CONFIDENTIAL

Well Name	COD STRUCTURE		Test No. 7
Well Number	7-11-3X		Zone Tested
Company	Phillips Petroleum Co. Norway		Interval Perforated from 10125 - 10145
Comp. Rep.	J.R.Fetters	Tester B.J.Flahr	Date December 28/1968.

BJ
BORG WARNER

BJ BORG WARNER

CONFIDENTIAL

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	COD STRUCTURE	Test No.	7
Well Number	7-11-3X	Zone Tested	
Company	Phillips Petroleum Co. Norway	Interval	Perforated from 10125 - 10145
Comp. Rep.	J.R.Fetters	Tester B.J.Flahr	Date December 28/1968.

Type of Test Casing Hook Wall RFS Tool No.

Preflow 15 mins. ISI 100 mins. Flow 1070 mins. FSI 220 mins.

Specify Inside or Outside	Ins REC. No. 2759 10650 RANGE 72 HR. CLOCK	Outs REC. No. 2760 10650 RANGE 48 HR. CLOCK	REC. No. RANGE HR. CLOCK
DEPTH	10104	10110	
Initial Hydro Mud Press	6564	6569	
Initial Shut-In Press	5497	5521	
Initial Flow Press	3808	3818	
Final Flow Press	3502	3515	
Final Shut-In Press	5260	5286	
Final Hydro Mud Press	6564	6569	

Mud Drop Fluid Loss Mud Weight 12.1
Viscosity 44 Temperature °F 254 Net Pay Tested 20
Top Packer Depth 10062 Bottom Packer Depth Total Depth 10152
Drill Pipe Size 3½" E.U.E. Wt. 9.3 Drill Collar I.D. Ft. Run
Surface Choke Size 1" Bottom Choke Size 2 3/8" Main Hole Size 7" (29# casing)
Anchor Size 4 3/4" + 3½" OD Rat Hole Size Feet of Rat Hole
Cushion Amount 88 Bbls Type 9# Diesel Fuel Rubber Size 5 3/4"

Fluid Recovery Total Feet
Recovered 87 Bbls Feet of Diesel cushion, 48 Bbls. oil and 62 M.C.F. gas
Recovered 184 Bbls Feet of Water and 87 Bbls water and oil mixture returned out.
Recovered Feet of
Recovered Feet of
Recovered Feet of

Gas Recovery How Measured Orifice meter on low press. sep.

836 mins.	Temp. °F	Press Rdg. 20 psi	Orifice Size ½"	=	120	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

REMARKS: ~~Block Off Time for Drill Pipe~~ During initial flow the well flowed at a rate of 515 Bbls/day. After well flowed back 82 Bbls of Diesel cushion, the well unloaded and flowed gas and oil and water at a rate of 0.120 MMCF/day gas, 90 Bbls/day of oil and 340 Bbls/day water. The oil was greenish-black in color, with a gravity of 47° API. Field water analysis was as follows: Chlorides: 16000 PPM - Calcium 240 PPM - Total hardness 450 PPM, Resistivity 0-320 @ 49°F.

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

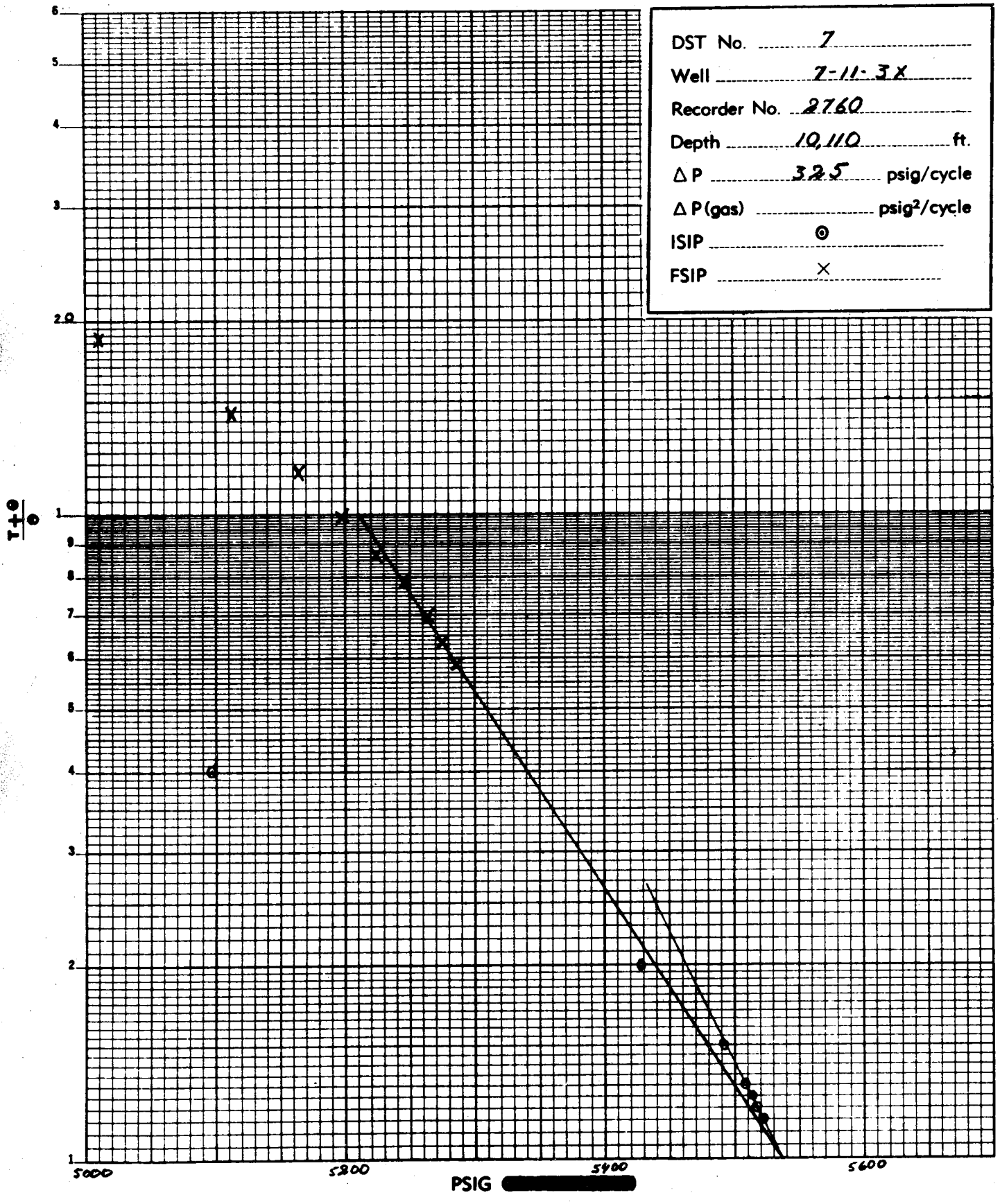
Test #7

Baker test tree	4.50
Hydril valve	2100
C.O. Sub	1.50
3½" EUE tubing	310.00
3½" EUE tubing	6.00
C.O. Sub	.90
Otis Test Tree	24.25
3½" EUE tubing	9727.06
C.O. Sub	.90
Packer (Baker) (Depth 10062.96)	6.40
C.O. Sub	.78
3½"EUE Perf. Tubing	31.25
C.O. Sub	1.85
Recorder hanger	1.00
Recorder case	4.00
Recorder hanger	1.00
Perforation	1.00
Recorder case	4.00
Bullnose (Depth 10116.74)	2.50

BJ
BORG WARNER

TESTING REPORT

DST No. 7
Well 7-11-3X
Recorder No. 2760
Depth 10,110 ft.
ΔP 325 psig/cycle
ΔP(gas) ____ psig²/cycle
ISIP ⊙
FSIP ×



D

5 mins. **DST PRESSURE INCREMENTS** of Preflow

A-B

Recorder No. 2760 Depth 10110

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG
A 1	0			3717				
2	5			3725				
3	10			3749				
B 4	15			3766				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

C

5 mins. **DST PRESSURE INCREMENTS** of initiel Shut-In.

B=C

Recorder No. 2760 Depth 10110

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+Δ	$\frac{T+\Delta}{\Delta}$	PSIG	Time Defl. "	T+Δ	$\frac{T+\Delta}{\Delta}$	PSIG
B 1	0			3766				
2	5			5097				
3	10			5351				
4	15			5427				
5	20			5459				
6	25			5478				
7	30			5491				
8	35			5497				
9	40			5502				
10	45			5505				
11	50			5508				
12	55			5511				
13	60			5513				
14	65			5513				
15	70			5516				
16	75			5516				
17	80			5518				
18	85			5518				
19	90			5521				
20	95			5521				
C 21	100			5521				
22								
23								
24								

C

5 mins. **DST PRESSURE INCREMENTS** of Bleed-off and coil relaxing time.

Recorder No. 2760 Depth 10110 C-D

Points		INITIAL CIP				FINAL CIP		
	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG
C 1	0			5521				
2	5			3807				
3	10			3820				
D 4	15			3818				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

C

5 mins. **DST PRESSURE INCREMENTS** of flowing time.

D-E

Recorder No. 2760 Depth 10110

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			3818	120			4008
2	5			3823	125			4016
3	10			3829	130			4022
4	15			3839	135			4030
5	20			3847	140			4035
6	25			3856	145			4040
7	30			3864	150			4043
8	35			3872	155			4049
9	40			3878	160			4057
10	45			3888	165			4065
11	50			3894	170			4070
12	55			3909	175			4076
13	60			3918	180			4081
14	65			3932	185			4086
15	70			3946	190			4092
16	75			3954	195			4097
17	80			3959	200			4103
18	85			3967	205			4106
19	90			3973	210			4108
20	95			3978	D-1 215			4108
21	100			3984	220			4108
22	105			3992	225			4089
23	110			3998	230			4070
24	115			4003	235			3978

Cont'd D-E

DST PRESSURE INCREMENTS

Recorder No. 2760 Depth 10110

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T+\theta}{\theta}$	PSIG
1	240			3886	360			3899
2	245			3856	365			3902
D-2 3	250			3826	370			3905
4	255			3627	D-4 375			3905
5	260			3973	380			3905
6	265			4032	385			3894
7	270			4084	390			3886
8	275			4103	395			3878
D-3 9	280			4122	400			3872
10	285			4106	405			3864
11	290			4086	410			3858
12	295			4079	415			3853
13	300			4068	420			3847
14	305			4059	425			3845
15	310			4030	430			3842
16	315			3998	435			3839
17	320			3962	440			3839
18	325			3943	445			3837
19	330			3924	450			3834
20	335			3916	455			3828
21	340			3905	460			3826
22	345			3902	465			3823
23	350			3896	470			3820
24	355			3899	475			3818

Cont'd D-E

DST PRESSURE INCREMENTS

Recorder No. 2760 Depth 10110

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG	Time Defl. "	T+Θ	$\frac{T+\Theta}{\Theta}$	PSIG
1	480			3812	600			3774
2	485			3812	605			3766
3	490			3809	610			3760
4	495			3809	615			3755
5	500			3807	620			3752
6	505			3807	625			3749
7	510			3804	630			3747
8	515			3804	635			3744
9	520			3801	640			3741
10	525			3801	645			3738
11	530			3801	650			3738
12	535			3801	655			3738
13	540			3798	660			3736
14	545			3798	665			3736
15	550			3796	670			3786
16	555			3793	675			3733
17	560			3790	680			3733
18	565			3787	685			3730
19	570			3787	690			3730
20	575			3785	695			3728
21	580			3785	700			3728
22	585			3782	705			3725
23	590			3782	710			3725
24	595			3782	715			3722

Cont'd D-E

DST PRESSURE INCREMENTS

Recorder No. 2760 · Depth 10110

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG
1	720			3722	840			3613
2	725			3720	845			3551
3	730			3720	D-9 850			3491
4	735			3720	855			3526
5	740			3717	860			3619
6	745			3717	D-10 865			3635
7	750			3717	870			3580
8	755			3717	875			3553
9	760			3714	880			3545
10	765			3714	885			3537
11	770			3714	890			3531
12	775			3714	895			3523
13	780			3711	900			3515
14	785			3711	905			3518
15	790			3711	910			3520
16	795			3709	915			3520
17	800			3709	920			3520
18	805			3706	925			3520
19	810			3706	930			3520
20	815			3706	935			3518
D-6 21	820			3706	940			3518
D-7 22	825			3657	945			3515
D-8 23	830			3711	950			3515
24	835			3662	955			3515

C

Cont'd D-E

DST PRESSURE INCREMENTS

Recorder No. 2760 Depth 10110

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG
1	960			3515				
2	965			3515				
3	970			3515				
4	975			3515				
5	980			3515				
6	985			3515				
7	990			3515				
8	995			3515				
9	1000			3515				
10	1005			3515				
11	1010			3515				
12	1015			3520				
13	1020			3520				
14	1025			3518				
15	1030			3518				
16	1035			3515				
17	1040			3515				
18	1045			3512				
19	1050			3510				
20	1055			3510				
21	1060			3512				
22	1065			3515				
23	1070			3515				
24								

E

C

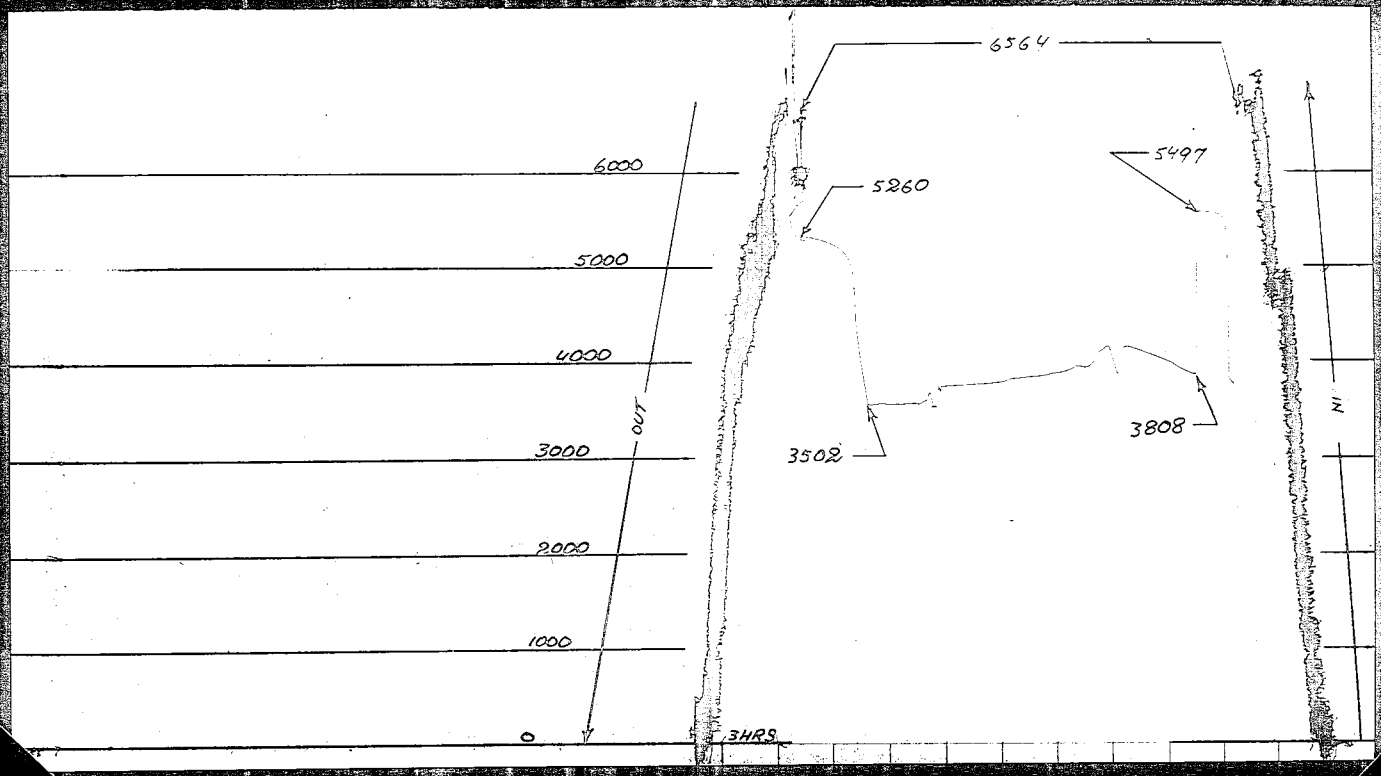
5 mins **DST PRESSURE INCREMENTS** of final Shut-In.

E-F

Recorder No. 2760 Depth 10110

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			3515	120			5197
2	5			3640	125			5202
3	10			3738	130			5210
4	15			3845	135			5218
5	20			3935	140			5224
6	25			4043	145			5229
7	30			4151	150			5235
8	35			4319	155			5240
9	40			4548	160			5246
10	45			4772	165			5253
11	50			4902	170			5256
12	55			4970	175			5259
13	60			5010	180			5264
14	65			5045	185			5267
15	70			5069	190			5270
16	75			5091	195			5273
17	80			5113	200			5275
18	85			5126	205			5278
19	90			5140	210			5280
20	95			5151	215			5283
21	100			5164	220			5286
22	105			5172				
23	110			5181				
24	115			5189				

Cod Structure 7-11-3X
Ins.Rec. #2759 Test #7



Cod Structure 7-11-3X
Outs.Rec. #2760 Test #7