

WELL 2/4-3X

DST NO. 2.

No.	I.D.	O.D.	Description	Length	Depth
			Baker Test Head		
			Hydril Valve		
			Tubing Above RKB (Less)	-16.00	
9	2.441	2 7/8"	6.50 lb N-80 8R Tubing	278.92	-16.00
			Otis SST Tree Slick Jt. & Hanger	27.00	262.92
326	2.441	2 7/8"	6.50 lb N-80 8R Tubing	10178.32	289.92
1	2 17/32	4 3/8"	3 1/2 IF Pin by 2 7/8 Eue. 8R Box	1.00	10468.24
1	2 17/32	4 3/8"	3 1/2 Box by Pin Knock out Sub	1.00	10469.24
1	2.500	4 3/8"	2 7/8 Eue. 8R Pin by 3 1/2 IF Box Sub	1.00	10470.24
3	2.441	2 7/8"	6.50 Lb N-80 Eue 8R Tubing	93.63	10471.24
1	2.441	2 7/8"	Tubing Sub 2 7/8" EUE 8Rd. N-80	8.03	10564.87
1	2 1/8	3 3/4	2 7/8 by 3 1/2 EUE 8R Swage with Collar	0.70	10572.90
1	2 5/8	4 3/4	3 1/2 EUE 8R box x 3 1/2 IF Pin Sub	1.00	10573.60
1	5/8	4 3/4	B.J. HMV Tool (Safety Valve)	7.15	10574.60
1	2 11/16	4 3/4	3 1/2 IF Box by 3 1/2 EUE w/3 1/2" EUE Collar	1.00	10581.75
1	2.441	4 3/4	3 1/2 EUE by 2 7/8 EUE 8R Pin with Swage	0.75	10582.75
1	2.441	5.884	B.J. FFC Packer	4.24	10583.50
1	2.441	2 7/8	6.50 lb N-80 EUE 8R Tubing	31.35	10587.74
1	2.441	2 7/8	6.50 lb N-80 EUE 8R Tubing Perf. Jt.	31.52	10619.09
1	2.500	3.500	Recorder Hanger No. 2758	1.00	10650.61
1	2.500	3.500	Recorder Case	4.00	10651.61
1	2.500	3.500	Recorder Hanger No. 2759	1.00	10655.61
1	2.500	3.500	Recorder Case	4.00	10656.61
1	2.500	3.500	Recorder Hanger No. 2760	1.00	10660.61
1	2.500	3.500	Recorder Case	4.00	10661.61
			Overall Length of String to RKB		10665.61



DATE: July 11, 1970

PHILLIPS PETROLEUM CO.

LEASE: Ekofisk

SURFACE PRESSURE

INTERVAL:

WELL NO.: 2/4-3X

TEST NO.: DST no. 2

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
2215			Set Tool
2230	(Good	Blow)	Tool Opened (Switched to B.J. Tank)
2231		0	Flowing Dsiplacement H2O to B.J. Tank
2232		0	
2233		0	
2234		0	
2235		0	
2236		0	
2237		0	
2238		0	
2239		0	
2240		0	
2240		0	Shut Well in for Initial Buildup.
2241		0	
2242		0	
2243		0	
2244		0	
2245		0	
2250		0	
2255		0	
2300		0	
2305		0	
2310		0	
2315		0	
2318		4780	
2320			Stopped pumping.



PHILLIPS PETROLEUM COMPANY

TEST STARTED: 2230 hrs. July 11, 1970

TEST COMPLETED: 0822 hrs. July 12, 1970

DST NO. 2 SUMMARY

DEPTH OF PRESSURE RECORDER: NO. 2758 at 10652, 2760 at 10657 and 2761 at 10662.

Packer at 10588.

Operation	Time		Length of Test		Choke Size	Wellhead		Gas MMCFD	Oil BPD	GOR Cu.Ft./STB	Water BPD	BHP PSIA
	From	To	Hrs.	Mins.		Press PSIA	Temp °F					
IF	2230	2240	00	10	1"	0	N.R.	0	0	0	poor blow	4777
ISI	2240	2308	00	28	0	0	N.R.	0	0	0	0	4777
Check tool for plugging at 2308 hrs. Pressure up on annulus and were able to pump into it. Close tool from 2333 to 2345 and flowed to B.J. tanks at 2415.												
FF	2415	0822	8	07	1"	0	N.R.	0	0	0	poor blow	4869
Tubing was reversed out - recovered 2 bbls of gas cut mud wt 9.3 - 10.2 ppg.												
	IHP - 8055											
	FHP - N.R.											



DRILL-STEM TEST DATA

Well Name <u>Phillips Ekofisk</u>		Test No <u>2</u>
Well Number <u>2-4-3X</u>		Zone Tested
Company <u>Phillips Petroleum Company (Norway)</u>		Interval <u>10650 - 10780</u> Perf. from
Comp Rep. <u>O. Rolls</u>	Tester <u>D. Williams</u>	Date <u>12-7-70</u>

Type of Test Casing RFS Tool No. _____

Preflow _____ mins ISI _____ mins. Flow _____ mins. FSI _____ mins

Specify Inside or Outside	In REC No. <u>2758</u>	IN REC No. <u>2760</u>	OUT REC No. <u>2761</u>
	<u>10600</u> RANGE <u>72</u> HR. CLOCK	<u>10749</u> RANGE <u>72</u> HR. CLOCK	<u>10700</u> RANGE <u>72</u> HR. CLOCK
DEPTH	<u>10641</u>	<u>10656</u>	<u>10661</u>
Initial Hydro Mud Press	<u>8024</u>	<u>8064</u>	<u>8068</u>
Initial Shut-In Press	<u>4757</u>	<u>4791</u>	<u>4772</u>
Initial Flow Press	<u>4843</u>	<u>4875</u>	<u>4863</u>
Final Flow Press	<u>4841</u>	<u>4859</u>	<u>4860</u>
Final Shut-In Press			
Final Hydro Mud Press			

Mud Drop NIL Fluid Loss 3.3 Mud Weight 14.3
 Viscosity 45 Temperature °F 269 Net Pay Tested 30' Perf. 4 shots/ft.
 Top Packer Depth 10,523' Bottom Packer Depth _____ Total Depth 11,189 Float Collar _____
 Drill Pipe Size 2 7/8 Wt. 6.5 # Drill Collar I.D. _____ Ft. Run _____
 Surface Choke Size _____ Bottom Choke Size 5/8" Main Hole Size _____
 Anchor Size 2 7/8" Rat Hole Size 7" 29# CSG. Feet of Rat Hole _____
 Cushion Amount Full Type Fresh Water Rubber Size _____
Reversed out 2 bbls. gas cut drilling mud + water Cushion

Fluid Recovery Total Feet _____
 Recovered 100' Feet of Gas Cut Drilling Mud Above Tool
 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 Good initial puff died to weak blow immediately check tool for plugging. Pumped in to tubing to 4900 Bled Pressured off tubing & cont. to have a weak blow. Reset tool and weak blow cont.

DRILL STEM TEST NUMBER TWO

Packer set @ 2215 hrs. July 11/70

Test Started: 2230 hrs. July 11/70

Test Completed: 0822 hrs. July 12/70



Wellhead

Operation	Time		Length of Test		Choke Size	Wellhead		Gas MMCFD	Oil BPD	GOR Cu.Ft./STB	Water BPD	BHP PSIA
	From	To	Hrs.	Mins.		Press PSIA	Temp °F.					

IF	2230	2240	00	10	1"	0	N.R.	0	0	0	poor blow	4777
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ISI	2240	2308	00	28	0	0	N.R.	0	0	0	0	4777
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Check tool for plugging @ 2308 hrs. Pressure up on annulus & were able to pump into it. Close tool from 2335 to 2345 and flowed to BJ tanks @ 2415

FF	2415	0822	8	07	1"	0	N.R.	0	0	0	poor blow	4869
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Tubing was reversed out - recovered 2 bbls. of gas cut mud wt. 9.3 - 10.2 ppg.

IHP = 8055

FHP = N.R.

DRILL STEM TEST NUMBER TWO

TOOL DRAWING D.S.T. # 2

No.	I.D.	O.D.	Description	Length	Depth
			Raker Test Head		
			Hydril Valve		
9	2.441	2 7/8"	6.50 lb. N-80 3R Tubing	278.92	
			Otis SST Tree Slick Jt. & Hanger	27.00	
326	2.441	2 7/8"	6.50 lb. N-80 3R Tubing	10178.32	
	2 17/32	4 3/8"	3 1/2 IF Pin by 2 7/8 Eue. 3R Box	1.00	
	2 1/8"	4 3/8"	3 1/2 Box by Pin Knock Out Sub	1.00	
	2 1/2"	4 3/8"	2 7/8 Eue. 3R Pin by 3 1/2 IF Box Sub	1.00	
	2.441	2 7/8"	6.50 lb. N-80 Eue. 3R Tubing	93.63	
			6.50 lb. N-80 Eue. 3R Tubing Sub.	8.03	
	2.441	3 3/4"	2 7/8 by 3 1/2 Eue. 3R Swage with Collar	.70	
	2 5/8"	4 3/4"	3 1/2 Eue. 3R box X 3 1/2 IF Pin Sub	1.00	
	5/8"	4 3/4"	BJ HMV Tool (Safety Valve)	7.15	
	2 5/8"	4 3/4"	3 1/2 IF Box by 3 1/2 Eue. Pin	1.00	
	2.441	3 3/4"	3 1/2 Eue. with collar X 2 7/8" swage	.75	
	2.441	1.312	BJ FFC Packer	4.24	
	2.441	2 7/8"	6.50 lb. N-80 Eue. 3R Tubing	31.35	
	2.441	2 7/8"	6.50 lb. N-80 Eue. 3R Tubing Perf. Jt.	31.52	
	2 1/2"	3 1/2"	Recorder Hanger No. 2758	1.00	10651.61
	2 1/2"	3 1/2"	Recorder Case	4.00	
	2 1/2"	3 1/2"	Recorder Hanger No. 2760	1.00	10656.61
	2 1/2"	3 1/2"	Recorder Case	4.00	
	2 1/2"	3 1/2"	Recorder Hanger No. 2761	1.00	10661.61
	2 1/2"	3 1/2"	Recorder Case	4.00	
			Overall Length of String	10665.61	

DRILL STEM TEST NUMBER TWO

PRESSURE COMPARISON

<u>Point</u>	<u>Recorder # 2758</u>	<u>Recorder # 2760</u>	<u>Recorder # 2761</u>
A	8024	8064	8068
B	4757	4793	4770
C	4757	4791	4772
D	9420	9449	9479
E	4843	4875	4863
F	4841	4859	4860
G	9176	9210	9224

TIME DEFLECTIONS IN MINUTES

<u>Point</u>	<u>Surface</u>	<u>2758</u>	<u>2760</u>	<u>2761</u>
B to C	38	41	41	40
C to F	427	424	424	417



15 Min DST PRESSURE INCREMENTS on Points A to F

Recorder No. 2758

Depth 10651

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		8024				
2	0	Point B		4757				
3	15			4757				
4	30			4757				
5	41	Point C		4757				
6		Point D		9420				
7	60	Point E		4843				
8	75			4843				
9	90			4843				
10	105			4843				
11	120			4841				
12	135			4841				
13	150			4843				
14	165			4841				
15	180			4841				
16	Completed to							
17	465	Point F		4841				
18		Point G		9176				
19								
20								
21								
22								
23								
24								



15 Min. DST PRESSURE INCREMENTS on Points A to F

Recorder No. 2760

Depth 10656

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		3064				
2	0	Point B		4793				
3	15			4791				
4	30			4791				
5	41	Point C		4791				
6	--	Point D		9449				
7	60	Point E		4875				
8	75			4875				
9	90			4875				
10	105			4875				
11	120			4875				
12	135			4875				
13	150			4875				
14	165			4875				
15	180			4875				
16	Completed to							
17	435			4875				
18	450			4869				
19	465	Point F		4859				
20		Point G		9210				
21								
22								
23								
24								

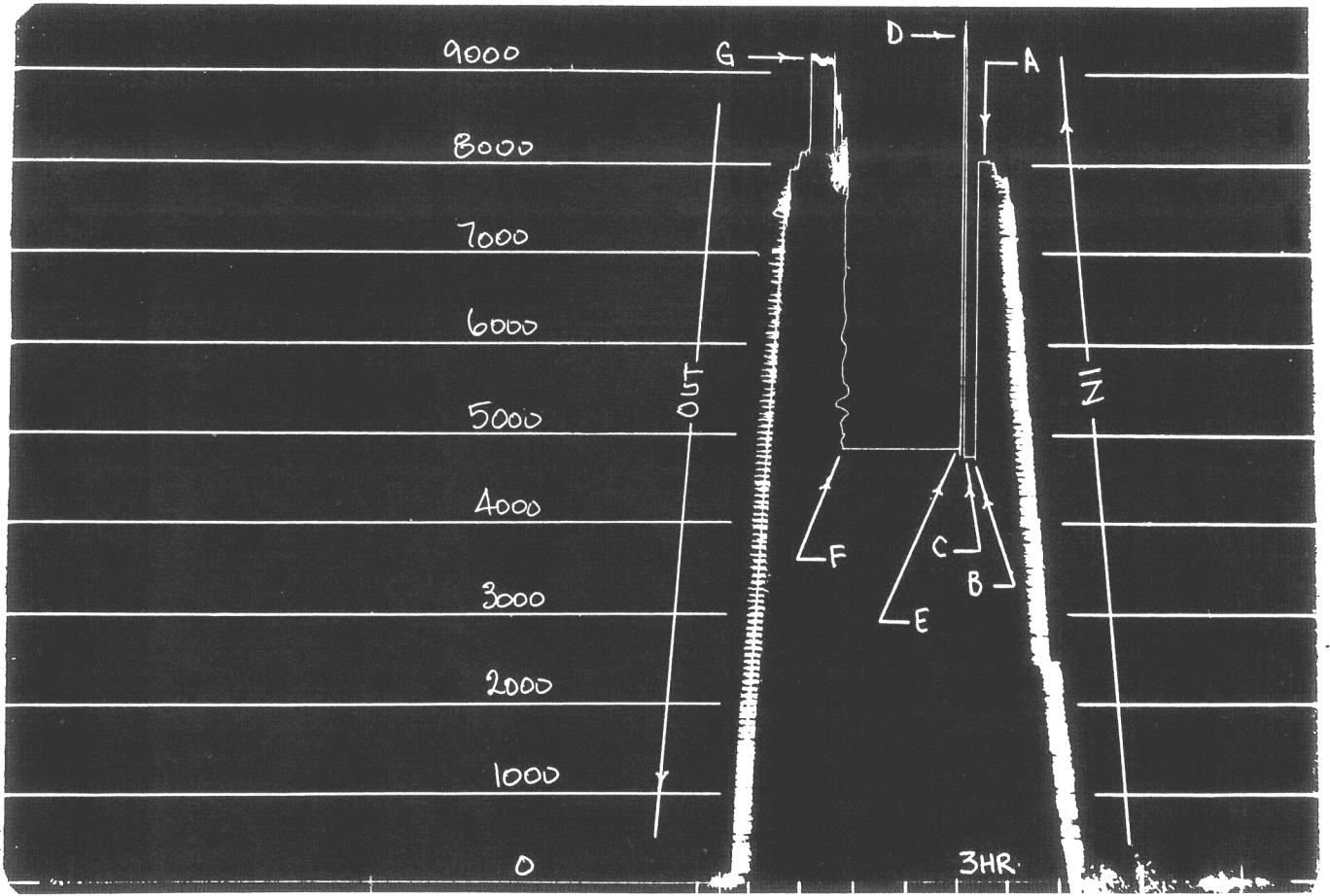


15 Mi. DST PRESSURE INCREMENTS on Points A to F

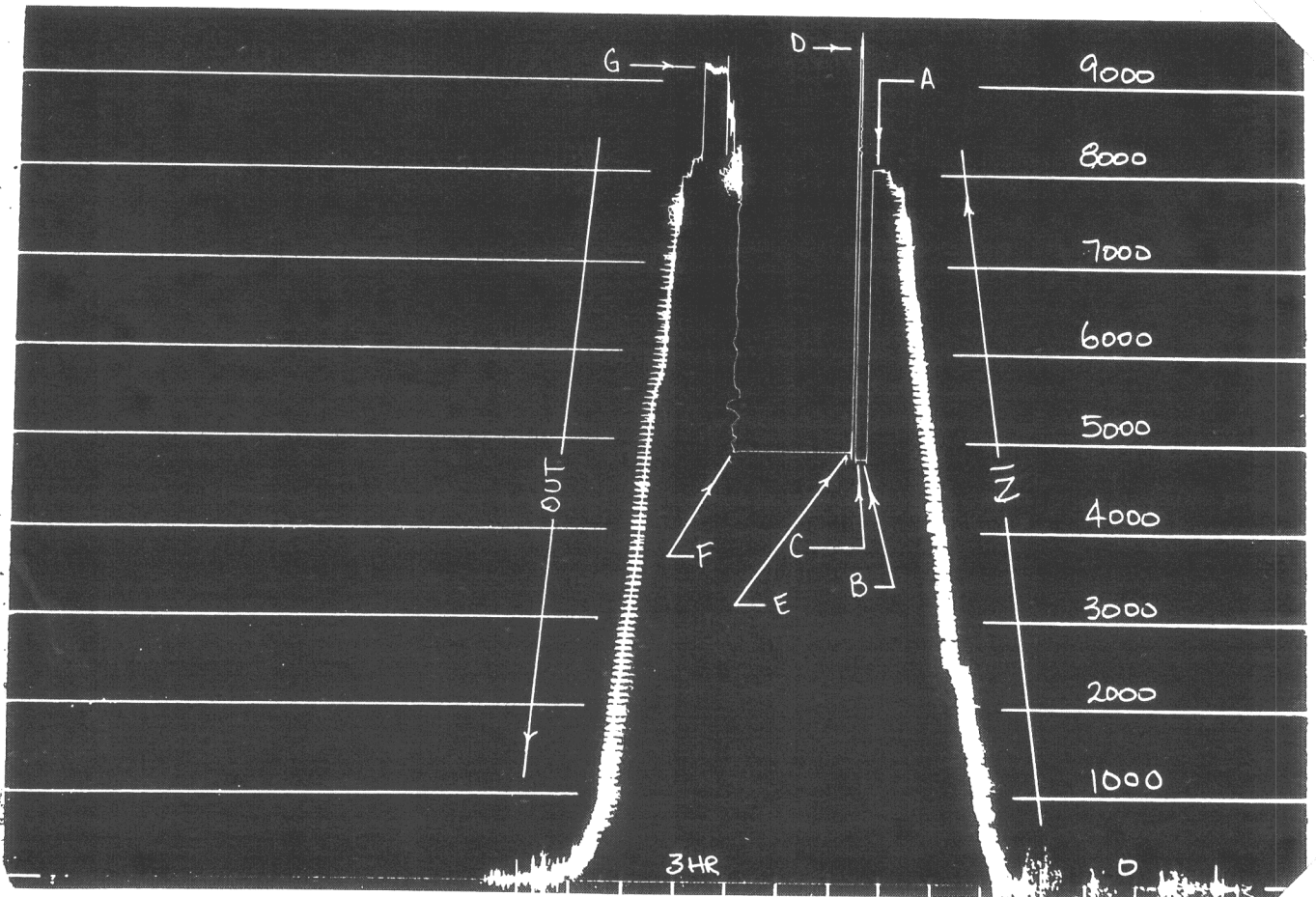
Recorder No. 2761

Depth 10661

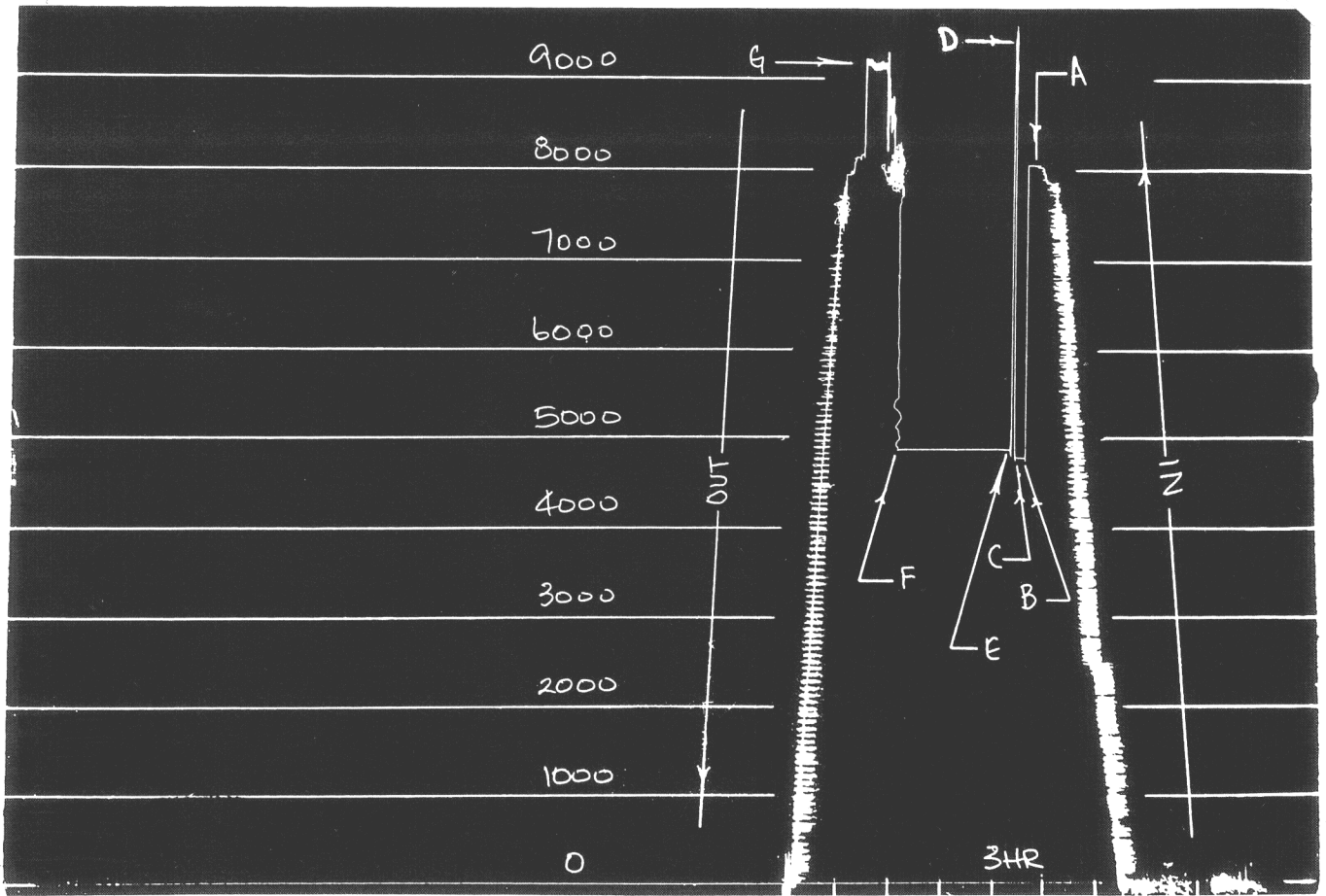
Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG	Time Defl. "	T+θ	$\frac{T+\theta}{\theta}$	PSIG
1	--	Point A		8068				
2	0	Point B		4770				
3	15			4770				
4	30			4772				
5	40	Point C		4772				
6	--	Point D		9479				
7	60	Point E		4863				
8	75			4866				
9	90			4866				
10	105			4866				
11	120			4866				
12	135			4866				
13	150			4866				
14	165			4866				
15	180			4866				
16	Completed to							
17	435			4866				
18	450			4863				
19	457	Point F		4860				
20		Point G		9224				
21								
22								
23								
24								



2758



2760



2761