HYDRO

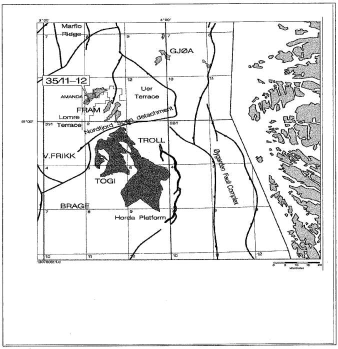
Fram

Geological composite log

Scale: 1:500

Well: 35/11-12

Location Map



KB Elevation	24	**Country**	Norway
Water Depth	364	**Licence**	PL 248
Depth Reference	RKB		
		Owners	HYDRO STATOIL EXXON MOBIL SDØE
Total Depth (Driller)	3378m MD 3378m TVD		
Total Depth (Logger)	3380m MD 3380m TVD		
		Field	Amanda
Formation at Total Depth	Heather	**Platform**	Transocean Arctic
Date Spudded	April 18, 2000		
Date Reached TD	May 8, 2000	**Drilling Contractor**	Transocean
Date Completed	May 14, 2000	**Mudlogging Company**	Geoservices
Well Status	Plugged and abandoned	**Logging Company**	Schlumberger/Read (VSP)
		MWD Company	Schlumberger Anadrill
Well Classification	Exploration	**Geologists**	C.Carstens, Å.Halvorsen, A.Clark, O.Giskeødegaard, K.Kalgraff, E.Skottlien
Prepared by	E. Skottlien/S. Petlund		
Controlled by	Paal Fristad		
Date	December 15, 2000		

Well Coordinates		61° 07' 43.45"N	03° 22' 53.60" E
	UTM	6 777 347.4mN	520 554.2mE
		ED50,UTM Zone31, CM 03° E	

Casing Records

Diameter	Shoe depth m MD RKB	Shoe depth m TVD RKB
30" Casing shoe	460	460
20" Casing shoe	720	720
13 3/8" Casing shoe	1755	1755
9 5/8" Casing shoe	2809	2809

LOT / FIT

Type	Result sg	Depth m MD RKB	Depth m TVD RKB
LOT	1.64	729.0	729.0
LOT	1.37	1722.0	1722.0
LOT	1.75	2825.0	2825.0

Comments

STNH98 seismic tie inline: 2764
STNH98 seismic tie x-line 1288

Logs

Run no.	Log type	Logged interval
1A	DSI/GR	3380-2600
1A	MDT/GR	3124-3211.5
1A	VSP/GR	3360-2570
1A	CST/GR	3378-2891.6

Cores

Core no.	Cored interval m MD RKB		Recovered interval m MD RKB		Rec. mMD	Rec. %
1	3120.0	3147.0	3120.0	3146.0	26.0	96.4

Pressure points (MDT)

Test no.	Depth m MD RKB	Depth m TVD RKB	Fmn. Press. bars	Test no.	Depth m MD RKB	Depth m TVD RKB	Fmn. Press. bars
5	3211.5	3211.5	359.30				
6	3211.0	3211.0	359.23				

Lithology Legend

- CONGLOMERATE
- SAND/SANDSTONE
- SILT/SILTSTONE
- CLAY/CLAYSTONE
- SHALE
- LIMESTONE
- DOLOMITE
- DOL. LIMESTONE
- CALC. DOLOMITE
- CHALK
- MARL
- ANHYDRITE
- SALT
- GYPSUM
- TUFF
- INTR. IGNEOUS
- EXTR. IGNEOUS

∴	SANDY, VERY
··	SANDY
·	SANDY, SLIGHTLY
ıı ıı ıı	SILTY, VERY
ıı ıı	SILTY
ıı	SILTY, SLIGHTLY
—	ARGILLACEOUS
⌶	CALCAREOUS
Q	CEMENT: QUARTZ
┬┬┬┬	CEMENT: CARBONATE
K	CEMENT: KAOLINITE
C	CARBONACEOUS MAT.
△	CHERT
✱	GLAUCONITE
M	MICA
□	PYRITE
♁	MACROFOSSILS
♁	MACROFOSSILS FRAG
∽	MICROFOSSILS

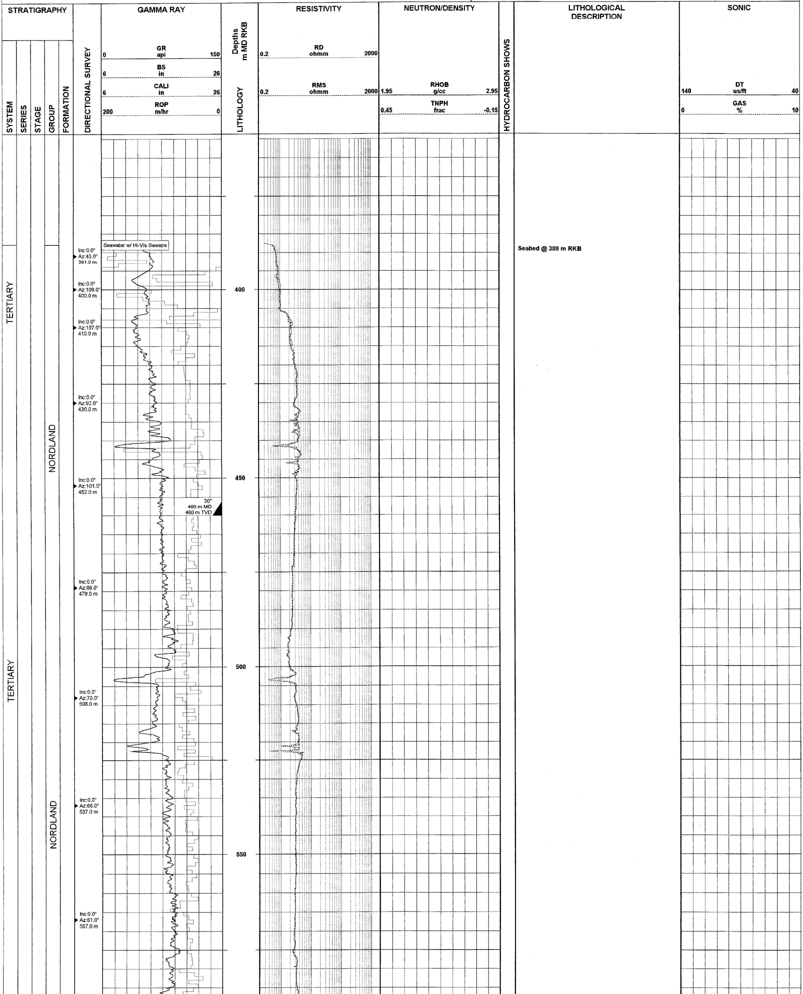
Symbol legend

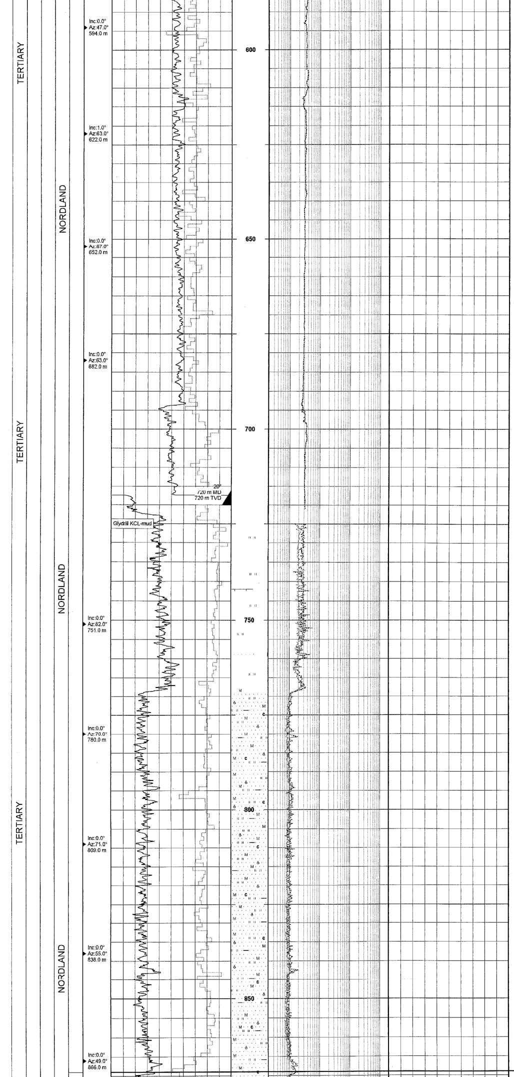
◢	Casing shoe
◸	Liner hanger
◿	Liner shoe
▶ Inc:(deg)° Az(deg)° TVD m	Deviation survey - MWD
▷ Inc:(deg)° Az(deg)° TVD m	Deviation survey - Other
▮ 1	Core interval
→	Sidewall core
▷	(No recovery)

DST

(II)	Through casing
(2)	Open hole
[II]	Through casing (rerun)
[2]	Open hole (rerun)
←(1)	RFT / MDT

◕	Oil stain
◕	Fluorescence
◔	Visible cut
◔	Fluorescence cut
☼	Gas shows
╫	Perforation interval





725.0 - 769.0 m
Sandy Claystone and Sand with traces of Limestone
Clst: med gry-med dk gry, sft-occ frm, amor, sl stky, sl calc-calc, sitr pyr, tr carb frag

Sd: clr trnsl-lt brn trnsl qtz gr, med-crs, occ f, occ v crs, sbang-rnd, pred sbrndd, mod-pr srt, lse gr, Tr Pyr, Tr carb frag

Ls: wh-lt brn, occ clr, sft-frm, pred microxln, occ arg

769.0 - 851.0 m
Sand with minor Claystone
Sd: clr trnsl-lt brn trnsl qtz gr, med-crs, occ f, occ v crs, sbang-rnd, pred sbrndd, mod-pr srt, lse gr, tr pyr, carb frag

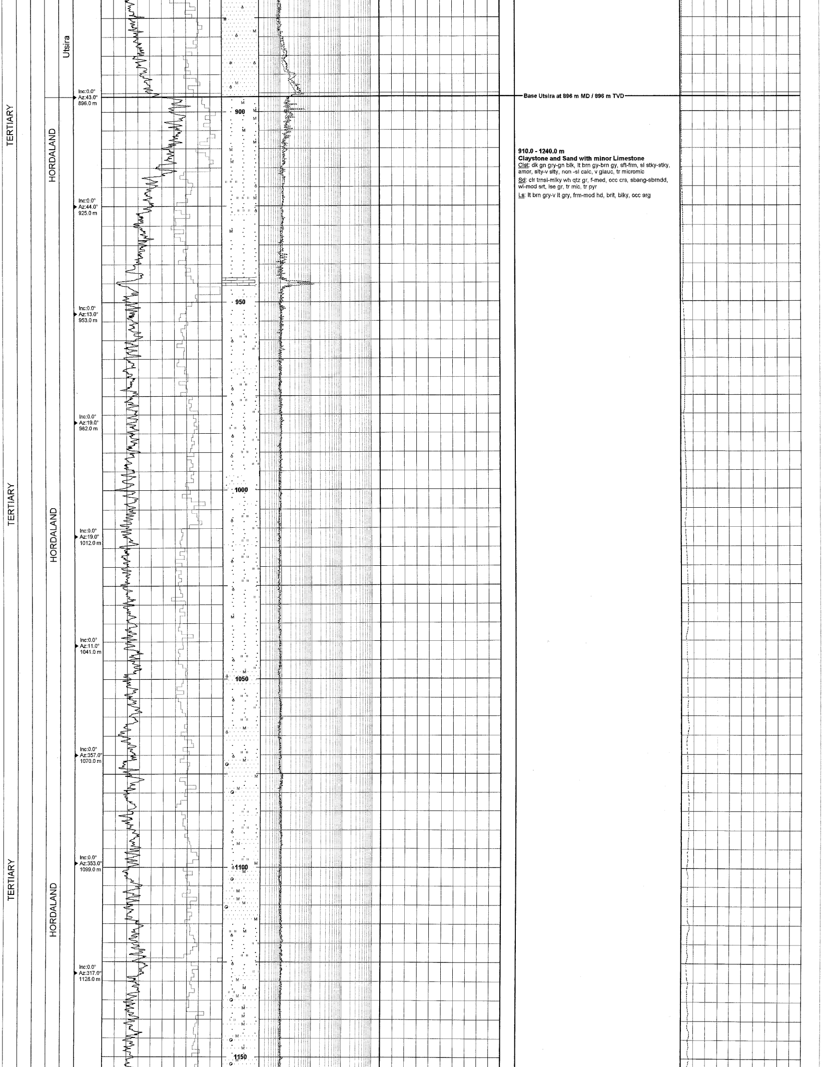
Clst: med gry-med dk gry, sft, stky, amor, v sdy, carb frag, tr mic, sl calc-calc

851.0 - 910.0 m
Sand with minor Claystone and traces of Limestone
Sd: clr trnsl-mlky wh qtz gr, med-crs, occ f, occ v crs, sbang-rnd, pred sbrndd, mod-pr srt, lse gr,tr pyr, carb frag

Clst: med gry-med dk gry, sft, stky, amor, v sdy, carb frag, tr mic, sl calc-calc

Ls: wh-lt brn, occ clr, sft-frm, pred microxln, occ arg

Top Utsira at 869.000 m MD / 869.000 m TVD



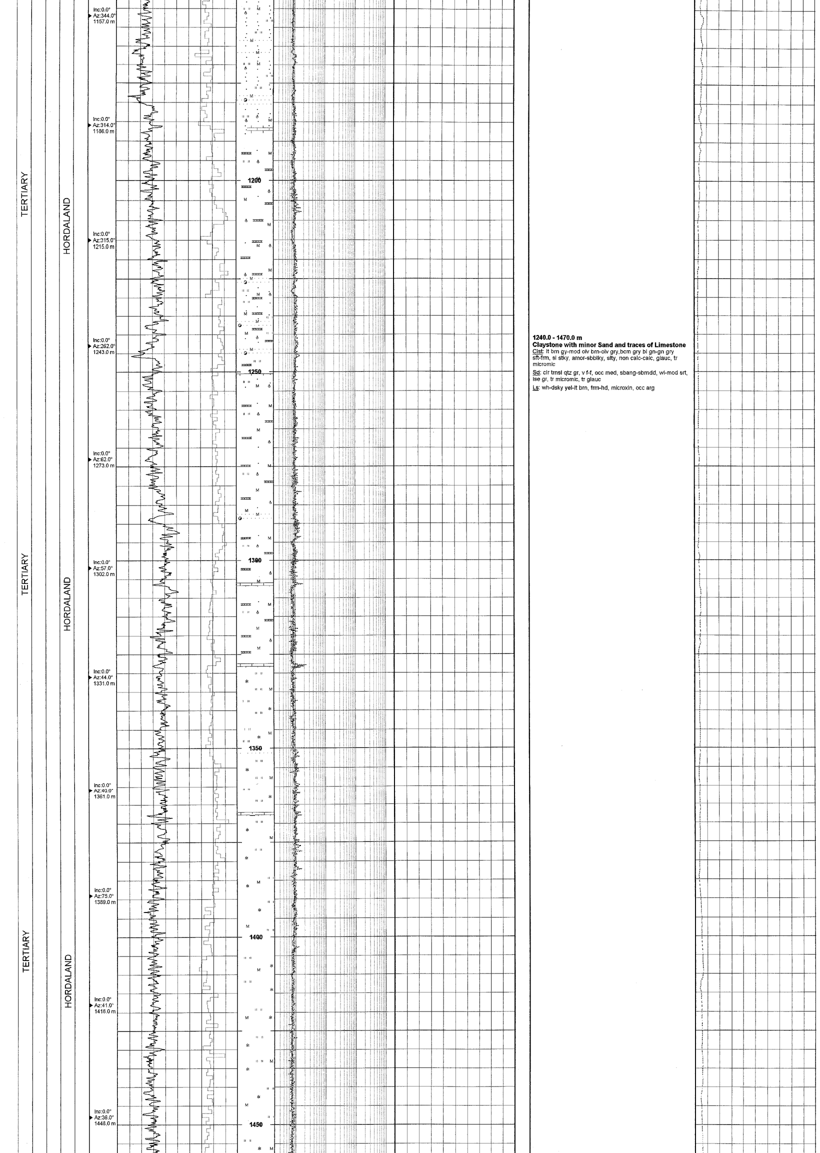
Base Utsira at 896 m MD / 896 m TVD

910.0 - 1240.0 m
Claystone and Sand with minor Limestone

Clst: dk gn gry-gn blk, lt brn gy-brn gy, sft-frm, sl stky-stky, amor, slty-v slty, non -sl calc, v glauc, tr micromic

Sd: clr trnsl-mlky wh qtz gr, f-med, occ crs, sbang-sbrndd, wl-mod srt, lse gr, tr mic, tr pyr

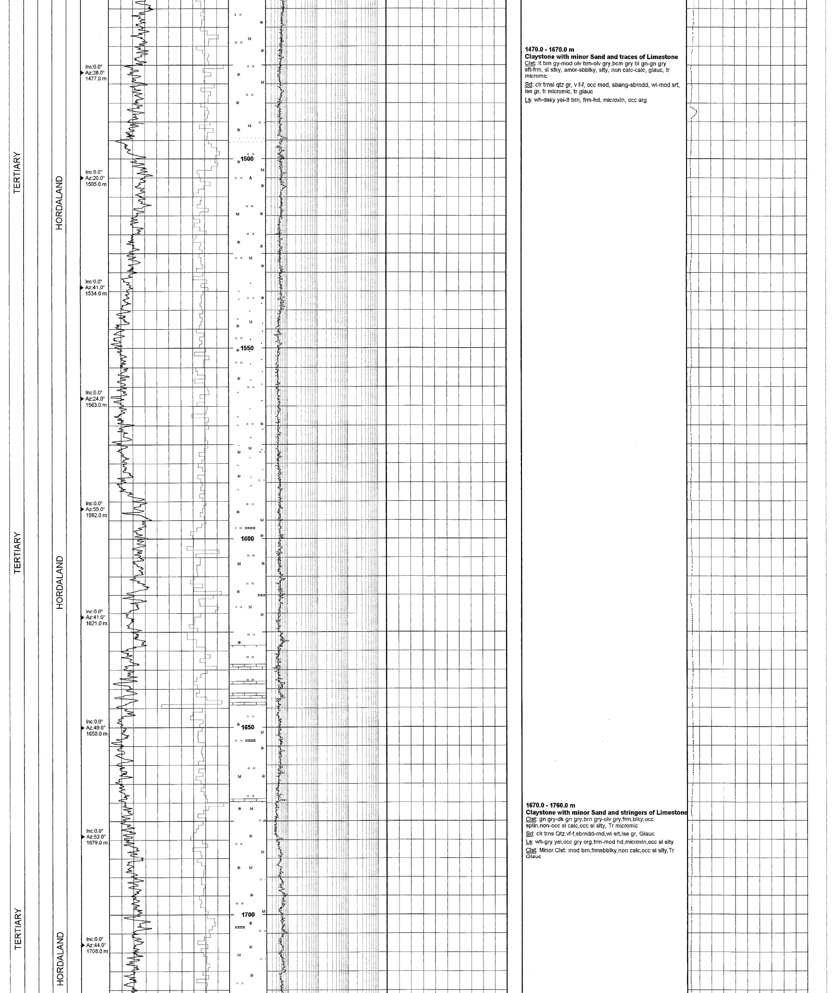
Ls: lt brn gry-v lt gry, frm-mod hd, brit, blky, occ arg



1240.0 - 1470.0 m
Claystone with minor Sand and traces of Limestone
Clst: lt brn gy-mod olv brn-olv gry,bcm gry bl gn-gn gry sft-frm, sl stky, amor-sbblky, slty, non calc-calc, glauc, tr micromic

Sd: clr trnsl qtz gr, v f-f, occ med, sbang-sbrndd, wl-mod srt, lse gr, tr micromic, tr glauc

Ls: wh-dsky yel-lt brn, frm-hd, microxln, occ arg



1470.0 - 1670.0 m
Claystone with minor Sand and traces of Limestone
Clst: lt brn gy-mod olv brn-olv gry,bcm gry bl gn-gn gry sft-frm, sl stky, amor-sbblky, slty, non calc-calc, glauc, tr micromic

Sd: clr trnsl qtz gr, v f-f, occ med, sbang-sbrndd, wl-mod srt, lse gr, tr micromic, tr glauc

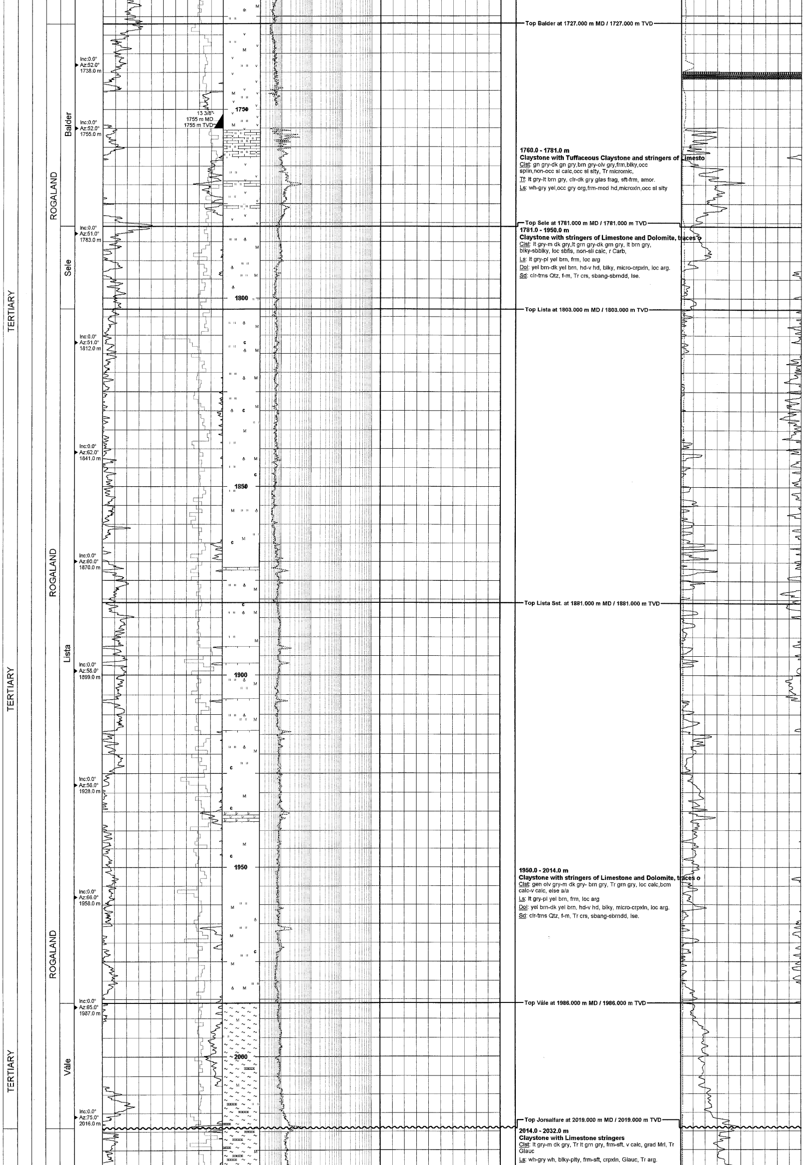
Ls: wh-dsky yel-lt brn, frm-hd, microxln, occ arg

1670.0 - 1760.0 m
Claystone with minor Sand and stringers of Limestone
Clst: gn gry-dk gn gry,brn gry-olv gry,frm,blky,occ splin,non-occ sl calc,occ sl slty, Tr micromic

Sd: clr trns Qtz,vf-f,sbrndd-rnd,wl srt,lse gr, Glauc

Ls: wh-gry yel,occ gry org,frm-mod hd,microxln,occ sl slty

Clst: Minor Clst: mod brn,frmsbblky,non calc,occ sl slty,Tr Glauc



Top Balder at 1727.000 m MD / 1727.000 m TVD

1760.0 - 1781.0 m
Claystone with Tuffaceous Claystone and stringers of Limesto

Clst: gn gry-dk gn gry,brn gry-olv gry,frm,blky,occ splin,non-occ sl calc,occ sl slty, Tr micromic,

Tf: lt gry-lt brn gry, clr-dk gry glas frag, sft-frm, amor.

Ls: wh-gry yel,occ gry org,frm-mod hd,microxln,occ sl slty

Top Sele at 1781.000 m MD / 1781.000 m TVD

1781.0 - 1950.0 m
Claystone with stringers of Limestone and Dolomite, traces o

Clst: lt gry-m dk gry,lt grn gry-dk grn gry, lt brn gry, blky-sbblky, loc sbfis, non-sli calc, r Carb,

Ls: lt gry-pl yel brn, frm, loc arg

Dol: yel brn-dk yel brn, hd-v hd, blky, micro-crpxln, loc arg.

Sd: clr-trns Qtz, f-m, Tr crs, sbang-sbrndd, lse.

Top Lista at 1803.000 m MD / 1803.000 m TVD

Top Lista Sst. at 1881.000 m MD / 1881.000 m TVD

1950.0 - 2014.0 m
Claystone with stringers of Limestone and Dolomite, traces o

Clst: gen olv gry-m dk gry- brn gry, Tr grn gry, loc calc,bcm calc-v calc, else a/a

Ls: lt gry-pl yel brn, frm, loc arg

Dol: yel brn-dk yel brn, hd-v hd, blky, micro-crpxln, loc arg.

Sd: clr-trns Qtz, f-m, Tr crs, sbang-sbrndd, lse.

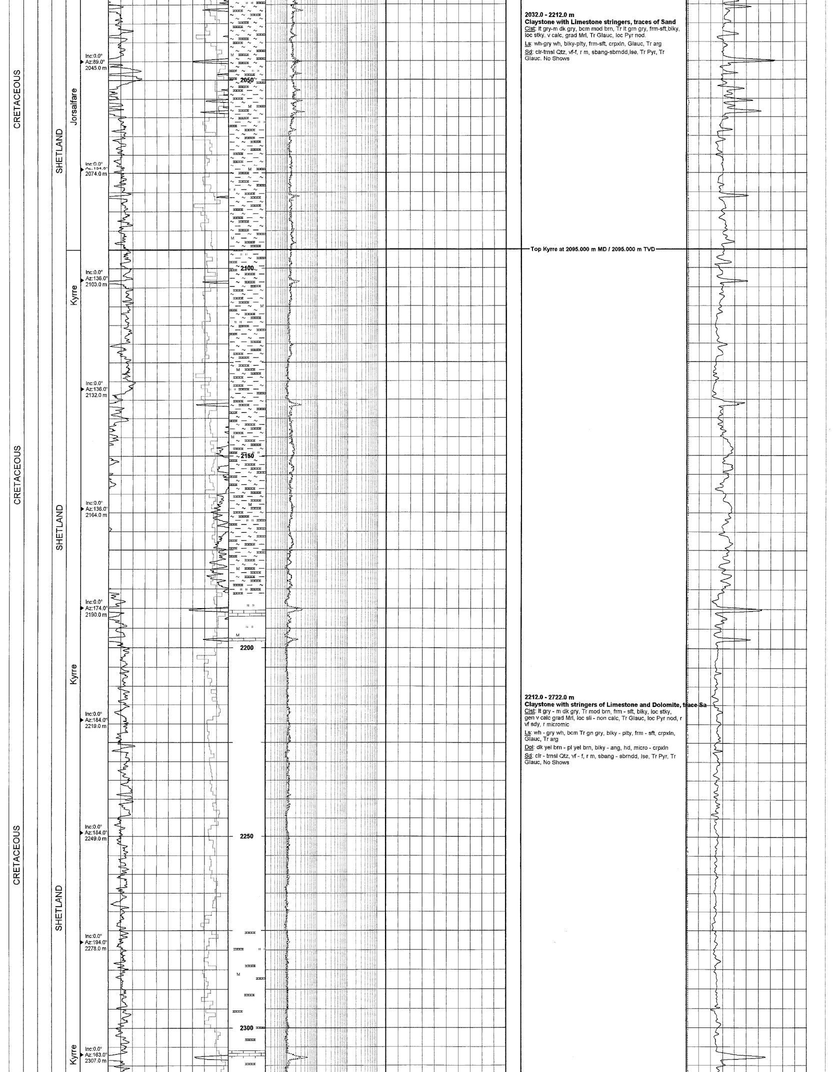
Top Våle at 1986.000 m MD / 1986.000 m TVD

Top Jorsalfare at 2019.000 m MD / 2019.000 m TVD

2014.0 - 2032.0 m
Claystone with Limestone stringers

Clst: lt gry-m dk gry, Tr lt grn gry, frm-sft, v calc, grad Mrl, Tr Glauc

Ls: wh-gry wh, blky-plty, frm-sft, crpxln, Glauc, Tr arg.



2032.0 - 2212.0 m
Claystone with Limestone stringers, traces of Sand
Clst: lt gry-m dk gry, bcm mod brn, Tr lt grn gry, frm-sft,blky, loc stky, v calc, grad Mrl, Tr Glauc, loc Pyr nod.

Ls: wh-gry wh, blky-plty, frm-sft, crpxln, Glauc, Tr arg

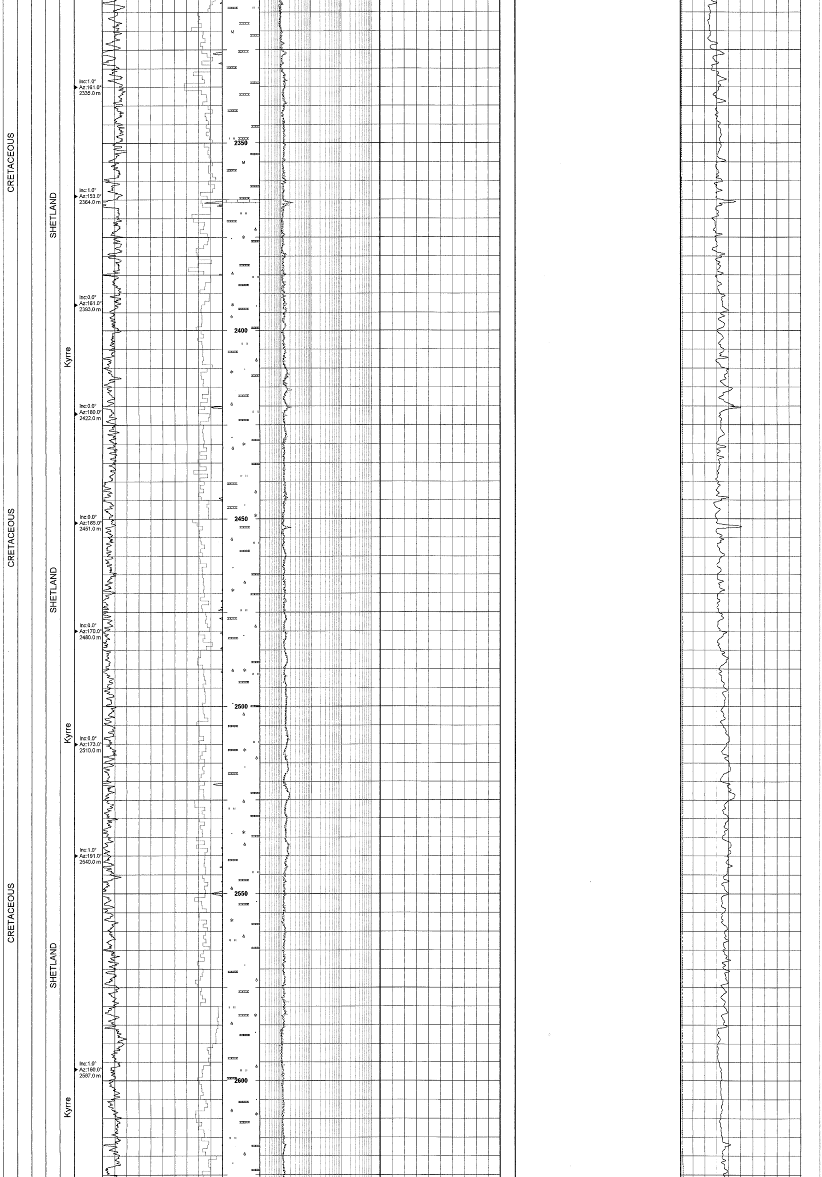
Sd: clr-trnsl Qtz, vf-f, r m, sbang-sbrndd,lse, Tr Pyr, Tr Glauc. No Shows

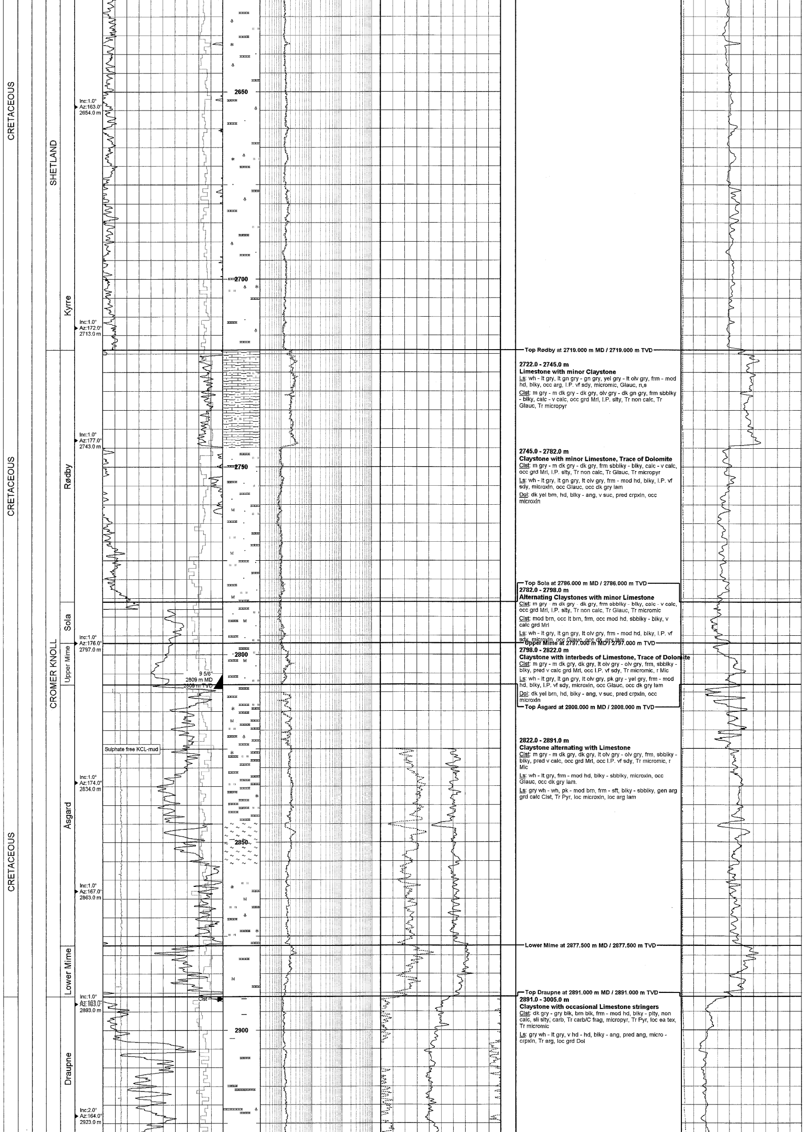
2212.0 - 2722.0 m
Claystone with stringers of Limestone and Dolomite, trace Sa
Clst: lt gry - m dk gry, Tr mod brn, frm - sft, blky, loc stky, gen v calc grad Mrl, loc sli - non calc, Tr Glauc, loc Pyr nod, r vf sdy, r micromic

Ls: wh - gry wh, bcm Tr gn gry, blky - plty, frm - sft, crpxln, Glauc, Tr arg

Dol: dk yel brn - pl yel brn, blky - ang, hd, micro - crpxln

Sd: clr - trnsl Qtz, vf - f, r m, sbang - sbrndd, lse, Tr Pyr, Tr Glauc, No Shows





Top Rødby at 2719.000 m MD / 2719.000 m TVD

2722.0 - 2745.0 m
Limestone with minor Claystone

Ls: wh - lt gry, lt gn gry - gn gry, yel gry - lt olv gry, frm - mod hd, blky, occ arg, I.P. vf sdy, micromic, Glauc, n,s

Clst: m gry - m dk gry - dk gry, olv gry - dk gn gry, frm sbblky - blky, calc - v calc, occ grd Mrl, I.P. slty, Tr non calc, Tr Glauc, Tr micropyr

2745.0 - 2782.0 m
Claystone with minor Limestone, Trace of Dolomite

Clst: m gry - m dk gry - dk gry, frm sbblky - blky, calc - v calc, occ grd Mrl, I.P. slty, Tr non calc, Tr Glauc, Tr micropyr

Ls: wh - lt gry, lt gn gry, lt olv gry, frm - mod hd, blky, I.P. vf sdy, microxln, occ Glauc, occ dk gry lam

Dol: dk yel brn, hd, blky - ang, v suc, pred crpxln, occ microxln

Top Sola at 2786.000 m MD / 2786.000 m TVD

2782.0 - 2798.0 m
Alternating Claystones with minor Limestone

Clst: m gry - m dk gry - dk gry, frm sbblky - blky, calc - v calc, occ grd Mrl, I.P. slty, Tr non calc, Tr Glauc, Tr micromic

Clst: mod brn, occ lt brn, frm, occ mod hd, sbblky - blky, v calc grd Mrl

Ls: wh - lt gry, lt gn gry, lt olv gry, frm - mod hd, blky, I.P. vf sdy, microxln, occ Glauc, occ dk gry lam

Upper Mime at 2797.000 m MD / 2797.000 m TVD

2798.0 - 2822.0 m
Claystone with interbeds of Limestone, Trace of Dolomite

Clst: m gry - m dk gry, dk gry, lt olv gry - olv gry, frm, sbblky - blky, pred v calc grd Mrl, occ I.P. vf sdy, Tr micromic, r Mic

Ls: wh - lt gry, lt gn gry, lt olv gry, pk gry - yel gry, frm - mod hd, blky, I.P. vf sdy, microxln, occ Glauc, occ dk gry lam

Dol: dk yel brn, hd, blky - ang, v suc, pred crpxln, occ microxln

Top Åsgard at 2808.000 m MD / 2808.000 m TVD

2822.0 - 2891.0 m
Claystone alternating with Limestone

Clst: m gry - m dk gry, dk gry, lt olv gry - olv gry, frm, sbblky - blky, pred v calc, occ grd Mrl, occ I.P. vf sdy, Tr micromic, r Mic

Ls: wh - lt gry, frm - mod hd, blky - sbblky, microxln, occ Glauc, occ dk gry lam.

Ls: gry wh - wh, pk - mod brn, frm - sft, blky - sbblky, gen arg grd calc Clst, Tr Pyr, loc microxln, loc arg lam

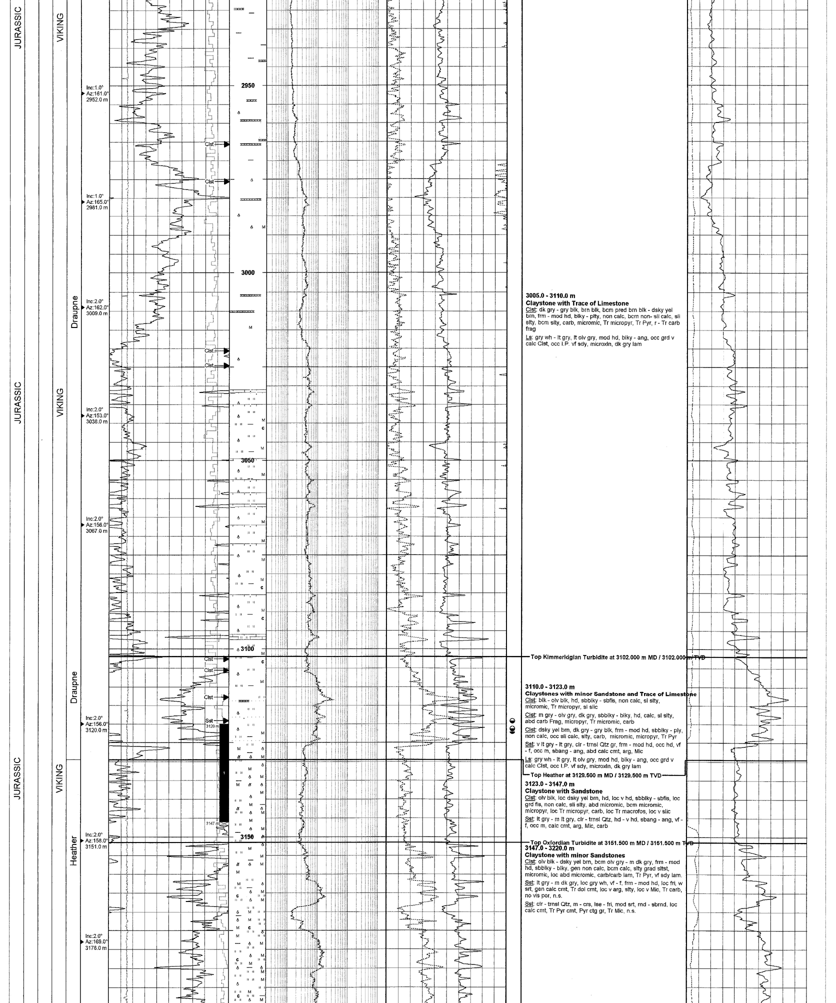
Lower Mime at 2877.500 m MD / 2877.500 m TVD

Top Draupne at 2891.000 m MD / 2891.000 m TVD

2891.0 - 3005.0 m
Claystone with occasional Limestone stringers

Clst: dk gry - gry blk, brn blk, frm - mod hd, blky - plty, non calc, sli slty, carb, Tr carb/C frag, micropyr, Tr Pyr, loc ea tex, Tr micromic

Ls: gry wh - lt gry, v hd - hd, blky - ang, pred ang, micro - crpxln, Tr arg, loc grd Dol



3005.0 - 3110.0 m
Claystone with Trace of Limestone
Clst: dk gry - gry blk, brn blk, bcm pred brn blk - dsky yel brn, frm - mod hd, blky - plty, non calc, bcm non- sli calc, sli slty, bcm slty, carb, micromic, Tr micropyr, Tr Pyr, r - Tr carb frag

Ls: gry wh - lt gry, lt olv gry, mod hd, blky - ang, occ grd v calc Clst, occ I.P. vf sdy, microxln, dk gry lam

Top Kimmeridgian Turbidite at 3102.000 m MD / 3102.000 m TVD

3110.0 - 3123.0 m
Claystones with minor Sandstone and Trace of Limestone
Clst: blk - olv blk, hd, sbblky - sbfis, non calc, sl slty, micromic, Tr micropyr, sl slic

Clst: m gry - olv gry, dk gry, sbblky - blky, hd, calc, sl slty, abd carb Frag, micropyr, Tr micromic, carb

Clst: dsky yel brn, dk gry - gry blk, frm - mod hd, sbblky - ply, non calc, occ sli calc, slty, carb, micromic, micropyr, Tr Pyr

Sst: v lt gry - lt gry, clr - trnsl Qtz gr, frm - mod hd, occ hd, vf - f, occ m, sbang - ang, abd calc cmt, arg, Mic

Ls: gry wh - lt gry, lt olv gry, mod hd, blky - ang, occ grd v calc Clst, occ I.P. vf sdy, microxln, dk gry lam

Top Heather at 3129.500 m MD / 3129.500 m TVD

3123.0 - 3147.0 m
Claystone with Sandstone
Clst: olv blk, loc dsky yel brn, hd, loc v hd, sbblky - sbfis, loc grd fis, non calc, sli slty, abd micromic, bcm micromic, micropyr, loc Tr micropyr, carb, loc Tr macrofos, loc v slic

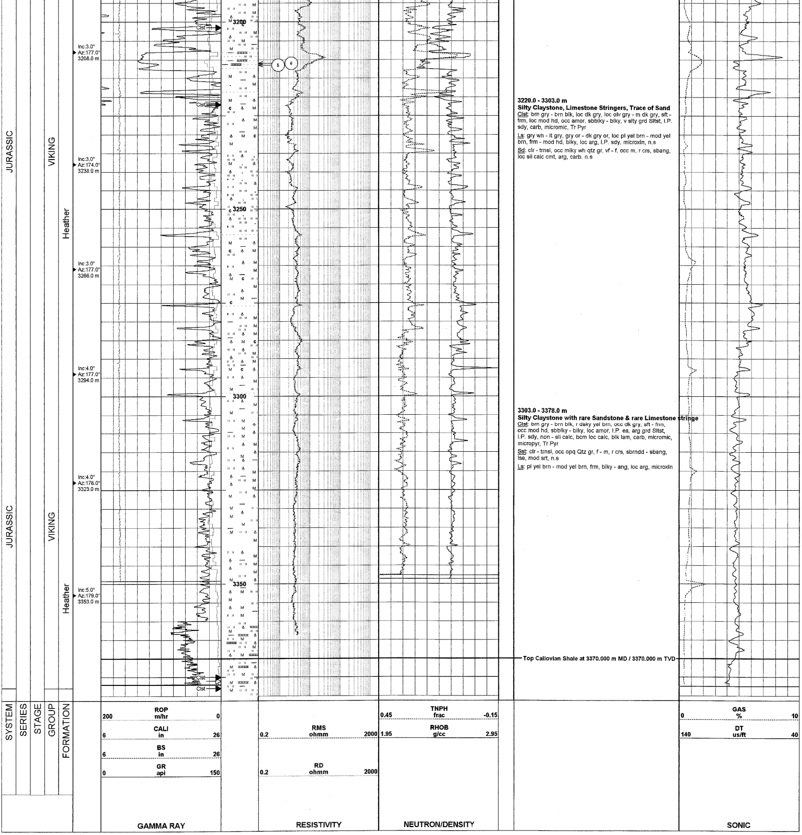
Sst: lt gry - m lt gry, clr - trnsl Qtz, hd - v hd, sbang - ang, vf - f, occ m, calc cmt, arg, Mic, carb

Top Oxfordian Turbidite at 3151.500 m MD / 3151.500 m TVD

3147.0 - 3220.0 m
Claystone with minor Sandstones
Clst: olv blk - dsky yel brn, bcm olv gry - m dk gry, frm - mod hd, sbblky - blky, gen non calc, bcm calc, slty grad sltst, micromic, loc abd micromic, carb/carb lam, Tr Pyr, vf sdy lam.

Sst: lt gry - m dk gry, loc gry wh, vf - f, frm - mod hd, loc fri, w srt, gen calc cmt, Tr dol cmt, loc v arg, slty, loc v Mic, Tr carb, no vis por, n.s.

Sst: clr - trnsl Qtz, m - crs, lse - fri, mod srt, rnd - sbrnd, loc calc cmt, Tr Pyr cmt, Pyr ctg gr, Tr Mic, n.s.



3220.0 - 3303.0 m
Silty Claystone, Limestone Stringers, Trace of Sand
Clst: brn gry - brn blk, loc dk gry, loc olv gry - m dk gry, sft - frm, loc mod hd, occ amor, sbblky - blky, v slty grd Sltst, I.P. sdy, carb, micromic, Tr Pyr

Ls: gry wh - lt gry, gry or - dk gry or, loc pl yel brn - mod yel brn, frm - mod hd, blky, loc arg, I.P. sdy, microxln, n.s

Sd: clr - trnsl, occ mlky wh qtz gr, vf - f, occ m, r crs, sbang, loc sli calc cmt, arg, carb. n.s

3303.0 - 3378.0 m
Silty Claystone with rare Sandstone & rare Limestone stringe
Clst: brn gry - brn blk, r dsky yel brn, occ dk gry, sft - frm, occ mod hd, sbblky - blky, loc amor, I.P. ea, arg grd Sltst, I.P. sdy, non - sli calc, bcm loc calc, blk lam, carb, micromic, micropyr, Tr Pyr

Sst: clr - trnsl, occ opq Qtz gr, f - m, r crs, sbrndd - sbang, lse, mod srt, n.s

Ls: pl yel brn - mod yel brn, frm, blky - ang, loc arg, microxln

Top Callovian Shale at 3370.000 m MD / 3370.000 m TVD