Esso Norge AS

GEOLOGICAL COMPLETION REPORT

WELL 25/8-13

Drilling permit 1023 L

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GEOLOGICAL COMPLETION REPORT

WELL 25/8-13

Distribution List

Norwegian Petroleum Directorate

Enterprise Oil Ltd.

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1.2 Well Summary 25/8-13

A summary of key numbers and dates is given in Table 1.1 and Figure 1.2.

Prospect	**IVING**
Well Name	25/8-13
Drilling Permit	1023 L
Production License	027B
Operator	Esso Norge AS (50 %)
Partner	Enterprise Oil Ltd (50 %)
Drilling Rig	West Alpha
Well Type	Exploration well
Wellhead Location	X= 463 806.6 m E Longitude: 02° 21 min 48.1 sec E Y= 6 580 660.0 m N Latitude: 59° 21 min 42.3 sec N
RKB to Sea Level	18 m
Water Depth	127.6 m
Shallow Gas Pilothole	No shallow gas pilothole was drilled. The site survey did not show any shallow gas, and the well was drilled without a shallow gas pilothole. Logs from the 17 ½" hole do not show any gas.
Well Objective	Lower Paleocene Ty/ Heimdal Formation Sands
Top Reservoir Target	2033 m MDRKB, (-2015 m TVDSS)
Rig on location	Oct 28, 2001
Spud Date	Oct 30, 2001
At Total Depth	Nov 13, 2001
Final Rig Release	Nov 20, 2001
Total Depth	2276 m MDRKB, (-2258 m TVDSS) X= 463 805.8 m E Longitude: 02° 21 min 48.0 sec E Y= 6 580 660.8 m N Latitude: 59° 21 min 42.4 sec N

Hole size Inches	**Depth m MDRKB**	**Casing Inches**	**Depth m MDRKB**	**Mud type**	**MW (s.g.)**	**Leak off (s.g.)**
36"	218.8	30"	215.7	WBM		
17 1/2"	1038.0	13 3/8"	1029.0	WBM	1.22	1.72
12 1/4"	2276.0			OBM	1.33	

Well status: Dry hole, plugged and abandoned

Table 1.1 Well Summary, 25/8-13

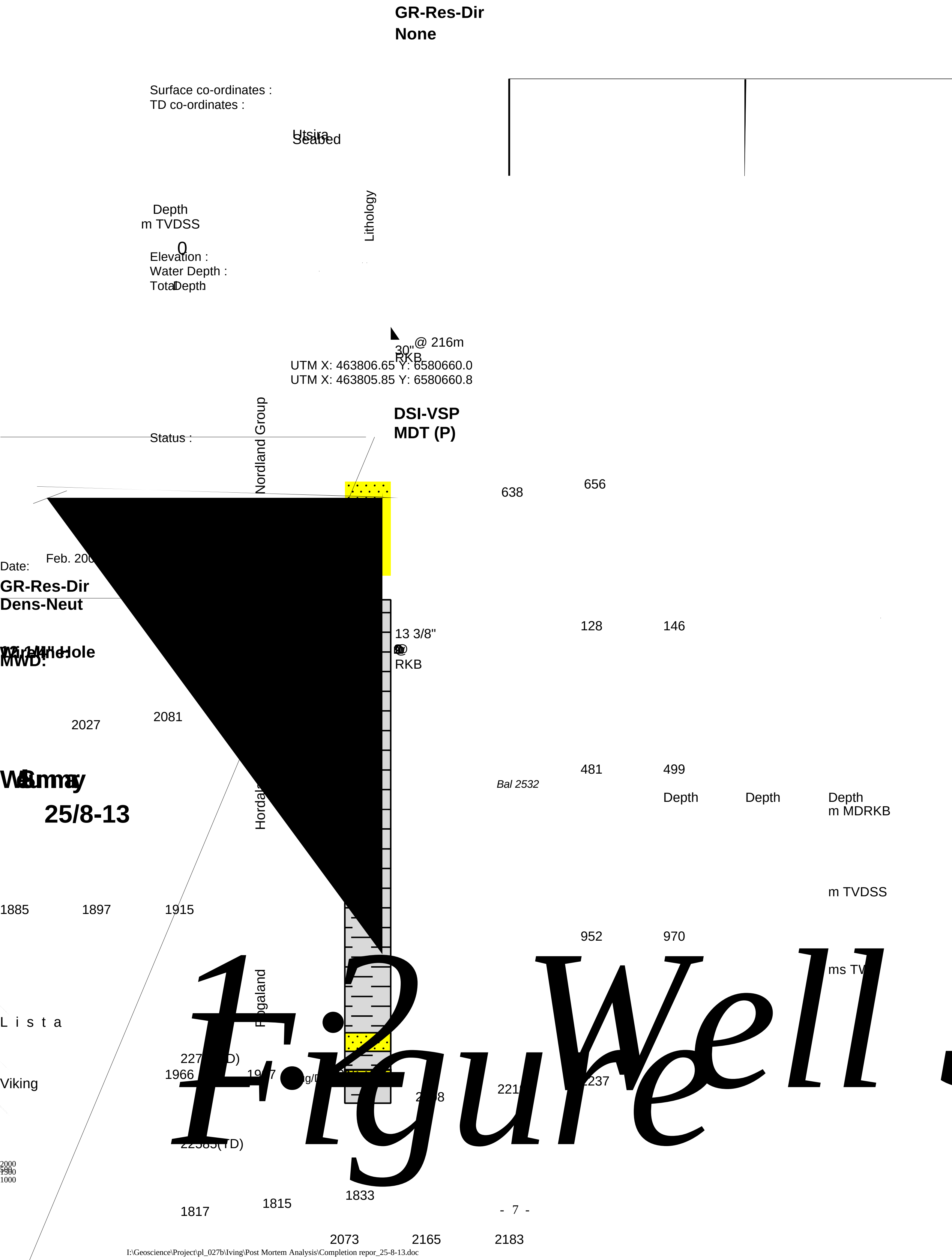


Figure 1.2 Well ...

1.3 Well Operations Summary

Exploration Well 25/8-13 was drilled on Production License 027B, near the Ringhorne and Jotun fields. Drilling operations were conducted using Smedvig's *West Alpha* semi-submersible rig. Mobilization operations began on October 26, 2001 and Final Rig Release (FRR) occurred on November 20, 2001 after a total of 24,4 days. The well was drilled, evaluated and permanently P&A as a dry hole with TD in the Jurassic Statfjord Formation.

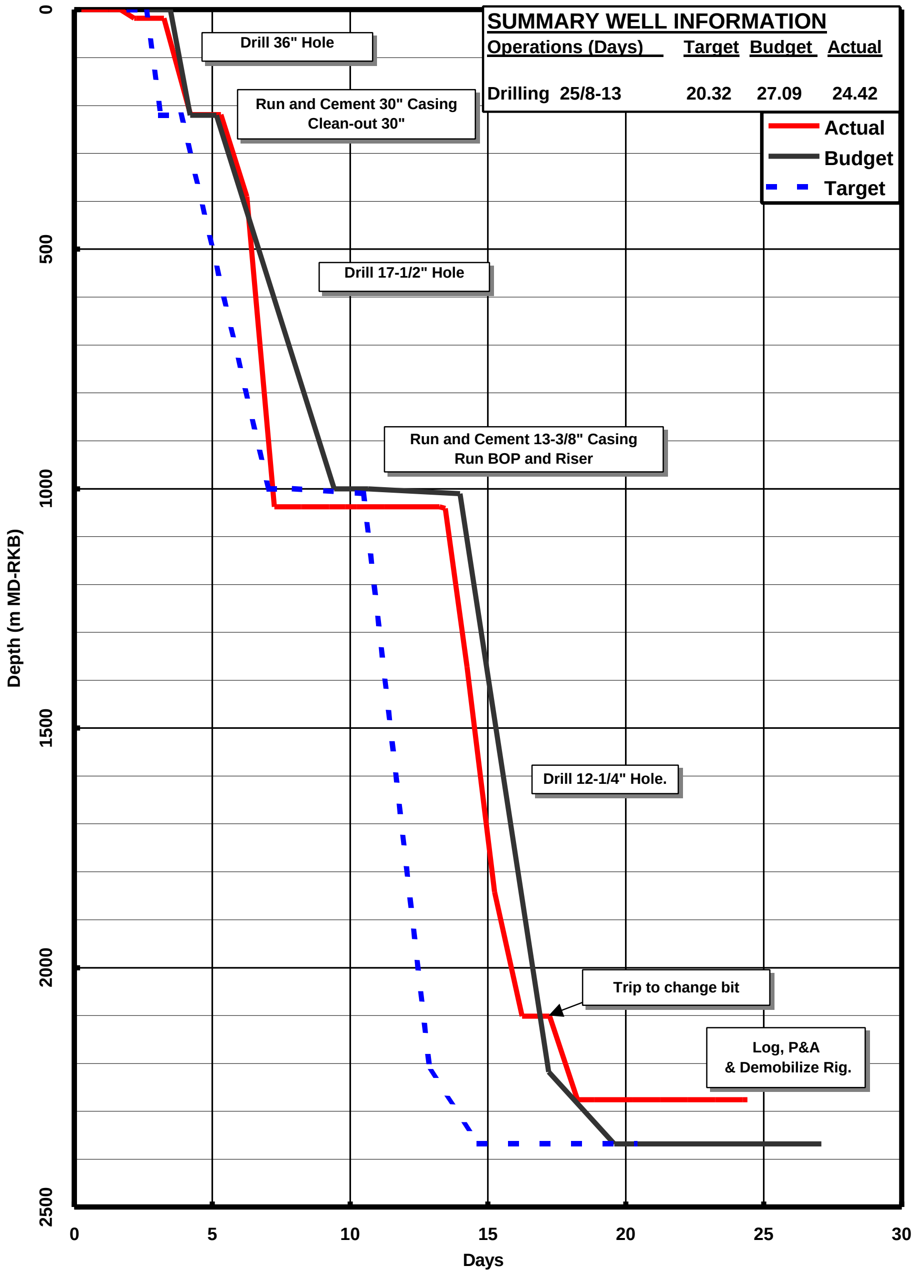


Figure 1.3 Drilling Days vs Depth Curve, Well 25/8-13

The 36" hole was drilled and the 30" conductor was successfully landed at 216 m MDRKB. The 17 ½" hole was drilled and 13 3/8" surface casing was set at 1029 m MDRKB in the top of the Hordaland shale. The 12 1/4" section was then drilled to

TD of 2276 m MDRKB in the Jurassic Statfjord Formation. After running wire-line logs, the well was permanently plugged and abandoned.

1.3.1 36" Hole Section

Interval: 145,6 m MDRKB (Seabed) – 218,8 m MDRKB
Inclination: Vertical
Mud system: Seawater + High vis polymer sweeps
Formations: Nordland (claystone with sandstone stringers)

The 36" hole section was drilled using a 36"x 36" x 26" x 17 ½" hole opener assembly, using seawater with a Hi-Vis pills was pumped every 14 meters to clean the hole. At TD the hole was displaced to 1,18 s.g. high-viscosity fluid. No boulders or other hole problems were encountered while drilling the 36" section.

The 30" wellhead was then run with the retrievable drilling guide base, the 30" casing shoe was run to 216 m MDRKB, and the resulting wellhead stick up was 3.3 meters above the seafloor.

Surveys were taken with the Anderdrift tool for directional control while drilling. The final well angle for the 36" hole was 0.5 degrees. Average ROP during this section was 8m/hr.

1.3.2 17 1/2" Hole Section

Interval: 218,8 m MDRKB-1038 m MDRKB (218,8 m TVD-1038 m TVD)
Inclination: Vertical
Mud system: Seawater and Bentonite sweeps.
Formations: Utsira sand and Hordaland shale

Prior to running in with the 17 1/2" BHA, the cement was drilled out with a 26" bit and pumping Hi-Vis pill for hole cleaning. Following the drill out of cement the well was drilled to section TD at 1038 m MDRKB using seawater, pumping Hi-Vis. pills on connections. At TD the well was displaced to a 1,22 s.g. NACL brine. A formation integrity test was not performed in this hole section.

The entire 17 1/2" section was drilled in one run with aggressive Smith MGSSH+ODQC Milled Tooth bit and a rotary assembly. When performing a wiper trip, tight spots were experienced at 436, 430, 392, 368 and 360 meters. The well was then back reamed from 355 m to 330 m. Additional tight spots were worked on trip in. The hole was then circulated with additional Hi-Vis pills and displaced to 1,22 s.g. brine. On final trip out tight spots were experienced at 342 m and 330 m. Had to pump out from 306 m to 278 m.

The 20"x13-3/8" casing was run and landed on HWDP with the shoe at 1029 m MDRKB. Apparently full cement returns were obtained during displacement, and the plugs were bumped with 69 bar. Average ROP during this section was 24,6 m/hrs, circulation/connections and downtime included. Downtime was 4,5 hrs.

Experiences Drilling

The 17 1/2" and 26" BHA were the same, thus saving make-up time. No problems were experienced during drilling of this section except for the tight spots during wiper trip as described above.

Experiences Casing and Cementing

The 20"x13 3/8" wellhead were assembled onshore with all plugs installed and filled with water, thus saving rigtime. The 20"x13 3/8" casing was run to 1030 m RKB. During the running of the casing there were no tight spots. No problems were experienced while cementing the 13 3/8" casing.

1.3.3 12 1/4" Hole Section

Interval:	1038 m MDRKB-2276 m MDRKB (1038 m TVD-2276 m TVD)
Inclination:	Vertical
Mud system:	Versavert OBM
Formations:	Hordaland, Balder, Hermod, Ty, Draupne, and Statfjord

After drilling 2/3 of the cement shoe the well was displaced to 1,33 s.g. Versavert OBM. 3 m of new formation was opened, a FIT was performed, and an EMW of 1.72 s.g. was obtained.

The upper part of the section was drilled with a rotary assembly and a PDC bit (Smith MA74 PX), including LWD and MWD. Due to erratic torque at 2101 m, a trip was made to change the bit (MA62PX-less aggressive, but more durable) and also pick up a mud motor. When tripping back in, tight spots were observed at 1456-1460 m, 1756-1765 m and 1987-2035 m. These tight spots required only light reaming and washing, and were probably caused by ledges. The hole was then drilled to well TD at 2276 m MDRKB.

No coring were performed as insufficient sand was encountered. At TD, the hole was circulated clean, and a 10 stand wiper trip was performed prior to pulling out for wire-line logging (DSI/VSP and MDT).

Experiences Drilling

Erratic torque was observed at 2101 m and bit was pulled. The bit was found to be 12/32" undergauge. (See separate bit report under “Equipment Failure Reports”). As a result, the lower part of the hole was reamed. A part from this, this section was drilled without any major problems. The logging operation indicated a very stable borehole.

1.3.4 P&A Operation

No commercial volumes of oil were encountered so after running the wire-line logs the well was permanently plugged and abandoned.

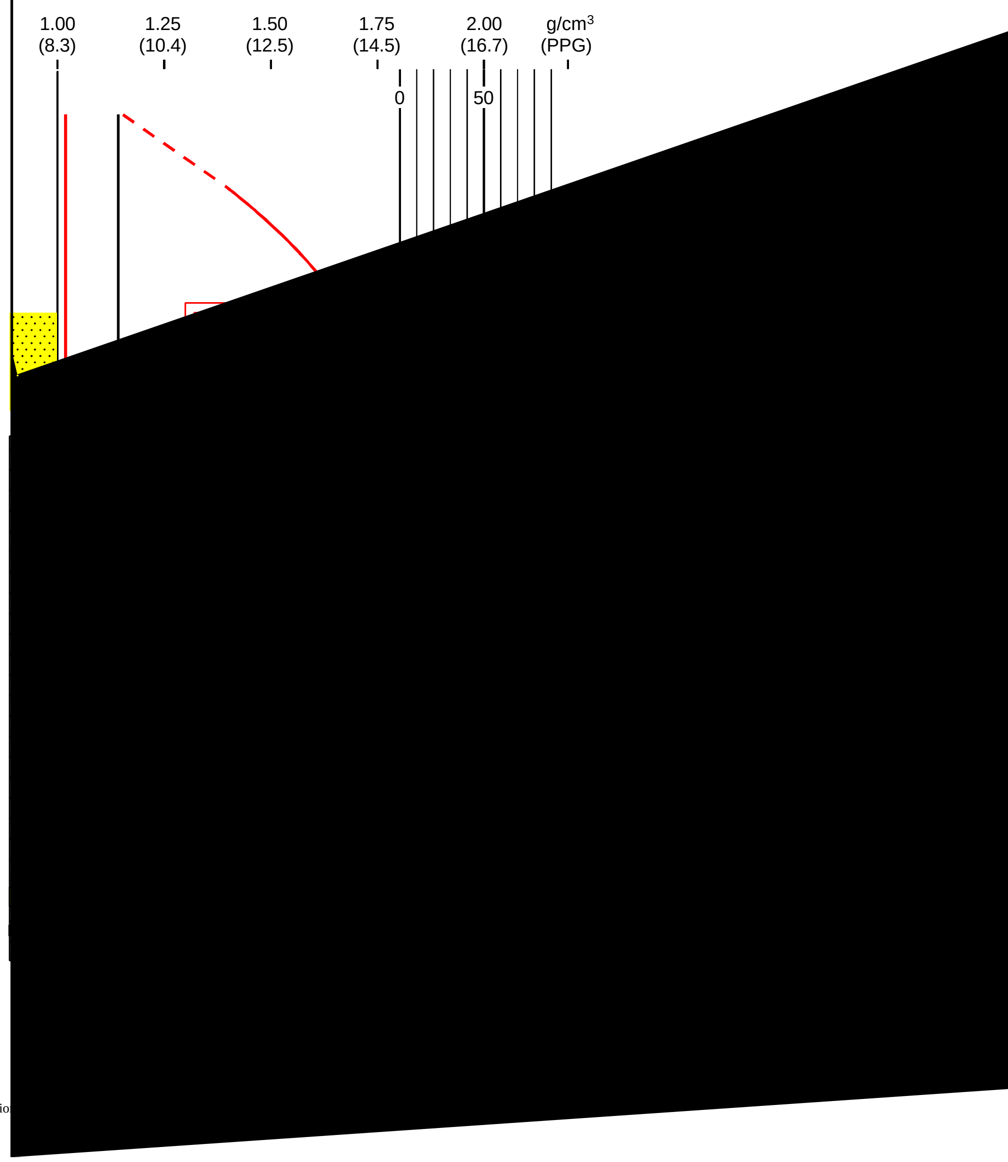
Cement Plug # 1: Set from 1970 m to 1704 m. The plug was weight tested to 10 tons after 10 hrs WOC.

Cement Plug # 2: EZSV was set at 979 m. and 100m cement was squeezed below packer. Then a balanced plug was set on top of the EZSV. This plug was pressure tested to 70 Bar.
Cement Plug # 3: The hole was displaced to seawater from 730 m. The final cement plug was set from 370 m. and TOC was later confirmed at 195 m.

After the BOP was pulled, the 20" and 30" casing were cut at 150 m. After cutting the wellhead/guidebase turned 2,5 turns to the right while trying to engage the M.O.S.T. Tool to lock to the wellhead profile for pulling. ROV inspected the guide wires and wellhead was rotated back 2,5 turns to align the guide wires. The M.O.S.T. Tool could not be locked to the wellhead due to bent cutter arms. As a result, the wellhead had to be pulled on the cutter arms using tensioned guide wires as additional security. Subsequently the wellhead and cutting tool had to be shipped onshore in one piece. Likely cause of the bent cutter arms was that the wellhead tilted to one side during cutting causing the knives to be twisted, preventing them from fully retracting into the cutter body (See separate picture under “Equipment Failure Reports”).

1.4.1 Estimated Pore Pressure and Bottom Hole Temperature

Formation Pressure & Bottom Hole Temperature
25/8-13



2 STRATIGRAPHY

2.1 Lithostratigraphy

GROUP	FORMATION	MEMBER/ZONE	DEPTH (m MDRKB)	DEPTH (m TVDSS)	TWT (sec)
Nordland		Sea Bottom	145.6	127.6	
	Utsira		499	481	
	Utsira Massive Sand		656	638	
Hordaland	Base Utsira		970	952	
Rogaland	Balder		1833	1815	1.817
	Sele	Zone II Upper Shale	1915	1897	1.884
	Lista	Zone IB Shale	1977	1959	1.935
	Heimdal	Zone IB	2015	1997	1.966
	Vaale	Zone IA2 Shale	2072.5	2054.5	2.008
	Ty	Zone IA1	2099	2081	2.027
Viking	Heather		2182.5	2164.5	2.073
Brent	Hugin Eq.		2188	2170	2.077
Dunlin	Cook Eq.		2210	2192	2.092
	Statfjord		2237	2219	2.108
TD (Driller)			2276	2258	2.130

Table 2.1 Lithostratigraphy, Well 25/8-13

2.2 Chronostratigraphy

The stratigraphic breakdown of the interval between 1830 and 2270 m MDRKB is based on a palynological study of 39 cutting samples. Table 2.2 shows the top sample depth for each identified palynozone. Please see standard report "Well 25/8-13 Biostratigraphy" for sample details.

DEPTH (m MDRKB)	SAMPLE TYPE	AGE	PALYNO ZONE	LEVEL OF CONFIDENCE
1830	Cuttings	Early Eocene	ET10A	B
1850	Cuttings	Early Eocene	ET9B.2	C
1904	Cuttings	E Eocene - L Paleocene	ET9A.2	B
1930	Cuttings	E Eocene - L Paleocene	ET9A.1	C
1960	Cuttings	E Eocene - L Paleocene	ET8C (?9A.1)	C
1970	Cuttings	Late Paleocene	ET8B	A
1980	Cuttings	Late Paleocene	ET7.1	C
2010	Cuttings	Late Paleocene	ET6.2	C
2020	Cuttings	Late Paleocene	ET6.1	B
2063	Cuttings	Late Paleocene	ET5	B
2075	Cuttings	Late Paleocene	ET4 (?ET3)	B
2102	Cuttings	? Late Cretaceous	Unassigned	Possible cavings
2180	Cuttings	Volgian	PJ18-17	D
2190	Cuttings	Mid - Late Callovian	PJ8	C
2200	Cuttings	E Callovian - Late Bathonian	PJ7-4.3	B
2210	Cuttings	Mid - Early Pliensbachian	PJ2.2	C
2260	Cuttings	Late Sinemurian	PJ2.1	B

Table 2.2 Chronostratigraphy, Well 25/8-13

3 FORMATION EVALUATION

3.1 Cuttings samples

One set of wet and two sets of dry cuttings were collected from 100 m above Top Balder to TD in both the observation well and the horizontal producer.

3.2 Cores

No coring (sidewall or conventional) was undertaken in either the pilot or horizontal production sections of this well.

3.1 Logging Summary

Date	Run	Hole Size	Tool Suite, MWD	Mud	Interval (m mdrkb)
Nov. 1, 2001	1	26"	Drill Shoe	SW	219-219
Nov. 1-4, 2001 CDR failure	2	17 ½"	GR/CDR Anadrill (8 ¼")	seawater 1.03 g/cc	219-1038
Nov. 7-11,2001 CDR failure	3	12 ¼"	Anadrill (8 ¼") GR/CDR/CDN8	OBM Versavert 1.32 g/cc	1038-2101
Nov. 12-13, 01	4	12 ¼"	Anadrill (8 ¼") GR/CDR/CDN8	OBM Versavert 1.33 g/cc	2080-2276
Nov. 13, 2001 REPEAT PASS	4R	12 ¼"	Anadrill (8 ¼") GR/CDR/CDN8	OBM Versavert	2020-2075

Table 3.1 MWD-LWD Summary, Well 25/8-13

Date	Run	Hole Size	Tool Suite, MWD	Mud	Interval (m mdrkb)
Nov. 14, 2001 Schlumberger	1	12 ¼"	DSI-CSI-GR	Versavert OBM	2269-295m
Nov. 15, 2001 Schlumberger	2	12 ¼"	MDT-GR 14 pressure attempts	Versavert OBM	2246–2033m

Table 3.2 Wireline Log Summary, Well 25/8-13

3.1.1 MWD Log Quality

The Anadrill CDR tool failed to transmit valid data during parts of both runs 2 and 3. At 725 m MD in run 2, both the attenuation and phase shift readings were effected and no valid resistivity data were recovered from 725-1038m MD. Then, at 1815 m MD in run 3, resistivity values of 2000 ohmm began to occur intermittently with actual readings. The effect was more pronounced at higher ROP and affected the attenuation curves more than phase shift readings. Bit wear required a trip at 2101 m MD and the run 4 CDR tool provided valid data below 2080 m MD. A short repeat run over the sand at 2032-2037 m (Run 4R in Table 3.1) provided the necessary data to confirm the sand to be wet. The rest of the shale prone section from 1815-2080 m MD was not relogged. The CDR resistivity data from all runs was borehole compensated, but not environmentally corrected.

The CDN density data were incorrectly calibrated at wellsite and all wellsite generated density data from runs 3 and 4 were systematically in error. Curve RHOB_CN_RT in Figure 3.1 is a wellsite product depicting this error. Anadrill identified that the error had been caused by a difference in the nomenclature used to define the calibration coefficients in the shop from that used by the Ideal software system offshore. In addition to this problem, increased stabilizer wear, particularly in run 3, also effected DRHO, and by process RHOB.

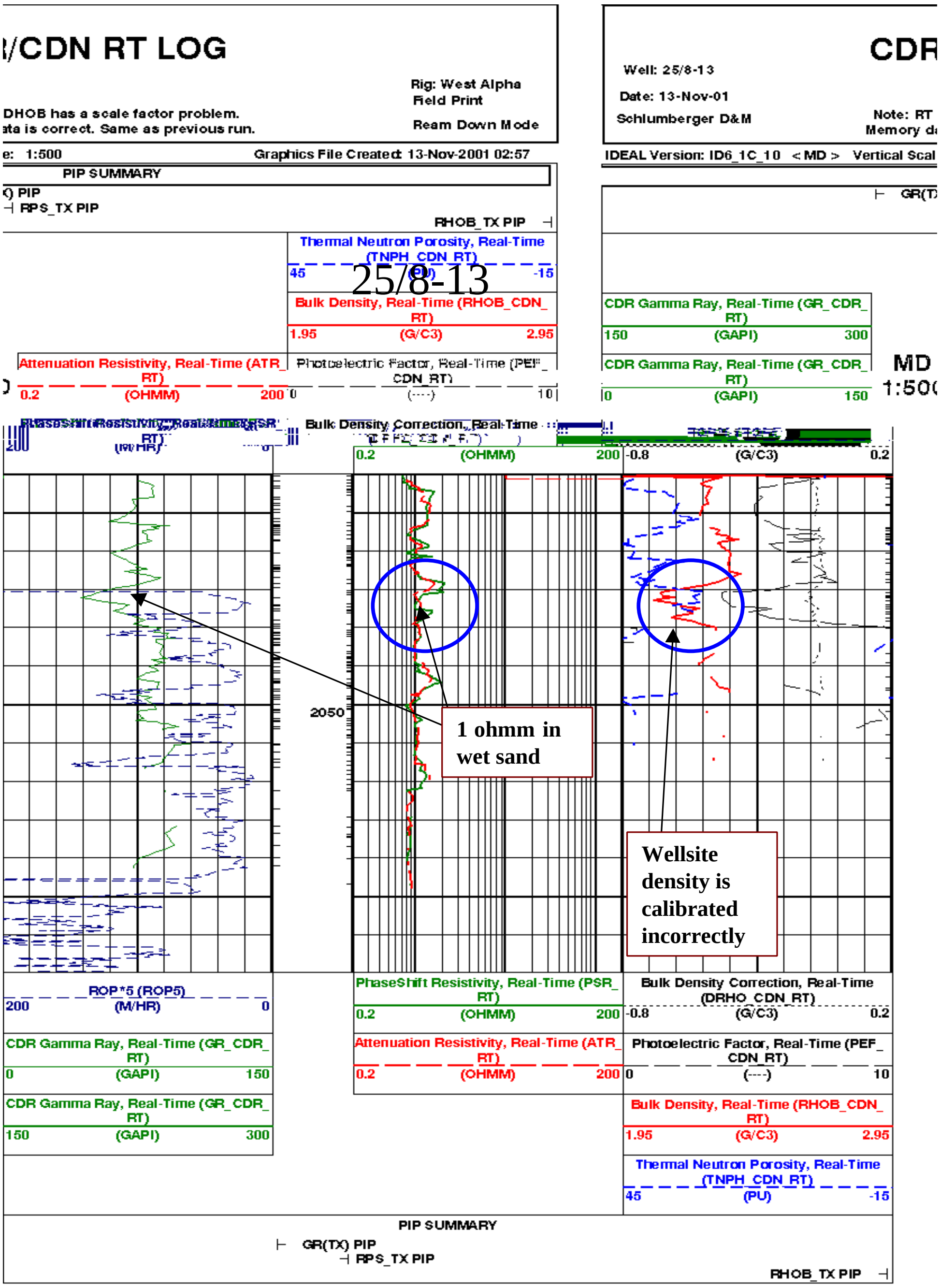


Figure 3.1 Repeat pass with CDR clearly depicts sand at 2035m to be wet.

After analyzing the density data onshore, Anadrill concluded that the adverse conditions of a vertical wellbore, wore stabilizers, and a consistent standoff approaching/exceeding tool limits, dictated that ROMT replace RHOB as the bulk density reading. ROMT is the maximum rotational density recorded every 0.1 second. This measurement cannot be borehole compensated in the same manner as RHOB, but in this wellbore it does appear to be the best density measurement possible with the CDN8.

All future references to LWD density in this report refer to ROMT and not RHOB. As a learning, Anadrill noted that in instances where DRHO is consistently > 0.05 (i.e. not just in clearly washed out sections), field engineers should evaluate presenting ROMT in addition, or even instead of RHOB.

The depth reference for the 25/8-13 well is the GR recorded with the DSI open-hole logging run. The LWD curves were depth shifted to this curve using a series of 32 hand assigned tie lines between the LWD memory GR and the DSI GR. The logs were then stretched and shrunk to fit the shift defined by these tie lines. For the primary stretch of the log (from 1369 m to TD) the shift moved the LWD data down and the magnitude of the shift ranged from about 0.6 m to 1.8 m. However for a brief interval in the thinly bedded Heimdal sands the tie line shift exceeded -2.5 m with a maximum of a -3.9 m shift in the LWD data to match DSI GR at 2037.8 m. Above 1369 m, the LWD logs had to be adjusted upwards by fractions of a meter to best match the open-hole GR. No shift was imposed to the LWD data above 980 m as the DSI GR was not recorded above that point.

A summary of the LWD runs and tools is provided in Table 3.1.

3.3.2 Open-Hole Log Quality

Two open-hole logging passes were conducted at TD (Table 3.2). Dipole sonic log data and zero offset VSP were acquired successfully with the first logging run and reservoir pressures in both the Heimdal, Ty and Statfjord Formations were obtained during a successful MDT run. The DSI dipole sonic log was run in both upper and lower dipole modes in addition to monopole P&S mode. The shear wave was too slow to be detected by the monopole P&S. The wellsite Dipole Shear Imager indicates that the standard wellsite processing adequately picks both compressional (from P&S) and shear arrivals (from upper and lower dipoles). As a result, no reprocessing has been conducted.

The Modular Dynamic Test Tool (MDT) was run with two single probe modules and no sample chambers. A standard probe was run on one module, and a large hole kit and large diameter probe was run on the second, backup probe. The line to the standard probe got choked in the second test attempt, and as a result, the large diameter kit and probe was used on all but one of the successful tests. Twelve of 14 attempted tests yielded successful formation pressures, one test was dry, and another too tight for analysis. Ten pressures tests were conducted on the way into the hole, two were acquired to complete fluid gradients while on the way out. Depth was correlated to the DSI GR, which would ultimately become the depth reference for the LWD logs also.

3.3.3 HQLD Input Curves

As noted above depth control for this well comes from the open hole DSI-GR run, but resistivity and density-neutron data were only collected in LWD mode. Therefore, that data has been depth shifted, as described in section 3.3.1 to the DSI GR prior to entry into HQLD data sets. The process for generating the HQLD data set is as follows.

1) LWD log data from runs 1-3 were merged into a spliced continuous log at 0.1524 m increments.
2) The LWD GR was depth shifted to the open hole DSI GR (see section 3.3.1), using 32 tie-lines and stretch/shrink methods between tie lines. This was only possible from 990 – 2262 m where DSI/GR data were recorded.
3) The tie-lie file from the GR shift was used to shift all LWD logs over the interval from 990 m to TD.
4) LWD data (GR and resistivity only) were not depth shifted above 990 m where no wireline log data.

HQLD curve	220-990m Tool/curve	990 – 2271m (12 ¼" bit) Tool/curve
HDRH	Not run	CDN / DRHO (A)
HDT	Not run	DSI / DTCO
HGR	LWD GR	GR with DSI (base depth log)
HPHI	Not run	CDN / TNPH (A)
HRD	CDR ATR	CDR ATR (A)
HRM	CDR PSR	CDR PSR (A)
HRS	Not run	Not Run
HRHO	Not run	CDN / ROMT (A)

Table 3.3 HQLD Input Data, Well 25/8-13

All data recorded at 0.1524 m increments (half foot).
Curve names suffixed with (A) have been depth shifted to the DSI-GR.

3.4 Petrophysical Interpretation in 25/8-13

The philosophy of log data collection in this exploration well was to limit data acquisition costs until the presence of hydrocarbons could be confirmed. Given that motivation, a basic LWD suite (GR, minimal resistivity, and density-neutron) was run. If hydrocarbons were encountered, conventional coring was planned and a full set of open-hole logs would be used to confirm and quantify the resource. Lacking hydrocarbons, the open-hole logging program would be restricted to dipole sonic and MDT pressures if these were deemed to have value in understanding the cause of failure. As the target sands were proven wet by the LWD logs, the dry-hole data acquisition program was followed.

Given the minimal LWD suite of GR, two resistivity curves based on attenuation and phase shift from the CDR tool, and a maximum rotational density (ROMT) from the CDN8 rather than the standard borehole compensated RHOB, a full mineralogically constrained petrophysical evaluation was not possible. Rather, the GR was used to flag net sand (assisted by cuttings lithology), and the rotational density provided a porosity estimate in sand only. The LWD deep resistivity was used to generate a water saturation curve, but no summations were attempted as all sand encountered in the Tertiary or Jurassic section is interpreted to be 100% wet.

The following sections define the criteria for sand netting (section 3.4.1), the porosity determination (section 3.4.2), the summation for net sand and porosity for certain intervals (section 3.4.3), and the water saturation (section 3.4.4). A measured depth log combining both sections is depicted in Figure 3.2 along with the net and reservoir flags and calculated porosity. A 1:200 scale MD log of the prospective interval is attached in the Appendix section.

25/8-13: CPI Petrophysical Assessment

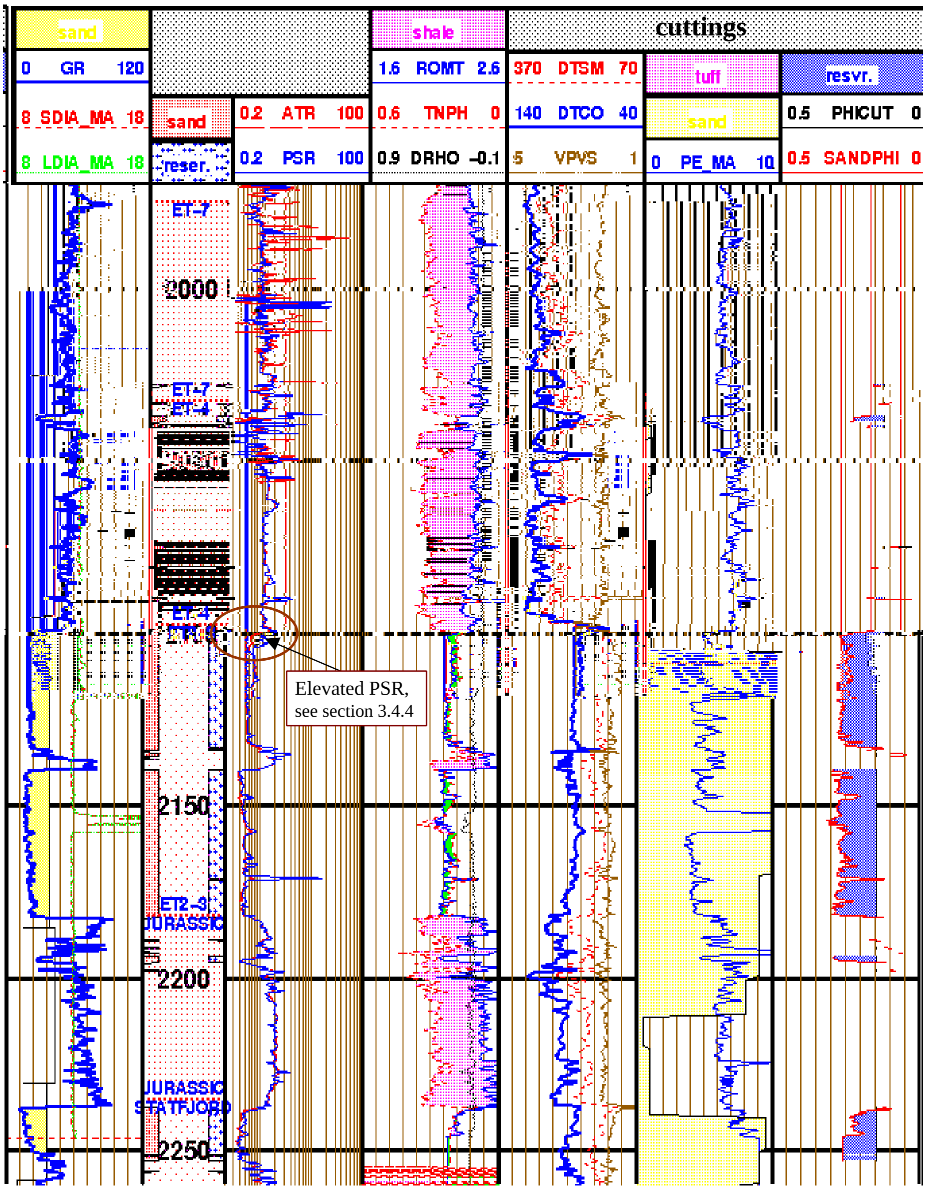


Figure 3.2: Petrophysical assessment of Tertiary and Jurassic sands penetrated in 25/8-13. CDR resistivity, and CDN density-neutron LWD logs have been depth shifted to align with wireline GR and sonic curve data. Details of analysis process in text.

3.4.1 Net Sand

With LWD GR only, standard shale volume calculations employing shale and clean GR and/or density-neutron separation have not been attempted.The presence of thin beds, non-dispersed shale (as clasts), and other mineralogical complexity, such as tuffaceous sands in the Balder Formation, was judged to limit the effectiveness of such data in distinguishing sand from shale.

The decision to forego standard shale volume assessment requires that some other method of distinguishing sand and shale be established. To this end, zone dependent GR cutoffs were defined and net sand was constrained by LWD GR. Cuttings were scrutinized very carefully by wellsite geologists who are familiar with the Tertiary section in the area and the first observation (or step increase) of sand abundance in the cuttings was used in assigning cutoff values. It is recognized that this is a very judgmental method of identifying sand, but it has proven to be reliable in cored section elsewhere in the region. The net sand identified by the GR cutoff process is shown in Figure 3.2 by a flag (SAND) on the left side of the depth track.

3.4.2 Porosity

Total porosity is determined from the density log:

PHIT = (2.65 - ROMT) / (2.65 – RHOFL)

RHOFL has been set to 1.0 g/cc and RHOMA to 2.65 g/cc. Both are defaulted to these values, but are also considered fairly accurate given the regional database.

Note, the log density employed is ROMT, the maximum rotational density, and not RHOB (see section 3.3.1).

3.4.3 Reservoir Summation

Volumetric summation of net reservoir sand and average porosity was conducted for the several Eocene and Paleocene zones in the wellbore.

Zone	Top MD	Base MD	Gross m MD	Net sand m MD	Net resv. m	Net resv./ gross intvl.	Avg. Phi (%)
Balder	1842	1917	75	None	NA	NA	NA
Lista	1975	2032.5	57.5	0.5	0.5	0.01	17.6 %
Lower Heimdal/Vaale	2032.5	2097.5	65	4.4	3.3	0.05	22.2 %
Ty	2097.5	2182	84.5	78.9	76.1	0.96	26.5 %
Jurassic	2182	2235	53	3.6	2.0	0.04	24.5 %
Statfjord	2235	2258 *	23 *	15.2 *	14.4 *	0.62 *	23.6 %

Table 3.4 Reservoir Summary by Zone, Well 25/8-13

Log calculations conducted at 0.1 m MD increments.
LWD logs employed in summation have been depth shifted to the GR from the wireline GR/DSI logging run.
* Base Statfjord is base of full log suite and not a formation base, which is deeper.
Net reservoir meets both the GR cutoff SANDFLAG and a 15% density porosity reservoir cutoff.

3.4.4 Fluid Saturation

A Pickett Plot of LWD density porosity vs. LWD attenuation resistivity in the sand sections clearly indicates that all sands encountered in the wellbore are water-bearing (Figure 3.3). This plot, supported by formation water chemistry data from adjacent fields (Balder and Jotun) have been used constrain Rw and m for the Ty and Statfjord sands. Given these assigned parameters, an Rwa has been calculated:

Rwa = (phid ** m) * ATR

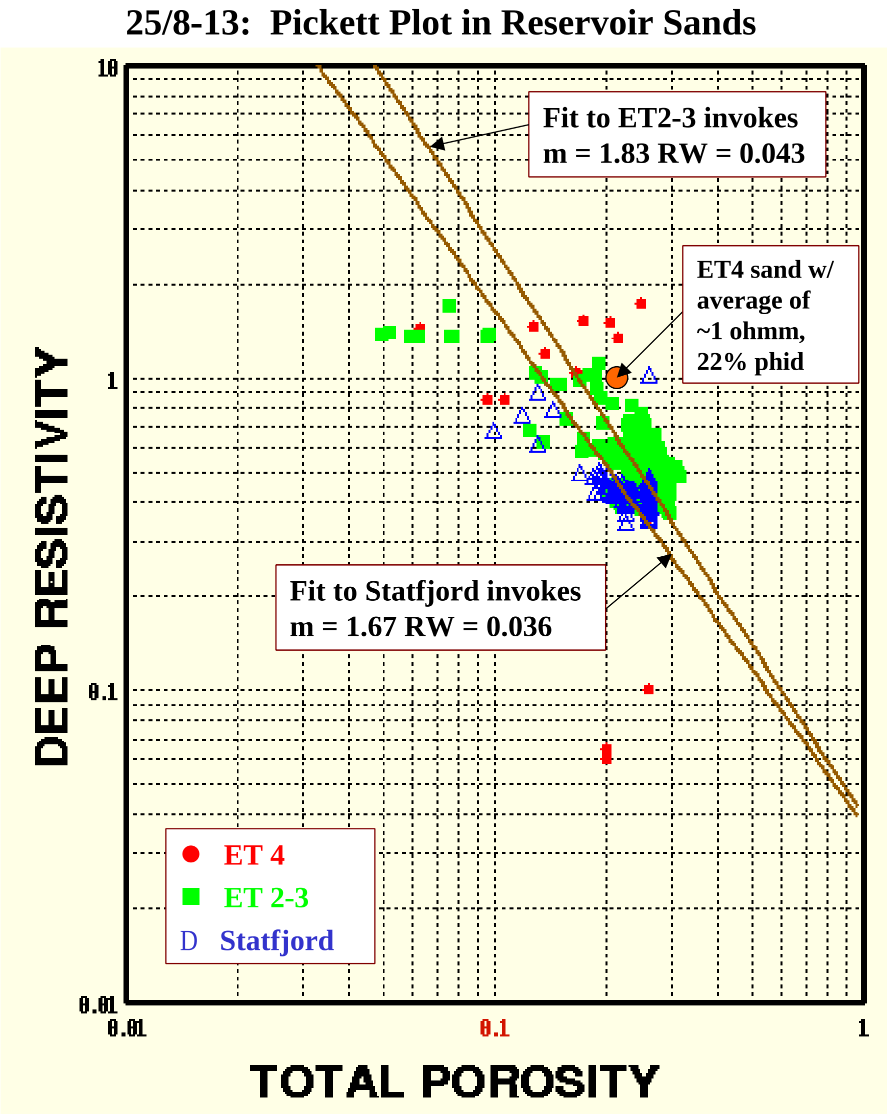


Figure 3.3 All reservoir sands are interpreted wet. Pickett plot used to assign Archie parameters. Values of m and Rw are similar to those in adjacent Balder and Jotun Tertiary and Ringhorne Statfjord reservoirs.

where phid is the log-derived density porosity, m is from Figure 3.3, and ATR is the deeper attenuation-based resistivity measurement. In addition, the Archie equation has been employed to generate an SWT, with the additional assumption that the saturation exponent (n) is set to 2.0. The Rwa and SWT calculations are depicted in Figure 3.4 over the sand sections.

The resistivity log data over the thin sand in the top of the Lower Heimdal section was poor in the original LWD run, however this interval was relogged at TD. The relog is captured in Figure 3.1 where the sand is clearly seen to carry resistivity levels commensurate with water given the lower porosity solved for this sand. With a porosity of approximately 22% (Figure 3.2 and Table 3.4) and a resistivity of about 1 ohmm (Figure 1), the sand at ~2035 m plots similarly in Pickett plot space as the other thicker wet sands below (Figure 3.3).

There is an unexplained anomaly in the shallower phase shift-based resistivity response in the uppermost 3 m of the Ty Fm (Figure 3.4) PSR values of 0.7 to 0.8 ohmm might be interpreted to indicate hydrocarbon of residual concentrations. However, the absolute lack of deflection in the deeper attenuation curves is interpreted to indicate that the phase curve is either in error or that there may have been minor invasion of OBM into the uppermost drilled section just as it was penetrated. In either case, it is not considered likely that this small increase in PSR is caused by reservoir hydrocarbon.

25/8-13: CPI Petrophysical Assessment of ET2-3 and Jurassic/Statfjord sand interval

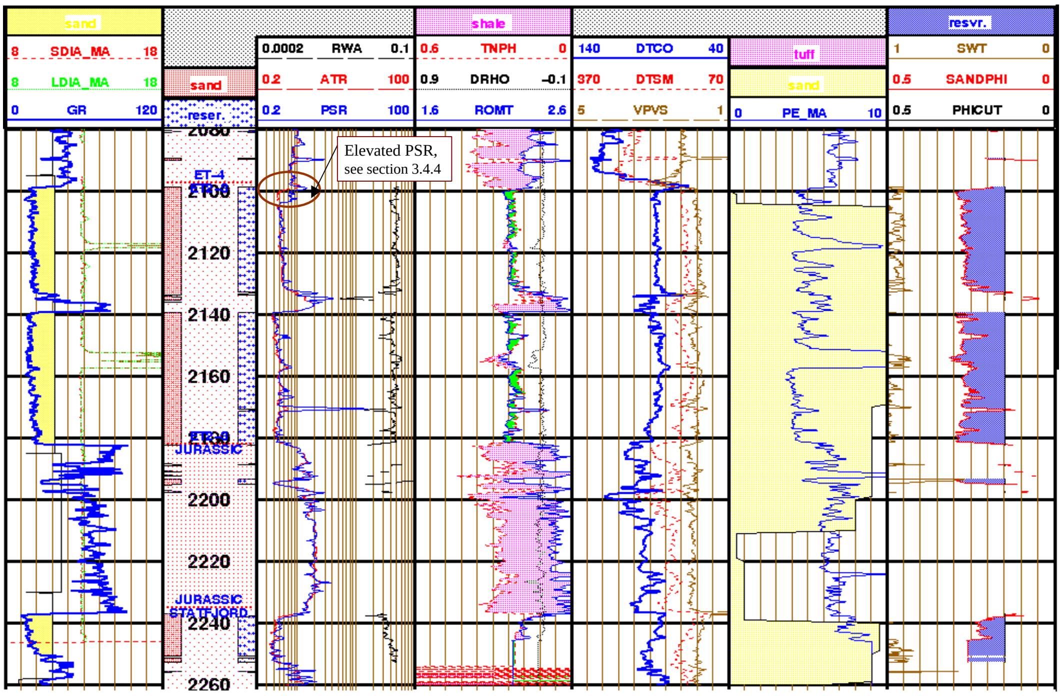
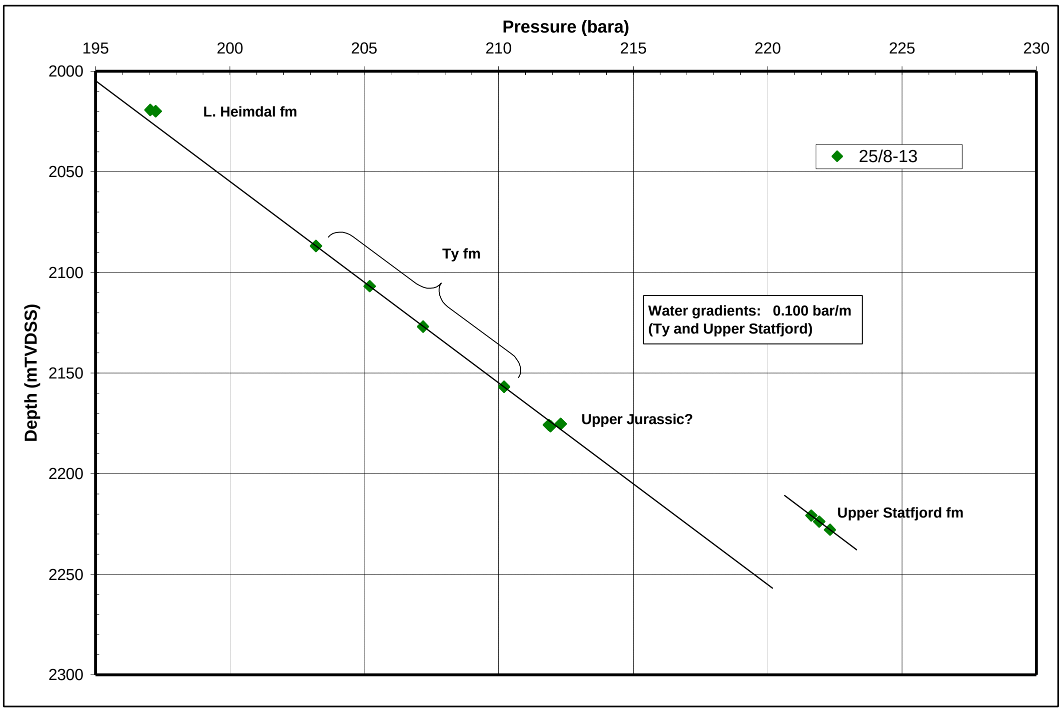


Figure 3.4 Rwa and SWT are added to the CPI interpretation in the Ty Formation and Statfjord Formation sands, confirming that all penetrated sands are 100% water-bearing.

3.5 Formation Test Pressures

Twelve pressure points were successfully collected with a TD MDT logging run (Figure 3.5), 6 each in the Paleocene and Jurassic reservoir sands. From this data it appears that the thin Lower Heimdal sands and the underlying thin Jurassic Hugin Fm eq. sands are in communication with the massive Ty Fm sands. The Upper Statfjord sands are not in pressure communication, lying on a water gradient at about 5 bars higher pressure.

25/8-13: Formation Pressure Data from MDT



Client:	Exxon Mobil	Tool:	MRPS_2-
Field:	Iving	Probe Type:	Conventional probe
Well:	25/8-13	Gauge:	BQP2
Run date:	15-Nov-2001	Gauge Resolution:	0.010 psi

Test	File	Depth M	TVD M	Drawdown Mobility MD/CP	Mud Pressure Before BAR	Mud Pressure After BAR	Last read build-up Pres BAR	Formation Pressure BAR	Test Type
4	31	2038.05	2037.86	7.58	268.4770	268.3148	197.2409	197.2409	Volumetric Limited draw-down
5	32	2104.99	2104.79	360.06	277.5262	277.3889	203.2039	203.2039	Volumetric Limited draw-down
6	33	2125.00	2124.80	330.68	280.1964	280.0195	205.1957	205.1957	Volumetric Limited draw-down
7	34	2145.02	2144.81	150.31	282.8047	282.5869	207.1804	207.1804	Volumetric Limited draw-down
8	35	2175.01	2174.80	284.81	286.6444	286.4699	210.2007	210.2007	Volumetric Limited draw-down
9	36	2193.52	2193.30	0.82	289.0377	288.8338	212.3068	212.3068	Tight test
10	37	2194.53	2194.31	1081.07	288.9209	288.8047	211.9314	211.9314	Volumetric Limited draw-down
11	38	2238.99	2238.76	210.02	294.9686	294.8128	221.6312	221.6312	Volumetric Limited draw-down
12	39	2242.00	2241.76	98.67	295.2049	295.0691	221.9239	221.9239	Volumetric Limited draw-down
13	40	2246.00	2245.76	219.31	295.6363	295.5001	222.3231	222.3231	Volumetric Limited draw-down
14	43	2194.01	2193.79	35.18	288.0037	288.0561	211.8604	211.8604	Volumetric Limited draw-down
-1	45	2037.50	2037.31	9.65	267.8221		197.0379	197.0379	Volumetric Limited draw-down

Figure 3.5 MDT pressure data and interpreted water gradient profiles.

4. GEOPHYSICS

4.1 Seismic Tie and Vertical Seismic Profile (VSP)

The following horizons where interpreted and mapped.

Top Balder
Top Heimdal
Top Våle
Top Chalk
Base Cretaceous Unconformity
Top Statfjord

Formation	MDRKB [m] (Pre Drill)	TWT [sec] (Pre Drill)	MDRKB [m] (Post Drill)	TVD SS [m] (Post Drill)	TWT [ms] (Post Drill)
Utsira Base Massive sst	888	940	895	877	942
Base Utsira	958	1000	970	952	
Balder	1853	1828	1833	1815	1817
Sele	1908	1873	1915	1897	1884
Lista			1977	1959	1935
Heimdal	2033	2000	2015	1997	1966
Vaale			2072.5	2054.5	2008
Ty			2099	2081	2027
Heather	2218	2088	2182.5	2164.5	2073
Hugin eq			2188	2170	2077
Cook eq			2210	2192	2092
Top Statfjord	2298	2135	2237	2219	2108

Table 4.1 Formation Tops, Well 25/8-13

<u>Top Balder</u> is carried in a continuos peak on the full-fold seismic data reflector. Investigations of wells in the Balder area suggest that the regionally mapped "acoustic" Top Balder does not correspond to the "stratigraphic" Top Balder and that the difference is variable and unpredictable. The Top Balder is a strong, continuos event that is easy to correlate on seismic in the area.

<u>Top Heimdal</u> was interpreted on the es9403ff, near offset cube around the well and north of it in the Jotun field area. It was carried on a through representing a slight increase in impedance from the overlying shale. The reflection varies in continuity and amplitude over the interpreted area probably caused by variation in net to gross and porosity, but also because of varying data quality.

<u>Top Våle</u> was interpreted as a sand envelope for Ty Formation sands. It was carried in a through representing and increase in impedance from the overlaying shales. The horizon was interpreted on the ES9403ff near offset cube. Over the Iving Paleocene prospect the quality of the reflection is varying. Top Vaale was interpreted to represent the top of the reservoir zone for Iving Paleocene. The interval between Top Vaale and the Top Chalk reflection was interpreted to consist of a low net to gross section in the upper part of the interval and a high net to gross

section in the lower part of the interval. Low data quality made the interpretation of this horizon difficult, especially in the south western part of the prospect.

Top Chalk, were present, was interpreted on a strong through representing a large increase in impedance from the Lower Paleocene shales and sands into the high acoustic impedance chalk section. The chalk is interpreted to be present over large parts of the prospect. In the areas where it is not present the Top Chalk reflection and the Base Cretaceous Unconformity coincide.

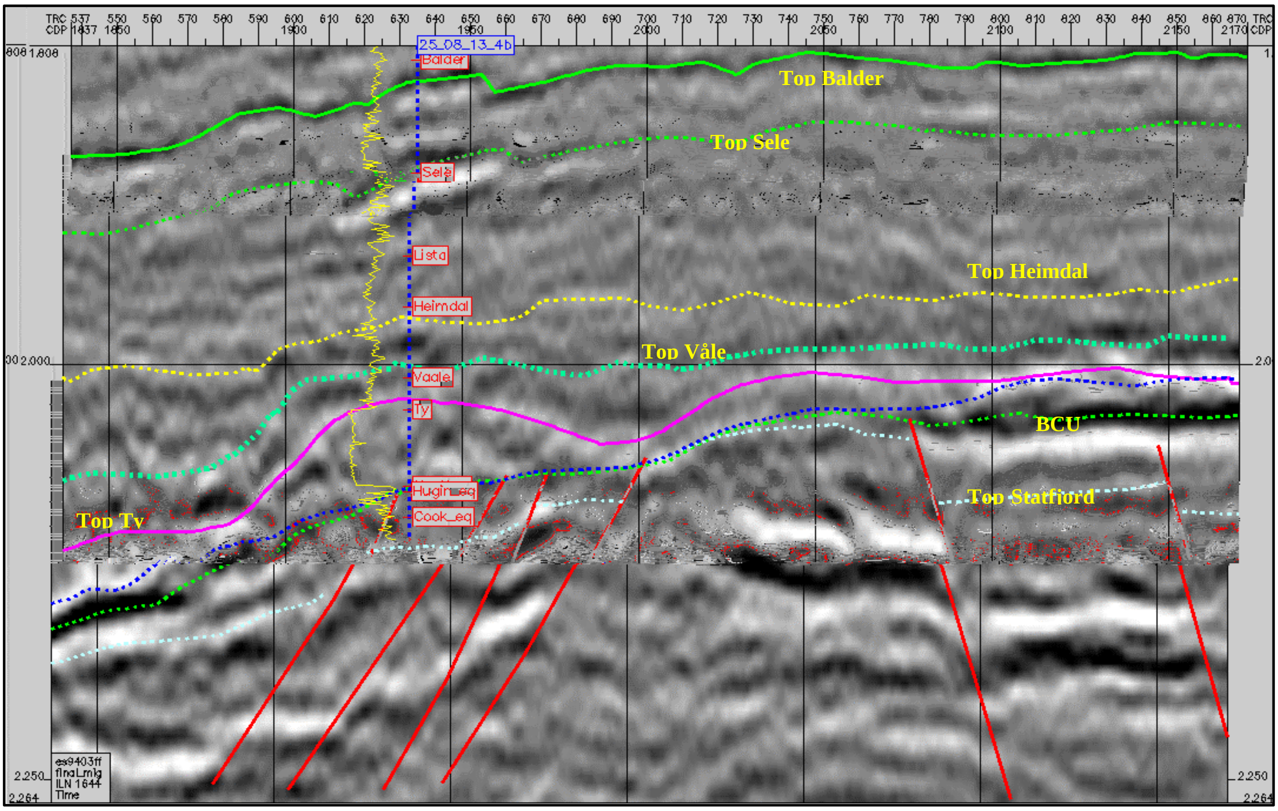


Figure 4.1 ES9403ff, cdp1644 Through Well Location

Base Cretaceous Unconformity was interpreted on a peak representing a decrease in impedance from the overlaying chalk into the Jurassic section. The reflection strength is very dependent on the over and underlying section. Especially in the areas where the Chalk section is missing the seismic response of the Base Cretaceous Unconformity is weak and varying.

Top Statfjord was carried as a moderately varying seismic peak. Though well logs indicate an impedance increase from the overlying Middle Jurassic shale to the Statfjord Formation sands, interference from the overlying shale makes the well log pick tie the seismic at a peak. Modeling indicates that it is likely for this interference to also be present away from the well control. In areas with little well control and ambiguous seismic response, the more distinct and easily carried Base Jurassic horizon was used to guide the interpretation. The Statfjord Formation consists of fluvial sands.

A synthetic seismogram with a pulse frequency of 30Hz was generated for the 25/8-13 well. The synthetic tie is shown in Figure 4.2

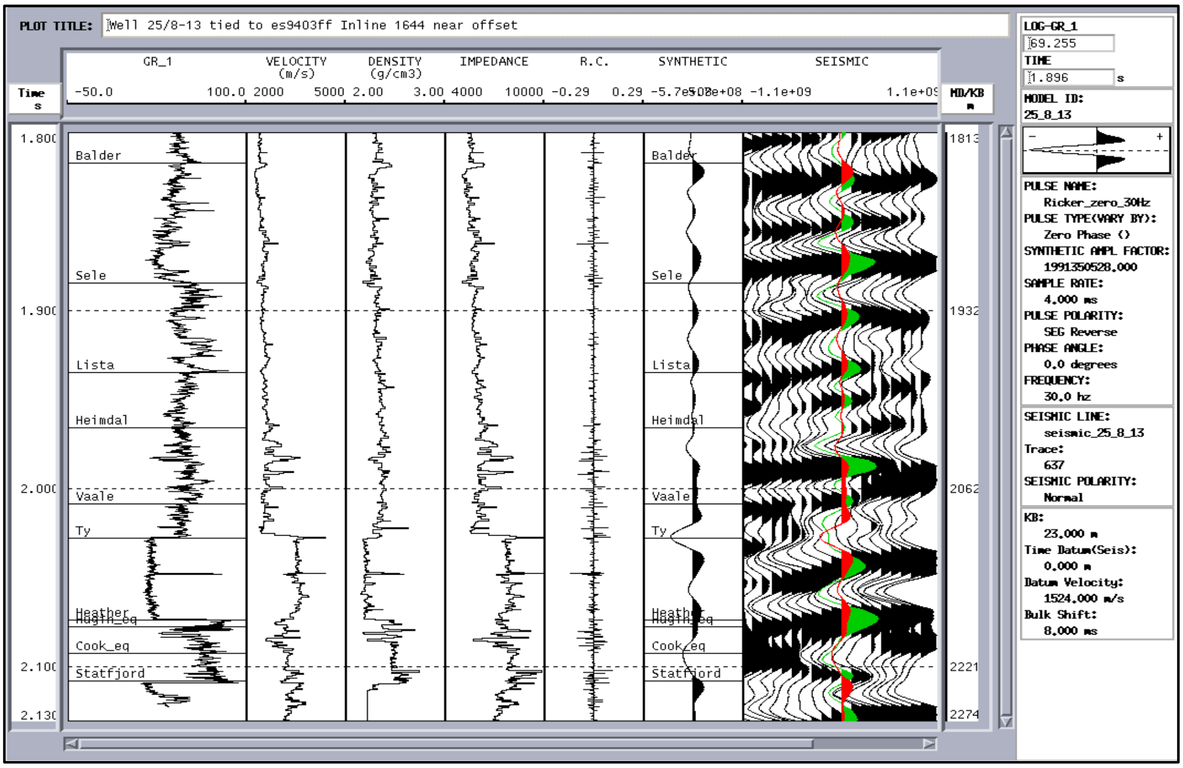


Figure 4.2 Synthetic Seismogram, 25/8-13

A normal incidence VSP was acquired and processed by Schlumberger, details of the check shot survey can be found in the report ExxonMobil, 25/8-13, VSP, Sonic Calibration and Synthetic Seismogram Final Processing Report

5. STANDARD AND SPECIAL STUDIES

Biostratigraphic Report, Well 25/8-13 - Applied Petroleum Technology (APT)

WELLSITE SAMPLE DESCRIPTION			ESSO Norge											
WELL : 25/8-13														
DEPTH (m)	%	LITHOLOGY DESCRIPTION and COMMENTS color, hardness, texture, mineralogry, modifiers, cement	POR	STAIN DIST	STAIN COLOR	FLUOR DIST	FLUOR INTEN	FLUOR COLOR	CUT INTEN	CUT COLOR	CUT FLUOR INTEN	CUT FLUOR COLOR	RES COLOR	SHOW QUAL
1040	90	CLYST: Lt gy, lt gn gy, sft, stky, plas, amor, slt, vf qtz and vf glauc in mtx, sl calc												
	10	SS: Transp, transl, rr rose hues, f, tr m-c, rr grnl, sb ang, tr sb rnd, low - m sph, tr elon, mod srtd, qtz tr fld, disag, tr dk gn - blk glauc, ns		none										
1050	90	CLYST: Lt gy, lt gn gy, sft, stky, plas, amor, slt, vf qtz and vf glauc in mtx, sl calc												
	10	SS: Transp, transl, rr rose hues, f, tr m-c, rr grnl, sb ang, tr sb rnd, low - m sph, tr elon, mod srtd, qtz tr fld, disag, tr dk gn - blk glauc, ns		none										
1060	100	CLYST: Lt gy, lt gn gy, sft, stky, plas, amor, slt, vf qtz and vf glauc in mtx, sl calc												
	tr	SS: Transp, transl, f, tr m-c, sb ang-sb rnd, low-m sph, mod srtd, disag, dk gn - blk glauc.		none										
1070	90	CLYST: Lt gy, lt gn gy, sft, stky, plas, amor, slt, vf glauc in mtx, sl calc												
	10	SS: Transp, transl, f, tr m-c, sb ang-sb rnd, low-m sph, mod srtd, disag, dk gn - blk glauc.		none										
1080	100	CLYST: Olv gry-olv blk, gry brn, sft/frm, sbblky to blky, slty i\p, n calc.												
	tr	SS: lse Qtz, clr-transl, vf-f, occ m, sbang-sbrnd, m sph, w srtd, tr dk gn - blk glauc.		none										
1090	50	CLYST: Olv gry-olv blk, gry brn, sft/frm, sbblky to blky, slty i\p, n calc.												
	50	SS: lse Qtz, clr-transl, occ wh, pred vf-f, occ m, sbang-sbrnd, m sph, w srtd, tr dk gn - blk glauc.		none										
1100	100	CLYST: Olv gry-olv blk, gry brn, sft/frm, sbblky to blky, slty i\p, n calc.												
1110	90	CLYST: Olv gry-olv blk, gry brn, sft/frm, sbblky to blky, slty i\p, n calc.												

	10	SS: lse Qtz, clr-transl, occ wh, pred vf-f, occ m, sbang-sbrnd, m sph, w srtd, tr dk gn - blk glauc.		none										
1120	100	CLYST: Olv gy, pred olv blk, gen sft, stky & amor, tr firm & blky, sl slty, dk gn amor glauc gns, vf qtz, wk calc												
1130	90	CLYST: Olv gy, pred olv blk, gen sft, stky & amor, tr firm & blky, sl slty, dk gn amor glauc gns, vf qtz, wk calc												
	10	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ min feld, mus, lse foram w/ ferr stng, disag - rr wk arg cmt, mod vis por, tr spg spic		none										
1140	95	CLYST: Olv gy, pred olv blk, gen sft, stky & amor, hydro-turgid, sl slty, dk gn amor glauc gns, vf qtz, wk calc												
	5	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ min feld, mus, lse foram w/ ferr stng, disag - rr wk arg cmt, mod vis por, tr spg spic		none										
1150	90	CLYST: Olv gy, pred olv blk, gen sft, stky & amor, hydro-turgid, sl slty, dk gn amor glauc gns, vf qtz, wk calc												
	10	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ min feld, mus, lse foram w/ ferr stng, disag - rr wk arg cmt, mod vis por, tr spg spic		none										
1160	90	CLYST: Olv gy, mnr dk gn gy, soft, stky, amor hydro-turgid, tr frm and blky, tr wxy lstr, gen slty, vf qtz lam, abd dism pyr, tr amor glauc, non - wk calc												
	10	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ min feld, mus, lse foram w/ ferr stng, disag - rr wk arg cmt, mod vis por, tr spg spic		none										
1170	100	CLYST: Olv gy, mnr dk gn gy, soft, stky, amor hydro-turgid, tr frm and blky, tr wxy lstr, gen slty, vf qtz lam, abd dism pyr, tr amor glauc, non - wk calc												
1180	90	CLYST: Olv gy, mnr dk gn gy, soft, stky, amor hydro-turgid, tr frm and blky, tr wxy lstr, gen slty, vf qtz lam, abd dism pyr, tr amor glauc, non - wk calc												
	10	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ min feld, mus, lse foram and mafic gns w/ ferr stng, disag - rr wk arg cmt, mod vis por, tr spg		none										
1190	100	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc, non - wk calc												

1200	100	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc, non - wk calc												
1210	100	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & nod pyr, non - wk												
1210	100	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc, non - wk calc												
1220	90	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr,, non - wk												
	10	SS: Transp, transl, tr op & very lt gy, f gn, w srt, sb ang, low sph - com elong, qtz w/ tr feld & mus, lse foram and mafic gns w/ ferr stng, disag, tr glauc		none										
1230	100	CLYST: Olv gy, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr,, non - wk												
1240	100	CLYST: Olv gy, tr yel brn, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr, non - wk calc												
1250	100	CLYST: Olv gy, tr yel brn, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr, non - wk calc												
1260	100	CLYST: Olv gy, tr yel brn, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr, non - wk calc												
1270	100	CLYST: Olv gy, tr yel brn, sft, stky, amor, hydro-turgid, tr firm & blky, slty i/p, tr vf qtz in mtx, tr amor glauc & dism pyr, non - wk calc												
1280	100	CLYST: Olv gy, dk gn gy, tr yel brn, sft, plas, stky, amor, slty, non - tr calc, dism & nod pyr												
1290	100	CLYST: Olv gy, dk gn gy, tr yel brn, sft, plas, stky, amor, slty, non - tr calc, dism & nod pyr												
1300	100	CLYST: Olv gy, dk gn gy, tr yel brn, sft, plas, stky, amor, slty, non - tr calc, dism & nod pyr												
	tr	LST: Gy orng, frm, crmbly, mdst, cyptxln i/p, arg & mrly, tt,		none										
1310	100	CLYST: Gn gy, olv gy, plas, stky, amor, slty, non - tr calc, dism & nod pyr												
1320	100	CLYST: Gn gy, olv gy, plas, stky, amor, slty, non - tr calc, dism & nod pyr												

1330	100	CLYST: Gn gy, olv gy, plas, stky, amor, slty, non - tr calc, dism & nod pyr, glauc pch												
	tr	LST: Gy orng, frm, crmbly, mdst, cyptxln i/p, arg & mrly, tt,												
1340		No sample												
1350	95	CLYST: Brn gy, gn gy, olv gy, plas, stky, amor, ethy lstr, slty, non - tr calc, dism & nod pyr, glauc pch												
	5	LST: V lt gy, gy orng, lt gy, fm, crmbly, gen cypxln, loc sl arg, tt, ns												
1360	100	CLYST: Olv gy, olv blk, , gy brn, occ grn gy, sl frm, sbblky-splnty, non calc, hom												
1370	90	CLYST: Olv gy, olv blk, , gy brn, occ grn gy, sl frm, sbblky-splnty, non calc, hom												
	10	LST: lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg.												
1380	100	CLYST: Olv gy, olv blk, , gy brn, occ grn gy, sl frm, sbblky-splnty, non calc, hom												
	tr	LST: lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg.												
1390	95	CLYST: Olv gy, olv blk, , gy brn, occ grn gy, sl frm, sbblky-splnty, non calc, hom												
	5	LST: lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg.												
1400	95	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	5	LST: lt gy, crm, frm, crmbly, sbblky, gen cypxln, arg.												
1410	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	tr	LST: lt gy, crm, frm, crmbly, sbblky, gen cypxln, arg.												
1420	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	tr	LST: lt gy, crm, frm, crmbly, sbblky, gen cypxln, arg.												
1430	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1440	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1450	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	tr	LST: lt gy, crm, frm, crmbly, sbblky, gen cypxln, arg.												
1460	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												

	tr	LST: lt gy, crm, frm, crmbly, sbblky, gen micxln, arg.												
1470	80	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	20	LST: lt gy, crm, frm, crmbly, sbblky, gen micxln, arg.												
1480	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	tr	LST: lt gy, crm, frm, crmbly, sbblky, gen micxln, arg.												
1490	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1500	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1510	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1520		No sample												
1530		No sample												
1540	90	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	10	LST: lt gy, crm, frm, crmbly, sbblky, gen micxln, arg.												
1550		No sample												
1560	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
1570	100	CLYST: Olv gy- dk grn gy, occ brn gy, frm, sbblky-splnty, non calc.												
	tr	LST: lt gy, tan-lt brn, frm, crmbly, sbblky, gen micxln, arg.												
1580	90	CLYST: Olv gy-olv blk, dk-m gy, occ grn gy, frm, sbblky-sbplty, non calc.												
	10	LST: lt gy, tan-lt brn, frm, crmbly, sbblky, gen micxln, arg.												
1590	90	CLYST: Olv gy-olv blk, dk-m gy, occ grn gy, frm, sbblky-sbplty, non calc.												
	10	LST: lt gy, tan-lt brn, frm, crmbly, sbblky, gen micxln, arg.												
1600	100	CLYST: Olv gy-olv blk, dk-m gy, occ grn gy, frm, sbblky-sbplty, non calc.												
	tr	LST: lt gy, tan-lt brn, frm, crmbly, sbblky, gen micxln, arg.												
1610	70	CLYST: Olv gy-olv blk, dk-m gy, occ grn gy, frm, sbblky-sbplty, non calc.												
	30	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												

1620	90	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	10	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1630	100	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
1640	100	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	tr	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1650	90	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	10	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1660	95	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	5	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1670	100	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	tr	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1680	100	CLYST: m-dk gy, occ grn gy, occ olv gy, sft-frm, sbblky-sbplty, non calc.												
	tr	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1690	100	CLYST: lt-m gy, occ grn gy, occ olv gy, sft-frm, amor-sbblky, occ sbplty, sl calc i/p.												
	tr	LST: lt gy, wh, occ lt brn, frm, crmbly, sbblky, micxln, arg, sl												
1700	100	CLYST: lt-m gy, occ grn gy, occ olv gy, sft-frm, amor-sbblky, occ sbplty, sl calc i/p.												
	tr	LST: lt gy, occ wh, frm, sbblky-blky, micxln, arg i/p, sl dol.												
1710	100	CLYST: lt-m gy, occ grn gy, occ olv gy, sft-frm, amor-sbblky, occ sbplty, sl calc i/p.												
1720	100	CLYST: lt-m gy, occ grn gy, occ olv gy, sft-frm, amor-sbblky, occ sbplty, sl calc i/p.												
1730	100	CLYST: Lt-m gy, bcmg olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc												
1740	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc												
1750	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc												

	tr	LST: Lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg & mrly tex, tt, ns												
1760	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc												
1770	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc, dism pyr												
1780	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc, dism pyr												
	tr	LST: Lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg & mrly tex, tt, loc dolic, lse fib calc, ns												
1790	100	CLYST: Olv gy & brn gy, soft, grdg frm i/p, gen stky, low slt, occ ethy lstr, hom, mass, hydro-turgid, rr carb spks, wk calc, dism pyr, tr glauc ptchs												
1800	100	CLYST: Gn gy, tr lt gn gy, soft, stky, amor, rr sb blky, com plas, mass, hom, hydro-turgid, wk calc												
1810	100	CLYST: Gn gy, tr lt gn gy, soft, stky, amor, rr sb blky, com plas, mass, hom, sl slty, hydro-turgid, wk calc, tr micfoss												
1820	100	CLYST: Gn gy, tr lt gn gy, soft, stky, amor, rr sb blky, com plas, mass, hom, sl slty, hydro-turgid, wk calc, tr carb spks												
1830	95	CLYST: Gn gy, tr lt gn gy, soft, stky, amor, rr sb blky, com plas, mass, hom, sl slty, hydro-turgid, wk calc, tr carb spks												
	5	LST: Lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg & mrly tex, tt, loc dolic, lse fib calc, ns												
1840	100	CLYST: Gn gy, min brn gy, gen sft, stky, & hydro-turgid, tr frm & blky, mass, abnt dism pyr												
1850	95	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr												
	5	LST: Lt gy, gy orng, frm, crmbly, gen cypxln, loc sl arg & mrly tex, tt, loc dolic, lse fib calc, ns												
1860	100	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr												
1870	100	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr												
1880	95	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr												

	5	TUFF: Blu gy, sl frm, crmbly, fri, mass, ashy tex, wh & blk phenocrysts in crypxln mx, wk calc, hydro-turgid												
1890	70	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr												
	30	TUFF: Blu gy, sl frm, crmbly, fri, mass, ashy tex, wh & blk phenocrysts in crypxln mx, wk calc, hydro-turgid												
1900	70	CLYST: Brn gy, sft, stky, tr firm & blky, rr splnty, tr carb frag & specs, wk calc, dism pyr, tuff lam												
	30	TUFF: Blu gy, sl frm, crmbly, fri, mass, ashy tex, wh & blk phenocrysts in crypxln mx, wk calc, hydro-turgid												
1904	80	CLYST: Brn blk, firm, blky, ethy lstr, hydro-turgid, com dk brn - blk carb specks, tr dism pyr		None										
	20	TUFF: Blu gy, sl frm, crmbly, fri, mass, ashy tex, wh & blk phenocrysts in crypxln mx, wk calc, hydro-turgid												
1910	90	CLYST: Brn blk, firm, blky, ethy lstr, hydro-turgid, com dk brn - blk carb specks, tr dism pyr												
	10	TUFF: Blu gy, sl frm, crmbly, fri, mass, ashy tex, wh & blk phenocrysts in crypxln mx, wk calc, hydro-turgid												
	tr	SS: Transp, transl, f, sb ang, w/ tr sb rnd, low - m sph, tr elon, mod srtd, qtz tr fld, disag, tr lse dk gn - blk glauc, ns		None										
1920	100	CLYST: Brn blk, soft, sl stky, sb amor, tr blky, hom, mass, com dism pyr												
1930	95	CLYST: Brn blk, soft, sl stky, sb amor, tr blky, hom, mass, com dism pyr												
	5	LST: Gy orng, frm, crmbly, sl brit, sb ang, crypxln, grdg mrly, tt, ns												
1940	95	CLYST: Brn blk, tr olv gy, soft, sl stky, sb amor, tr blky, hom, mass, com dism pyr												
	5	LST: Gy orng, frm, crmbly, sl brit, sb ang, crypxln, grdg mrly, tt, w/ dism pyr lam, ns												
1950	100	CLYST: Dk grn gy, olv gy, soft, sl stky, sb amor, mod blky, hom, mass, com dism pyr												
1960	100	CLYST: Dk grn gy, olv gy, soft, sl stky, sb amor, mod blky, hom, mass, com dism pyr												
1970	100	CLYST: Olv gy, w/ gn gy ptchs & lam, oft, sl stky, sb amor, mod blky, hom, mass, com dism pyr												

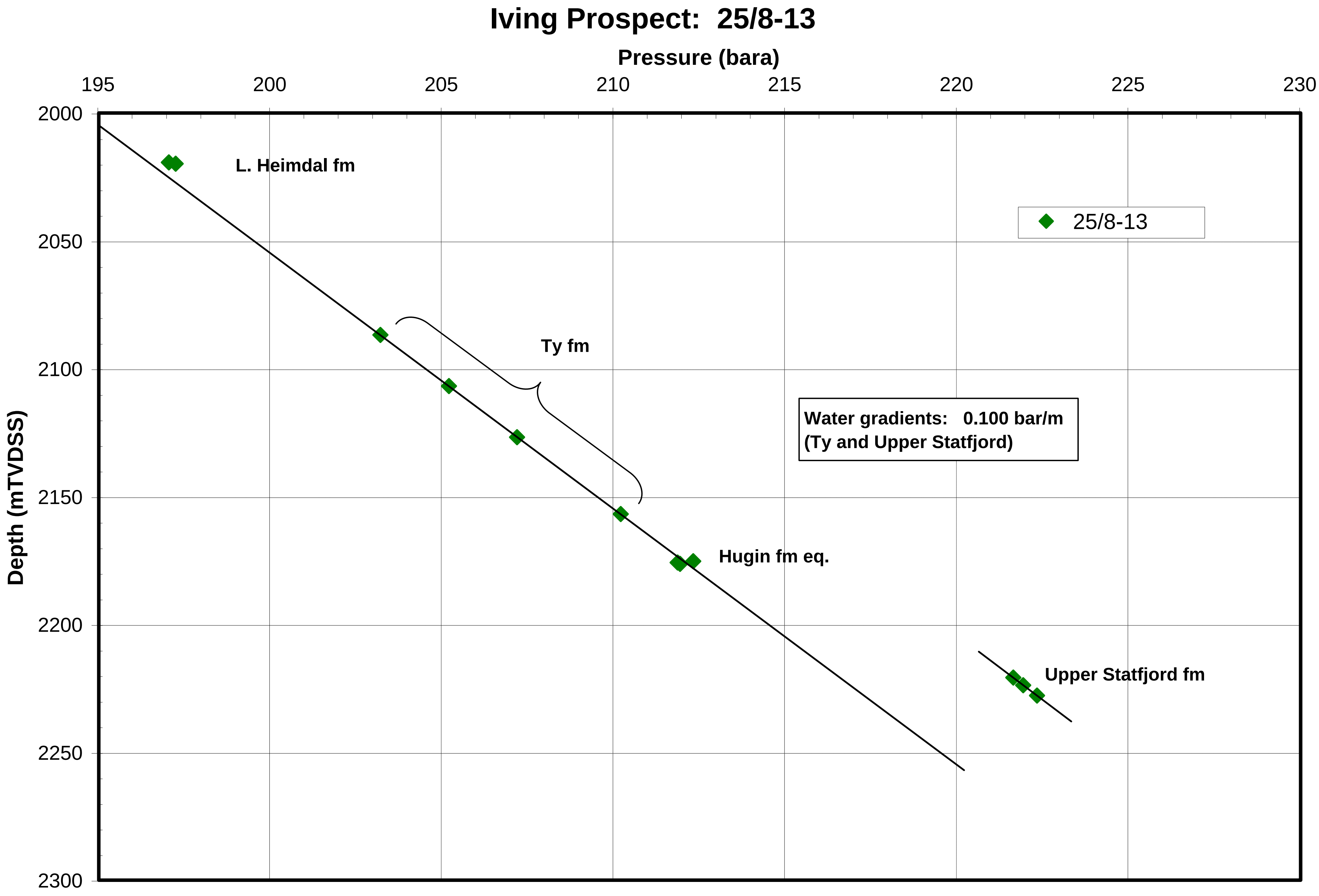
	tr	SS: Transp, transl, f, tr m sb rnd, m sph, tr elon, mod w srtd, qtz, disag, tr lse dk gn - blk glauc & nod pyr, ns		None										
1980	100	CLYST: Brn gy, sft, stky, amor, sl calc												
	tr	LST: Orng gy, frm crmbly, crypxln, tt sl arg, ns												
	tr	SS: Transp, transl, f, tr m sb rnd, m sph, tr elon, mod w srtd, qtz, disag, tr lse dk gn - blk glauc & nod pyr, ns		None										
1990	100	CLYST: lt-m gy, olv gy, occ grn gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
	tr	LST: Orng gy, frm crmbly, crypxln, tt sl arg, ns												
2000	100	CLYST: lt-m gy, olv gy, occ grn gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
2010	100	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
	tr	LST: Orng gy, frm crmbly, crypxln, tt sl arg, ns												
2020	100	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
2030	100	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
	tr	LST: wh-off wh,frm, brit, blky, crypxln, tt sl arg, ns												
2040	95	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
	5	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
	tr	LST: wh-off wh,frm, brit, blky, crypxln, tt sl arg,												
2042	100	CLYST: lt-m gy, pa grn, sft-frm, sl stky, sbblky-amor, hom, com dism pyr.												
	tr	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
2045	100	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom, com dism pyr.												
2048	100	CLYST: lt-m gy, pa grn, sft-frm, sl stky, sbblky-amor, hom, com dism pyr.												
	tr	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
2051	100	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom.												

2054	95	CLYST: lt-m gy, rd brn, pa grn, occ olv gy, sft-frm, sl stky, sbblky-amor, occ blky, hom.												
	5	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
2057		No sample												
2060	100	CLYST: lt-m gy, rd brn, pa grn, sft-frm, sl stky, sbblky-amor, hom.												
2063	100	CLYST: lt-m gy, rd brn, pa grn, sft-frm, sl stky, sbblky-amor, hom.												
	tr	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
2066	100	CLYST: lt-m gy, rd brn, pa grn, sft-frm, sl stky, sbblky-amor, hom.												
2069	100	CLYST: pred rd brn, m gy-pa grn, sft-frm, sl stky, sbblky-amor, plas, sl calc i/p, hom, rr tr glauc.												
	tr	SD: clr trnsl, Qtz, vf-f, occ m, sbang-sbrnd, mod sph, w srt, arg mtx, no vis oil stain due to OBM masking		OBM										
	tr	LST: wh-off wh, crm, frm, crmbly, mic-crypxln, sbblky, arg-v arg, grdg marl i/p.												
2072	100	CLYST: lt-m gy, pa grn, sft-frm, sl stky, plas, sbblky-amor, slty, sdy, sl-mod calc i/p, hom.												
2075	100	CLYST: lt-m gy, pa grn, sft-frm, sl stky, plas, sbblky-amor, slty, sdy, sl-mod calc i/p, hom.												
2078	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
2081	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
	tr	LST: wh-off wh, crm, frm, crmbly,micxln, sbblky, arg-v arg, grdg marl i/p.												
2084	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
2087	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
	tr	LST: wh-off wh, crm, frm, crmbly,micxln, sbblky, arg-v arg, grdg marl i/p.												
2090	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												

	tr	LST: wh-off wh, crm, frm, crmbly, micxln, sbblky, arg-v arg, grdg marl i/p.												
2093	100	CLYST: m-dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
	tr	LST: wh-off wh, crm, frm, crmbly,micxln, sbblky, arg-v arg, grdg marl i/p.												
2096	100	CLYST: pred m gy, occ dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
	tr	LST: wh-off wh, crm, frm, crmbly, micxln, sbblky, arg-v arg, grdg marl i/p.												
2099	100	CLYST: pred m gy, occ dk gy, grn gy, sft-frm, sl stky, plas, sbblky-amor, slty, sdy i/p, sl-mod calc i/p, hom.												
	tr	LST: wh-off wh, crm, frm, crmbly, micxln, sbblky, arg-v arg, grdg marl i/p.												
2001	90	CLYST: Olv gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr dk brn carb matt												
	10	SS: Transl, transp, mlky wh, f-m, occ c-vc, gen sb rnd - rnd, sub sph, mod w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, freshly broken gns, lse pyr, ns		OBM										
2105	100	SS: Transl, transp, mlky wh, rose hues f-m, w/ c-vc, gen sb rnd - rnd, sub sph, mod gd bi-modal srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, freshly broken gns,		OBM										
2111	100	SS: Transl, transp, mlky wh, rose hues f-m, w/ c-vc, gen sb rnd - rnd, sub sph, mod gd bi-modal srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, freshly broken gns,		OBM										
2117	100	SS: Transl, transp, mlky wh, rose hues f-m, w/ c-vc, gen sb rnd - rnd, sub sph, mod gd bi-modal srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, freshly broken gns,		OBM										
	tr	CLYST: Olv gy, m-dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												
2130	100	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	tr	CLYST: Olv gy, m-dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												

2140	100	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	tr	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												
2150	100	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	tr	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												
2160	100	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	tr	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												
2170	90	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb												
	10	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr,												
	tr	LST: wh, frm, sbblky-blky, micxln, tt, vf lam.												
2180	90	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	10	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr												
	tr	LST: wh, frm, sbblky-blky, micxln, tt, vf lam.												
2190	90	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	10	CLYST:, lt-m gy, occ dk gy, sft , stky, amor, hydro-turgid, slt & vf qtz, mass, tr nod & dism pyr												
2200	80	SS: Transl, transp, mlky wh, vf-f, occ m, gen sb rnd - rnd, sub sph, w srt, pred disag w/ ca fros, tr ctgs w/ ca cmt, qtz, carb frags, lse pyr, ns												
	20	CLYST:Gy brn, brn, m-lt gy, sft, amor, tr sb-blky, slty, sl calc												
2210	5	SS: Transl, transp, vf-f, sb rnd, sub sph, w srt, disag, qtz												

	95	CLYST: Brn blk, soft, sl stky, plas, sub-amor, hydro-turgid, rsns lstr, hom, non calc												
2220	10	SS: Transl, transp, vf-f, sb rnd, sub sph, w srt, disag, qtz												
	90	CLYST: Brn gy, soft, stky, plas, amor, hydro-turgid, slty mtx, com dk brn carb frags, tr dism pyr, non calc												
2230	10	SS: Transl, transp, vf-f, sb rnd, sub sph, w srt, disag, qtz												
	90	CLYST: Brn gy, soft, stky, plas, amor, hydro-turgid, slty mtx, com dk brn carb frags, tr dism pyr, non calc												
2240	95	SS: Transl, transp, vf-f, sb rnd, sub sph, w srt, disag, qtz												
	5	CLYST: Brn gy, soft, stky, plas, amor, hydro-turgid, slty mtx, com dk brn carb frags, tr dism pyr, non calc												
2250	90	SS: clss trnsp-trnsl wh, vf-crs, pred sb ang, p srt, frac grns, lse, f xln pyr, qtz.												
	10	CLYST: dk gy, brn blk, sft, sl stky, slty, sl micrmic, blk carb frag, occ micpyr, non calc, grds in part to vf arg SST.												
2260	60	SS: clss trnsp-trnsl wh, vf-crs, pred sb ang, p srt, frac grns, lse, tr xln pyr, qtz.												
	40	CLYST: dk gy, brn blk, sft, sl stky, slty, sl micrmic, blk carb frag, occ micpyr, non calc, grds in part to vf arg SST.												
2270	60	SS: pred clss trnsp, occ trnsl wh, vf-crs, pred vf, sb ang-sb rnd, mod srt, lse, loc v slty w frac grns, tr f xln pyr, qtz.												
	40	CLYST: dk gy, brn blk, sft, sl stky, slty, sl micrmic, blk carb frag, occ micpyr, non calc, grds in part to vf arg SST.												
	tr	LST: yel brn, sft, stky, v sdy, vf pred ang qtz, micmic.												
2276	60	SS: clss trnsp-trnsl wh, vf-crs, pred sb ang, p srt, frac grns, lse, tr xln pyr, qtz.												
	40	CLYST: dk gy, brn blk, sft, sl stky, slty, sdy, sl micrmic, blk carb frag, occ f xln pyr, non calc, grds in part to vf arg SST.												
	tr	LST: yel brn, sft, stky, v sdy, vf pred ang qtz, micmic.												



Iving Prospect: 25/8-13
Pressure (bara)
195
200
205
210
215
220
225
230
2000
2050
2100
2150
2200
2250
2300
Depth (mTVDSS)
L. Heimdal fm
25/8-13
Ty fm
Water gradients: 0.100 bar/m
(Ty and Upper Statfjord)
Hugin fm eq.
Upper Statfjord fm

Well:	25/8/13	**Drill Floor (m amsl):**	18m
Date:	15-11-01	**Permanent Datum (m amsl):**	msl
Geologist:	I.McLeod / A.McNab	**Bit Diameter:**	12,25

ExxonMobil Norway
WIRELINE TEST REPORT - PRESSURE DATA

Run No.	Test No.	DEPTH (m) BRT (m)	TVDSS (m)	Gauge Type*	Initial Hydrostatic bars	ppge	PRE-TEST DATA Min FP	SIP bars	SIP ppge	P* bars	SAMPLE DATA Chmbr Vol	Pump-Out Vol	Time (min)	Final Fm Pres	Final Hydrostatic bars	ppge	Temp (degC)	Permeability Estimate and Comments	VC **
1	4	2038,0	2019,8	Qtz	268,47	0,78		197,24	0,57						268,21	0,78			
				Str	268,7	0,82		197,4	0,62						268,5	0,82		Change to backup tool	v
[redacted]								203,20	0,57										
								203,4	0,61										v
								205,19	0,57						280,03	0,78			
								205,4	0,61						280,5	0,82			v
								207,18	0,57						282,59	0,78			
								207,4	0,61						282,8	0,82			v
								210,20	0,57										
								210,4	0,61										v
								212,31	0,57									Low permeability	
								212,5	0,61									super charged	T
								211,93	0,57						288,80	0,78			
								212,2	0,61						289,0	0,82			v
								221,63	0,58						294,82	0,78			
								221,9	0,62						295,0	0,82			v
								221,92	0,58						295,08	0,78			
								222,1	0,62						295,3	0,82			v
								222,32	0,58										
				Str	295,9	0,82		222,6	0,62										v

GENERAL COMMENTS : P* is the extrapolated pressure, psia, from the spherical build-up plot

lving MDT Press

Note: 1bar = 14.5psi; 1atm = 14.7psi
* Quartz Gauge= PSIA, Strain Gauge=PSIG

** Validity Code: V=Valid, T=Tight, SC=Supercharged, SF=Seal Failure, I=Incomplete, SO=Sample Only

Well:	25/8/13	**Drill Floor (m amsl):**	18m	**ExxonMobil Norway**
Date:	15-11-01	**Permanent Datum (m amsl):**	0,00	**WIRELINE TEST REPORT - PRESSURE DATA**
Geologist:	I.McLeod / A.McNab	**Bit Diameter:**	12,25	

Run	**Test**	**DEPTH (m)**		**Gauge**	**Initial Hydrostatic**		**PRE-TEST DATA**				**SAMPLE DATA**				**Final Hydrostatic**		**Temp**	**Permeability Estimate**	**VC**
No.	**No.**	**BRT (m)**	**TVDSS (m)**	**Type***	**bars**	**ppge**	**Min FP**	**SIP bars**	**SIP ppge**	**P* bars**	**Chmbr Vol**	**Pump-Out Vol**	**Time (min)**	**Final Fm Pres**		**ppge**	**(degC)**	**and Comments**	**
1	14	2194,0	2175,7	Qtz	287,96	0,78		211,86	0,57						288,05	0,78		Retry	
				Str	288,3	0,82		212,8	0,61						288,3	0,82			v
	15	2037,5	2019,3	Qtz	267,79	0,78		197,03	0,57									Retry	
				Str	268,1	0,82		197,4	0,62										v
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															
				Qtz															
				Str															

GENERAL COMMENTS : P* is the extrapolated pressure, psia, from the spherical build-up plot

Note: 1bar = 14.5psi; 1atm = 14.7psi

* Quartz Gauge= PSIA, Strain Gauge=PSIG ** Validity Code: V=Valid, T=Tight, SC=Supercharged, SF=Seal Failure, I=Incomplete, SO=Sample Only