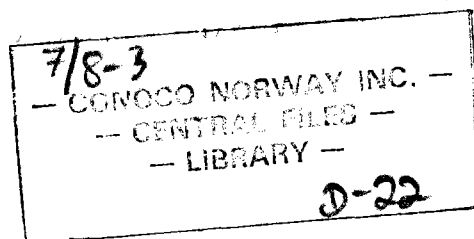




REPORT No. N83123  
 JOB No. \_\_\_\_\_  
 INVOICE/SIR. \_\_\_\_\_  
 DATE 3.12.83

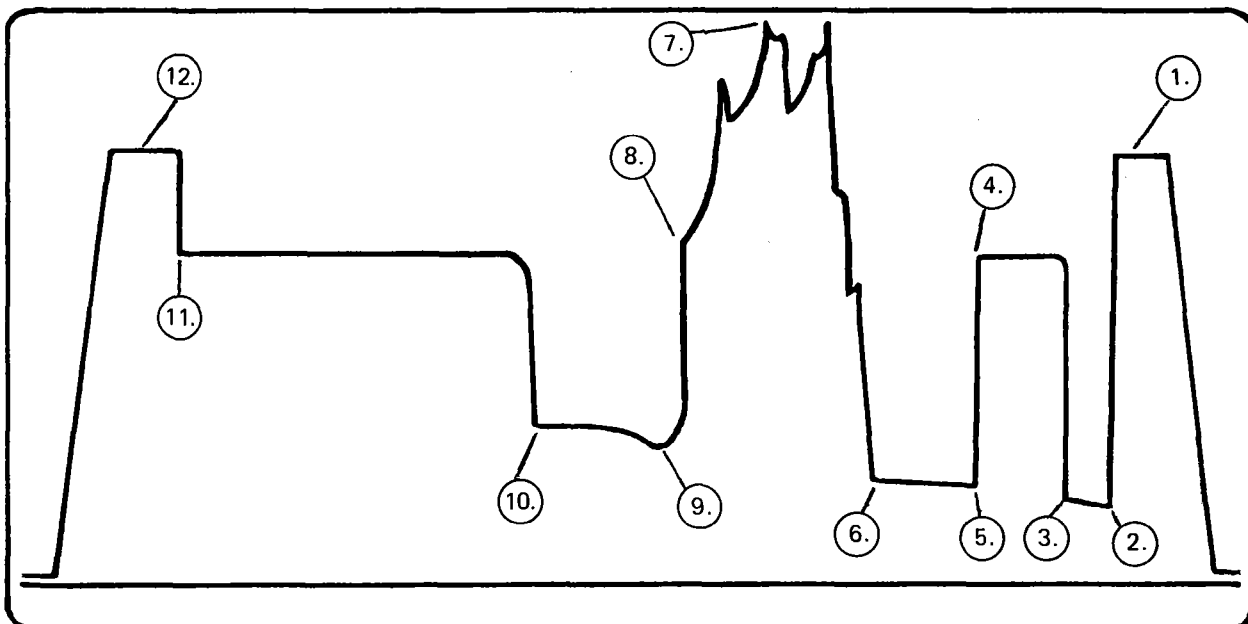


CONOCO

# D.S.T. TECHNICAL REPORT

TEST No. 1 COUNTRY Norway

WELL 7/8-3 FIELD \_\_\_\_\_ RIG \_\_\_\_\_



- |                                    |                                |
|------------------------------------|--------------------------------|
| 1. INITIAL HYDROSTATIC             | 7. MAX. INJECTION PRESSURE     |
| 2. INITIAL FLOW (1)                | 8. INJECTION-END/FINAL FLOW(1) |
| 3. INITIAL FLOW(2)                 | 9. FLOW POINT                  |
| 4. INITIAL SHUT-IN                 | 10. FINAL FLOW (2)             |
| 5. SECOND FLOW (1)                 | 11. FINAL SHUT-IN              |
| 6. SECOND FLOW (2)/INJECTION-START | 12. FINAL HYDROSTATIC          |



REPORT DISTRIBUTION

CONOCO

c/o DOWELL SCHLUMBERGER,  
DUSEVIK BASE,  
4000, STAVANGER,  
NORWAY.

TEST No. 1 WELL 7/8-3 FIELD \_\_\_\_\_

COUNTRY Norway DATE 3.12.83 RIG \_\_\_\_\_

Dowell Schlumberger has been requested to furnish the following companies with Technical Reports. This distribution of Technical Reports will be used for:

- All tests on this well,
- This one test only,

unless otherwise notified.

TECHNICAL REPORT (S)

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TECHNICAL REPORT (S)

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\_\_\_\_\_  
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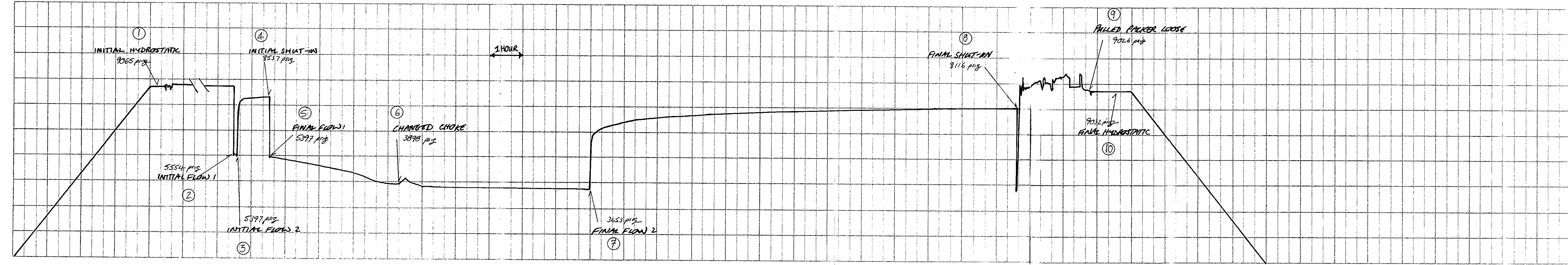
Prepared by the  
Reservoir Evaluation Department  
of Dowell Schlumberger



# PRESSURE LOG\*

Report No. N83123  
Recorder No. J755  
Capacity 14000 p.s.i.  
Depth 12328 ft.

\*a continuous tracing of the original chart





RECORDER No.: J755

CAPACITY : 14000 psi

DEPTH : 12,328 ft

OPENING : Outside - upper

TEMPERATURES : 302 Deg F

CLOCK No. : 9-4410  
96 hours

CLOCK TRAVEL: .010197 in/min

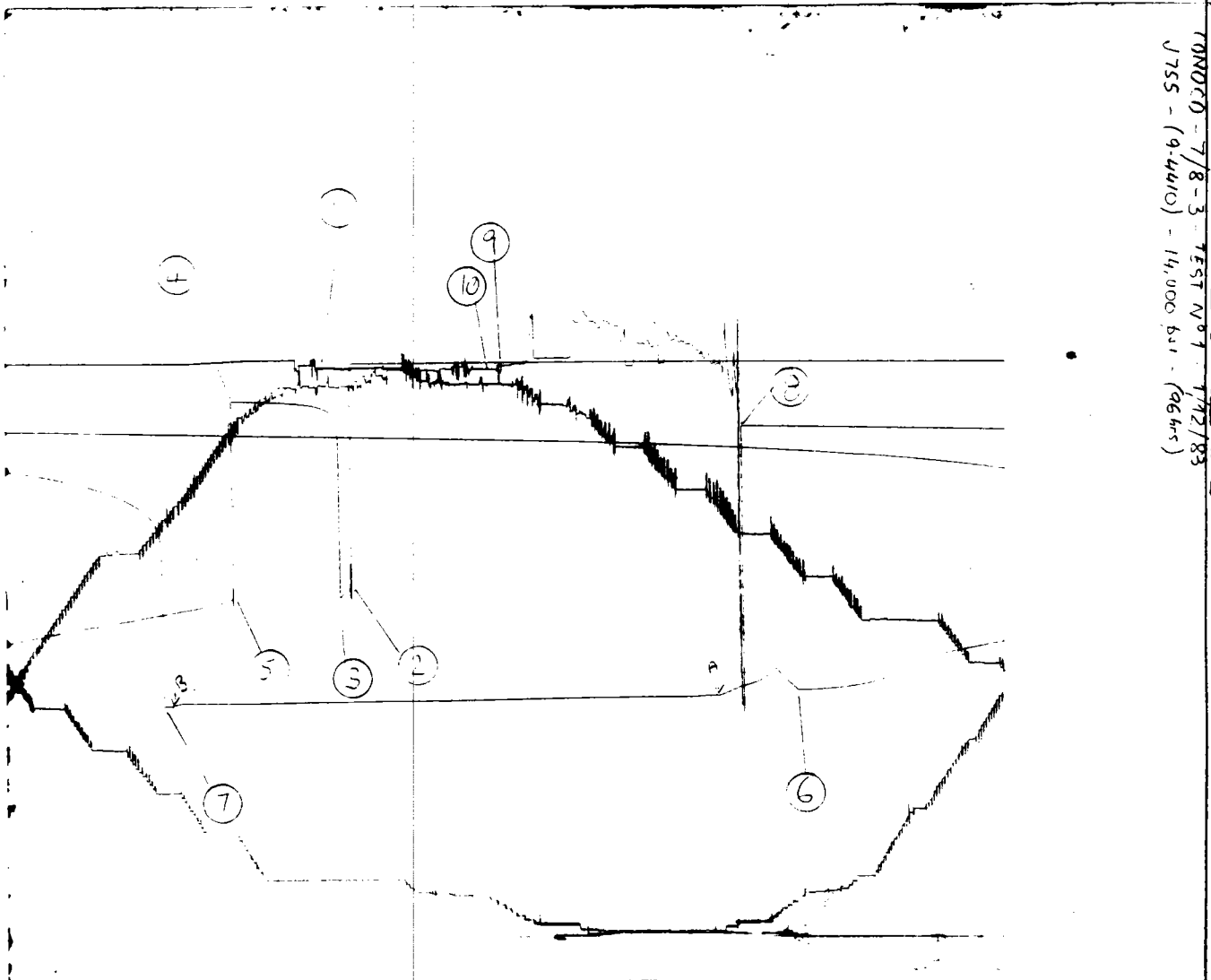
CALIBRATION DATA AT

M = 2751.4968

A = - 12.2129

PRESSURE (PSI) = DEFLECTION (INS) X M + A

PRESSURE DATA FROM THIS CHART IS PRESENTED ON THE NEXT PAGE.





PRESSURE DATA FOR RECORDER: J755

DESCRIPTION	LABEL POINT	PRESSURE (PSI)	TIME GIVEN	TIME COMPUTED
INITIAL HYDROSTATIC	1	9065.0	-	-
INITIAL FLOW (1)	2	5554.1	-	-
INITIAL FLOW (2)	3	5397.2	7	6
INITIAL SHUT-IN	4	8536.7	60	61
FINAL FLOW (1)	5	5397.2	-	-
Changed choke	6	3897.7	243	247
FINAL FLOW (2)	7	3652.8	602	607
FINAL SHUT-IN	8*	8115.7	805	807
Reverse circulation started	8	8115.7	-	-
Pulled packer loose	9	9026.5	952	947
FINAL HYDROSTATIC	10	9032.0	-	-

\* Final shut-in terminated by pressuring annulus to open PCT.



## PRESSURE DATA FOR RECORDER: J755

LABEL POINT	$\Delta T$	PRESSURE (PSI)	$\frac{T + \Delta T}{\Delta T}$	LOG	$P_w - P_f$ (PSI)	COMMENTS
1	-	9065.0	-	-	-	INITIAL HYDROSTA'
2	0	5554.1				INITIAL FLOW (1)
	1	5933.8				Opened @ surface
	2	5512.8				
	3	5493.5				
	4	5466.0				
	5	5441.3				
3	6	5397.2				INITIAL FLOW (2)
3	0	5397.2				START OF SHUT-IN
	5	8286.3	2.200	.342	2889.1	(T=6)
	10	8415.6	1.600	.204	3018.4	
	15	8456.9	1.400	.146	3059.7	
	20	8481.7	1.300	.114	3084.4	
	25	8495.4	1.240	.0934	3098.2	
	30	8506.4	1.200	.0792	3109.2	
	35	8514.7	1.171	.0687	3117.4	
	40	8520.2	1.150	.0607	3122.9	
	45	8525.7	1.133	.0544	3128.5	
	50	8528.4	1.120	.0492	3131.2	
	55	8533.9	1.109	.0450	3136.7	
4	61	8536.7	1.098	.0407	3139.5	INITIAL SHUT-IN
5	0	5397.2				FINAL FLOW (1)
	1	5573.3				Opened @ surface
	2	5367.0				
	4	5342.2				
	6	5322.9				
	8	5309.2				
	10	5298.2				
	15	5270.7				
	20	5240.4				
	25	5215.6				
	30	5188.1				
	35	5160.6				
	40	5130.3				
	50	5083.6				
	60	5025.8				
	70	4976.3				
	80	4921.2				
	100	4816.7				
	125	4681.8				
	150	4555.3				
	175	4354.4				
	200	4060.0				
	225	3927.9				
6	247	3897.7				Changed choke
	260	4241.6				
	275	3974.7				
	300	3795.9				
	325	3779.3				
	350	3773.8				



## PRESSURE DATA FOR RECORDER: J755

LABEL POINT	$\Delta T$	PRESSURE (PSI)	$\frac{T + \Delta T}{\Delta T}$	LOG	$P_w - P_f$ (PSI)	COMMENTS
	375	3771.1				
	400	3760.1				
	425	3749.1				
	450	3740.8				
	475	3738.1				
	500	3729.8				
	550	3716.1				
7	607	3652.8				FINAL FLOW (1)
7	0	3652.8				START OF SHUT-IN
	1	5311.9	614.000	2.788	1659.1	(T=613)
	2	6233.7	307.500	2.488	2580.9	
	3	6418.0	205.333	2.312	2765.2	
	4	6506.1	154.250	2.188	2853.3	
	5	6563.9	123.600	2.092	2911.1	
	6	6610.6	103.167	2.014	2957.8	
	7	6651.9	88.571	1.947	2999.1	
	8	6690.4	77.625	1.890	3037.6	
	9	6720.7	69.111	1.840	2067.9	
	10	6745.5	62.300	1.794	3092.7	
	12	6792.3	52.083	1.717	3139.4	
	14	6833.5	44.786	1.651	3180.7	
	16	6869.3	39.313	1.595	3216.5	
	18	6902.3	35.056	1.545	3249.5	
	20	6932.6	31.650	1.500	3279.8	
	22	6957.3	28.864	1.460	3304.5	
	24	6984.8	26.542	1.424	3332.0	
	26	7006.9	24.577	1.391	3354.1	
	28	7031.6	22.893	1.360	3378.8	
	30	7050.9	21.433	1.331	3398.1	
	40	7141.7	16.325	1.213	3488.9	
	50	7216.0	13.260	1.123	3563.2	
	60	7282.0	11.217	1.050	3629.2	
	70	7334.3	9.757	.989	3681.5	
	80	7381.1	8.663	.938	3728.3	
	90	7425.1	7.811	.893	3772.3	
	120	7529.6	6.108	.786	3876.8	
	150	7609.4	5.087	.706	3956.6	
	180	7672.7	4.406	.644	4019.9	
	210	7727.7	3.919	.593	4074.9	
	240	7771.8	3.554	.551	4119.0	
	270	7810.3	3.270	.515	4157.5	
	300	7843.3	2.043	.483	4190.5	
	400	7925.9	2.533	.404	4273.1	
	500	7983.6	2.226	.348	4330.8	
	600	8030.4	2.022	.306	4377.6	
	700	8079.9	1.876	.273	4427.1	
8	807	8115.7	1.760	.245	4462.9	FINAL SHUT-IN
8	807	8115.7				Reverse Circ. started
9	947	9026.5				Pulled packer loose
10	-	9032.0				FINAL HYDROSTATIC



RECORDER No.: J756

CAPACITY: 14000 psi

DEPTH: 12335 ft

OPENING: Outside - lower

TEMPERATURES: 302 Deg F

CLOCK No.: 9-1005  
48 hours

CLOCK TRAVEL: .020514 in/min

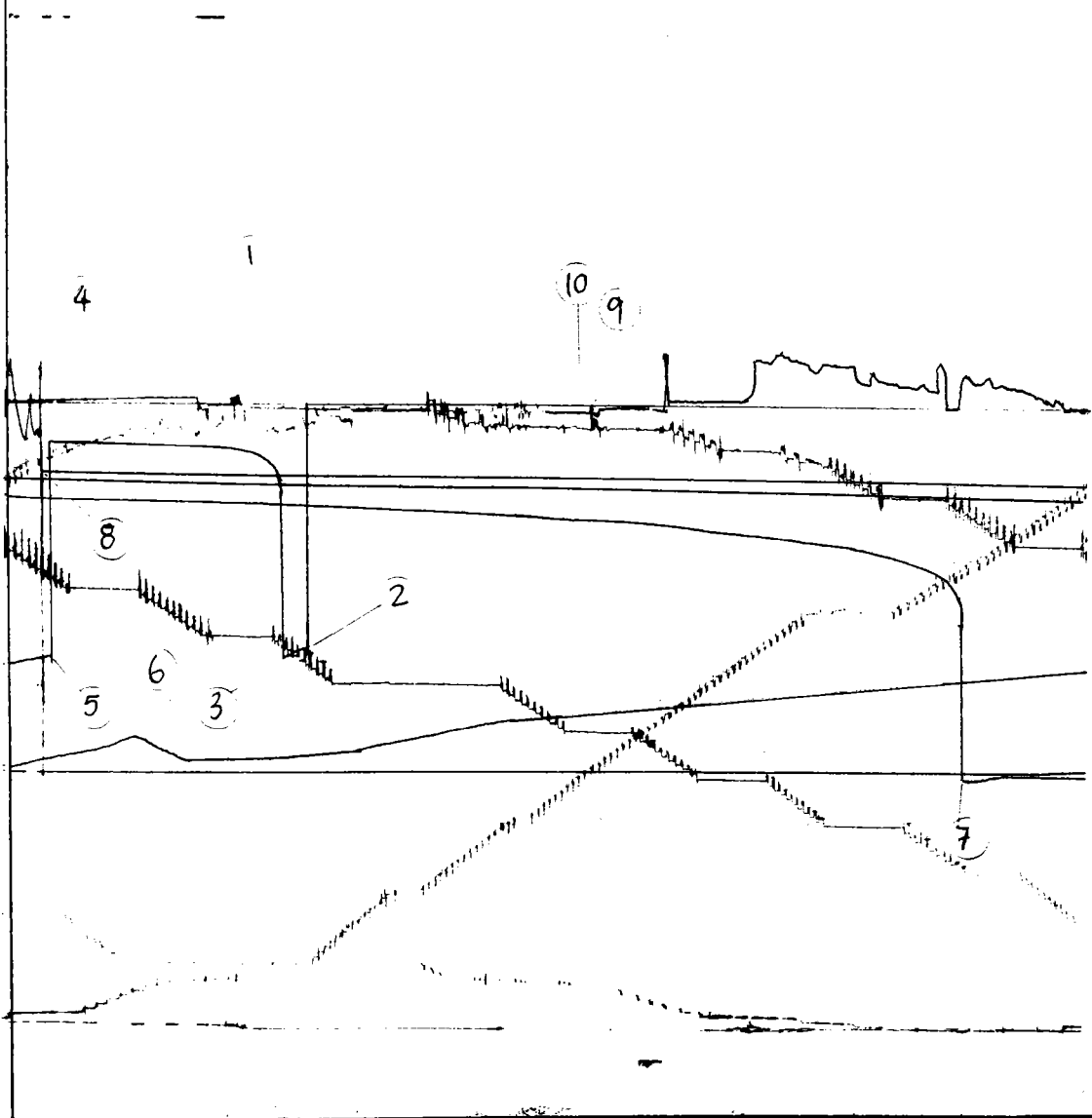
CALIBRATION DATA AT

M = 2743.3076

A = - 40.2994

PRESSURE (PSI) = DEFLECTION (INS) X M ± A

PRESSURE DATA FROM THIS CHART IS PRESENTED ON THE NEXT PAGE.



CONOCO - 7/8-3 - TEST No. 1 - 7/2/83  
 J-756 - 14,000 psi - (9-1005) 48 hrs





PRESSURE DATA FOR RECORDER: J756

DESCRIPTION	LABEL POINT	PRESSURE (PSI)	TIME GIVEN	TIME COMPUTED
INITIAL HYDROSTATIC	1	9122.3	-	-
INITIAL FLOW (1)	2	5561.5	-	-
INITIAL FLOW (2)	3	5407.9	7	6
INITIAL SHUT-IN	4	8546.3	60	61
FINAL FLOW (1)	5	5402.4	-	-
Changed choke	6	3896.3	243	247
FINAL FLOW (2)	7	3660.4	602	609
FINAL SHUT-IN	8*	8110.1	805	805
Reverse circ- started	8	8110.1	-	-
Pulled packer loose	9	8990.7	952	945
FINAL HYDROSTATIC	10	9051.0	-	-

\* Final shut-in terminated by pressuring annulus and opening PCT.



# Formation Testing Field Report

Report No. N83123

WELL IDENTIFICATION			
Company: <u>CONOCO</u>	Well No.: <u>7/8-3</u>	Test No.: <u>1</u>	
Field: _____	Rig: _____	Location: <u>NORTH SEA</u>	Country: <u>NORWAY</u>
Tested Interval: From <u>12342</u> Ft. to <u>12359</u> Ft.			
Co-ordinates: <u>57° 15' 31.2"N - 2° 32' 45.8"E</u>			
Type Test: <input type="checkbox"/> Open Hole	<input checked="" type="checkbox"/> Casing	<input type="checkbox"/> Conventional	<input type="checkbox"/> Straddle
<input type="checkbox"/> Land Rig	<input type="checkbox"/> Jack-up	<input checked="" type="checkbox"/> Floater	
Valve: <input type="checkbox"/> MFE	<input checked="" type="checkbox"/> 1 1/2 PCT	<input type="checkbox"/> FB PCT	<input type="checkbox"/> SPRO
<input type="checkbox"/> PCT Rupture Disc	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> With Packer
<input type="checkbox"/> Retainer			

HOLE DATA			
Geologic Level: <u>JURASSIC</u>	Description: <u>VERY TIGHT/FINE-MEDIUM SAND</u>		
Net Productive Interval: <u>17</u> Ft.	Estimated Porosity: <u>12</u> %		
Total Depth: <u>14177</u> ft.	Depths Measured from: <u>RKB</u>	Elevation: <u>348</u> ft.	
Open Hole Size: <u>12 1/4</u> in.	Rat Hole Size: <u>8 1/2</u> in.	from <u>12557-12609</u> ft.	
Casing Size: <u>95/8(N80)</u> in.	<u>53.5</u> lbs/ft.	Liner Size: <u>7(695)</u> in.	<u>32</u> lbs/ft. from <u>11344</u> ft.
Before Test: Caliper Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Scraper Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Circulation Yes <input type="checkbox"/> for	hrs: No <input checked="" type="checkbox"/>

MUD DATA			
Mud Type: <u>LIGNOSULFONATE</u>	Weight: <u>14.21</u> lbs/gal		
Viscosity: <u>60</u> °	Water Loss: <u>5.3</u> cc	Mud Resistivity: <u>NA</u> at	_____ °F
Filtrate Resistivity: <u>NA</u> at	_____ °F	Chloride ppm: <u>16,000</u>	

INSTRUMENT AND CHART DATA			
Recorder No.	<u>J755</u>	<u>J756</u>	
Capacity (psig)	<u>14,000</u>	<u>14,000</u>	
Depth	<u>12,328.40</u>	<u>12,335.36</u>	
In Flow Stream/Out of Flow Stream	<u>OUTSIDE</u>	<u>OUTSIDE</u>	
Above/Below Valve	<u>BELOW</u>	<u>BELOW</u>	
Clock No.	<u>9-4410</u>	<u>9-1005</u>	
Capacity (hrs)	<u>96</u>	<u>48</u>	
Max. Bottom Hole Temperature	<u>302</u>	<u>302</u>	
Initial Hydrostatic Pressure	<u>9190</u>	<u>9266</u>	
Pre-flow	(1) Start Pressure	<u>5585</u>	<u>5575</u>
	(2) Finish Pressure	<u>5456</u>	<u>5446</u>
Initial Shut-in Pressure	<u>8613</u>	<u>8620</u>	
Second Flow	(1) Start Pressure		
	(2) Finish Pressure		
Second Shut-in Pressure			
Final Flow	(1) Start Pressure	<u>3819</u>	<u>3821</u>
	(2) Finish Pressure	<u>3747</u>	<u>3758</u>
Final Shut-in Pressure	<u>8147</u>	<u>8152</u>	
Final Hydrostatic Pressure	<u>9115</u>	<u>9082</u>	

OPERATIONS SUMMARY			
Started Operations at	<u>07</u> : <u>50</u>	on	<u>1/12/83</u>
Finished Operations at	<u>19</u> : <u>00</u>	on	<u>3/12/83</u>

Station: <u>SNO</u>	SIR No.: <u>01686</u>	Date: <u>3/12/83</u>
Customer: _____	Testers: <u>a.felip</u>	Customer: <u>T.A.McAluster</u>
Purchase Order: _____	<u>201669</u>	Representative: _____

Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Diary of Events

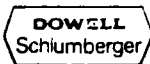
Report No.

COMPANY : CONOCO WELL NO : 7/8-3 TEST NO : 1

## TEST SEQUENCE AND FLOW DATA

Description	Date	Time		Surface Pressure PSIG	Surface Choke
		Hrs	Mins		
Packer Depth: 12284 ft Set at:	1/12/83	21	56		
Opened Tool : 20 Strokes (Annulus pressure 1400psi)	2/12/83	06	54		
Bull Nose through rotary	1/12/83	07	50		
Press test tool string	"	12	45		
Set Packer	"	21	56		
Open PCT (Initial Flow)	2/12/83	06	54		
Open CM	"	06	55		2"
Close PCT (Initial Shut-In)	"	07	01		
Close CM	"	07	02		
Open PCT (Final Flow)	"	08	01		
Open CM	"	08	02		2"
Traces of oil to surface	"	10	30		
Oil to surface (99%)	"	11	30		
Changed Choke	"	12	04		1"
Changed Choke	"	12	10		16/64
Changed Choke	"	12	24		2"
Surf Press Stable 5/psi-67°F@ 1300Bbls/day	"	15	30		
Press. Up ANN. To 3200psi	"	18	03		
Press Up ANN to 3300psi	"	18	10		
Bled Press off (Later kept 200psi)	"	18	11		
Close CM	3/12/83	06	51		
Bled Press to Stock Tank		07	01		
Loaded Bar		07	15		
Close CM		07	17		
Open Master, Dropped Bar		07	18		
Increase ANN Press To 200psi (and Dropped)		07	37		
Open CM to Burners, start REV.CIRC.		07	45		
Mud to Surface		08	16		
REV. Circulation Finished		09	15		
Pull Packer Loose		09	55		
P.O.O.H		10	15		

CUSHION TYPE : Sea Water ; AMOUNT : 205bbls ; LENGTH : 12240 FT; PRESSURE : psi  
PACKER DEPTH : FT. BOTTOM CHOKES SIZE :



# Equipment Data

Report No. \_\_\_\_\_

COMPANY : CONOCO WELL NO : 778-3 TEST NO : 1

### RECOVERY DATA

Recovery Description	Feet	Bbls	% Oil	% Water	% Other
32° API @ 60°F					
.890 GAS GRAVITY					
GOR 177 cu ft / Bbl					

### SAMPLE CHAMBER RECOVERY DATA

Sampler Type	Drained		Gas Cu. Ft.	Oil C.C.	Water C.C.	Mud C.C.	Pressure PSI
	On Site	Elsewhere/Name/Address					
SVAS FB/4%							
SSC/DSC							
OTHER							

### EQUIPMENT SEQUENCE

Components	Type	OD	ID	Length	Depth
Flopetro Flowhead			3.00		
5" Drill Pipe		5.00	4.28		
Sub-Sea Tes Tree		5.00	3.00		
5" Drill Pipe		5.00	4.28	10,720.51	341.05
X-Over		6.25	2.85	1.78	11061.56
3½" Drill Pipe		3.50	2.76	276.27	11063.34
SUP Joint (Open)		5.00	2.25	28.18	1139.61
SUP Joint (Half Open)		5.00	2.25	25.68	11367.79
SUP Joint (Closed)		5.00	2.25	23.18	11393.47
7 STDS D.Collars		4.75	2.78	641.34	11416.65
S.S.A.R.V		5.00	2.25	8.46	12057.99
1SDT D.Collars		4.75	2.78	91.62	12066.45
Impact REV. SUB		4.75	2.25	1.08	12158.07
1 STD. D. Collars		4.75	2.78	91.62	12159.15
Bar Catcher Sub		4.75	2.25	1.02	12250.77
4 3/4 x 1½ P.C.T		4.75	1.50	18.57	12251.79
4 3/4 x 1½ H.R.T		4.75	1.50	4.27	12270.36
Hydraulic Jar		5.00	2.25	6.50	12274.63
Safety Joint		5.00	2.25	1.71	12281.13
7" Positest Packer (Above)		5.75	2.25	1.15	12282.84
7" Positest Packer (Below)		5.75	2.25	2.95	12284.00
X-Over 27/8" EUE x 3½ if		4.75	2.25	0.82	12286.94
PERF. Anchor		4.75		9.94	12287.76
S.S Gauge Carr.		3.50		30.70	12297.70
X-Over 3½ if x 3½ FH		4.75		6.96	12328.40
REC. CARR.		4.75		6.96	12335.36
REC. CARR.		4.75		1.31	12336.67
X-Over 3½ FH x 3½ IF		4.75		1.90	12338.57
Bull Nose					

NOTE: ALL DEPTHS ARE TOP OF TOOL JOINTS

RETAINER AT 12,468ft

Total Drill Pipe 5" 10,720.51 - 3½" 276.27 fr  
 Total Drill Collar 9STDS 824.58 fr

Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**SYMBOLS USED**

- $\Delta T$  — INCREMENT OF TIME (MINUTES)
- $\frac{T + \Delta T}{\Delta T}$  — DIMENSIONLESS TIME CONSTANT USED FOR THE HORNER PLOT
- $\Delta T$  IS THE INCREMENT OF SHUT-IN TIME (MINUTES)
- $T$  IS TOTAL FLOW TIME PRECEDING SHUT-IN (MINUTES)
- LOG — LOGARITHM TO BASE 10 OF  $\frac{T + \Delta T}{\Delta T}$
- $P_w - P_f$  — PRESSURE BUILD-UP ABOVE FINAL FLOWING PRESSURE PRECEDING THE BUILD UP WHICH IS USED FOR THE MCKINLEY PLOT.