

Denne rapport
tilhører



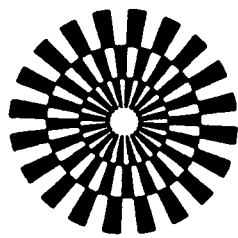
LTEK DOK.SENTER

L. NR. 30284040020

KODE Well 31/2-9 Nr-4

RETURNERES ETTER BRUK

NORSKE SHELL A/S
WELL: 31/2-9
FINAL REPORT
JANUARY 1983

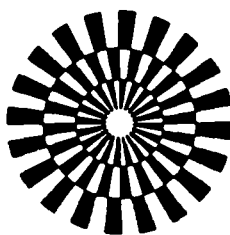


GECO
GEO PHYSICAL COMPANY
OF NORWAY A-S

Lnr. 302 8404-0220	Statoll	
Avd. RES	Sentralarkiv	
S.bh. Arve Mawre	Avd. arkiv	RES
Mott. 26 JAN. 1984	SOS arkiv	
Kode 054-PS 2.013		
O.pr.		
M.film		
Kopj		
Sirk	Dato	Siph
AM		
Q/ico	1/6	

RES-arkiv
etter bruk.

NORSKE SHELL A/S
 WELL: 31/2-9
 FINAL REPORT
 JANUARY 1983



GECO
 GEOPHYSICAL COMPANY
 OF NORWAY A/S

Lnr. 302 8404-0020		Statoll		①	
Avd. RES		Sentralarkiv			
S.bh. Arve Maure		Avd. arkiv		RES	
Mott. 26 JAN. 1984		Spes.arkiv			
Kode 054-PS.12.04 <i>Geneprøveanalyse</i>					
O.pr.					
M.film					
Kopi	Dato	Sign.	Kopi	Dato	Sign.
Slrk			Slrk		
AM		AM			
QVico	1/6	QVico			
Emneord:					

**Retur RES -arkiv
 etter bruk.**



NORSKE SHELL A/S
WELL: 31/2-9
FINAL REPORT
JANUARY 1983

C O M M E N T S

Routine Core Analysis

Technics : Frozen cores technics.

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 by toluene and finally methanol.

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

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

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

PAGE: 1

FINAL REPORT

CORE NO.: 1 DATE: January 1983



Plug No.	Depth (meter)	Permeability (mD), vertical		Porosity (%) He	Gr. dens. g/cc
		K _a	K _v		
1	1554.00	0.041	0.02	6.4	2.71
2	1554.05	92	81	26.2	2.69
3	1554.40	1117	1067	26.0	2.69
4	1554.75	106	94	26.1	2.72
5	1555.05	99	88	25.0	2.71
6	1555.40	28	23	24.0	2.77
7	1555.74	8.1	6.2	21.1	2.83
8	1556.00	104	93	30.4	2.65
9	1556.37	178	158	32.4	2.55
10	1556.74	3.8	2.8	22.1	2.60
11	1557.00	11.7	9.2	20.7	2.60
12	1557.37	38	32	30.4	2.75
13	1557.74	39	33	27.2	2.71
14	1558.00	9.6	7.4	28.8	2.74
15	1558.33	96	85	25.3	2.65
16	1558.67	61	53	27.9	2.56
17	1559.00	31	26	25.8	2.62
18	1559.33	158	142	29.8	2.62
19	1559.67	43	36	28.5	2.64
20	1560.00	51	43	27.7	2.62
21	1560.33	46	39	23.4	2.59
22	1560.65	48	41	27.3	2.49
23	1561.02	57	49	26.9	2.64
24	1561.33	21	17	24.1	2.57
25	1561.67	23	19	25.6	2.63
26	1562.00	296	276	31.4	2.66
27	1562.33	113	100	25.5	2.64
28	1562.67	32	27	27.8	2.63
	1563.02				
	1563.02				



GECO
 GEOPHYSICAL COMPANY
 OF NORWAY AS
 Petroleum laboratory

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

PAGE: 2

DATE: January 1983

FINAL REPORT

CORE NO.: 2

Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Gr. dens. g/cc
		horizontal Ka	vertical K1	He	Brine	
29	1563.02	528	498	35.0	2.66	2.66
30	1563.10	289	269	31.5	2.65	2.65
31	1563.35	103	91	28.6	2.64	2.64
32	1563.64	52	44	28.8	2.66	2.66
33	1564.14	45	38	27.6	2.66	2.66
34	1564.36	57	49	27.7	2.65	2.65
35	1564.68	80	70	29.2	2.66	2.66
36	1564.95	118	105	30.1	2.64	2.64
37	1565.22	89	78	27.6	2.65	2.65
38	1565.45	50	43	27.0	2.66	2.66
39	1565.72	62	53	29.2	2.67	2.67
40	1565.98	41	35	28.6	2.67	2.67
41	1566.28	30	25	28.9	2.67	2.67
42	1566.35	24	20	27.5	2.65	2.65
43	1566.88	17	14	26.5	2.66	2.66
44	1567.20	npp				
45	1567.50	8.0	6.1	25.6	2.65	2.65
46	1567.77	4.2	3.1	25.4	2.64	2.64
47	1568.08	4.0	2.9	24.2	2.64	2.64
48	1568.40	4.8	3.6	23.6	2.65	2.65
49	1568.68	4.7	3.5	24.2	2.64	2.64
50	1568.98	7.3	5.6	23.5	2.64	2.64
51	1569.30	15	12	25.3	2.63	2.63
52	1569.60	72	63	28.7	2.68	2.68
53	1569.91	242	222	28.8	2.67	2.67
54	1570.25	213	193	27.7	2.66	2.66
	1570.55					
	1573.00					

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

PAGE: 3

CORE NO.: 3

DATE: January 1983



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)	Gr. dens. g/cc
		horizontal K _a	vertical K ₁		
55	1573.00				
55	1573.28	4266	4186	36.9	2.66
56	1573.92	2376	2296	36.5	2.65
57	1574.29	1463	1413	36.0	2.66
58	1574.80	3157	3077	36.8	2.65
59	1575.10	2095	2035	36.0	2.66
60	1575.40	2562	2482	37.0	2.66
61	1575.70	1329	1279	35.1	2.65
62	1576.00	3252	3172	36.6	2.65
63	1576.30	920	880	34.2	2.65
64	1576.60	1460	1410	35.1	2.65
65	1576.90	2662	2582	36.6	2.64
66	1577.20	2543	2463	36.4	2.62
67	1577.50	1496	1446	35.3	2.63
68	1577.80	785	745	34.3	2.66
69	1578.10	864	824	34.1	2.67
70	1578.40	648	618	34.4	2.66
71	1578.70	1095	1045	35.1	2.66
72	1579.00	855	815	35.2	2.65
73	1579.30	318	288	31.9	2.64
74	1579.60	284	264	30.4	2.63
75	1579.90	451	421	32.6	2.63
76	1580.20	318	288	30.8	2.66
77	1580.50	509	479	32.3	2.65
78	1580.80	561	531	34.0	2.63
79	1581.10	1382	1332	34.9	2.67
80	1581.40	402	372	32.8	2.66
81	1581.70	697	667	32.7	2.65
82	1582.00	127	113	30.0	2.65
83	1582.30	551	521	32.3	2.66

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

PAGE: 4

DATE: January 1983

CORE NO.: 3 (cont.)



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Gr. dens. g/cc
		horizontal Ka	vertical Kl	He	Brine	
84	1582.60	325	295		32.7	2.66
85	1582.90	312	282	203	34.7	2.66
86	1583.20	113	100		29.9	2.61
87	1583.50	25	21		28.0	2.64
88	1583.80	184	164		31.8	2.66
89	1584.10	2078	2018		27.1	2.67
90	1584.40	149	134		23.6	2.66
91	1584.70	10690	10540		33.2	2.64
92	1585.00	4215	4135		33.5	2.65
93	1585.30	2163	2103		28.0	2.65
94	1585.60	3640	3560		33.8	2.65
95	1585.90	8637	8512		35.2	2.65
96	1586.20	6278	6178		33.4	2.65
97	1586.50	2774	2694		33.5	2.66
98	1586.80	4075	3995		34.5	2.66
99	1587.10	1488	1438		32.5	2.68
100	1587.40	8407	8282		33.6	2.67
101	1587.70	26782	26432		36.1	2.63
102	1588.00	19073	18823		33.1	2.64
103	1588.30	4942	4862		34.0	2.66
104	1588.60	6059	5959		34.9	2.66
105	1588.90	4656	4576		33.2	2.64
106	1589.25	18247	17997		35.7	2.63
107	1589.55	2394	2314		34.6	2.65
108	1589.85	1658	1608		33.7	2.65
109	1590.15	4012	3932		34.8	2.65
17A	1590.50	11855	11705		35.7	2.64
18A	1590.75	2428	2348		33.1	2.66
19A	1590.92	5533	5453		33.7	2.65
	1591.50					

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

PAGE: 5

DATE: January 1983

CORE NO.: 4



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Gr. dens. g/cc
		horizontal K _a	vertical K _a	He	Brine	
110	1591.50					
111	1591.70	11633	11483		33.2	2.64
112	1592.00	8398	8273		34.8	2.64
113	1592.30	1318	1268		32.3	2.66
114	1592.60	8947	8822		34.0	2.65
115	1592.90	2441	2361		34.9	2.64
116	1593.25	5009	4929		30.1	2.62
117	1593.50	153	138		29.9	2.64
118	1593.80	771	731		31.9	2.65
119	1594.10	3689	3609		37.0	2.63
120	1594.40	4346	4266		35.0	2.64
121	1594.70	5984	5884		33.6	2.64
122	1595.00	9319	9194		34.8	2.64
123	1595.30	2704	2624		31.5	2.64
124	1595.60	13266	13066		35.1	2.63
1A	1595.90	178	158		29.4	2.67
2A	1596.20	0.28	0.17	4.9		2.64
3A	1596.58	0.023	0.01	1.4		2.67
125	1596.86	0.027	0.01	1.6		2.67
126	1597.20	348	318			2.66
127	1597.48	100	88		33.0	2.64
4A	1597.80	1129	1079		28.4	2.64
5A	1598.15	0.072	0.04	4.5	33.0	2.64
6A	1598.45	0.031	0.02	2.0		2.71
7A	1598.75	0.47	0.30	12.8		2.68
8A	1599.05	0.38	0.24	9.7		2.66
	1599.35	0.019	0.01	1.2		2.66

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

PAGE: 6

DATE: January 198

CORE NO.: 4 (cont.)



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Gr. dens. g/cc
		horizontal	vertical	He	Brine	
		K _a	K _v	K _a	K _v	
9A	1599.65	0.29	0.18	12.7		2.63
128	1600.10	12	10		26.5	2.66
129	1600.40	1406	1356		36.2	2.66
130	1600.70	8.7	6.7		24.7	2.64
131	1601.00	4.0	2.9		23.4	2.65
132	1601.30	7.8	6.0		24.4	2.63
133	1601.60	30	25		27.8	2.64
134	1601.90	17	14		24.5	2.66
135	1602.20	34	28		26.4	2.66
136	1602.50	5.9	4.4		23.5	2.64
137	1602.80	34	28		26.3	2.64
138	1603.10	10.0	7.8		25.8	2.65
139	1603.40	6.8	5.2		24.5	2.65
140	1603.70	19	15		25.4	2.65
141	1604.00	7.9	6.1		24.8	2.65
142	1604.40	6.8	5.2		23.7	2.65
143	1604.70	3.6	2.6		21.5	2.62
144	1605.00	2.5	1.8		22.6	2.63
145	1605.30	5.1	3.8		23.0	2.65
146	1605.60	2.1	1.5		22.3	2.62
147	1605.90	6.1	4.6		21.4	2.63
10A	1606.25	2.0	1.4		20.7	2.66
11A	1606.95	nmp		22.7		2.65
148	1607.45	33	28		27.7	2.66
149	1607.75	31	26		28.8	2.66
	1610.00					

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

PAGE: 7

DATE: January 1983

CORE NO.: 5



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)	Gr. dens. g/cc
		horizontal K _a	vertical K ₁		
150	1610.00	13	10	24.3	2.67
12A	1610.03	0.011	0.01	1.0	2.68
13A	1610.68	0.035	0.02	1.7	2.67
151	1610.84	9.1	7.0	22.4	2.64
152	1611.08	13	10	24.8	2.64
153	1611.42	17	14	25.1	2.64
154	1611.79	4.5	3.3	24.0	2.63
155	1612.28	5.7	4.3	21.1	2.64
156	1612.51	20	16	25.0	2.73
14A	1612.70	1.4	1.0	21.1	2.69
15A	1613.00	1.2	0.83	23.9	2.65
157	1613.30	nmp		21.1	2.67
158	1613.60	7.9	6.1	27.2	2.65
159	1613.88	4.2	3.1	25.7	2.65
160	1614.15	4.4	3.3	24.4	2.64
161	1614.46	5.2	3.9	26.2	2.64
162	1614.77	5.0	3.7	25.8	2.61
163	1615.05	4.1	3.0	23.8	2.62
164	1615.37	6.0	4.5	25.4	2.64
165	1615.70	3.4	2.5	24.0	2.64
166	1615.98	6.6	5.0	25.9	2.61
16A	1616.30	0.011	0.01	1.6	2.65
167	1616.70	9.8	7.6	23.9	2.65
168	1617.14	0.002	<0.01	2.7	2.77
169	1617.46	1.7	1.2	22.7	2.64
170	1618.37	17	14	28.3	2.67
171	1618.67	7.1	5.4	25.0	2.65
172	1618.98	4.6	3.4	25.5	2.65
173	1619.30	5.6	4.2	25.1	2.62

COMPANY: Norske Shell A/S
 WELL : 31/2-9
 FIELD : 31/2
 STATE : Norway

FINAL REPORT

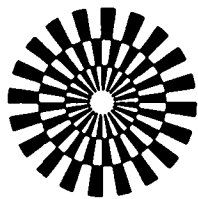
PAGE: 8

DATE: January 1983

CORE NO.: 5 (cont.)



Plug No.	Depth (meter)	Permeability (mD),		Porosity (%)		Cr. dens. g/cc
		horizontal Ka	vertical K1	He	Brine	
174	1619.62	5.9	4.4	24.9	24.9	2.64
175	1619.93	2.5	1.8	24.3	24.3	2.66
176	1620.22	2.6	1.9	24.2	24.2	2.64
177	1620.52	1.5	1.0	23.8	23.8	2.66
178	1620.82	10.3	8.0	27.5	27.5	2.66
179	1621.15	6.5	4.9	26.8	26.8	2.66
180	1621.46	13	10	27.7	27.7	2.65
181	1621.73	20	16	29.2	29.2	2.65
182	1622.06	5.0	3.7	26.4	26.4	2.67
183	1622.40	2.7	1.9	24.0	24.0	2.64
184	1622.72	0.67	0.44	20.5	20.5	2.58
185	1623.05	2.5	1.8	27.2	27.2	2.63
186	1623.36	1.8	1.3	25.5	25.5	2.63
187	1623.66	0.50	0.32	21.3	21.3	2.63
188	1623.96	2.2	1.6	23.6	23.6	2.63
189	1624.26	2.4	1.7	24.0	24.0	2.63
190	1624.60	5.3	4.0	25.0	25.0	2.64
191	1624.93	3.4	2.5	24.9	24.9	2.63
192	1625.32	1.6	1.1	23.1	23.1	2.63
193	1625.62	7.8	6.0	27.4	27.4	2.63
194	1626.23	6.8	5.2	26.3	26.3	2.64
195	1626.52	0.75	0.50	25.4	25.4	2.65
196	1626.93	29	24	27.6	27.6	2.63
	1628.00					



GECO
GEOPHYSICAL COMPANY
OF NORWAY A/S

Rektor Natvig-Pedersens vei 29
N-4000 Stavanger
Norge - Norway