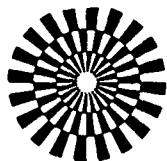


56

GECO



PETROLEUM

Denne rapport
tilhører
17522

LABORATORIER

L. NR. 99594 # 1021

KODE WEL 31/2-13 NR-29

RETURNERES ETTER BRUK

A/S Norske Shell
P.O. Box 33

4033 Forus.

Attn.: G.J. van Dijk/ C. Mortland.

Stavanger, 25.07.84.
KR/sn/A5/246-lab.

Dear Sirs,

Enclosed you will please find the data from measurements of air permeability and helium porosity on the ten unconsolidated samples requested from well 31/2-13. Below is a brief description of how the samples were treated in the GECO laboratory.

The samples were sent loose in a box to the GECO laboratory packed without any kind of insulation or material for protection. A brine solution of approximately 50 000 ppm was first used to vacuum saturate the pore area.

The samples were thereafter consolidated by freezing. Once frozen, the lead sleeve was then peeled away and the sample installed immediately in a Hassler-type holder equipped with a rubber sleeve for thawing. The brine solution was subsequently removed by gently flushing room temperature methanol through the sample. Drying was accomplished by a gentle flow of room temperature air overnight. Air permeability, porosity and grain density were then measured on all samples. Further details on the petrophysical measurements can be found in the June 1984 report entitled "A/S Norske Shell, Routine Core Analysis, well 31/2-14".

We would like to point out that the samples were of rather small diameter and have obviously been exposed to a very rigorous treatment before conducting the actual measurements at GECO. It is highly suspected, therefore, that the validity of such a comparison is questionable. In the event of apparent differences in permeability or porosity, we hope that we may have the opportunity to discuss further a safer method of treatment and more valid method of measurement quality control. We may respectfully add that the most desirable approach to comparing permeability data might be to compare Klinkenberg corrected air permeability values because, of course, air permeabilities vary significantly with mean pressure.

We hope that the enclosed data is informative and that you do not hesitate to contact us in the event you have any questions or wish to discuss further the possibilities of quality control.

Sincerely,
GECO Petroleum Laboratory
Keith Roebuck
Keith Roebuck

COMPANY: A/S NORSKE SHELL

WELL: 31/2-13

Depth (m)	Plug no.	L(cm)	D(cm)	Hor. k _a	Permeability k _l (mD)	Porosity (%)	Grain density (g/cc)
1774.97	22	3.42	2.38	11126	10902	37.8	2.66
1777.44	30	2.64	2.40	23603	23246	35.9	2.62
1781.20	41	3.18	2.36	15967	15687	35.6	2.67
1784.60	50	3.21	2.27	15213	14941	35.4	2.67
1798.45	92	3.48	2.38	3947	3830	36.3	2.64
1799.71	96	3.15	2.34	7161	6991	35.6	2.63
1802.95	106	2.75	2.33	4716	4584	36.1	2.62
1804.69	111	2.27	2.37	264	243	31.7	2.62
1805.19	113	2.10	2.36	10733	10513	37.7	2.62
1809.34	124	2.49	2.29	637	600	32.3	2.63

