26591

COMPOSITE WELL LOG 1:500

WELL: 2/8-17 S

API No. : 975 770 363 800

OPERATOR:	AMOCO NORWAY
COUNTRY:	NORWAY
AREA:	South Central Graben
LICENSE:	PL 006
BLOCK:	2/8
NPD PERMIT No.:	
GROUP INTEREST:	AMOCO 28.33% AMERADA HESS 28.33% ENTERPRISE 28.33% ELF 15%

GEOGRAPHICAL COORDINATES		UTM(Zone 31):		
LAT:	56deg 27' 21.19" N	X:	537 069.24m E	
LONG:	03deg 36' 05.18" E	Y:	6 257 121.58m N	
TARGET COORDINATES (TOP CHALK)		UTM:		
LAT:	56deg 27' 26.42" N	X:	537 129.48m E	
LONG:	03deg 36' 08.78" E	Y:	6 257 283.87m N	
BOTTOM HOLE COORDINATES		UTM:		
LAT:	56deg 27' 27.78" N	X:	537 145.93m E	
LONG:	03deg 36' 09.76" E	Y:	6 257 325.88m N	

K.B. ELEVATION: 41.7m
WATER DEPTH: 68.3m
TOTAL DEPTH: 2685.0m
BOTTOM HOLE FORMATION: PERMIAN

PRE-SPUD CLASSIFICATION:	EXPLORATION
DATE ON LOCATION:	23-NOV-97
SPUD DATE:	04-DEC-97
DATE TD REACHED:	05-JAN-98
COMPLETION DATE: (WHIPSTOCK FOR SIDETRACK 2/8-17 A SET)	17-JAN-98
RIG RELEASE DATE (2/8-17 A T2):	21-FEB-98
WELL STATUS:	PLUGGED AND ABANDONED
WELL CLASSIFICATION:	P & A WITH OIL SHOWS

RIG:	TRANSOCEAN NORDIC
DRILLING CONTRACTOR:	TRANSOCEAN
WIRELINE LOGGING CONTRACTOR:	WESTERN ATLAS
MWD-LOGGING CONTRACTOR:	BAKER HUGHES INTEQ
MUDLOGGING CONTRACTOR:	BAKER HUGHES INTEQ

WELLSITE GEOLOGISTS:
IAIN GREIG
WILL CHURCHER
ALAN WILLIAMS

COMPILED BY:
RAY EDMUNDS
STEVE BRYANT

HOLE AND CASING RECORD

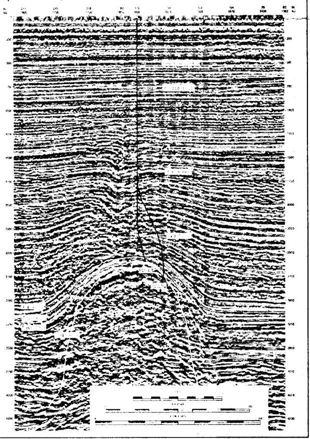
CASING/ LINER	SHOE m RKB	HOLE SIZE	INTERVAL m, RKB	REMARKS
--	--	9 7/8"	110 - 249	Pilot Hole
30"	299.7	36"	110 - 304	Surface Hole
--	--	9 7/8"	304 - 1023	Pilot Hole
13 3/8"	958.7	17 1/2"	304 - 963	LOT 15.7ppg
9 5/8"	2000.0	12 1/4"	1023 - 2000	LOT 17.3ppg Liner Top @ 787.7m
--	--	8 1/2"	2000 - 2685	--

MUD DATA

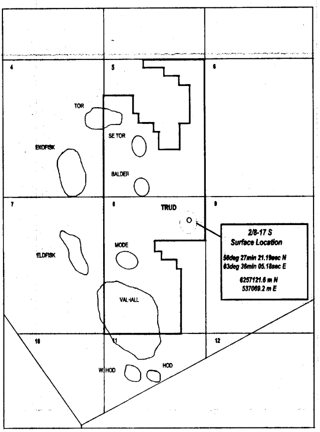
FLUID TYPE	HOLE SIZE	MW,ppg	VIS,sec	pH	FLUID LOSS,cc
Spud Mud	9 7/8"	9.0-9.5	120	9.0-9.5	--
Spud Mud	36"	9.0	120	9.0-9.5	--
Spud Mud	9 7/8"	8.8-10.3	34-48	8.5-10.2	--
Spud Mud	17 1/2"	9.5-9.6	34-42	8.9-9.4	--
Anco Vert OBM	12 1/4"	12.5-14.3	64-87	--	3.2-5.0
Ancovert OBM	8 1/2"	14.1-15.3	53-96	--	2.0-3.2

WELL PROFILE

2/8-17 S, 2/8-17 A T2
SEISMIC SECTION ALONG WELL PATH



WELL LOCATION MAP



2/8-17 S
Surface Location
56deg 27min 21.19sec N
03deg 36min 05.18sec E
6257121.6 m N
537069.2 m E

WIRELINE/MWD LOGS USED FOR COMPOSITE

LOG	MPR RESISTIVITY-GR		MPR RESISTIVITY-GR		DPR RESISTIVITY-GR		MPR RESISTIVITY-GR		MPR RESISTIVITY-GR	
Date	4th Dec. 1997		11-12th Dec. 1997		21st-24th Dec. 1997		28-30th Dec. 1997		4-5th Jan. 1997	
Group/Run No.	1		2		3		4		5	
Depth-Driller	249m		1023m		2000m		2587m		2685m	
Depth-Logger	249m		1023m		2002m		2587m		2685m	
Btm Log Interval	249m		1020m		1999m		2574m		2677m	
Top Log Interval	105m		297m		958m		2001m		2574m	
Casing-Driller	--		299m		958.6m		2000m		2000m	
Casing-Logger	--		299m		958.6m		2001m		2001m	
Bit Size	9 7/8"		9 7/8"		12 1/4"		8 1/2"		8 1/2"	
Type Fluid in Hole	Seawater/Spud Mud		Seawater/Spud Mud		Anco Vert OBM		Anco Vert OBM		Anco Vert OBM	
Den & Visc	8.6ppg	120sec	8.8-10.3ppg	34-48sec	13.0ppg	64-87sec	14.0ppg	53-96sec	14.3ppg	53-96sec
pH & Fluid Loss	9.0	--	8.5-10.2	--	N/A	3.2-6.0cc	N/A	2.0-3.2cc	-	2.0-3.2cc
Source of Sample	Flowline		Flowline		Flowline		Flowline		Flowline	
Rm at Meas Temp	0.25 @ 11deg C		0.25 @ 19deg C		N/A		N/A		N/A	
Rmf at Meas Temp	0.25 @ 11degC		0.25 @ 19degC		N/A		N/A		N/A	
Rmc at Meas Temp	N/A		N/A		N/A		N/A		N/A	
Source : Rmf Rmc	Flowline	Flowline	N/A		N/A	-	N/A		N/A	-
Rmf at BHT	N/A		N/A		N/A		N/A		N/A	
Time Since Circ.	N/A		N/A		N/A		N/A		N/A	
Max Rec. Temp	11deg C		19deg C		78deg C		86deg C		84deg C	
Equip : Location	1572-06	NOR	1607-01	NOR	2251-01	NOR	1607-01	NOR	2251-01	NOR
Recorded by	O.Tjugen/S.Viktil		S.Viktil/E.Svare		B.Bremnes/E.Svare		L.Holme/A.Svinoy		A.Svinoy/E.Svendsen	
Witnessed by	M.Rafferty/D.Bert		M.Rafferty/D.Bert		I. Greig		A.Williams/W.Churcher		A.Williams/W.Churcher	
Other Logs Run	None		None		None		None		None	

CORES & DST'S

CORES:

CORE No.1 CUT 2587-2605m, 18.0m
RECOVERED 2587-2604.56m, 17.56m (97.8%)

CORE No.2, CUT 2605-2624m, 19.0m
RECOVERED 2605-2623.87m, 18.87m (99.3%)

CORE No.3, CUT 2624-2651.8m, 27.8m
RECOVERED 2624-2651.8m , 27.8m (100%)

CORE No.4, CUT 2651.8-2674.5m, 22.7m
RECOVERED 2651.8-2674.5m, 22.7m (100%)

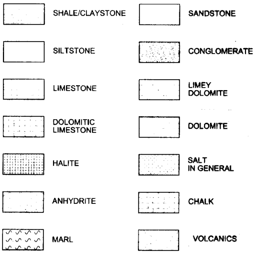
SIDEWALL CORES:

None taken.

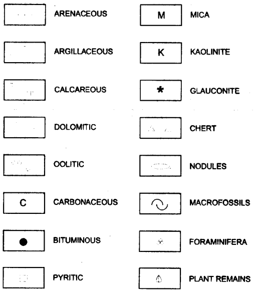
DST:

None performed.

LITHOLOGIC SYMBOLS

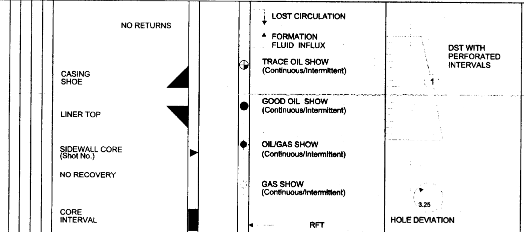


QUALIFIERS



CHRONO STRAT

GENERAL SYMBOLS


NO RETURNS
CASING SHOE
LINER TOP
SIDEWALL CORE (Shot No.)
NO RECOVERY
CORE INTERVAL
LOST CIRCULATION
FORMATION FLUID INFLUX
TRACE OIL SHOW (Continuous/Intermittent)
GOOD OIL SHOW (Continuous/Intermittent)
OIL/GAS SHOW (Continuous/Intermittent)
GAS SHOW (Continuous/Intermittent)
RFT
DST WITH PERFORATED INTERVALS
1
3.25
HOLE DEVIATION

COMMENTS

UPDATE HISTORY		
ORIGINAL DRAFT:	RAY EDMUNDS	JAN 1998
FIRST EDIT:	STEVE BRYANT	MAY 1998

NO RECOVERY

SAMPLE

MAJOR UNCONFORMITY

MINOR UNCONFORMITY

FAULT

10°

STRUCTURAL DIP AND DIRECTION

DIGITALLY
DRAUGHTED BY :
QUAD OPERATIONS LTD

SCALE :

1/500

SYSTEM	SERIES	STAGE	GROUP	FORMATION	GAMMA RAY		RESISTIVITY	SONIC & ROP	LITHOLOGICAL DESCRIPTIONS

Curve	Left scale	Right scale
GRAX	0.00	150.00
GRAM	0.00	150.00
RACHX	0.20	20.00
RPCHX	0.20	20.00
RACLM	0.20	20.00
RPCLM	0.20	20.00
RPCHM	0.20	20.00
RPCSHM	0.20	20.00
ROP (m/hr)	100.00	0.00

PERIOD
EPOCH
AGE
GROUP
FORMATION

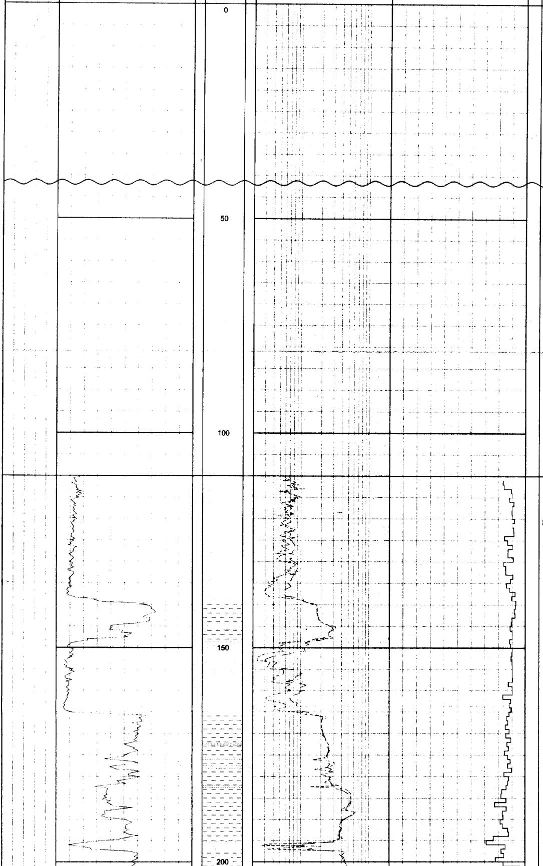
CORES

LITHOLOGY/DEPTH

GAS/OIL SHOWS

TWO-WAY TIME

LITHOLOGICAL DESCRIPTIONS AND REMARKS

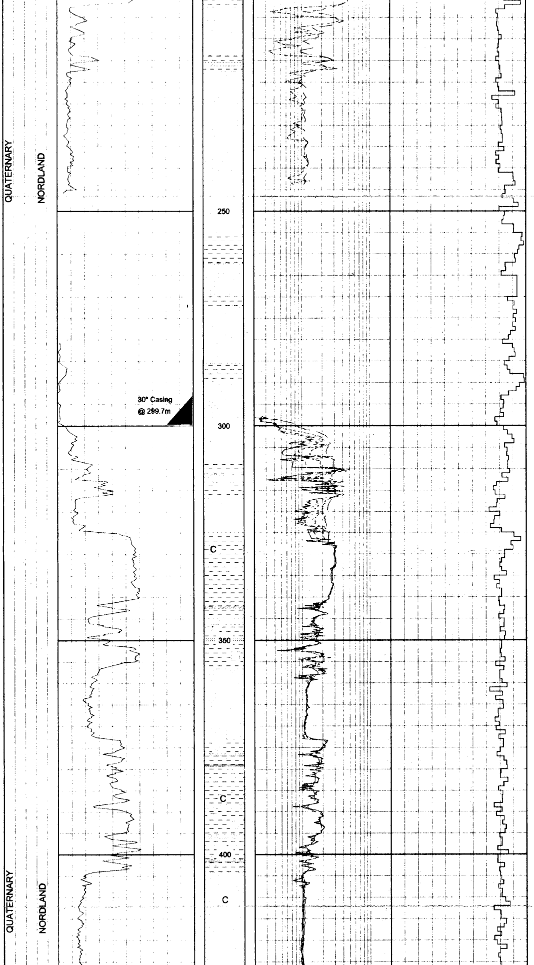


RKB-SL (LAT) 41.7m

RKB-SEABED 110m,
WATER DEPTH 68.3m

DRILLED WITH NO RETURNS TO SURFACE FROM 110m TO 304m.

LITHOLOGY INTERPRETED FROM MWD GR & RESISTIVITY CURVES.



SURVEY @ 212.0m, Incl. 0.5°, Azim 86.2°,
TVD 212.0m

MWD TOOL LOST IN HOLE.
LITHOLOGY INTERPRETED FROM
RATE OF PENETRATION.

DRILLED 9 7/8" PILOT HOLE TO
249m, 36" HOLE TO 304m, SET 30"
CSG @ 299.7m.

SAND: transparent, translucent, medium grained, subangular, occasionally subrounded loose quartz, abundant bivalve fragments.

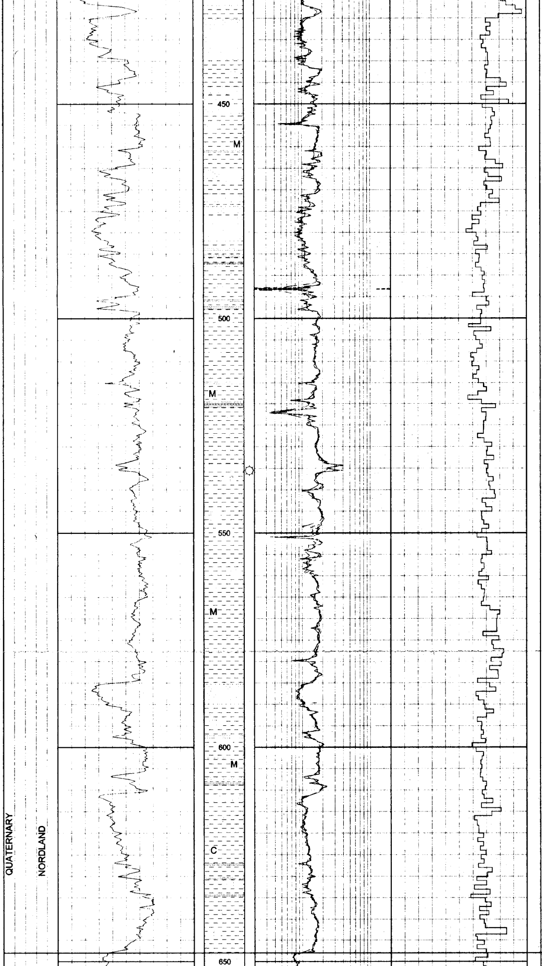
CLAYSTONE: light to medium grey, very soft, amorphous, plastic, soluble, common carbonaceous debris, becoming micaceous with depth, nil to trace pyrite, occasionally very silty, common loose fine to medium grained quartz, trace of secondary calcite as fracture infill, slightly to very calcareous.

SURVEY @ 348.0m, Incl. 0.2°, Azim 102.6°,
TVD 348.0m

SAND: transparent, occasionally translucent, rarely orange, pink, commonly fine to medium grained, occasionally coarse, predominantly subrounded to rounded, subspherical, quartzose, loose, rarely weakly cemented, common to abundant shell fragments, poor to good visible porosity, no shows.

CLAYSTONE: medium grey, soft, amorphous, soluble, plastic, very silty, locally very carbonaceous, slightly calcareous, common bivalve fragments, trace fine sand.

SAND: transparent, translucent, occasionally orange, brown, light yellow, fine to coarse, subrounded, subspherical, poorly sorted, loose quartz, abundant bivalve fragments, trace lignite, no show.



CLAYSTONE: light to medium grey, very soft, sticky, soluble, amorphous, locally very silty, slightly calcareous, trace mica & fine sand, common shell debris.

SURVEY @ 490.0m, Incl. 0.2°, Azim 104.0°, TVD 490.0m

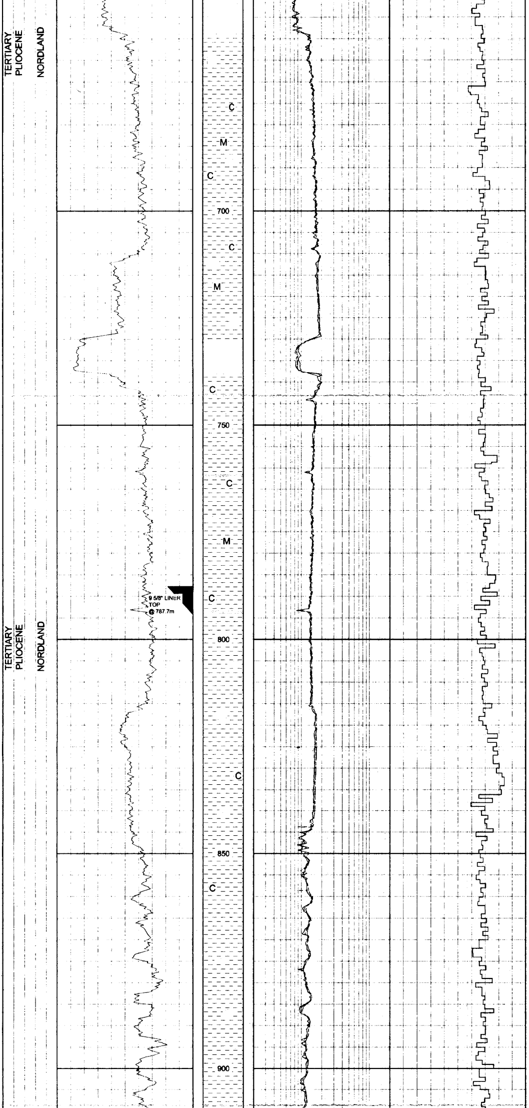
CLAYSTONE: medium grey, becoming dark grey in part, soft, sticky, soluble, plastic, amorphous, very calcareous, trace fine to medium sand, trace shell fragments, slight trace pyrite & mica.

SURVEY @ 576.0m, Incl. 0.1°, Azim 119.1°, TVD 576.0m

SAND: transparent, occasionally translucent, fine to medium, subround to rounded, subspherical, well sorted loose quartz, common shell fragments, no show.

CLAYSTONE: light to mediumg grey, very soft, amorphous, slightly sticky, plastic, soluble, slightly silty & carbonaceous, trace mica, pyrite, shell fragments, slightly to very calcareous.

PLIOCENE 648m MD, 606.3m TVDSS



SURVEY @ 660.0m, Incl. 0.1°, Azim 105.9°, TVD 660.0m

CLAYSTONE: light to medium grey, occasionally grey brown, very soft to moderately firm, predominantly amorphous, occasionally sub-blocky, commonly plastic, soluble, trace to abundant carbonaceous debris, occasionally micaceous, where also associated with disseminated pyrite, frequently very silty, approaching earthy, common loose fine to medium grained quartz, slightly to very calcareous.

SURVEY @ 717.0m, Incl. 0.2°, Azim 102.2°, TVD 717.0m

SAND: transparent, occasionally translucent, fine to medium grained, predominantly subrounded to rounded, subspherical, rarely spherical, poorly to moderately sorted, quartzose, loose, trace weakly cemented with calcareous cement, common to abundant shell fragments, occasional microfossils including foraminifera, poor visible porosity, no show.

SURVEY @ 745.0m, Incl. 0.1°, Azim 68.2°, TVD 745.0m

SURVEY @ 775.0m, Incl. 0.0°, Azim 127.9°, TVD 775.0m

SURVEY @ 804.0m, Incl. 0.0°, Azim 87.2°, TVD 804.0m

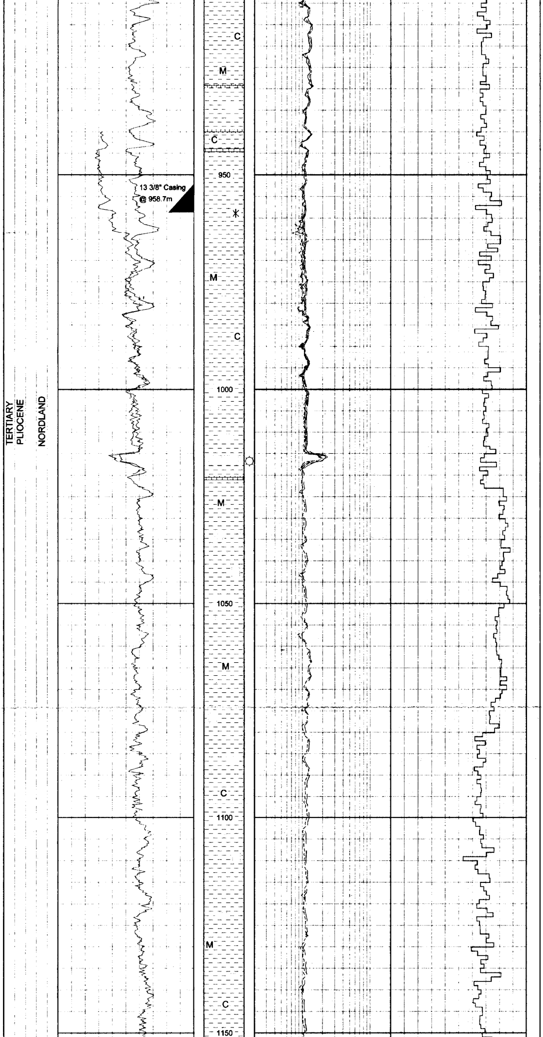
CLAYSTONE: light grey, occasionally brown grey, very soft, predominantly amorphous, occasionally sub-blocky, commonly plastic, slightly soluble, common carbonaceous debris, occasionally micaceous, where associated with disseminated pyrite, frequently very silty, slightly calcareous.

SURVEY @ 832.0m, Incl. 0.1°, Azim 108.7°, TVD 832.0m

SURVEY @ 860.0m, Incl. 0.1°, Azim 225.0°, TVD 860.0m

CLAYSTONE: light brown, light grey, bluish grey, soft, sub blocky, occasionally amorphous, slightly sticky, silty, non to slightly calcareous, trace carbonaceous debris, trace shell fragments.

SURVEY @ 889.0m, Incl. 0.1°, Azim 162.3°, TVD 889.0m



SURVEY @ 917.0m, Incl. 0.3°, Azim 126.0°, TVD 917.0m

LIMESTONE: Wackestone, buff, moderately firm, blocky, crumbly, microcrystalline.

SURVEY @ 946.0m, Incl. 0.5°, Azim 117.1°, TVD 946.0m

DRILLED 9 7/8" PILOT HOLE TO 1023m, 17 1/2" HOLE TO 963m, SET 13 3/8" CSG @ 958.7m.

SURVEY @ 972.0m, Incl. 0.4°, Azim 100.5°, TVD 972.0m

CLAYSTONE: medium grey, brownish grey, soft to occasionally firm, sticky, amorphous to occasionally sub-blocky, becoming subplaty, slightly soluble, silty, carbonaceous specks, trace mica, glauconite, common loose fine to medium quartz, moderately calcareous.

SURVEY @ 1002.0m, Incl. 0.4°, Azim 76.1°, TVD 1002.0m

SURVEY @ 1014.0m, Incl. 1.2°, Azim 112.1°, TVD 1014.0m

SAND: transparent, very fine to fine, subrounded, subspherical, well sorted, loose quartz, trace shell fragments, glauconite, fair to good visible porosity, gas show.

LIMESTONE: Wackestone, orange, light brown, translucent, hard, brittle, cryptocrystalline, no visible porosity, no show.

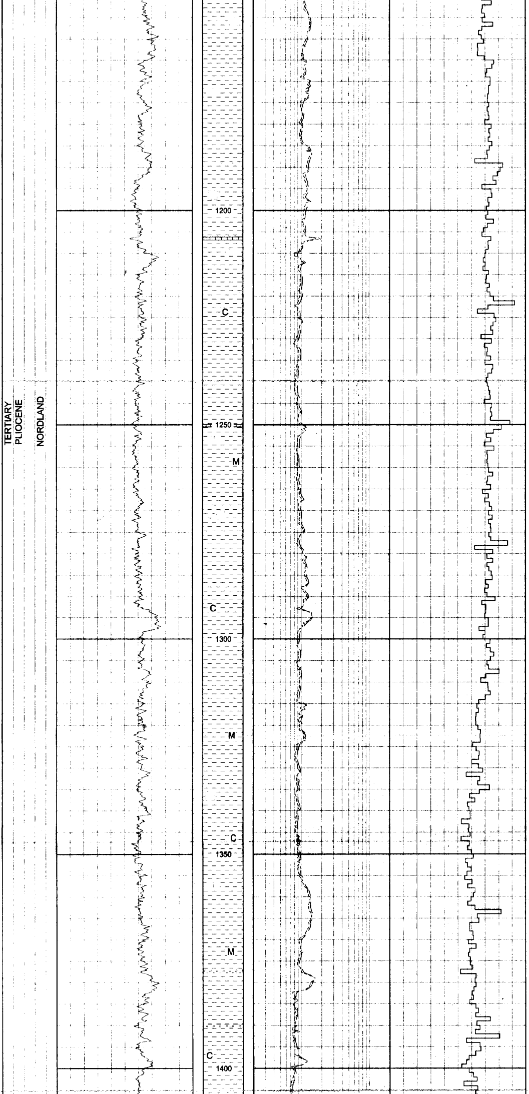
SURVEY @ 1043.0m, Incl. 0.9°, Azim 117.1°, TVD 1043.0m

CLAYSTONE: medium to dark grey, grey-brown, generally firm, blocky to tabular, platy, silty, calcareous, with common calcareous specks, micromicaceous & micropyritic in parts, locally soft, blocky, sticky, calcareous, with trace shell debris.

SURVEY @ 1099.0m, Incl. 0.5°, Azim 103.1°, TVD 1099.0m

CLAYSTONE: medium to dark grey, olive black, olive grey, generally firm, blocky to tabular, platy, silty, calcareous, occasional carbonaceous specks, slightly micromicaceous & micropyritic in parts.

SURVEY @ 1128.0m, Incl. 0.6, Azim 86.1°, TVD 1128.0m



SURVEY @ 1157.0m, Incl. 0.6°, Azim 76.7°, TVD 1157.0m

CLAYSTONE: edium to dark grey, firm, blocky, silty, with carbonaceous specks, calcareous in part, occasional trace pyrite.

SURVEY @ 1185.0m, Incl. 0.3°, Azim 83.9°, TVD 1185.0m

CLAYSTONE: medium to occasionally light grey, grey brown, firm to soft in part, blocky to tabular, silty, calcareous in part, with carbonaceous specks & trace pyrite.

LIMESTONE: Mudstone, light brown, firm to moderately hard, blocky, argillaceous, microcrystalline, no visible porosity, no show.

SURVEY @ 1214.0m, Incl. 0.5°, Azim 68.7°, TVD 1214.0m

SURVEY @ 1270.0m, Incl. 0.2°, Azim 37.7°, TVD 1270.0m

LIMESTONE: buff, moderately hard, friable, blocky, microcrystalline.

SURVEY @ 1299.0m, Incl. 0.3°, Azim 30.5°, TVD 1299.0m

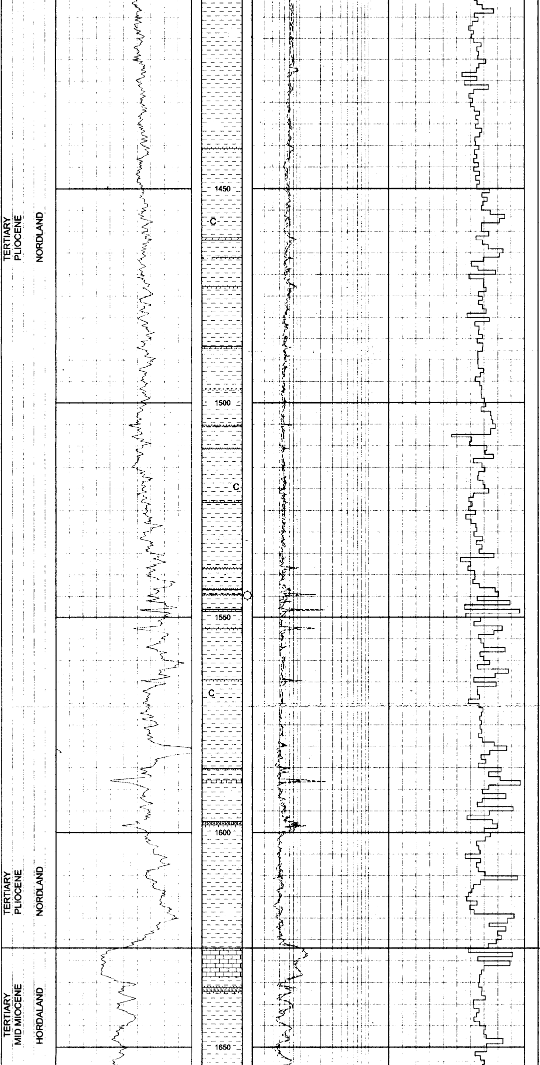
CLAYSTONE: medium to dark grey, greyish brown, generally firm, rarely soft, blocky, trace carbonaceous specks, micropyritic in parts.

SURVEY @ 1327.0m, Incl. 0.1°, Azim 20.1°, TVD 1327.0m

SURVEY @ 1356.0m, Incl. 0.1°, Azim 82.6°, TVD 1356.0m

CLAYSTONE: light to medium to dark grey, occasionally grey-brown, olive grey, generally firm, blocky to tabular, frequently silty, with trace carbonaceous specks, slightly calcareous, micromicaceous & micropyritic in parts, with occasional interbeds of light grey, soft, sticky, Claystone.

SILTSTONE: light grey, firm, locally friable, rarely pyritic, trace carbonaceous flakes.



SURVEY @ 1413.0m, Incl. 0.1°, Azim 75.9°, TVD 1413.0m

SURVEY @ 1441.0m, Incl. 0.1°, Azim 94.4°, TVD 1441.0m

CLAYSTONE: medium to dark grey, generally firm, blocky to tabular, silty, with trace carbonaceous specks, slightly calcareous, micromicaceous & micropyritic in parts with interbedded light to medium grey, soft, sticky, blocky Claystone.

DOLOMITE: off white, hard, blocky to angular, microcrystalline.

SURVEY @ 1470.0m, Incl. 0.1°, Azim 111.5°, TVD 1470.0m

LIMESTONE: tan, buff, moderately hard, blocky, micritic, microcrystalline.

CLAYSTONE: medium to dark grey, olive grey, soft to firm, blocky, silty with carbonaceous specks, trace pyrite and mica, Slightly calcareous, with minor
SILTSTONE: light grey, firm, locally friable, rarely pyritised, carbonaceous flecks.

SURVEY @ 1499.0m, Incl. 0.1°, Azim 245.0°, TVD 1499.0m

SURVEY @ 1527.0m, Incl. 0.2°, Azim 182.0°, TVD 1527.0m

LIMESTONE: light grey, off white, tan, blocky, hard, brittle, friable, microcrystalline.

SURVEY @ 1556.0m, Incl. 0.3°, Azim 218.0°, TVD 1556.0m

CLAYSTONE: medium to dark grey, firm, blocky, occasionally sub-blocky, silty, with carbonaceous specks, trace pyrite, slightly calcareous.

SURVEY @ 1584.0m, Incl. 0.3°, Azim 304.0°, TVD 1584.0m

LIMESTONE: light grey, off white, light brown, moderately hard, compact, blocky, micritic, microcrystalline, slightly argillaceous, trace microfractures, no show.

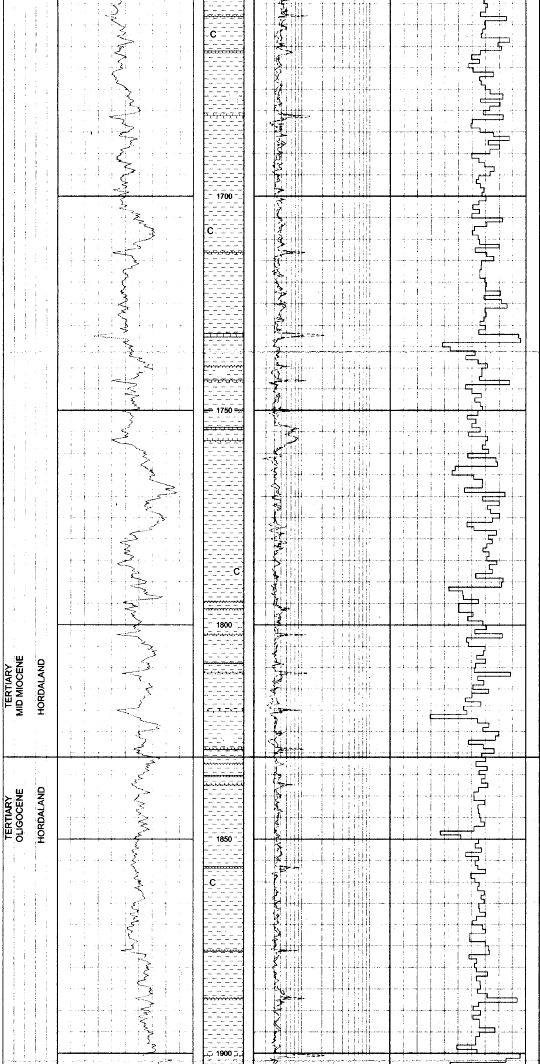
SURVEY @ 1613.0m, Incl. 0.2°, Azim 306.0°, TVD 1613.0m

Mid Miocene/HORDALAND 1627m
MD 1585.2m TVDSS

LIMESTONE: light grey, buff, hard, blocky, brittle, friable in part, microcrystalline.

SURVEY @ 1641.0m, Incl. 0.3°, Azim 247.7°, TVD 1641.0m

CLAYSTONE: medium-dark grey, becoming greenish grey, generally firm, blocky to tabular, subfissile in part, generally slightly silty with carbonaceous specks, micromicaceous & trace micropyritic, non to slightly calcareous in part.



LIMESTONE: light grey, light brown, occasionally off white, moderately hard, blocky, dolomitic in part, microcrystalline, no show.

SURVEY @ 1698.0m, Incl. 0.6°, Azim 257.2°, TVD 1697.9m

CLAYSTONE: dark grey, greyish brown, becoming medium grey, blocky, occ subplaty, silty, with carbonaceous specks, trace pyrite, slightly calcareous.

LIMESTONE: light to medium grey, tan, buff, light brownish grey, firm to hard, blocky, micritic, occasional argillaceous streaks, no show.

SURVEY @ 1754.0m, Incl. 0.7°, Azim 238.6°, TVD 1753.9m

CLAYSTONE: medium-dark grey, grey brown, becoming greenish grey, generally firm, blocky to tabular, occasionally platy, generally slightly silty with minor to common carbonaceous specks, often micrmicaceous & micropyritic, non to slightly calcareous.

SURVEY @ 1811.0m, Incl. 1.1°, Azim 257.0°, TVD 1810.9m

DOLOMITIC LIMESTONE: light brown, light grey, firm to hard, occasionally friable, blocky, microcrystalline, no show.

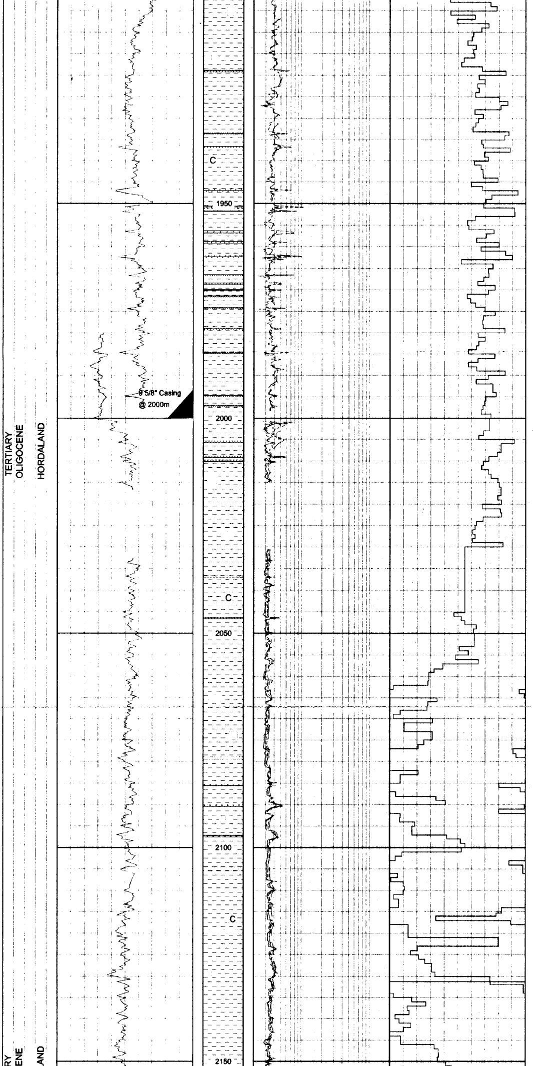
OLIGOCENE 1831m MD
1789.2m TVDSS

CLAYSTONE: medium-dark grey, grey brown, becoming greenish grey, generally firm, blocky to tabular, occasionally platy, generally slightly silty with minor to common carbonaceous specks, often micrmicaceous & micropyritic, non to slightly calcareous.

SURVEY @ 1868.0m, Incl. 1.0°, Azim 243.8°, TVD 1867.9m

LIMESTONE: light grey, light brown, blocky, generally moderately hard, in places friable, microcrystalline, with occasional thin argillaceous partings.

SURVEY @ 1896.0m, Incl. 0.9°, Azim 229.7°, TVD 1895.9m



CLAYSTONE: dark grey, greyish brown, occasionally olive green, blocky, locally fissile, silty with carbonaceous specks, trace micro pyrite, slightly calcareous.

SURVEY @ 1925.0m, Incl. 1.0°, Azim 229.9°, TVD 1924.9m

DOLOMITE: light grey, light brown, greyish brown, hard to firm, brittle, occasionally friable, microcrystalline.

SURVEY @ 1954.0m, Incl. 0.7°, Azim 231.0°, TVD 1953.9m

LIMESTONE: light grey, off white, light brown, firm, sub blocky, friable, occasional argillaceous laminations, microcrystalline.

SURVEY @ 1992.0m, Incl. 0.9°, Azim 223.8°, TVD 1991.9m

DRILLED 12 1/4" HOLE TO 2000m, SET 9 5/8" LINER @ 2000m, LINER TOP @ 787.7m.

NO DATA PRESENTED FROM 2015-2032m DUE TO FAILURE OF DEPTH TRACKING SYSTEM.

SURVEY @ 2026.0m, Incl. 1.0°, Azim 205.3°, TVD 2025.9m

CLAYSTONE: olive grey, olive brown, becoming brownish grey to dark brown with depth, moderately firm, sub-blocky to blocky, subplaty & rarely subfissile, crumbly in parts, generally homogenous with rare fine silt at top, decreasing with depth, slightly to moderately calcareous, very calcareous in parts, hygroturgid to hygrofissile, trace carbonaceous material, occasionally bluish grey, 'steel' grey towards base with rare micropyritic streaks.

SURVEY @ 2054.0m, Incl. 2.5°, Azim 33.6°, TVD 2053.9m

SURVEY @ 2079.0m, Incl. 6.3°, Azim 21.1°, TVD 2078.81m

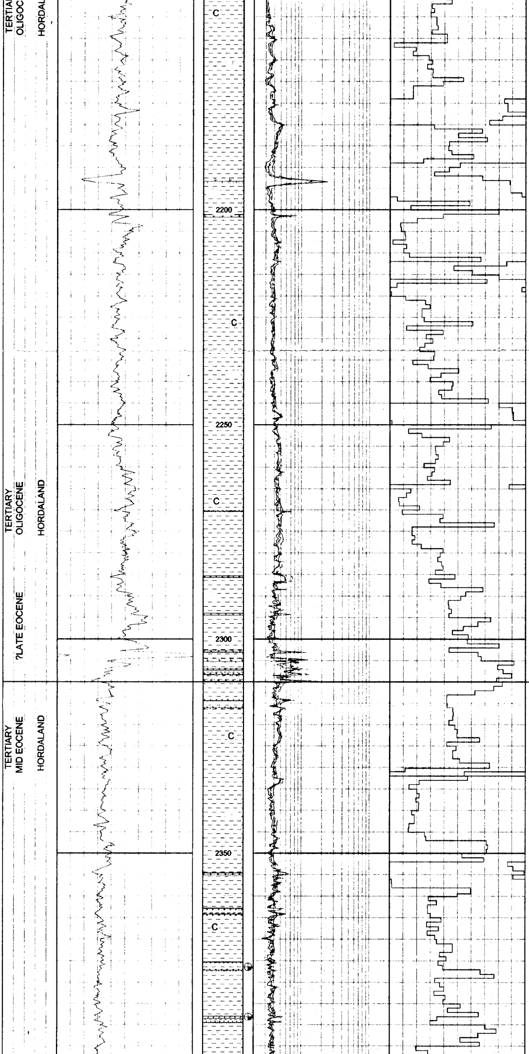
SANDSTONE: translucent, transparent, fine to coarse, sub angular to sub rounded, poorly sorted, loose quartz, no show.

LIMESTONE: tan, hard, blocky, micritic, microcrystalline, with occasional thin argillaceous partings, no visible porosity, spotty light yellow white direct fluorescence, slow, bluish yellow white cut fluorescence.

SURVEY @ 2109.0m, Incl. 9.3°, Azim 19.3°, TVD 2108.53m

CLAYSTONE: olive grey, olive brown, becoming brownish grey to dark brown with depth, moderately firm, sub-blocky to blocky, subplaty & rarely subfissile, crumbly in parts, generally homogenous with rare fine silt at top, decreasing with depth, slightly to moderately calcareous, very calcareous in parts, hygroturgid to hygrofissile, trace carbonaceous material, occasionally bluish grey, 'steel' grey towards base with rare micropyritic streaks.

SURVEY @ 2138.0m, Incl. 9.4°, Azim 21.2°, TVD 2137.15m



SURVEY @ 2166.0m, Incl. 10.0°, Azim 21.3°, TVD 2164.75m

SURVEY @ 2195.0m, Incl. 12.8°, Azim 21.9°, TVD 2193.17m

CLAYSTONE: medium brown, olive grey, olive brown, light brown, sub blocky to blocky, occasionally platy, slightly hygroturgid, rarely silty with carbonaceous specks, trace very fine loose angular quartz, clear.

SURVEY @ 2223.0m, Incl. 16.4°, Azim 22.8°, TVD 2220.26m

SURVEY @ 2252.0m, Incl. 21.1°, Azim 20.1°, TVD 2247.72m

SURVEY @ 2281.0m, Incl. 23.8°, Azim 17.9°, TVD 2274.52m

DOLOMITIC LIMESTONE: very light brown, grey brown, yellow brown, moderately firm, blocky, in places friable, micro- to cryptocrystalline, with occasional thin argillaceous partings.

SURVEY @ 2308.0m, Incl. 24.3°, Azim 17.0°, TVD 2299.17m

MID EOCENE 2310m MD
2259.3m TVDSS

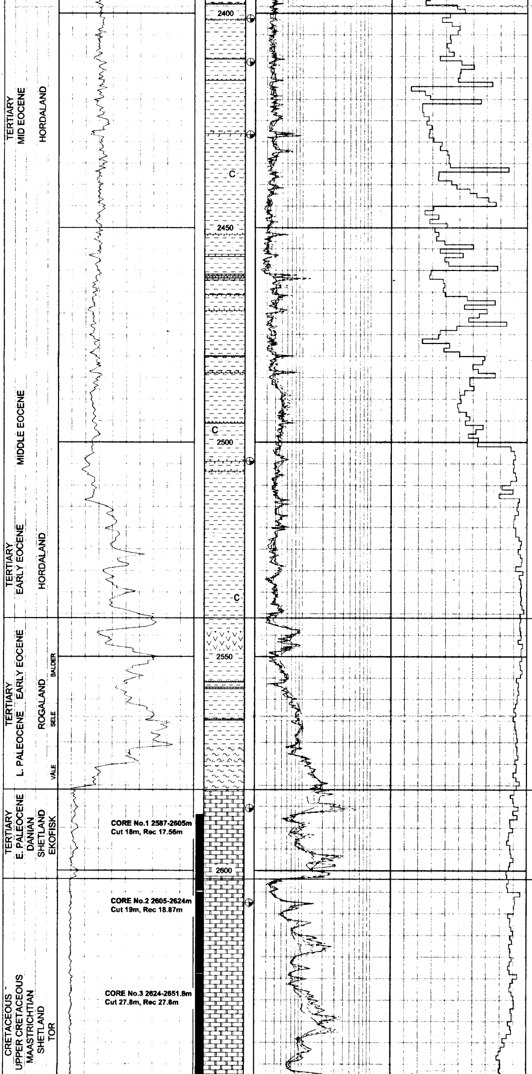
CLAYSTONE: bluish grey-grey, becoming olive grey to greyish brown with depth, moderately soft to firm, sub blocky to blocky, rarely subplaty & subfissile, generally homogenous and slightly calcareous, trace carbonaceous material, hygroturgid in parts, isolated silty bands with trace micropyrite.

SURVEY @ 2338.0m, Incl. 24.6°, Azim 17.2°, TVD 2326.48m

SURVEY @ 2367.0m, Incl. 24.6°, Azim 19.2°, TVD 2352.85m

DOLOMITIC LIMESTONE/LIMESTONE: very light brown, grey brown, yellow brown, firm to hard, blocky, microcrystalline, trace shows 2375-2429m, pale to moderately bright yellow-green, occasionally white direct fluorescence in 5-10% of cuttings, milky white to rarely pale blue slow, streaming cut fluorescence with fast, streaming bluish white crush cut fluorescence.

SURVEY @ 2395.0m, Incl. 24.5°, Azim 19.1°, TVD 2378.32m



DOLOMITE: beige, yellow brown, firm, blocky, friable in parts, crypto- to microcrystalline, chalky texture, variably microfossiliferous, no visible accessories, trace fluorescence & cut fluorescence as above with dark brown to black oil staining from 2393m to 2411m, trace shows.

SURVEY @ 2423.0m, Incl. 24.4°, Azim 19.1°, TVD 2403.81m

CLAYSTONE: olive grey to greyish brown, moderately soft to firm, sub blocky to blocky, rarely subplaty & subfissile, generally homogenous and slightly calcareous, trace carbonaceous material, hygroturgid in parts, isolated silty bands with trace micropyrite.

SURVEY @ 2451.0m, Incl. 24.8°, Azim 19.2°, TVD 2429.27m

SURVEY @ 2480.0m, Incl. 25.3°, Azim 19.0°, TVD 2455.54m

SURVEY @ 2508.0m, Incl. 25.4°, Azim 20.2°, TVD 2480.84m

DOLOMITE: beige, yellow brown, firm, blocky, friable in parts, crypto- to microcrystalline, chalky texture, variably microfossiliferous, no visible accessories, dull yellow direct fluorescence from 10% of Dolomite, milky white to bluish white, slow, streaming cut fluorescence with faint brown residual ring, trace show.

CLAYSTONE: light to medium grey, dark greyish brown, purple & bluish grey, becoming increasingly reddish brown, varicolored, firm, blocky, subplaty, non to slightly calcareous, thin micropyritic laminations, carbonaceous in parts, with rare off white, soft, amorphous Anhydrite.

SURVEY @ 2537.0m, Incl. 24.9°, Azim 22.0°, TVD 2507.09m

BALDER/ROGALAND Gp. 2541m MD 2469.0m TVDSS

TUFF: bluish grey, metallic grey, firm, blocky, slightly speckled/grainy appearance with thin micrpyritic streaks, non calcareous, with microcrystalline calcite & glassy shard-like inclusions.

CLAYSTONE: dark brown to black, firm, blocky to subplaty, generally homogenous with faint microlaminations, slightly micromicaceous & carbonaceous, non calcareous, rarely associated with off white, soft to hard, blocky to angular microcrystalline Anhydrite.

SURVEY @ 2565.0m, Incl. 25.0°, Azim 20.8°, TVD 2532.48m

LIMESTONE/MARL: pale to very light grey, soft to firm, sub blocky to amorphous, argillaceous streaks/bands, dolomitic in part, no show.

EKOFISK/SHETLAND Gp. 2581m MD 2505.3m TVDSS

CHALK: off white, light yellow brown, firm to hard, blocky to crumbly, crypto- to microcrystalline, clean, no inclusions, 10-20% pale to bright yellow direct fluorescence, milky white-bluish white moderate, streaming cut fluorescence, very faint tea residue, poor shows.

CORE No.1 2587-2605m, Cut 18m, Rec 17.56m

SHOWS: none observed from Core No.1.

TOR 2602m MD 2524.2m TVDSS

SURVEY @ 2595.0m, Incl. 25.7°, Azim 21.6°, TVD 2559.59m

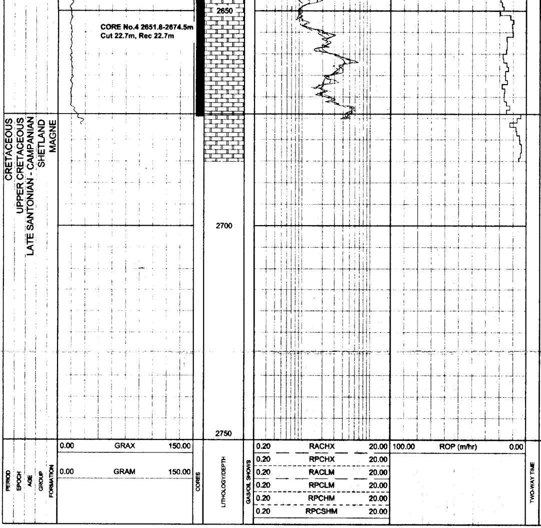
CORE No.2 2605-2624m, Cut 19m, Rec 18.87m
See Core Report for detailed description.

CHALK: off white to very light grey, light to medium grey in Core No.4, rarely light brown, moderately hard, brittle, blocky-angular, well consolidated, common thin(1-3mm) fractures, with calcite infill in parts, poor visible primary porosity.

SURVEY @ 2623.0m, Incl. 25.7°, Azim 21.7°, TVD 2584.82m

CORE No.3 2624-2651.8m,
Cut 27.8m, Rec 27.8m

SHOWS: similar in Core No.2 & No.3, generally poor patchy to spotty pale to occasionally bright yellow fluroescence concentrated along fractures, faint petroleum odour, slow to fast, streaming to blooming yellow to bluish white cut fluorescence, no visible cut or residue, poor oil show.



SURVEY @ 2652.0m, Incl. 25.8°, Azim 22.2°, TVD 2610.94m
CORE No.4 2651.8-2674.5m,
Cut 22.7m, Rec 22.7m

SHOWS: good to faint petroleum odour, trace bitumen/biodegraded oil stain along fracturestrace to patchy yellow to gold(with depth) fluorescence, weak to moderate, slow to rarely fast blooming to streaming milky white to faint white cut fluoresence, no visible cut or residue, very poor trace show.

MAGNE 2674m MD 2589.1m TVDSS

CHALK: Mudstone, off white, cream to very light grey, very firm to hard, slightly argillaceous in parts, trace bituminous material infilling fracture with trace oil stain, no visible secondary mineralisation, very poor visible porosity, rare patchy bright yellow to white fluorescence, fast, streaming bluish white cut fluorescence, no visible residue, minor trace show.
ANHYDRITE: trace only @ 2681m, opaque, white to very light grey, soft to frim, amorphous to sub blocky, fibrous in part, generally cryptocrystalline.

REACHED TD 2685m 5th JAN 1998, THEN HAD TOTAL MUD LOSSES, FOLLOWED BY FLUID INFLUX. SET CEMENT PLUGS, EZSV, THEN WHIPSTOCK AT 1701m PRIOR TO CUTTING WINDOW IN CASING FOR SIDETRACK WELL 2/8-17A.

LITHOLOGICAL DESCRIPTIONS AND REMARKS