SIMON PETROLEUM TECHNOLOGY

WELL: 16/4-2

Print: 11373 P	Units: [✓ M] F	Top	Bottom	Scale	TD
Length: 24 FT	Initials: JAT	118	3120	1/500	3115

DIGITAL WIRELINE LOGS PACKAGE
1995
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SIMON PETROLEUM TECHNOLOGY

COMPLETION LOG

U-639

.3

COMPLETION

P

ENCLOSURE 1

HYDRO

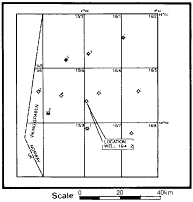
Completion log

Scale 1:500

Well: 16/4-2

7 DES. 1990
REGISTRERT
OLJEDIREKTORATET

Location map



Coordinates:	58°35'47.17'' N 02°01'48.03'' E
UTM:	6 495 672.7 m N 443 619.5 m E ED 50 ZONE 31 CM 3°E
Elevation K B	25 m
Water Depth:	93.5 m MSL
Total Depth (Driller):	3117.0 m RKB
Total Depth (Logger):	3114.5 m RKB
Formation at Total Depth	Upper Jurassic Draupne Formation

Country:	Norway
Licence:	087
Owners:	Norsk Hydro, Statoil, Shell, Conoco
Field:	—
Date Spudded:	June 29, 1990
Reached Total Depth:	July 22, 1990
Completed:	July 29, 1990
Well Status:	Abandoned
Rig:	Vildkat
Contractor:	SDS
Mudlogging Company:	Exlog Norge a.s
Geologists:	Fearn, Hayes, Skjold, Bomstad
Prepared by:	Ree, Hayes
Controlled by:	Holehouse
Date:	December 1990

Casing Records:

30''	at 204.5 m		
18 5/8''	at 479 m	Leak off 1.86 rd
13 3/8''	at 1683 m	Leak off 1.90 rd

Comments

Diesel/EZ pills used to free stuck 13 $^3/_8$" casing, resulting in diesel contamination of mud system below 1710m.

Logs Run

DIL/LSS//GR	LDL/AMS	SHDT/GR	RFT/GR	CST/GR	MWD
1A. 1708.0– 478 m 2B. 3112.5–1685 m	1A. 1708.0– 478 m	2A. 3114–1685 m	2A. 3111.5–1920 m	2A. 3113–1715 m	ANADRILL LWD 200–1703 m MWD 118.5–3113 m
	LDL/CNL/NGL/AMS		**VSP**	**CBL/VDL/GR**	
	2B. 3112.5–1685 m		2A. 3110–1000 m	2A. 1680– 963 m	

Legend

CONGLOMERATE	SHALE	CHALK	ANHYDRITE	SANDY VERY SANDY SANDY SLIGHTLY	C Carbonaceous mat
SAND SANDSTONE	LIMESTONE	MARL MARLSTONE	SALT	SILTY VERY SILTY SILTY SLIGHTLY	△ Chert
SILT SILTSTONE	DOLOMITE	COAL LIGNITE	GYPSUM	ARGILLACEOUS	✳ Glauconite
					M Mica
					Pyrite
CLAY	DOLOMITIC LIMESTONE		TUFF		Macrofossils
					Macrofossils frag
CLAYSTONE	CALCAREOUS DOLOMITE		IGNEOUS EXTR INTR		Microfossils

Hydrocarbon Shows

- Oil stain
- Fluorescence
- Visible cut
- Fluorescence cut
- Gas shows

Casing Shoe

Deviation 2°

Dipmeter results 3°

Two way time from velocity survey depth m K B e.g. Relative MSL 3603 m 1450 s

Core Interval

(No recovery)

Side Wall Core →

(No recovery)

Perforated Interval

Cement

Plug

Interval

DST

Through casing

Open hole

Re - Run

RFT/FT

SYSTEM	SERIES	STAGE	GROUP	FORMATION	MEMBER	Log tracks	Ditch Gas	Lithological Description

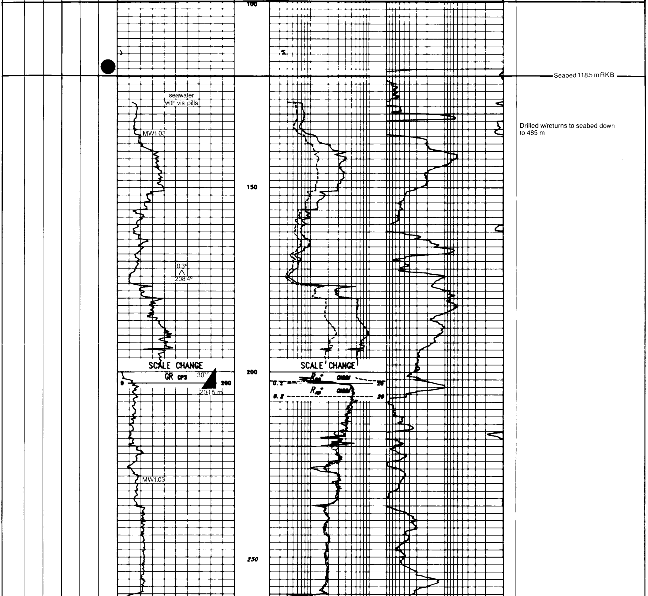
MWD: Anadrill Schlumberger (118.5–479 m)

DEPTH SCALE 1:500 (1 cm = 5.0 m) AVERAGING INTERVAL 0.3 m

GAMMA RAY	DEPTH (m) MD	RESISTIVITY	AVERAGE PENETRATION RATE
0 COR-GAMA AAPI 200		0.2 COR RES OHM MTRS 20 0.2 RESIST OHM MTRS 20	100 ROP•5 M/HR 1

Wireline: Schlumberger (479–3114.5 m)

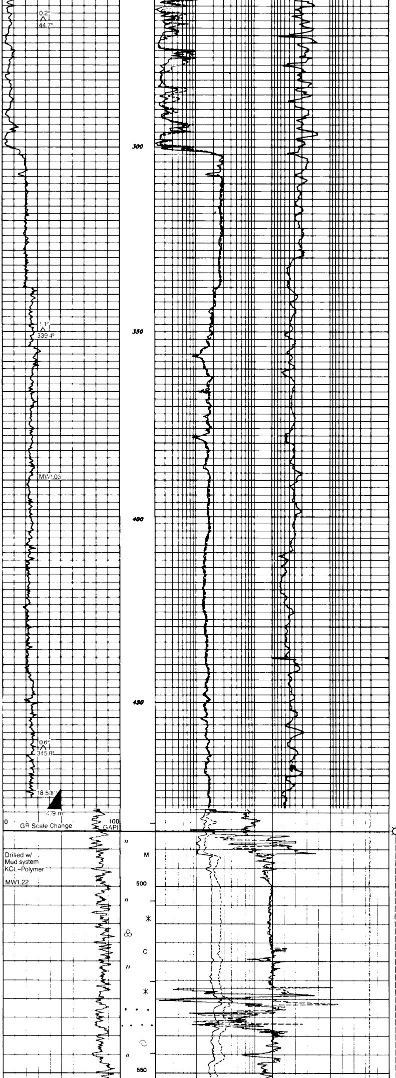
0.00	GR (GAPI)	100.00	0.20	ILD (OHMM)	2000.00	
0.00	SGR (GAPI)	100.00	0.20	SFLU (OHMM)	2000.00	
320.00	SP (mV)	420.00	240.00	DTLN (uS/FT)	40.00	
320.00	SP (mV)	420.00	240.00	DTLF (uS/FT)	40.00	
320.00	SP (mV)	420.00	10000.00	TENSION (LB)	0.00	
320.00	SP (mV)	420.00				
320.00	SP (mV)	420.00				



Drilled w/returns to seabed down to 485 m

No datings

485



485–778 m

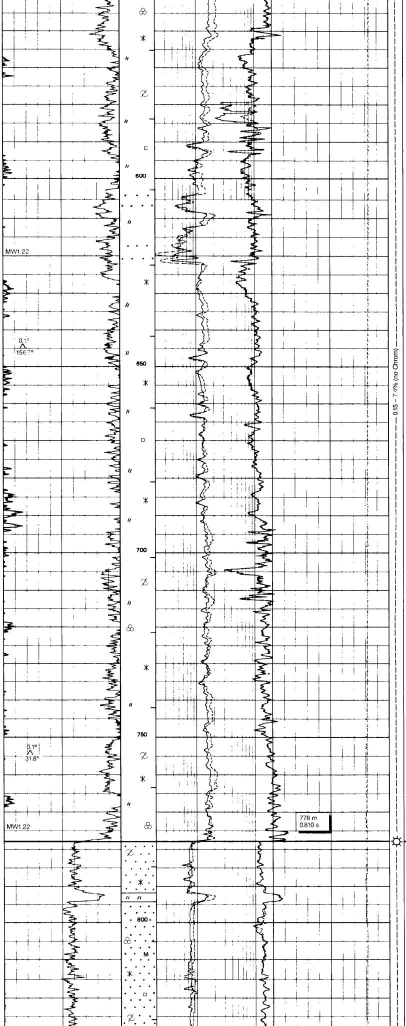
Cly: m - dk gy, occ lt gy, rr grn gy, sft, plas, hydrated, amor, sl slty, sl - mod calc, Glau, carb in pt. tr Pyr, micro/macro fos frag

Sd: lse Qtz sd g, trnsp - op, f - m, grd crs, subang - subrnd, occ rnd, mod - pr strd. shl frag, tr Pyr

TERTIARY

Pliocene (top not seen)

NORDLAND GROUP



778

TERTIARY

Pliocene

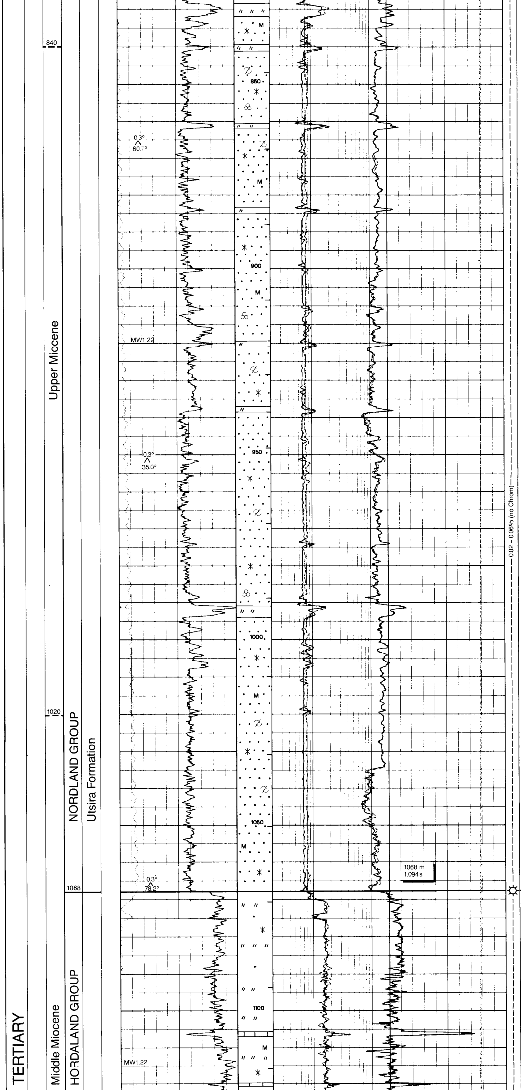
NORDLAND GROUP

Utsira Formation

778–1068 m

Sd: lse Qtz sd g, trnsp - op, m, occ crs, subrnd, mod - w srtd, abdt macrofos frag, pred Moll, occ microfos, gd tr Glau thru, occ tr Pyr, Mica, lithic frag

Clyst: lt - m gy, grd olv brn - brn gy, amor - sub blky, slty, occ grd arg **Slst**, non - sl calc, loc mod - v calc, tr Glau, Pyr

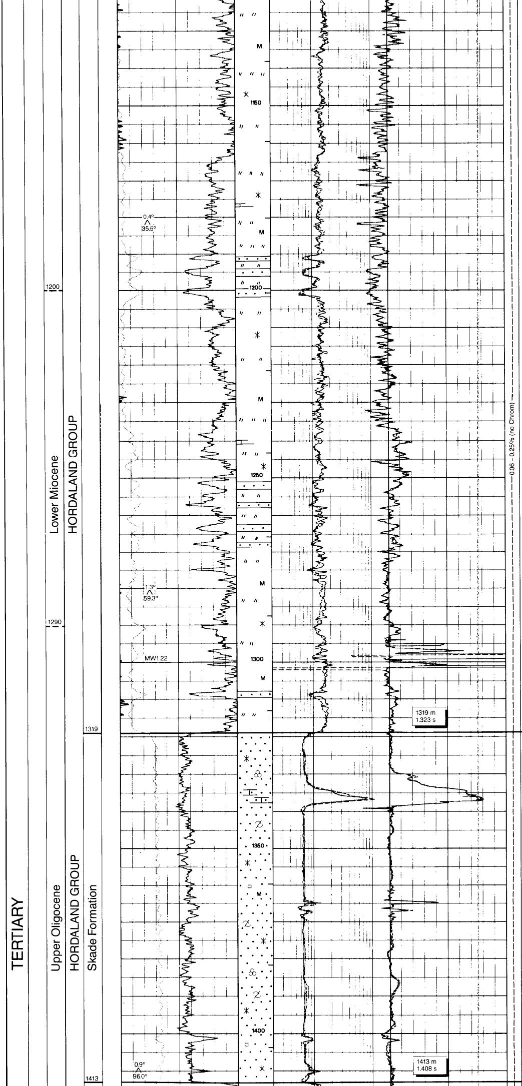


1068–1319 m

Clyst: olv gy - brn gy, bcmg olv blk w/depth, frm, blky - plty, non - sl calc, mod - v slty, grd **Slst**, micromic tr Glau

Lst: buff - lt brn, frm - mod hd, ang - blky, **Micr**

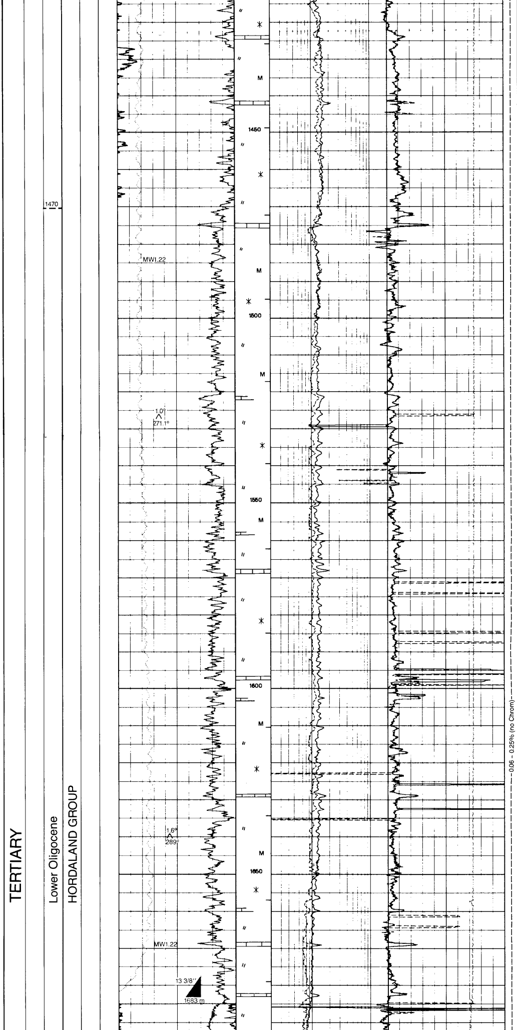
Sd: lse Qtz, clr - op, gen f - m, rr crs, subang - subrnd, mod srtd



1319–1413 m

Sd: pred lse Qtz g, clr - op, vf -f, grd m - crs, subrnd, mod - w srtd, abdt Glau, Pyr, tr Mica, macro/microfos frag, also rr
Sst, a/a w hi calc cmt

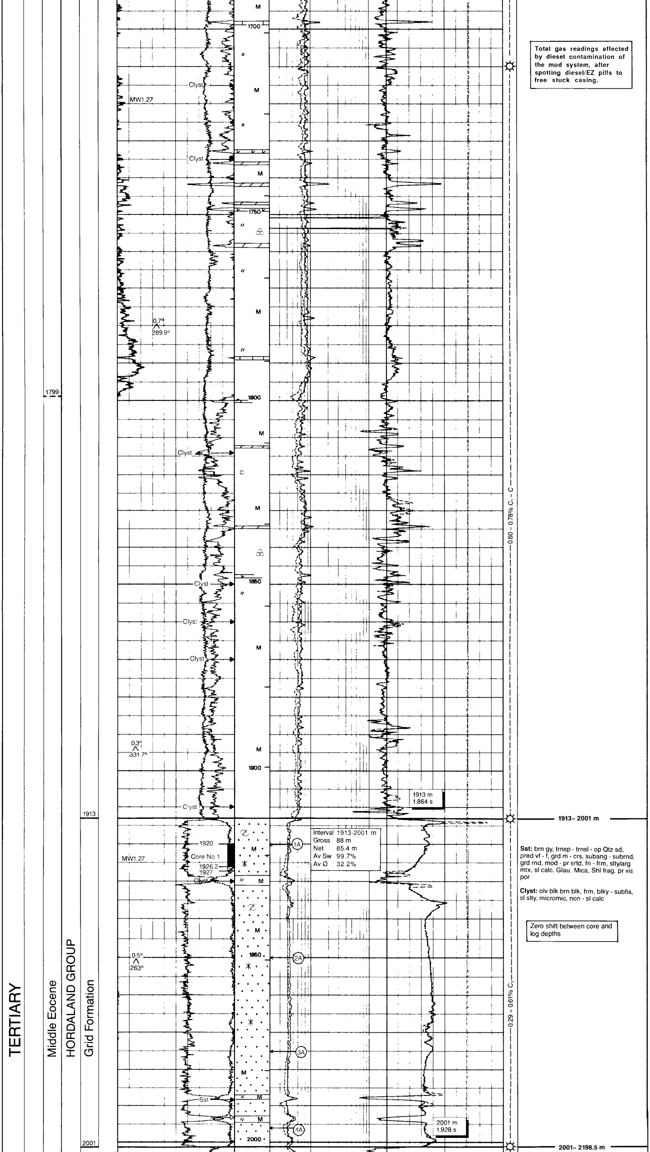
1413–1913 m



Clyst: olv gy - olv blk, sft, bcmg frm, amor, bcmg blky to subfis, non - occ mod calc, sl slty, micromic, tr Glau, tr micro/macrofos frag

Lst: pl gy - yel brn, sft - frm, crptoxln, chky, sl arg, loc slty/sdy, occ dol, loc grdg **Dol Lst**

Dol: off wh - pl yel gy, sft, crptoxln, slty - arg, calc grdg yel brn xln **Dol Lst**



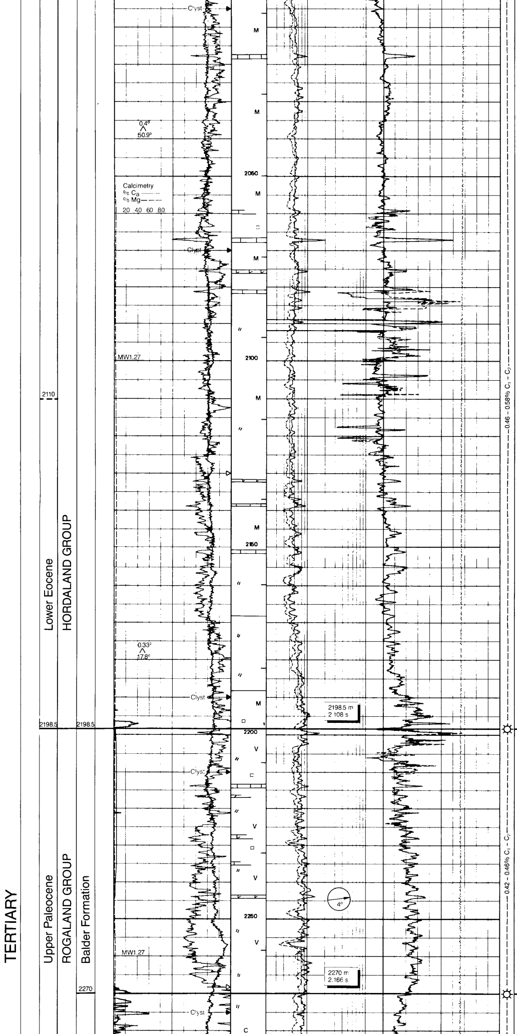
Total gas readings affected by diesel contamination of the mud system, after spotting diesel/EZ pills to free stuck casing.

Interval	1913-2001 m
Gross	88 m
Net	85.4 m
Av Sw	99.7%
Av Ø	32.2%

Sst: brn gy, trnsp - trnsl - op Qtz sd, pred vf - f, grd m - crs, subang - subrnd, grd rnd, mod - pr srtd, fri - frm, slty/arg mtx, sl calc, Glau, Mica, Shl frag, pr vis por

Clyst: olv blk brn blk, frm, blky - subfis, sl slty, micromic, non - sl calc

Zero shift between core and log depths



Clyst: dk gy - gy blk, occ grn blk, frm - mod hd, blky - plty, sl calc, loc sl slty, tr micromic, rr Pyr

Lst: pl gy, sft frm, blky, crptoxln, in pt dol grd **Dol Lst**

Clyst: red brn, sft frm, blky, non calc, sl slty

Clyst: dk grn gy, frm - mod hd, blky - subfis, micromic, sl - mod calc, tr Pyr

2198.5–2270 m

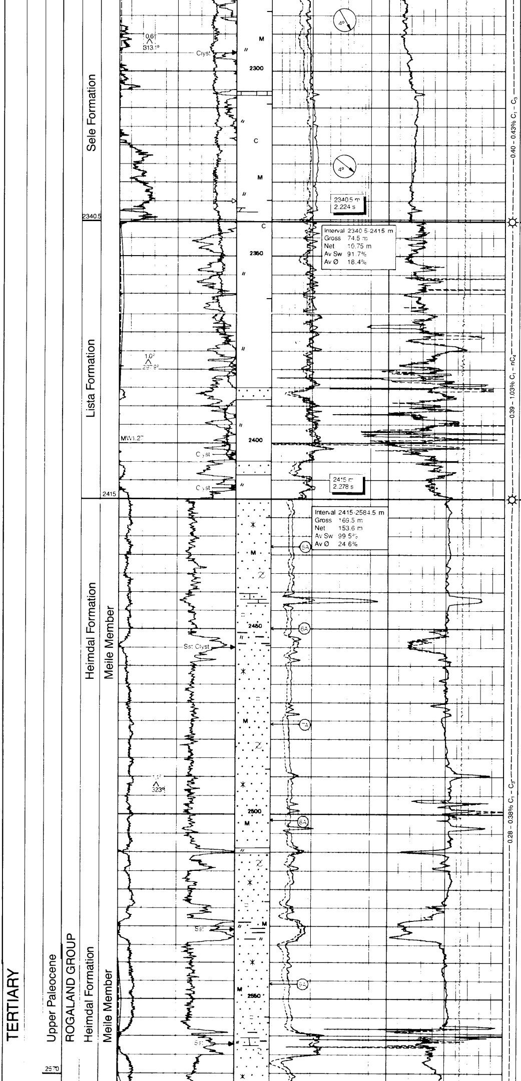
Clyst/Tuff Clyst: varicol, pl bl gy, lt gy, grn gy, bcmg dk olv gy - olv blk, sft - v sft bcmg frm, amor to sub blky at top bcmg blky - plty, calc at top, bcmg non - sl calc, tr blk spec, slty/sdy tuff mat, tr Pyr

Lst: wh, sft, crptoxln, slty - arg and some **Lst** - lt brn - pl gy, hd, crptoxln, loc hi Pyr, loc dol
Dol: yel brn, hd, crptoxln, loc grd **Dol Lst**

2270–2340.5 m

Clyst: olv gy - olv blk, sft - frm, blky - plty, non calc, sl slty, micromic, sl carb

Tr **Lst:** wh, sft, crptoxln, sl arg



2340.5–2415 m

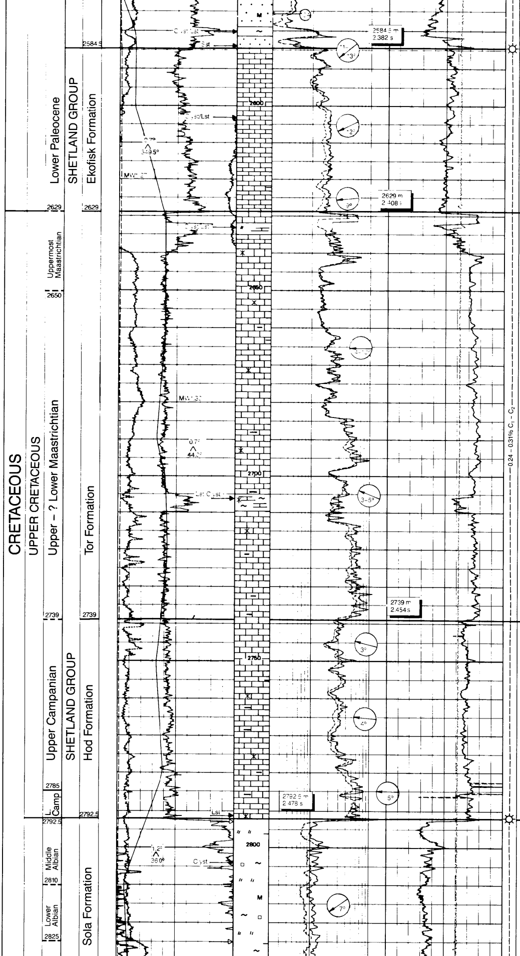
Clyst: lt - m gy, lt grn gy, rr brn gy, sft - frm, amor - sub blky, non calc, tr pl bl gy, tuff and calc **Clyst**

Sd: pred lse Qtz g, clr - occ mlky Qtz, vf - f, subrnd, mod - w srtd

2415–2584.5 m

Sst: pl brn, pl gy - grn gy, trsp - op Qtz sd g, vf - f, grd m, subang - subrnd, mod srtd, frm - fri, loc slty/arg mtx/lam, loc calc cmt, gd tr Glau, Mica, Pyr, Sh frag/clasts, pr vis por

Clyst: grn gy, lt - m gy, sft frm, blky - plty, non calc bcmg v calc grd **Mrl** towards base, sl slty, tr micromic, loc v micromic



Clyst: pl grn gy, sft, amor mrly

2584.5–2629 m

Lst: wh - pl gy, sft - frm, cryptoxln - microxln, chlky
Tr **Lst:** pl red - lt brn gy, sl - mod arg, mrly, grd v calc **Clyst**

2629–2739 m

Lst: pl gy - wh, frm, crpto - microxln, chky, loc gd, tr Glau, loc arg grd, v calc **Clyst**

Tr **Clyst:** olv grn gy - dusky grn, frm, blky, calc, loc v calc grd arg **Lst**

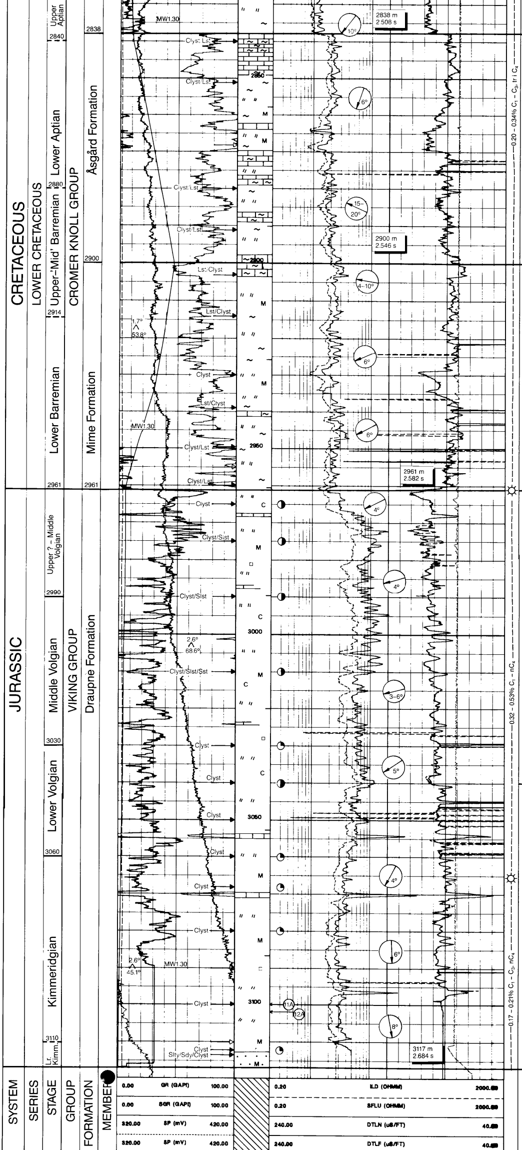
2739–2792.5 m

Lst: wh - off wh, op, sft - frm, crptoxln, occ mod orng pnk, m pt lt gy - m gy, pl yel brn, sl arg, sticky, tr Glau

Tr **Clyst:** olv grn gy, dusky grn, frm, blky, calc, grd arg **Lst**

2792.5–2838 m

Clyst: m - dk gy, gy blk, sft - frm, subblky - blky, grd plty, sl - mod calc, loc grd v arg mrly **Lst**, slty, micromic and some **Clyst:** dusky gd brn - olv brn, frm, plty - subfis, non calc, slty, micromic, tr Pyr



2838–2900 m

Lst: wh - pl gy, com lam and mot, sft - frm, amor - blky, slty - sdy, microxln, chky, arg grd calc **Clyst**

Clyst: red brn, sft, calc - v calc grd arg **Lst**, slty, micromic w/depth bcmg

Clyst: m - dk gy, an dusky yel brn, sft - frm, blky, calc, slty, micromic

2900–2961 m

Clyst: gy blk, frm, subfis, sl - mod calc, slty, micromic and some

Clyst: m - dk red brn, sft - frm, blky, calc - v calc grdg **Mrl**

Lst: olv gy, frm, microxln, chky

2961–3040 m

Clyst: dusky yel brn - olv blk, frm, blky - subfis, sl - mod calc, slty, micromic, occ micropyr, carb, earthy tex
wk - gd HC odour, no dir flu, slo - fast strmg to blooming pl - bri yel crush cut flu, no - occ wk vis cut, pl - bri yel - bl flu resd, no vis resd

Tr **Lst:** wh - pl gy, frm, micro - crptoxln, occ xln, chky

3040–3117 m

Clyst: varicol, gy blk - grn gy - brn gy - red brn - dusky yel brn frm - mod hd, blky - subfis occ fis, non calc, slty, micromic, Pyr
No dir flu, wk slo pl yel flu crsh cut, no vis cut, v wk pl yel flu resd, no vis resd

Lst: pl gy - off wh, spec/mot ap, sft - frm, xln, grnl tex, loc sdy, loc dol

Sst: pred lse Qtz g, clr - op Qtz, vf - f, subang - subrnd, mod - w srtd, tr Mica

TD 3117 m
TD 3114.5 m (LOGGER)

320.00 SP (mV) 420.00
320.00 SP (mV) 420.00
320.00 SP (mV) 420.00

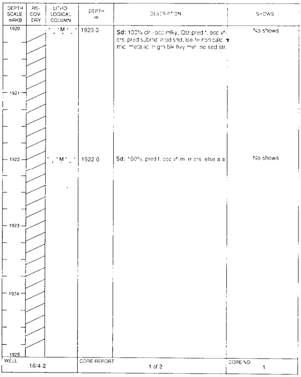
10000.00 TENSION (LB) 0.00

CORE REPORT AND FORMATION PRESSURE WORKSHEET

HYDRO

WELL NO 16/4-2	CORE REPORT	CORE NO'S 1

INTERVAL 1920 - 1925	AREA Norwegian North Sea	CUT 1920.0 - 1927.0m	DATE 15.07.90
SCALE 1:25	WELL RKB 25m	RECOVERY 1920.0 - 1926.2m 88.6%	GEOLOGIST Bomstad/Hayes



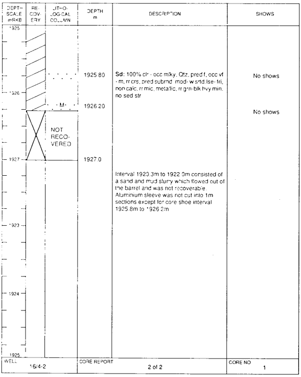
DEPTH SCALE mRKB	RE-COV-ERY	LITHO-LOGICAL COLUMN	DEPTH m	DESCRIPTION	SHOWS
			1920.0	**Sd:** 100% clr - occ mlky, Qtz,pred f, occ vf-crs, pred subrnd mod srtd, lse-fri non calc, rr mic metallic, rr grn-blk hvy min no sed str.	No shows
			1922.0	**Sd:** 100%, pred f, occ vf-m, rr crs, else a a	No shows

WELL 16/4-2	CORE REPORT 1 of 2	CORE NO 1

HYDRO

WELL NO 16/4-2	CORE REPORT	CORE NO'S 1

INTERVAL 1925 - 1927	AREA Norwegian North Sea	CUT 1920.0 - 1927.0m	DATE 15.07.90
SCALE 1:25	WELL RKB 25m	RECOVERY 1920.0 - 1926.2m 88.6%	GEOLOGIST Bomstad/Hayes



DEPTH SCALE mRKB	RE-COV-ERY	LITHO-LOGICAL COLUMN	DEPTH m	DESCRIPTION	SHOWS
			1925.80	**Sd:** 100% clr - occ mlky, Qtz, pred f, occ vf - m, rr crs, pred subrnd mod- w srtd, lse- fri, non calc, rr mic, metallic, rr grn-blk hvy min, no sed str	No shows
			1926.20		No shows
		NOT RECOVERED	1927.0	Interval 1920.3m to 1922.0m consisted of a sand and mud slurry which flowed out of the barrel and was not recoverable. Aluminium sleeve was not cut into 1m sections except for core shoe interval 1925.8m to 1926.2m	

WELL 16/4-2	CORE REPORT 2 of 2	CORE NO 1

(((
(ooo)
HYDRO

FORMATION PRESSURE WORKSHEET

Well No. : 16/4-2	Rig : Vildkat	Date : 23 July 1990
Pressure Units : Bar	RKB-MSL : 25 m	Witnessed by : Fearn

Run No.	Depth (MD)	Depth TVD(RKB)	Initial Hydrostatic Press		Formation Pressure		Final Hydrostatic Press		Time		Remarks
Test No.			Strain	HP	Strain	HP	Strain	HP	Set	Retract	
1	1920	1920	247.2	-	192.6	-	247.2	-	16.45	16.50	T=65.0. Good perm.
2	1950	1950	251.0	-	195.7	-	251.0	-	17.06	17.09	T=69.7. Good perm.
3	1975	1975	254.2	-	198.2	-	254.2	-	17.22	17.25	T=70.3. Good perm.
4	1996	1996	255.9	-	200.3	-	255.8	-	17.36	17.40	T=70.5. Good perm.
5	2428	2428	311.9	-	244.7	-	311.9	-	18.20	18.22	T=82.0. Good perm.
6	2450	2450	314.7	-	246.9	-	314.7	-	18.36	18.40	T=82.4. Good perm.
7	2476	2476	317.9	-	249.6	-	317.9	-	18.54	18.56	T=83.0. Good perm.
8	2502	2502	321.3	-	252.2	-	321.3	-	19.10	19.12	T=83.5. Good perm.
9	2546	2546	326.9	-	256.8	-	326.8	-	19.30	19.32	T=84.0. Good perm.
10	2576	2576	330.7	-	259.8	-	330.6	-	19.48	19.50	T=84.5. Good perm.
11	3111.5	3111.5	398.8	-	-	-	398.7	-	20.39	20.40	T=102.8. Tight.
12	3110	3110	398.4	-	-	-	398.4	-	20.46	20.47	T=103.0. Tight.

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