

Denne rapport
tilhører



~~99-595-274-10~~
L&U IDOK.SENTER

L.NR. 12480060035

KODE Well 34/10 - 9 nr 41

Returneres etter bruk

Formation testing service report

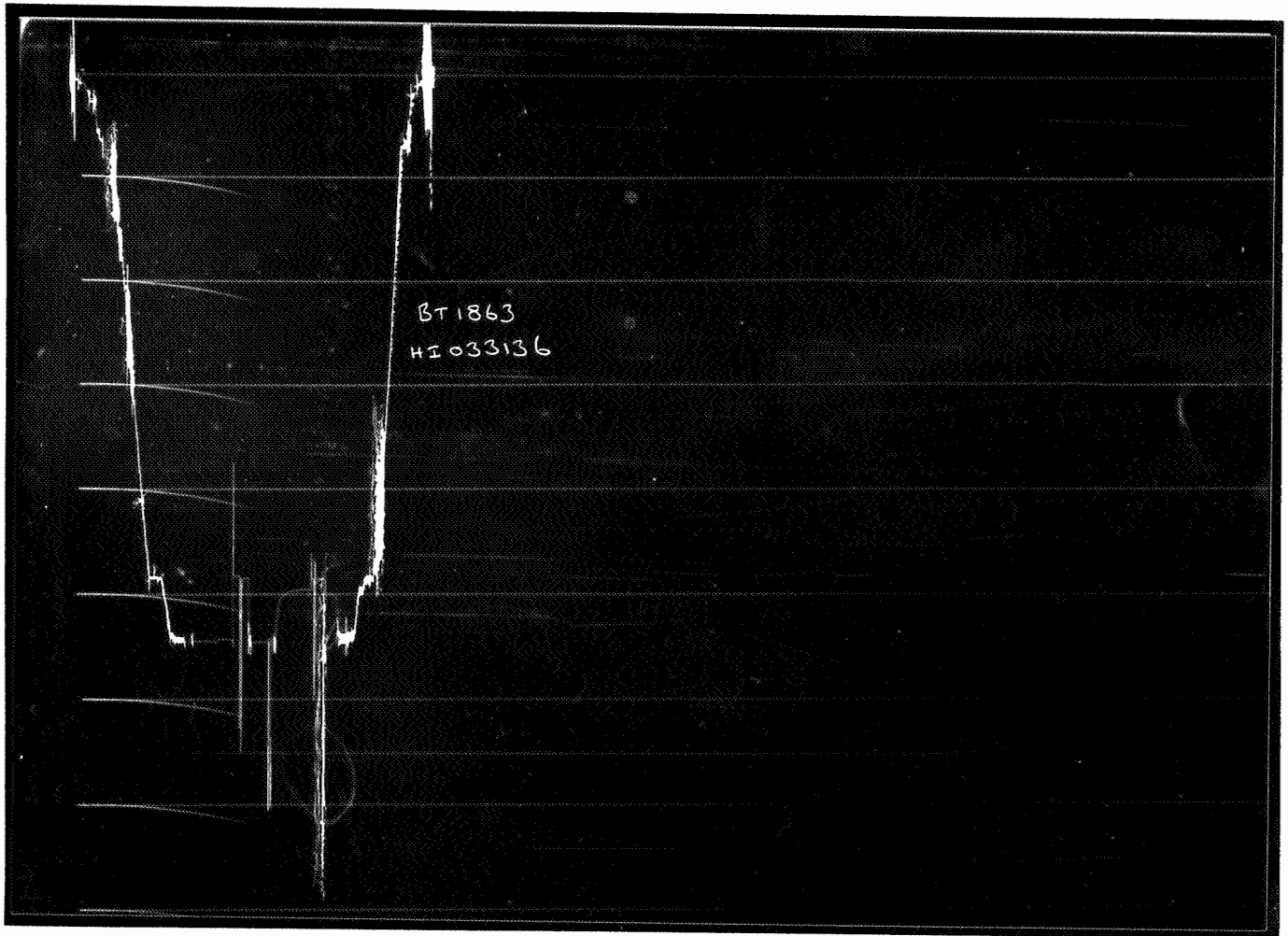


HALLIBURTON

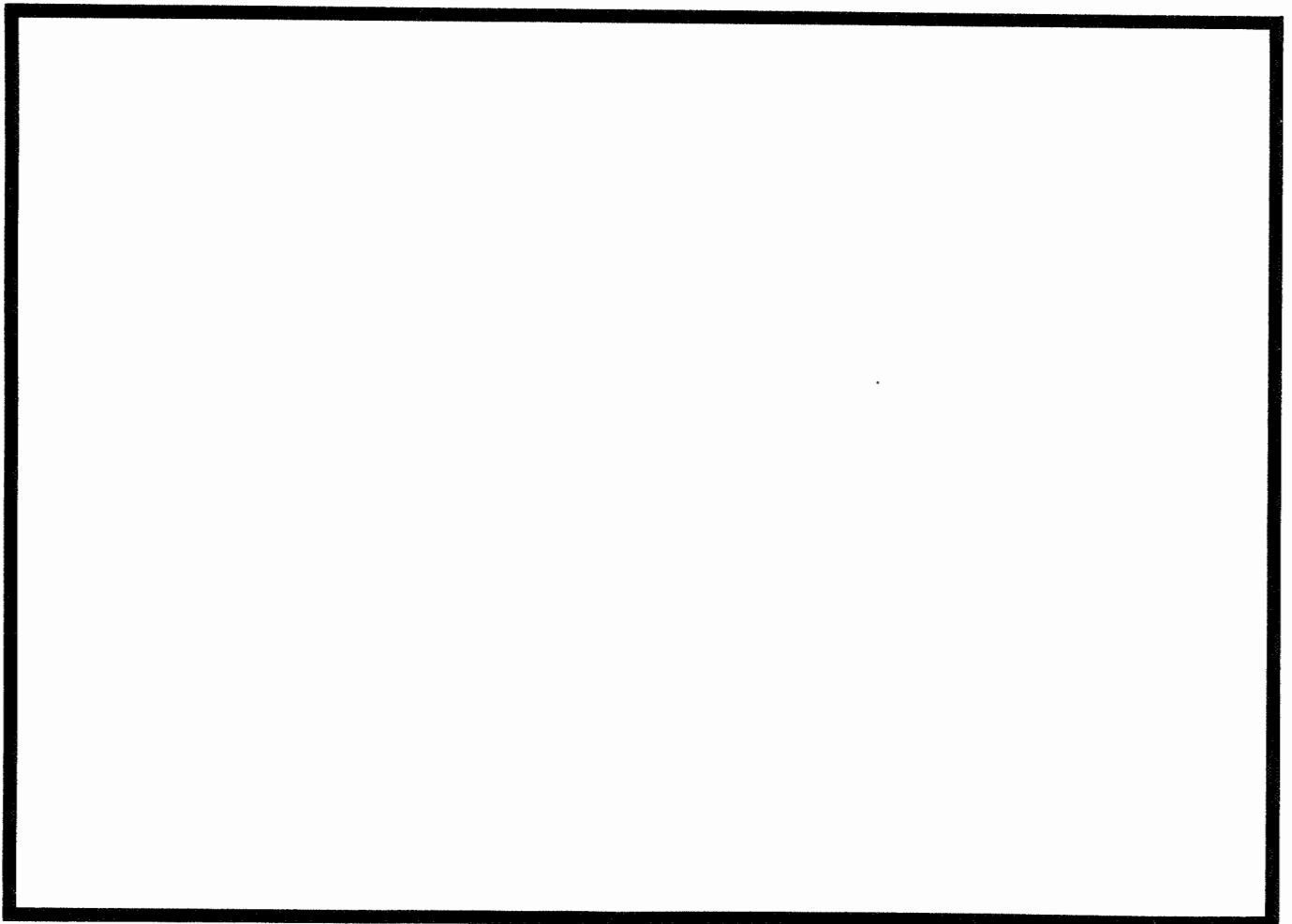
MANUFACTURING & SERVICES LTD.

REGISTERED IN ENGLAND

Pressure
↓



← RPG time BT time →



Each horizontal line = 1000 psi

34/10

Lease Name

Well No.

2

2084 to 2090 m

Tested Interval:

County

Stavanger

State

NORWAY

Lease Owner/Company Name

Legal Location
Sec - Twp - Rng.

Field Area
North Sea

County

Stavanger

State

NORWAY

FLUID SAMPLE DATA				Date	19th June 1980	Ticket Number	033136		
Sampler Pressure _____ P.S.I.G. at Surface				Kind of Job	DST # 2	Halliburton District	Norway		
Recovery: Cu. Ft. Gas _____				Tester Woodson & Mitchell Witness					
cc. Oil _____				Drilling Contractor					
cc. Water _____				EQUIPMENT & HOLE DATA					
cc. Mud _____				Formation Tested 2084 to 2090 Cook Sand					
Tot. Liquid cc. _____				Elevation 81 ft. Rotary Table Ft.					
Gravity _____ ° API @ _____ °F.				Net Productive Interval _____ Ft.					
Gas/Oil Ratio _____ cu. ft./bbl.				All Depths Measured From _____					
RESISTIVITY _____ CHLORIDE CONTENT _____				Total Depth 6843.65 Ft.					
Recovery Water @ _____ °F. _____ ppm				Main Hole/Casing Size 7"					
Recovery Mud @ _____ °F. _____ ppm				Drill Collar Length 652.26 ft. I.D.					
Recovery Mud Filtrate @ _____ °F. _____ ppm				Tubing Length 5487 ft. I.D.					
Mud Pit Sample @ _____ °F. _____ ppm				Packer Depth(s) 6709.64 ft. Ft.					
Mud Pit Sample Filtrate @ _____ °F. _____ ppm				Depth Tester Valve 6682.24 ft. Ft.					
Mud Weight 15 vis cp									
TYPE		AMOUNT		Depth Back Pres. Valve		Surface Choke		Bottom Choke	
Cushion				Ft.					
Recovered		Feet of							
Recovered		Feet of							
Recovered		Feet of							
Recovered		Feet of							
Recovered		Feet of							
Remarks		See inside for breakdown of major pressure points.							
TEMPERATURE		Gauge No. 1863		Gauge No.		Gauge No.		TIME	
		Depth: 6805.7 Ft.		Depth: _____ Ft.		Depth: _____ Ft.			
Est. °F.		14226 - 120		Hour Clock		Hour Clock		Tool A.M.	
		Blanked Off		Blanked Off		Blanked Off		Opened P.M.	
Actual °F.		Pressures		Pressures		Pressures		Opened A.M.	
		Field Office		Field Office		Field Office		By-pass P.M.	
Initial Hydrostatic								Reported Minutes	
Flow Initial								Computed Minutes	
Flow Final									
Conductivity Initial									
Conductivity Final									
Viscosity Initial									
Viscosity Final									

FORMATION TEST DATA

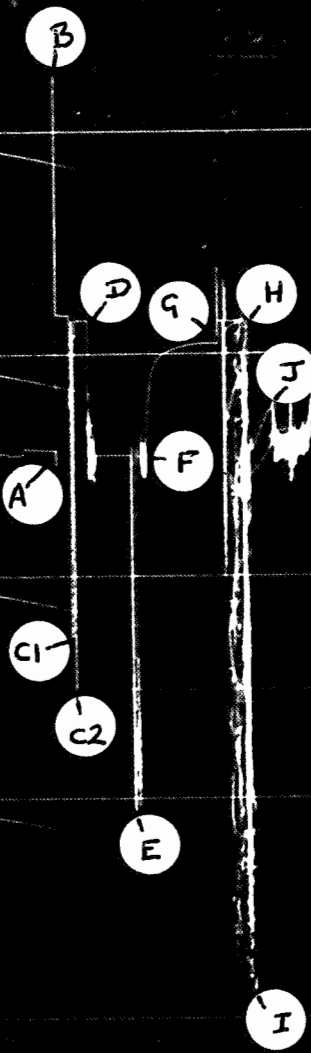
STATOIL NORWAY
 HI 033136
 LEASE 34/10 WELL 9 TEST 2

<u>POINT</u>	<u>REMARKS</u>	<u>TIME DEFL. "</u>	<u>TIME</u>	<u>PSIG</u>
A	Initial Hydrostatic	.000	08.05 19th	5437
B	Initial flow pressure	.000	08.05 "	3746
C 1	Pump down tool string	.023	08.39 "	6284
C 2	Pump down tool string	.029	08.48 "	6513
D	Final closure pressure	.051	09.21 "	4851
E	Pressure-up in attempt to open APR-N	.119	11.02 "	7069
F	Set packer	.140	11.33 "	5466
G	Open APR-N	.257	14.27 "	4960
H	Close APR-N	.298	15.28 "	4857
I	Shear APR-A	.301	15.33 "	7908
J	Unseat packer	.345	16.38 "	5213

Times are calculated from a clock factor obtained by dividing the time defl.
 (.345") by the reported number of minutes of test duration (513 mins.).

Clock factor = .0006725 inches per minute

BT 1863
HI 033136



Casing perms. _____	Bottom choke _____	Surf. temp. 50 °F	Ticket No. 033136
Gas gravity _____	Oil gravity _____	GOR _____	
Spec. gravity _____	Chlorides _____	ppm Res. _____	@ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time	a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
JUNE 18TH						
19.35						START MAKE UP TOOLS AND LOAD
						START BP
21.07						TOOLS MAKE UP AND IN HOLE
21.40						TEST B.H.A. AND ONE STAND OF TUBING TO 2500 PSI
21.45 - 04.00						19TH JUNE RUNNING TUBING AND SURFACE EQUIPMENT AND PRESSURE TEST SAME
05.90						SET PACKER @ 2045 M
06.00						TESTING FLOPETROL EQUIPMENT
06.10						TESTING APR AND STRING 4000 PSI
07.00						TESTING CHOKE MANIFOLD 5000 PSI
08.05						OPEN APR-N TOOL 1445 PSI
08.13						SURFACE 360 PSI
08.20						CLOSED APR-N TOOL
08.22						OPEN APR-N TOOL
08.40						ATT TO PUMP DOWN TOOL STRING
09.00						CLOSED APR TOOL
09.20						UNSET PACKER
09.35						SET PACKER
11.00						PRESSURE UP TO OPEN APR LEAK ON ANNULUS
11.15						CLOSED APR TOOL
11.20						UNSET PACKER
11.36						SET PACKER
14.31						OPEN APR-N TOOL

Casing perms. _____ Bottom choke _____ Surf. temp. 50 °F Ticket No. 033136
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

Date Time	a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
15.30						SHEAR APR-A AND CLOSED APR-N
15.53						REVERSED OUT AND PUMPED SLUG
16.38						UNSET PACKER
16.43						UNSET PACKER AND COMING OUT OF HOLE
16.50						LAY DOWN FLOPETROL TEST TREE
23.05						PULLING SLIP JOINTS
23.40						ALL TOOLS OUT OF HOLE

TICKET: O33136

COMPANY: STATOIL

PERFS: 2084 to 2090

TEST NO: DST # 2

WELL NO: 34/10-9

TESTERS: MIKE MITCHELL AND D. B. WOODSON JR.

<u>DESCRIPTION</u>	<u>DEPTH ft.</u>	<u>LENGTH ft.</u>	<u>I.D.</u>	<u>O.D.</u>
Surface Test Tree				
3½ Tubings hanger 2 joints				
Lubricator Valve				
2 pup joints 1				
7 stand Tubings and 1 Single				
EZ-Tree and X/O				
59 Stand Tubings and 3m pup joints				
X/O 3½ Tubing Box x 3½ IF Pin				
Slip Joint (Open 2¼)	5915.87	18.17	2.25	5.00
Slip Joint (Closed 2¼)	5934.04	13.17	2.25	5.00
Drill Collars 5 stand	5947.21	465.9	2.25	4.75
X/O 3½ IF Box x 2½ 8rd EUE pin	6413.11	.79	2.488	4.75
7" RTTs Circulating Valve (Closed)	6413.90	2.74	2.44	4.87
X/O 2½ 8rd EUE Box x 3½ IF pin	6416.64	.69	2.25	5.00
Drill Collars 1 stand	6417.33	93.18	2.25	4.75
Slip Joint (Closed 2¼)	6510.51	13.17	2.25	5.00
Slip Joint (Closed 2¼)	6523.68	13.17	2.25	5.00
Drill Collars (1 stand)	6536.85	93.18	2.25	4.75
5" APR-A Reverse valve	6630.03	3.00	2.25	5.03
5" APR-N Tester Valve	6633.03	12.78	2.25	5.03
4½ Hydraulic by pass	6645.81	6.32	2.25	4.63
4½ Big John Jars	6652.13	5.00	2.37	4.63
7" RTTs Safety Joint	6657.13	3.30	2.44	5.00
7" RTTs Packer Center Rubber Upper	6660.43	1.69	2.40	5.75
7" RTTs Packer Center Rubber	6663.10	2.67	2.70	5.75
2½ EUE pup joint pin x 2½ EUE box	6669.10	6.00		
Sandscreen 10w/254m pin x 2½ EUE box	6678.84	9.74		
Blind sub 2½ EUE pin x pin	6679.69	.85		
Perforated Tubing 2½ EUE box x 2½ pin	6690.77	11.08		
DST Hanger	6691.56	.79		
X/O 2½ EUE Tubing	6721.90	30.34		
DST Hanger	6722.69	.79		

<u>DESCRIPTION</u>	<u>DEPTH ft.</u>	<u>LENGTH ft.</u>	<u>I.D.</u>	<u>O.D.</u>
1 Joint 2 $\frac{1}{8}$ " Tubing	6753.10	30.41		
X/O 2 $\frac{1}{8}$ " EUE Box x 2 $\frac{1}{8}$ " Drill Pipe pin	6753.41	.31		2.875
B.T. Running Case	6758.89	5.48		3.875
X/O 2 $\frac{1}{8}$ " Drill Pipe Box x 2 $\frac{1}{8}$ " EUE pin	6759.21	.32		
X/O 2 $\frac{1}{8}$ " EUE Box x 2 $\frac{3}{8}$ " EUE pin	6760.04	.83		
1 Safety Joint 40,000lbs Otis 2 $\frac{3}{8}$ " EUE Box pin	6762.40	2.36		
X/O 2 $\frac{3}{8}$ " EUE Box x 2 $\frac{1}{8}$ " EUE pin	6763.23	.83		
X/O 2 $\frac{1}{8}$ " EUE Box x 3 $\frac{1}{2}$ " 8rd Tubings pin	6764.01	.78		
1 Joint 3 $\frac{1}{2}$ " Tubings	6794.39	30.38		

Nomenclature

b	= Approximate Radius of Investigation	Feet
b₁	= Approximate Radius of Investigation (Net Pay Zone h ₁)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h₁	= Net Pay Thickness	Feet
K	= Permeability	md
K₁	= Permeability (From Net Pay Zone h ₁)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF₁	= Maximum Indicated Flow Rate	MCF/D
OF₂	= Minimum Indicated Flow Rate	MCF/D
OF₃	= Theoretical Open Flow Potential with /Damage Removed Max.	MCF/D
OF₄	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P_s	= Extrapolated Static Pressure	Psig.
P_F	= Final Flow Pressure	Psig.
P_{ot}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q₁	= Theoretical Production w/Damage Removed	bbls/day
Q_g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r_w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t_o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
μ	= Viscosity Gas or Liquid	CP
Log	= Common Log	

*Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.