D. S. T. REPORT

Well Name	Phillips	Test No.	3
Well Number	7-11-1X	Zone Tested	III
Company	Phillips Petroleum Company	Interval	9770 - 9800
Comp. Rep.	J. Fetters	Tester H. Price	Date June 6, 1968

BJ
BORG WARNER

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	Phillips	Test No.	3
Well Number	7-11-1X	Zone Tested	III
Company	Phillips Petroleum Company	Interval	9770 - 9800
Comp. Rep. J. Fetters	Tester H. Price	Date	June 6, 1968

Type of Test Casing Hook Wall R F S Tool No.

Preflow 25 mins. ISI 135 mins. Flow 685 mins. FSI mins.

Specify Inside or Outside	Ins. REC. No. 2758 / 10600 RANGE 72 HR. CLOCK	Outs. REC. No. 2759 / 10650 RANGE 72 HR. CLOCK	REC. No. / RANGE HR. CLOCK
DEPTH	9779	9784	
Initial Hydro Mud Press	6395	6401	
Initial Shut-In Press	5633	5636	
Initial Flow Press	1227	1232	
Final Flow Press	916	1160	
Final Shut-In Press	5245		
Final Hydro Mud Press			

Mud Drop Nil Fluid Loss 13.0 Mud Weight 12.6#
Viscosity 43 Temperature °F 247 Net Pay Tested 30'
Top Packer Depth – Bottom Packer Depth 9744 Total Depth
Drill Pipe Size 3½" E.U.E. Wt. 9.3# Drill Collar I.D. 2¼" Ft. Run 279.52
Surface Choke Size Adj. 1½" ID Bottom Choke Size 2"ID Bumper sub Main Hole Size 9 5/8" X 47# casing
Anchor Size 3½" E.U.E. Rat Hole Size – Feet of Rat Hole –
Cushion Amount 9770 Type Diesel Oil 7.2# per gal. Rubber Size 8 3/8"

Fluid Recovery Total Feet No recovery - fluid and gas pumped back into formation
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Gas Recovery How Measured Riser size:

mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg. psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: See attached sheet - as per Mr. J. Fetters.

Did not receive any attached sheet in Calgary, Canada.

Core Lab Gas Cont. No. Chem - Geo. Lab Gas Cont. No

BJ BORG WARNER

BAKER TEST HEAD TEST NO. 3

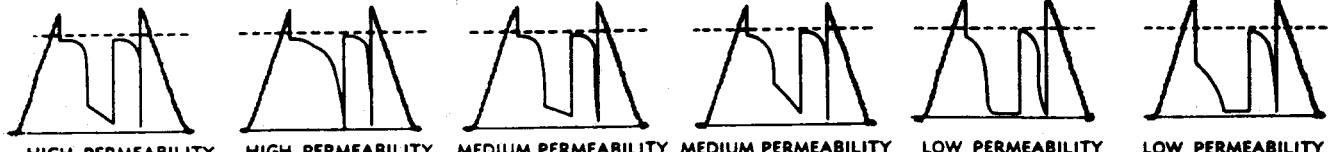
TESTING REPORT

	4S LANDING SUB	
	4S CHAMBER	
	4S TOOL OR P.O. SUB	
	CO SUB	
	X-Over Sub	
	4 Jts. Drill Pipe	
	Pup Jt. (7')	185.80
	X-Over Sub	.80
	P.B. Bumper Sub	22.31 (Closed)
	X-Over Sub	.80 DEPTH
	RECORDER No.	DEPTH
	2 Jts. Drill Pipe	88.79
	X-Over Sub	.74
1. PACKER DEPTH	Otis Test Tree	22.48
	X-Over Sub	.74
2. PACKER DEPTH	295 Jts. Tubing	9076.60 — TOTAL TOOL ABOVE INTERVAL
	ANCHOR—SPECIFY	
	X-Over Sub	1.76
	P.B. Bumper Sub (Closed)	21.73
	BLANK OFF OR BY PASS SUB	
	RECORDER No.	DEPTH
	X-Over Sub	.85
	9 Drill Collars	279.52
3. PACKER DEPTH	X-Over Sub	1.62 — TOTAL INTERVAL
4. PACKER DEPTH 9744	PACKER	8.35
	ANCHOR—SPECIFY	
	1 Jt. Perf. Tubing	31.57
	X-Over Sub	1.60
	RECORDER No. 2758 (Inside)	5.00 DEPTH 9779
	Rec. Hanger Sub 2759 (outs.)	1.00 Depth 9784
	1' Perf.	1.00
	Rec. Case	4.00
TOTAL DEPTH 9790	BULLNOSE	2.45

TOTAL TAIL PIPE

TOTAL TEST TOOL

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

5 Min. **DST PRESSURE INCREMENTS** OF PREFLOW

Test # 3 POINT A TO B (25 Mins.)

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T + θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T+\theta}{\theta}$	PSIG
1		Point A		6894				
2				6177				
3				5667				
4				5064				
5				4416				
6		Point B		3967				
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

5 Mins. **DST PRESSURE INCREMENTS** OF INITIAL SHUT-IN

Test # 3 POINT B TO C (135 Mins.)

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T + Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T + Θ	$\frac{T+\Theta}{\Theta}$	PSIG
1	0	Point B		3967	120			5629
2	5			4286	125			5632
3	10			5226	130			5636
4	15			5321	135	Point C		5636
5	20			5380				
6	25			5410				
7	30			5434				
8	35			5462				
9	40			5483				
10	45			5508				
11	50			5526				
12	55			5546				
13	60			5556				
14	65			5570				
15	70			5583				
16	75			5594				
17	80			5600				
18	85			5608				
19	90			5613				
20	95			5616				
21	100			5619				
22	105			5621				
23	110			5624				
24	115			5627				

DST PRESSURE INCREMENTS ACID SQUEEZE

Test # 3 POINT C TO D (33 Mins.)

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG
1		Point C		5635				
2				8919				
3		Point D		8304				
4								
5								
6								
7								
8								
9								
10								
11								
12								
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22								
23								
24								

C

DST PRESSURE INCREMENTS BLEED OFF

Test # 3 POINT D TO E (148 Mins.)

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T + Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T + Θ	$\frac{T+\Theta}{\Theta}$	PSIG
1		Point D		8304				
2				6704				
3				3755				
4		Point E		1232				
5								
6								
7								
8								
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18								
19								
20								
21								
22								
23								
24								

DST PRESSURE INCREMENTS FLOW E TO F (685 Mins.)

Test # 3

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG
1	0	Point E		1232	410			1352
2	22	# 1		1030	415			1346
3	46	# 2		931	420			1352
4	71	# 3		1044	425			1640
5	84	# 4		1108	430			1521
6	103	# 5		745	435			1490
7	137	# 6		1241	440			1548
8	167	# 7		803	445			1368
9	217	# 8		1122	450			1371
10	232	# 9		1088	455			1360
11	254	# 10		989	460			1352
12	319	# 11		897	465			1454
13	350	# 12		1357	470			1310
14	355			1529	475			1324
15	360			1396	480			1332
16	365			1404	485			1327
17	370			1429	490			1321
18	375			1396	495			1319
19	380			1385	500			1319
20	385			1376	505			1346
21	390			1368	510			1391
22	395			1365	515			1343
23	400			1363	520			1365
24	405			1357	525			1352

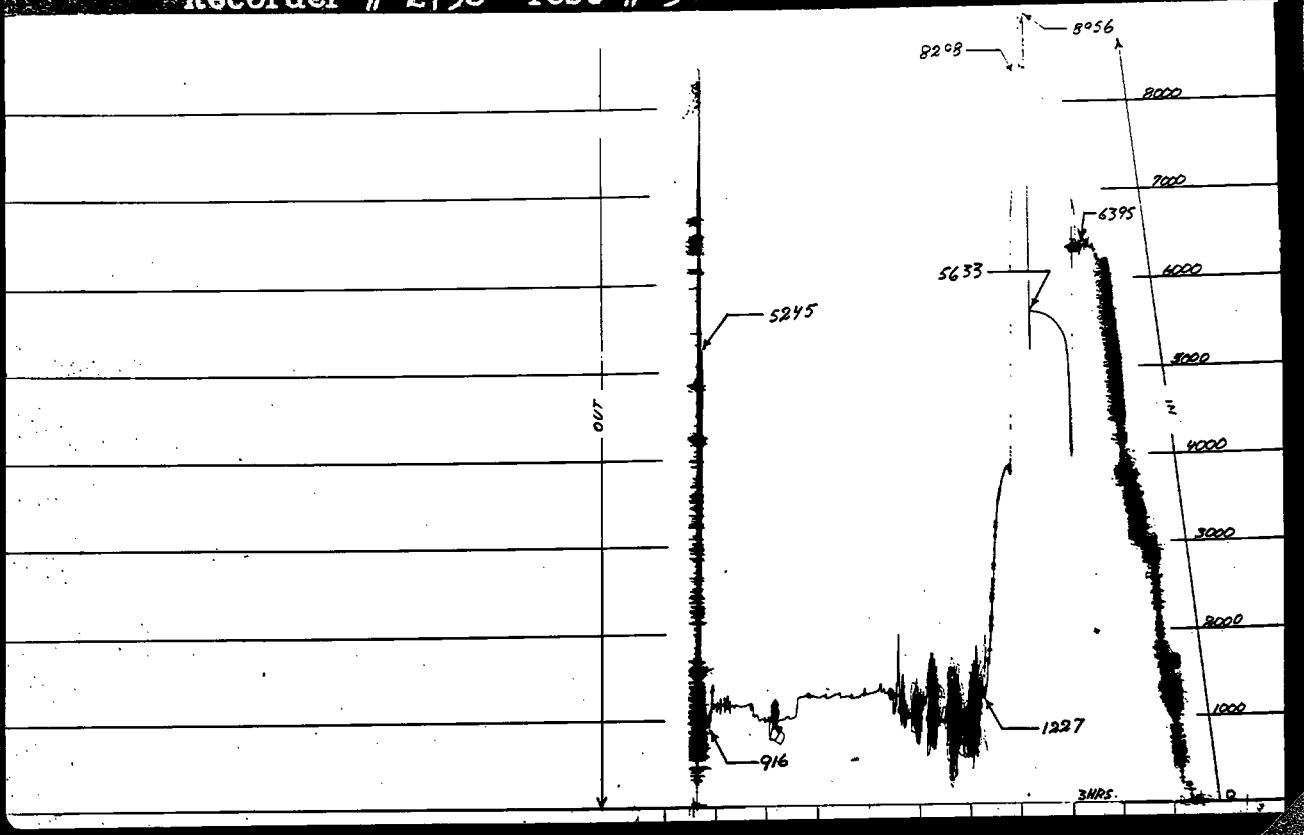
DST PRESSURE INCREMENTS FLOW E TO F (685 Mins.)

Test # 3

Recorder No. 2759 Depth 9784

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG
1	530			1332	650			648
2	535			1324	655			834
3	540			1321	660			1357
4	545			1307	665			1282
5	550			1299	670			1421
6	555			1293	675			1443
7	560			1307	680			1368
8	565			1346	685	Point F		1160
9	570			1319				
10	575			1307				
11	580			1330				
12	585			1315				
13	590			1324				
14	595			1327				
15	600			1338				
16	605			1330				
17	610			1332				
18	615			1294				
19	620			1299				
20	625			1396				
21	630			1376				
22	635			1338				
23	640			1363				
24	645			881				

Phillips 7-11-1X
Recorder # 2758 Test # 3



Phillips 7-11-1X
Recorder # 2759 Test # 3