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1 Introduction

This report gives the result of routine vitrinite reflectance analyses on 40 samples covering the interval from 820 to 2506 mRKB in well **34/7-22** offshore Norway.

2 Material

2.1 Samples

The material was provided from the client as 33 washed and dried cuttings and 7 core chips. The positions of the samples are indicated in figure 1.

2.2 Geological information and casing points

Information on stratigraphy and casing points was not supplied from the client.

3 Analytical techniques

3.1 Preparation

The sample material were embedded in an epoxy resin to make briquettes, ground flat and polished using 0.25 micron diamond paste and magnesium oxide as the two final polishing steps.

3.2 Analysis

The analytical equipment being used was a Zeiss MPM 03 photometer microscope equipped with an Epiplan-Neofluoar 40/0.90 oil objective. The sensitive measuring spot was kept constant for all measurements at about 2.5 micron in diameter. The measurements were made through a green band pass filter (546 nm) and in oil immersion (refractive index 1.515 at 18 °C). The readings were made without a polarizer and using a stationary stage. This procedure is called measurement of *random reflectance (%Rm).* The photometer is calibrated daily against a glass standard of known reflectance (%Rm=0.588) and routinely (daily) checked against two other standards of significant different reflectances (%Rm=0.879 and 1.692). A deviation from these values of less than ±0.01 and ±0.02 %Rm respectively is considered as acceptable. The calibration is routinely checked during the course of measurements at least every hour, and a deviation of less than ±0.005 %Rm is considered as acceptable.

For each sample at least 20 points were measured if possible, and quality ratings are given to various important aspects which may affect the measurements. The aspects are abundance of vitrinite, uncertainties in the identification of indigenous vitrinite, type of vitrinite, particle size, particle surface quality and the abundance of pyrite.

3.2 Presentation of results

The raw data from the measurements are presented in appendix individually for each sample both as tabulated data and histograms. A true vitrinite population is selected among the readings based on observations made during the measurements, and arithmetic mean values are calculated for both this population and other populations. A quality rating

is given to the true population. The results are listed in table 1.

The results are presented as vitrinite reflectance versus depth plots on linear and semilogarithmic scales (figure 1). A vitrinite reflectance versus depth trend is interpreted manually on the linear plot and transferred to the semilogarithmic plot. The interpreted trend is also listed in table 2.

4 Results

Except for 3 coal samples, the sample quality for this well proved to be moderate to poor due to abundant low-reflecting material and staining in the lower part of the well (1620-2506mRKB). The whole well is characterized by samples with small amounts of vitrinite and lots of pyrite. However, it has still been possible to establish a fairly reliable vitrinite reflectance versus depth trend between 820 and 2506 mRKB.

Table 1 Vitrinite reflectance data

Well 34/7-22

IFE no.	Depth, mRKB	Sample type	Lithology	%Rm	Std. dev.	N	Quality	Preparation
SA 1227	820	cut	claystone	0.23	0.06	22	M	HF
SA 1228	870	cut	claystone	0.23	0.04	23	P	HF
SA 1229	920	cut	claystone	0.24	0.05	23	M	HF
SA 1230	970	cut	claystone	0.24	0.03	23	M	HF
SA 1231	1020	cut	claystone	0.24	0.04	22	P	HF
SA 1232	1070	cut	claystone	0.27	0.04	23	M	HF
SA 1233	1120	cut	claystone	0.26	0.05	28	M	HF
SA 1234	1170	cut	claystone	0.28	0.06	28	P	HF
SA 1235	1220	cut	claystone	0.27	0.04	21	M	HF
SA 1236	1270	cut	claystone	0.29	0.03	20	M	HF
SA 1237	1320	cut	claystone	0.24	0.05	13	P	HF
SA 1238	1370	cut	claystone	0.26	0.03	2	P	HF
SA 1239	1420	cut	claystone				barren	HF
SA 1240	1470	cut	claystone	0.30	0.07	20	P	HF
SA 1241	1520	cut	claystone	0.34	0.05	16	P	HF
SA 1242	1570	cut	claystone	0.31	0.07	24	M	HF
SA 1243	1620	cut	claystone	0.36	0.05	14	P	HF
SA 1244	1670	cut	claystone	0.33	0.07	26	P	HF
SA 1245	1720	cut	claystone	0.34	0.07	20	P	HF
SA 1246	1770	cut	claystone	0.35	0.06	20	P	HF
SA 1247	1820	cut	claystone	0.28	0.04	4	P	HF
SA 1248	1870	cut	claystone	0.36	0.06	24	P	HF
SA 1249	1920	cut	claystone	0.33	0.06	25	P	HF
SA 1250	1970	cut	claystone	0.33	0.03	18	P	HF
SA 1251	2020	cut	claystone	0.35	0.07	22	P	HF
SA 1252	2070	cut	claystone	0.36	0.03	6	P	HF
SA 1253	2120	cut	claystone	0.33	0.05	16	P	HF
SA 1254	2170	cut	claystone	0.38	0.05	22	P	HF
SA 1255	2219	cut	claystone	0.45	0.06	21	P	HF
SA 1219	2286.5	core	coal	0.34	0.02	30	G	bulk
SA 1220	2286.7	core	coal	0.36	0.03	30	G	bulk
SA 1221	2297	core	coal	0.32	0.02	30	P	bulk
SA 1222	2298	core	claystone	0.30	0.03	30	P	bulk
SA 1223	2300.2	core	coal	0.31	0.03	30	P	bulk
SA 1224	2301	core	coal	0.34	0.04	30	G	bulk
SA 1225	2306.9	core	coal	0.38	0.04	30	G	bulk
SA 1256	2369	cut	sandstone	0.47	0.05	22	M	HF
SA 1257	2420	cut	siltstone	0.37	0.07	24	P	HF
SA 1258	2470	cut	claystone				barren	HF
SA 1259	2506	cut	claystone	0.43	0.05	20	P	HF

G	Good quality	**P**	Poor quality	**A**	Mud additive	**HF**	HF-treated
M	Moderate quality	**X**	Not vitrinite	**Barren**	Barren of vitrinite	**Bulk**	Bulk rock