JOHNSTON

Schlumberger

computerized data analysis

COMPANY USGS/HUSKY OIL CO. WELL LISBURNE #1 TEST NO. 1 COUNTY NORTH SLOPE STATE ALASKA

FIELD REPORT #12058 D

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COMPUTERIZED DATA ANALYSIS

JUNE 25, 1980

GENTLEMEN:

A FLOW RATE COULD NOT BE ESTABLISHED FROM THE TEST INFORMATION. THE TEST STRING ABOVE THE RECORDERS APPEARS TO BE PLUGGING DURING THE FLOW PERIODS WHICH ACCOUNTS FOR THE LOW SURFACE PRESSURES AND HIGH BOTTOM HOLE FLOWING PRESSURES. SHUT-IN DATA IS VALID AND A RESERVOIR PRESSURE OF 5052 PSIG AT RECORDER DEPTH IS INDICATED GIVING A GRADIENT OF .478 PSIG/FT.

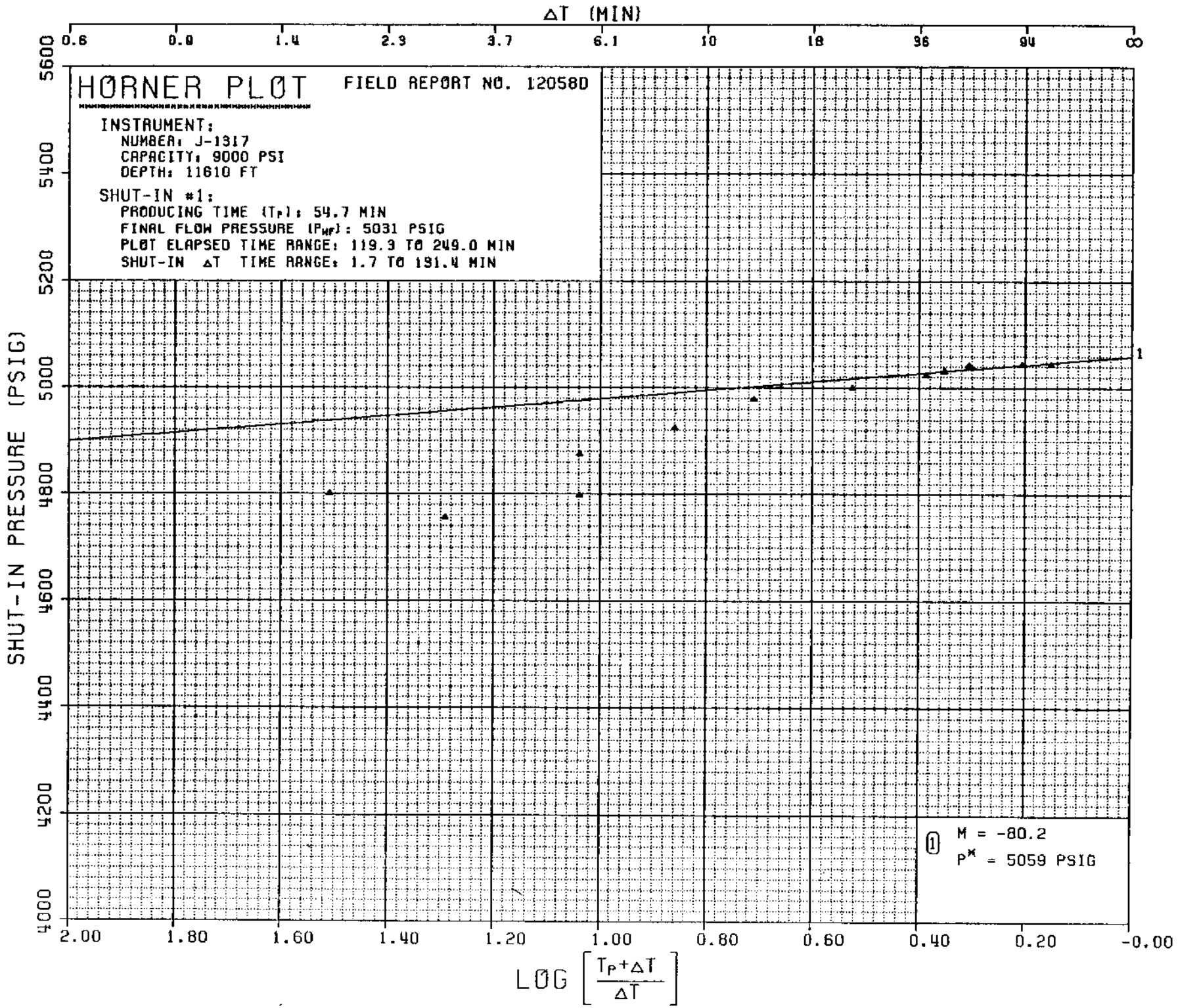
AN ANALYSIS COULD NOT BE PERFORMED FROM THIS TEST DATA.

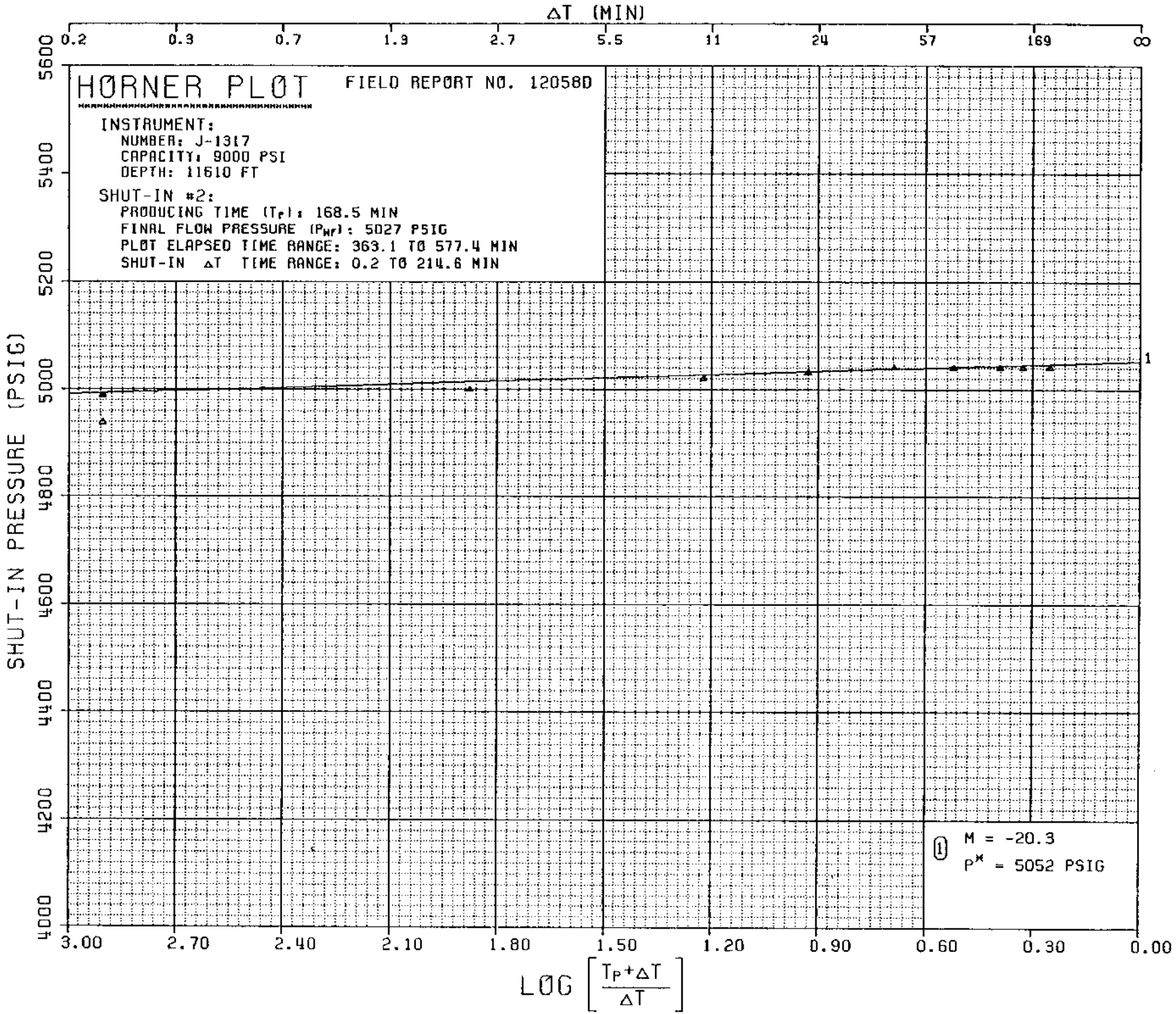
Dennis Myren (DL)

DENNIS MYREN
RESERVOIR EVALUATION
DEPARTMENT

U.S.G.S./HUSKY OIL COMPANY
LISBURNE #1; NORTH SLOPE, ALASKA
TEST #1
LOCATION: SEC. 17 - T11S - R16W UM

FIELD REPORT # 12058 D


ΔT (MIN)
0.6
0.8
1.4
2.9
3.7
6.1
10
18
36
94
∞
HØRNER PLØT
FIELD REPØRT NØ. 120580
INSTRUMENT:
NUMBER: J-1317
CAPACITY: 9000 PSI
DEPTH: 11610 FT
SHUT-IN #1:
PRODUCING TIME (Tp): 54.7 MIN
FINAL FLOW PRESSURE (PWF): 5031 PSIG
PLØT ELAPSED TIME RANGE: 119.3 TØ 249.0 MIN
SHUT-IN ΔT TIME RANGE: 1.7 TØ 191.4 MIN
SHUT-IN PRESSURE (PSIG)
5600
5400
5200
5000
4800
4600
4400
4200
4000
1
1 M = -80.2
P* = 5059 PSIG
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
-0.00
LØG [(Tp+ΔT)/ΔT]


ΔT (MIN)
0.2
0.3
0.7
1.9
2.7
5.5
11
24
57
169
∞
HORNER PLOT
FIELD REPORT NO. 120580
INSTRUMENT:
NUMBER: J-1317
CAPACITY: 9000 PSI
DEPTH: 11610 FT
SHUT-IN #2:
PRODUCING TIME (T_P): 168.5 MIN
FINAL FLOW PRESSURE (P_{WF}): 5027 PSIG
PLOT ELAPSED TIME RANGE: 363.1 TO 577.4 MIN
SHUT-IN ΔT TIME RANGE: 0.2 TO 214.6 MIN
SHUT-IN PRESSURE (PSIG)
5600
5400
5200
5000
4800
4600
4400
4200
4000
1
1 M = -20.3
P^* = 5052 PSIG
3.00
2.70
2.40
2.10
1.80
1.50
1.20
0.90
0.60
0.30
0.00
LOG $\left[\frac{T_P+\Delta T}{\Delta T}\right]$

WELL IDENTIFICATION

COMPANY:	U.S.G.S./HUSKY OIL COMPANY 2525 C. STREET; SUITE 400 ANCHORAGE, ALASKA 99503	CUSTOMER:	HUSKY OIL COMPANY
WELL:	LISBURNE #1	LOCATION:	SEC. 17 - T11S - R16W UM
TEST INTERVAL:	-	FIELD:	NPR (WILD CAT)
TEST NO:	1	TEST DATE:	5-25-80
COUNTY:	NORTH SLOPE	STATE:	ALASKA
TECHNICIAN:	NEWCOMB (KENAI)	TEST APPROVED BY:	MR. D.L. WESTER

EQUIPMENT AND HOLE DATA

TEST TYPE:	M.F.E. CASING			DRILL PIPE LENGTH:	- FT.
				DRILL PIPE I.D.:	- IN.
ELEVATION:	1062 K.B.	FT.		DRILL COLLAR LENGTH:	- FT.
TOTAL DEPTH:	13400	FT.		DRILL COLLAR I.D.:	- IN.
MAIN HOLE/CASING SIZE:	9 5/8	IN.		PACKER DEPTHS:	11584 & FT.
RAT HOLE/LINER SIZE:	7 5/8	IN.			& FT.
FORMATION TESTED:	LISBURNE				& FT.
NET PROD. INTERVAL:	49	FT.		DEPTHS REF. TO:	KELLY BUSHING
POROSITY:	6	%			

TEST TOOL CHAMBER DATA

SAMPLER PRESSURE:	1100	PSIG	
RECOVERED OIL GRAVITY:	API @	DEG. F.	
RECOVERY GOR:		FT3/BBL.	

SAMPLE CHAMBER CONTENTS

FLUID	VOLUME	RESIST. (OHM-M)	MEAS. TEMP. (DEG F.)	CHLOR. (PPM)
GAS:	1 FT.3			
OIL:	- CC			
WATER:	850 (MUDDY) CC			400
MUD:	- CC			
FILTRATE:				
TOTAL LIQUID:	850 CC			

MUD DATA

TYPE:	LIGNO		
WEIGHT:	10.2	LB/GAL.	
VISCOSITY:	38	SEC.	
WATER LOSS:	7.0	CC	

FLUID	RESIST (OHM-M)	TEMP (DEG F)	CHLOR (PPM)
MUD:	-	-	
FILTRATE:	-	-	200

REMARKS

"MARINE OPERATIONS"

NO. OF REPORTS REQUESTED: 5

FIELD REPORT NO. 12058D

SURFACE INFORMATION

DESCRIPTION(RATE OF FLOW)	TIME	PRESSURE PSIG	SURFACE CHOKE
SET PACKER (5-25-80)	1611	-	-
OPENED TOOL	1625	-	1/4"
PULLED PACKER LOOSE	1710	-	"
RE-SET PACKER	1723	-	"
RE-OPENED TOOL FAINT BLOW	1728	-	"
CLOSED FOR INITIAL SHUT-IN	1823	-	"
RE-OPENED TOOL LIGHT BLOW	2027	-	"
CLOSED FOR FINAL SHUT-IN	2225	-	"
DROPPED BAR (5-26-80)	0228	-	"
START REVERSING	0230	-	"
FINISHED REVERSING	0530	-	"
PULLED PACKER LOOSE	0545	-	"

CUSHION TYPE: WATER	3000 FT	PSIG	3/4 IN. BOTTOM CHOKE

RECOVERY INFORMATION

RECOVERY	FEET	BARRELS	%OIL	%WATER	%OTHERS	API GRAV.	DEG.	RESIST	DEG.	CHL PPM
-	-	-								

FIELD REPORT NO. 12058D

FIELD REPORT NO.: 12058 D CAPACITY: 9000#

INSTRUMENT NO.: J-554 NUMBER OF REPORTS: 5+

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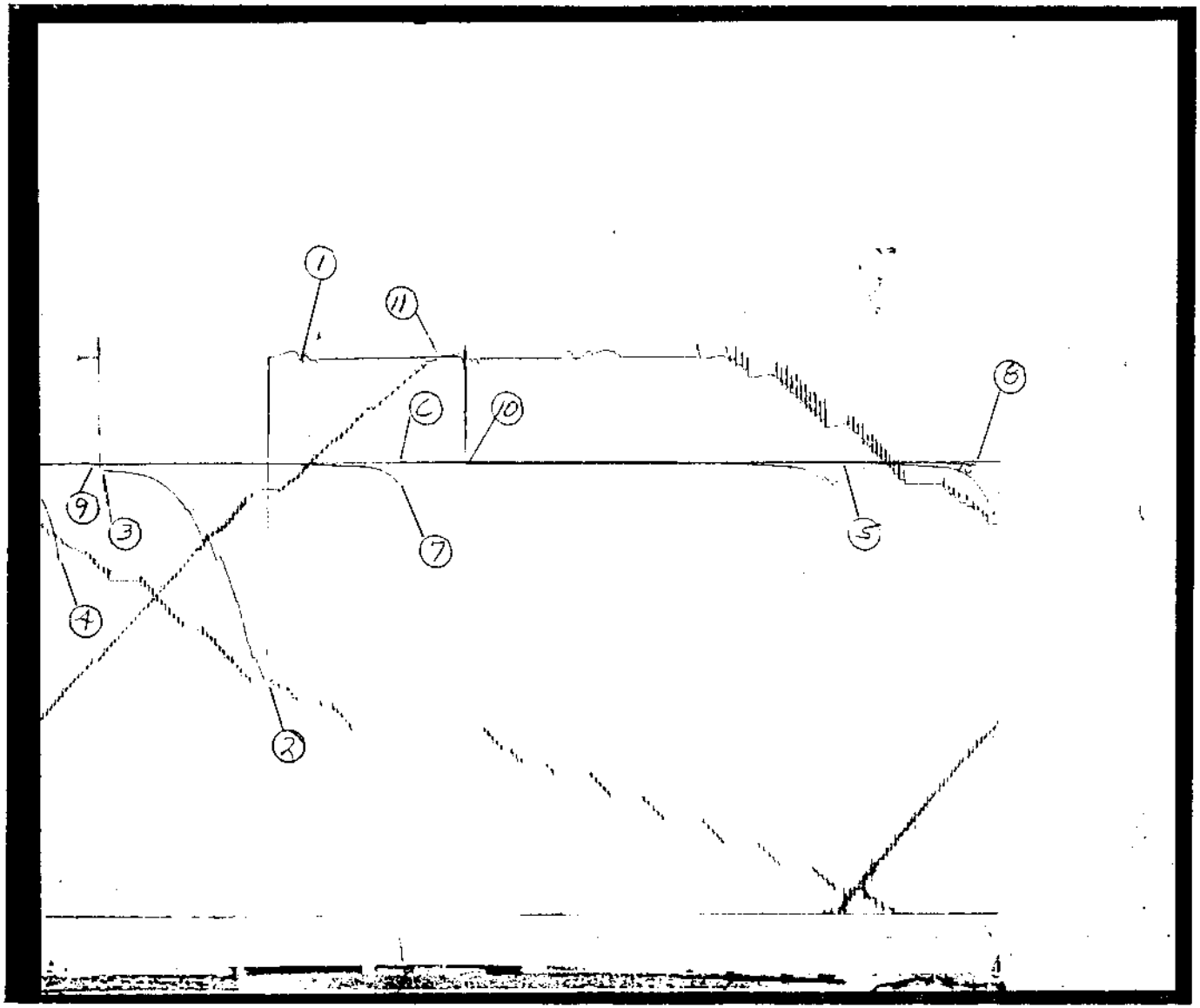


BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-554 CAPACITY (PSI): 9000 DEPTH (FT): 11604
PORT OPENING: OUTSIDE BOTTOM HOLE TEMP (F): 164

EXPLANATION	LABELED POINT	PRESSURE (PSIG)
HYDROSTATIC MUD	1	6199
START FLOW	2	2001
END FLOW	3	4975
START FLOW	4	3906
END FLOW & START SHUT-IN	5	5052
END SHUT-IN	6	5098
START FLOW	7	4033
END FLOW & START SHUT-IN	8	5052
STARTED REVERSING	9	5041
END SHUT-IN	10	5020
HYDROSTATIC MUD	11	6229

FIELD REPORT NO. 12058D
INSTRUMENT NO. J-554

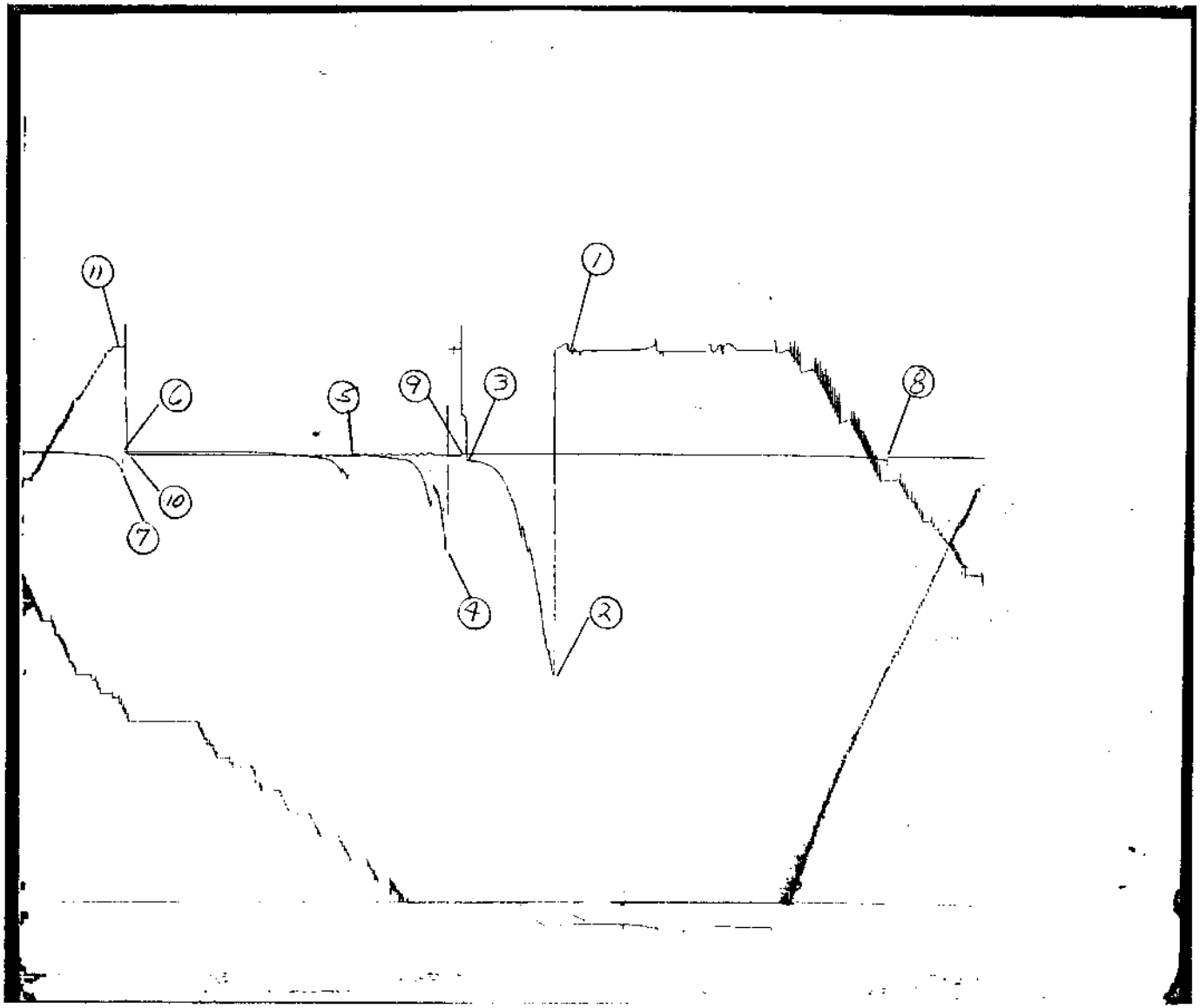
FIELD REPORT NO.: 12058 D

CAPACITY: 9000#

INSTRUMENT NO.: J-1317

NUMBER OF REPORTS: 5+

JOHNSTON Schlumberger

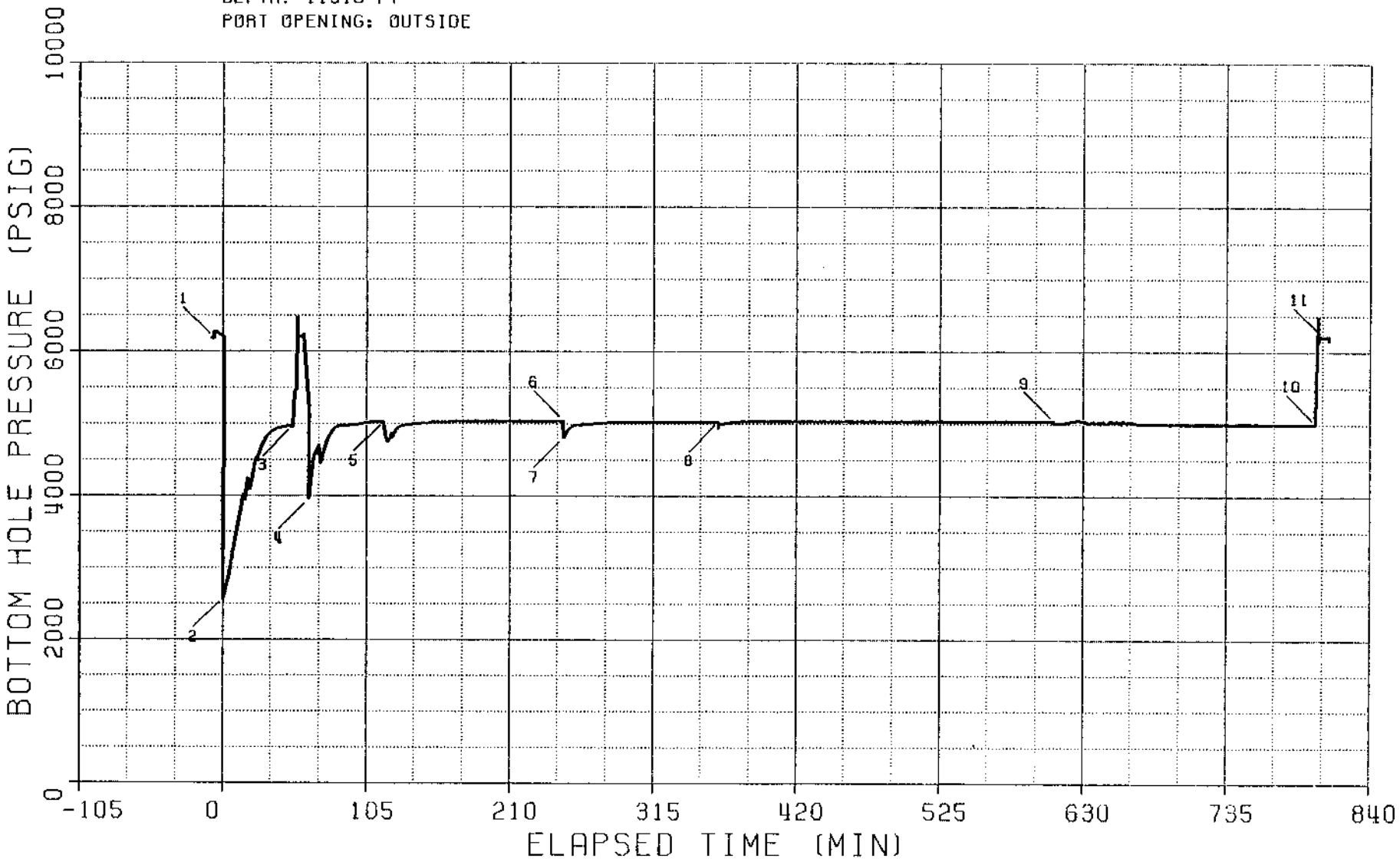


PRESSURE LOG

FIELD REPORT NO. 120580

INSTRUMENT:

NUMBER: J-1317
CAPACITY: 9000 PSI
DEPTH: 11610 FT
PORT OPENING: OUTSIDE



BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-1317 CAPACITY (PSI): 9000 DEPTH (FT): 11610
PORT OPENING: OUTSIDE BOTTOM HOLE TEMP (F): 164

EXPLANATION	LABELED POINT	PRESSURE (PSIG)	ELAPSED TIME (MIN)
HYDROSTATIC MUD	1	6191	-7.1
START FLOW	2	2581	0.0
END FLOW	3	4966	51.0
START FLOW	4	3960	62.9
END FLOW & START SHUT-IN	5	5031	117.6
END SHUT-IN	6	5044	249.0
START FLOW	7	4304	249.1
END FLOW & START SHUT-IN	8	5027	362.9
STARTED REVERSING	9	5035	600.5
END SHUT-IN	10	5006	800.3
HYDROSTATIC MUD	11	6267	805.9

* SUMMARY OF FLOW PERIODS *

FLOW PERIOD	ELAPSED TIME AT START (MIN)	ELAPSED TIME AT END (MIN)	DURATION OF FLOW (MIN)	PRESSURE AT START (PSIG)	PRESSURE AT END (PSIG)
1	0.0	51.0	51.0	2581	4966
2	62.9	117.6	54.7	3960	5031
3	249.1	362.9	113.8	4304	5027

* SUMMARY OF SHUT-IN PERIODS *

SHUT-IN PERIOD	ELAPSED TIME AT START (MIN)	ELAPSED TIME AT END (MIN)	DURATION OF SHUT-IN (MIN)	PRESSURE AT START (PSIG)	PRESSURE AT END (PSIG)	FINAL FLOW PRESSURE (PSIG)	PRODUCING TIME (MIN)
1	117.6	249.0	131.4	5031	5044	5031	54.7
2	362.9	800.3	437.4	5027	5006	5027	168.5

FIELD REPORT NO. 12/7Ø8Ø
INSTRUMENT NO. J-1317

TEST PHASE : FLOW PERIOD # 1

ELAPSED TIME (MIN)	DELTA TIME (MIN)	FLOWING PRESSURE (PSIG)
Ø.Ø	Ø.Ø	2531
5.Ø	5.Ø	2946
1Ø.Ø	1Ø.Ø	3475
15.Ø	15.Ø	4ØØ4
2Ø.Ø	2Ø.Ø	41Ø9
25.Ø	25.Ø	451Ø
3Ø.Ø	3Ø.Ø	4755
35.Ø	35.Ø	4875
4Ø.Ø	4Ø.Ø	4935
45.Ø	45.Ø	4956
5Ø.Ø	5Ø.Ø	4966
51.Ø	51.Ø	4966

TEST PHASE : FLOW PERIOD # 2

ELAPSED TIME (MIN)	DELTA TIME (MIN)	FLOWING PRESSURE (PSIG)
62.9	Ø.Ø	396Ø
67.9	5.Ø	4619
72.9	1Ø.Ø	4564
77.9	15.Ø	4826
82.9	2Ø.Ø	4948
87.9	25.Ø	4976
92.9	3Ø.Ø	4986
97.9	35.Ø	4993
1Ø2.9	4Ø.Ø	5ØØ7
1Ø7.9	45.Ø	5Ø17
112.9	5Ø.Ø	5Ø25
117.6	54.7	5Ø31

FIELD REPORT NO. 120580
INSTRUMENT NO. 8-1917

TEST PHASE : SHUT-IN PERIOD # 1

1. FINAL FLOW PRESSURE ["P $_{WF}$ "] = 5031 PSIG
2. PRODUCING TIME ["T $_{p}$ "] = 54.7 MIN

ELAPSED TIME (MIN)	DELTA TIME ["DT"] (MIN)	SHUT-IN PRESSURE ["P $_{WS}$ "] (PSIG)	LOG [(T $_{p}$ *DT)/DT]	DELTA PRESSURE [P $_{WS}$ - P $_{WF}$]
117.6	0.0	5031		0
118.6	1.0	4899	1.746	-131
119.6	2.0	4792	1.453	-239
120.6	3.0	4758	1.264	-273
121.6	4.0	4795	1.167	-236
122.6	5.0	4852	1.077	-179
123.6	6.0	4817	1.005	-214
124.6	7.0	4856	0.945	-175
125.6	8.0	4895	0.894	-136
126.6	9.0	4928	0.850	-103
127.6	10.0	4949	0.811	-82
129.6	12.0	4964	0.745	-67
131.6	14.0	4980	0.691	-51
133.6	16.0	4994	0.645	-37
135.6	18.0	4989	0.606	-42
137.6	20.0	4993	0.572	-38
139.6	22.0	4998	0.542	-33
141.6	24.0	5001	0.516	-29
143.6	26.0	5004	0.492	-26
145.6	28.0	5007	0.472	-23
147.6	30.0	5010	0.451	-20
152.6	35.0	5018	0.409	-13
157.6	40.0	5026	0.374	-5
162.6	45.0	5033	0.346	2
167.6	50.0	5038	0.321	7
172.6	55.0	5042	0.300	12
177.6	60.0	5043	0.282	12
182.6	65.0	5043	0.265	12
187.6	70.0	5043	0.251	12
192.6	75.0	5043	0.238	12
197.6	80.0	5043	0.226	13
202.6	85.0	5043	0.216	13
207.6	90.0	5044	0.206	13
212.6	95.0	5044	0.198	13
217.6	100.0	5044	0.190	13
222.6	105.0	5044	0.182	13
227.6	110.0	5044	0.175	13
232.6	115.0	5044	0.169	13
237.6	120.0	5044	0.163	13
242.6	125.0	5044	0.158	13
247.6	130.0	5044	0.153	13
249.0	131.4	5044	0.151	13

FIELD REPORT NO. 12[illegible]D
INSTRUMENT NO. J-[illegible]17

TEST PHASE : FLOW PERIOD # 3

ELAPSED TIME (MIN)	DELTA TIME (MIN)	FLOWING PRESSURE (PSIG)
249.1	0.0	4804
259.1	10.0	4987
269.1	20.0	5005
279.1	30.0	5021
289.1	40.0	5027
299.1	50.0	5027
309.1	60.0	5027
319.1	70.0	5027
329.1	80.0	5027
339.1	90.0	5027
349.1	100.0	5027
359.1	110.0	5027
362.9	113.8	5027

TEST PHASE : SHUT-IN PERIOD # 2

1. FINAL FLOW PRESSURE ["P_WF"] = 5027 PSIG
2. PRODUCING TIME ["T_P"] = 168.5 MIN

ELAPSED TIME (MIN)	DELTA TIME ["DT"] (MIN)	SHUT-IN PRESSURE ["P_WS"] (PSIG)	LOG [(T_P+DT)/DT]	DELTA PRESSURE [P_WS - P_WF]
362.9	0.0	5027		0
363.9	1.0	4993	2.229	-34
364.9	2.0	4999	1.931	-28
365.9	3.0	5002	1.757	-25
366.9	4.0	5004	1.635	-23
367.9	5.0	5007	1.543	-20
368.9	6.0	5009	1.469	-18
369.9	7.0	5012	1.409	-15
370.9	8.0	5014	1.358	-13
371.9	9.0	5016	1.315	-11
372.9	10.0	5019	1.278	-8
374.9	12.0	5022	1.177	-5
376.9	14.0	5024	1.115	-3
378.9	16.0	5026	1.072	-1
380.9	18.0	5028	1.035	1
382.9	20.0	5030	0.976	3
384.9	22.0	5032	0.937	5
386.9	24.0	5033	0.904	6
388.9	26.0	5033	0.874	6
390.9	28.0	5034	0.848	7
392.9	30.0	5035	0.824	8

FIELD REPORT NO. 126320
INSTRUMENT NO. 9-1317

TEST PHASE : SHUT-IN PERIOD # 2

1. FINAL FLOW PRESSURE ["P_{WF}"] = 5027 PSIG
2. PRODUCING TIME ["T_P"] = 169.5 MIN

ELAPSED TIME (MIN)	DELTA TIME ["DT"] (MIN)	SHUT-IN PRESSURE ["P_{WS}"] (PSIG)	LOG [(T *DT)/DT] P	DELTA PRESSURE [P_{WS} - P_{WF}]
402.9	40.0	5039	0.717	12
412.9	50.0	5040	0.649	13
422.9	60.0	5040	0.601	13
432.9	70.0	5040	0.562	13
442.9	80.0	5040	0.492	13
452.9	90.0	5040	0.456	13
462.9	100.0	5040	0.429	13
472.9	110.0	5040	0.403	13
482.9	120.0	5040	0.381	13
492.9	130.0	5041	0.361	14
502.9	140.0	5041	0.343	14
512.9	150.0	5041	0.327	14
522.9	160.0	5041	0.312	14
532.9	170.0	5041	0.299	14
542.9	180.0	5041	0.287	14
552.9	190.0	5041	0.276	14
562.9	200.0	5041	0.265	14
572.9	210.0	5041	0.256	14
582.9	220.0	5040	0.247	13
592.9	230.0	5038	0.239	11
602.9	240.0	5036	0.231	9
612.9	250.0	5015	0.224	-12
622.9	260.0	5041	0.217	14
632.9	270.0	5026	0.211	-1
642.9	280.0	5019	0.205	-8
652.9	290.0	5012	0.199	-15
662.9	300.0	5030	0.194	3
672.9	310.0	5003	0.189	-24
682.9	320.0	5004	0.184	-23
692.9	330.0	5006	0.179	-21
702.9	340.0	5006	0.175	-21
712.9	350.0	5006	0.171	-21
722.9	360.0	5006	0.167	-21
732.9	370.0	5006	0.163	-21
742.9	380.0	5006	0.160	-21
752.9	390.0	5006	0.156	-21
762.9	400.0	5006	0.153	-21
772.9	410.0	5006	0.150	-21
782.9	420.0	5006	0.146	-21
792.9	430.0	5006	0.144	-21
800.3	437.4	5006	0.141	-21