

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION OR RECOMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL HISTORY

Operator: License # 5208
Name MOBIL OIL CORPORATION
Address P.O. BOX 5444
City/State/Zip DENVER, COLORADO 80217

Purchaser SOLD ON SPOT MARKET---TRANSPORTED BY
TA'D

Operator Contact Person B. R. MAYNARD
Phone (303) 298-2069

Contractor: License # 9137
Name UNIT DRILLING & EXPLORATION

Wellsite Geologist D. OSWEILER
Phone (303) 298-2391

Designate Type of Completion
XX New Re-Entry Workover
 Oil SWD XX Temp Abd
 Gas Inj Delayed Comp.
 Dry Other (Core, Water Supply, etc.)

If **DNWD**: old well info as follows;
Operator _____
Well Name _____
Comp. Date _____

WELL HISTORY

Drilling Method:
XX Mud Rotary Air Rotary Cable
7-15-88 7-24-88 TA'D 10-18-88
Spud Date Date Reached TD Completion Date
6800' 6644'
Total Depth PBD ABI

Amount of Surface Pipe Set and Cemented at 1771 feet
Multiple Stage Cementing Collar Used? XX Yes No
If yes, show depth set 3009 feet
If alternate 2 completion, cement circulated
from _____ feet depth to _____ w/ _____ SX cat
Cement Company Name _____
Invoice # _____

API No. 15- 189-21219-00-00

COUNTY STEVENS
W2 SW Sec 3 Twp 34S Rge 38 XX East West

1370 Ft North from Southeast Corner of Section
4631 Ft West from Southeast Corner of Section
(Note: Locate well in section plat below)

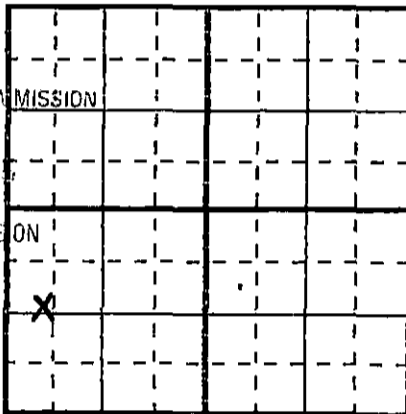
Lease Name BROOKS #1 UNIT WELL # 4

Field Name WILDCAT

Producing Formation ST. LOUIS

Elevation: Ground 3215' KB 3230'

SECTION PLAT



WATER SUPPLY INFORMATION

Disposition of Produced Water: Disposal
Docket # TA'D Repressuring

Questions on this portion of ACO-1 call:
Water Resources Board (913) 296-3717

Source of Water:
Division of Water Resources Permit# T 88-344

XX Groundwater 1405' Ft. North from Southeast Corner
(well) 4796' Ft. West from Southeast Corner of
Sec 3 Twp 34S Rge 38 East X West

 Surface Water Ft. North from Southeast Corner
(Stream, pond etc) Ft. West from Southeast Corner
Sec Twp Rge East West

 Other (explain) _____
(purchased from city, R.W.D. #)

INSTRUCTIONS: This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107, and 82-3-106 apply.

Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form. See rule 82-3-107 for confidentiality in excess of 12 months.

One copy of all wireline logs and drillers time log shall be attached with this form. Submit cp-4 form with all plugged wells. Submit cp-111 form with all temporarily abandoned wells.

All requirements of statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature B. R. Maynard B. R. MAYNARD

Title REGULATORY COMPLIANCE MANAGER Date 11/15/88

Subscribed and sworn to before me this 15th day of November

Notary Public Joyce George

Date Commission Expires 1/3/91

K.C.C. OFFICE USE ONLY

F Letter of Confidentiality Attached
C ✓ Wireline Log Received
C Drillers Timelog Received
Distribution
✓ KCC SWD/Rep NGPA
✓ KGS Plug Other
(Specify)

11-17-88

SIDE TWO

Operator Name MOBIL OIL CORPORATION Lease Name BROOKS #1 UNIT Well # 4

Sec 3 Twp 34S Rge 38 East West County STEVENS

WELL LOG

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken Yes No
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No

Formation Description
 Log Sample

Name	Top	Bottom
STONE CORRAL		1784'
CHASE	2594'	
COUNCIL GROVE	2940'	
ADMIRE	3200'	
WABAUNSEE	3376'	
SHAMNEE	3754'	
LANSING	4252'	
KANSAS CITY	4590'	
MARMATON	5044'	
CHEROKEE	5298'	
MORROW	5802'	
CHESTER	6290'	
STE. GENEVIEVE	6460'	
ST. LOUIS	6582'	

CASING RECORD

New Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (in. O.D.)	Weight Lbs/Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4"	8-5/8"	24#	1771'	CL C	615 SX	65:35:6 +3% CaCl ₂
					CL C	160 SX	+2% CaCl ₂
Production	7-7/8"	5-1/2"	14#	6800'	CL H	400 SX	50:50:2
					CL H	375 SX	50:50:2 +2% CaCl ₂

PERFORATION RECORD

Acid, Fracture, Shot, Cement Squeeze Record
 (Amount and Kind of Material Used)

Shots Per Foot	Specify Footage of Each Interval Perforated	Depth
4 SPF	6590'-6594'	6590'-
4 SPF	6650'-6653'	
4 SPF	6656'-6661'	
4 SPF	6698'-6708'	6708' OA

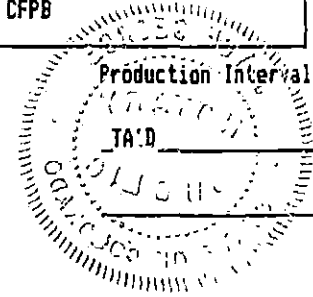
TUBING RECORD Size 2-7/8" Set At 6620' Packer At NONE Liner Run Yes No

Date of First Production TA'D Producing Method Flowing Pumping Gas Lift Other (explain) _____

Estimated Production Per 24 Hours	Oil	Gas	Water	Gas-Oil Ratio	Gravity
	<u>TA'D</u> Bbls	_____ MCF	_____ Bbls	_____ CFPB	

METHOD OF COMPLETION

Disposition of gas: Vented Open Hole Perforation
 Sold Other (Specify) _____
 Used on Lease Dually Completed
 Comingled



MOBIL OIL CORPORATION

DRILLING COMPLETION SUMMARY

WELL: BROOKS 1 UT 4 MATCH NUMBER: 881059
API: 1518921219
WELL TYPE: DEVELOPMENT
COORDINATES: 1370' FSL 4631' FEL
SECTION: 3-34S-38W FIELD: KS OUTPOST
COUNTY: STEVENS STATE: KS
WELL SPUDDED: 88 JUL 15
REACHED TD: 88 JUL 23
RIG RELEASE: 88 JUL 24
GROUND ELEVATION: 3215
KB ELEVATION: 3230
OBJECTIVE: LOWER MORROW
PROD. CASING DEPTH: 0

ADDITIONAL COMMENTS

11/15/88

RECEIVED
MOBIL OIL CORPORATION COMMISSION

NOV 17 1988

CONSERVATION DIVISION
Wichita, Kansas

OPERATOR: MOBIL OIL CORPORATION
FIELD: KS OUTPOST COUNTY: STEVENS
WELL: BROOKS 1 UT 4 SECTION: 3-34S-38W
API NO. 1518921219

DATE	REMARKS
----	-----
88 JUL 15	SPUD WELL; DRILLED FROM 76' TO 1774' CIRC & COND MUD TO RUN CSG DROP SURVEY; POH; LD DC'S SERVICE RIG RU CSG CREW; RUN 8-5/8" CSG; SET AT 1771' CIRC & COND MUD TO CEMENT RU HOWCO & CEMENT 8-5/8" CSG RD HOWCO; PULL FLO NIPPLE; CUT OFF & WELD ON CSG HEAD NU BOP'S; TEST BLINDS & CHOKE MANIFOLD 1500#-OK PU BH DC & TIH
88 JUL 16	TEST PIPE-1500#; HYDRIL-1000#-OK DRILL FLOAT & CEMENT; TEST SHOE JT-1000#-OK; DRILL CMT DRILLED FROM 1774' TO 1784' FORMATION INTEGRITY TEST TO 13.0# EMW-OK DRILLED FROM 1784' TO 2205' DRILLED FROM 2205' TO 2305' SERVICE RIG DRILLED FROM 2305' TO 2654' SURVEYED DRILLED FROM 2654' TO 2843' SERVICE RIG DRILLED FROM 2843' TO 3290'; LOST CIRC 3145' TO 3160' SERVICE RIG DRILLED FROM 3290' TO 3680'; LOST CIRC 3568' TO 3624'
88 JUL 17	DRILLED FROM 3680' TO 3740' SERVICE RIG DRILLED FROM 3740' TO 4140' SERVICE RIG DRILLED FROM 4140' TO 4487' SERVICE RIG DRILLED FROM 4487' TO 4812'
88 JUL 18	DRILLED FROM 4812' TO 4860'; LOST CIRC; PARTIAL RETURNS SERVICE RIG DRILLED FROM 4860' TO 5125' SERVICE RIG DRILLED FROM 5125' TO 5324' DROP SURVEY; TRIP FOR BIT #3
88 JUL 19	WASH & REAM TO BOTTOM 115' DRILLED FROM 5324' TO 5420' -DRILLING FROM 5420'-5453' SERVICE RIG

OPERATOR: MOBIL OIL CORPORATION
FIELD: KS OUTPOST COUNTY: STEVENS
WELL: BROOKS 1 UT 4 SECTION: 3-34S-38W
API NO. 1518921219

DATE	REMARKS
88 JUL 19	DRILLING FROM 5453'-5695' SERVICE RIG DRILLING FROM 5695'-5930' SERVICE RIG DRILLING FROM 5930'-6121'
88 JUL 20	DRILLED FROM 6121' TO 6149' SERVICE RIG DRILLED FROM 6149' TO 6237' CIRC FOR SAMPLES AT 6237' DRILLED FROM 6237' TO 6279' CIRC FOR SAMPLES AT 6279' DRILLED FROM 6279' TO 6290' CIRC FOR SAMPLES AT 6290' DRILLED FROM 6290' TO 6315' DROP SURVEY; TRIP FOR BIT #4 DRILLED FROM 6315' TO 6336' SERVICE RIG DRILLED FROM 6336' TO 6459'
88 JUL 21	DRILLED FROM 6459' TO 6474'; PARTIALLY PLUGGED JET SERVICE RIG DRILLED FROM 6474' TO 6610' DRILLED FROM 6610' TO 6618' CIRC FOR SAMPLES; RECEIVED ORDERS TO RUN DST 15 STD SHORT TRIP CIRC AND COND MUD FOR DST DROP SURVEY TOH (SLM) FOR DST-NO CORRECTION
88 JUL 22	PU DST TOOL TIH MU HEAD TESTING DST COMPLETE FINAL FLOW PERIOD; FINAL SHUT IN RELEASE PACKERS AND BREAK MANIFOLD TOH; CHAIN OUT 15 STDS REVERSE CIRCULATE OIL OUT OF DP; RECOVERED 17 BBLS FINISH TOH BREAK DOWN DST TOOL SERVICE RIG LAY DOWN DST TOOL TIH W/BIT #3; BREAK CIRC AT 3140' WASH 27' FILL TO BOTTOM DRILLED FROM 6618' TO 6688' SERVICE RIG

RECEIVED
STATE COMMISSION

JUL 1 1980

CONSERVATION DIVISION
Wichita, Kansas

OPERATOR; MOBIL OIL CORPORATION
FIELD: KS OUTPOST COUNTY: STEVENS
WELL: BROOKS 1 UT 4 SECTION: 3-34S-38W
API NO. 1518921219

DATE REMARKS

88 JUL 22 DRILLED FROM 6688' TO 6800' (TD)

88 JUL 23 5 STD SHORT TRIP
CIRC AND COND HOLE FOR LOGGING
CONT CIRC & COND FOR LOGS
TOH; TIGHT AT 6255'; SHORT TRIP (10 STDS); 16' FILL
CIRC FOR LOGS
TOH FOR LOGS
RU GEARHART & LOG; RUN #1-DIL/SP/GR/BHC SONIC; #2-CNL/FDC/

88 JUL 24 TIH W/9 STDS DC
CUT DRILLING LINE
TIH; BREAK CIRC AT 2710' & 4870'; WASH 32' TO BTM (31' FILL)
CIRC & COND FOR LOGS
CIRC AND COND FOR CSG
POH; LD DP & DC'S; BREAK KELLY
RU TRI-STATE; RUN 5-1/2" CSG; SET AT 6800'
RU WESTERN & CIRC TO CEMENT
CEMENT 5-1/2" CSG; 1ST STAGE
DROP OPENING BOMB; OPEN DV & CIRC
CEMENT 2ND STAGE
ND BOP'S; SET SLIPS; CUT OFF 5-1/2" CSG
JET & CLEAN PITS; RELEASED RIG

OPERATOR: MOBIL OIL CORPORATION
FIELD: KS OUTPOST COUNTY: STEVENS
WELL: BROOKS 1 UT 4 SECTION: 3-34S-38W
API NO. 1518921219

DATE

88 JUL 15 CASING_OD 8-5/8" TOP_CSG 0 SHOE_DEPTH 1771
CMT LEAD W/615 SX CLASS 'C'; 65% C; 35% POZ; 6% GEL; 3% CACL;
CMT TAILED W/160 SX CLASS 'C' W/2% CACL; 1.33 YIELD; 6.32 WATER
CMT REQ; 14.8 SLURRY WT
CMT
CMT
CMT

88 JUL 24 CASING_OD 5-1/2" TOP_CSG 0 SHOE_DEPTH 6800
CMT 1ST STAGE-CEMENTED W/400 SX CLASS 'H' 50:50:2 POZ (2% GEL);
CMT 1.26 YIELD; 5.75 WATER REQ; 14.2 SLURRY WT
CMT
CMT 2ND STAGE-CEMENTED W/375 SX CLASS 'H'; 50:50:2 POZ (2% GEL;
CMT 2% CACL); 1.26 YIELD; 5.75 WATER REQ; 14.2 SLURRY WT
CMT

REPORT NO.
111856

PAGE NO. 1

TEST DATE:
22-JUL-1988

STARTM

A Schlumberger Transient Analysis Report
Based On Model VerifiedTM Interpretation
Of A Schlumberger Drillstem Test

Schlumberger

Company: MOBIL OIL CORP.

Well: BROOKS 1-4

TEST IDENTIFICATION

Test Type MFE OH DST
Test No. 1
Formation ST. LOUIS
Test Interval (ft) ... 6576 - 6618
Reference Depth KELLY BUSHING

WELL LOCATION

Field
County STEVENS
State KANSAS
Sec/Twn/Rng S3T34SR38W
Elevation (ft) 3230

HOLE CONDITIONS

Total Depth (MD/TUD)(ft) . 6618 / 6618
Hole Size (in) 7 7/8
Casing/Liner I.D. (in) ...
Perf'd Interv./Nt Pay(ft). -- / 6
Shot Density/Diameter(in).

MUD PROPERTIES

Mud Type CHEMICAL
Mud Weight (lb/gal) 9.1+
Mud Resistivity (ohm.m) ..
Filtrate Resistiv.(ohm.m).
Filtrate Chlorides (ppm) . 850

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi). 3220
Gas Cushion Type NONE
Surface Pressure (psi) ... --
Liquid Cushion Type NONE
Cushion Length (ft) --

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D.(in). 5715 / 3.83
Collar Length ft/I.D.(in). 820 / 2.25
Packer Depths (ft) 6576
Bottomhole Choke Size(in). 0.94
Gauge Depth (ft)/Type 6611 / MECHANICAL

NET PIPE RECOVERY

Volume	Fluid Type	Properties
13.93 BBLs.	OIL	42 DEG. API @ 60 DEG
2.4 BBLs.	MUD	
REPORTED:		
1835 FT.	HGC OIL	

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
1.6 SCF	GAS	CORRECTED TO PWF
1400 CC	OIL	42 DEG. API @ 60 D
(1.47 SCF)	GAS	AT SURF. CONDITIONS
Press. 500	GOR: 183J	GLR: 183

VALIDATION RESULTS

Model of Behavior SEE COMMENTS BELOW
Fluid Type Used OIL
Reservoir Pressure (psi) . 2002
Transmissivity (md.ft/cp) 321.05
Permeability (md) 72.77
Skin Factor/Damage Ratio . 1.35
Storativity Ratio
Interporosity Flow Coeff..
Distance to Anomaly (ft).
Investigation Radius (ft). 229
Potentiometric Surf. (ft).

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) ... 42
Basic Solids (%) 0
Gas Gravity 0.650
Water Cut (%) 0
Viscosity (cp) 1.360
Isotherm Compress. (1/psi) ... 1.16E-5
Porosity (%) 10
Reservoir Temperature (F). 144
Form.Vol.Factor (bbl/STB). 1.104

RECEIVED
STATE COMMISSION COM
1:00 1 1988
CONSERVATION DIVISION
White, Kansas

PRODUCTION RATE DURING TEST: 364 BOPD

COMMENTS:

THE FINAL SHUT-IN PRESSURE BUILD-UP DATA WAS ANALYZED USING LOG-LOG ANALYSIS TECHNIQUES TO DETERMINE RESERVOIR PARAMETERS OF P*, Kh/u, AND SKIN. ANALYSIS OF THE SHUT-IN DATA INDICATES THE PRESENCE OF WHAT APPEARS TO BE A HETEROGENEOUS SYSTEM, POSSIBLY A MULTI-LAYERED SYSTEM. THE DATA WAS MODEL-VERIFIED (tm) USING A HOMOGENEOUS MODEL, HOWEVER, WITH RELATIVELY GOOD AGREEMENT BETWEEN THE THEORETICAL MODEL RESPONSE AND THE ACTUAL DATA, WITH THE EXCEPTION OF THE PRESSURE DERIVATIVE DATA. THE PRESSURE DERIVATIVE DATA IS RATHER "NOISY", BUT MAY BE INDICATING HETEROGENEITIES, i.e., MULTIPLE LAYERS, A BOUNDARY, ETC. SEE THE ANALYSIS PLOTS IN THE APPENDIX OF THIS REPORT.

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111856

PAGE NO. 2

SEQUENCE OF EVENTS

Schlumberger

EVENT NO.	DATE	TIME (HR:MIN)	DESCRIPTION	ELAPSED TIME (MINS)	BHP (PSIA)	WHP (PSIG)
1	22-JUL	0420	SET PACKERS	-0.49	3220	
2		0422	OPENED TOOL-BUBBLE HOSE	0.02	57	BTM. BUCKT
		0424			5.5 PSIG	
		0425	CLOSED FOR INITIAL SHUT-IN	5.42	306	6.5 PSIG
4		0525	FINISHED SHUT-IN	65.42	2028	
5		0526	RE-OPENED TOOL	66.16	277	GOOD BLOW
		0528				2.0 PSIG
		0529				3 PSIG
		0530				6 PSIG
		0531				9 PSIG
		0532	OPEN TO 3/4" CHOKE			12 PSIG
		0536	GAS TO SURF. - 1/4" CHOKE			
		0538				10 PSIG
		0541				10.5 PSIG
		0550				12 PSIG
		0557	8 - 10 FT. FLARE			13 PSIG
		0559				13 PSIG
		0605				10.5 PSIG
		0625				10 PSIG
6		0626	CLOSED FOR FINAL SHUT-IN	125.34	649	
7		1036	FINISHED SHUT-IN	374.00	1979	
8		1045	PULLED PACKERS LOOSE	384.04	3182	

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 111856

COMPANY : MOBIL OIL CORP.

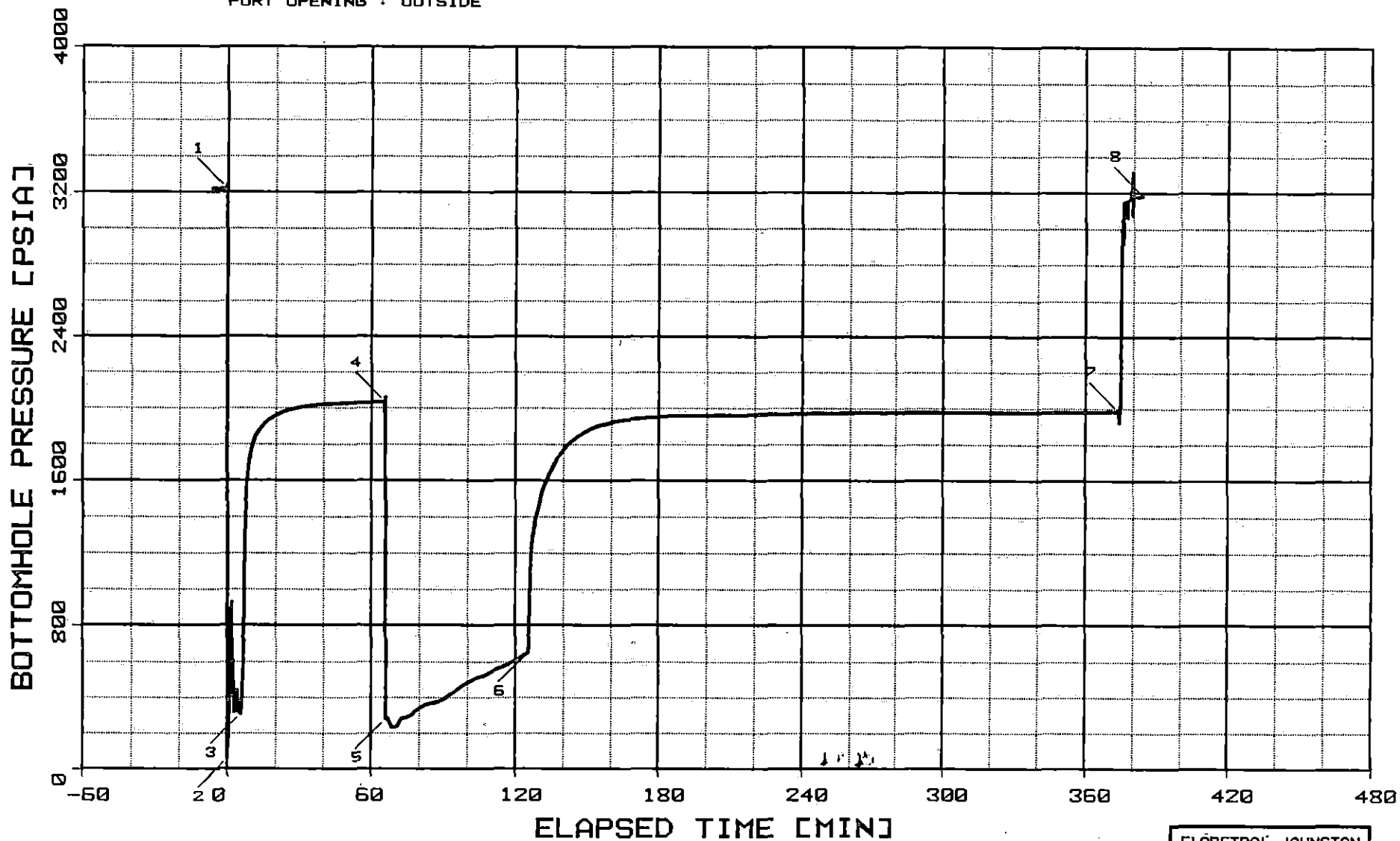
INSTRUMENT NO. J-1181

WELL : BROOKS 1-4

DEPTH : 6611 FT

CAPACITY : 6400 PSI

PORT OPENING : OUTSIDE



FLÖPETROL JOHNSTON

Schlumberger

 * WELL TEST DATA PRINTOUT *

FIELD REPORT # : 111856
 COMPANY : MOBIL OIL CORP.
 WELL : BROOKS 1-4

INSTRUMENT # : J-1181
 CAPACITY [PSI] : 6400.
 DEPTH [FT] : 6611.0
 PORT OPENING : OUTSIDE
 TEMPERATURE [DEG F] : 144.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
1	4:21:31	22-JY	HYDROSTATIC MUD	-0.49	3220
2	4:22: 1	22-JY	START FLOW	0.02	57
3	4:27:25	22-JY	END FLOW & START SHUT-IN	5.42	306
4	5:27:25	22-JY	END SHUT-IN	65.42	2028
5	5:28:10	22-JY	START FLOW	66.16	277
6	6:27:20	22-JY	END FLOW & START SHUT-IN	125.34	649
7	10:36: 0	22-JY	END SHUT-IN	374.00	1979
8	10:46: 2	22-JY	HYDROSTATIC MUD	384.04	3182

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.02	5.42	5.40	57	306
2	66.16	125.34	59.18	277	649

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	5.42	65.42	60.00	306	2028	306	5.40
2	125.34	374.00	248.66	649	1979	649	64.58

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
4:22: 1	22-JY	0.02	0.00	57
4:27: 1	22-JY	5.02	5.00	310
4:27:25	22-JY	5.42	5.40	306

TEST PHASE : SHUTIN PERIOD # 1
 FINAL FLOW PRESSURE [PSIA] = 306
 PRODUCING TIME [MIN] = 5.40

TIME OF DAY	DATE	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNERS TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
4:27:25	22-JY	5.42	0.00	306	0	
4:28:25	22-JY	6.42	1.00	596	290	0.806
4:29:25	22-JY	7.42	2.00	1382	1075	0.568
4:30:25	22-JY	8.42	3.00	1649	1343	0.447
4:31:25	22-JY	9.42	4.00	1747	1441	0.371
4:32:25	22-JY	10.42	5.00	1796	1490	0.318
4:33:25	22-JY	11.42	6.00	1832	1526	0.279
4:34:25	22-JY	12.42	7.00	1860	1554	0.248
4:35:25	22-JY	13.42	8.00	1881	1575	0.224
4:36:25	22-JY	14.42	9.00	1899	1593	0.204
4:37:25	22-JY	15.42	10.00	1914	1608	0.188
4:39:25	22-JY	17.42	12.00	1934	1628	0.161
4:41:25	22-JY	19.42	14.00	1951	1645	0.142
4:43:25	22-JY	21.42	16.00	1964	1658	0.126
4:45:25	22-JY	23.42	18.00	1975	1669	0.114
4:47:25	22-JY	25.42	20.00	1984	1678	0.104
4:49:25	22-JY	27.42	22.00	1991	1685	0.095
4:51:25	22-JY	29.42	24.00	1997	1691	0.088
4:53:25	22-JY	31.42	26.00	2002	1696	0.082
4:55:25	22-JY	33.42	28.00	2006	1700	0.077
4:57:25	22-JY	35.42	30.00	2009	1703	0.072
5: 2:25	22-JY	40.42	35.00	2016	1710	0.062
5: 7:25	22-JY	45.42	40.00	2021	1715	0.055
5:12:25	22-JY	50.42	45.00	2023	1717	0.049
5:17:25	22-JY	55.42	50.00	2025	1719	0.045
5:22:25	22-JY	60.42	55.00	2027	1721	0.041
5:27:25	22-JY	65.42	60.00	2028	1722	0.037

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
5:28:10	22-JY	66.16	0.00	277
5:33:10	22-JY	71.16	5.00	236
5:38:10	22-JY	76.16	10.00	293
5:43:10	22-JY	81.16	15.00	344
5:48:10	22-JY	86.16	20.00	367
5:53:10	22-JY	91.16	25.00	396
5:58:10	22-JY	96.16	30.00	446
6: 3:10	22-JY	101.16	35.00	487
6: 8:10	22-JY	106.16	40.00	516
6:13:10	22-JY	111.16	45.00	550
6:18:10	22-JY	116.16	50.00	577
6:23:10	22-JY	121.16	55.00	614
6:27:20	22-JY	125.34	59.18	649

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 649
 PRODUCING TIME [MIN] = 64.58

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
6:27:20	22-JY	125.34	0.00	649	0	
6:28:20	22-JY	126.34	1.00	1117	468	1.817
6:29:20	22-JY	127.34	2.00	1299	650	1.522
6:30:20	22-JY	128.34	3.00	1386	737	1.353
6:31:20	22-JY	129.34	4.00	1441	792	1.234
6:32:20	22-JY	130.34	5.00	1496	847	1.144
6:33:20	22-JY	131.34	6.00	1540	891	1.071
6:34:20	22-JY	132.34	7.00	1573	924	1.010
6:35:20	22-JY	133.34	8.00	1608	959	0.958
6:36:20	22-JY	134.34	9.00	1641	992	0.913
6:37:20	22-JY	135.34	10.00	1668	1019	0.873
6:39:20	22-JY	137.34	12.00	1717	1068	0.805
6:41:20	22-JY	139.34	14.00	1756	1107	0.749
6:43:20	22-JY	141.34	16.00	1788	1139	0.702
6:45:20	22-JY	143.34	18.00	1813	1164	0.662
6:47:20	22-JY	145.34	20.00	1835	1185	0.626
6:49:20	22-JY	147.34	22.00	1852	1203	0.595
6:51:20	22-JY	149.34	24.00	1867	1218	0.567
6:53:20	22-JY	151.34	26.00	1881	1232	0.542
6:55:20	22-JY	153.34	28.00	1893	1243	0.519
6:57:20	22-JY	155.34	30.00	1901	1252	0.499
7: 2:20	22-JY	160.34	35.00	1919	1270	0.454
7: 7:20	22-JY	165.34	40.00	1931	1282	0.417
7:12:20	22-JY	170.34	45.00	1940	1290	0.387
7:17:20	22-JY	175.34	50.00	1945	1296	0.360

RECEIVED
 WICHITA CONSERVATION COMMISSION
 DIVISION OF WILDLIFE
 NOV 4 - 1968
 CONSERVATION DIVISION
 Wichita, Kansas

TEST PHASE : SHUTIN PERIOD # 2
 FINAL FLOW PRESSURE [PSIA] = 649
 PRODUCING TIME [MIN] = 64.58

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
7:22:20	22-JY	180.34	55.00	1949	1299	0.337
7:27:20	22-JY	185.34	60.00	1953	1303	0.317
7:32:20	22-JY	190.34	65.00	1955	1305	0.300
7:37:20	22-JY	195.34	70.00	1955	1306	0.284
7:42:20	22-JY	200.34	75.00	1957	1307	0.270
7:47:20	22-JY	205.34	80.00	1958	1308	0.257
7:52:20	22-JY	210.34	85.00	1959	1309	0.245
7:57:20	22-JY	215.34	90.00	1959	1310	0.235
8: 2:20	22-JY	220.34	95.00	1962	1313	0.225
8: 7:20	22-JY	225.34	100.00	1964	1314	0.216
8:12:20	22-JY	230.34	105.00	1964	1315	0.208
8:17:20	22-JY	235.34	110.00	1965	1316	0.201
8:22:20	22-JY	240.34	115.00	1966	1317	0.194
8:27:20	22-JY	245.34	120.00	1968	1319	0.187
8:32:20	22-JY	250.34	125.00	1969	1320	0.181
8:37:20	22-JY	255.34	130.00	1970	1321	0.175
8:42:20	22-JY	260.34	135.00	1972	1322	0.170
8:47:20	22-JY	265.34	140.00	1973	1324	0.165
8:52:20	22-JY	270.34	145.00	1973	1324	0.160
8:57:20	22-JY	275.34	150.00	1972	1323	0.155
9: 2:20	22-JY	280.34	155.00	1975	1325	0.151
9: 7:20	22-JY	285.34	160.00	1976	1326	0.147
9:12:20	22-JY	290.34	165.00	1976	1326	0.143
9:17:20	22-JY	295.34	170.00	1975	1326	0.140
9:22:20	22-JY	300.34	175.00	1975	1326	0.136
9:27:20	22-JY	305.34	180.00	1975	1325	0.133
9:32:20	22-JY	310.34	185.00	1975	1325	0.130
9:37:20	22-JY	315.34	190.00	1975	1325	0.127
9:42:20	22-JY	320.34	195.00	1975	1325	0.124
9:47:20	22-JY	325.34	200.00	1975	1325	0.122
9:52:20	22-JY	330.34	205.00	1975	1325	0.119
9:57:20	22-JY	335.34	210.00	1975	1326	0.116
10: 2:20	22-JY	340.34	215.00	1976	1326	0.114
10: 7:20	22-JY	345.34	220.00	1976	1327	0.112
10:12:20	22-JY	350.34	225.00	1977	1327	0.110
10:17:20	22-JY	355.34	230.00	1977	1327	0.107
10:22:20	22-JY	360.34	235.00	1977	1328	0.105
10:27:20	22-JY	365.34	240.00	1978	1329	0.103
10:32:20	22-JY	370.34	245.00	1979	1330	0.102
10:36: 0	22-JY	374.00	248.66	1979	1330	0.100

ΔT (MIN)

0.18 0.25 0.36 0.53 0.78 1.2 1.8 3.0 5.4 13 00

HORNER PLOT

FIELD REPORT NO. 111856

INSTRUMENT NO. J-1181

COMPANY : MOBIL OIL CORP.

WELL : BROOKS 1-4

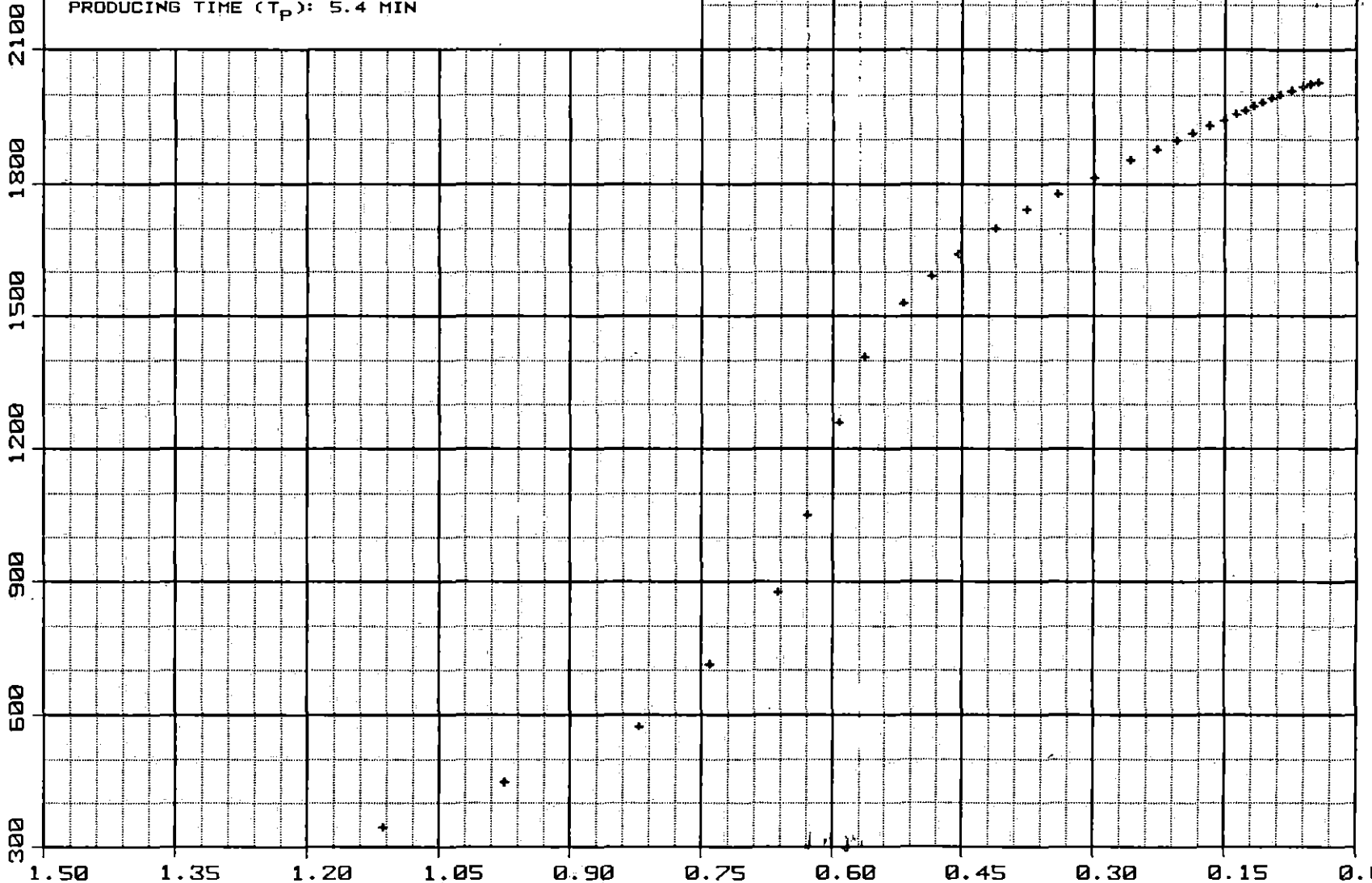
SHUTIN #1 : FINAL FLOW PRESSURE: 306.08 PSIA

PLOT ELAPSED TIME RANGE: 5.9 TO 65.4 MIN

PLOT ΔT TIME RANGE: 0.4 TO 60.0 MIN

PRODUCING TIME (T_p): 5.4 MIN

SHUTIN PRESSURE [PSIA]



1.50 1.35 1.20 1.05 0.90 0.75 0.60 0.45 0.30 0.15 0.00

$$\text{LOG} \left[\frac{T_p + \Delta T}{\Delta T} \right]$$

FLOPETROL JOHNSTON
Schlumberger

LOG LOG PLOT

COMPANY : MOBIL OIL CORP.

WELL : BROOKS 1-4

FIELD REPORT NO. 111856

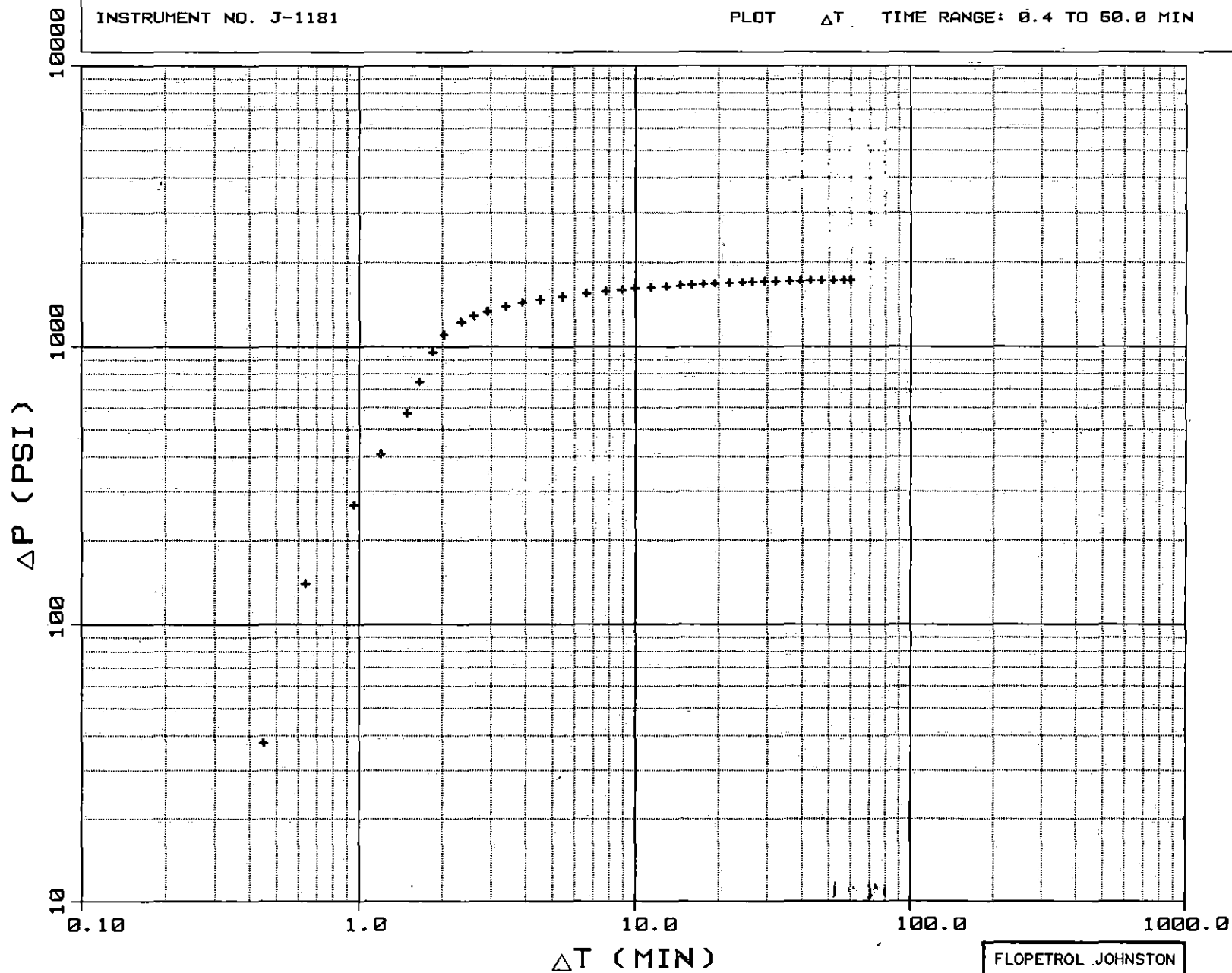
INSTRUMENT NO. J-1181

SHUTIN #1 :

FINAL FLOW PRESSURE (PWF): 306.08 PSIA

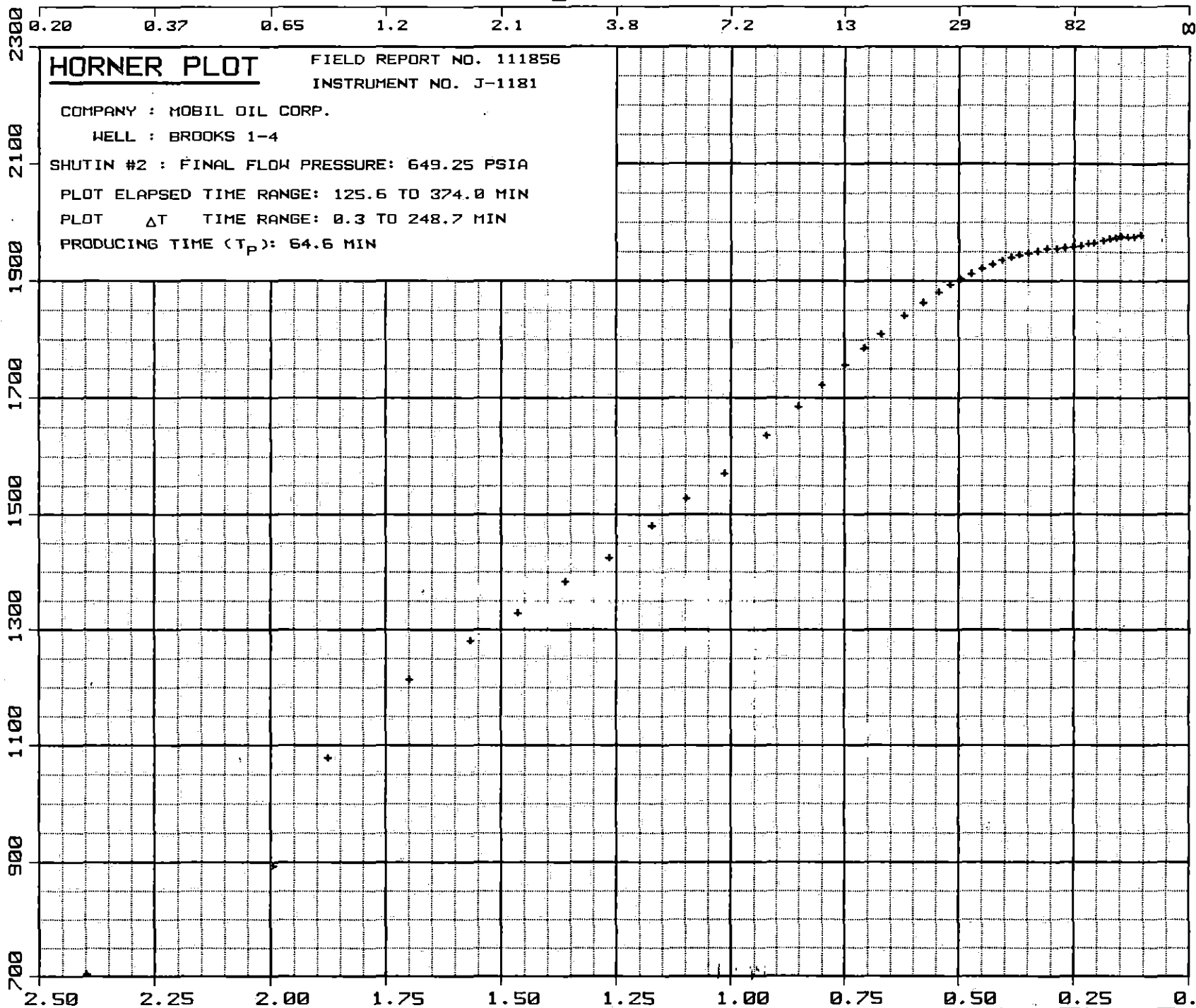
PLOT ELAPSED TIME RANGE: 5.9 TO 65.4 MIN

PLOT ΔT TIME RANGE: 0.4 TO 60.0 MIN



FLOPETROL JOHNSTON
Schlumberger

ΔT (MIN)



HORNER PLOT

FIELD REPORT NO. 111856

INSTRUMENT NO. J-1181

COMPANY : MOBIL OIL CORP.

WELL : BROOKS 1-4

SHUTIN #2 : FINAL FLOW PRESSURE: 649.25 PSIA

PLOT ELAPSED TIME RANGE: 125.6 TO 374.0 MIN

PLOT ΔT TIME RANGE: 0.3 TO 248.7 MIN

PRODUCING TIME (T_p): 64.6 MIN

SHUTIN PRESSURE [PSIA]

$$\text{LOG} \left[\frac{T_p + \Delta T}{\Delta T} \right]$$

FLOPETROL JOHNSTON
Schlumberger

LOG LOG PLOT

COMPANY : MOBIL OIL CORP.

WELL : BROOKS 1-4

FIELD REPORT NO. 111856

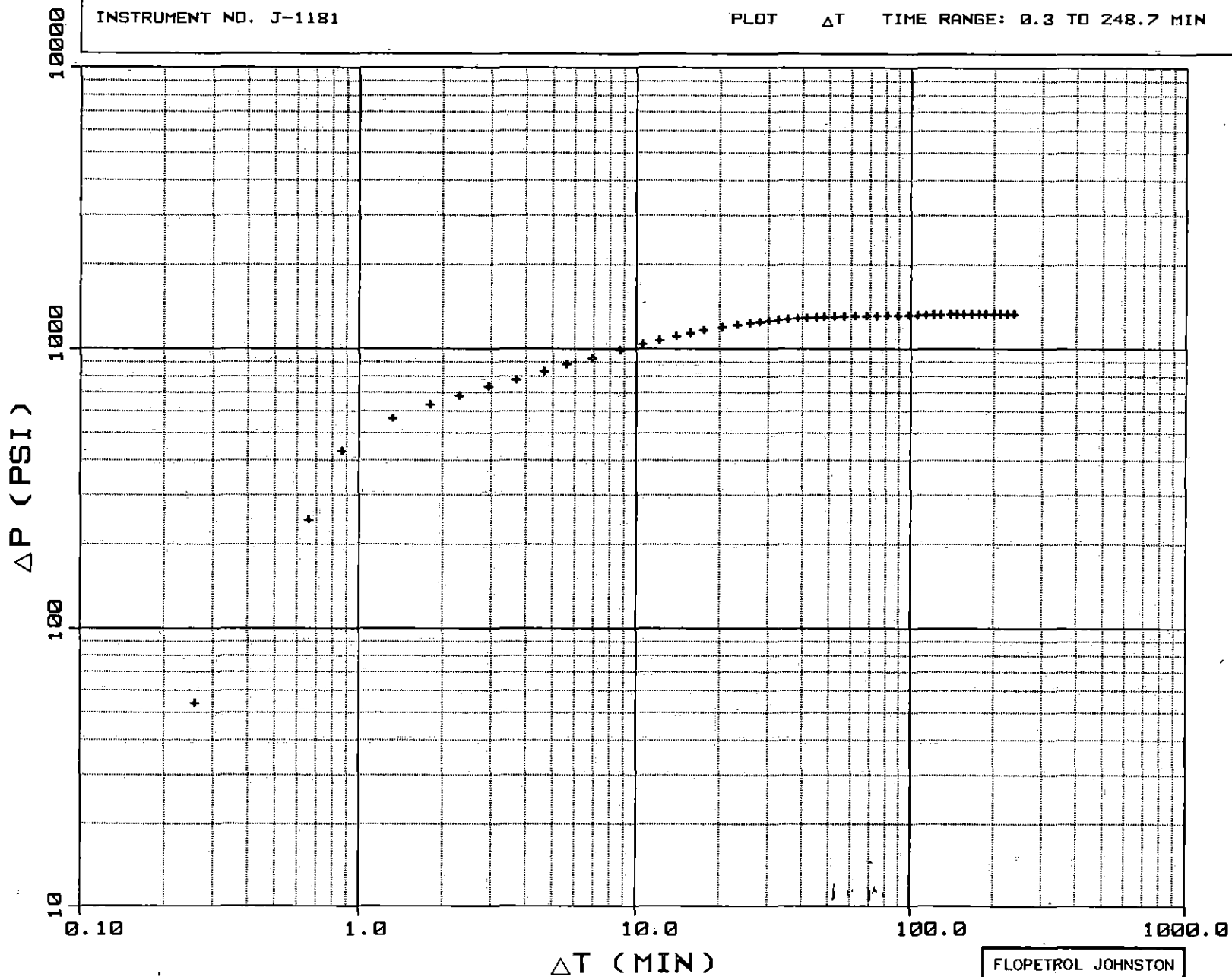
INSTRUMENT NO. J-1181

SHUTIN #2 :

FINAL FLOW PRESSURE (PWF): 649.25 PSIA

PLOT ELAPSED TIME RANGE: 125.6 TO 374.0 MIN

PLOT ΔT TIME RANGE: 0.3 TO 248.7 MIN

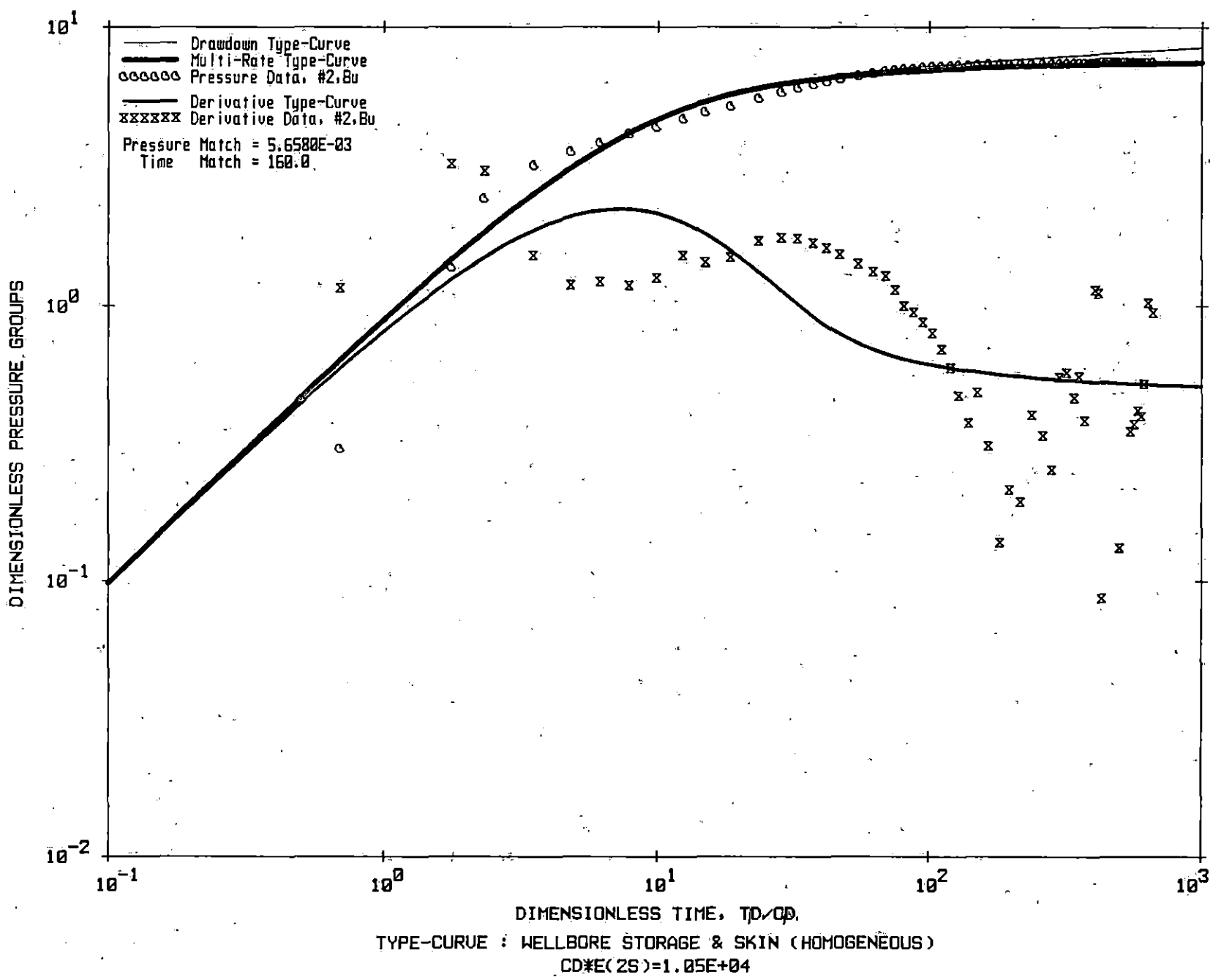


FLOPETROL JOHNSTON

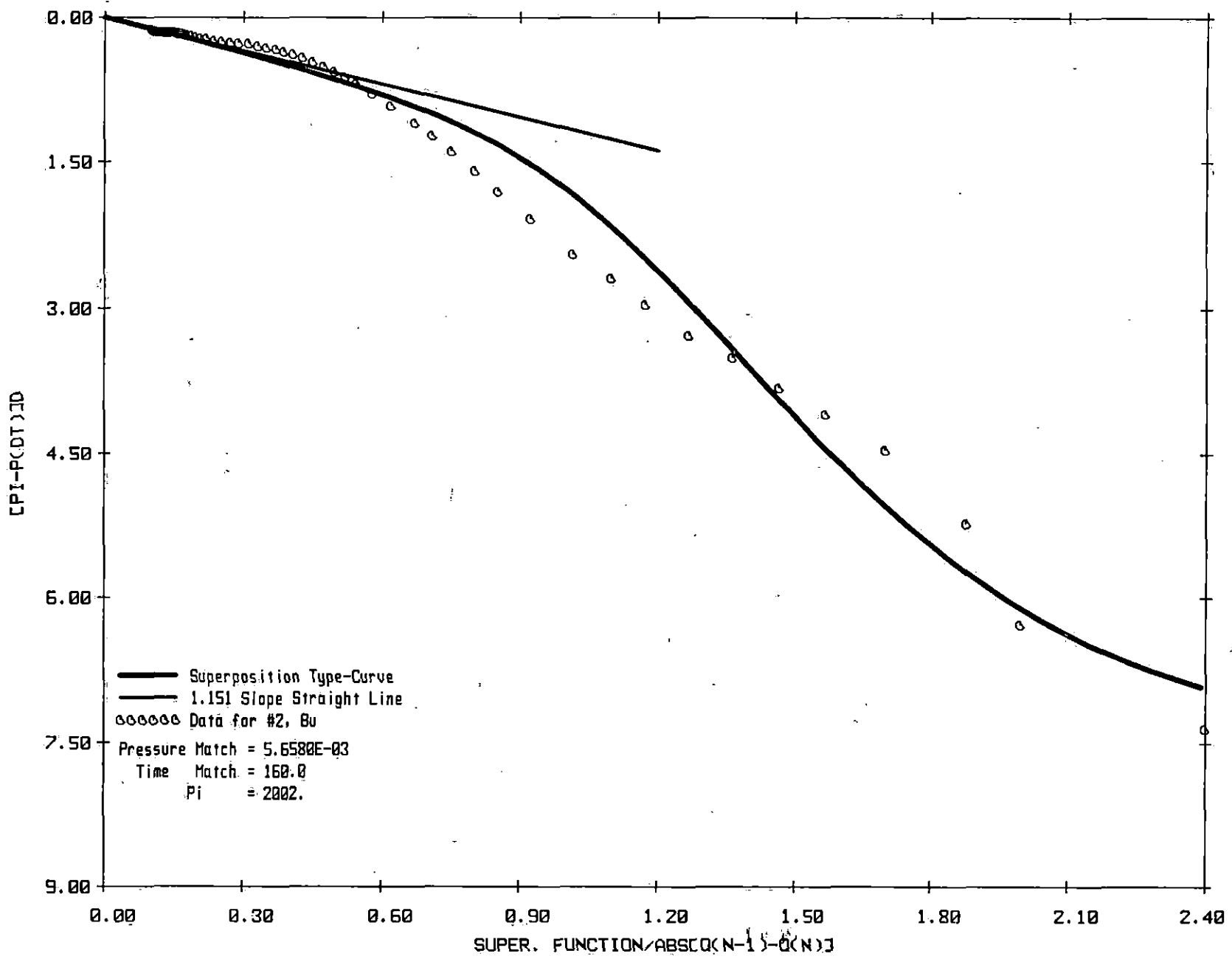
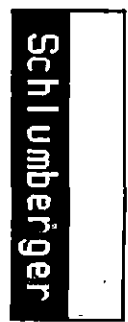
Schlumberger

DIMENSIONLESS MULTI-RATE
PLOT : LOG-LOG MATCH FOR
#2, Bu

Schlumberger



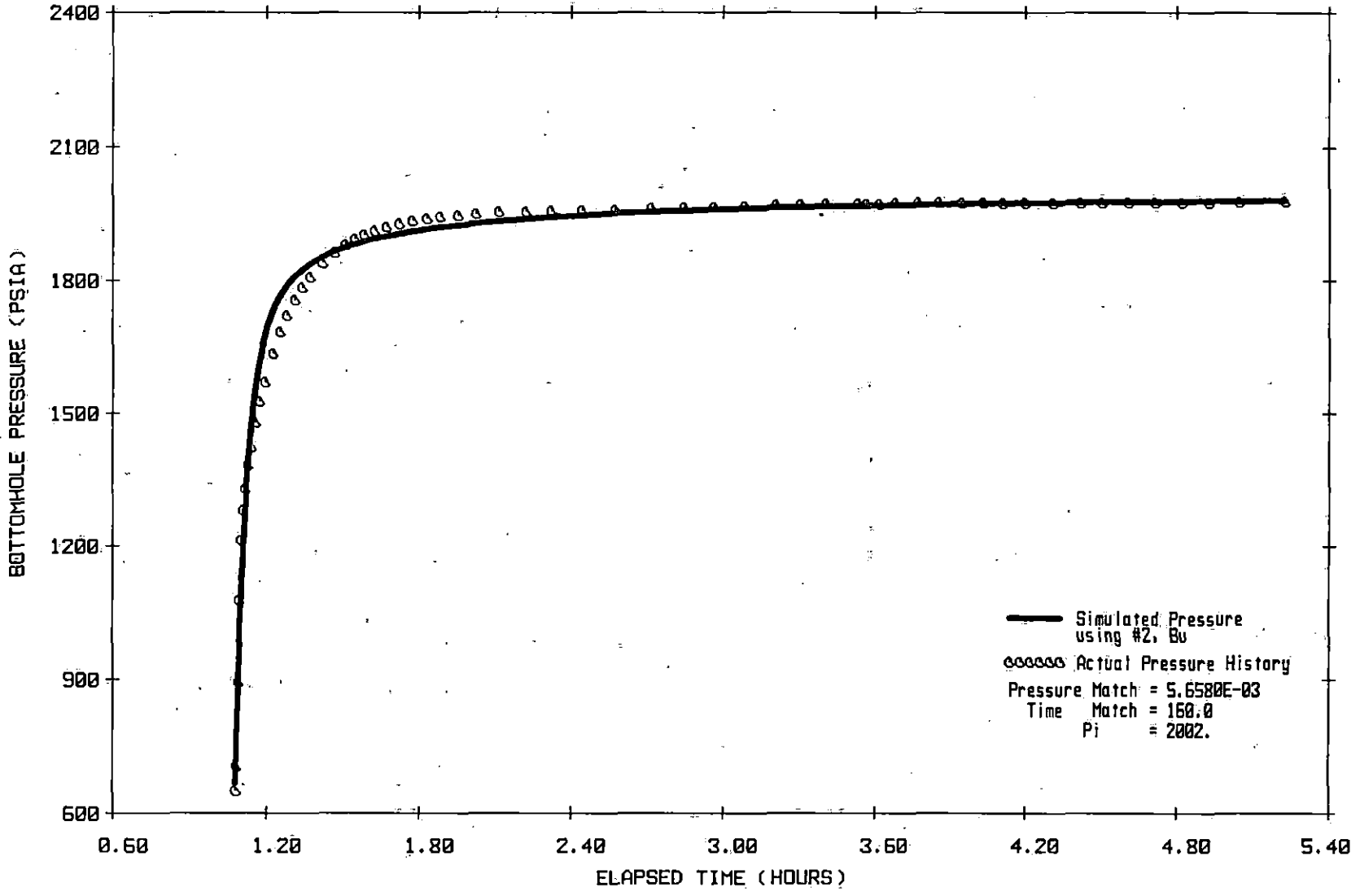
DIMENSIONLESS SUPERPOSITION
PLOT FOR
#2, Bu



— Superposition Type-Curve
 — 1.151 Slope Straight Line
 ○ Data for #2, Bu
 Pressure Match = 5.6580E-03
 Time Match = 160.0
 Pi = 2002.

TYPE-CURVE : WELLBORE STORAGE & SKIN (HOMOGENEOUS)
 CD*(E(25))=1.05E+04

PRESSURE HISTORY MATCH
SIMULATION



— Simulated Pressure using #2, Bu
oooooo Actual Pressure History
Pressure Match = 5.6580E-03
Time Match = 160.0
Pi = 2002.

TYPE-CURVE : WELLBORE STORAGE & SKIN (HOMOGENEOUS)
PRESSURE HISTORY MATCH (SIMULATION)