

GECO



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GEOPHYSICAL COMPANY OF NORWAY A/S

A subsidiary of Det Norske Veritas and A S Kongsberg Vapentfabrikk

Elf Aquitaine Norge A/S
Postboks 168
4001 Stavanger.

Attn.: G. Stock.

Stavanger, 17.03.83.
JK/ts/sn/084-lab.

Dear Sir,

Enclosed please find the analysis report of four ~~RTV~~water samples from well 1/3-3. DST-2 and one DST 3A

If you have any questions, please do not hesitate to contact us.

We thank you for this opportunity and look forward to being of service to you in the future.

Best regards
GECO Petroleum Laboratory

J. Kvalvåg
J. Kvalvåg
Sr. Chemist

T. Siggervåg
T. Siggervåg
Analyst

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ELF AQUITAINE NORGE A/S
WATER SAMPLES
WELL : 1/3-3

LABORATORY

FORMATION WATER ANALYSIS

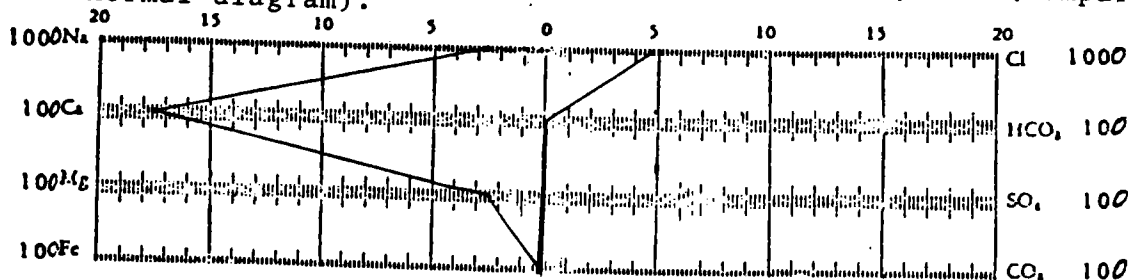
Company Elf Aquitaine Norge A/S Date 02.03.83 Sample no. 1
 Well 1/3 - 3 Field State Norway
 Sampled from DST 2 - 25/2/83 - 20 H 50
 Date sampled 25.02.83 Date analyzed 07.03.83 Analyst J.K.

Total Dissolved Solids 272.900 mg/L Specific Gravity 1,191 (at 68 °F)
 Resistivity 0,051 ohm-meters (at 68 °F) ph 5,24 (at 68 °F)

*Constituents	mg/L	meq/L	Constituents	mg/L	meq/L
Sodium	59.960	2608	Chloride	168.980	4760
Calcium	35.240	1759	Bicarbonate	49	1
Magnesium	2.960	243	Sulfate	N.D.	
Strontium	1.022	23	Carbonate	N.D.	
Barium	220	3	Hydroxide	N.D.	
Iron	294	10	Phosphate	-	
Potassium	4.486	115			
Silicia as SiO ₂		21 mg / 1 L			

REMARKS:

Please note that due to the concentrated nature of the sample, the scales of the stiff diagram have been multiplied by ten (compared to a normal diagram).



LABORATORY

FORMATION WATER ANALYSIS

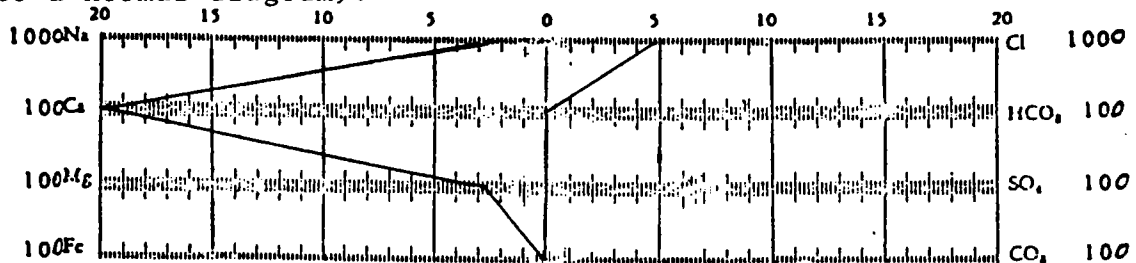
Company... Elf Aquitaine Norge A/S Date... 02.03.83. Sample no. 2
 Well... 1/3-3 Field... State Norway
 Sampled from... DST 2 - 21H50
 Date sampled... 25.02.83. Date analyzed... 07.03.83. Analyst... J.K.

Total Dissolved Solids... 275.700 mg/L Specific Gravity... 1.202 (at 68 °F)
 Resistivity... 0.051 ohm-meters (at 68 °F) pH... 5.35 (at 68 °F)

*Constituents	mg/L	meq/L	Constituents	mg/L	meq/L
Sodium	55.700	2423	Chloride	170.990	4817
Calcium	39.530	1972	Bicarbonate	55	1
Magnesium	3.280	270	Sulfate	N.D.	
Strontium	1.085	25	Carbonate	N.D.	
Barium	289	4	Hydroxide	N.D.	
Iron	274	10	Phosphate	-	
Potassium	4.470	114			
Silica as SiO ₂		24 mg/L			

REMARKS:

Please note that due to the concentrated nature of the sample, the scales of the stiff diagram have been multiplied by ten (compared to a normal diagram).



LABORATORY

FORMATION WATER ANALYSIS

Company Elf Aquitaine Norge A/S Date 02.03.83. Sample no. 3
 Well 1/3-3 Field _____ State Norway
 Sampled from DST 2 - 22H50
 Date sampled 25.02.83. Date analyzed 07.03.83. Analyst J.K.

Total Dissolved Solids 275.000 mg/L _____ Specific Gravity 1.192 (a 68 °F)
 Resistivity 0.051 ohm-meters (a 68 °F) _____ ph 5.63 (a 68 °F)

*Constituents	mg/L	meq/L	Constituents	mg/L	meq/L
Sodium	59.250	2577	Chloride	171.000	4817
Calcium	36.810	1837	Bicarbonate	73	1
Magnesium	3.190	263	Sulfate	N.D.	
Strontium	956	22	Carbonate	N.D.	
Barium	299	4	Hydroxide	N.D.	
Iron	467	17	Phosphate	-	
Potassium	3.830	98			
Silica as SiO ₂		34 mg/L			

REMARKS:

Please note that due to the concentrated nature of the sample, the scales of the stiff diagram have been multiplied by ten (compared to a normal diagram).



LABORATORY

FORMATION WATER ANALYSIS

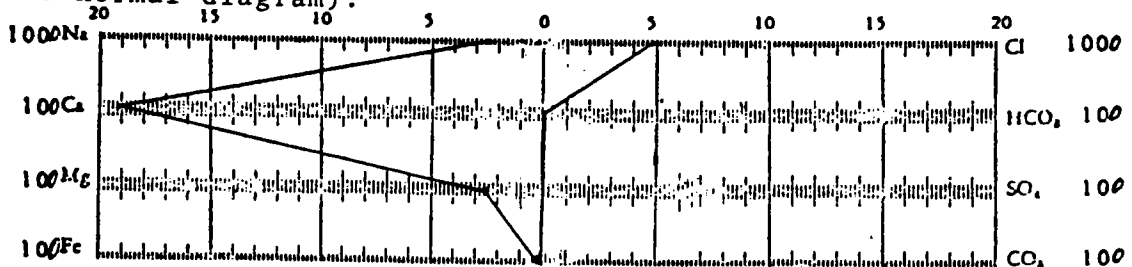
Company Elf Aquitaine Norge A/S Date 02.03.83. Sample no. 4
 Well 1/3-3 Field State Norway
 Sampled from DST 2 - Bottom hole sample
 Date sampled 27.02.83. Date analyzed 07.03.83. Analyst J.K.

Total Dissolved Solids 278.900 mg/L Specific Gravity 1.192 (at 68 °F)
 Resistivity 0.051 ohm-meters (at 68 °F) pH 5.61 (at 68 °F)

*Constituents	mg/L	meq/L	Constituents	mg/L	meq/L
1.0 Sodium	58.740	2555	1.0 Chloride	172.770	4867
0.8 Calcium	38.320	1912	Bicarbonate	37	1
1.46 Magnesium	3.000	247	Sulfate	N.D.	
Strontium	970	22	Carbonate	N.D.	
Barium	93	1	Hydroxide	N.D.	
Iron	562	20	Phosphate	-	
0.75 Potassium	4.360	111			
Silica as -SiO ₂		35 mg/L			

REMARKS:

Please note that due to the concentrated nature of the sample, the scales of the stiff diagram have been multiplied by ten (compared to a normal diagram).



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FORMATION WATER ANALYSIS

Company...Elf Aquitaine Norge A/S Date 16.03.83. Sample no. 6

Well...1/3-3 Field State

Sampled from...DST 3A - Reverse circulation

Date sampled 06.03.83. Date analyzed 15.03.83. Analyst T.S., J.K.

Total Dissolved Solids 67.750 mg/L Specific Gravity 1.053 @ 68 °F
 Resistivity 0.139 ohm-meters @ 68 °F ph 8.90 @ 68 °F

*Constituents	mg/L	meq/L	Constituents	mg/L	meq/L
Sodium	24.200	1053	Chloride	31.550	890
Calcium	3		Bicarbonate	2.750	45
Magnesium	0.8		Sulfate	7.300	152
Strontium	0.5		Carbonate	235	8
Barium	n.d.		Hydroxide	0	
Iron	10		Phosphate	-	
Potassium	1.640	42			
Silica as SiO ₂		72mg/l			

REMARKS:

