

Denne rapport
tilhører



L&U DOK. SENTER

L. NR. 30284230015

KODE Well 31/2-12 nr 17

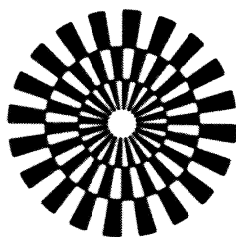
Returneres etter bruk

A/S NORSKE SHELL


WELL: 31/2-12

ROUTINE CORE ANALYSIS

DATE: OCTOBER 1983



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L.nr.		Statoil			
Avd.	Troll	Sentralkiv			
S.bh.	6B	Avd arkiv			
Mott.	14 NOV. 1983	Spes arkiv			
Kode	SHOLPS. 12 KJERNE 31/2-12		831-1757		
Oppr.	07084330025				
Innhold:					
Kont. / Sirk.	Dato	Sign.	Kont. / Sirk.	Dato	Sign.
SWL					
SWL		AW.			
SWL	16/11	Sch			
Ett eksemplar:					

C O M M E N T S

Routine Core Analysis

Technic : Frozen core technic.

Preparation : The analyses were performed on frozen cores. The plug samples were cut by using liquid nitrogen as a cooling agent. Using a special plug holder the plugs were mounted in frozen condition. In this holder a cold cleaning takes place, using methanol, toluene and finally methanol.

Measurements : The plugs were measured for brine porosity and air permeability. In addition grain density was measured. You have to notice that on some plugs the helium porosity was measured. This was done because the plugs were both consolidated and very tight.

Abbreviations: nnp = no plug possible
nhpp = no horizontal plug possible
nvpp = no vertical plug possible
nmp = no measuring possible



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CORE NO.: 1

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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Grain dens. g/cc
		horizontal Ka	vertical Kl	He	Brine	
1	1366.00	76.8	71.6		14.7	2.67
1a	1366.05	378	364		30.4	2.67
2a	1367.00	31.0	28.3		23.3	2.66
3a	1367.30	697	676		31.5	2.67
4a	1367.80	7054	6968	8079	31.9	2.67
5a	1368.30	nmp			nmp	
6a	1368.60	584	565		34.7	2.63
2	1375.05	0.42	0.32	0.015	0.010	2.69
	1375.00					

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Plug No.	Depth (meter)	Permeability (mD), vertical		Porosity (%)	Grain dens. g/cc
		K _a	K _v		
7a	1375.00				
8a	1375.10	16948	16800		2.66
3	1375.30	17345	17196	36.4	2.64
9a	1375.65	0.009	<0.01	36.4	2.69
10a	1376.20	21645	21474		2.64
11a	1376.50	10822	10710	1.1	2.65
12a	1377.00	23618	23437		2.64
13a	1377.30	19689	19527		2.65
4	1377.55	14401	14268		2.65
	1378.40	11594	11477		2.65
5	1378.70	0.013	<0.01	1.6	2.62
	1378.70		nvpp		2.69

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Plug No.	Depth (meter)	Permeability (mD), vertical		Porosity (%)	Grain dens. g/cc
		horizontal K _a	vertical K _v		
6	1380.00	0.010	<0.01	0.8	2.66
7	1380.00	0.013	<0.01	0.9	2.67
8	1380.30	0.013	<0.01	0.7	2.67
9	1381.15	0.015	0.010	0.9	2.69
10	1381.70	5921	1144	1116	2.66
11	1382.00	0.015	0.011	1.0	2.66
12	1382.30	0.018	0.013	1.3	2.66
13	1382.60	0.024	0.017	1.5	2.67
14	1382.90	0.022	0.016	0.025	2.67
14a	1383.20	13454	13326	0.018	2.64
15	1383.80	npp			
16	1384.00	0.021	0.015	0.021	2.68
17	1384.30	0.020	0.015	1.0	2.67
17	1384.30	0.020	0.015	1.2	2.67
15a	1384.80	1332	1301		2.62
18	1385.00	nmp	nmp	27.8	
19	1385.30	nmp	nmp	nmp	
20	1387.20	530	513	355	2.67
20	1387.20	530	513	341	2.66
21	1387.50	0.024	0.017	32.9	
21	1387.50	0.024	0.017	1.1	2.66



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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Grain dens. g/cc
		horizontal Ka	vertical Ka	He	Brine	
22	1389.00	0.019	0.014	0.012	1.1	2.68
23	1389.05	0.036	0.027	4.0	4.0	2.63
24	1389.35	0.020	0.014	0.9	0.9	2.67
25	1389.65	0.020	0.014	0.9	0.9	2.66
16a	1390.30	43.2	39.6	30.4	30.4	2.64
17a	1390.60	43.2	39.7	30.4	30.4	2.69
26	1390.80	0.035	0.026	0.9	0.9	2.68
27	1391.10	0.025	0.018	1.0	1.0	2.68
28	1391.40	51.5	47.5	28.7	28.7	2.67
29	1391.70	128	121	31.3	31.3	2.62
30	1392.00	126	119	31.1	31.1	2.67
31	1392.30	40.7	37.3	64.7	60.1	2.64
32	1392.60	npp	npp	34.6	34.6	2.67
18a	1393.00	6294	6213	9.8	9.8	2.68
19a	1393.30	178	169	36.8	36.8	2.66
20a	1394.50	npp	npp	36.2	36.2	2.66
21a	1394.90	0.083	0.061	3.8	3.8	nmp
22a	1395.50	12206	12085	nmp	nmp	nmp
23a	1395.80	9673	9568	1.0	1.0	2.67
24a	1396.45	nmp	nmp	8882	8783	2.69
25a	1396.70	0.021	0.015	nmp	nmp	nmp
33	1397.15	8882	8783	36.7	36.7	nmp
26a	1397.40	8882	8783	36.7	36.7	nmp
	1398.00					

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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)	Grain dens. g/cc	
		horizontal Ka	vertical Ka			He
34	1398.00	0.022	0.016	0.012	1.0	2.69
27a	1398.05	8763	8664			2.67
28a	1398.60	5403	5330		36.8	2.67
29a	1399.40	0.020	0.014	0.7		2.70
30a	1400.20	5021	4951		35.9	2.68
31a	1400.45	10481	10371		36.0	2.66
32a	1401.00	4442	4378		35.2	2.68
33a	1401.30	8159	8065		36.4	2.66
34a	1401.70	nmp	4799	4731	nmp	2.66
35a	1402.00	nmp			nmp	
36a	1402.40	8638	8541		36.1	2.66
37a	1402.75	4182	4120		36.4	2.66
38a	1403.10	9279	9177		35.7	2.66
39a	1403.70	3538	3482		34.3	2.66
40a	1404.00	nmp			nmp	
41a	1404.30	nmp			nmp	
42a	1404.60	3973	3913		36.0	2.65
43a	1404.90	4786	4718		36.3	2.65
44a	1405.30	nmp	nmp		nmp	
45a	1405.60	6025	5947		35.2	2.65
46a	1406.00	3938	3878		35.6	2.65
47a	1406.30	3146	3094		34.5	2.64
48a	1406.50	6284	6203		35.3	2.64
35	1406.70	0.021	0.015	0.016	1.1	2.64
	1407.00					2.66

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Plug No.	Depth (meter)	Permeability (mD), vertical		Porosity (%)	Grain dens. g/cc
		horizontal	vertical		
36	1407.00	0.009	<0.01	0.014	2.67
37	1407.00	1089	1062	0.4	2.65
38	1407.60	nmp		nmp	2.64
39	1407.90	10525	10415	31.5	2.67
40	1408.20	0.011	<0.01	0.9	2.67
41	1408.45	0.020	0.015	1.8	2.65
42	1408.90	5045	4975	35.4	2.64
43	1409.20	6984	6898	36.0	2.64
44	1409.50	9216	9114	36.2	2.65
45	1409.85	8428	8331	35.3	2.65
46	1410.10	10175	10067	35.9	2.65
47	1410.40	11046	10933	36.7	2.65
48	1410.80	7274	7186	35.6	2.65
49	1411.10	6036	5958	35.9	2.65
50	1411.40	2907	2857	36.0	2.63
51	1411.70	2109	2068	33.7	2.64
52	1412.00	203	193	20.1	2.67
53	1412.30	0.021	0.015	3.3	2.66
54	1412.60	739	717		2.65
55	1412.90	1050	1023	34.7	2.65
56	1413.20	243	233	34.1	2.65
57	1413.50	71.8	66.9	32.3	2.65
58	1413.80	70.4	65.5	28.3	2.62
59	1414.10	138	131	15.6	2.65
60	1414.70	149	142	13.7	2.65
61	1415.00	146	138	31.6	2.63
62	1415.30	123	116	33.1	2.61
63	1415.60	npp		31.5	2.63
	1416.00			32.8	2.63
				33.8	



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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)	Grain dens. g/cc
		horizontal Ka	vertical Ka		
64	1416.00	57.1	101	95.3	2.66
65	1416.00	73.9			2.70
66	1416.30	3.2			2.67
67	1416.60	0.037		0.1	2.69
68	1416.90	0.013		0.8	2.67
69	1417.60	0.015		0.7	2.68
70	1417.90	0.87		0.8	2.66
71	1418.20	0.017		1.5	2.67
72	1418.50	0.016		0.8	2.68
73	1418.80	1561		0.7	2.67
74	1419.20	4849			2.65
75	1419.50	nmp			
76	1420.10	0.049	6932	6846	2.67
77	1420.40	0.036		4.2	
78	1420.70	nmp			
79	1421.00	3593			2.65
80	1421.30	4609			2.65
81	1421.60	4587			2.65
82	1421.90	2003			2.66
83	1422.20	0.018		0.9	2.67
84	1422.50	1865			2.65
85	1422.80	1767			2.68
86	1423.10	3912			2.64
87	1423.40	2157			2.66
88	1423.70	2847			2.65
	1424.00	4223			2.66
	1424.00				

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Plug No.	Depth (meter)	Permeability (mD), vertical		Porosity (%)	Grain dens. g/cc
		Ka	Kl		
89	1427.00	5322	5250	35.0	2.65
90	1427.00	nmp		nmp	
91	1428.00	nmp		nmp	
92	1428.30	3495	3439	36.4	2.64
93	1428.60	nmp	nmp	nmp	
94	1428.90	nmp		nmp	
95	1429.20	18813	18655	33.1	2.64
96	1429.50	4686	4619	35.5	2.66
97	1429.80	nmp		nmp	
98	1430.10	nmp		nmp	
99	1430.60	nmp		nmp	
100	1430.90	2.1	1.7		2.67
101	1431.20	0.016	0.011	2.4	2.67
102	1431.50	0.017	0.012	0.8	2.67
103	1431.80	0.014	<0.01	0.8	2.67
104	1432.10	nmp			
105	1432.70	3306	3252	nmp	2.65
106	1433.00	6175	6096	36.4	2.65
107	1433.60	0.015	0.011		2.66
108	1433.90	0.012	<0.01	0.6	2.66
109	1434.20	0.043	0.031	3.1	2.67
110	1434.50	38.1	34.9	10.7	2.65
111	1434.80	0.016	0.011	1.0	2.67
112	1435.10	0.019	0.014	1.1	2.67
113	1435.40	0.025	0.018	1.1	2.67
114	1435.70	0.031	0.022	1.7	2.66
115	1436.00	0.028	0.020	0.8	2.67
	1436.00		0.024	0.017	



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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Grain dens. g/cc
		horizontal Ka	vertical K _v	He	Brine	
116	1436.00	527	510	31.0		2.66
117	1436.30	4571	4505	35.8		2.65
118	1437.00	362	349	31.9		2.65
119	1437.30	1845	1808	35.5		2.65
120	1438.00	nmp		nmp		
121	1438.30	nmp		nmp		
122	1438.60	866	843	32.6		2.63
123	1438.90	nmp		nmp		
124	1439.20	968	942	32.3		2.62
125	1440.50	2161	2119	35.9		2.65
126	1440.80	427	412	31.7		2.63
127	1441.10	134	127	28.9		2.64
128	1441.40	1616	1581	33.3		2.65
129	1441.70	586	567	33.8		2.64
130	1442.00	0.057	0.042		3.6	2.66
131	1442.30	0.029	0.021		3.6	2.66
132	1442.60	531	514			2.66
133	1443.50	nmp		29.9		2.61
134	1443.80	124	117	nmp		
135	1444.20	1089	1062	27.5		2.63
136	1444.50	483	467	35.2		2.64
137	1447.80	3.0	2.5	34.5		2.63
138	1448.10	1480	1447	20.0		2.67
139	1448.40	278	266	36.1		2.65
140	1448.70	6400	6318	30.9		2.65
	1449.00			35.9		2.66

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Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)	Grain dens. g/cc
		horizontal	vertical		
	1449.00				
141	1449.00	3888	1980	33.0	2.66
142	1449.30	5385	1940	33.5	2.65
143	1449.60	8455		34.7	2.66
144	1450.30	8811		34.5	2.64
145	1450.60	1300		35.7	2.65
146	1451.10	823		33.1	2.64
147	1451.60	1198		34.2	2.69
148	1451.90	688		34.0	2.64
149	1452.10	nmp		nmp	
150	1452.40	551		30.8	2.65
151	1452.70	2162	nmp	35.7	2.63
152	1453.00	2597		36.0	2.65
153	1453.30	3747		35.1	2.65
154	1453.60	npp			
155	1454.00	npp			
156	1454.30	npp			
157	1454.60	npp			
158	1454.90	npp			
159	1455.20	1303		36.3	2.64
160	1455.50	3139		36.4	2.64
161	1456.10	3309		29.9	2.64
162	1456.40	7048		35.5	2.64
163	1456.70	5434	4519	33.0	2.64
164	1457.00	0.034			2.62
165	1457.30	0.013		4.8	2.66
166	1457.60	1555		1.3	2.60
167	1457.90	501			2.56
168	1458.20	887			2.58
	1458.50				