INTERPRETATION RESULTS

Model of Behavior	Homogeneous
Fluid Type Used for Analysis	Water and Oil
Reservoir Pressure (psi)	3419
Transmissibility (md.ft/cp)	225.06
Effective Permeability (md)	2.34
Skin Factor/Damage Ratio	-0.66 / 0.87
Storativity Ratio	--
Interporosity Flow Coeff.	--
Distance to an Anomaly (ft)	--
Radius of Investigation (ft)	63
Potentiometric Surface (ft)	

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API)	44.7
Basic Solids (%)	
Gas Gravity	0.65 (est)
Water Cut (%)	75 (sampler)
Viscosity (cp)	0.25
Total Compressibility (1/psi)	2.4 E-05
Porosity (%)	12
Reservoir Temperature (F)	175
Form.Vol.Factor (bbl/STB)	1.68

PRODUCTION RATE DURING TEST: 407 Bbls/day

COMMENTS:

The results of the interpretation indicate that the well is in an apparent homogeneous system with fair effective permeability and with no wellbore damage at the time and conditions of the test. The NODAL(tm) analysis indicates that the optimum shot density is about 6 SPF.

WELL TEST INTERPRETAT / REPORT #:17134F DST 1 CLIENT : FORAN OIL COMPANY		PAGE: 1 28-MAY-87
REGION :W.T.D. DISTRICT:Hobbs BASE :Midland Engr :Brooks / DJS	SEQUENCE OF EVENTS	Field:E.Lovington W/C Zone :Strawn Well :Caudill #1 Location:8/ 16s/ 37e

EVENT NO.	DATE	TIME (HR:MIN)	DESCRIPTION	ELAPSED TIME (HR:MIN)	BHP (PSIA)	WHP (PSIG)
1	27-MAY	17:19	SET PACKER. Hydrostatic		5327.7	
2		17:21	START FLOW, Bubble hose	0:01	802.7	
3			Strong initial blow			
4		17:25		0:05		10.00
5						
6		17:29	END FLOW & START SHUT-IN	0:10	862.3	35.00
7						
8			Gas to surface			
9						
10		18:30	END SHUT-IN	1:11	3289.5	
11		18:31	START FLOW, 1/4" choke	1:11	857.7	6.00
12		18:36		1:16		6.5
13		18:41		1:21		7.00
14		18:46		1:26		9.00
15		18:51		1:31		14.00
16		18:56		1:36		25.00
17		19:01		1:41		30.00
18		19:06		1:46		36.00
19		19:11		1:51		37.00
20		19:16		1:56		37.00
21		19:21		2:01		35.00
22		19:26		2:06		34.00
23						
24		19:32	END FLOW & START SHUT-IN	2:13	1573.0	33.00
25						
26		21:33	END SHUT-IN	4:14	3318.8	
27		21:35	PULLED LOOSE. Hydrostatic	4:15	5291.0	
28						
29		22:08	Start reversing	4:48		300.00
30		24:00	Finish reversing	6:40		

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WELL PERFORMANCE
Maximum Pumping Rates, S= 0

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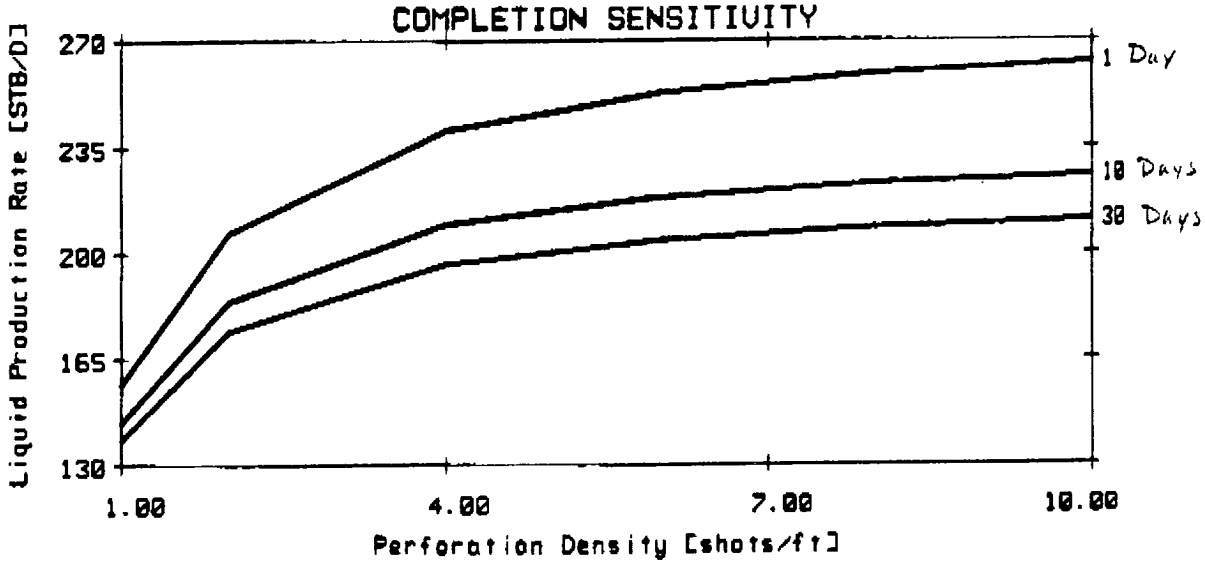
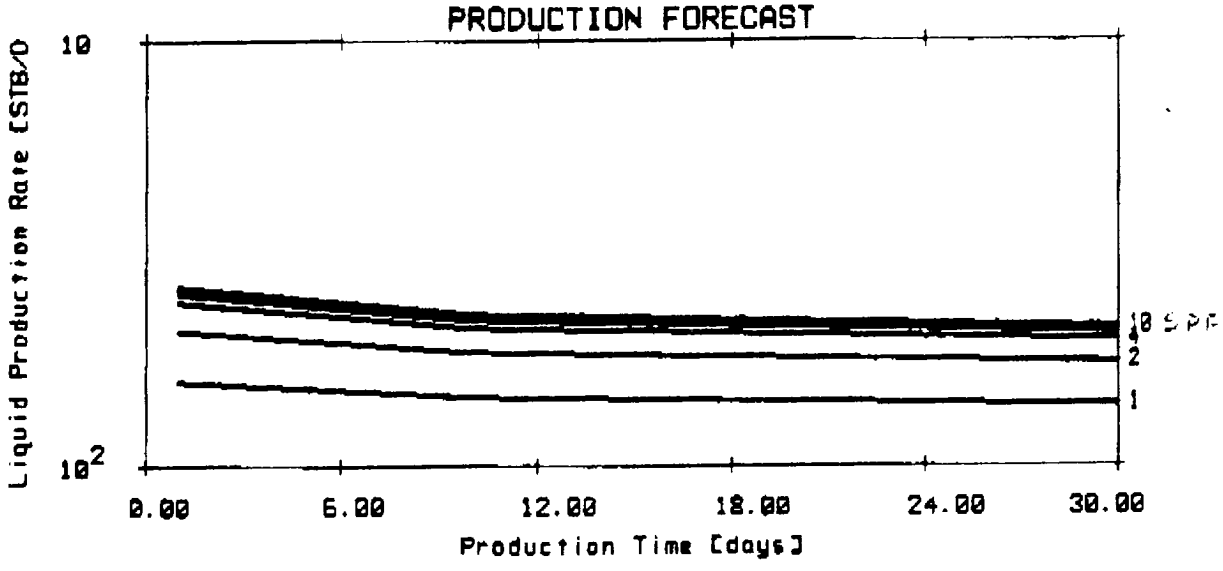
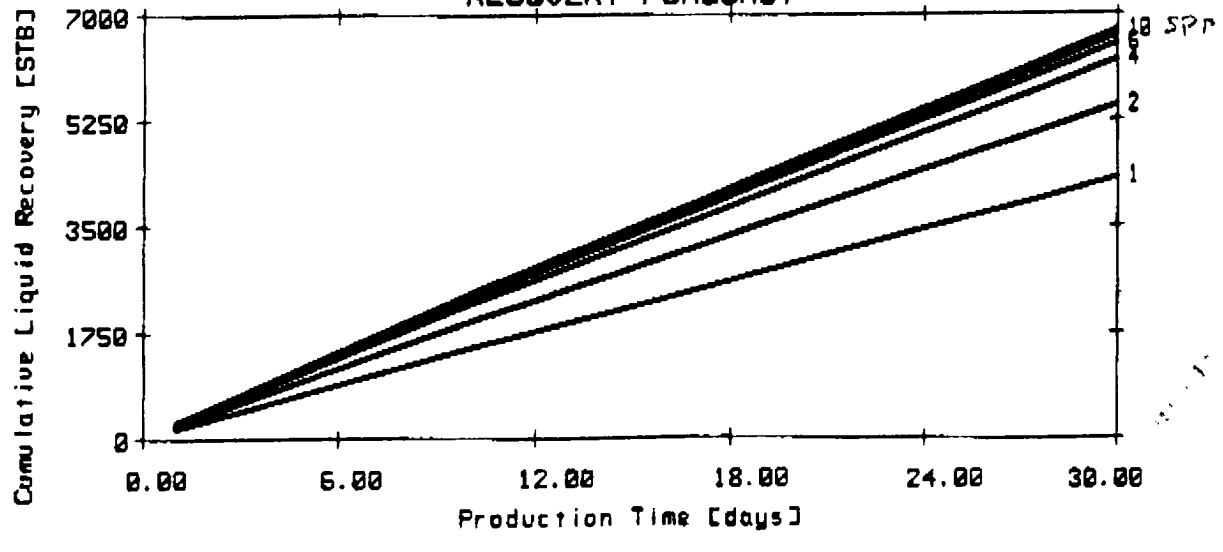
COMPLETION SENSITIVITY

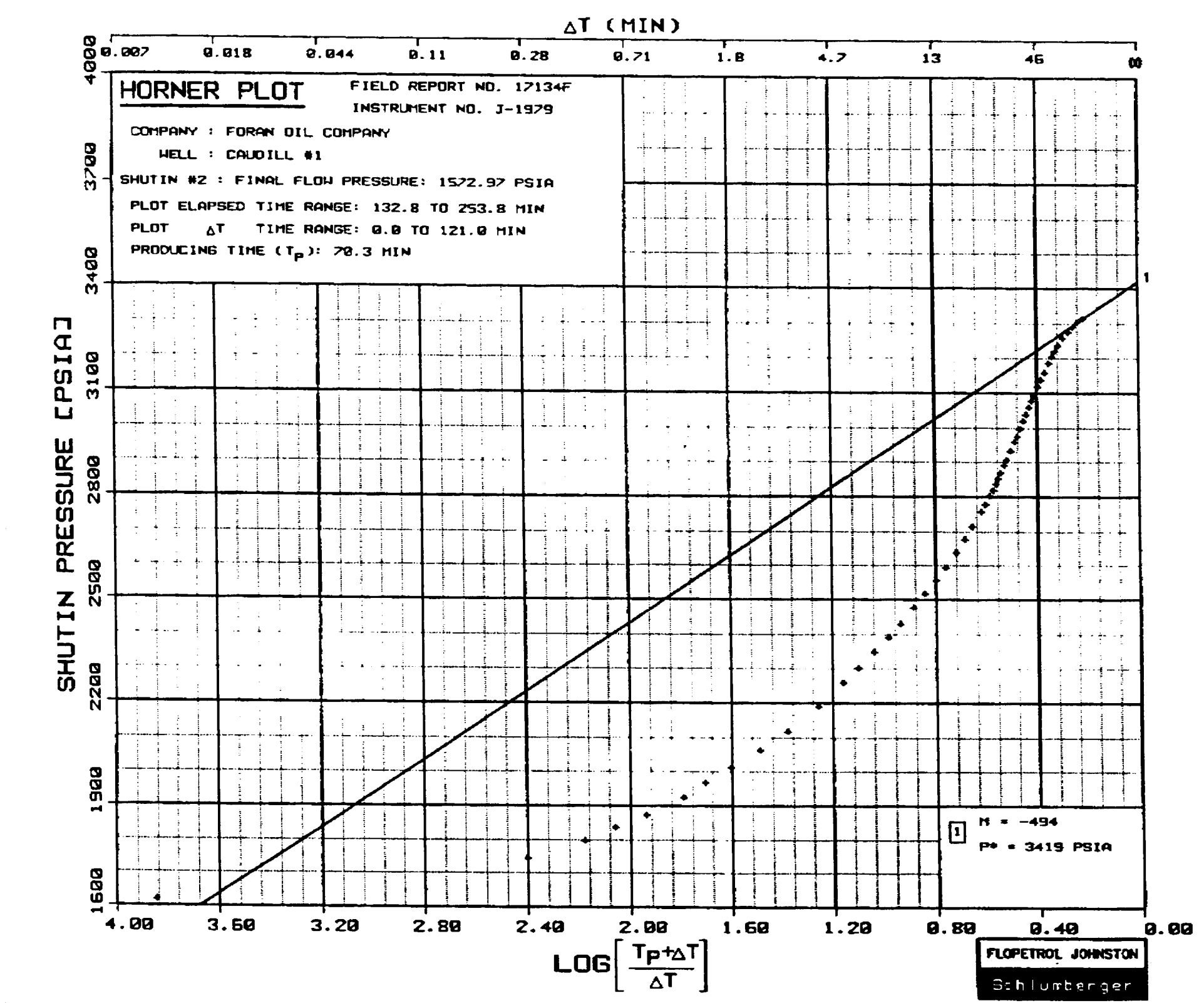


PRODUCTION FORECAST



RECOVERY FORECAST

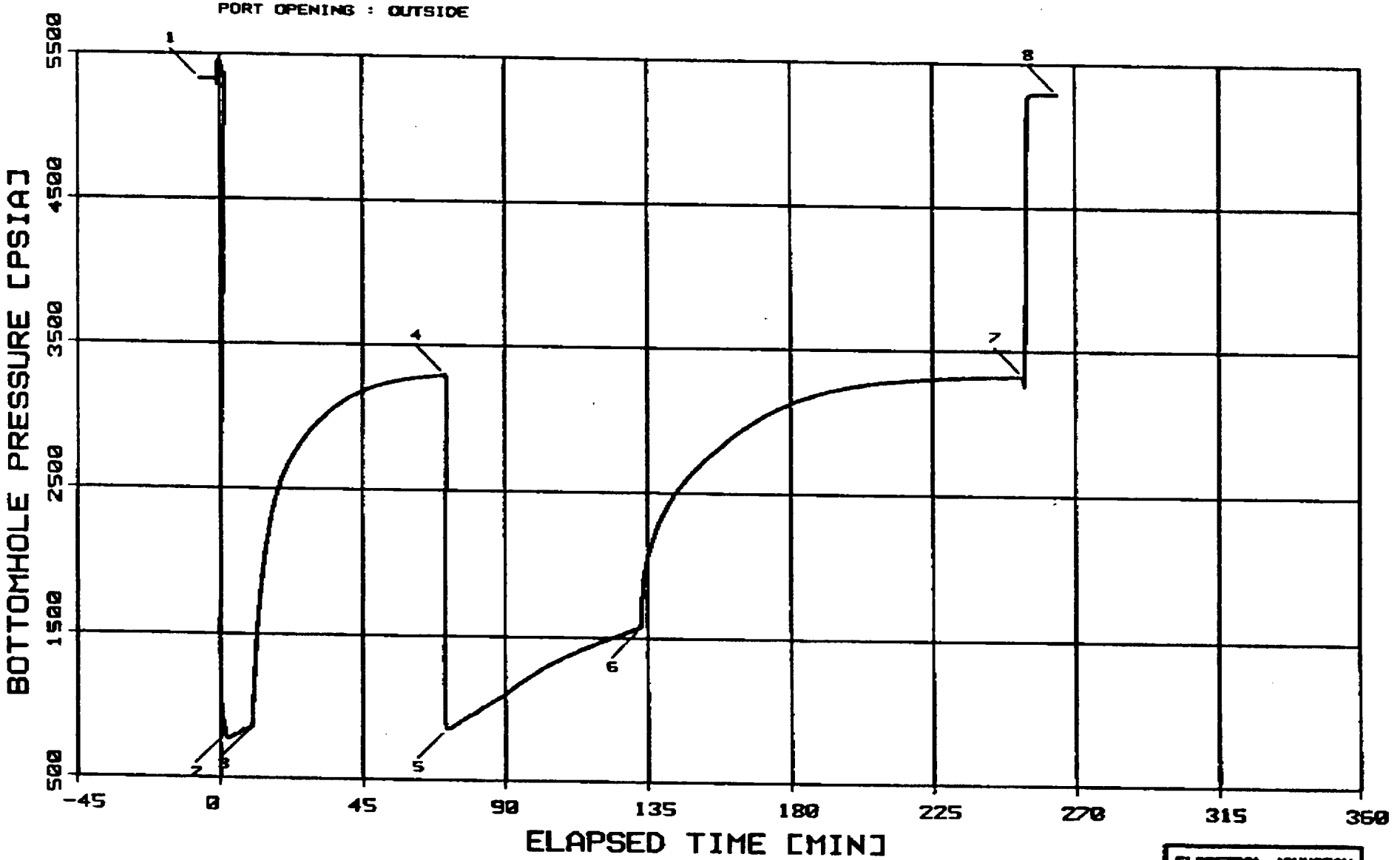



ΔT (MIN)
0.007
0.018
0.044
0.11
0.28
0.71
1.8
4.7
13
46
00
HORNER PLOT
FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979
COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1
SHUTIN #2 : FINAL FLOW PRESSURE: 1572.97 PSIA
PLOT ELAPSED TIME RANGE: 132.8 TO 253.8 MIN
PLOT ΔT TIME RANGE: 0.0 TO 121.0 MIN
PRODUCING TIME (Tp): 70.3 MIN
SHUTIN PRESSURE [PSIA]
4000
3700
3400
3100
2800
2500
2200
1900
1600
1
1 M = -494
P* = 3419 PSIA
4.00
3.60
3.20
2.80
2.40
2.00
1.60
1.20
0.80
0.40
0.00
LOG[(Tp+ΔT)/ΔT]
FLOPETROL JOHNSTON
Schlumberger

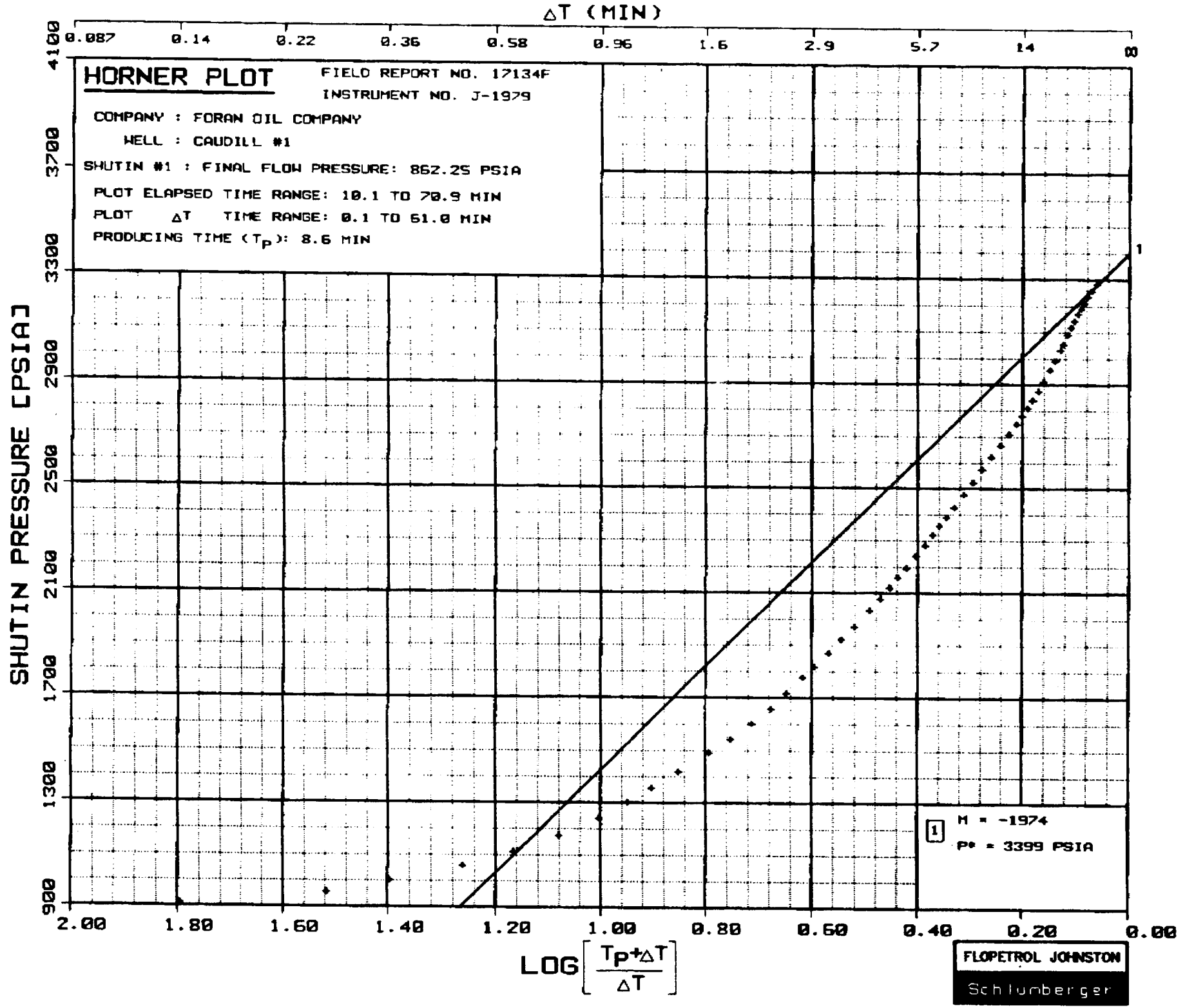
BOTTOMHOLE PRESSURE LOG

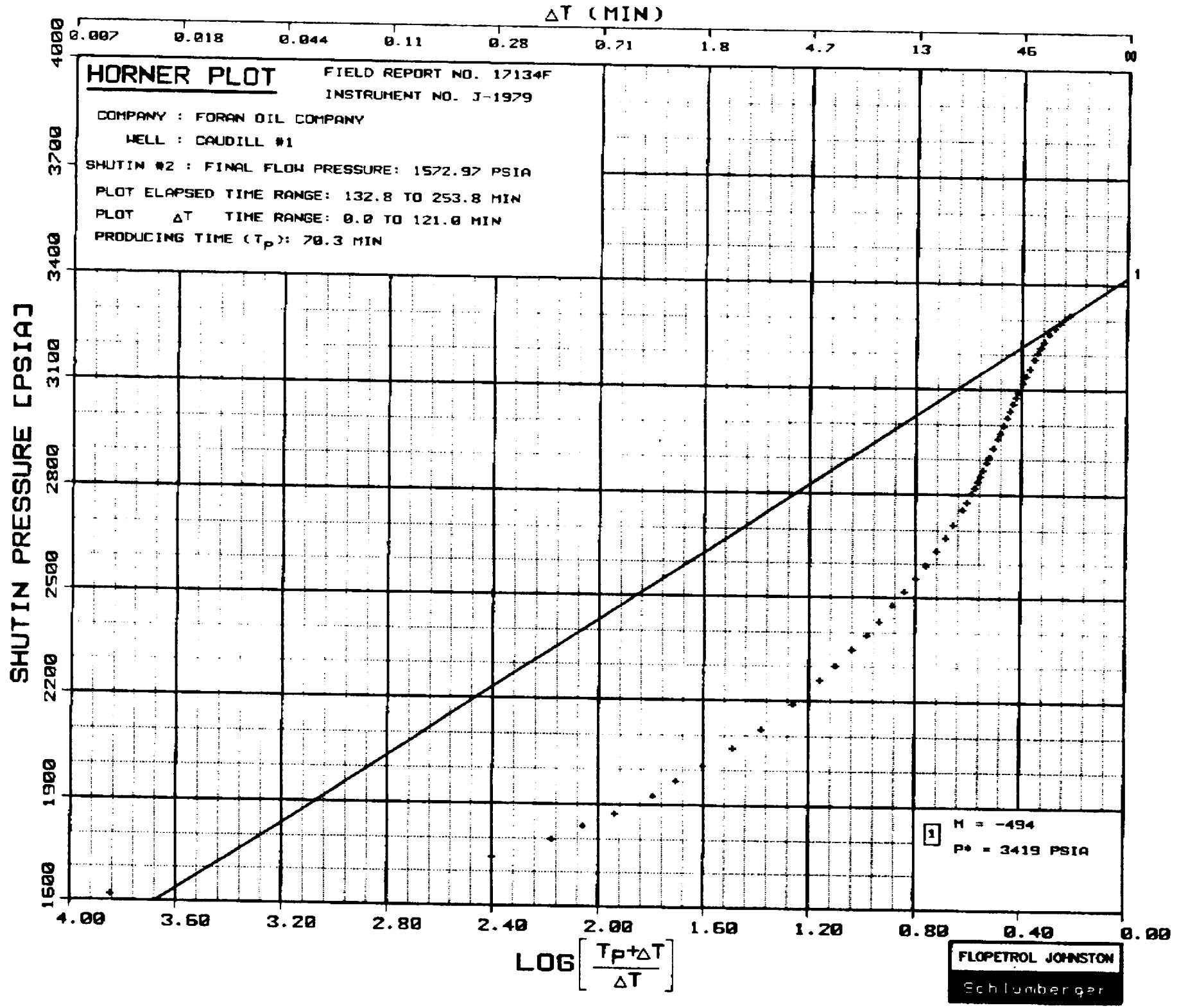
FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979
DEPTH : 11593 FT
CAPACITY : 9000 PSI
PORT OPENING : OUTSIDE

COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1



FLOPETROL JOHNSTON

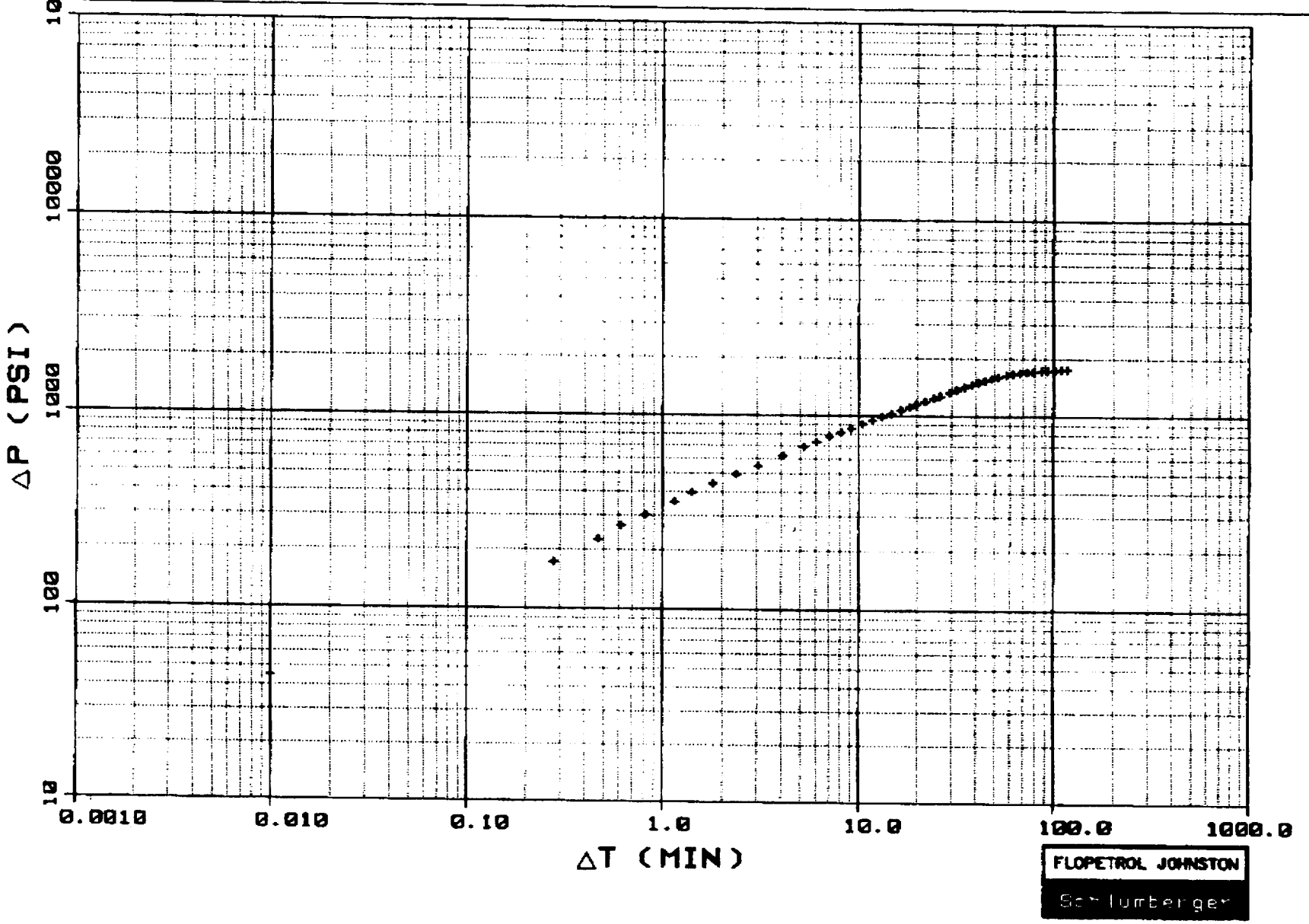

ΔT (MIN)
0.087
0.14
0.22
0.36
0.58
0.96
1.6
2.9
5.7
14
∞
HORNER PLOT
FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979
COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1
SHUTIN #1 : FINAL FLOW PRESSURE: 862.25 PSIA
PLOT ELAPSED TIME RANGE: 10.1 TO 70.9 MIN
PLOT ΔT TIME RANGE: 0.1 TO 61.0 MIN
PRODUCING TIME (T_p): 8.6 MIN
SHUTIN PRESSURE [PSIA]
4100
3700
3300
2900
2500
2100
1700
1300
900
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG[(Tp+ΔT)/ΔT]
1
1
M = -1974
P* = 3399 PSIA
FLOPETROL JOHNSTON
Schlumberger


HORNER PLOT
FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979
COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1
SHUTIN #2 : FINAL FLOW PRESSURE: 1572.97 PSIA
PLOT ELAPSED TIME RANGE: 132.8 TO 253.8 MIN
PLOT ΔT TIME RANGE: 0.0 TO 121.0 MIN
PRODUCING TIME (Tp): 70.3 MIN
ΔT (MIN)
0.007
0.018
0.044
0.11
0.28
0.71
1.8
4.7
13
46
∞
SHUTIN PRESSURE [PSIA]
4000
3700
3400
3100
2800
2500
2200
1900
1600
4.00
3.60
3.20
2.80
2.40
2.00
1.60
1.20
0.80
0.40
0.00
LOG [Tp+ΔT / ΔT]
1
M = -494
P* = 3419 PSIA
FLOPETROL JOHNSTON
Schlumberger

LOG LOG PLOT

COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1
FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979

SHUTIN #2 :
FINAL FLOW PRESSURE (PWF): 1572.97 PSIA
PLOT ELAPSED TIME RANGE: 132.8 TO 253.8 MIN
PLOT ΔT TIME RANGE: 0.0 TO 121.0 MIN



TEST PHASE : FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
17:21:19	27-MY	1.31	0.00	803
17:26:19	27-MY	6.31	5.00	826
17:29:55	27-MY	9.92	8.61	862

TEST PHASE : SHUTIN PERIOD # 1
FINAL FLOW PRESSURE [PSIA] = 862
PRODUCING TIME [MIN] = 8.61

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
17:29:55	27-MY	9.92	0.00	862	0	
17:30:55	27-MY	10.92	1.00	1260	398	0.983
17:31:55	27-MY	11.92	2.00	1582	720	0.725
17:32:55	27-MY	12.92	3.00	1830	968	0.588
17:33:55	27-MY	13.92	4.00	2017	1155	0.499
17:34:55	27-MY	14.92	5.00	2163	1301	0.435
17:35:55	27-MY	15.92	6.00	2278	1416	0.386
17:36:55	27-MY	16.92	7.00	2378	1516	0.348
17:37:55	27-MY	17.92	8.00	2459	1596	0.317
17:38:55	27-MY	18.92	9.00	2529	1666	0.292
17:39:55	27-MY	19.92	10.00	2590	1728	0.270
17:41:55	27-MY	21.92	12.00	2681	1819	0.235
17:43:55	27-MY	23.92	14.00	2755	1893	0.208
17:45:55	27-MY	25.92	16.00	2818	1956	0.187
17:47:55	27-MY	27.92	18.00	2875	2013	0.170
17:49:55	27-MY	29.92	20.00	2928	2065	0.155
17:51:55	27-MY	31.92	22.00	2971	2109	0.143
17:53:55	27-MY	33.92	24.00	3013	2150	0.133
17:55:55	27-MY	35.92	26.00	3049	2187	0.124
17:57:55	27-MY	37.92	28.00	3083	2221	0.116
17:59:55	27-MY	39.92	30.00	3112	2250	0.110
18: 4:55	27-MY	44.92	35.00	3170	2308	0.096
18: 9:55	27-MY	49.92	40.00	3212	2350	0.085
18:14:55	27-MY	54.92	45.00	3242	2379	0.076
18:19:55	27-MY	59.92	50.00	3262	2400	0.069
18:24:55	27-MY	64.92	55.00	3276	2414	0.063
18:29:55	27-MY	69.92	60.00	3288	2425	0.058
18:30:53	27-MY	70.88	60.96	3290	2427	0.057

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
18:31: 8	27-MY	71.14	0.00	858
18:36: 8	27-MY	76.14	5.00	916
18:41: 8	27-MY	81.14	10.00	982
18:46: 8	27-MY	86.14	15.00	1051
18:51: 8	27-MY	91.14	20.00	1122
18:56: 8	27-MY	96.14	25.00	1200
19: 1: 8	27-MY	101.14	30.00	1270
19: 6: 8	27-MY	106.14	35.00	1332
19:11: 8	27-MY	111.14	40.00	1385
19:16: 8	27-MY	116.14	45.00	1433
19:21: 8	27-MY	121.14	50.00	1476
19:26: 8	27-MY	126.14	55.00	1515
19:31: 8	27-MY	131.14	60.00	1550
19:32:50	27-MY	132.83	61.69	1573

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1573
PRODUCING TIME [MIN] = 70.30

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
19:32:50	27-MY	132.83	0.00	1573	0	
19:33:50	27-MY	133.83	1.00	1900	327	1.853
19:34:50	27-MY	134.83	2.00	2029	456	1.558
19:35:50	27-MY	135.83	3.00	2111	538	1.388
19:36:50	27-MY	136.83	4.00	2182	609	1.269
19:37:50	27-MY	137.83	5.00	2244	671	1.178
19:38:50	27-MY	138.83	6.00	2297	724	1.104
19:39:50	27-MY	139.83	7.00	2343	770	1.043
19:40:50	27-MY	140.83	8.00	2385	812	0.991
19:41:50	27-MY	141.83	9.00	2422	849	0.945
19:42:50	27-MY	142.83	10.00	2459	886	0.905
19:44:50	27-MY	144.83	12.00	2522	949	0.836
19:46:50	27-MY	146.83	14.00	2575	1002	0.780
19:48:50	27-MY	148.83	16.00	2624	1051	0.732
19:50:50	27-MY	150.83	18.00	2670	1097	0.691
19:52:50	27-MY	152.83	20.00	2716	1143	0.655
19:54:50	27-MY	154.83	22.00	2755	1182	0.623
19:56:50	27-MY	156.83	24.00	2793	1220	0.594
19:58:50	27-MY	158.83	26.00	2831	1258	0.569
20: 0:50	27-MY	160.83	28.00	2868	1295	0.545
20: 2:50	27-MY	162.83	30.00	2901	1328	0.524
20: 7:50	27-MY	167.83	35.00	2975	1402	0.478
20:12:50	27-MY	172.83	40.00	3042	1469	0.441
20:17:50	27-MY	177.83	45.00	3096	1523	0.409

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1573
PRODUCING TIME [MIN] = 70.30

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
20:22:50	27-MY	182.83	50.00	3141	1568	0.381
20:27:50	27-MY	187.83	55.00	3177	1604	0.368
20:32:50	27-MY	192.83	60.00	3207	1634	0.337
20:37:50	27-MY	197.83	65.00	3232	1659	0.318
20:42:50	27-MY	202.83	70.00	3249	1676	0.302
20:47:50	27-MY	207.83	75.00	3265	1692	0.287
20:52:50	27-MY	212.83	80.00	3276	1703	0.274
20:57:50	27-MY	217.83	85.00	3285	1712	0.262
21: 2:50	27-MY	222.83	90.00	3293	1720	0.251
21: 7:50	27-MY	227.83	95.00	3300	1727	0.241
21:12:50	27-MY	232.83	100.00	3306	1733	0.231
21:17:50	27-MY	237.83	105.00	3310	1737	0.223
21:22:50	27-MY	242.83	110.00	3314	1741	0.215
21:27:50	27-MY	247.83	115.00	3315	1742	0.207
21:32:50	27-MY	252.83	120.00	3319	1746	0.200
21:33:47	27-MY	253.79	120.96	3319	1746	0.199

****
* WELL TEST DATA PRINTOUT *
****

FIELD REPORT # : 17134F

COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1

INSTRUMENT # : J-1979
CAPACITY [PSI] : 9000.
DEPTH [FT] : 11593.0
PORT OPENING : OUTSIDE
TEMPERATURE [DEG F] : 175.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
1	17:13:40	27-MY	HYDROSTATIC MUD	-6.34	5328
2	17:21:19	27-MY	START FLOW	1.31	803
3	17:29:55	27-MY	END FLOW & START SHUT-IN	9.92	862
4	18:30:53	27-MY	END SHUT-IN	70.88	3290
5	18:31: 8	27-MY	START FLOW	71.14	858
6	19:32:50	27-MY	END FLOW & START SHUT-IN	132.83	1573
7	21:33:47	27-MY	END SHUT-IN	253.79	3319
8	21:44:29	27-MY	HYDROSTATIC MUD	264.48	5291

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	1.31	9.92	8.61	803	862
2	71.14	132.83	61.69	858	1573

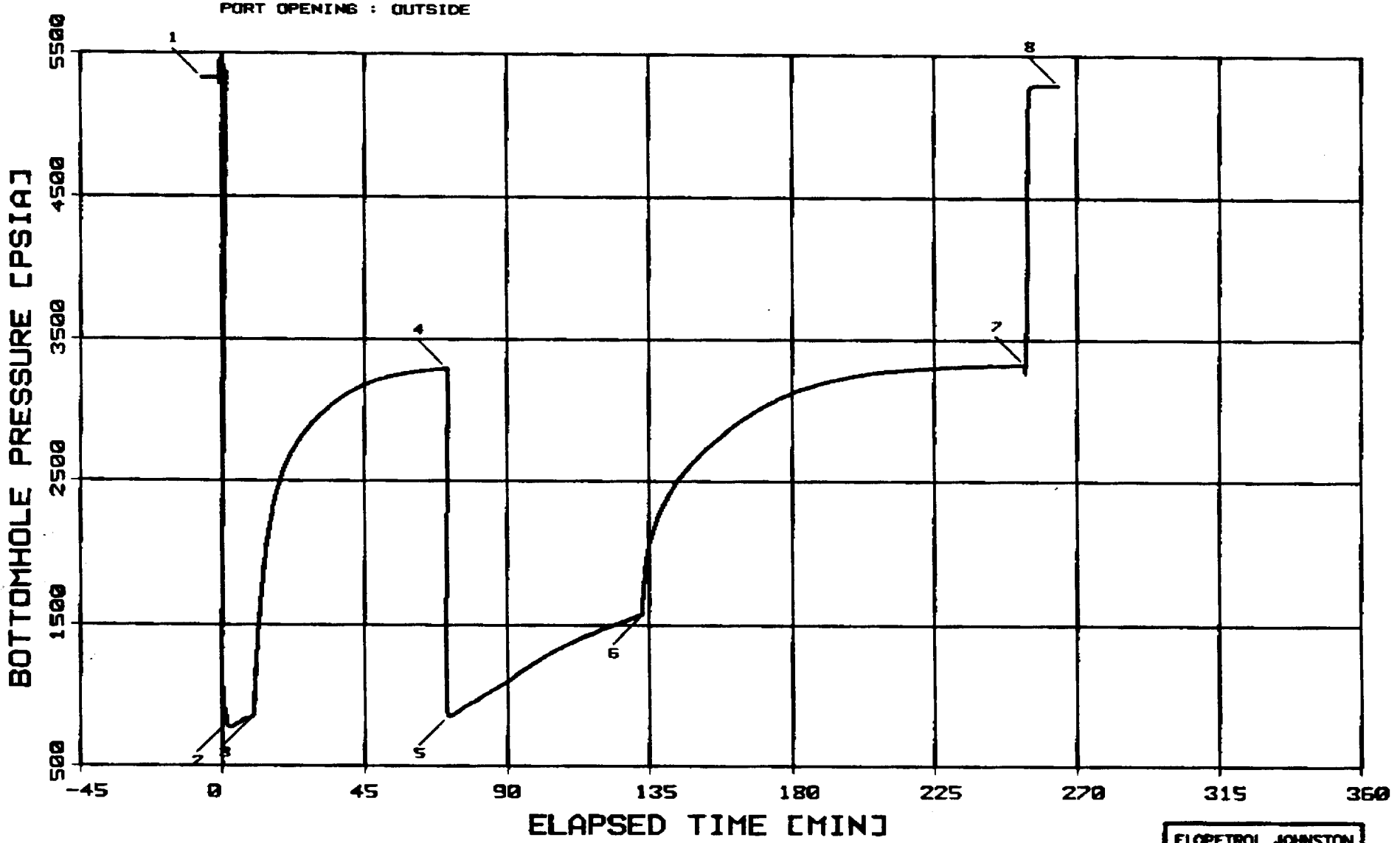
SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	9.92	70.88	60.96	862	3290	862	8.61
2	132.83	253.79	120.96	1573	3319	1573	70.30

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 17134F
INSTRUMENT NO. J-1979
DEPTH : 11593 FT
CAPACITY : 9000 PSI
PORT OPENING : OUTSIDE

COMPANY : FORAN OIL COMPANY
WELL : CAUDILL #1



FLOPETROL JOHNSTON