SIMON PETROLEUM TECHNOLOGY WELL: 15/12-9S

Print: 17035A	Units: [✓ M] F	Top	Bottom	Scale	TD
Length: .... FT	Initials: TS	150	3850	1:500	3848

DIGITAL WIRELINE LOGS PACKAGE
1995
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SIMON PETROLEUM TECHNOLOGY SPT

COMPLETION LOG

Partners : Esso

Well : 15/12-9S

COMPLETION LOG

SCALE 1:500

Prospect / structure :
BETA WEST

COUNTRY : NORWAY

AREA : SOUTHERN NORTH SEA

LICENCE : PL 038

COORDINATES : N 58° 04' 40.17"
E 01° 53' 25.54"
UTM : N 6 438 059.0 m ZONE 31, CM 03°, ED50
E 434 554.9 m
ACCURACY ± 5 m

KB : 23m

WATER DEPTH : 84 m MSL

TOTAL DEPTH : 3848 m RKB (DRILLER), 3847.2 m RKB (LOGGER)

DEEPEST FORM.PEN: SKAGERRAK FM

SPUD DATE : 92.07.17 01:30 hrs

TD DATE : 92.09.05 13:30 hrs

RIG RELEASE DATE: 92.10.10 09:30 hrs

WELL STATUS : TEMPORARY P & A, OIL WELL

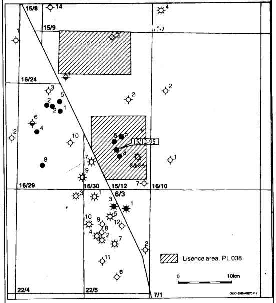
RIG : DEEPSEA BERGEN

CONTRACTOR : ODFJELL DRILLING

GEOLOGISTS : P. LIGHTBOUND, T. KLUNGSØYR, E. LANGSET,
P. FURMYR, S. BJERKENES, O. HUNNES

APPROVED BY : T. BJØRGEN

Location map



CASING DATA :

		MDRKB	TVDRKB	LEAK OFF TESTS:
30"	AT	167.0m	167.0m	
20"	AT	599.0m	599.0m	1.76 s.g.
13 3/8"	AT	2207.0m	1696.7m	1.91 s.g.
9 5/8"	AT	3313.0m	2678.5m	1.87 s.g.
5 1/2"	LIN	3846.0m	3211.2m	

VELOCITY SURVEY:
THE VSP WAS CONDUCTED BY WESTERN ATLAS.
RIG SOURCE VSP: DATA WERE GATHERED AT 120 LEVELS RANGING FROM 1570 M TO 3730 M FOR THE RIG SOURCE. IN THIS CASE THE SOURCE WAS PLACED 50 M AWAY FROM THE WELL HEAD AND 7 M BELOW SEA LEVEL.
VERTICAL INCIDENCE VSP: 104 LEVELS, RANGING FROM 1890 M TO 3730 M, WERE RECORDED FOR THE BOAT SOURCE. IN THIS CASE THE SOURCE WAS PLACED 7 M BELOW SEA LEVEL VERTICALLY ABOVE EACH GEOPHONE ON A TRACKING BOREHOLE ORIENTATION

WIRELINE LOG CONTRACTOR : ATLAS WIRELINE SERVICES

TYPE OF LOGS	RUN NO.	INTERVAL (m RKB)
DIFL-ACL-ZDL-CNL-GR	1A	MISRUN
	2A	3844 - 3306
DLL-MLL-GR	2A	3676 - 3306
FMT-GR	2A	3673 - 3400.5
CBIL-HXDIP-GR	2A	3700 - 3350
HXDIP DID NOT WORK IN COMB. WITH CBIL		
HXDIP-GR	2A	3848 - 3306
CST-GR	2A	3833 - 3318
CBL-VDL-GR		
(IN COMB. WITH ACL)	1A	2191 - 1330
	2B	3312 - 2450
CBL-VDL-CCL-GR	3A	2925 - 3789
CCL-GR	3A	2930 - 3360
VSP	3A	1570 - 3730

MWD CONTRACTOR : SPERRY - SUN

21 runs from 175 - 3848 m

COMMENTS:

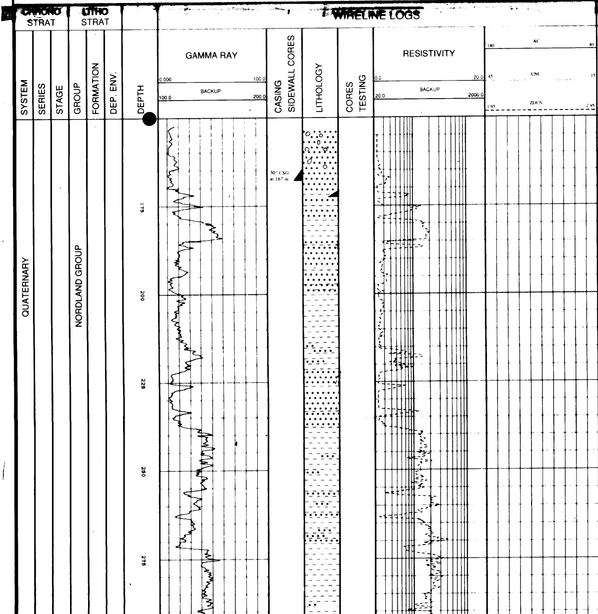
- DEVIATED WELL. STARTED ORIENTATING AT 623 mRKB. MAXIMUM DEVIATION: 57.6°, ASIMUT: 167.9° AT 1890 mMD, 1522.5mTVD
- WELL ONLY LOGGED WITH MWD DOWN TO 3326 mMD/ 2690 mTVD (END OF 17 1/2" SECTION)
- LOST BIT AND PART OF MUDMOTOR IN HOLE AT 1387 mMD/ 1230 mTVD. PLUGGED BACK TO 1290 mMD/ 1170 mTVD, SIDETRACKED WITH KOP AT 1330 mMD/ 1195 mTVD
- UNABLE TO GET LOG PAST 2240 mMD IN 12 1/4" HOLE. NO LOGS UNTIL 8 1/2" SECTION.
- CIBL LOG ONLY FROM 3700 - 3350 M.

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	CORES	DST	RFT/FMT	CASING SHOE/LINER
○- REC ●- REC W/SHOW - NO REC	CORE NO	①	◇ ① ◇ UNSUCCESSFUL	



LITHOLOGICAL DESCRIPTION

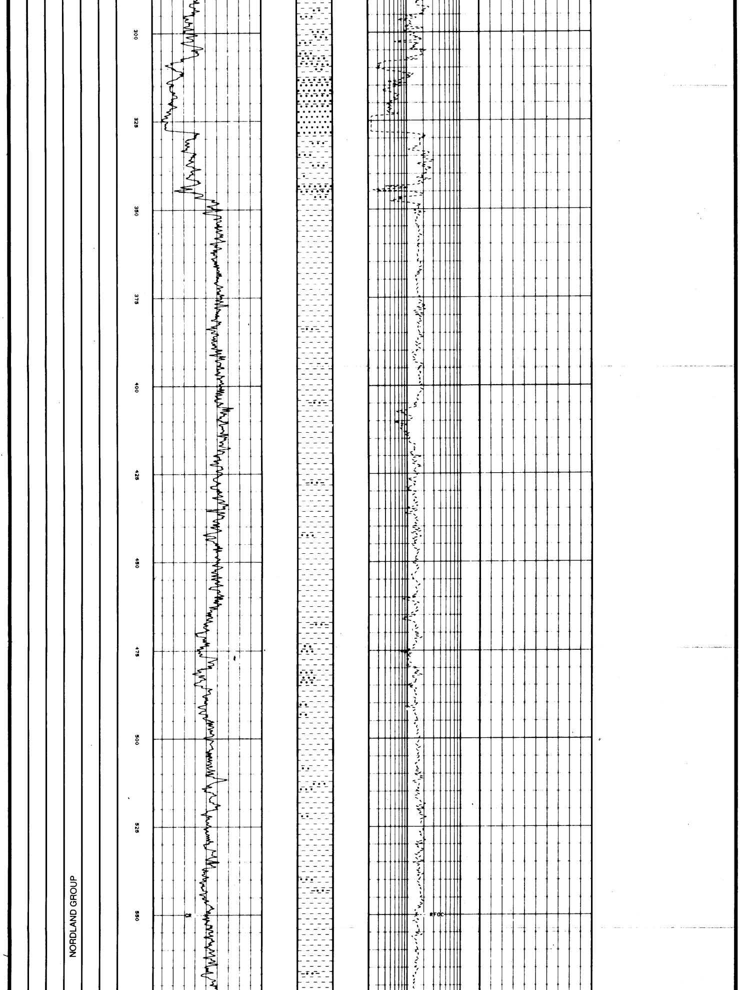
MEAN SEA LEVEL 23 mRKB
TOP 30" HOUSING 105.5 mRKB
SEA FLOOR 107 mRKB

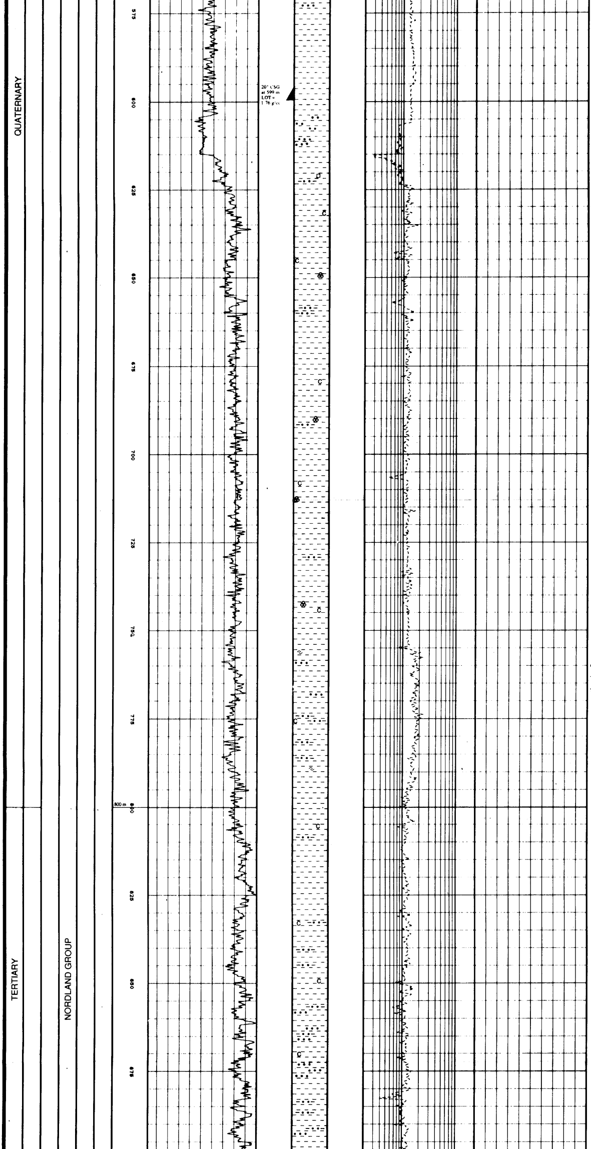
30" CSG @ 167 mRKB

THE INTERVAL 107 - 620 mRKB WAS DRILLED WITH RETURNS TO SEA BED

17 1/2" PILOT HOLE LOGGED WITH MWD (179 m - 620 m)

INTERPRETATION OF LITHOLOGY DOWN TO 20" CSG IS BASED ON MWD LOGS





20" CSG 599 mRBK
LOT = 1.76 g/cc

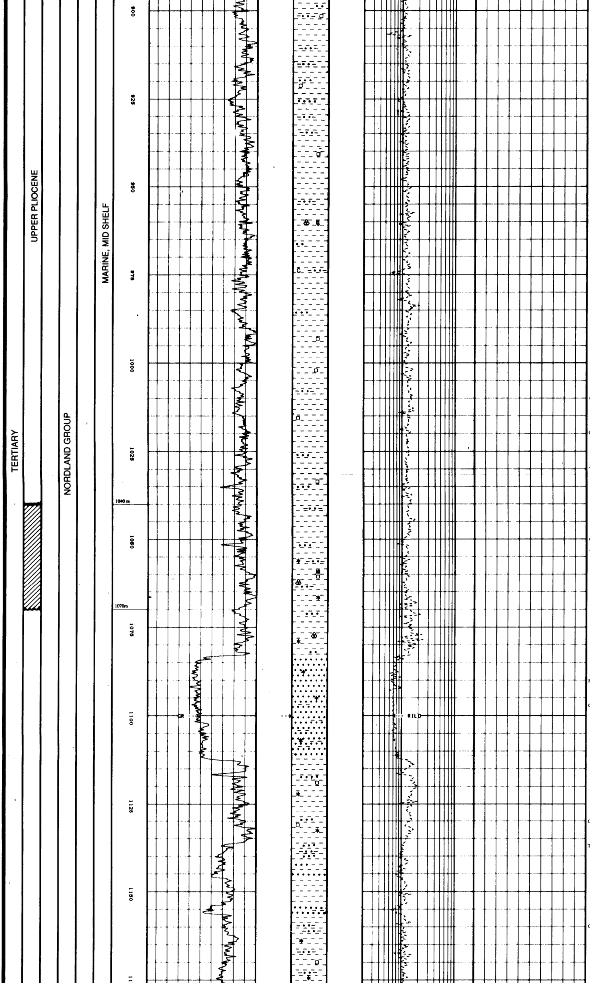
CLAYSTONE: LT BLSH GRY, GNSH GRY DK GNSH GRY, OLV GRY, V SFT-SFT, OCC SOL, AMOR, STKY, NON-V CALC, OCC DK CARB LAM, OCC SLTY, OCC SDY

TR PYRITE, FORAMS

CLAYSTONE: A A

TR OF PYRITE, FORAMS, SHELLFRAGMENTS

TR OF SAND: CLR QTZ, VF, OCC F MED, SUBRND, LSE GRNS



CLAYSTONE: OCC W/BURROWS, ELSE A/A

CLAYSTONE: OCC V SL MIC, ELSE A/A

CLAYSTONE: ALSO OLV BLK, ELSE A/A

TR OF LIMESTONE: LT OLV GRY, FRM, ANG, ARG

CLAYSTONE: OCC W/ABD GLAUC PEL, ELSE A.A.

TR OF SAND: CLR QTZ, LSE, VF-F, MOD SRT, SUBRND-RND, GLAUC PEL

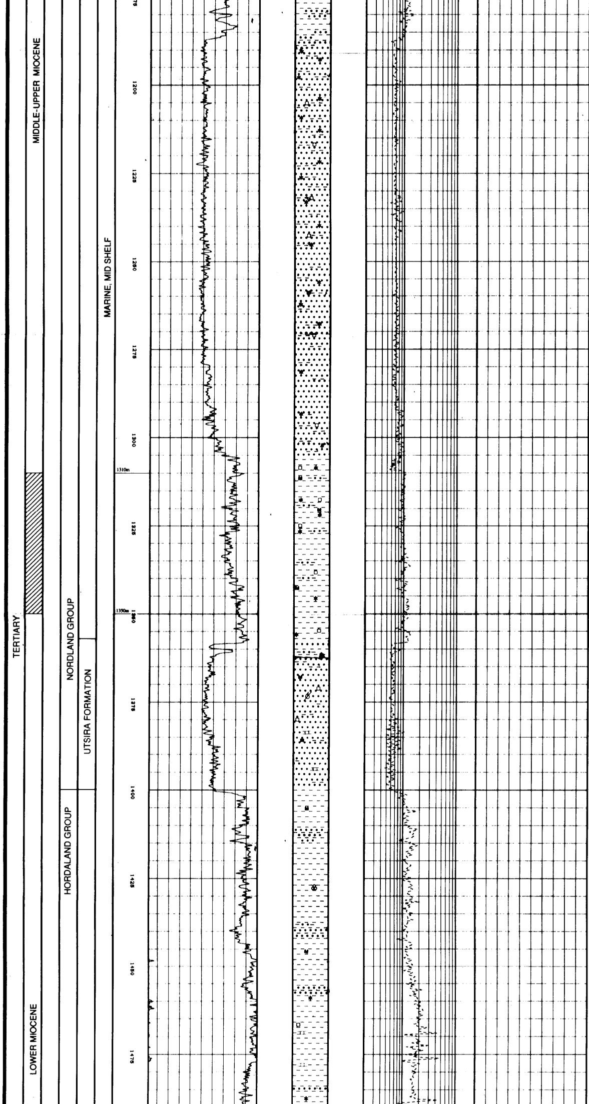
SANDSTONE: YELSH GRY, CLR QTZ, VF-F, OCC MED, SFT, OCC LSE, PR SRT, RND-SUBRND, WH SFT ARG AND CALC MTRX, GLAUC, NO VIS POR

CLAYSTONE: A/A

CLAYSTONE: DK GN GRY, SFT-FRM, OCC STKY, SLTY, SDY, OCC ANG FRAGS, NON-V SL CALC, OCC PYR

TR OF SAND: CLR QTZ, F-MED, SUBANG-SUBRND, LSE GRNS

CLAYSTONE: A/A BUT ALSO LT OLV GRY, V SFT, SOL, AMOR, SL CALC, SDY-V SDY, SLTY, OCC GLAUC



CLAYSTONE: DK GNSH GRY, PRED FRM, OCC ANG
FRAGS, SLTY, SDY OCC GRDG TO VARG
SST, NON-V SL CALC,OCC PYR

SANDSTONE: YELSH GRY-WH, CLR QTZ, VF-F, OCC MED,
PR SRT, SUBRND, SFT, GLAUC, ARG AND V
CALC MTRX, NO VIS POR

CLAYSTONE: LESS SDY, ELSE A/A

SANDSTONE: V GLAUC, ELSE A/A

CLAYSTONE: ALSO OLV BLK, NON SDY, OCC MIC, NON
CALC,ELSE A/A

CLAYSTONE: DK GNSH GRY, OLV GRY, FRM, BLKY,
SLTY,OCC V SLTY, GLAUC, PYR, TR MIC,
GEN NON CALC,OCC SL CALC

FISH IN HOLE. WELL PLUGGED BACK AND
SIDETRACKED FROM
1330M MDRKB, 1195M TVDRKB

TOP UTSIRA FM 1350M MDRKB
1213M TVDRKB, 1190M TVDMSL

SAND: CLR-MLKY QTZ, OCC PK, LSE, MED-CRS,
OCC F, MOD-WL SRT, RND-SUBRND, OCC
MIC, OCC PYR

TR OF FOSSILS

TR OF LIMESTONE: LT BRNSH GRY,FRM-HD, BLKY, MIC

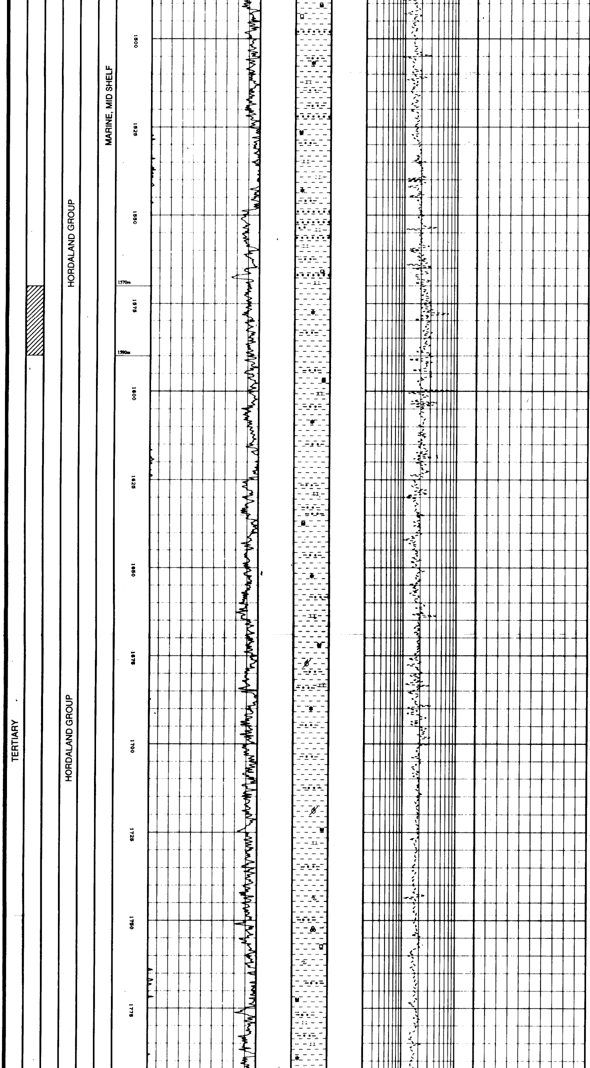
TOP HORDALAND GP 1400M MDRKB
1239M TVDRKB, 1216 M TVDMSL

CLAYSTONE: DSKY BRN-DSKY YELSH BRN, BRNSH BLK,
OCC OLV GRY, SFT-FRM, BLKY-AMOR, SL
SLTY-SLTY, SL MICROMIC, SL-NON CALC

SANDSTONE: CLR, OCC MLKY WH, F-CRS, PRED MED, WL
SRT, RND, LSE

TR OF LIMESTONE: YELISH GRY, LT BRNSH GRY, FRM-
HD, ANG

TR OF GLAUCONITE, PYRITE, FORAMS



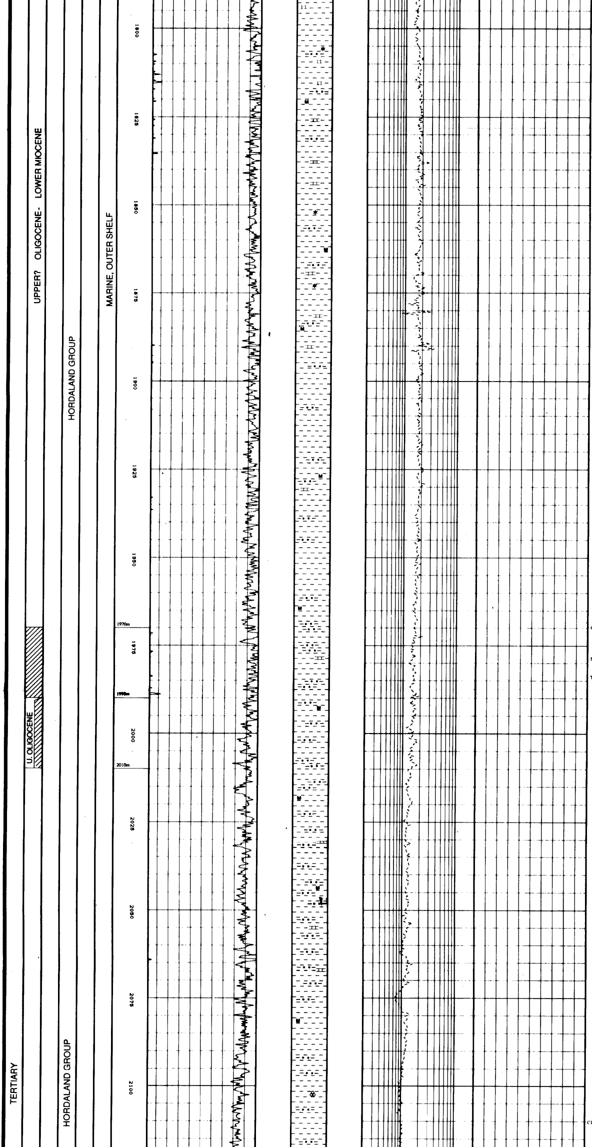
SILTSTONE: LT BRN, FRM, BLKY, MICROMIC, SL CALC

CLAYSTONE: DSKY BRN-BRNSH BLK, BRNSH GRY-OLV GRY, FRM, BLKY, OCC SUBFISS, SL MICROMIC, GEN NON CALC, OCC CALC, OCC SLTY

LIMESTONE: OLV GRY, LT BRNSH GRY, OCC WH-LT BRN, FRM-HD, BLKY-ANG, OCC ARG

TR OF FORAMINIFERA AND OTHER MICROFOSSILS

TR OF GLAUCONITE, PYRITE, SHELL FRAGMENTS

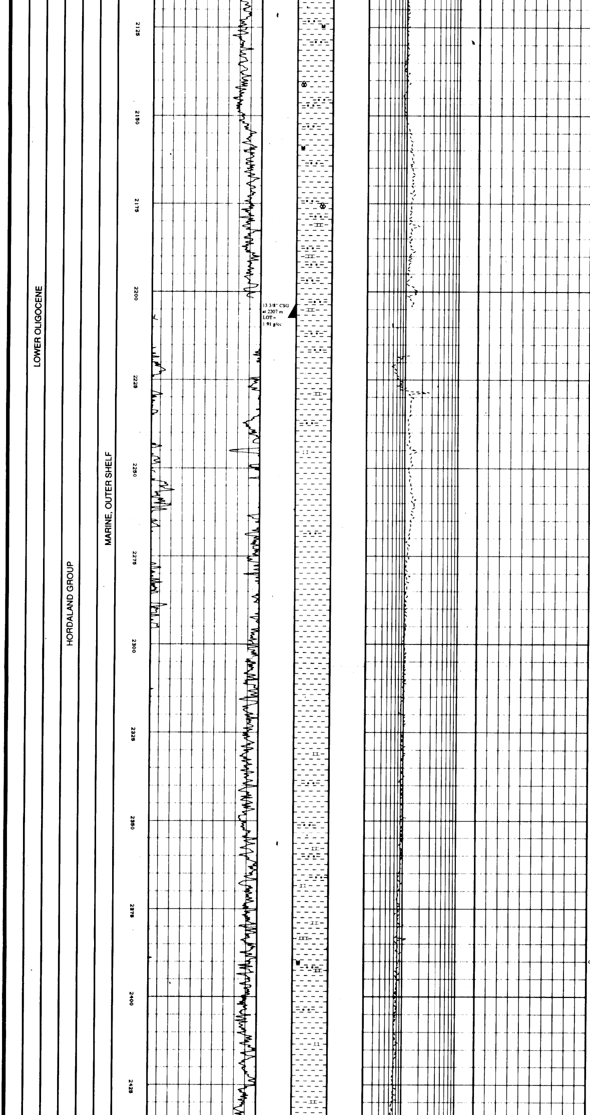


CLAYSTONE: OLV GRY-OLV BLK, DSKY YELSH BRN, TR BRNSH BLK, FRM, BLKY, OCC SUBFISS, SL MICROMIC, GEN SLTY-OCC GRDG SLTST, CALC, CARB WHEN BRNSH BLK

SILTSTONE: OLV GRY-LT OLV GRY, SFT-FRM, BLKY, CALC, OCC SDY, OCC SL MICROPYR

TRACE OF LIMESTONE: OLV GRY-LT BRNSH GRY, OCC WH-LT BRN, FRM, ARG, OCC SLTY

CLAYSTONE: OLV GRY-OLV BLK, DSKY YELSH BRN, TR BRNSH BLK, FRM BLKY, OCC SUB-FISS, SL MICROMIC, GEN SLTY-OCC GRDG SLTST, CALC, CARB WHEN BRNSH BLK



LIMESTONE: OLV GRY-LT OLV GRY, LT BRN, FRM-MOD HD, ARG CRYPTOXLN

TRACE OF FORAMS

13 3/8" CASING SHOE AT 2207 mMD
LOT: 1.91 g/cc

CLAYSTONE: A/A

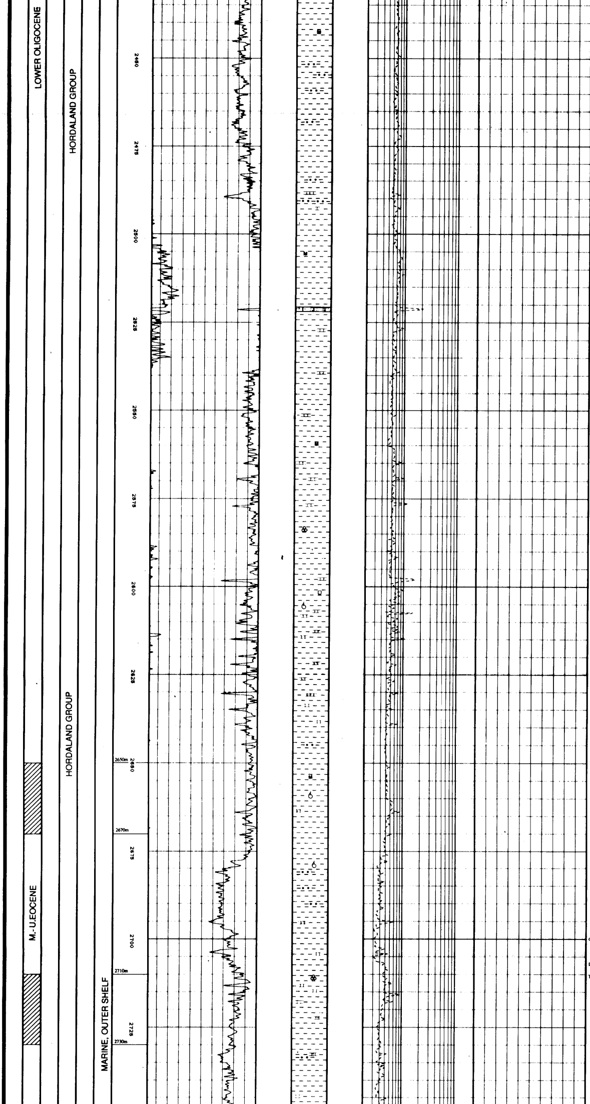
LIMESTONE: A/A

TRACE OF FORAMINIFERA

CLAYSTONE: SLTY, OLV GRY- DSKY YELSH BRN, FRM, BLKY -SUBFISS, SL MICROMIC,SL CALC - CALC

TR OF LIMESTONE: A/A

CLAYSTONE: V SLTY I.P. GRDG TO SLTST, V SL CARB, ELSE A/A



CLAYSTONE A/A

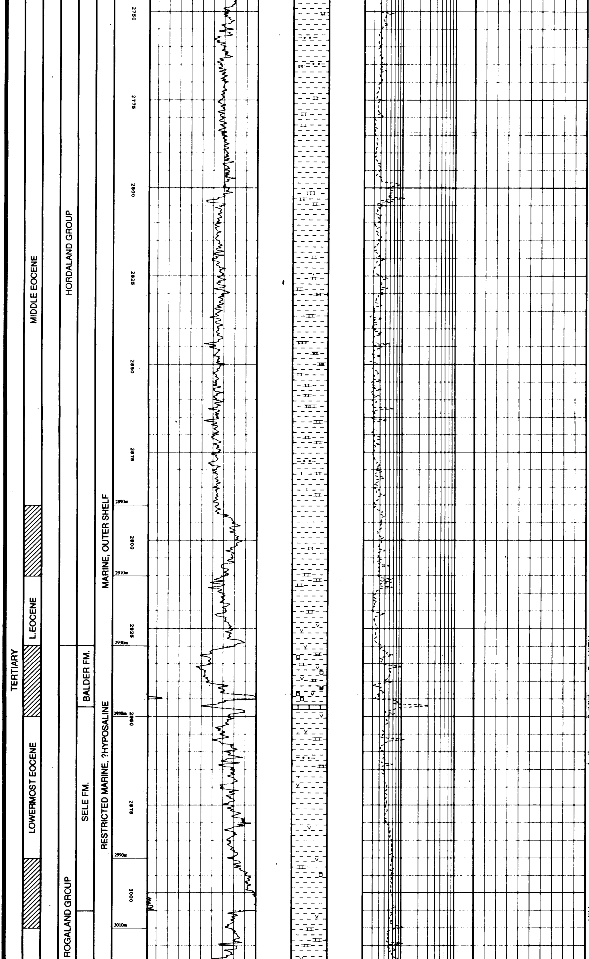
CLAYSTONE: OLV GRY, BRNSH GRY, FRM, OCC SFT, BLKY, OCC SLTY, GEN NON CALC, TR PYR, OCC MICROMIC

LIMESTONE: LT BRN, OFF WH,FRM - HD, GEN MICROXLN AND SLTY TXT, OCC MOD BRN TRANSL XLN CALC, OCC ARG AND SFT - FRM

CLAYSTONE: GNSH GRY - DK GNSH GRY, OLV GRY, FRM, BLKY- SUBFISS, SL SLTY, SL MICROMIC, NON CALC

LIMESTONE: A/A

TRACE OF MICROFOSSILS



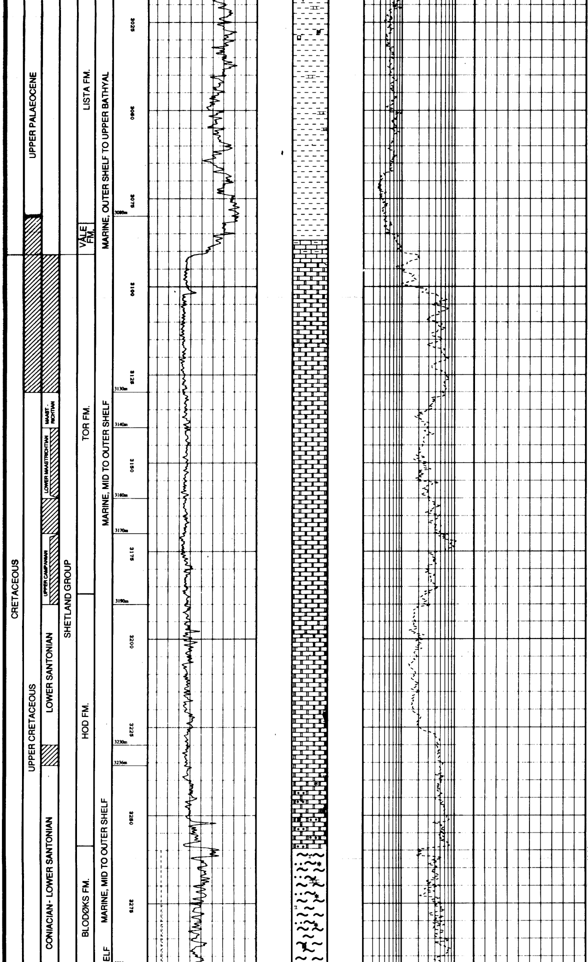
TOP ROGALAND GROUP
BALDER FM 2930M MDRKB
2295M TVDRKB, 2272 M TVDMSL
TWT: 2.266 sec.

LITHOLOGY: SEE DESCRIPTION OF SELE FM.

TOP SELE FM 2940M MDRKB
2310M TVDRKB, 2287 M TVDMSL
TWT: 2.280 sec.

CLAYSTONE:	MULTICOL, DK GNSH GRY, OLV GRY, BRNSH BLK BRNSH GRY, GNSH BLK, GRYSH BRN, OCC BND/MOTT, FRM, NON-SL CALC, F DISSEM PYR, OCC MICROMIC, TF W/SPKS OF BRN, GN & WH GRAD TO:
TUFF:	MED GRY, BLKY, SFT-FRM, WH, BLK, GN, CLSTS IN GRY ASHY MTX, NON CALC
TRACE OF LIMESTONE:	WH BRN, PALE YELSH BRN, FRM - HD, XLN, OCC PYR, ALSO ARG, MICR

TOP LISTA FM 3005M MDRKB
2370M TVDRKB, 2347 M TVDMSL
TWT: 2.327 sec.



CLAYSTONE: MED DK GRY, DK GRY, OLV GRY, DK GNSH GRY, OLV BLK, FRM, OCC HD, BLKY OCC SUBFISS, OCC MICROMIC, OCC BLK SPKS, GEN NON CALC, OCC CALC, OCC SLTY

CLAYSTONE: MOD BRN, SFT - FRM, BLKY OCC SUBFISS, OCC BLK SPKS, NON CALC

TOP VÅLE FM 3082M MDRKB
2447M TVDRKB, 2424 M TVDMSL
TWT: 2.390 sec.
ARGILLACEOUS LIMESTONE: LT - MED DK GRY, SFT, BLKY, BLK SPKS

TOP SHETLAND GROUP
TOR FM 3091M MDRKB
2456M TVDRKB, 2433 M TVDMSL
TWT: 2.395 sec.

LIMESTONE: WH - YELSH GRY, FRM, CHKY, OCC GRY ARG PCHS & STRKS

TOP HOD FM 3187M MDRKB
2552M TVDRKB, 2529 M TVDMSL
TWT: 2.439 sec.

LIMESTONE: WH - YELSH GRY, FRM, CHKY, OCC LT - MED DK GRY V ARG LAM & LYRS

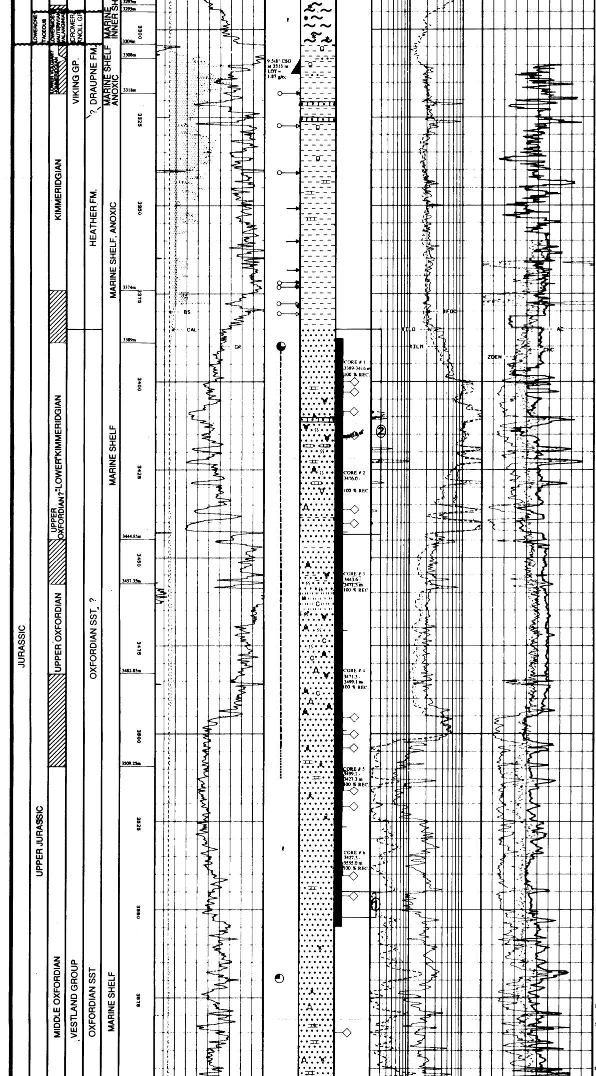
LIMESTONE: V LT GRY, LT GRY, LT GNSH GRY, GRYSH PK, PALE RD, SFT - FRM, SLI - V ARG, SLTY & AREN, GRAD I/P TO V F SST, OCC WH SPKS, OCC GLAUC GRNS

SANDSTONE: LT GRY, GRYSH PK, V F - SLT, BLKY, MOD SRT, ANG, WH CALC/ARG CMT, MIC, ABD GLAUC, NO VIS POR

TOP BLODØKS FM 3260M MDRKB
2625M TVDRKB, 2602 M TVDMSL
TWT: 2.475 sec.

MARL: RYSH RD, LT - MED LT GRY, SFT - FRM, BLKY, OCC AMOR, SDY - OCC V SDY, SLTY, GLAUC, MIC, FREQ W/ WH CALC SPKS IN RDSH BRN MTX

MARL: GRYSH ORNG PK, PALE - MOD RDSH BRN, BLKY, SFT - FRM, OCC SLTY - SDY, GLAUC - V GLAUC, OCC MIC, OCC WH CALC SPKS



TOP CROMER KNOLL GP 3295M MDRKB
2660M TVDRKB, 2637 M TVDMSL
TWT: 2.492 sec.

TOP DRAUPNE FM 3304M MDRKB
2669M TVDRKB, 2646 M TVDMSL
TWT: 2.496 sec.

CLAYSTONE: OLV BLK, SFT, STKY, BLKY, OCC MOTT/BND, SLTY, MICROPYR, SL CARB, V CALC

9 5/8" CASING SHOE AT 3313 mMD
LOT = 1.87 g/cc

SILTSTONE: OLV BLK, SFT, BND/MOTT, SDY, OCC PYR, SLI - MOD CALC, SLI MIC

LIMSTONE: OLV GRY - BRN GRY, CLR XLN I/P, HD, BLKY, SDY - SLTY, PYR I/P

CLAYSTONE: A/A

TOP OXFORDIAN SST 3385M MDRKB
2750M TVDRKB, 2727M TVDMSL
TWT: 2.544 sec.

SANDSTONE: QTZ, LT BRN, BRN GRY - OLV GRY, CLR - TRANSL, DOM F - VF, I/P MED, OCC CRS - V CRS, MOD SRT, SL - MOD ARG DUE TO BIOT, DOM HD - MOD HD, OCC FRI, SIL & CALC CMT, GD TR MIC, SL TR PYR & COAL FRAGS, PR - FR VIS POR
SHOWS: EVEN BRT YEL FLUOR, INST TO SLOW STRMG YEL WH - BL WH CUT FLUOR, BRT YEL WH RES FLUOR, HC - ODOUR, YEL BRN STN.

SANDSTONE: QTZ, OLV GRY - BRN GRY, DOM VF - F, SLTY, ARG - V ARG, PR SRT, MOD HD - V HD, DOM SIL CMT, OCC CALC CMT, OCC SL FISS, MIC - MICROMIC, I/P V BIOTURB, TR PYR & CARB MAT, NO VIS POR
SHOWS: PCH DULL YEL WH FLUOR, SLOW TO MOD FST STRMG BRT BL WH CUT

SILTSTONE: V ARG, DK OLV GRY, SL FISS, MOD HD, MICROMIC, V. BIOTURB, NON CALC, SL - V CARB
NO SHOWS

SANDSTONE: A/A, SLTY I/P, VF - F, NO VIS POR, OCC W/ THIN SH LAM
SHOWS: NO SHOWS - PCH BRT YEL FLUOR, WK DULL YEL FLUOR, NO STN

SANDSTONE: QTZ, LT YEL BRN, OLV GRY - LT OLV GRY, CLR, DOM MED, CRS I/P, F I/P, MOD - FR SRT, SUBANG - SUBRND, FRI - SL SIL CMT, OCC CALC CMT, TR KAOL MTX, GD VIS POR, I/P SEC POR W/SPER VF HOLES (CALC DIS)
SHOWS: EVEN - PCH DULL YEL - YEL ORNG FLUOR, INST BRT YEL WH CUT, HC - ODOUR, BRN GRY STN, SHOWS BEC WK, NO STN BELOW 3505 M, NO FLUOR BELOW 3523 M AND NO SHOWS BELOW 3546 M

SANDSTONE: QTZ, LT GRY, CLR - TRANSL, DOM VF - F, SUBANG, OCC V CRS - CRS, SUBRND, MOD SRT, SIL CMT, OCC CALC CMT, SL ARG, TR KAOL MTRX

TR DOLOMITE: LT YEL BRN, V HD, ANG, MICROXLN, MASS

LIMESTONE: WH - OFF WH, MOD HD, BLKY, MICR, ARG I/P

SHALE: DK BRN, SLTY - SDY, BLKY - SUBFISS, MOD HD, MICROMIC, SL CARB, NON CALC

SANDSTONE: SLTY & ARG, MED - LT GRY, CLR - SMKY, VF - F, I/P MED, PR ST, SUBANG, HD, SIL,