FINAL WELL REPORT

35/1-1

STURLASON

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PL269 License Partners:

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Composite Log (Compiled by Cambrian Consultants)

Formation Evaluation Log (Sperry Sun)

CPI Log (ConocoPhillips)

PP/FG Pressure Log (Sperry Sun)

WELL SUMMARY

OPERATIONAL DATA SUMMARY

Well Name:	35/1-1	
Permit:	PL 269	
Wellbore Number_File Code:	6-50-35/1-1	
Designation:	Exploration	
Operator:	Phillips Petroleum Company Norway	
Drilling Contractor:	Odfjell Drilling AS	
Drilling Rig:	DeepSea Bergen	
Rig Type:	Semi-submersible	
Rig Heading:	224.6°	
Water Depth:	408 m	
Rotary Table:	23 m AMSL	
Total Depth:	4540 m MD / 4537.5 m TVD	
Maximum Temperature:	153° C	
Maximum BHP Pressure:	11549 psi / 796 bar	
Final Surface Location:	Lat.	61° 50’ 09.11” N
	Long.	03° 04’ 24.11” E
	Northing	6,856,062.1 m
	Easting	503,863.4 m
Location Reference Datum:	ED50	
Rig on Location:	04:30 hours, 27 May 2002	
Rig on Contract:	19:55 hours, 24 May 2002	
Spud Date:	20:30 hours, 28 May 2002	
TD Date:	02:00 hours, 07 July 2002	
Spud to TD:	38 days, 12 hours	
Rig Release Date:	02:36 hours, 19 July 2002	
Total Well Duration:	55 days, 7 hours (on contract – off contract)	
Status:	Permanently Plugged and Abandoned	

WELL OBJECTIVES/RESULTS

The objectives of drilling the Sturlason 35/1-1 well were:

- Test the hydrocarbon potential of the Jurassic Cook and Statfjord Formations and the Triassic Lunde Formation in the Marflo Ridge structural complex located northeast of the Tampen Spur.
- The well location should test a significant hydrocarbon column height that would potentially spill into additional fault blocks without leaving commercial reserves updip.
- The location should, if possible, evaluate Paleocene potential without compromizing Mesozoic test.

The well was spudded on 28 May 2002 and reached TD at 4540m MD on 6 July 2002.

No producable hydrocarbons were encountered in the well. All three potential reservoir intervals were evaluated by MWD/LWD log and open hole wireline data. Sidewall cores and MDT water samples were collected as part of the data acquisition program in the 8 ½” hole section.

The CPI made from the wireline log data indicates the presence of small amounts of residual hydrocarbons. Additionally, the sidewall cores and water samples contained traces of hydrocarbons.

The well did not encounter any potential reservoir in the Paleocene interval. This was as expected as the well was located outside the seismic anomaly, which defines the Paleocene prospect.

The well was permanently plugged and abandoned as a dry hole.

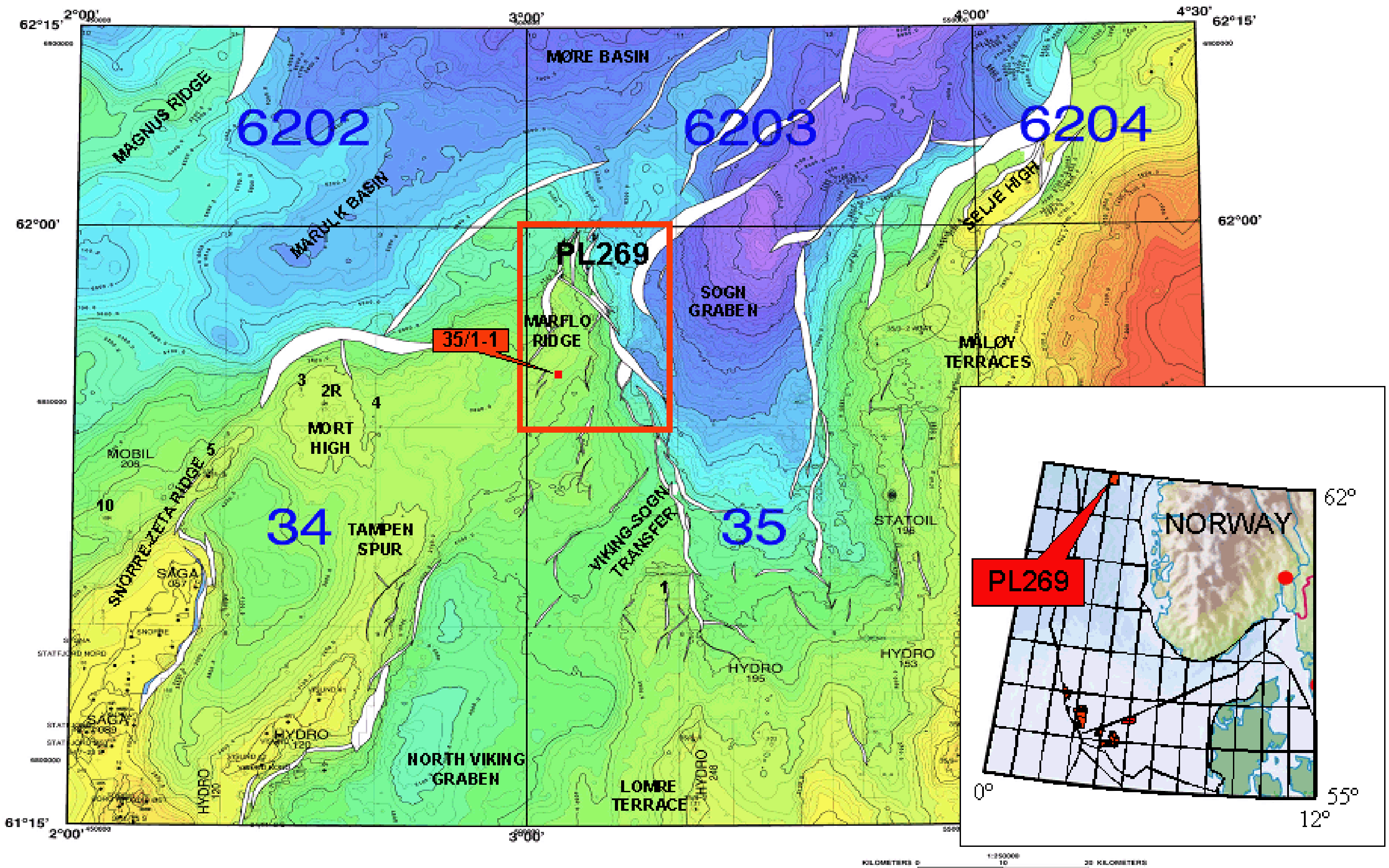


Figure 1: Location Map

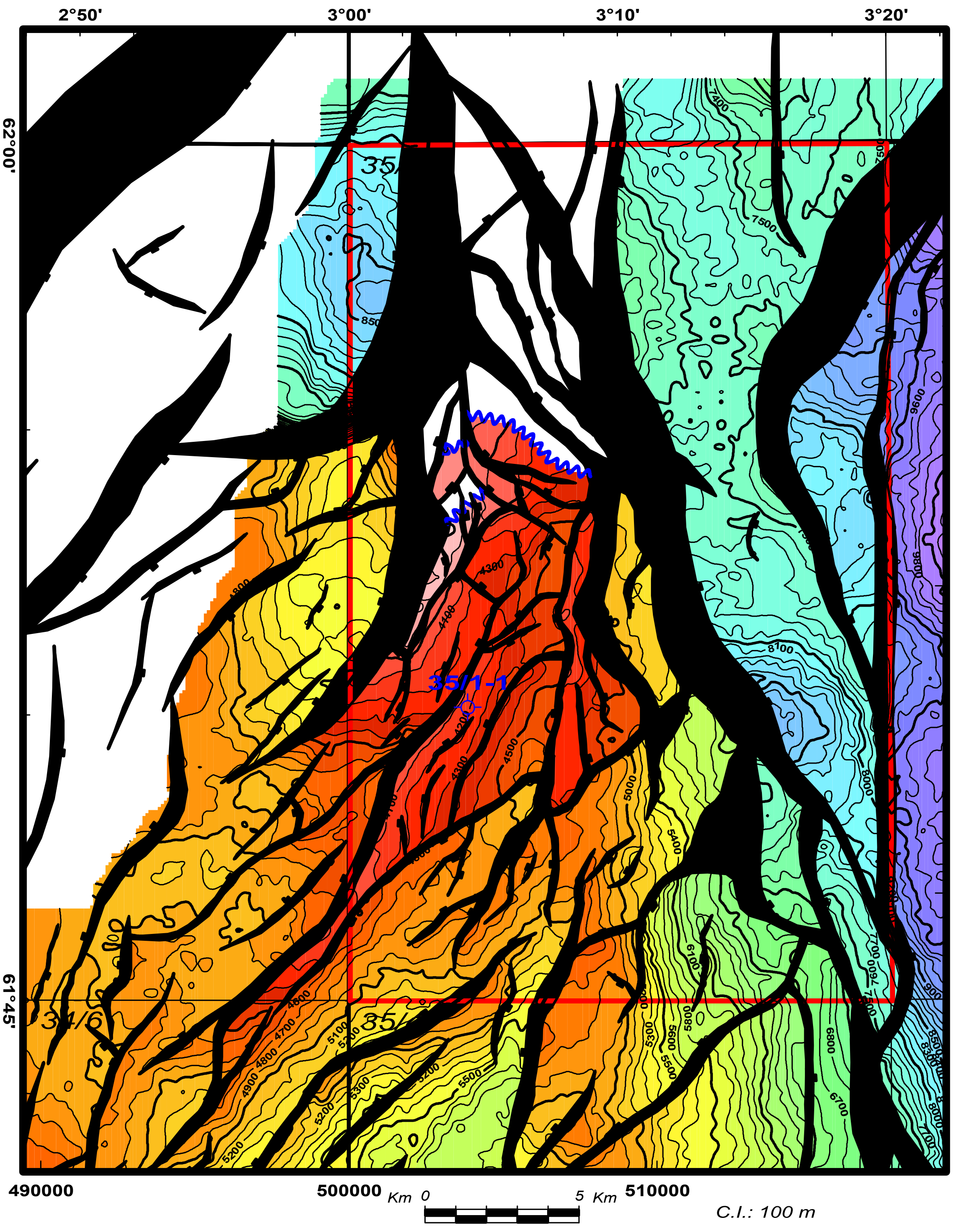


Figure 2: Top Statfjord Depth Structure Map

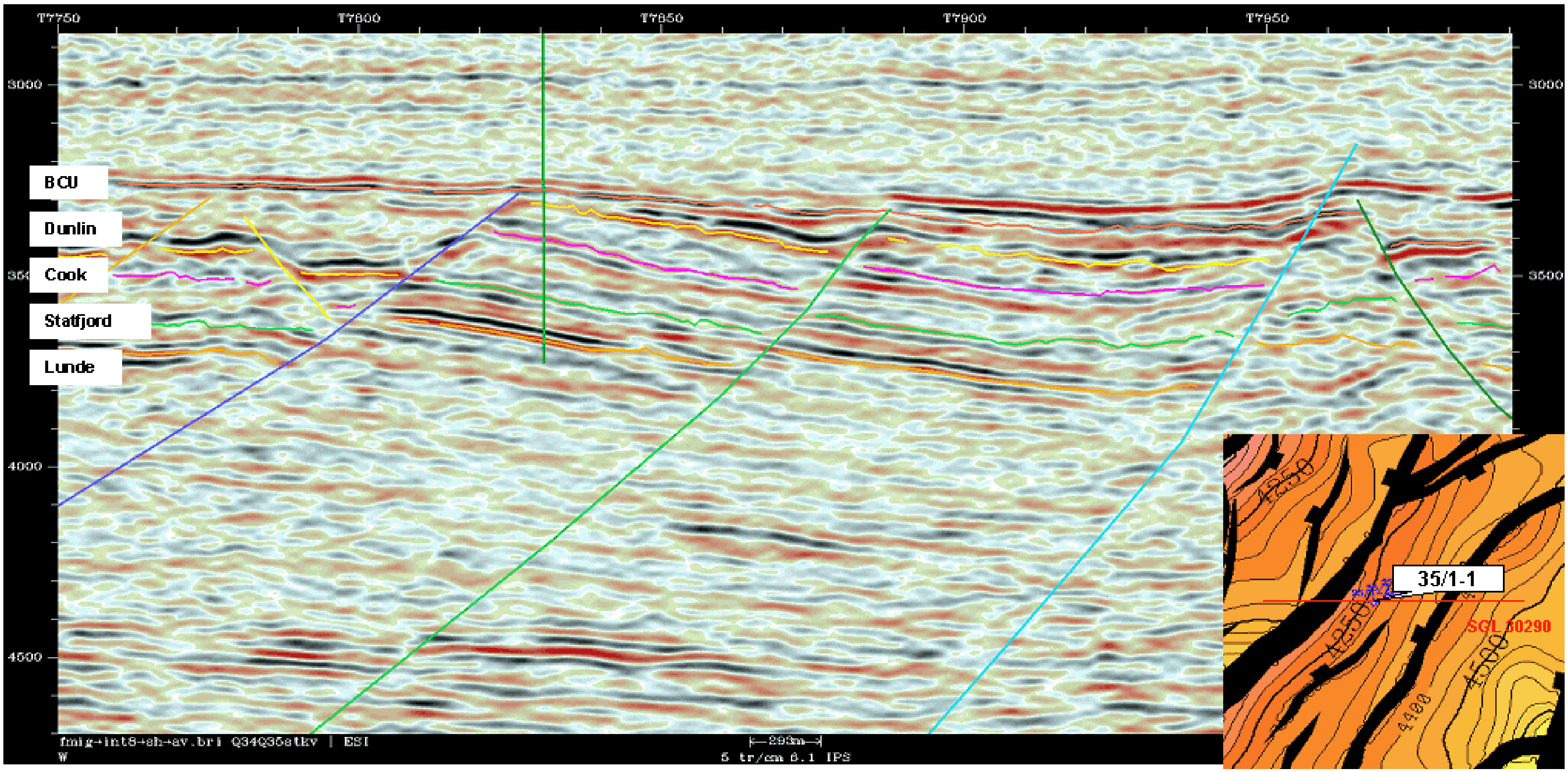


Figure 3: Supergrid Line 30280 (MS97M L4676, Y= 6856041)

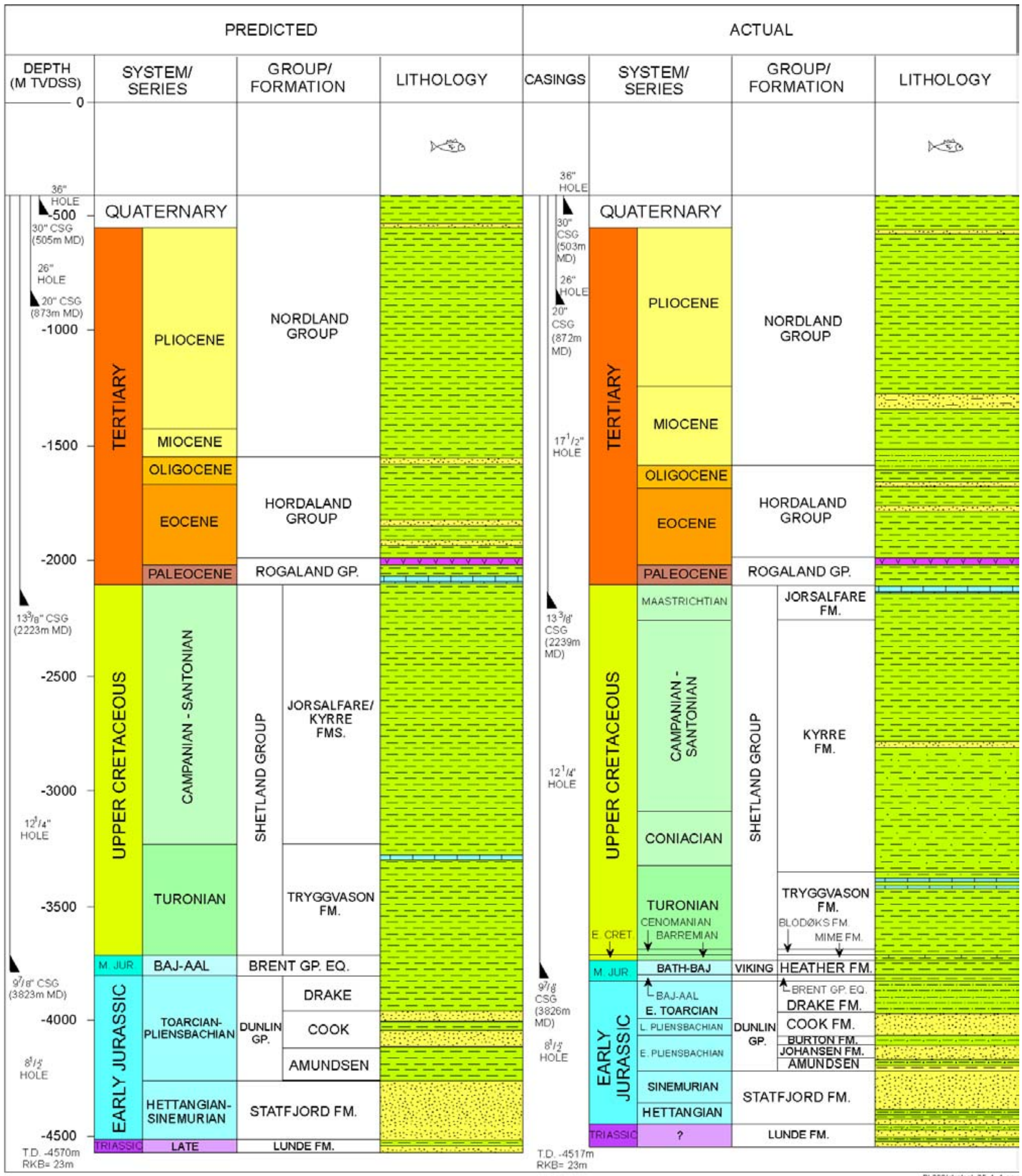


Figure 4: Stratigraphic Column – Predicted Vs. Actual

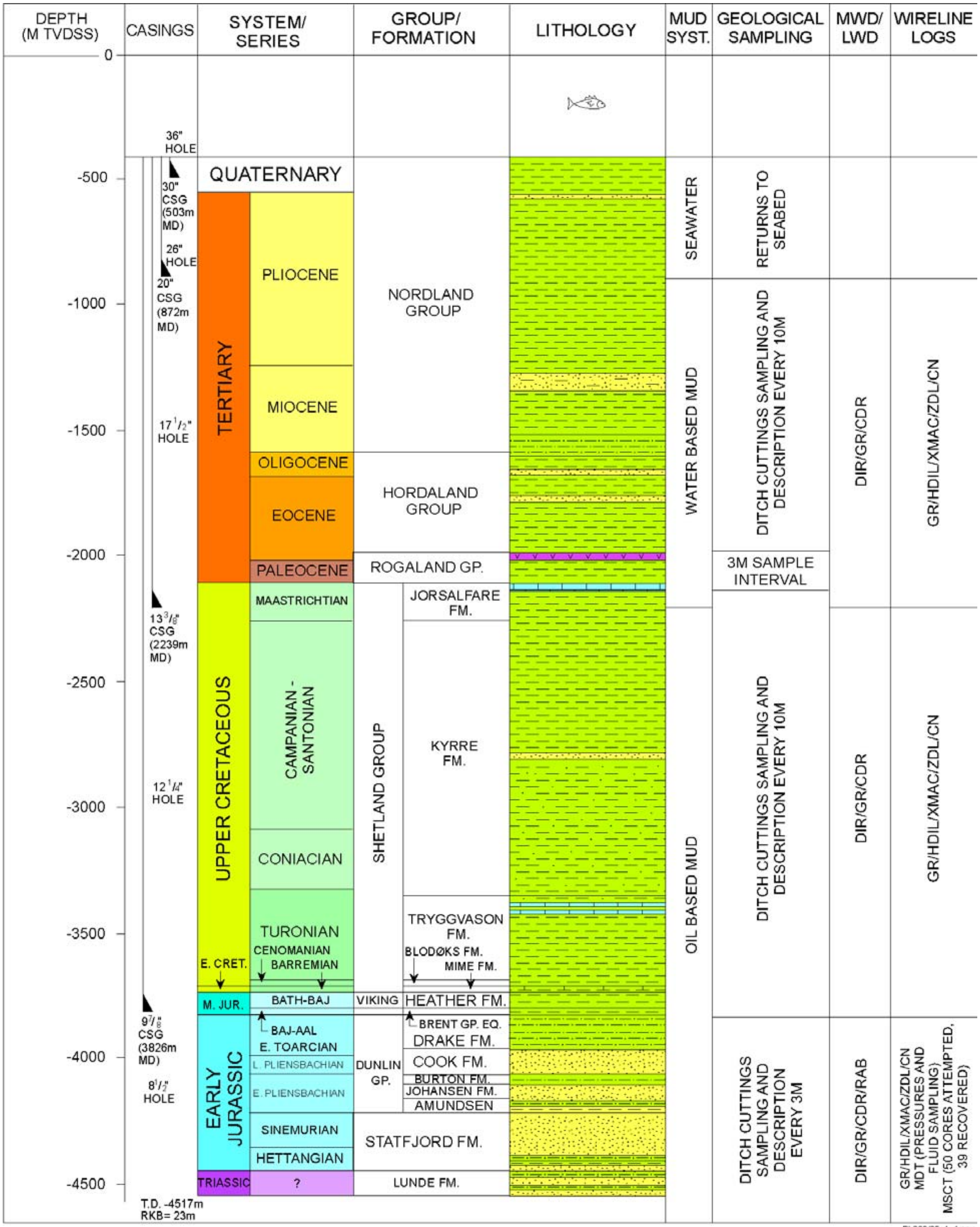


Figure 5: Geological Sampling Program

OPERATIONS SUMMARY

36” Hole Section

431m MD – 503m MD

The well was spudded on the 28 May 2002 at 20:30 hours. The 36” hole section was drilled riserless with a 17 ½” bit together with 17 ½”x26” hole and 26”x36” hole openers. The section was drilled from the seabed at 431m using seawater and viscous sweeps to section TD of 503m and was completed in 14.5 hours with an average ROP of 16.3 m/hr. The 30” casing was run with the shoe set on 503m MD.

26” Hole Section

503m MD – 878m MD

The 26” section was drilled riserless without any problems to the section TD. An Anadrill MWD/LWD assembly consisting of the CDR LWD tool package containing survey, gamma ray, resistivity and a PWD tool was utilized for real-time data collection. Throughout the drilling operation hi-vis sweeps were pumped to assist with cleaning the hole. At TD the hole was displaced to 1.35 sg mud and a wiper trip made to the shoe then the hole was re-displaced to 1.35 sg mud before the bit was pulled out of hole. The section was drilled in 28 hours for an average ROP of 12.8 m/hr. The 20” casing was run and the shoe set at 872m MD.

17 ½” Hole Section

878m MD – 2245m MD

The 17 ½” section was drilled utilizing an Anadrill MWD/LWD tool, comprising of CDR tool package containing survey, gamma ray, resistivity and PWD tools and a Power Pulse assembly. Cement was tagged at 842m and drilling commenced after the hole had been displaced to 1.25 sg water based mud (GLYDRIL). Cement was drilled to 878m and 6m of new formation were drilled to 883m. A LOT to 1.65 sg was then performed. Over the section the mud weight was increased to 1.35 sg. Hard drilling spots were encountered in the lower portions of the section and some reaming were carried out on connections. At 1821m MD the LWD failed. The casing point setting depth was then picked using cuttings. It should be noted that the potassium in the KCL/Glycol mud system masked the natural gamma ray readings of the formation and affected the CDR resistvity resulting in a useless LWD log. The section TD was reached at 2245m MD. Average drilling speed for the section was 21.6 m/hr with a total drilling time of 63 hours. Baker Atlas ran their `Z` Slam tool string consisting of GR/HDIL/XMAC/ZDL/CN through the section. The 13 3/8” casing was run without any problems with the shoe set at 2238m MD.

12 ¼” Hole Section

2245m MD – 3834m MD

The 12 ¼” hole section was drilled with an Anadrill Power Pack mud motor, (1.15 deg. bend), together with an Anadrill CDR MWD/LWD suite incorporating gamma ray, resistivity and a PWD tool. The well was displaced to 1.50 sg Versaport oil based mud prior to drilling out the 13 3/8" casing. A LOT was conducted to 1.75 sg EMW at 2249m TVD before drilling ahead.

The mud weight was raised from the initial 1.50 sg to 1.61 sg at the end of the section. "HTHP-mode" was implemented from 3454m. Despite the potential of high formation pressure, the section was drilled to TD without incidents. All the flowchecks were negative and the background gas levels were low. The actual mudweights need to drill the section were lower than indicated by the pre-drill pore pressure estimates. The section was drilled in one bit run in 127 hours giving an average ROP of 12.5 m/hr. Baker Atlas ran their `Z` Slam tool string consisting of GR/HDIL/XMAC/ZDL/CN through the section. The 9 7/8"x 9 5/8" casing was run and the shoe set at 3826m MD.

8 ½" Hole Section

3834m MD – 4540m MD

The 8 ½" hole section was drilled utilizing an Anadrill Power Pulse together with an Anadrill CDR and RAB MWD/LWD comprising directional, gamma ray, resistivity and PWD tools. The intent of using the RAB tools was to give resistivity readings at the bit and enable earlier detection of formation changes or potential presence of hydrocarbons. However, the data link between Anadrill and Sperry Sun failed and caused the data to be of less value. The shoetrack was drilled out before a LOT was performed to 2.15 sg with 1.61 sg mud in the hole.

Mud density increases were made at 3933m MD to 1.65 sg and at 4029m MD to 1.68 sg based on real time pore pressure estimates. At 4129 m MD a water kick was taken. A SIDPP of 43 bars was recorded. This pressure equals a mudweight equivalent of 1.79 sg. The influx was circlutaed out using Driller's Method and a mud weight of 1,80 sg and later to 1.84 sg before drilling ahead. Additional mud density increases were made at 4211m MD to 1.87 sg, at 4243m to 1.90 and at 4331m to 1.93 based on real time pore pressure estimates. The mud weight was dropped slowly to 1.90 sg at well TD of 4540m MD. The general gas level through the section was very low with detection of very little connection gas. Also, no pressure cavings were seen coming over the shakers. Most of the mud density increases were based on real time pore pressure estimation from the PP/FG program. TD was reached on 7 July 2002 at 02:00 hours.

The section was drilled with controlled ROP as part of the HPHT procedures followed in this portion of the well. It took a total of seven days to drill the section for an average ROP of 4.3 m/hr.

The data collection program in this part of the well had to be adjusted due to a NOPEF union strike. A dispensation was given for 3 runs. Run #1 consisted of the Atlas 'Z' Slam tool string (GR/HDIL/XMAC/ZDL/CN). Run #2 consisted of MDT pressure measurements and sample collection. Run #3 consisted of rotary sidewall cores. Run #4, which was canceled, was planned to be a nuclear magnetic imaging log (MIRL) along with an oil based mud formation imaging log (OB1). Run #5, which was canceled, was a checkshot survey.

The well was permanently plugged and abandoned, and the rig released from the contract on 19 July 2002 at 02:36 hours.

GEOLOGICAL SUMMARY

LITHOLOGICAL DESCRIPTION

Nordland Group

431.0 – 1581.0m MD (408.0 – 1558.0m TVD SS)
Age: Quarternary to Mid Miocene

Depositional environment: Glacial (Quarternary) and open marine, possibly inner shelf setting. Middle and lower parts of the interval may have been deposited in shallower water depths.

This section was drilled to 878m MD with returns to seafloor. The section was logged with sonic and gamma ray behind casing from 485m MD to 872m MD. The logs from this interval indicate a predominantly shaly section with occasional sand stringers.

Cuttings from 878m MD to 1581m MD shows that the rest of the section is composed of variably silty and arenacous mudstones with subordinate sandstones and minor limestones.

Mudstones are variable in color but predominantly light olive grey to light grey, soft, silty, non-calcareous and occasionally fossiliferous. Sandstones are generally disaggregated, predominantly very fine to medium grade and angular. Trace quantities of very light grey to moderate yellowish brown limestone were also recorded throughout this section.

Hordaland Group

1581.0 – 2020.0m MD (1558.0 – 1997.0m TVD SS)
Age: Late Oligocene – Early Eocene

Depositional environment: Inner to outer shelf. Lower parts of the interval may have deposited in a bathyal environment.

Mudstones, which dominate the upper part of this interval considered to be Lark Formation equivalent, are varicolored, silty, fossiliferous, glauconitic and non-calcareous. Sandstones present throughout the section are generally disaggregated, predominantly very fine to medium grade and angular.

The lower part of the Brygge Formation, considered to be Horda Formation equivalent is dominated by mudstones that are variable in color, silty, commonly fossiliferous, pyritic and non-calcareous. Sandstone units are represented in the cuttings samples as disaggregated sands that are generally very fine to medium grade, occasionally coarse grade and angular to rounded.

Rogaland Group

2020.0 – 2152.5m MD (1997.0 – 2129.5m TVD SS)
Age: Early Eocene – Late Paleocene

Depositional environment: Middle-lower bathyal water depths. The upper parts of the interval may have been deposited in a upper bathyal to slope environment.

Three separate lithostratigraphic units have been recognised within the Rogaland Group in this well as follows:

Balder Formation: 2020 - 2042m MD
Age: Early Eocene

The mudstones which dominate the interval are predominantly dark grey, silty, finely sandy, micromicaceous and tuffaceous in part, displaying a light grey mottling. Minor quantities of moderate to dark yellowish brown limestones were also recorded in this interval. Additionally were good traces of sand recorded in parts of this interval.

Sele Formation: 2042-2050m MD
Age: Upper Paleocene

Lithologies seen in this interval are similar to those seen in the overlying Balder Formation, consisting primarily of variably silty mudstones with traces of moderately calcareous limestone.

Lista Formation: 2050-2147m MD
Age: Upper Paleocene

The dominant lithology of the Lista Formation in this well is a predominantly light olive grey to olive grey mudstone that is firm, blocky, and micaceous, with localised, finely disseminated pyrite. Minor quantities of non-calcareous, arenaceous mudstone occur in cuttings samples at and below 2115m MD.

Våle Formation: 2147-2152.5m MD
Age: Lower Paleocene

This short interval has been identified primarily on the basis of log evidence. A sharp decrease in gamma ray values noted at 2147m(log), immediately below a significant gamma ray spike is interpreted as the top of the Våle Formation. In thicker sections, this formation is noted for its calcareous nature, typically consisting of marls and mudstones interbedded with limestone beds. Cuttings from the well shows the presence of 5-10% limestone and the remaining as mudstone. The mudstone is similar to the Lista Formation mudstones described above.

Shetland Group

2152.5 – 3736m MD (2129.5 – 3713m TVD SS)
Age: Upper Cretaceous; Late Maastrichtian – Cenomanian

Depositional environment: Primarily upper to lower bathyal with occasional outer shelf deposits represented by occasional sandy distal gravity flow deposits.

Four formations have been recognised within this group:

Jorsalfare Formation: 2152.5 - 2279.5m MD
Age: Upper Cretaceous, upper Maastrichtian to upper Campanian

Lithologies of the Jorsalfare Formation comprise a series of light grey and medium grey, variably calcareous mudstones that are commonly pyritic, and occasionally contain finely disseminated, possibly carbonaceous debris. Traces of white to light grey, brittle, microcrystalline limestone are recorded in the upper part of the interval.

Kyrre Formation: 2279.5 - 3300.5m MD
Age: Upper Cretaceous, lower Maastrichtian-upper Campanian to Coniacian

The Kyrre Formation comprises a very thick series of light grey to medium grey mudstones that are interbedded with many thin stringers of different lithologies. The Campanian part of this formation is dominated by medium light grey, variably calcareous mudstones, that are interbedded with minor quantities of dark yellowish brown dolomite, light grey argillaceous limestone and trace quantities of moderately calcareous, very fine grade argillaceous sandstone.

Below 2800m, the formation is of Santonian and Coniacian age, and is dominated by light grey to medium light grey, silty mudstones, that are variably micaceous, occasionally pyritic, weakly calcareous and commonly interbedded with thin stringers of olive grey, variably argillaceous, very fine grade sandstone.

Tryggvason Formation: 3300.5 - 3726m MD
Age: Upper Cretaceous, Turonian

This Tryggvason Formation is dominated by mudstone that is medium grey to medium dark grey, slightly silty, locally pyritic and weakly to non-calcareous. Minor quantities of dark yellowish brown, argillaceous dolomite are also recorded in the upper part of the section.

Blodøks Formation: 3726 - 3736m MD
Age: Upper Cretaceous, Cenomanian

Mudstones of the Blodøks Formation, seen only in two cuttings samples, are darker than the mudstones of the overlying Tryggvason Formation, micromicaceous, pyritic, non-calcareous, and are highly fossiliferous in part. These lithologies are considered to be typical of the Blodøks Formation.

Cromer Knoll Group

3736 – 3742m MD (3713 – 3719m TVD SS)

Mime Formation: **3736 - 3742m MD**
Age: Lower Cretaceous, upper - lower Barremian

Depositional environment: Outer shelf to upper bathyal.

The upper boundary of the Mime Formation is picked tentatively at 3736m(log), based primarily on a sharp deflection on the bulk density log. This determination is, however, supported by firm biostratigraphic evidence, and by the recognition of highly calcareous mudstones and argillaceous limestone, typical lithologies of the Mime Formation, seen in a single cuttings sample at 3740m.

Viking Group

3742 – 3813m MD (3719 – 3790m TVD SS)

Heather Formation: **3742 - 3813m MD**
Age: Middle Jurassic, lower Bathonian - upper Bajocian

Depositional environment: Outer shelf to upper bathyal.

The Heather Formation interval is dominated by brownish grey, variably silty mudstone that is soft, highly micaceous, highly pyritic in part and non-calcareous.

Brent Group Equivalent

3813 - 3834m MD (3790 – 3811m TVD SS)
Age: Middle Jurassic, lower Bajocian - Aalenian

Depositional environment: A marine pro-delta setting with significant terrigenous input.

Although there is no significant or characteristic lithological change discernable in the single cuttings sample at 3828m, there is biostratigraphic evidence to support this determination.

Dunlin Group

3834 – 4264m MD (3811 – 4241m TVD SS)
Age: Middle Jurassic; Aalenian – Sinemurian

Depositional environment: A marine, shelfal setting is inferred. Occasional pyrite in the Drake Formation suggests a relatively anoxic environment. The Cook and Amundsen Formations comprise large scale, stacked progradational sequences deposited within a shelfal setting.

Five formations have been recognised within this group:

Drake Formation: **3834 - 3970m MD**
Age: Middle Jurassic, Aalenian to Lower Jurassic, upper Pliensbachian

Mudstones that dominate the Drake Formation interval are brownish grey to medium dark grey, silty, highly micromicaceous and non-calcareous.

Cook Formation: **3970 - 4087m MD**
Age: Lower Jurassic, upper Pliensbachian to Sinemurian

The Cook Formation is composed of a series of sandstones and mudstones. The sandstones predominate, and are light olive grey to olive grey, friable to brittle, micaceous, moderately well sorted, very fine to medium grade and non-calcareous. Mudstones are arenaceous, highly micromicaceous, silty and non-calcareous.

Burton Formation: **4087 - 4124m MD**
Age: Lower Jurassic, lower Pliensbachian - Sinemurian

Lithologies seen in one sidewall core and three cuttings samples show that the Burton Formation in this well consist primarily of a sandy mudstone which is brownish grey to olive-grey, firm, subfissile to blocky, silty in part, micaceous, non-calcareous, and grades locally to very fine, poorly cemented, argillaceous sandstone.

Johansen Formation: **4124 - 4180m MD**
Age: Lower Jurassic, lower Pliensbachian - Sinemurian

The Amundsen Formation is a mixed series of silty mudstones and sandstones. Mudstones recorded in this interval are arenaceous, micaceous, pyritic, silty and non-calcareous. Sandstones are subordinate and generally very fine to fine grade, moderately well sorted, micaceous, possibly dolomitic in part and occasionally grade to arenaceous siltstone.

Amundsen Formation: 4180 - 4264m MD
Age: Lower Jurassic, lower Pliensbachian - Sinemurian

Lithologies in the Amundsen Formation are similar to those seen in the overlying Johansen Formation, but with the silty mudstones becoming more dominant, with less arenaceous input in general. The mudstones are micaceous, pyritic, silty and non-calcareous.

Banks Group

4264 – 4476?m MD (4241 – 4453?m TVD SS)
Age: Lower Jurassic, lower Pliensbachian - ? Hettangian

Depositional environment: The upper part of the interval (Nansen Mbr.) represents marine shoreface sands, while the lower part (Eiriksson Mbr.) is envisaged to have been deposited in a non-marine fluvial-lacustrine setting.

Statfjord Formation; Nansen Member: 4264 - 4331.5m MD
Age: Lower Jurassic, lower Pliensbachian - Sinemurian

The Nansen Member comprises a thick sandstone unit. The sandstones are firm, brittle, silty, moderately well sorted and vary from fine to silt grade.

Statfjord Formation; Eiriksson Member: 4331.5 - 4476m MD
Age: Lower Jurassic, lower Pliensbachian - ? Hettangian

This unit constitutes a series of mixed clastic lithologies. The dominant sandstone lithology varies considerably in colour, texture and grain size throughout the section, exhibiting both fining upward and coarsening upward profiles on wireline logs. The sandstones are micaceous, commonly silty, occasionally argillaceous and carbonaceous, and often grade to siltstone. Mudstones recorded throughout the interval are silty, micaceous, arenaceous, pyritic and carbonaceous in part.

Hegre Group

4476? – 4540m MD (4453? – 4517m TVD SS)

Lunde Formation: 4476? – 4540m MD (TD)
Age: ? Hettangian - ? Triassic

Depositional environment: This interval is interpreted to have been deposited in braided fluvial environment.

The Lunde Formation interval comprises interbedded sandstones and mudstones. The sandstones are predominantly yellowish grey to dark yellowish brown, fine to medium grained, moderatley sorted and locally silty. The mudstones are typically pale to dark redish brown, moderately hard, occasionally slightly silty and non-calcareous. The samples did not contain clear biostratigraphical evidence for exact age determination.

SIDEWALL CORING SUMMARY

One run using Schlumberger's Mechanical Sidewall Coring Tool (MSCT) was performed in well 35/1-1. The recovery was fair with 39 cores recovered on 50 attempts (78% recovery).

A comprehensive work program was designed for the sidewall cores. The disposition and the sidewall core descriptions are included in the Appendices.

FLUID SAMPLES

One run was performed using Schlumberger's Modular Formation Dynamics Tester (MDT) for pressure measurements and water sampling. The tool was configured with 2 x 1 gallon chambers and 6 x 450 cc bottles for pressurized samples.

Fluid samples from Cook, Statfjord and Lunde were collected. Table 1 shows the sample depths and bottle type utilized at the different depths.

Depth (m TVD)	Formation	Number	Chamber Size	Pump Time (min)	Volume Pumped (cc)
4043.12	Cook	7-98A	450 cc	175	9945
4322.27	Statfjord	9-98A	450 cc	241	32760
4322.27	Statfjord	1192A	450 cc	205	28080
4322.27	Statfjord	143	1 gallon	143	18135
4471	Lunde	165	1 gallon	221	12285

TABLE 1: FLUID SAMPLE SUMMARY

DRILLING MUD SUMMARY

Table 2 below shows the types of mud that was used during the drilling phase of well 35/1-1.

Hole Section	Mud Type	Commercial Name	Producer	Base	Additives
36”	Seawater	-			Bentonite sweeps
26”	Seawater	-			Bentonite sweeps
17 ½”	Water based	Glydril	MI Anchor	Water	KCl brine w/glycol
12 ¼”	Oil based	Versaport	MI Anchor	Mineral Oil	$CaCl_2$, lime
8 ½”	Oil based	Versaport	MI Anchor	Mineral Oil	$CaCl_2$, lime

TABLE 2: DRLLING MUD SUMMARY

The mud system used in the 36” and 26” hole sewctions (seawater) did not have any effect on the data collection.
The high concentration of KCl combined with the large hole diameter in the 17 ½” hole section had an effect on the LWD resistivity readings and in particular on the shallow resistivity reading. The shallow resistivity readings from the wireline run were also effected, but these were not used for the generation of the CPI. Correction algorithms may be used to adjust these logs.
The oil based mud used in the 12 ¼” and 8 ½” hole sections had an effect on the wireline porosity determinations. This effect is normalized with the use of the correct parameters in the porosity equations.

PORE PRESSURE SUMMARY

The real-time pore pressure detection methods employed throughout the drilling of well 35/1-1 was based on a combination of the FPE (Formation Pressure Evaluation) trend line approach and the PPFG effective stress theorem. The service was provided by Sperry Sun. The PPFG method utilizes the resistivity information from the LWD tools downhole. The estimate was calibrated and corrected at the end of each hole section by utilizing sonic and density wireline data. Additionally, drilling exponent data was used. This information was of less value below 3454m MD from where the HPHT procedures were implemented and the drilling rate controlled.

The FPE system was run semi real-time. Data was transferred from the PPFG computer on a regular interval and processed for analysis.

The real-time job started in the 12 ¼" section. Wireline data was used for pore pressure estimation in the 17 ½" section before the start of the 12 ¼" section.

A summary of the pore pressure in each hole section is given below.

17 ½" Section: 878m – 2245m

The result of the pore pressure was based on the 17 ½ "hole wireline data, imported into both the PPFG and FPE model.

From 878m – 2245m:
Pore pressure started to increase from the normal pore pressure to 1.2 sg at about 1825m then reaching a maximum of 1.35sg at 1910m before cutting back to 1.15 sg at 1960m. The pressure remained at 1.2 sg to section TD.
The log response from the resistivity, sonic and density wireline data from 1750 m indicate the start of the overpressure. No abnormal drilling parameters, connection gases or pressure cavings were seen or reported while drilling this section.
The minimum open hole fracture pressure predicted by the PPFG model was 1.68 sg at 938m.

12 ¼" Section: 2245m – 3834m

A LOT giving an EMW of 1.75 sg was performed after having drilled out the shoetrack and 4m of new formation. This was close to the PPFG model estimate of 1.76 sg.

From 2245m – 2840m:

The pore pressure increased to 1.35 sg in the upper part of this interval, before a decrease to 1.2 sg was obeserved at about 2600m. It picked up again from 2770m and reached 1.35 sg at 2840m. Background gas varied between 0 – 0.3%, and no connection gases were seen.

From 2840m – 3834m:
Pore pressure remained stable at or around 1.35 sg until 3020m where it cut back to 1.3 sg. A new increse to 1.55 sg was observed at 3400 m. The mud weight was increased to 1.58 sg in response to this. No connection gas or pressure cavings were observed.. Higher ROPs prior to weighing up the mud indicates an overpressured formation in this section.
After weighing up the mud at 3460 m, the pore pressure continued to increase gradually to a maximum of 1.58sg at 3500 m where it held steady at 1.58 sg to 3650m. At 3700m the pore pressure increased from 1.58 sg to 1.60 sg. A slight increase in connection gas levels was also noted. From There was an apparent slight cut back in the pore pressure from around 3750m due to the fact that the reading from the resistivity tool was affected by the presence of carbonaceous material in the Heather Formation. Pore pressure at section TD was estimated to be in the range 1.58 to 1.60 sg.

8½" Section: 3834m – 4540m

A LOT was performed to 2.15 sg after having drilled the cement and 5 m of new formation.

From 3834m – 3962m:
Pore pressure continued to increase, reaching a maximum of 1.62 sg at 3850 m, and then holding steady to 3962m. A connection gas of 2.98% was also noted. Due to the increase in the pore pressure, mud weight was increased to 1.65 sg.

From 3962m – 4100m:
The estimated pore pressure was 1.62 sg at 3997m, and a connection gas of 1.29% over a background gas of 0.9% was observed at this depth. The pore pressure then increased to 1.63 sg at 3999m, where a connection gas of 2.98% over a background gas of 1.02% was detected. The pore pressure continued to increase and reached 1.64 sg at 4050m where it levelled out. A connection gas of 4.3% over a background gas of 1% was observed at 4037m MD. A decision to raise the mud weight to 1.68 sg was made based on this.

From 4100m – 4129m:
While drilling ahead, the pore pressure increased to 1.66 sg at 4123 m. At 4129m it was found that the hole did not take enough fluid and a flow check showed a gain of 800 liters over a period of 36 minutes.The well was shut in and the drill pipe pressure recorded to 43 bar equaling a pore pressure of 1.79 sg.

As the pressure in the sands was greater than the overlying shale's the prediction techniques employed could not have accurately predicted the pore pressure increase ahead of the LWD sensor depth. The sands most likely conveyed pressures from deeper parts of the structure. The flow rate of the influx indicated that the sands had low permeabilities.

The magnitude and the continuity of the pressure ramp was unknown at the time but the PPFG model was re-calibrated to the calculated shut in pressure equivalent of 1.79 sg. The kick was circulated out at 30spm, with the mud weight increased to 1.80 sg initially and finally to 1.84 sg.

From 4129m – 4540m:
The pore pressure continued to increase and reached 1.85 sg at 4224m. The mud weight was increased to 1.87 sg in response to this. A maximum pore pressure of 1.91 sg was estimated at 4340m, and the mud weight was increased to 1.93 sg. A slight increase in connection gases were also noted (0.3% over background gas of 0.05% at 4332m).

At 4353m the pore pressure cut back to between 1.88 –1.89 sg, the mud weight was also reduced to 1.92 sg. The pore pressure continued to show a decreasing trend to about 1.83 –1.85sg. A decision to cut back the mud weight to 1.90 sg was taken, so as to avoid being too far overbalance which could result in differential sticking.
The pore pressure increased slightly to 1.89 sg at TD (4540m).

MDT Pressures

The MDT pressures measured in the 8 ½" section proved to be very close to the original pressure estimate for the well (Figure 6). In the Stafjord and Lunde Formations the real time pore pressure estimates were slightly higher or very similar to the MDT pressures. In the Cook Formation the real time pore pressure estimates were 0.2+ sg lower than what the MDT measurements showed. The MDT-trend also indicates this for the kick zone. The formation pressure in the Cook Formation is interpreted to reflect pressure communication with deeper portions of the Sturlason structure. The explanation for not taking any influx from high in the Cook Formation can most likely be found in a combination of high ECD and low permeable sands.

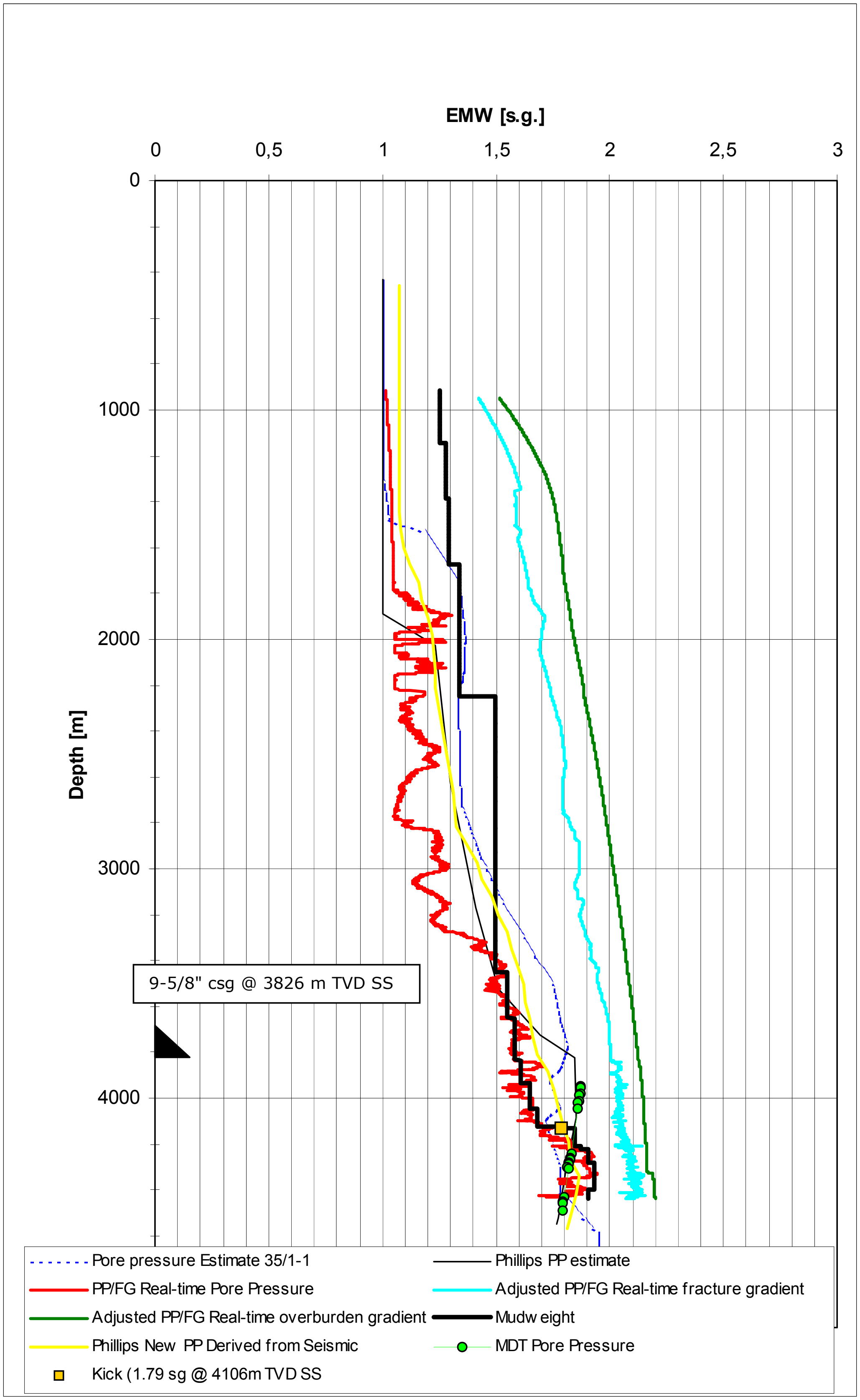


Figure 6: Pore Pressure Summary Plot

GEOPHYSICAL SUMMARY

POST WELL GEOPHYSICAL EVALUATION

A conventional check shot survey with 100 levels (depths) was planned for the 35/1-1 well. The levels were placed to cover a general uniform level spacing with additional levels taken at key formation tops. The check shot survey was omitted due to the union strike. The existing 3D seismic show good resolution at the well location. It was therefore believed that a good synthetic seismogram tie was to be obtained without check shots. Post-well analysis confirmed this assumption.

A reflection coefficient series (RC) was generated using the sonic and density logs from 35/1-1. This RC series was then used to generate a synthetic seismogram. A synthetic check shot survey was generated to make a good fit between the well synthetic seismogram and the conventional 3D seismic. Shifting parts of the sonic log-curve to get a good fit between the synthetic seismogram and the conventional 3D seismic generated the synthetic check shots. The synthetic check shot survey showed that the sonic log had to be shifted down about 150 m/s for the deeper section, to make a good seismic to well tie at the well location. This generated a very good synthetic to seismic correlation (see Figure 7 and Figure 8).

Table 3 shows the prognosed vs. actual TWTs and depths for the key groups/ formations picked in the well. The predicted tops are in general well within the prognosed errors.

Period	Group/ Formation	Prognosed		Actual		Difference (- = High, + = Low to Prognosis)		Prognosed Error
		TWT [ms]	TVDSS [m]	TWT [ms]	TVDSS [m]	TWT [ms]	TVD [m]	TVD [+/- m]
KB			23		23			
Top Quarternary	Sea Bed	550	407	558	408	8	1	5
Top Pliocene	Nordland Group	708	550	743	570	35	20	10
Top Oligocene	Hordaland Group	1602	1545	1617	1558	15	13	50
Top Eocene		1726	1675	1739	1702	13	27	55
Top Paleocene	Balder tuff	2016	1975	2016	1997	0	22	70
Top Cretaceos	Shetland Group	2112	2100	2110	2130	-2	30	75
	Tryggvason fm.	2990	3281	2994	3277	4	-4	90
Base Cretaceous	Brent gr. Eq.	3274	3725	3274	3719	0	-6	100
Top Dunlin	Dunlin fm.	3320	3805	3370	3811	50	6	110
Top Cook	Cook fm.	3408	3971	3421	3947	13	-24	120
Top Statfjord	Statfjord fm.	3560	4281	3583	4241	23	-40	130
Top Triassic	Lunde fm.	3670	4519	3702	4453	32	-66	140
TD		3692	4570	3734	4517	42	-53	140

TABLE 3: PROGNOSED VERSUS ACTUAL TWTS AND DEPTHS FOR KEY GROUPS/FORMATIONS.

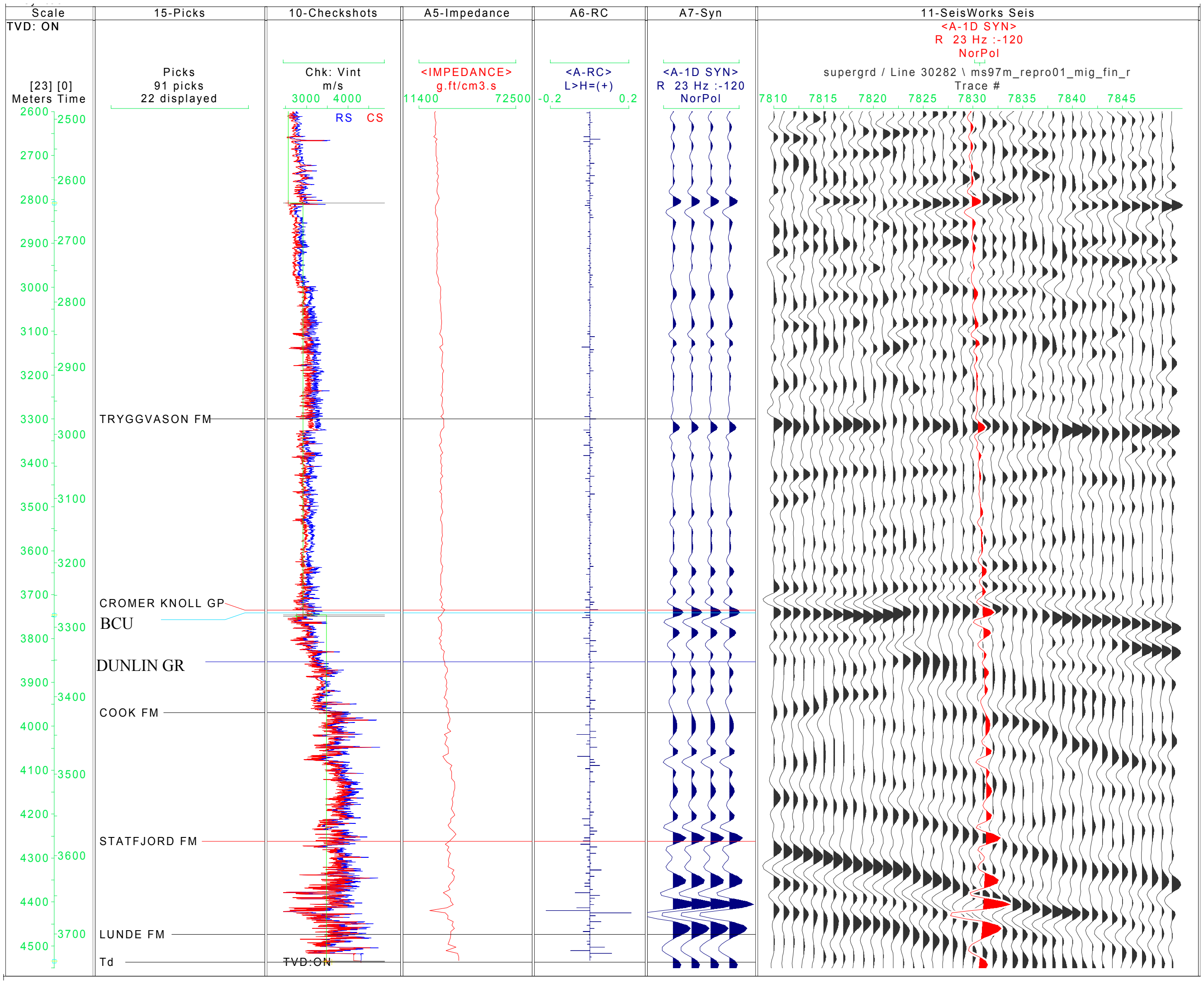


Figure 7: Composite Well Tie.

The display shows sonic log/synthetic check shot corrected sonic, impedance log, reflection coefficient series and resulting synthetic seismogram. The right hand side shows Supergrid Line 30282 overlain by the synthetic seismogram. SEGY inverse polarity (increasing A:I: = trough).

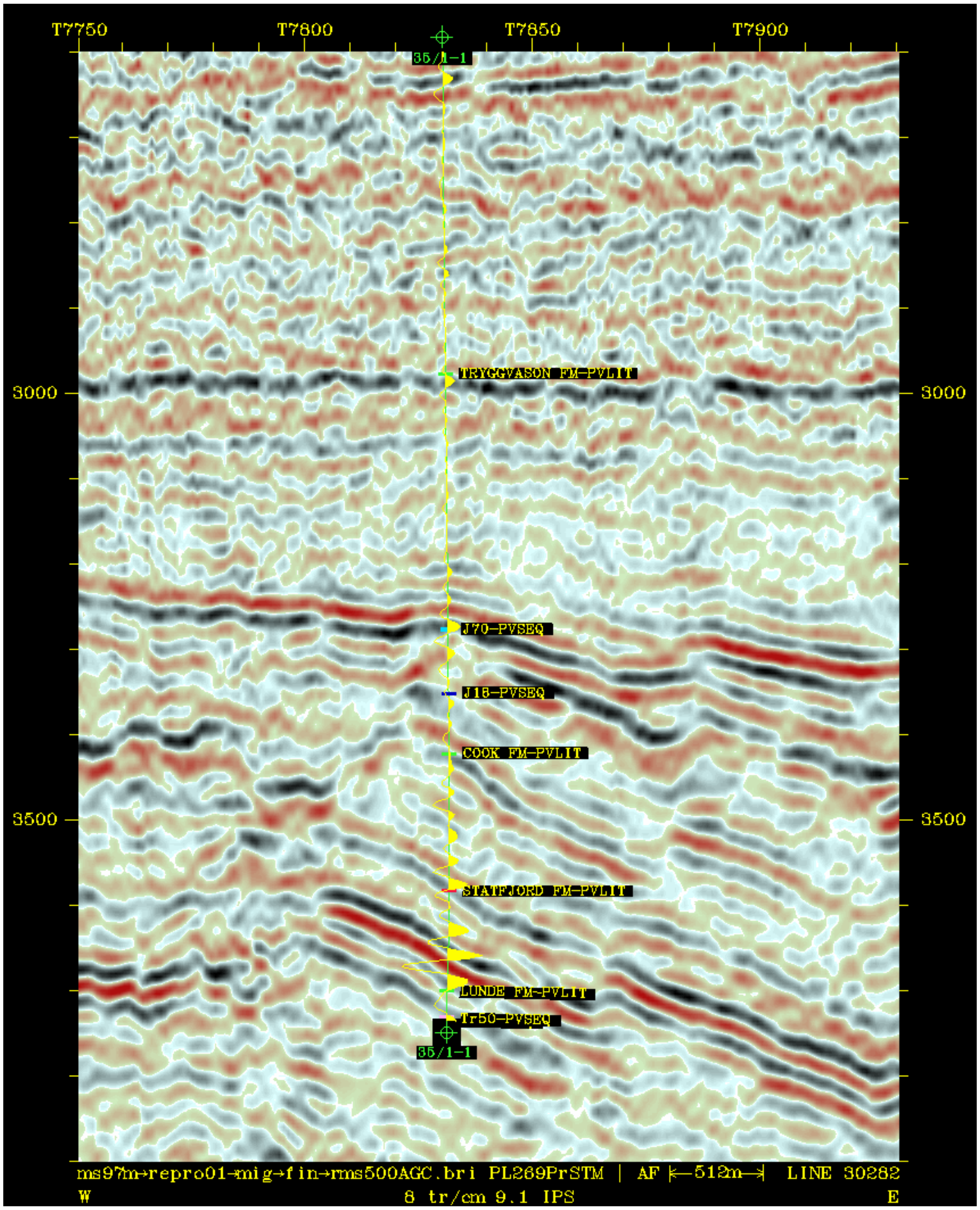


Figure 8: Supergrid Line 30282 with posted synthetic seismogram for 35/1-1.

J70 = BCU; J16 = Dunlin Gr.

35/1-1 WELL SITE SURVEY EVALUATION AND RESULTS

Available mudlogs from offset wells, conventional 3D seismic, shallow 2D high-resolution seismic, shallow lithology profiling, seabed analysis and gravity coring data were evaluated to determine the likelihood of encountering shallow drilling hazards at the 35/1-1 well location.

No seabed obstructions or items of debris were identified from the Side Scan Sonar records at the actual well location or relief well locations. According to the Site Survey Report /4/, shallow geology consists of soft, silty clay down to 16-18 meters below the seabed. These soft clay deposits overlie stiff clays. Three ~3m gravity cores confirmed that the seabed consists of soft clay. According to the Site Survey Report /4/, the seabed consists of generally flat topography that is interspersed by frequent pockmarks (seabed depressions). These pockmarks are scattered throughout the survey area. These features are up to 100 meters in diameter and up to 5 meters deep. The closest pockmark is 50 m south of the 35/1-1 location. Pockmarks are believed to have formed as a result of fluid or gas escape originating in or beneath the soft surface sediments. The water depth was measured to 407 m and seabed inclination to ~0.5 degrees at the well location. Anchoring conditions were predicted to be fairly uniform within the survey area. The rig contractor did not encounter any problems during anchoring.

Boulders were not identified from the site survey high-resolution 2D seismic or conventional 3D seismic. Boulders have previously been encountered in both well 34/2-2 to the west (Mort high) and 35/3-4 to the east, at levels around ~500 m. PPCoN had no access to high-resolution 2D seismic data over these well locations prior to drilling the well. The reported boulder beds could not be resolved from conventional 3D seismic at these well locations. The 35/1-1 well encountered boulder beds in the 36" hole section. The BHA utilized was designed for this possibility and it worked as anticipated.

The Site Survey did not locate any deep-water corals either on the analogue seabed survey or on the high-resolution 2D seismic. This, together with the fact that the seabed consists of soft clay, indicates that there is a limited risk for having deep-water corals within the Site Survey area. Other operators in the Tampen Area have not reported observations of corals, and no corals were registered during the drilling operation.

Investigating for shallow gas was an important part of the site survey evaluation. Amplitude anomalies were mapped at three levels within the clay-prone Pleistocene sequence. A further two amplitude anomalies were also mapped at two levels within the Pliocene sequence. They were interpreted as either low concentrations of gas at low pressure or due to lithological effects. Deeper high-amplitude anomalies were also interpreted. These were interpreted to be associated with lithology and did not represent a risk for gas. Two additional relief well locations were evaluated for shallow gas. The site survey predicted no shallow gas anomalies in either of these two relief well locations. Based on the available data, the investigation concluded with a low risk for shallow gas as confirmed by the drilling operations.

Well 35/3-6, to the east of the 35/1-1 location, hit a shallow high-pressured water pocket, causing major problems and delay to the drilling operations. The pocket was encountered prior to running the BOP and wellhead. Conventional 3D seismic was therefore investigated at the 35/3-6 well location to see if it was possible to detect this shallow water pocket on seismic. No evidence of this could be seen on conventional 3D seismic. Shallow water problems have not been reported from any of the 34/2 wells (Mort High area) to the west of the 35/1-1 location. Even though there were no resolvable shallow water levels on seismic in the 35/1-1 location, the well was planned to handle possible shallow water in this zone. No shallow high-pressured water pocket was encountered in the 35/1-1 drilling operation.

PETROPHYSICAL SUMMARY

INTRODUCTION

The data acquired on well 35/1-1 has come from Wireline and LWD devices. Three major open hole sections were logged with complete suites of wireline logs including dipole accoustic.

Both Schlumberger and Baker Atlas were contracted to do the wireline work and Anadrill was used for the MWD acquisition. Due to the labor dispute, Schlumberger did both sidewall coring and MDT pressure/fluid sample acquisition while Baker did the standard wireline logging.

Mechanical sidewall cores were taken throughout the reservoirs. Standard core analysis for porosity, permeability and grain density were performed on the samples.

Wireline pressure measurements were made and fluid samples were taken at three depths in the well.

The log data has been corrected, depth matched and spliced to produce a continuous log sequence from 503m MD to 4540 m MD (TD). Although there is little deviation in this hole, the directional survey shows a difference of 2.5m over the total well.

Analysis of the dipole acoustic data has been done by the service company and a separate report exists for this. There are also reports on the core samples and fluid analysis.

DATA ACQUISITION AND QUALITY

The initial plan for data acquisition was relatively complete. Electric wireline log data was acquired beginning with the 17 ½" hole and covering the well from 407 metres to TD. This consisted of resisitivity, nuclear porosity logs, acoustic logs and Gamma-ray. LWD resistivity and gamma ray were recorded throughout the well, beginning at 503 metres. Part of the wireline data acquisition program was cancelled due to offshore strike, however continuous logs were acquired.

The data has been merged over the entire well by Baker Atlas. This data set is used for the Final Computer Processed Interpretation (CPI). Table 4 summarizes the data acquisitions on the well.

The data quality for wireline and LWD logs can be considered good. Only the caliper log failed over the 8 ½" section of the well. Due to the labour dispute another log was not attempted.

There were a few sections of the well where the measurements were being lost due to uneven tool movements. The download was spliced into the main pass in order to repair the data in these segments.

The XMAC tool was run over the cased interval and waveform processing was done to get both compressional and shear velocities. These results are excellent.

Operation	Main Log Started	Logged Interval, m	Comments
MWD-DIR-CDR	30/05/02	503-878	
MWD-DIR-CDR	03/06/02	878-2245	Real time CDR lost at 1824m
GR-HDIL-XMAC-ZDL-CN-TTRM	08/06/02	405-2238	
MWD-DIR-CDR	12/06/02	2245-3834	
GR-HDIL-XMAC-ZDL-CN-TTRM	22-06-02	2150-3830	
MWD-DIR-CDR	27/06/02	3834-4540	ECD lost from 3972m
GR-HDIL-XMAC-ZDL-CN-TTRM	08/07/02	3645-4531	Caliper failed
MDT-GR-SAMPLES	09/07/02		47 pretests, 3 sample depths
MSCT	10/07/02		50 attempted , 39 recovered

TABLE 4: DATA ACQUISITION FOR WELL 35/1-1

DATA ANALYSIS

The porosity logs from the wireline tools were used in the CPI with core measurements and water sample analysis input.

Waveform processing by Baker was done over the three logging runs. There are separate reports for each run as well as a merged report.

TEMPERATURE

Temperature measurements are available from several sources:

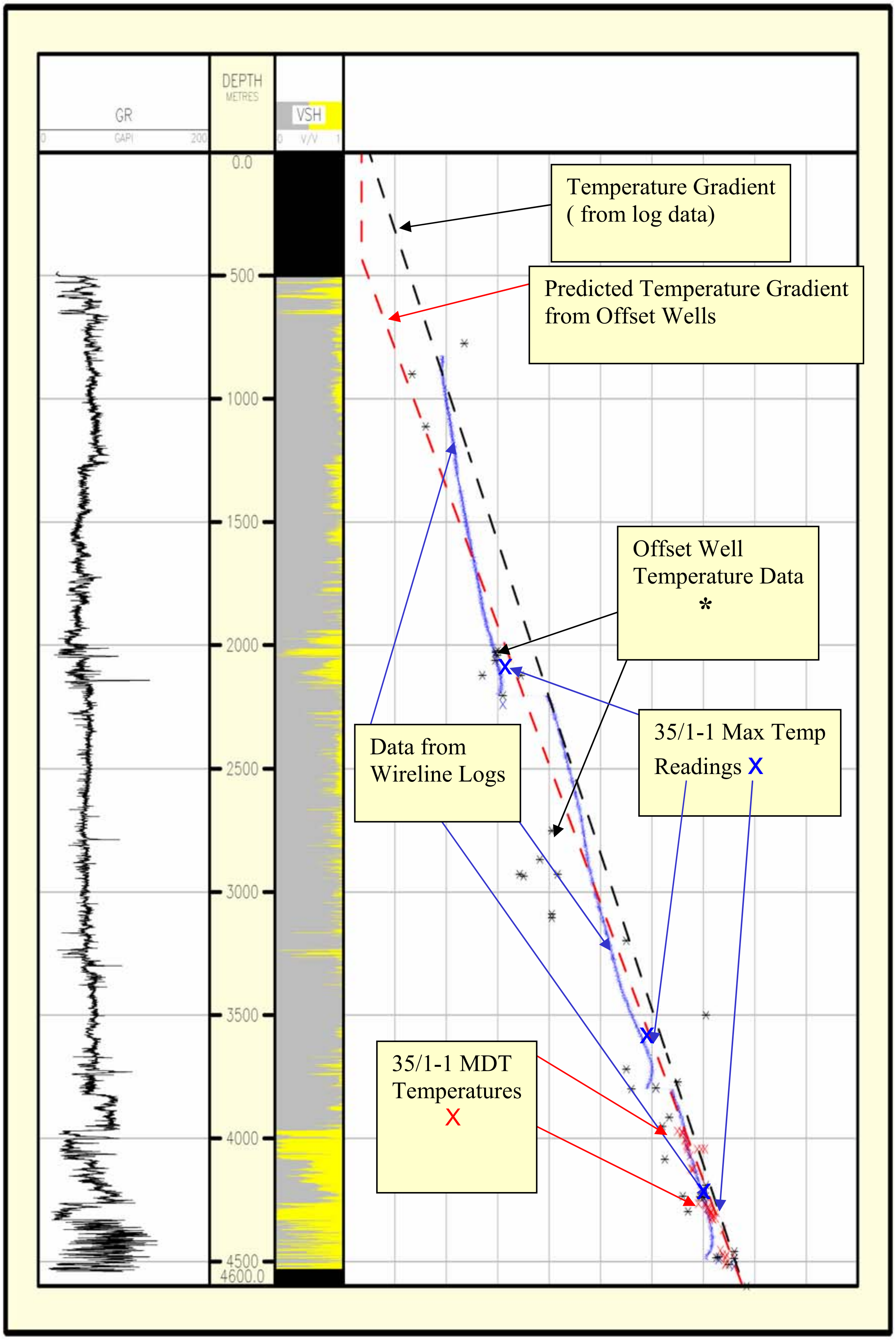
- open hole wireline tools; run 1, run 2, run 3 (mud temperature measurement) both up and down logs.
-
- MDT stationary measurements during pretests.
-
- Mercury Thermometer temperature measurements , these are attached to the top of the tool strings on each pass in the hole

A plot has been made containing the temperature measurements verses depth for all inputs available. The predicted temperature gradient is also presented.

The maximum temperature reached during the logging phase is acquired from the MSCT run which occurred 88 hours after circulation was stopped. This temperature was 152 degrees Celcius at 4520 metres. There is little change in temperature from the previous run of the MDT indicating that the maximum temperature may have already been attained.

Log	BLI (m)	Temp °C	Date	Depth (m)	WTBH	TSC
				Therm	Max	(hours)
RUN 1						
Quad	2238	62.0	08-06-02	2198	61.7	14.75
RUN2						
Quad	3835	121.5	22-06-02	3795	120.6	27.75
RUN3						
Quad	4531	146	08-07-02	4491	144.5	35.25
MDT	4514	152	09-07-02	4489	151.7	58.00
MSCT	4530	152	10-07-02	4510	-	87.00

TABLE 5: TEMPERATURES FROM WIRELINE RUNS


GR
GAPI
0
200
DEPTH
METRES
VSH
V/V
0
1
0.0
500
1000
1500
2000
2500
3000
3500
4000
4500
4600.0
Temperature Gradient
(from log data)
Predicted Temperature Gradient
from Offset Wells
Offset Well
Temperature Data
*
35/1-1 Max Temp
Readings X
Data from
Wireline Logs
35/1-1 MDT
Temperatures
X

INTERPRETATION METHODS

Shale Volume

Shale volume was calculated from a combination of the following indicators:

Gamma-ray
Sonic-Density
Neutron-Density

All of these shale indicators were considered in the analysis, however, the Gamma-ray curve alone has been used as the best indicator of shaliness. The shale curve calculated from the gamma-ray is used in the CPI.

Gamma-Ray

$$Vsh(GR) = \frac{GR_{\log} - GR_{clean}}{GR_{shale} - GR_{clean}}$$

Sonic-Density

$$Vsh(S - D) = \frac{Rhob * (100 - Dtm) + Dt * (RhoDtm - \mathrm{P}100Dt) + \mathrm{P}100Dt * Dtm - RhoDtm * 100}{RhoDtm * (Dtsh - 100) + Rhosh * (100 - Dtm) + \mathrm{P}100Dt * (Dtm - Dtsh)}$$

Neutron-Density

$$Vsh(N - D) = \frac{.2 * (Rhom - Rhob) + Nphi * (\mathrm{P}20\% - Rhom)}{.2 * (Rhom - Rhosh) + Nsh * (\mathrm{P}20\% - Rhom)}$$

GR_{log}	= Gamma-Ray log reading
GR_{clean}	= Gamma-Ray reading in Clean formation
GR_{shale}	= Gamma-Ray reading in Shale formation
Rhob	= Density log reading
Rhom	= Density reading in Clean formation(matrix)
Rhosh	= Density reading in shale
Dt	= Sonic log reading (Dt)
Dtm	= Dt reading in clean formation (matrix)
Dtsh	= Dt reading in Shale formation
RhoDtm	= Density reading at Dtm (matrix)
Rho100Dt	= Density reading at Dt=100
Nphi	= Neutron log reading
Nsh	= Neutron reading in shale formation
Rho20%	= Density reading at Neutron reading of 20%
Vsh	= Volume of shale

The heading, attached to the beginning of each CPI, outlines the parameters used and the shale indicators selected for each zone in the well. Table 6 displays this information.

Porosity

The log porosity was matched to the core porosity measurements.

The method primarily involves matching the matrix density and fluid density in the density porosity equation to give the best fit to the core data. This method gives a very good correlation between core and log data. (Figure 11).

Shale-corrected density porosity, using the following algorithms:

Shale correction applied to the density log:

$$\rho_{bulk,corr} = \frac{\rho_{bulk} - Vsh * \rho_{shale}}{1 - Vsh}$$

Density Porosity is calculated using the following formula:

$$\Phi_d = \frac{\rho_{ma} - \rho_{bulk,corr}}{\rho_{ma} - \rho_{fluid}}$$

ρ_{ma} - Matrix Density reading
ρ_{fluid} - Fluid Density reading
ρ_{shale} - Shale Density reading
ρ_{corr} - Shale Corrected Density reading

The cross plots of Neutron and Density logs (Figures 11 and 12) are displayed to show the apparent lithology of the reservoir intervals.

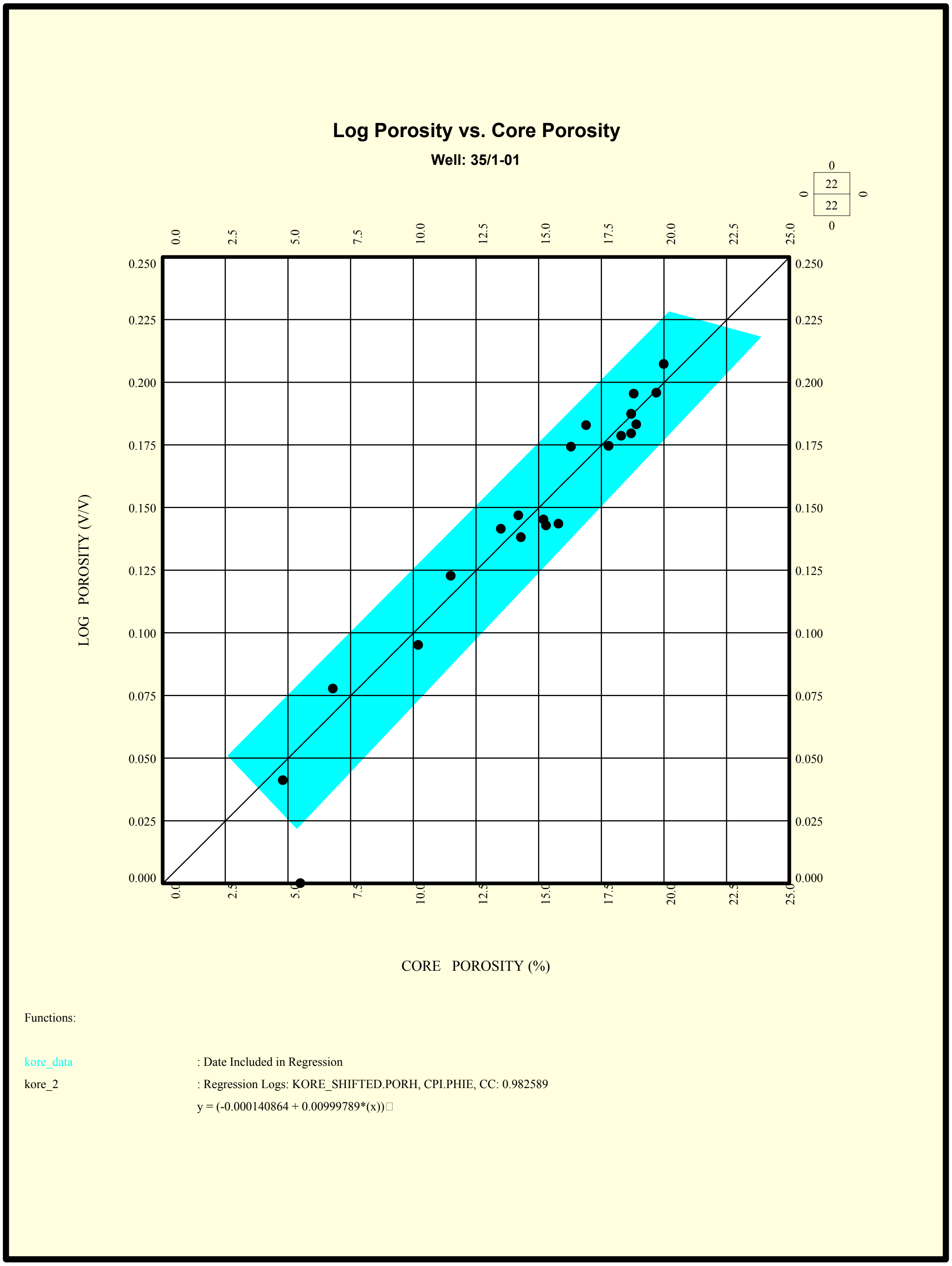


Figure 10: Log Porosity Vs. Core Porosity

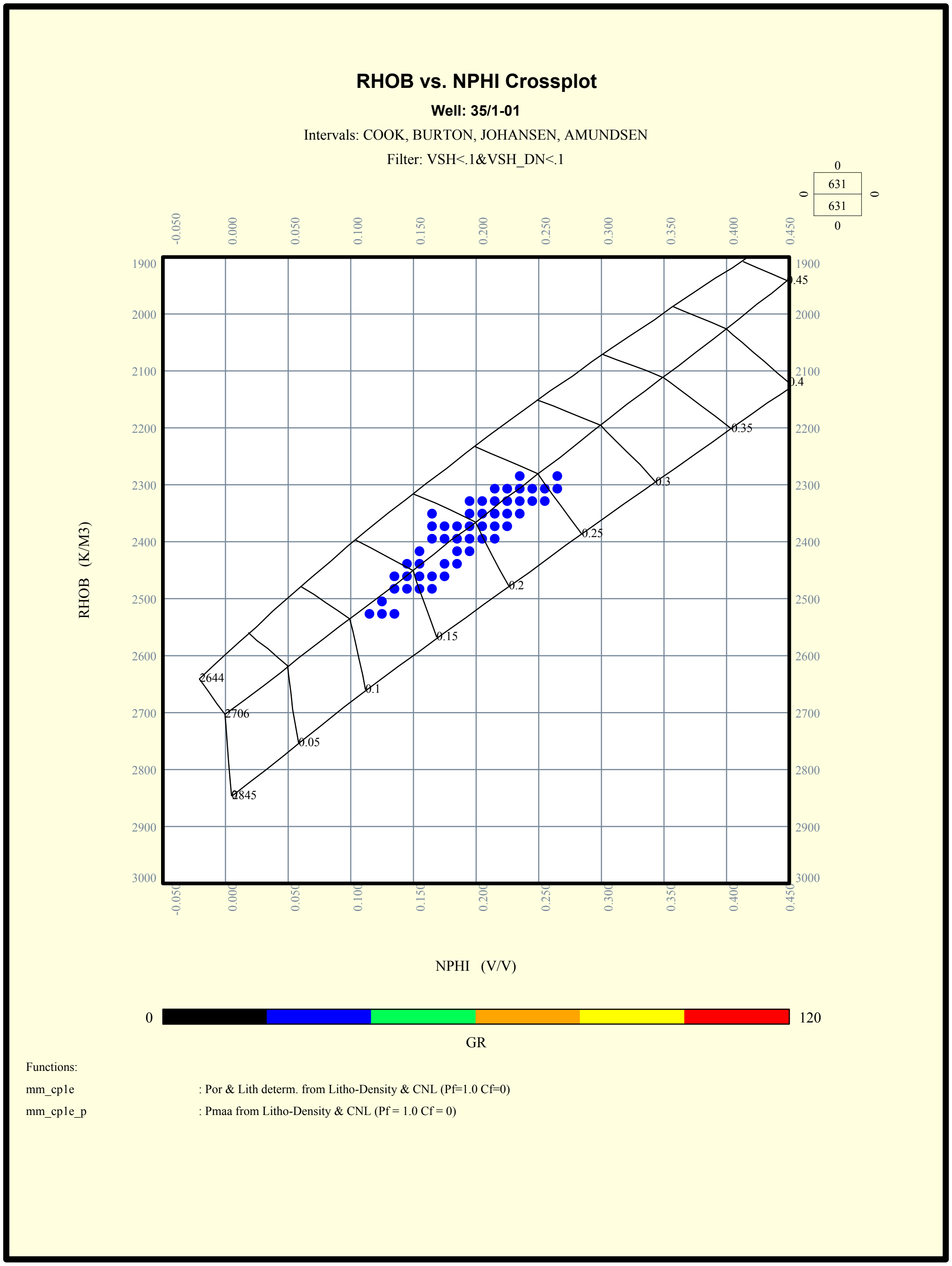


Figure 11: Neutron Vs. Density, Cook to Statfjord

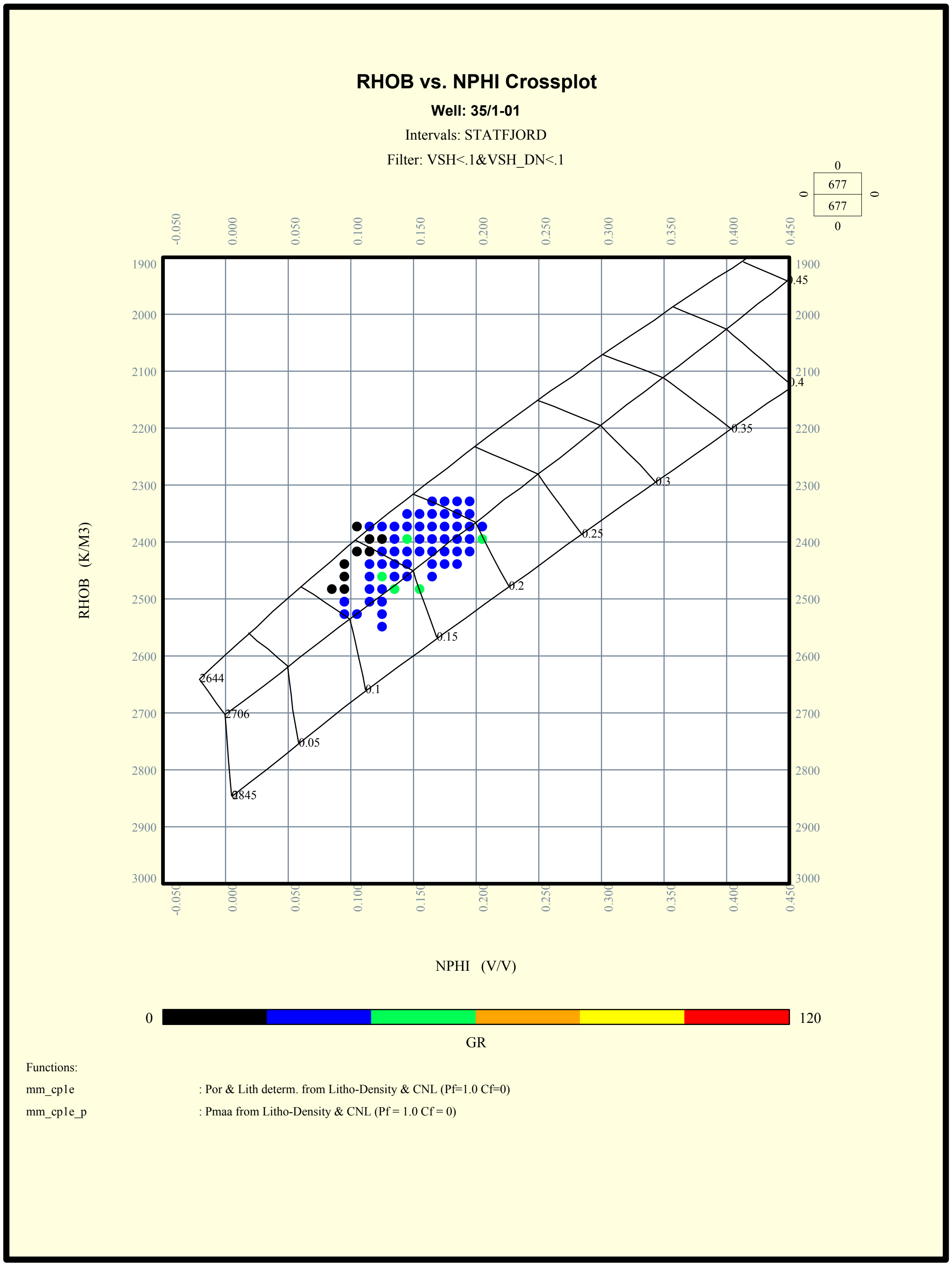


Figure 12: Neutron Vs. Density, Statfjord

Water Saturation

Water Saturation was calculated using a modified version of the Poupon equation which takes into account the effect of clay on the resistivity measurement:

$$Sw = \left[\sqrt{\frac{Rt}{F * Rw}} + \sqrt{\frac{Rt * C}{Sres}} * Vsh^{B} \right]^{-2/n}$$

Where: Rt = True resistivity

$$C = 1 + (\frac{Sres}{Rt} - 1) * Vsh^{RDX}$$

$$B = 1 - \frac{Vsh}{2}$$

$$F = \frac{a}{\phi^{m}}$$

$$RDX = 4 * (1 - Vsh)$$

Rw	= Formation water resistivity
Sres	= Shale resistivity
Vsh	= Shale volume
n	= Saturation exponent
F	= Formation factor
a	= Constant
m	= Cementation exponent

The Picket plot of Porosity vs Resistivity (Figure 13) does not show a reservoir with a single Rw. A water-wet reservoir with one water resistivity will have points plotting along the 100% water saturation line. In the case of 35/1-1 there is also a large vertical spread on the resistivity data indicating the probable presence of hydrocarbons (points plotting above the 100% water saturation line).

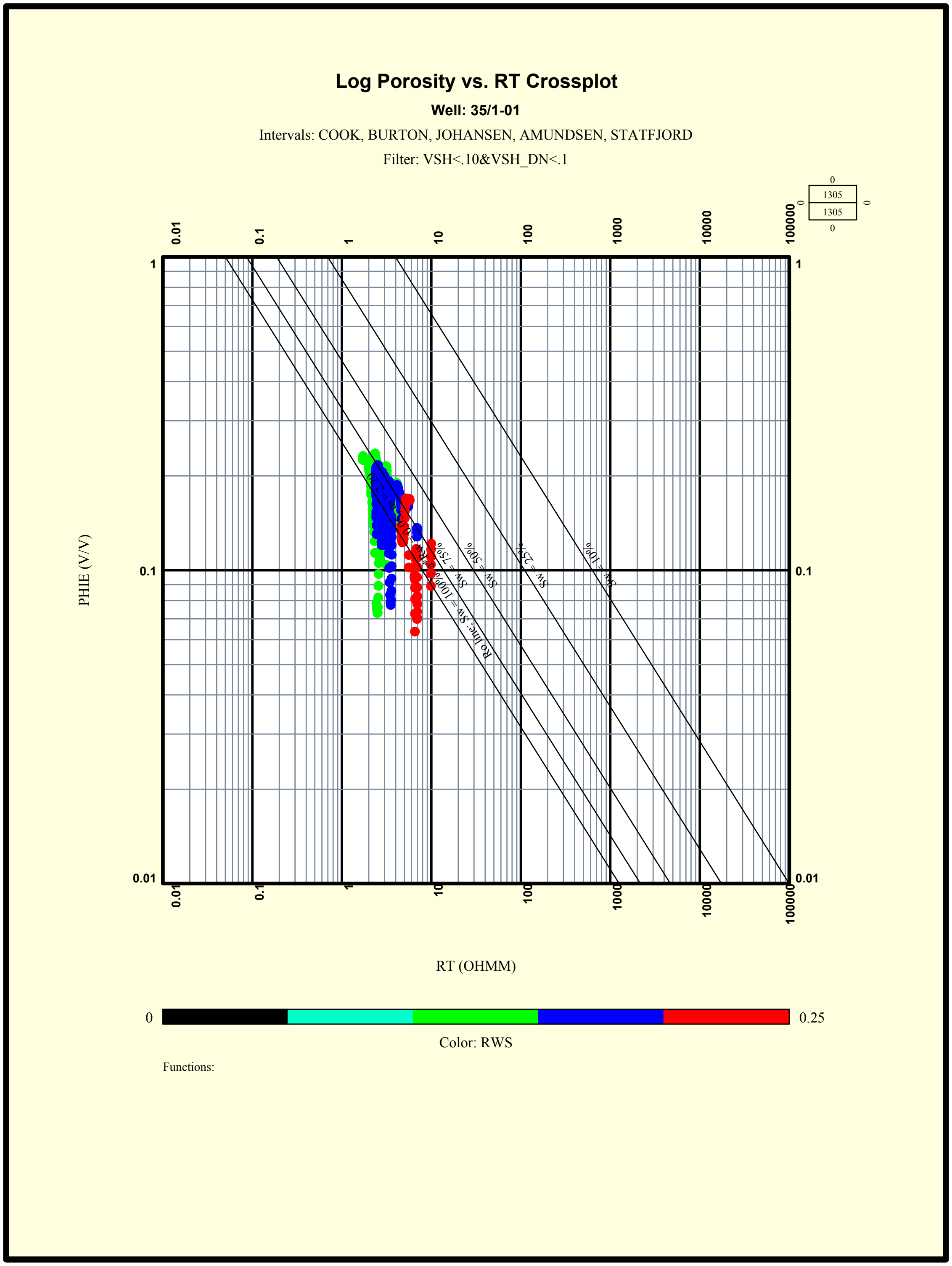
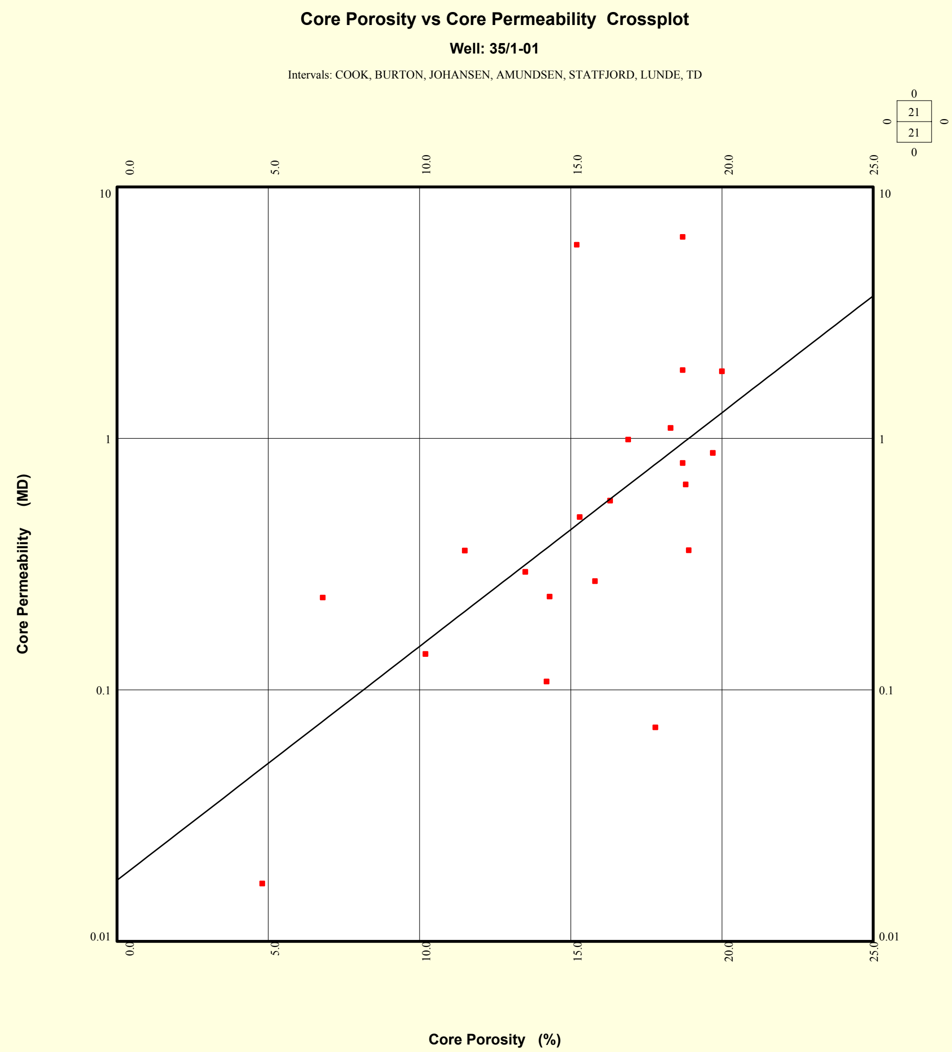


Figure 13: Log Porosity Vs. RT (Picket Plot)

Permeability

The plot of Core porosity verse Core Permeability is show in Figure 14 and Log porosity vs Core permeability is shown in Figure 15. There is a large spread of the data and a poor but evident correlation between permeability and porosity. The permeability relationship seems to break down above 1 millidarcy. A computation can be made using the porosity from the logs to give an indication of permeability. This is displayed on the CPI plots. The reliability of this computation is, however, rather poor above 1 millidarcy.

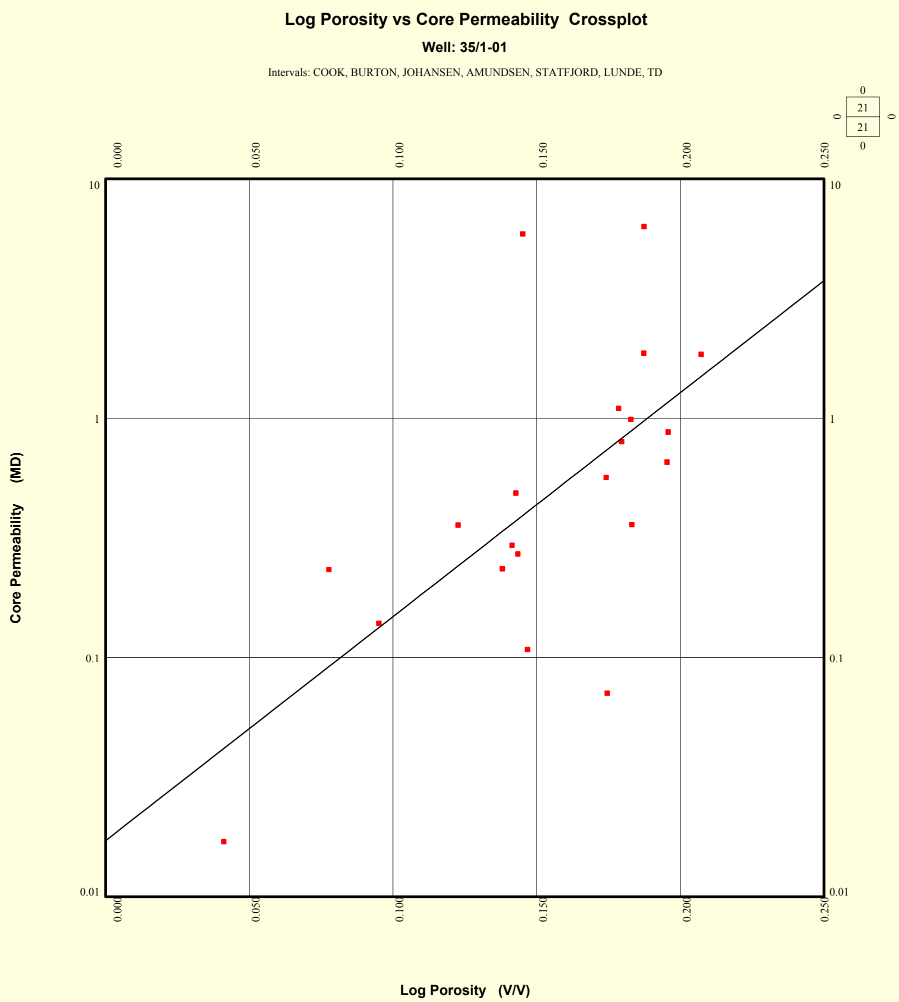


Functions:

perm_por : Regression Logs: KORE_SHIFTED.PORH_1, KORE_SHIFTED.KHKL_1, CC: 0.640458

y = 10**(-1.75696 + 0.0929544*(x))

Figure 14: Core Porosity Vs Core Permeability



Functions:

log_por_cor_perm : Regression Logs: KORE_SHIFTED.PHIE, KORE_SHIFTED.KHKL_1, CC: 0.656242

$y = 10^{(-1.76542 + 9.36068 x)}$

Figure 15: Log Porosity Vs. Core Permeability

CPI PRESENTATION

A Color CPI presentation for the entire well is presented as an insert into this report. The Cook and Statfjord Formations are shown in Figures 16 and 17.
The parameters used to compute the CPI results from the logs are listed in Table 6.

CORE MEASUREMENTS

The core samples have been analysed for porosity and permeability and grain density. SEM work, X-ray diffraction analysis and thin section work has also been done on the samples. The core permeablity and porosity are represented on the CPI plots.

FORMATION PRESSURES

Pressure data from the MDT tool is listed in Table 7 and plotted on Figure 18. The pressure values are interpreted as being affected strongly by the low permeability of the tested intervals. Most of the pretest pressure points are affected by supercharging which makes it difficult to construct gradient lines. However, the pressure data do suggest that a pressure barrier excist between the Cook Formation and the Statfjord/Lunde Formations (Figure 18).

WATER SAMPLE ANALYSIS

Several water samples were obtained from 3 intervals (Table 8). The analyses of these samples were used in the interpretation of the CPI. The water resistivities as measured were used for the Cook, Statfjord and Lunde formations.

CONCLUSIONS

The log data quality was good for this well.

The CPI calculations indicate residual hydrocarbon throught most of the interval. Special core analysis was not possible on the sidewall samples as they were too small, however, some indication of residual hydrocarbon was obtained from the analysis of these samples.

The Reservoir summary for the Reservoir formations is represented in Table 9.

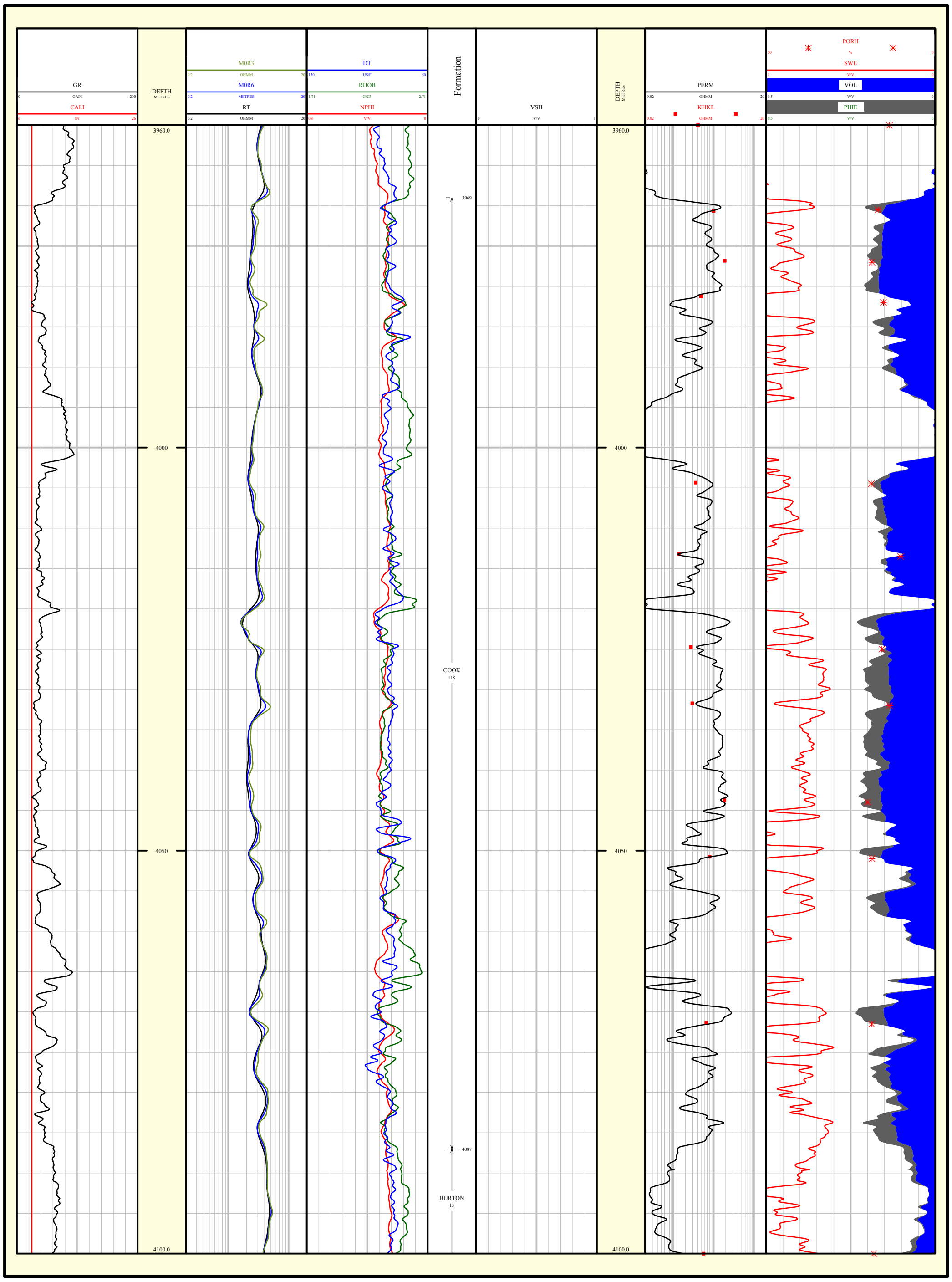


Figure 16: CPI Cook Formation

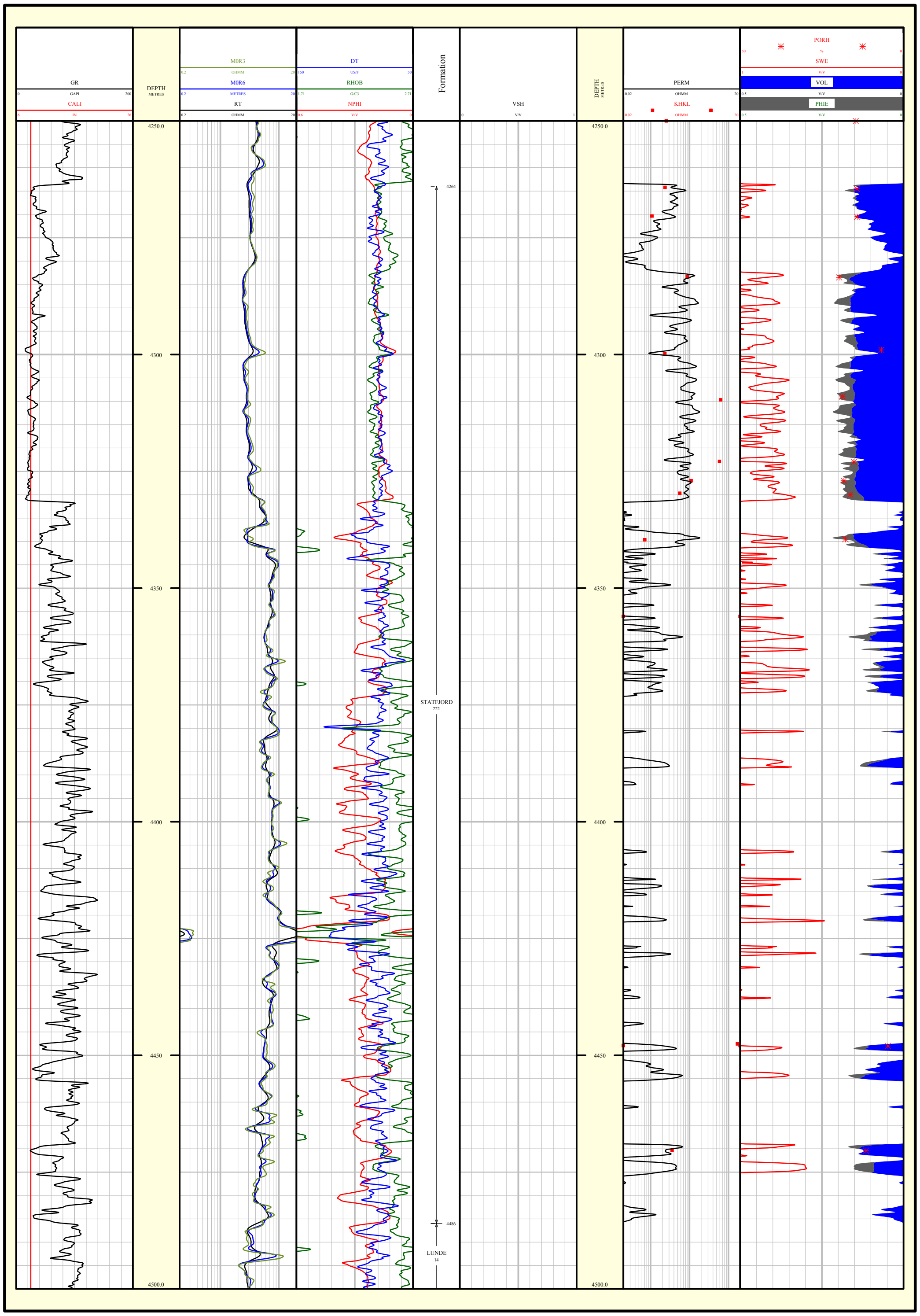


Figure 17: CPI Statfjord Formation

DEPTH	DEPTH	A	M	N	RWS	RWT	RT SH	GR MA	GR SH	RHO FL	RHO MA	RHO SH	NPHI FL	NPHI SH	DT FL	DT MA	DT SH	OPT VSH	OPT SW	OPT PHI
507.000	575.200	1.000	2.200	1.900	0.120	77.000	2.000	23.000	60.000	1.000	2.650	2.200	1.000	0.440	189.000	55.000	110.000	GR	INDO_FUL	
575.200	657.500	1.000	2.200	1.900	0.120	77.000	2.000	23.000	60.000	1.000	2.650	2.200	1.000	0.440	189.000	55.000	110.000	GR	INDO_FUL	
657.500	879.900	1.000	2.200	1.900	0.120	77.000	2.000	20.000	60.000	1.000	2.650	2.200	1.000	0.440	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
879.900	1274.500	1.000	2.200	1.900	0.120	77.000	2.000	20.000	65.000	1.000	2.650	2.300	1.000	0.420	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
1274.500	1466.100	1.000	2.200	1.900	0.120	77.000	2.000	20.000	55.000	1.000	2.650	2.100	1.000	0.440	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
1466.100	1720.100	1.000	2.200	1.900	0.120	77.000	2.000	15.000	46.000	1.000	2.650	1.900	1.000	0.600	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
1720.100	2011.900	1.000	2.200	1.900	0.120	77.000	2.000	10.000	43.000	1.000	2.650	2.100	1.000	0.500	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
2011.900	2288.800	1.000	2.200	1.900	0.120	77.000	2.000	10.000	50.000	1.000	2.650	2.300	1.000	0.440	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
2288.800	2602.000	1.000	2.200	1.900	0.120	77.000	2.000	10.000	60.000	0.780	2.650	2.350	1.000	0.420	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
2602.000	2819.400	1.000	2.200	1.900	0.120	77.000	2.000	10.000	54.000	0.780	2.650	2.400	1.000	0.360	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
2819.400	2999.700	1.000	2.200	1.900	0.120	77.000	2.000	10.000	54.000	0.780	2.650	2.420	1.000	0.360	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
2999.700	3325.100	1.000	2.200	1.900	0.120	77.000	2.000	10.000	54.000	0.780	2.650	2.480	1.000	0.300	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
3325.100	3670.000	1.000	2.200	1.900	0.120	77.000	2.000	10.000	60.000	0.780	2.650	2.500	1.000	0.360	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
3670.000	3743.600	1.000	2.200	1.900	0.120	77.000	3.000	10.000	65.000	0.780	2.650	2.520	1.000	0.360	189.000	55.000	110.000	GR	INDO_FUL	DENSITY
3743.600	3962.900	1.000	2.200	1.900	0.148	77.000	3.000	10.000	65.000	1.180	2.636	2.500	1.000	0.300	189.000	55.000	90.000	GR	INDO_FUL	DENSITY
3962.900	4089.600	1.000	2.200	1.900	0.148	77.000	3.000	35.000	90.000	1.180	2.636	2.550	1.000	0.260	189.000	55.000	90.000	GR	INDO_FUL	DENSITY
4089.600	4210.700	1.000	2.200	1.900	0.148	77.000	3.000	35.000	90.000	1.180	2.636	2.550	1.000	0.260	189.000	55.000	90.000	GR	INDO_FUL	DENSITY
4210.700	4262.600	1.000	2.200	1.900	0.173	77.000	3.000	35.000	90.000	1.180	2.636	2.550	1.000	0.260	189.000	55.000	90.000	GR	INDO_FUL	DENSITY
4262.600	4333.200	1.000	2.200	1.900	0.173	77.000	8.000	30.000	90.000	1.180	2.636	2.550	1.000	0.240	189.000	55.000	90.000	GR	INDO_FUL	DENSITY
4333.200	4385.000	1.000	2.200	1.900	0.173	77.000	8.000	40.000	90.000	1.180	2.636	2.550	1.000	0.300	189.000	55.000	90.000	GR	INDO_FUL	DEN/NEUT
4385.000	4529.600	1.000	2.200	1.900	0.239	77.000	8.000	40.000	90.000	1.180	2.636	2.550	1.000	0.300	189.000	55.000	90.000	GR	INDO_FUL	DENSITY

TABLE 6: CPI PETROPHYSICAL PARAMETER SUMMARY

Time	TestNo:	MDRT	TVDRT	IHP	FP (gauge)	FP (strain)	FHP	Temp	Mobility	Hydrostatic Pressure	Pore Pressure
		[m]	[m]	[Bar]	[Bar]	[Bar]	[Bar]	[degC]	[mD/cp]	[EMW]	[EMW]
	PS1_026	3971.0	3948.0	745.4		637.7	745.1	129.9	-	1.925	1.647
02:30	PS1_027	3973.0	3950.0	745.5	726.6	726.5	745.0	131.5	0.1	1.924	1.875
02:59	PS1_028	3977.0	3954.0	746.0	726.7	726.5	745.4	131.8	0.1	1.923	1.874
03:25	PS1_029	3979.0	3956.0	745.9	726.6	726.4	745.4	132.0	0.1	1.922	1.872
04:00	PS1_030	4005.0	3982.0	751.3	730.3	730.0	750.7	132.7	0.1	1.923	1.869
04:28	PS1_031	4009.0	3986.0	751.8	730.7	730.4	751.2	133.0	0.1	1.923	1.869
04:58	PS1_032	4028.0	4005.0	755.7		545.9	755.4	133.4	-	1.923	1.389
05:03	PS1_034	4033.0	4010.0	756.5	733.3	733.0	755.8	133.8	0.1	1.923	1.864
06:52	PS1_035	4043.0	4020.0	758.3	733.0	732.8	-	133.8	0.3	1.923	1.859
05:26	PS1_038	4071.0	4048.0	763.2	738.8	738.5	762.4	134.8	0.1	1.922	1.860
07:26	PS1_039	4124.0	4101.0	774.7	516.1	516.1	774.1	135.2	-	1.926	1.283
07:38	PS1_040	4125.0	4102.0	774.2	521.1	521.1	773.9	135.8	-	1.924	1.295
07:47	PS1_041	4127.5	4104.5	774.5	-	-	774.0	135.9	-	1.923	0.000
08:09	PS1_042	4265.0	4242.0	800.5	712.8	712.6	799.8	138.0	-	1.924	1.713
08:26	PS1_043	4266.0	4243.0	800.3	763.9	763.7	799.1	140.4	-	1.923	1.835
09:00	PS1_044	4270.5	4247.5	800.7		674.0	800.2	140.7	-	1.922	1.618
09:16	PS1_045	4283.0	4260.0	803.5	764.6	764.4	-	141.5	0.1	1.923	1.830
09:32	PS1_045-1	4283.0	4260.0	803.5	764.6	764.4	-	141.7	0.1	1.923	1.830
09:54	PS1_045-2	4283.0	4260.0	803.5	764.6	764.4	801.5	141.7	0.1	1.923	1.830
10:15	PS1_046	4287.0	4264.0	803.1	763.9	763.6	802.1	142.1	0.2	1.920	1.826
10:28	PS1_046-1	4287.0	4264.0	803.1	763.9	763.6	802.1	142.3	0.2	1.920	1.826
10:44	PS1_047	4293.0	4270.0	803.9	765.3	765.1	802.0	142.7	-	1.919	1.827
11:15	PS1_048	4301.0	4278.0	805.8	764.3	764.1	-	142.8	0.4	1.920	1.821
11:26	PS1_048-1	4301.0	4278.0	805.8	764.3	764.1	804.9	142.9	0.4	1.920	1.821
11:38	PS1_049	4304.5	4281.5	806.2	765.5	765.3	805.5	143.0	0.1	1.920	1.823
11:59	PS1_050	4312.5	4289.5	807.9	766.8	766.6	807.0	143.3	0.1	1.920	1.822
12:23	PS1_051	4323.0	4300.0	810.0	766.2	766.0	-	143.3	0.8	1.920	1.816
12:34	PS1_051-1	4323.0	4300.0	810.0	766.2	766.0	809.0	143.4	0.8	1.920	1.816
12:44	PS1_051-2	4323.0	4300.0	810.0	766.2	766.0	808.6	143.4	0.8	1.920	1.816
13:00	PS1_052	4327.5	4304.5	810.3	767.1	766.9	809.5	143.8	0.2	1.919	1.817
13:47	PS1_055	4455.0	4432.0	835.7	782.2	781.9	834.9	146.6	1.1	1.922	1.799
14:01	PS1_055-1	4455.0	4432.0	835.7	782.1	781.9	834.6	146.6	1.1	1.922	1.799
14:09	PS1_056	4474.0	4451.0	840.0	783.2	782.9	838.4	147.5	2.1	1.924	1.794
14:40	PS1_057	4483.5	4460.5	841.1	785.0	784.7	839.9	148.7	0.2	1.922	1.794
15:02	PS1_058	4508.0	4485.0	846.3			845.8	148.9	-	1.924	0.000
15:21	PS1_064	4512.5	4489.5	843.4	789.8	789.5	842.7	148.4	0.1	1.915	1.793
16:25	PS1_065	4371.0	4348.0	815.4			815.5	147.7	-	1.912	0.000
16:45	PS1_066	4301.0	4278.0	802.8	764.2	764.0	-	145.0	0.3	1.913	1.821
SamplingatStatfjord(1x1gallon+1X450CCbottles)											
18:05	PS1_071	4323.5	4300.5	808.0	766.1	765.9	808.0	144.7	1.0	1.915	1.816
22:31	PS1_073	4323.5	4300.5	808.2	764.8	764.5	808.2	143.4	1.8	1.916	1.813
SamplingatLunde(1x1gallon+1X450CCbottles)											
00:27	PS1_081	4473.0	4450.0	833.9	783.1	782.8		149.0	1.4	1.910	1.794
8:59	PS1_084	4473.0	4450.0		782.6	782.1	833.1	151.7	0.9	0.000	1.793
SamplingatCook(2X450CCbottles)											
0.4	PS1_087	4043.5	4020.5		755.6			140.6	0.1	0.000	1.916
	PS1_088	4043.0	4020.0							0.0	0.000
	PS1_089	4044.0	4021.0	755.6	732.9	732.6		137.6	0.6	1.9	1.858
	PS1_089	4044.0	4021.0	755.6	731.7	731.5	755.3	139.2	0.5	1.9	1.855

TABLE 7: FORMATION PRESSURES FROM MDT

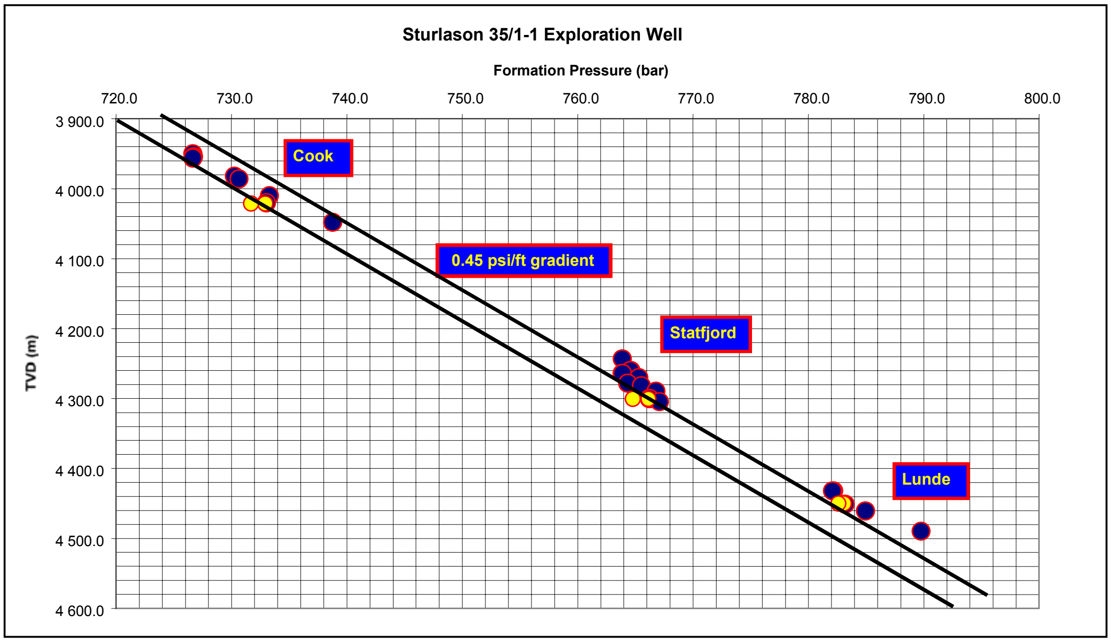


Figure 18: MDT Pressure Points

Yellow points shows pressures before (right) and after (left) fluid sampling. The difference indicates cleaning of the pore throats. The two trend lines indicate a pressure difference of 4 bars between Cook Formation and Statford/Lunde Formations.

Depth metres	Formation	Total Dslvd Salts mg/l	PH @ 20 ºC	S.G. @ 15 ºC	Rest @ 25 ºC
4044	Cook	46700	6.5	1.034	.148
4323.5	Statfjord	39700	5.9	1.029	.175
4323.5	Statfjord	39700	5.9	1.029	.173
4323.5	Statfjord	39000	6.8	1.028	.170
4473	Lunde	28600	6.1	1.021	.239

TABLE 8: WATER SAMPLE ANALYSIS

Pay Summary Specification: STURLASON (finalcpi cutoff for sturlasonwell 35/1-1)

Primary reference forreporting and sample control: DEPTH
Cutoff details:-

PHIE>= 0.08 V/V
VSH<= 0.40 V/V

Lumping details:-

Standalone Minimum Thickness:0.5 METRES
Include Minimum Thickness:0.5 METRES
Maximum Separation:0.25 METRES

Separations are not included.

Missingsare includedin GROSS.

Frame values centralised on framedepth.

Formation	FROM	DEPTH	GROSS	NET	NET TO GROSS	PHIE*H	PHIE AVE	SWE AVE	VSH AVE
	METRES	METRES	METRES	METRES	M/M	(V/V)M	V/V	V/V	V/V
COOK	3969.000	4087.000	118.000	94.642	0.802	15.602	0.165	0.827	0.075
BURTON	4087.000	4124.000	37.000	0.762	0.021	0.093	0.122	0.672	0.362
JOHANSEN	4124.000	4190.000	66.000	7.620	0.115	0.968	0.127	0.732	0.246
AMUNDSEN	4190.000	4264.000	74.000	0.000	0.000	0.000	-	-	-
STATFJORD	4264.000	4486.000	222.000	77.606	0.350	12.041	0.155	0.869	0.069
LUNDE	4486.000	4540.000	54.000	0.000	0.000	0.000	-	-	-
TOTALS	3969.000	4540.000	571.000	180.630	0.316	28.703	0.159	0.841	0.081

TABLE 9: RESERVOIR SUMMARY

DRILLING SUMMARY

PLEASE REFER TO SEPARATE PPCON POST WELL DRILLING REPORT.

APPENDICES