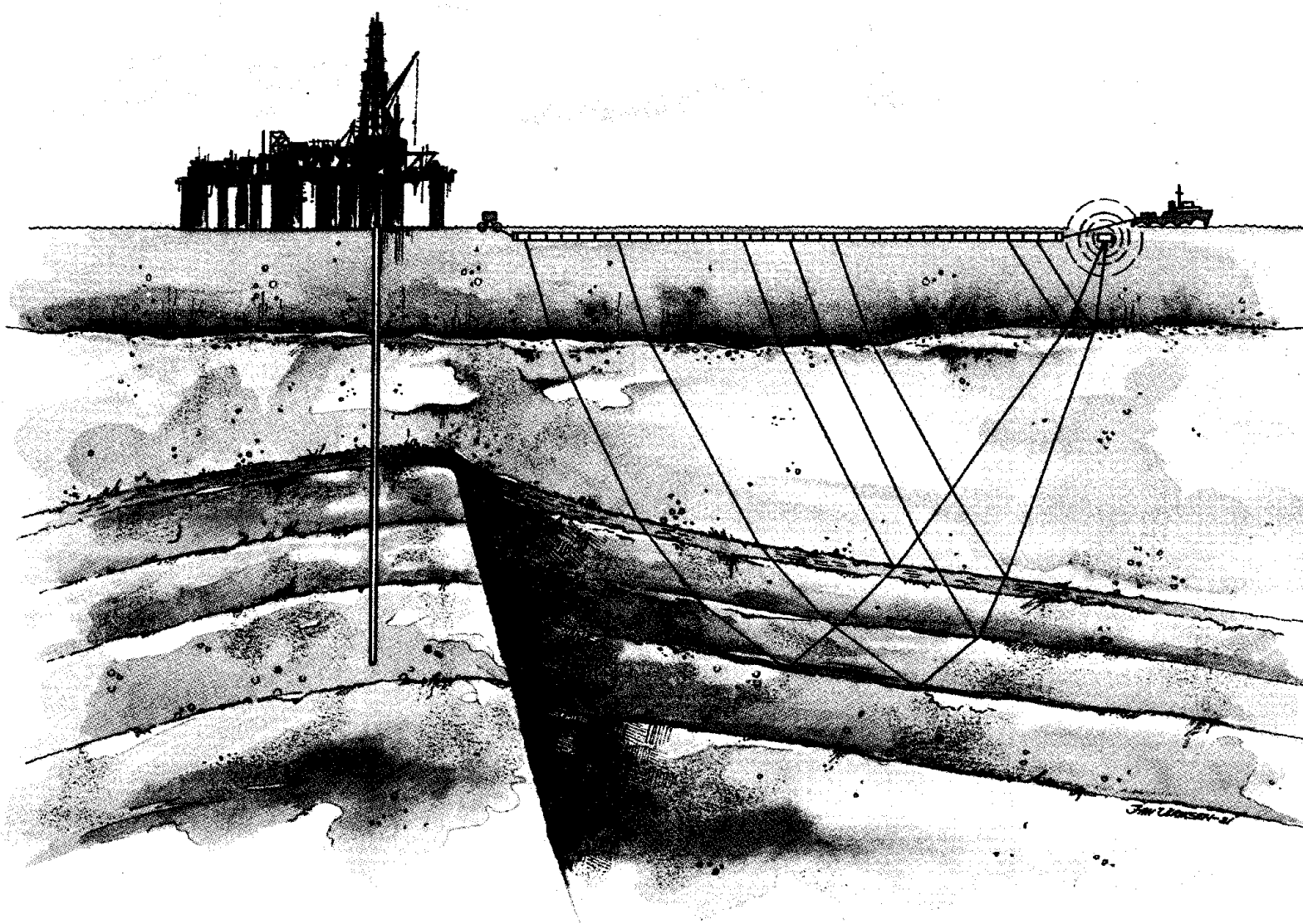
statoil



EXPLORATION & PRODUCTION DIVISION

Completion Report

Well 34/10 - 28

PL 050 Statoil/Norsk Hydro/Saga Petroleum

Tittel/Undertittel

COMPLETION REPORT

34/10-28

Org.enhet	Kontraktnr./Prosjektnr.
LET BERGEN	
Rapportnr./Revisjon	**Sted/Dato**
	BERGEN, 31.05.1986

statoil

Gradering	Distribusjon
☒ FORTROLIG ☐ STRENGT FORTROLIG	☐ Fri distribusjon ☐ Kan distribueres fritt i Statoil ☒ Ingen distribusjon uten tillatelse fra ansvarlig avdeling

Tittel/Undertittel

COMPLETION REPORT

34/10-28

Fagområde/Emneord

BRØNN 34/10-28 - SLUTTRAPPORT

Oppdragsgiver	
PL 050	
Org.enhet	
LET BERGEN	
Kontraktnr./Prosjektnr.	Rapportnr./Revisjon

Utarbeidet av

KARI JANNE KORNSTAD — LET BERGEN
INA GARVIK — BOR CCB

Antall sider	Antall vedl.	Antall kopier	Tekstoperatør
		25	33

Org. enhet	Sted/Dato
LET BERGEN	31.05.1986
Godkjent av LETEAVDELINGEN, BERGEN	Signatur
Godkjent av BOREAVDELINGEN, BERGEN	Signatur
Godkjent av U&U, BERGEN	Signatur

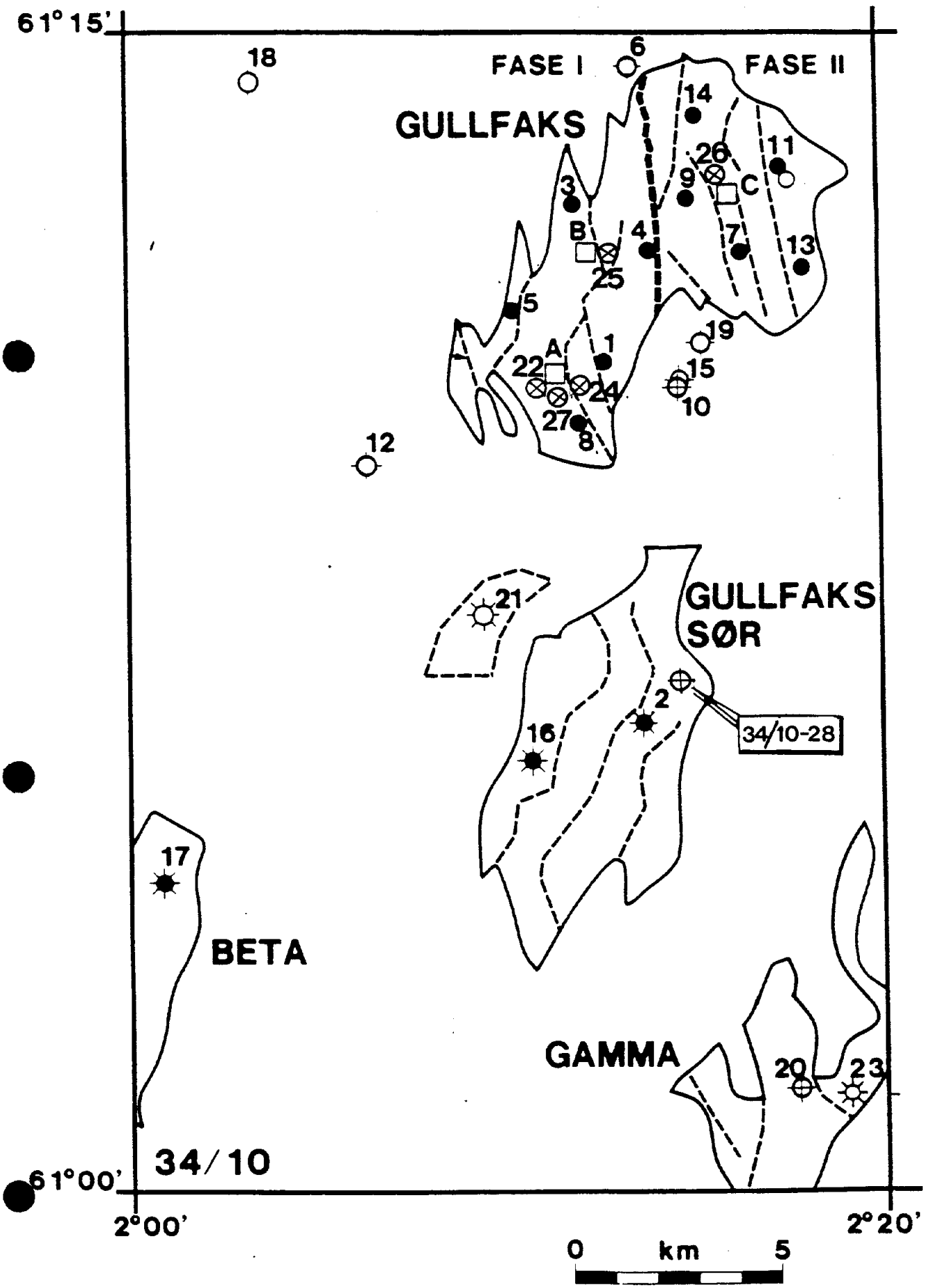
PL 050

STATOIL - NORSK HYDRO - SAGA PETROLEUM

COMPLETION REPORT

34/10-28

34/10-28 - LOCATION MAP



CONTENTS:

The following reports are available:

TITLE:	SOURCE:
SUMMARY:	
Final Well Report DLWD	EXLOG
Final Well Report Mudlogging	ANADRILL

GENERAL INFORMATION:

1.0 WELL DATA RECORDED:

a)	Well Designation		:	34/10-28
b)	Well Classification		:	Appraisal
c)	Well Location		:	
	I	Country	:	Norway
	II	Licence	:	PL 050
	III	Latitude	:	61°06' 31.99"N
		Longitude	:	02°15' 23.72"E
	IV	Seismic Location	:	Shotpoint No. 405, Line No. 170
	V	Water Depth	:	133 m
d)	Rig Data:			
	I	Rig Name	:	Dyvi Stena
	II	Drilling Draft	:	20 m
	III	RKB - MSL	:	25 m

2.0 PURPOSE OF THE WELL

34/10-28 was the fourth well drilled on Gullfaks South. The well was designed to test for hydrocarbon accumulations in the north-eastern part of the Alpha structure.

The primary targets were respectively the Brent and Statfjord sandstones. The Lower Jurassic Cook sandstone, which has been water bearing in the other wells on Gullfaks South, was considered as a secondary target.

3.0 RESULTS OF THE WELL

The well was drilled to a total depth of 528 m KB into sediments of the Nordland Group. Shallow gas was found in the interval 332 - 339 m KB.

When running the BOP, after having set the 20" casing, the guide posts were damaged and the well was plugged and abandoned.

4.0 WELL HISTORY

a) General

I	Spud Date	:	02.01.1986
II	Rig Released	:	16.01.1986
III	Status	:	Plugged and abandoned

b) Contractors

I	Drilling Rig	:	Dyvi Stena
II	Drilling Contractor	:	Dyvi Offshore
III	Cementing	:	BJ
IV	Casing	:	TOS
V	Mudlogging	:	Anadrill
VI	Mud Contractor	:	IDF
VII	MWD Services	:	Exploration Logging
VIII	Supply Boats	:	Statoil Supply-Boat Pool
IX	Diving	:	Scan Dive
X	Helicopters	:	Helikopter Service A/S
XI	Rig Pos. Contractor	:	Satnav
XII	Site Survey	:	Geoteam
XIII	Core Analysis	:	Geco

c) Casing

30"	shoe at	:	257.0 m
20"	shoe at	:	318.5 m

d) Mudlogging

A mudlogging unit from Anadrill was used, and the following data were recorded:

- Drilling Rate
- Temperature in
- Temperature out
- Conductivity in

- Conductivity out
- Total Gas
- Gas Chromatography
- D-Exponent
- A-Exponent
- Mudweight
- Pore Pressure
- Surface Weight on Bit
- Surface RPM
- Total Flow
- Pump Pressure
- Description of Cuttings Lithology
- Show Analysis

5.0 MEASUREMENTS WHILE DRILLING

Exlog's DLWD tool was run in the 12 1/4" pilot hole section, and logs are obtained in the interval 260 - 525 m KB.

The tool provided information on gamma ray, formation resistivity and directional surveys.

Only one run was made using an 8" assembly.

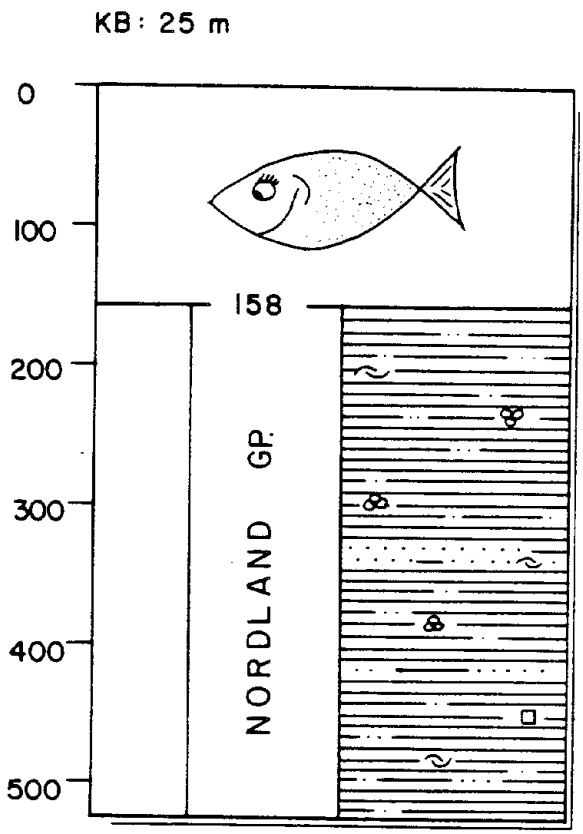
6.0 WIRELINE LOGGING

No wireline logs were run in the hole.

7.0 LITHOSTRATIGRAPHY

GROUP	DEPTH (m KB)
Nordland Gp.	158

34/10 - 28



T.D. 528 m

LITHOLOGICAL SUMMARY

The lithological summary is based on cuttings samples. The depths relate to Kelly Bushing (KB) as reference level.

Quaternary - Tertiary

Nordland Group (158 m KB - TD)

The section of the Nordland Group that is penetrated in this well is dominated by clay and has only minor sand stringers.

The clay is described as medium grey, soft, amorph, sticky and moderately calcareous.

The interval 332 - 339 m KB consists of gasbearing sand. Elsewhere in the section there is just traces of sand. The quartz grains are clear to milky white, fine to coarse, round to angular and poorly sorted.

Traces of lithic fragments, shell fragments, foraminifera and pyrite are found throughout the well.

3. DRILLING REPORT

3.1 SUMMARY

3.1 SUMMARY

The rig "Dyvi Stena" arrived location 34/10-28 January 2, 1986 at 00.30 hours.

The primary objectives were the Brent and the Statfjord sandstone. The expected water bearing Lower Jurassic Cook sandstone was the secondary target.

The well was drilled to a total depth of 528 m. The well was plugged back to 325 m due to a shallow gas zone, before the 20" casing was run and cemented at 318.5 m. When attempting to land the BOP, the guidebase no. 1 and no. 4 were found to be bent. The damage was considered too large for further drilling, so the well was plugged and abandoned.

A total of 17 days were spent on the well at a total cost of 22.7 million NOK.

"Dyvi Stena" left the location January 16, 1986.

3.2 DRILLING OPERATIONS IN INTERVAL

DRILLING OPERATIONS IN INTERVALS

36"hole, 158-257 m

The hole was drilled in 7.13 hours using a 26" bit and a 36" hole opener. Average penetration rate was 14 m/hr. 1.03 s.g. spud mud was used. A survey at TD showed 0.5 degrees deviation. The 36" casing was then run and cemented with 1.5 m stick-up. The bulls eye on the PGB showed 0.5 degrees.

26"hole, 257-528 m

When the riser and pin connector was installed, the cement, 30" casing shoe and 4m of new formation was drilled out using a 26" UR. A 12 1/4" BHA with MWD tool was then RIH and a pilot hole drilled to 278 m when a power black-out occured. Further drilling was delayed 1.5 hours. Drilling continued to 297 m with one mud pump while working on the power supply. The Anadrill gas detector system then failed and the drilling was stopped in view of the potential gas filled shallow sands. After 10 hours of repair the drilling was restarted and proceeded to 336 m. Due to a shallow gas sand it was circulated bottoms up and flow checked. Another 5 m was drilled when the background gas increased and a flow check was repeated. Drilling then continued to 498 m for 10 hours. A possible shallow gas sand was flow checked at 493 m. It was then drilled to 528 m and circulated to reduce the background gas that had increased from approximately 0.2% at 500 m to 0.3-0.4% from 500-528 m. A single shot survey showing 0.5 degree deviation at 528 m was then taken prior to POOH. 1.11 s.g. seawater-gel mud was used to drill this section. Throughout the section background gas varied from 0.12-0.4%. The highest peaks were 0.5% at 334 m and 0.50% at 515 m. The section was drilled in 11.57 hours giving an average penetration rate of 23.2 m/hr. Two potential shallow gas sands were located, 332-339 m and 493-495 m. The upper one was most probably gas filled as seen with the Exlog MWD tool. It was decided to plug the hole back and install the 20" casing right above the top of the sand. A high viscosity pill was set from 528-400 m and a

cement plug set from 400-300 m. The cement plug was then dressed off to 325 m. With a 12 1/4" bit, 17 1/2 HO and 26" UR the hole was opened to 26" from 254 m to 322 m in 10 hours. The hole was displaced to 1.36 s.g. mud and the riser and pin connector pulled. The 20" casing was installed with the shoe at 318.5 m and cemented to the seabed with returns. When backing out the running tool the wellhead rotated. The cement therefore had to set up prior to POOH. When running the BOP and riser a leak in kill/choke lines were found and all the seals in the lines were replaced. The weather conditions were very poor. When nippling up the kill and choke lines prior to latching on the BOP a guideline broke because of the heave. Subsequent inspection with the mantis showed that two of the guide posts were severly bent. The hole was therefore abandoned.

Plug and Abandon

A cement plug was installed from 294-194 m and the 20" and 30" casings cut at 163.5 m, 5.5 m below the seabed.

3.3 DAILY ACTIVITIES

DAILY ACTIVITY

31.12.85 On tow to 34/10-28 location at 6 knots.

01.01.86 Continued towing.

02.01 Arrived at the location at 0030 hours and started anchor handling. Completed anchor handling and started ballasting the rig. Prepared spud mud, launched mantis for seabed inspection and confirmed the bit tagging the seabed at 133 m water depth. Ballasted the rig to operating draft and drilled a 36" hole from 158-194 m.

03.01 Continued drilling a 36" hole to 256 m. Circulated and conditioned the hole while installing a pinger at the seabed 7 m from the hole using the mantis. Drilled to 257 m and circulated the hole to high viscosity mud. Dropped a survey, retrieved same and RIH to TD. The hole was OK and POOH. Ran the 30" casing with PGB and stinger inside, stabbing in blind. Tagged the bottom of the hole, launched the mantis and inspected the PBG orientation and the stick-up. Had 1.5 m stick-up and the Peagan indicator showed 0.5 degrees. Picked up 0.5 m and circulated seawater. Cemented the casing.

04.01 Backed out the running tool and POOH. Prepared to run the riser. Had power black-out for 1.5 hours due to overload. Picked up the riser and the pin connector. Had to change out 4 dogs on the pin connector; was unable to torque them up to full travel. RIH with the riser and the pin connector and attempted to enter the guide posts. Positioned the rig and entered. Function tested the unlatch mechanism - OK. Pressure tested the diverter valves to 2.8 bar - OK. Did not get a function test on the port diverter valve and had to repair it.

05.01 RIH with a 17 1/2" bit and 26" UR - Installed the diverter element and attempted to function test without success. Repaired same and drilled out the cement, 30" casing shoe and 2 m new formation. Circulated, flow-checked and POOH. Tested the MWD tool and RIH with a 12 1/4" BHA. Drilled a pilot hole from 260 m to 278 m when a second black-out occured. Repaired same and restarted drilling after 1.5 hours. Drilled from 278 m to 297 m when the rig had to be shut down for 4.5 hours due to malfunction of the gas detector in the mud room (Anadrill).

06.01 The shut down lasted for another 5.5 hours. Drilled the pilot hole from 297 m to 336 m, circulated bottoms up and flow checked. Continued drilling from 336 m to 341 m and flow checked again. Circulated and continued drilling from 341 m to 493 m. Circulated, drilled from 493 m to 528 m and flow checked. Pumped slug and POOH to the 30" casing shoe without drag. RIH to 528 m.

07.01 Circulated bottoms up with 0.47% gas. Flow checked and dropped a survey. POOH. RIH with OEDP to 450 m and pumped a high viscosity pill. POOH to 400 m and set a cement plug 400-300 m. POOH to 300 m and circulated. POOH. RIH with a 12 1/4" bit to the 30" casing shoe and WOC for 5 hours. Dressed off the plug from 298 m to 325 m. Circulated the hole clean and POOH. Made up and RIH with a 26" underreamer.

08.01 Underreamed from 254 m to 322 m. Pumped a high viscosity pill and circulated bottoms up. Displaced the hole to 1.36 s.g. mud. POOH to 182 m and pumped more 1.36 s.g. mud. POOH to the wellhead. Displaced the riser to seawater in 3 steps and flowchecked at each. POOH. Unlatched and pulled the riser. RIH with a 26" bit - no fill or any restrictions.

09.01 POOH and rigged up to run the 20" casing. Ran the casing and pull tested to 16 tons. Circulated 1.36 s.g. mud and cemented the casing, displaced with 1.1 s.g. mud. Had good returns throughout the job. Attempted to disengage the running tool but the 20" casing turned. Waited on the cement to set, disengaged the tool and POOH. Washed the wellhead with a jetsub and inspected the bulls eye - 0.5 degrees. POOH. Started on the APM system acceptance test.

10.01 Completed the acceptance test. WOW for 20 hours. The rig moved 34 m off the location. Tension tested all anchors. Got the rig back in position.

11.01 WOW. Anchor no.6 and no.8 slipped in anchor test.

12.01 WOW for 10.5 hours and started working on anchor no.8. Had to stop after 5 1/2 hours as the weather conditions got more severe.

13.01 WOW until 0100 hours. Started anchor handling. Reran and piggy-backed anchor no.6 and no.8. Tension tested all the anchors. Ran the BOP and riser. Joint no.8 failed a pressure test. POOH and pressure tested. Replaced all the seals on the kill line and on the choke line.

14.01 Ran the BOP and riser. Nippled up the lines and positioned the rig. Broke guideline no.3 due to heave at 0745 hours. Had to wait 10 hours for sea conditions to improve. Launched the mantis. Found guide posts no.1 and no.3 to be severly bent.

15.01 Pulled the BOP and riser. WOW for 8 hours to pull through the airgap. POOH. RIH with the bandit to inspect the wellhead. RIH with DP assisted by guide frame and the bandit. Tagged the top of the cement at 297 m. Displaced the hole to seawater and pumped a cement plug 294-194 m. POOH and RIH with 17 1/2" bit to 150 m. Ran a guide frame prior to running through the wellhead.

16.01 Tagged the cement and loadtested with 5 tons. POOH. RIH with a 20" and 30" casing cutting assembly to 163.5 m. Cut the casings and POOH. Retrieved the 20" and 30" casings and PGB with 18 3/4" wellhead running tool. Inspected the seabed and moved to new location at 1500 hours.

3.4 WELLBORE SCHEMATIC

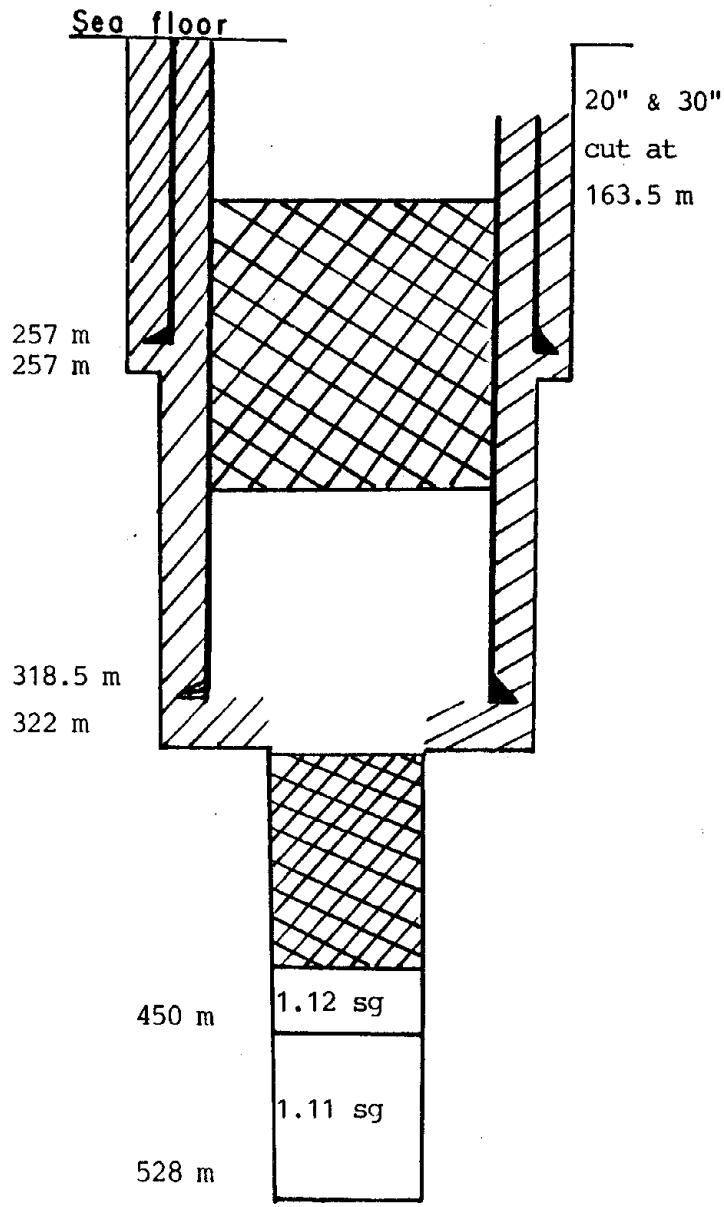
III 4. WELLBORE SCHEMATIC

(Not to scale)

RKB - MSL : 25 m.

WATER DEPTH : 133 m.

Holes	Casing
36" 26" bit 36" H.O.	30" Grade B Vetco ST-2RB
26" 12 1/4" pilot hole 17½" H.O 26" U.R.	20" X-56 Vetco LS 94 lbs/ft
12 1/4"	



All additives are per 100 kg cement

Casing cement	Plugs/Squeeze
Lead 31.8 tons "G" cement 93.5 l seawater 3.55 l A-3L 1.56 sg Tail 13.1 tons "G" cement 41.7 l seawater 2.66 l A-7L 1.92 sg	
Lead 25.3 tons "G" cement 93.02 l seawater 3.5 l A-3L 1.56 sg Tail 19.8 tons "G" cement 44.21 l seawater 1.78 l A-7L 1.90 sg	Cementplug 197-294 m 24.3 tons "G" cement 2.66 l A-7L 41.7 l seawater 1.90 sg
	Cementplug 325-400 m 11.9 tons "G" cement 44.1 l seawater 1.90 sg

3.5 FORMATION INTEGRITY TESTS

3.5 Formation Integrity Tests

Due to aborted drilling after 20" casing was set no Formation Integrity Test were performed.

3.6 TOTAL RIG TIME DISTRIBUTION

RIG TIME DISTRIBUTION FOR PLUGGING

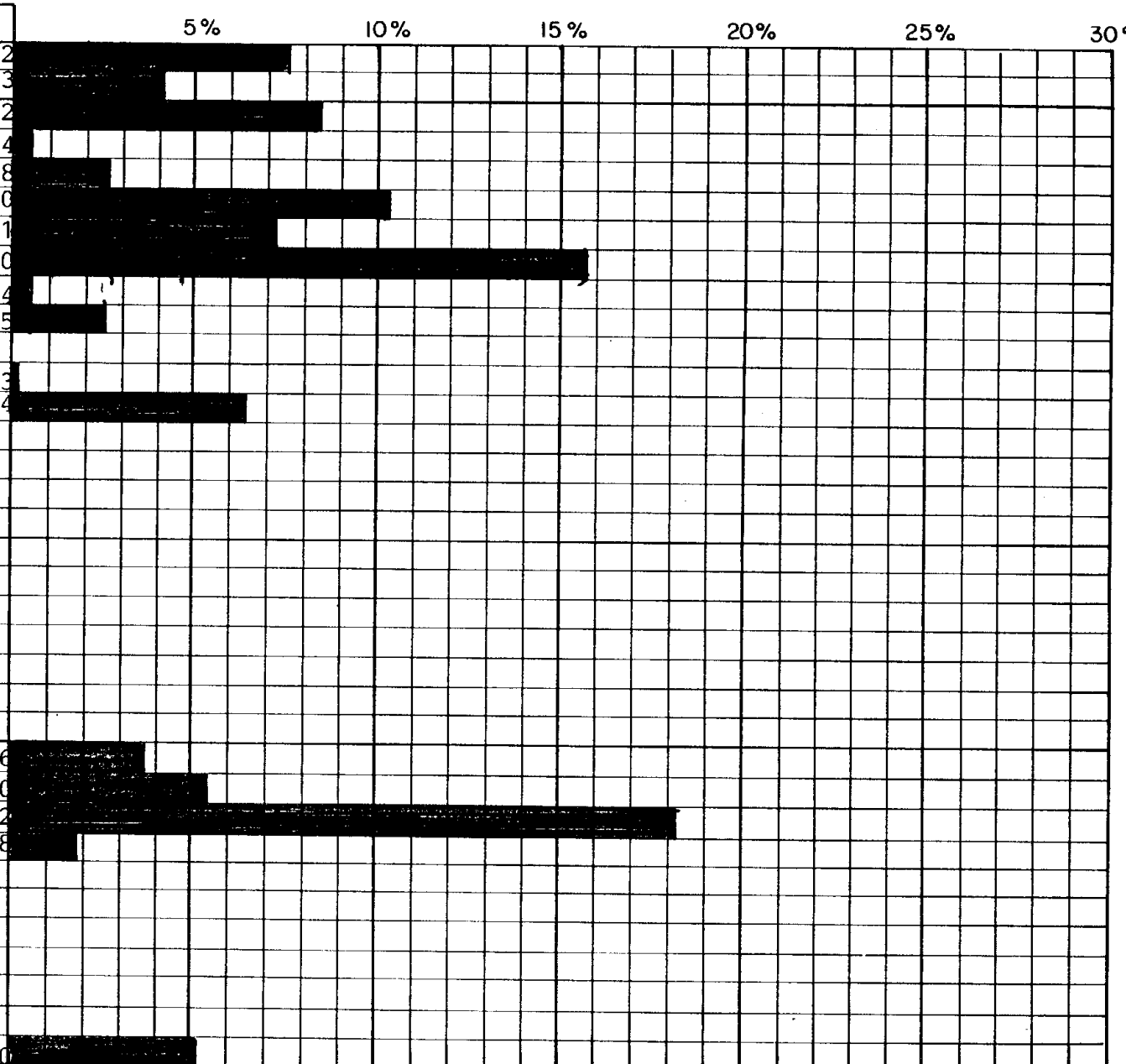
DRILLING TIME VS. DEPTH

DRILLING COST VS. DEPTH

TOTAL RIG TIME DISTRIBUTION FOR WELL 34/10-28

statoil
Den norske stats oljeselskap a.s

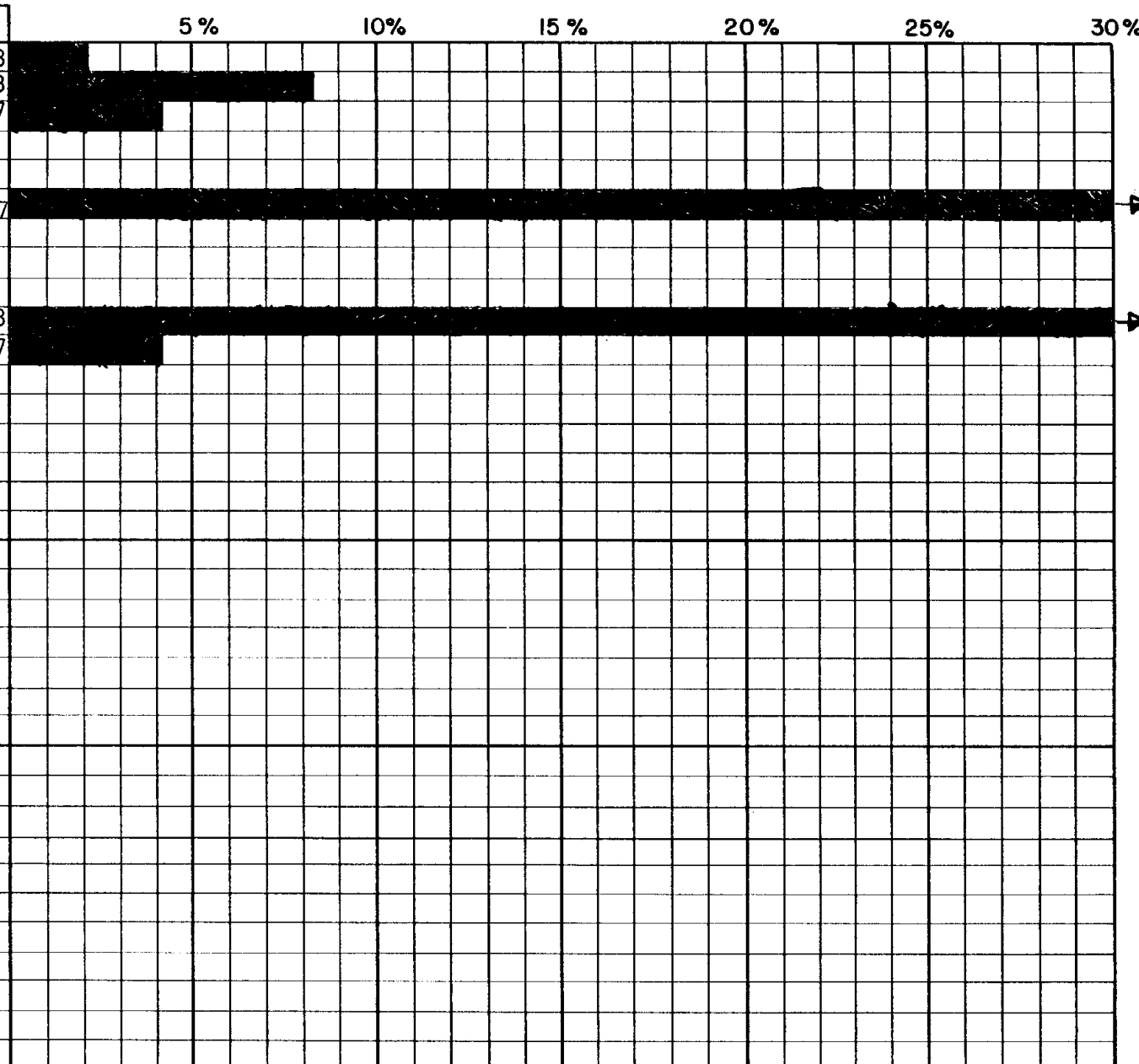
		HRS	%
	Moving	28.0	7.52
	Mooring	15.0	4.03
Drilling operation	Efficient drilling	31.0	8.32
	Other drilling	2.0	0.54
	Hole opening	10.0	2.68
	Regular tripping	38.0	10.20
	Casing and cementing	26.5	7.11
	Sub sea eq. and BOP	58.5	15.70
	Abnormal press. detection	2.0	0.54
	Cond. and circ.	9.5	2.55
	Reaming		
	Directional survey	0.5	0.13
	Plugging	24.0	6.44
	Formation leak-off test		
	Maintenance		
	Other		
Formation Evaluation	Coring		
	El. logging		
	Circ. for samples		
	RFT		
	Production testing		
	Other		
Downtime	Rig repairs	14.0	3.76
	Rig moving	20.0	5.40
	Waiting on weather	67.5	18.12
	Sub sea eq. and BOP	7.0	1.88
	Fishing		
	Lost circulation		
	Well control		
	Hole problems		
	Formation evaluation		
	Diving		
	Other	19.0	5.10
	TOTAL	372.5	100.0

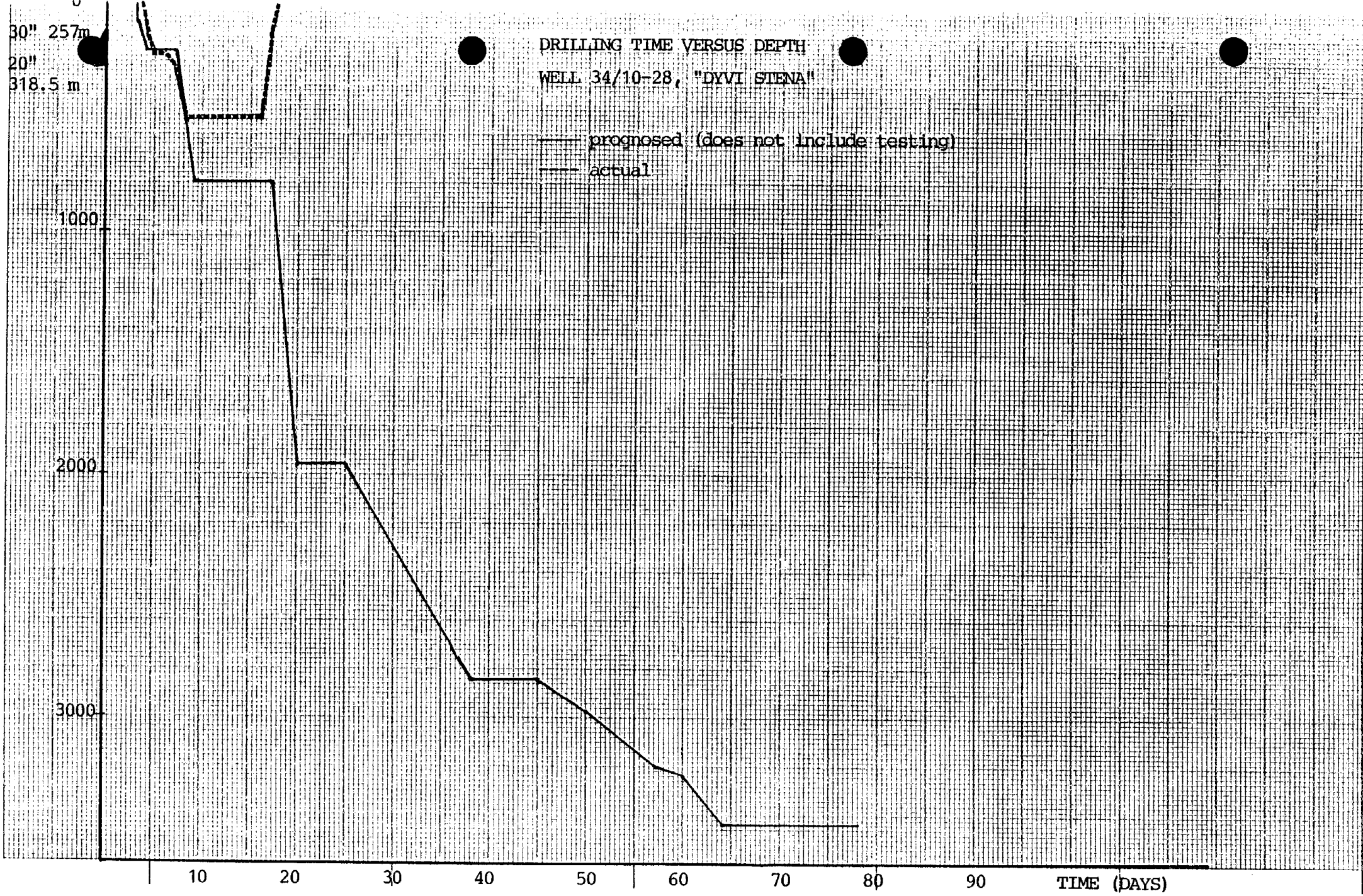


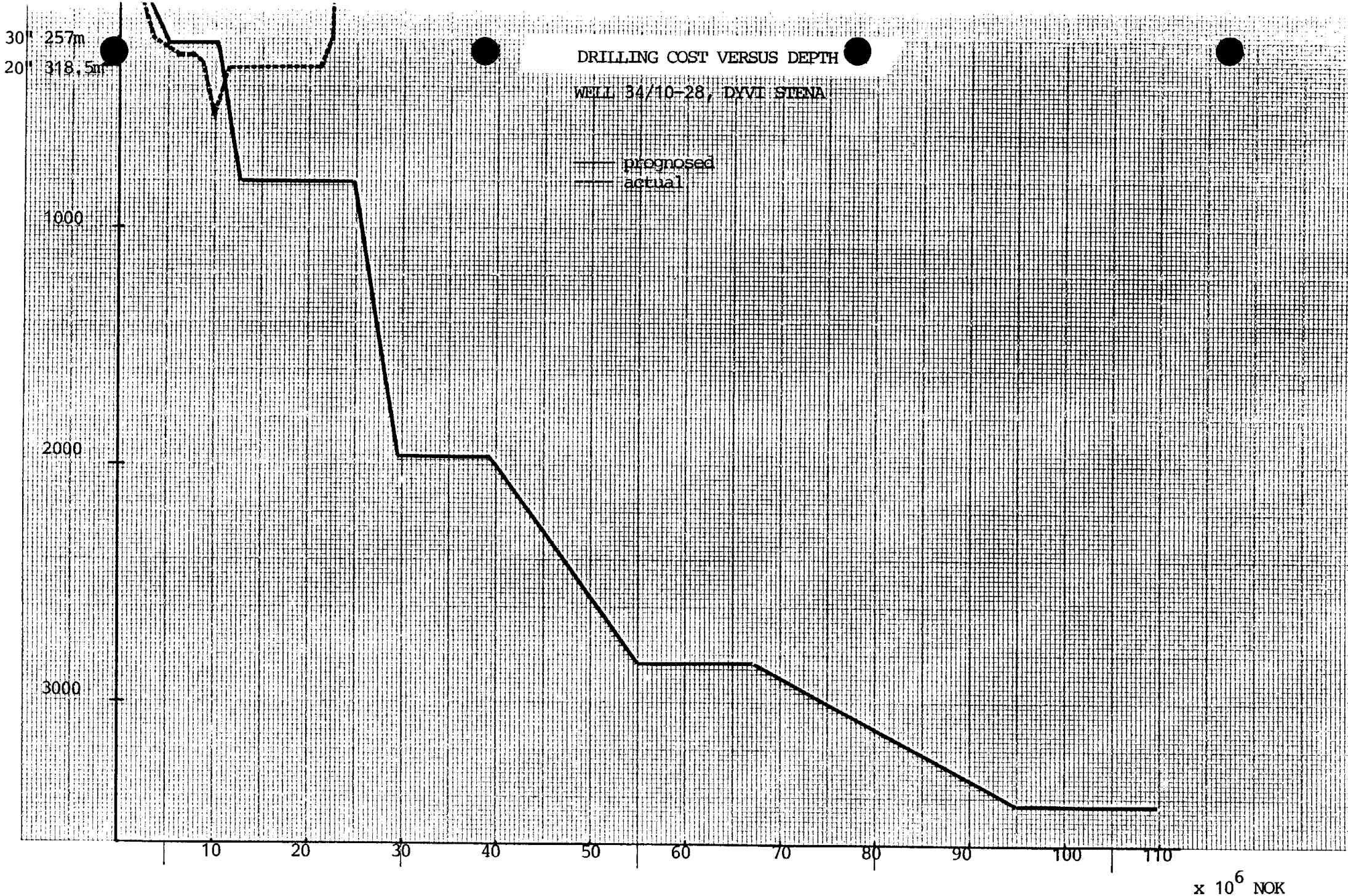
R● TIME DISTRIBUTION FOR PLU●GING, INCL. IN TOTAL RIG TIM● DISTRIBUTION.

statoil
Den norske ●●s oljeselskap a.s

		HRS	%
Plugging	Preparations	0.5	2.08
	Con. and circ.	2.0	8.33
	Cement / Squeeze	1.0	4.17
	Pressure testing		
	Wire line ops.		
	Tripping	10.0	41.67
	Other drilling		
	Sub sea eq. and BOP		
	Cutting casing		
	Diving	9.5	39.58
		1.0	4.17
	Other		
Downtime	Waiting on weather		
	Waiting on cement		
	Cutting casing		
	Other		
	TOTAL	24.0	100.0




DRILLING TIME VERSUS DEPTH
WELL 34/10-28, "DYVI STENA"
prognosed (does not include testing)
actual
30" 257m
20"
318.5 m
1000
2000
3000
10
20
30
40
50
60
70
80
90
TIME (DAYS)


30" 257m
20" 318,5m
DRILLING COST VERSUS DEPTH
WELL 34/10-28, DYVI STENA
prognosed
actual
1000
2000
3000
10
20
30
40
50
60
70
80
90
100
110
x 10^6 NOK

5.7 BIT RECORD AND LITHOLOGY COLUMN

statoil

BORKRONEDATA

Brønn nr.: 34/10-28

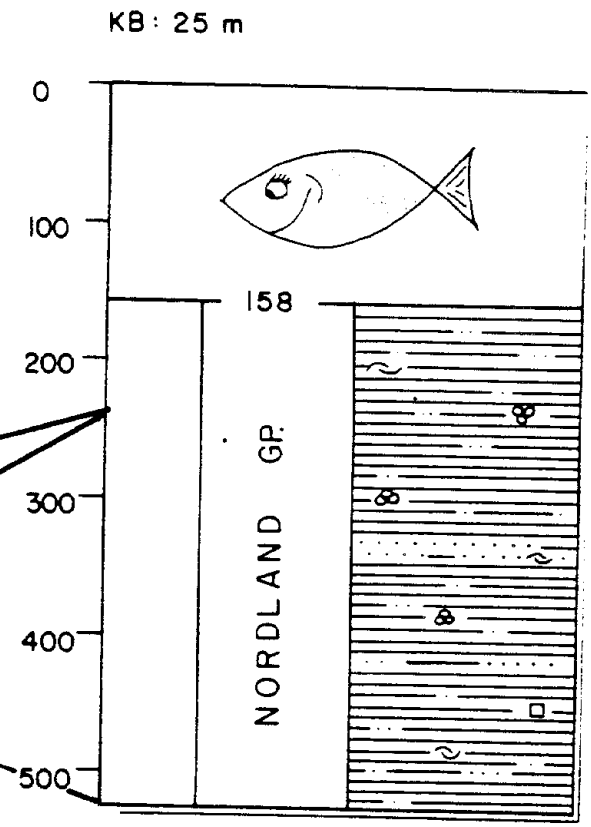
Nr.	B. k. Nr.	Diam.	Fabr.	Type	Serie no.	Dyser 1/32"	Dybde ut	Fremdrift	Rot. tid	Total rot.tid	Bore-hast.	V.p.b.	O.p.m.	Pumpe			Tilstand			Anmerkninger
														Trykk	V.grad	v/t	T	B	G	
1	1	26 36H.O	REED	Y11	T55467	7x21 3x24	258	100	7.13	7.13	14	4	70	90		2130	–	–	–	
2	2	17½ 26"UR	HTC SERVCO	R1	649UR	3x20	260	2	0.5	7.53	4	7	65	117		3820				30"SHOE +2M FORMATION (4mc
3	3	12 1/4	SMITH	SDT	XD9648	3x18	528		11.57	19.10	23.2	0/4	160	124		3000	2	2	I	12 1/4 PILOT HOLE
4	3RR	12 1/4	"	SDT	XD9648	3x18						0.5	100	103		2640	Dressed off cement plug			298-325m.
5	3RR2	12 1/4 17½H.U 26"UR	"	SDT	XD9648	3x18 1x20+2x18 3x16							80	124		4400	3	4	1/8	UNDERREAMED 12 1/4 PILOT HOLE
6	2RR	26"	REED	Y11	T55467	7x21														WIPERTRIP PRIO TO 20"CASING
7	4	17 1/2"	SMITH	SDT	XE5620	1x16 3x18														
8	2RR2	"	HTC	R1	649UR	3x20	Tag T.O.C. and displaced hole with seawater													

4.01.08

LITHLOGY V.S. DEPTH

WELL 34/10-28

Bit size	Bit no.	Type	Depth out (m)	ROP
26"	1	Y11	258.0	14.0
17½"	2	R1	260.0	4.0
12 1/4"	3	SDT	528.0	23.2



T.D. 528 m

3.8 PRESSURE PROFILES

WELL: 34/10 - 28

RIG NAME: DYVI STENA

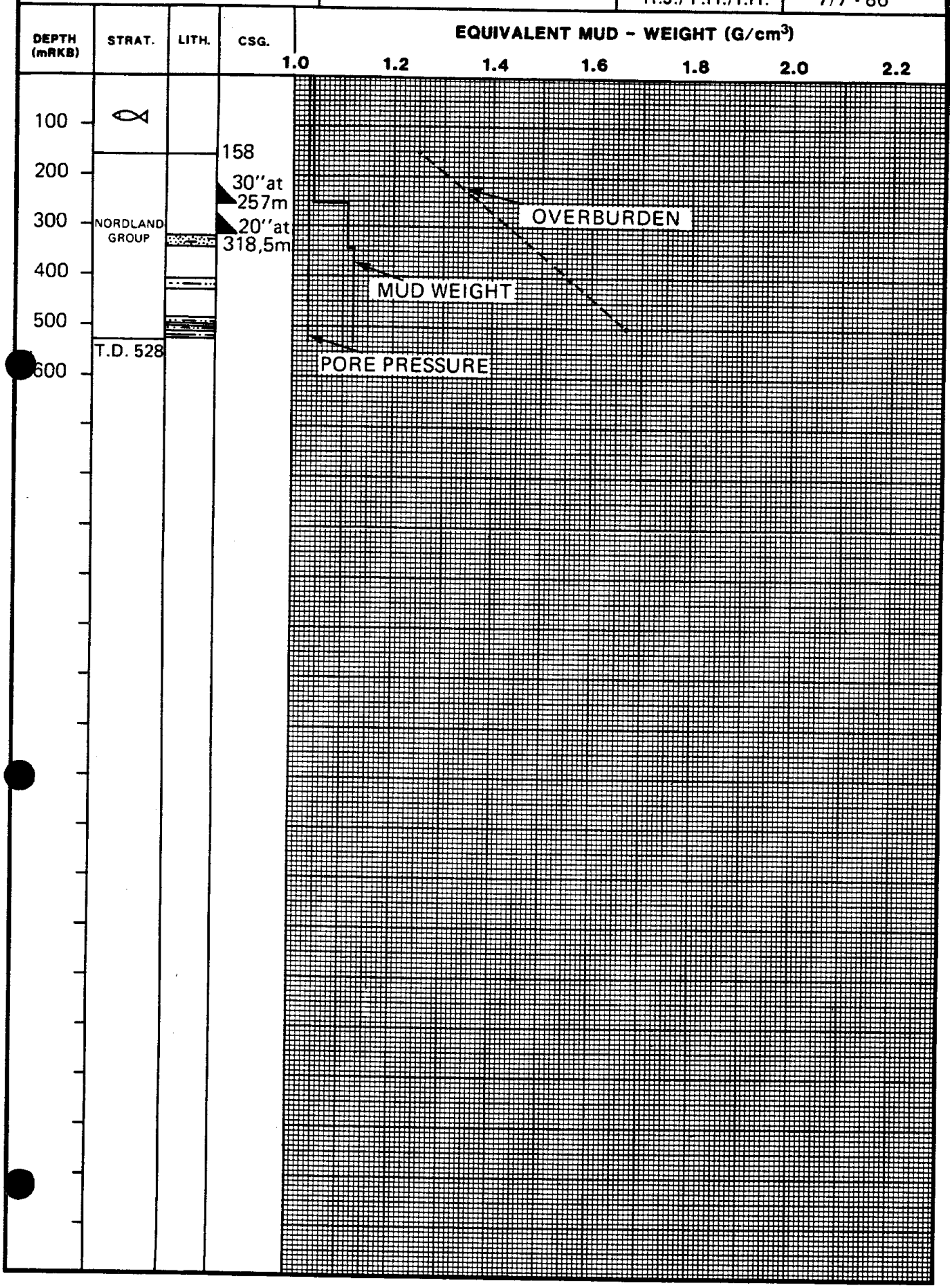
DEPTH mRKB: 25m

PRESSURE PREDICTION GRADIENTS

statoil

MADE BY/DRAWN BY: R.J./T.H./I.H.

DATE: 7/7 - 86



Pressure Composite Gradients 34/10-28

The pore pressure is assumed to be equal to a water gradient 1.03 through the drilled interval. Shallow gas sands are penetrated, data for calculating the pressure are not available, but pressures up to 1.08 are exprienced in the area.

The overburden gradient is taken from the prognosis since sonic or density logs were not run in the drilled interval.

3.9 SURVEY

DIRECTIONAL SURVEY LISTING FOR WELL INDEX # 1: STATOIL 34/10-28

CALCULATION METHOD : BALANCED TANGENTIAL
ERROR ANALYSIS : WALSTROM RANDOM ERROR MODEL

DLWD AND SINGLE SHOT SURVEY DATA
SURVEYS STARTED 5 JAN 86, AT DEPTH = 158 m. LAST SURVEY # 9 AT MD = 525 m

DEPTHS ARE MEASURED RELATIVE TO RKB AT 25 m ABOVE MEAN SEA LEVEL.

	READINGS				RESULTS			
	SVY #	DEPTH	COURSE LENGTH	INCL. ANGLE	AZIMUTH ANGLE	DOGLEG DL/100'	VERTICAL DEPTH	—POSITION— NORTH	EAST
	1	158.0	0.0	0.00	0.00	0.00	158.0	0	0
S	2	254.0	96.0	.50	0.00	.16	254.0	0	0
D	3	264.0	10.0	.15	257.00	1.66*	264.0	0	-0
D	4	294.0	30.0	.12	100.00	0.00	294.0	0	0
D	5	342.0	48.0	.17	64.00	0.00	342.0	1	0
D	6	390.0	48.0	.15	61.00	0.00	390.0	1	0
D	7	439.0	49.0	.17	302.00	0.00	439.0	1	0
D	8	496.0	57.0	.21	230.00	0.00	496.0	1	0
D	9	525.0	29.0	.34	74.00	.11	525.0	1	0

3.10 DRILLING FLUID SUMMARY

OPERATING AREA Gullfaks 34/10-28

OPERATOR Statoil

WELL NAME/No. 34/10-28

CONTRACTOR Dyvi Offshore

RIG Dyvi Stena

BAROID ENGINEERS Ferguson, Smith, Cluck

T.D. 328 m

CASING/DEPTH	DRILLING	CASING JOB	TESTING	NIPPLE UP AND TEST STACK	REAMING AND SCHLUMBERGER	OTHER AND WOW	DAYS TOTAL
30"/257 m	16½	12½	0	0	0	19	3
20"/318 m	26	14	0	9	0	47	6
17½"/ -	not	drilled				168	7
TOTAL	42½ hrs	26½ hrs	0	9 hrs	0	234 hrs	16

Date moved on location/skidded over slot: 1 January 1986

Date moved off location/skid off: 16 January 1986

Total days on well: 16 days

OPERATING AREA Gullfaks 34/10-28

COST SUMMARY

OPERATOR	: Statoil
BLOCK No./LOCATION	: Gullfaks
WELL NAME/No.	: 34/10-28
TOTAL DEPTH	: 323 m
DEVIATION	: 0°
SPUD DATE	: 2 January 1986
DATE T.D. REACHED	: 8 January 1986
TOTAL DRILLING DAYS	: 6
Cost Of Mud Materials Used On Well	: $51,338.02
Cost Of Mud Materials Used For Drilling	: $51,338.02
MUD COST/M	: $311.14
MUD COST/DAY	: $3,208.63
MUD COST/ROTATING HOUR	: $1,207.95
DAYS ENGINEERING SERVICE	: 16 days
Cost Of Mud Materials & Engineering Service	: $58,788.00
END OF WELL INVENTORY ADJUSTMENT	: nil
Engineering Days Not Included In Total Cost	: $1,875.00 (4 days)

MUD DISTRIBUTION SUMMARY

OPERATOR: Statoil Well: 34/10-28 Rig: Dyvi Stena

Hole Size	Interval m			Mud/Brine m^3						Cuttings Volume Drilled	Interval Mud System
	Spud Depth	TD Depth	Length	Built	Dumped	Lost To Formation	Lost Over Sol Ctrl Equipment	Left Behind Casing	Transfer To Next Interval		
36"	153	257	99	555	220	0	0	0	335	65	Spud Mud
26"	251	528	12 1/4-271 26 - 66	353	289	0	34	0	365	38.2	Spud Mud
17½"	not drillled			238	360	0	0	0	103	0	Gyp/Polymer
Totals				1146	869	0	34	0		103.2	

Total Mud/Brine Left In Hole + Behind Casing: 0

Total Mud/Brine To Sea : 903

OPERATING AREA Gullfaks 34/10-28

NORSK PETROLEUM nps SERVICES!

INTERVAL SUMMARY
Spud Mud

SECTION 36" Hole 30" Casing 158-257 m

Spud Depth 158 ft. ..... m ...99...

Spud Date 2 January 1986

TD Depth 258 m

TD Date 3 January 1986

Maximum Hole Deviation 0°

Drilling Days 16.5 hrs

Total Days on Interval 2

Interval Mud Cost 4001.60

Volume Built 609 m^3

Volume Transferred to Interval nil

Volume Salvaged 375 m^3

Volume Lost to Formation and/or Dumped

Cost per Barrel $17.10 per cubic meter

Cost per ft. ..... m .$40..42

Cost per Day $2000.80

Lost to formation	0
Dumped	220
Lost over Solids Control Equipment	0
Total to Sea	220
Volume Cuttings	65

OPERATING AREA Gullfaks 34/10-28

INTERVAL SUMMARY

Spud Mud

SECTION 26" Hole 20" Casing 257-323 m

Spud Depth 257 m ft. ..... m ...66..

Spud Date 5 January 1986

TD Depth 323 m

TD Date 6 January 1986

Maximum Hole Deviation

Drilling Days 26 hours

Total Days on Interval 9

Interval Mud Cost $8192.68

Volume Built 353 m^3

Volume Transferred to Interval 375 m^3

Volume Salvaged 403 m^3

Volume Lost to Formation and/or Dumped

Cost per Barrel $37.24 per cubic meter

Cost per ft. ..... m $30.23

Cost per Day $910.29

Lost to formation	0
Dumped	289
Lost over Solids Control Equipment	34
Total to Sea	323
Volume Cuttings	38.2

OPERATING AREA Gullfaks 34/10-28

INTERVAL SUMMARY

Gypsum Polymer

SECTION 17½" Hole

Spud Depth 323 m ft. ..... m ....Ω..

Spud Date not drilled

TD Depth not drilled

TD Date not drilled

Maximum Hole Deviation

Drilling Days

Total Days on Interval

Interval Mud Cost $23,722.88

Volume Built 238 m^3 gyp polymer

Volume Transferred to Interval 403 m^3

Volume Salvaged 103 m^3 kill mud

Volume Lost to Formation and/or Dumped 367 m^3 dumped

Cost per Barrel $65.25 per cubic meter

Cost per ft. ..... m .....

Cost per Day

Lost to formation	0
Dumped	360
Lost over Solids Control Equipment	0
Total to Sea	360
Volume Cuttings	0

OPERATING AREA Gullfaks 34/10-28

NORSK PETROLEUM nps SERVICES

INTERVAL DISCUSSION

36" Hole to 257 m 30" Casing to 257 m

The Dyvi Stena was moved on location and spudded on 2 January 1986. Seabed was tagged at 158 m.

The 36" hole was drilled with seawater and hi vis pills. Returns were to the seabed. Approximately 8 m^3 of 100 viscosity mud were circulated on each connection.

The hole was circulated out with hi vis mud after reaching T.D. The hole was again filled with hi vis mud prior to running 30" casing. A total of 230 m^3 of seawater/hi vis mud was used on this section.

Thirty inch casing was run and cemented without problems.

OPERATING AREA Gullfaks 34/10-28

NORSK PETROLEUM nps SERVICES

INTERVAL DISCUSSION

26" Hole 157 to 323 m 20" Casing to 318 m

Drilling of the 26" section commenced on 5 January 1986. A 12 1/4" pilot hole was drilled to 528 m. The hole was plugged back to 325 m after gas shows at 338 m. The hole was underreamed to 26" to a depth of 323 m.

The hole was displaced with 1.36 SG mud prior to trip at T.D. A 26" bit check trip was made after pulling the riser and the hole again circulated out with 1.36 SG mud.

Two hundred thirty m^3 of 1.36 SG mud was used on this section. Material cost on this section was $25,000 with Barite costs amounting to 85% of material costs.

Twenty inch casing was run and cemented as per program.

Shakers were equipped with 20 over 40 mesh screens. Desander and desilter were fitted with 120 mesh and 200 mesh screens respectively.

OPERATING AREA Gullfaks 34/10-28

NORSK PETROLEUM nps SERVICES!

INTERVAL DISCUSSION

17½" Section

This section was not drilled. The wellhead guideposts were out of position while waiting to land the BOP stack. Swells of approximately 8 meters in height were recorded during this period.

The rig was moved 40 meters to respud this well.

Two hundred thirty eight cubic meters of Gyp polymer mud and 129 m^3 of native mud was dumped in order to provide space for spud mud. One pit was required to provide seawater for drilling the 36" section. One additional pit was required to retain 103 m^3 of kill mud for use in the 26" section should the need arise.

NORSK PETROLEUM nps SERVICES I

Daily Material Usage

Operator Statoil

Well 34/10-28

Date 1986	Barite	Bent.	Caustic	Soda Ash											Mud Made	Mud Lost	Total Mud	Cost Daily	Cost Cumulative	Remarks
Unit	MT	MT	25kg	50kg																36" Hole
02.01		29	9	9											315	14	301	6632.00	6632.00	
03.02		16	8	10											240	206	335	3782.10	10414.10	
Totals	0	45	17	19											555	220	335		10414.10	
Program	19	16	4	2											181				5303.90	
																			18.76	Cost/m³ (555)
																	335		(6284.60)	Transfer to 26"
																			4129.50	Interval Cost
																			41.72	Cost/m (99)

NORSK PETROLEUM nps SERVICES1

Daily Material Usage

Operator Statoil

Well 34/10-28

Date 1986	Barite MT	Bent. MT	Caustic 25 kg	Ligno 25 kg	Soda Ash 50 kg	Bicarb 50 kg	Mica 25 kg								Mud Made	Mud Lost	Total Mud	Cost Daily	Cost Cumulative	26" Hole Remarks
03.01																	335	6284.60	10414.10	Transfer from 36"
04.01	91		2	6	2										80	0	415	8309.00	18723.10	
05.01	14	6	3		2	10									108	26	497	1659.45	20382.55	
06.01	13	7	7	4											75	66	506	2814.65	24385.20	
07.01	20			8	1	15									70	83	493	2206.80	26592.00	
08.01	99						20								20	148	365	9240.00	35832.00	
Total	237	13	12	18	5	25	20								353	323	365	31702.50	31702.50	
Program	125	85	21	0	11	0	0								1316			30347.50	30347.50	
																			46.08	Cost/m³ (688)
																	365		(16819.20)	Transfer to 17½"
																			14883.30	Interval Cost
																			225.51	Cost/m (66)

NORSK PETROLEUM nps SERVICES

Daily Material Usage

Operator Statoil Well 34/10-28

Date 1986	Barite MT	Bent. MT	Caustic 25 kg	CMC LV 25 kg	Dextrid 50 lb	Drispac 50 lb	Drispac SL 50 lb	Gypsum 40 kg	Bicarb 50 kg	XC Polymer 25 kg	Instavis 25 kg	Soda Ash			Mud Made	Mud Lost	Total Mud	Cost Daily	Cost Cumulative	17½" Hole Remarks
08.01																	365	16819.20	35832.00	Transfer from 26"
09.01			7		75	26	26	145	4		1				214	111	468	9429.42	45261.42	
10.01	20														0	29	439	1800.00	47061.42	
11.01	8														0	0	439	720.00	47781.42	
12.01		3	4	1		1		40		7	2				24	0	463	3608.17	51389.59	
13.01															0	0	463	0	51389.59	
14.01															0	0	463	0	51389.59	
15.01																360	103	0	51389.59	
Totals	28	3	11	1	75	27	26	185	4	7	3	0			238				32325.22	
Program	68	0	199	0	384	119	80	788	0	69	0	27							74007.48	
																			53.61	Cost/m³ (603)
																	103		(5521.83)	Kill mud retained
																			26803.39	Interval Cost

OPERATING AREA Gullfaks 34/10-28

TOTAL MATERIAL CONSUMPTION

MATERIAL	PACKAGING	QUANTITY
Barite	MT	265
Bentonite	MT	61
Borrewell	25 kg	18
Caustic Soda	25 kg	40
Soda Ash	50 kg	24
CMC LV	25 kg	1
Instavis	25 kg	3
Sodium Bicarbonate	50 kg	29
Dextrid	50 lb	75
Drispac Regular	50 lb	27
Drispac Superlo	50 lb	26
Gypsum	40 kg	185
XC Polymer	25 kg	7

Section Costs

Interval	m^3	m	Cost
36"	220	99	4,129.50
26"	323	66	14,883.30
17½"	360	0	26,803.39
kill mud	103		5,521.83
Totals	1006	165	51,338.02

51.03 Cost/m^3

311.14 Cost/m

WELL NAME: Gullfaks 34/10-8

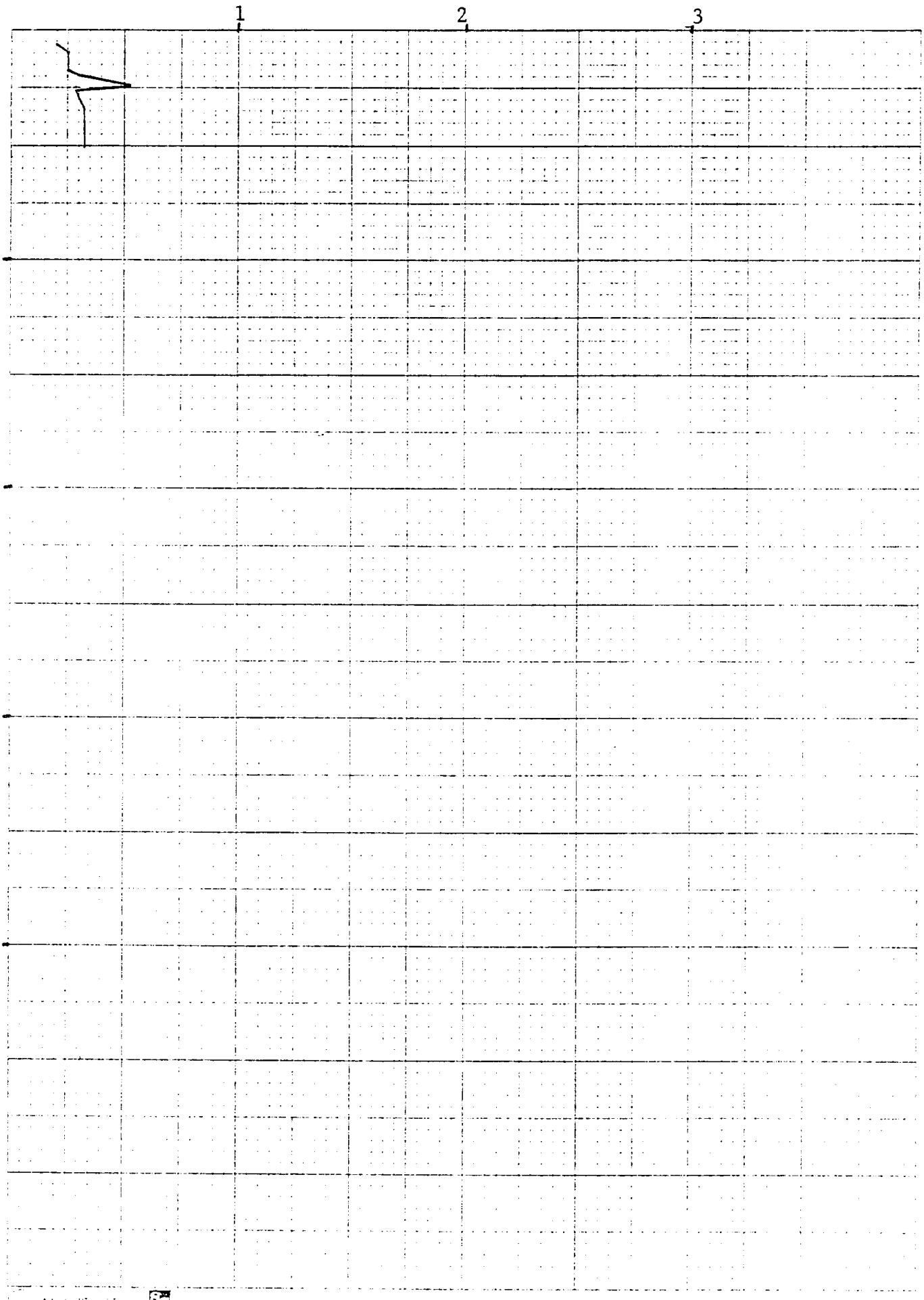
NORSK PETROLEUM nps SERVICES

MUD PROPERTY RECAP

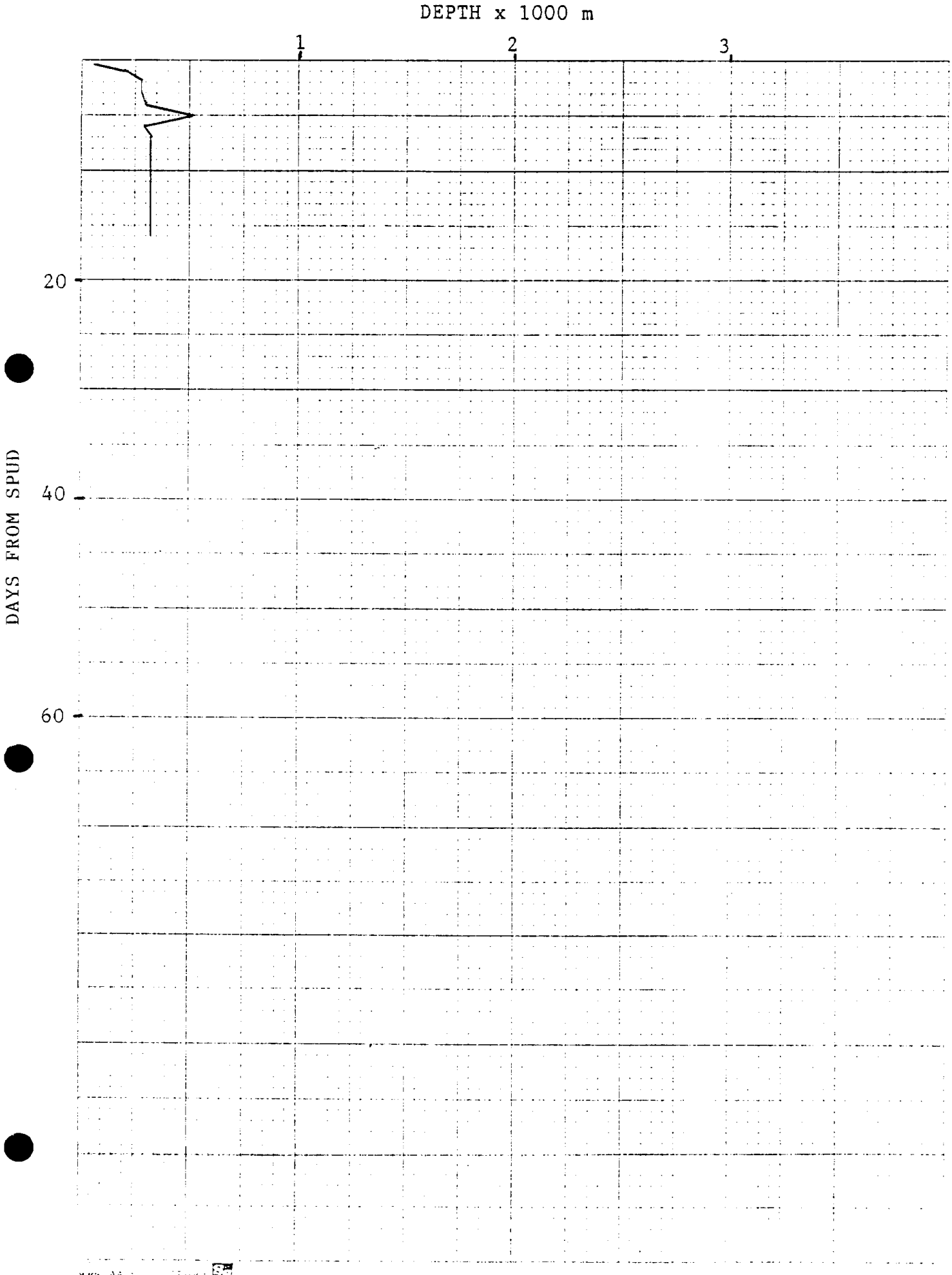
DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP fill		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/ SG			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1986	metres		secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	SAND		
02.01	194	1.04	100								Spud Mud													
03.01	257	1.04	100								Spud Mud													
04.01	257	1.11	44	NC	3			9.6	11	26	16	26	5000	180					95	5				
05.01	270	1.12	47	NC	3			10.3	11	34	25	28	9000	240					94	6				
05.01	295	1.11	41	NC	3			9.9	8	29	20	24	10000	280					94	6				
06.01	341	1.11	41	NC	3			10.2	8	35	16	22	11000	200					94	6		TR		
06.01		1.11	43	NC	3			10.0	8	37	21	24	12000	240					94	6		1/4		
06.01	528	1.12	40	NC	3			9.1	6	24	17	21	18000	280					94	6		1/4		
07.01	528	1.12	42	NC	3			9.0	7	23	16	26	13000	160					94	6		1/4		
07.01	290	1.11	41	NC	3			10.7	6	24	16	23	14000	560					94	6		1/4		
08.01	257	1.36	44	NC	3			10.5	8	22	18	24	14000	600					94	6		1/4		
09.01	257	1.11	44	NC	3			9.6	7	19	16	23	14000	280					94	6		1/4		
10.01	257	1.11	43	NC	3			9.6	7	19	16	23	14000	280					94	6		1/4		
11.01	257	1.11	43	NC	3			9.6	7	19	16	23	14000	280					94	6		1/4		
12.01	257	1.11	40	NC	3			9.1	13	21	17	26	16000	640					94	6		1/4		
13.01	323	1.11	40	NC	3			9.1	13	21	17	26	16000	640					94	6		1/4		
14.01	323	1.12	40	NC				8.9	13	19	16	24	15000	600					94	6		1/4		
15.01						Dump and clean mud pits																		

Statoil
Dyvi Stena
34/10-28

DEPTH x 1000 m



Statoil
Dyvi Stena
34/10-28



3.11 EQUIPMENT FAILURES

EQUIPMENT FAILURE REPORT

04.01 Power black-out due to electrical overload.

04.01 Unable to torque up 4 dogs on the pin connector to full travel. Changed out 4 dogs and the bolts.

04.01 Did not get function test on port side diverter valve.

05.01 Had power black-out.

05.01 Anadrill gas detection system broke down. It was all replaced.

09.01 The 20" casing rotated when attempting to back out the running tool after cementing. The McEvoy 20" wellhead was not equipped with anti-rotation pin as it was supposed to. When the cement was set up the running tool was easily backed out.

13.01 One transponder on the BOP was not working.

4. MARINE REPORT

4.1 WEATHER AND ANCHOR TENSION

4.1 Weather and anchor tension 34/10-28

The well 34/10-28 was drilled in the period from 31.12.85 to 16.01.86.

There was a total of 67.5 hours downtime due to bad weather, which is 18.2% of the total time spent on the well.

The main wind and wave direction was from north east.

The maximum reported wind speed was 28.7 m/s from SSE, and the maximum reported wave height was 5.0 m from SSE.

The maximum experienced anchor tension was 145 tons on anchor no. 7.

4.2 LOCATION WEATHER DATA SUMMARY

LOCATION WEATHER DATA SUMMARY

statoil
Den norske stats oljeselskap a.s

WELL: 34/10-28 RIG: Dyvi Stena

TIME PERIOD: FROM 1/1 TO 16/1 -1986

READINGS PR. MONTH: One reading per day

WIND

m/sec. / dir.	0 – 5	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30	> 30	total
N								
NNE				2				2
NE	1	2						3
ENE								
E		1						1
ESE		1						1
SE		1	1					2
SSE			1			1		2
S								
SSW						1		1
SW		1		1				2
WSW								
W								
WNW			1					1
NW				1				1
NNW								
total	1	6	3	4		2		16 / 16

WAVE

height (m) / dir.	0 – 1	1 – 2	2 – 3	3 – 5	5 – 7	7 – 10	> 10	total
N								
NNE			1	1				2
NE		1	2					3
ENE								
E	1							1
ESE		1						1
SE	2							2
SSE			1	1				2
S								
SSW				1				1
SW		1	1					2
WSW								
W								
WNW				1				1
NW				1				1
NNW								
total	3	3	5	5				16 / 16

PRO

4.3 NAVIGATION REPORT

NAVIGATION REPORT

RIG MOVE OF "DYVI STENA" TO WELL 34/10-28

1. Final position (Datum ED50)

Geographical coordinates:

Lat. 61° 06' 31.99" N Lon. 02° 15' 23.72" E

UTM coordinates (UTM-zone 31, cm 3°E):

Northing 6 775 304 Easting 459 928

Accuracy: +/- 5 meter

Rig heading: 315°

Deviation from intended postion: 9 m - 310°

2. Observed Decca Main Chain Readings:

Chain : Vestlandet 0E

Red : 1I 03.34

Green : 2D 42.60

Purple : 1B 68.94

3. Navigation/Position Method

a) Navigation

Micro-fix positioning system interfaced to a HP 9845 computer.

Contractor: A/S Geoteam, Oslo

Personell : Dag Høgvard and Frank Røv

b) Positioning

MX 1502 satellite positioning system.
Translocation against fixed point at
Eigeberg near Stavanger

Contractor: A/S Geoteam, Oslo

Personell : Dag Høgvard

4. Duration of Rig Move

Equipment onboard	: 26 Dec.
Personell onboard	: 31 Dec. at 08.30 hours
Rig leaving location 6406/6-1	: 31 Dec. at 04.30 hours
Start circling to location	: 1 Jan. at 21.40 hours
2 km from location	: 1 Jan. at 23.25 hours
First anchor (no. 4) on bottom	: 1 Jan. at 23.51 hours
Last ancor (no. 7) on bottom	: 2 Jan. at 08.20 hours
All anchors pretensioned up to 100 tons	: 2 Jan. at 12.50 hours
On location ready to spud	: 2 Jan. at 15.30 hours

5. Techniques/Problems

The operation was performed according to Statoil's procedures without any navigational problems.

The final position of the rig was fixed by satellite using the translocation method. A geodetic point onshore at Eigeberg near Stavanger was used for the fixed point satellite receiver.

Micro-fix position is 3 m in direction 120^{o} from final position.

WELLSITE SAMPLE DESCRIPTION

WELL: 34/10-28
PROSPECT: GULLFAKS
AREA: NORTH SEA
COUNTRY: NORWAY
COMPANY: STATOIL/SAGA/N.HYDRO
GEOLOGIST: BJERKENES/HOVDEN

K.B.E.: 25 m
HOLE SIZE: 12 1/4"
DATE: 05.01.1986

DEPTH	LITH.%	LITHOLOGIC DESCRIPTION	Shows&Remarks
260	100	CLAY: med gry, sft, sol, stky, mod calc, w/lith grns, fn-v crs, ang-subang, glacial debris?	No shows contam by cmt
	TR	SD: clr qtz, fn-crs, poor srtd, rnd-ang	
	TR	Shell frags and forams	"
270	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
[illegible]	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
290	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
	TR	Mica	
300	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
310	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
320	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
330	90	CLAY: A/A	"
	10	SD: A/A, mostly subrnd-rnd	
	TR	Shell frags and forams	
340	100	CLAY: A/A, occ grdng v sdy clay i/p	"
	TR	SD: A/A	
	TR	Shell frags and forams	
350	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	

WELLSITE SAMPLE DESCRIPTION

WELL: 34/10-28
PROSPECT: GULLFAKS
AREA: NORTH SEA
COUNTRY: NORWAY
COMPANY: STATOIL/SAGA/N.HYDRO
GEOLOGIST: BJERKENES/HOVDEN

K.B.E.: 25 m
HOLE SIZE: 12 1/4"
DATE: 05.01.1986

DEPTH	LITH.%	LITHOLOGIC DESCRIPTION	Shows&Remarks
360	100	CLAY: A/A, decrease in lith. grains	
	TR	SD: A/A	
	TR	Shell frags and forams	
370	100	CLAY: med gry, v sft, sol, stky, mod calc, prtly w/lith grns	No shows
	TR	SD: clr qtz, fn-med, poor-fair srtd, subrnd-subang	
	TR	Shell frags	
[illegible]	100	CLAY: A/A	sl cont by
	TR	SD: A/A	cmt
	TR	Shell frags	
390	100	CLAY: A/A	"
	TR	SD: A/A, mod srtd	
	TR	Shell frags and forams	
400	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
410	100	CLAY: A/A	"
	TR	SD: A/A, fn-crs poor-fair srtd	
	TR	Shell frags	
420	100	CLAY: A/A	"
	TR	SD: A/A, fn-med, mod srtd	
	TR	Shell frags	
430	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
440	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags and forams	
450	100	CLAY: A/A, cont lith grns	"
	TR	SD: A/A	
	TR	Pyr mass microxl	
	TR	Shell frags	

WELLSITE SAMPLE DESCRIPTION

WELL: 34/10-28
PROSPECT: GULLFAKS
AREA: NORTH SEA
COUNTRY: NORWAY
COMPANY: STATOIL/SAGA/N.HYDRO
GEOLOGIST: BJERKENES/HOVDEN

K.B.E.: 25 m
HOLE SIZE: 12 1/4"
DATE: 05.01.1986

DEPTH	LITH.%	LITHOLOGIC DESCRIPTION	Shows&Remarks
460	100	CLAY: A/A	"
	TR	SD: clr, mlky qtz, occ lith grns f-v crs, subang, occ ang, rnd, poor srtd	
	TR	Shell frags	
470	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
480	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
490	100	CLAY: med gry, sft, amor, mod calc, occ w/ lith grns	Sl cont cmt No shows
	TR	Clr-mlky qtz, lith grns, f-v crs, subang-rnd, dom in sub rnd, prtly as lith grns	
	TR	PYR: mass, microxln	
	TR	Shell frags	
500	90	CLAY: A/A	"
	10	SD: A/A, domin f-med (shell frags, forams)	
	TR	Shell frags and forams	
510	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
520	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	
528 (B.U.)	100	CLAY: A/A	"
	TR	SD: A/A	
	TR	Shell frags	

statoil

PARTNERS NORSK HYDRO, SAGA PETROLEUM

34/10-28 WELL

GULLFAKS SOUTH PROSPECT, STRUCTURE

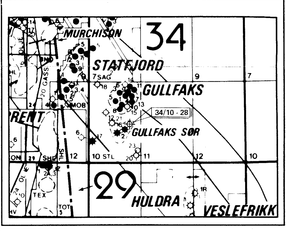
COMPLETION LOG
Scale 1:500

AREA: NORTH SEA
LICENCE: PL 050
COORDINATES: 61° 06' 31,99"N
02° 15' 23,72"E

K.B.: 25m
WATER DEPTH: 133m
TOTAL DEPTH: 528m
DEEPEST FORM. PEN.: NORDLAND GP.
SPUD DATE: 02.01.86
RIG RELEASE DATE: 16.01.86
WELL STATUS: PLUGGED & ABANDONED
RIG: DYVI STENA
CONTRACTOR: DYVI OFFSHORE
GEOLOGISTS: S. BJERKENES, Ø.HOVDEN

PREPARED BY: K. J. KORNSTAD DATE: 02.06.86

LOCATION MAP



CASING DATA:	LEAK OFF TESTS:	VELOCITY SURVEY:
30" at 257m 20" at 318,5m 16" at 13 3/8" at 9 5/8" at 7" at		NO VELOCITY SURVEY WAS TAKEN

LOGS RUN	CONTRACTOR:

COMMENTS:

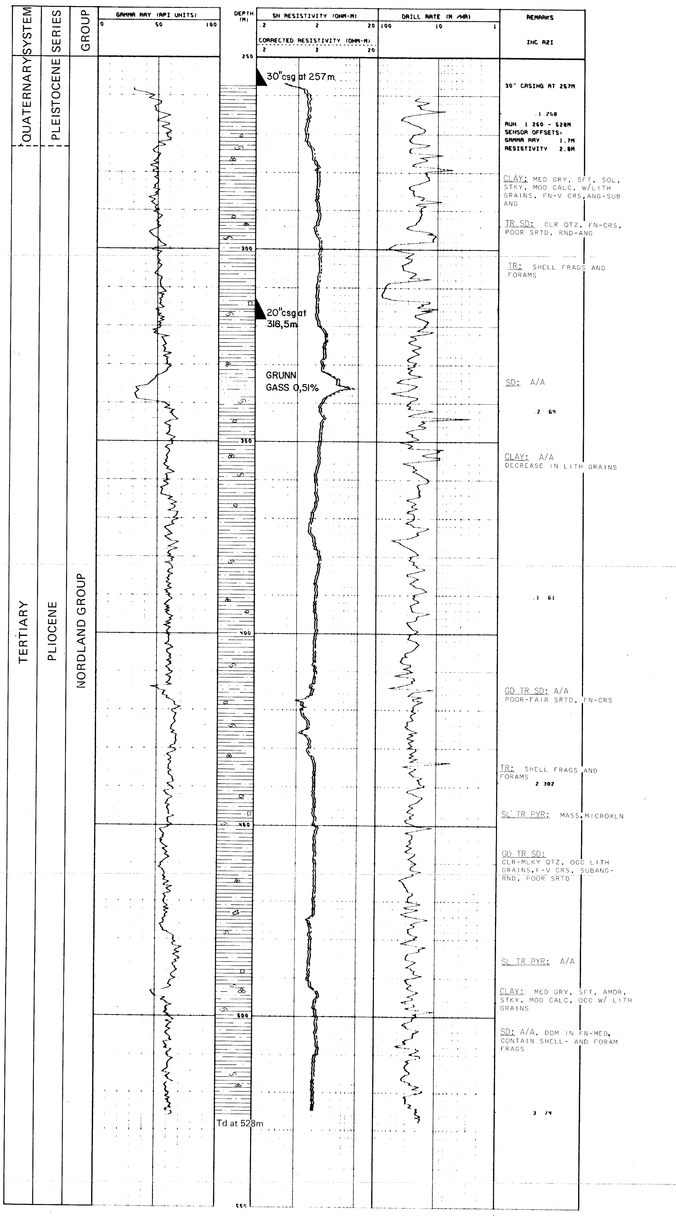
NO WIRELINE LOGS WERE RUN IN THE HOLE
EXLOG'S DLWD WAS RUN IN THE INTERVAL 257m – 524m. DUE TO THE LACK OF WIRELINE LOGS THE DLWD – LOG IS USED FOR THE COMPLETION LOG.

LITHOLOGICAL SYMBOLS

CONGLOMERATE, SHALE, MARL, COAL / LIGNITE, FORAMS, MICA
SAND / SANDSTONE, LIMESTONE, TUFF, WOOD FRAGS, BURROWS, KAOLINITE
SILT / SILTSTONE, CHALK, SALT GEN'L, FOSSILS GEN'L, PYRITE, CHERT
CLAY / CLAYSTONE, DOLOMITE, ANHYDRITE, SHELL FRAGS, GLAUCONITE, SIDERITE

STAIN, FLUORESCENCE, CUT FLUOR, GAS SHOWS

SIDEWALL CORES: REC, REC WISHOW, NO REC
CORES: CORE NO
DST
RFT/FMT: UNSUCCESSFUL
CASING SHOE/LINER



12105

N.5

ANADRILL
Schlumberger

PHYSICAL FORMATION LOG

COMPANY STATOIL

WELL 34/10-28 LOCATION GULLFAKS SOUTH ALPHA

RIG NAME DYVI STENA DATE COMPLETED 16-JAN-86

DATE SPUDDED 02-JAN-86 CASING RECORD 30" 160m TO 257m

TOTAL DEPTH 528m 20" 160m TO 318.5m

UNIT MGR M.RUTHERFORD TO

UNIT NO OLU-FB-55 TO

LEGEND

CLAY — M MICA — SHELL FRAGMENTS

SAND — GLAUCONITE — FORAMINIFERA

FORMATION EVALUATION LOG

RATE OF PENETRATION — METRES/HR — HOURS/ FOOTER

CUTTINGS LITHOLOGY

HYDROCARBON ANALYSIS — CONTINUOUS TOTAL GAS — CHROMATOGRAPH — CUTTINGS GAS — METHANE — ETHANE — PROPANE — GAS PEAKS — GAS BACKG'D

LITHOLOGY DESCRIPTION AND REMARKS

KB

MSL

SEABED

SPUD-@ 30HRS,02-JAN-86

CLAY: MED-DK BL-SFT-MOD SFT, STKY,MOD CALC

STR SAND:CLR-MLKY,OCC ORNG, V.F-CRS,ANG-SUB RND,QTZ OCC W/ BLK BIO

FLOW CHECK -VE.(273.5m)

STR SHELL FRAGS.

GAS SYSTEM FAILURE

STR MICA @ 0-MUSC

STR MICROFOSSILS.

STR GLAUCONITE: LT-DK GN/ BLK,MOD,RND

V.WTR SAND: LITH A/R,BOM SUB ANG-SUB RND

FLOW CHECK -VE. CIRCULATE BOTTOMS UP

V.WTR SAND:CLR-MLKY,OCC SPKL V.FN-CRS,SUB ANG-W RND, MOD SPHER,ABD GLAUC,OK OIL /BLK,RND MOD

STR SHELL FRAGMENTS AND MICROFOSSILS

STR SHELL FRAGMENTS

CLAY: MED-DK BL/BY,V.SFT-SFT, SOL,STKY,MOD CALC.

WEIGHT UP MUD TO 1.12+ gm/cc.

SAND:CLR-MLKY QTZ,OCC ORNG -MFR,FN-MED,SUB ANG-RND, W SMT.

FLOW CHECK -VE. CIRCULATE BOTTOMS UP

CIRCULATE BOTTOMS UP FLOW CHECK -VE.

CEMENT BACK 12 1/4" PILOT HOLE FROM 400m TO 300m. OPEN 12 1/4" TO 325m, WITH A 26"/17½" ASSEMBLY. RUN 20" CSG. DAMAGE GUIDE BASE W/ BOPS. PLUG AND ABANDON.

RATE OF PENETRATION — METRES/HR — HOURS/ FOOTER — CUTTINGS LITHOLOGY — HYDROCARBON ANALYSIS — CONTINUOUS TOTAL GAS — CHROMATOGRAPH — CUTTINGS GAS — METHANE — ETHANE — PROPANE — GAS PEAKS — GAS BACKG'D — LITHOLOGY DESCRIPTION AND REMARKS

FORMATION EVALUATION LOG

COMPANY: STATOIL ANADRILL Schlumberger WELL: 34/10-28