NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

30" CASING

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
WYO. BENTONITE	50 kg	225 sx	2,182.50		
WYO. BENTONITE	MT			9,5 MT	2,837.46
SODA ASH	50 kg	10 sx	140.00		
BAR-GAIN	MT			3 MT	324.45
CAUSTIC SODA	25 kg	10 sx	111.20	5 sx	55.60
BROXIN	25 kg			5 sx	59.40
SODA ASH	50 kg			2 sx	28.00
LIME	50 kg			2 sx	13.36
TOTAL COST			2,433.70		3,318.27
COST PER DAY	(1)		2,433.70	(2)	1,658.98
COST PER METER	(65)		37.44	(64)	51.84
COST PER BARREL			3.24		6.26

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

20" CASING

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
WYO. BENTONITE	50 kg	600 sx	5,820.00	100 sx	1,067.00
WYO. BENTONITE	MT			48.5 MT	14,485.98
CAUSTIC SODA	25 kg	20 sx	222.40	34 sx	378.08
SODA ASH	50 kg	10 sx	140.00	7 sx	98.00
ME	40 kg	20 sx	107.80	1 sx	6.68
CALCIUM CLORIDE	50 kg			6 sx	222.08
Q-BROXIN	25 kg			10 sx	118.80
BAR GAIN	MT	10 MT	1,081.50	13 MT	1,405.95
TOTAL COST			7,371.70		17,782.57
COST PER DAY	(3)		2,457.20	(5)	3,556.51
COST PER BARREL			2.94		4.32
COST PER METER			27.10		60.79

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

17 1/2" HOLE & 13 3/8" CASING

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
BARAGAIN	MT	450 MT	48,667.50	218 MT	23,576.70
WYO. BENTONITE	50 kg	550 sx	5,335.00	616 sx	6,572.72
AQUAGEL	100 lb			40 sx	388.00
CAUSTIC SODA	25 kg	60 sx	667.20	176 sx	1,957.12
Q-BROXIN	25 kg	220 sx	2,613.60	310 sx	3,682.80
CMC LO VIS	25 kg			66 sx	2,670.36
CMC HI VIS	25 kg			13 sx	609.18
HPL POLYMER	25 kg	60 sx	3,048.60		
SODA ASH	50 kg	55 sx	770.00	30 sx	420.00
CON DET	55 gal	80 dr	23,232.00	3 dr	871.20
MICA FINE	25 kg			36 sx	498.60
NUT PLUG FINE	60 kg			3 sx	87.27
AL STEARATE	25 kg			4 sx	165.40
SURFLO W-300	55 gal			2 dr	987.00
TOTAL COST			84,333.90		42,486.35
COST PER DAY	(6)		14,055.65	(8)	5,310.79
COST PER METER	(1100)		76.66	(1092)	38.91
COST PER BARREL	(5500)		15.33		
COST PER BBL/DAY			2.56		1.08

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

12 1/4" HOLE & 9 5/8" CASING

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
BAR-GAIN	MT	70 MT	7,570.50	374 MT	40,448.10
WYO. BENTONITE	50 kg	260 sx	2,522.00	4 sx	42.68
AQUAGEL	100 lb			355 sx	3,443.50
Q-BROXIN	25 kg	150 sx	1,782.00	174 sx	2,067.12
CAUSTIC SODA	25 kg	25 sx	278.00	75 sx	834.00
CMC LO VIS	25 kg	40 sx	1,681.60	39 sx	1,577.94
CMC HI VIS	25 kg			10 sx	468.60
HPD POLYMER	25 kg	40 sx	2,032.40		
SOD. BICARB.	50 kg			11 sx	144.32
MICA FINE	25 kg			139 sx	1,925.15
LOST PLUG FINE	25 kg			227 sx	2,741.24
TOTAL COST			15,866.50		53,702.65
COST PER DAY	(2)		7,933.25	(7)	7,671.80
COST PER METER	(190)		83.50	(165)	325.47
COST PER BARREL	(2600)		6.10	(3205)	16.76
COST PER BBL/DAY			3.05		2.39

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

8 1/2" HOLE (1766 - 2210 m.) AND 7" LINER
(set at 2209 m.)

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
SODA ASH	50 kg			6 sx	84.00
CMC HIVIS	25 kg			5 sx	234.30
SOD. BICARB.	50 kg			26 sx	341.12
WALL-NUT F	25 kg			49 sx	593.88
CAUSTIC SODA	25 kg			55 sx	611.60
WYO. BENTONITE	50 kg			84 sx	896.28
CC 16/K-LIG	50 lb			71 sx	1,083.46
SOLTEX	50 lb			30 sx	1,190.70
CMC LOVIS	25 kg			36 sx	1,456.56
AQUAGEL	100 lb			248 sx	2,405.60
Q-BROXIN	25 kg			230 sx	2,732.40
BAR-GAIN	MT			322 MT	34,824.30
TOTAL COST					46,454.20
COST PER DAY	(11)				4,223.11
COST PER METER	(444)				104.63
COST PER BARREL	(1232)				37.71
COST PER BBL/DAY					3.43

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

6" HOLE

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
BAR GAIN	MT	70 MT	7,570.50	158 MT	17,087.70
BARITE	MT			38 MT	3,990.00
AQUAGEL	100 lb	100 sx	970.00	347 sx	3,365.90
Q-BROXIN	25 kg	60 sx	712.80	219 sx	2,601.72
CC-16	50 lb	50 sx	763.00	177 sx	2,701.02
CAUSTIC SODA	25 kg	20 sx	222.40	21 sx	233.52
LOWN ASPHALT	25 kg	50 sx	1,330.00		
HPD POLYMER	25 kg	15 sx	762.15		
CMC LO VIS	25 kg	15 sx	630.60	22 sx	890.12
SODA ASH	50 kg			9 sx	126.00
SOD. BICARB.	50 kg			21 sx	275.52
T PLUG	25 kg			36 sx	498.60
ALUM. STEAR.	25 kg			2 sx	82.70
TOTAL COST			12,964.45		31,852.80
COST PER DAY	(8)		1,620.55	(21)	1,516.80
COST PER METER	(425)		30.50	(570)	55.88
COST PER BARREL	(1700)		18.52	(2210)	14.41
COST PER BBL/DAY			2.32		0.69

NL Baroid

OPERATING AREA Statoil 34/10-5

MATERIALS USED PER CASING INTERVAL

TESTING AND ABANDONMENT

MATERIALS	UNITS	QUANTITY	COST $
BENTONITE	100 lb	10 sx	97.00
CMC LOVIS	25 kg	5 sx	202.30
SOD. BICARB.	50 kg	15 sx	207.75
BARITE	MT	39 MT	4,095.00
BAR GAIN	MT	54 MT	5,840.10
TOTAL COST			10,442.15
COST PER DAY	(10)		1,044.22
COST PER BARREL	(140)		74.59
COST PER BARREL PER DAY			7.46

NL Baroid

OPERATING AREA Statoil 34/10-5

DAILY OPERATIONS LOG

December 30

Finish circ. POOH and lay down test tools. RIH with bit and scraper, tag cmt. at 2151 m. Circ. bottoms-up (max gas 92 units). POOH. Run Schlumberger junk basket, and set retainer on wireline. Retainer failed to test 4000 psi. RIH with stinger on 3 ½" D.P.

December 31

Finish RIH. Squeeze cement at perforations and set four cement plugs as per temporary abandonment procedure. Plug back depth at 200 m. Lay down excess tubulars.

January 1, 1980

Lay down excess tubulars. Prepare to dump all remaining surface mud to clean tanks for next well. Dumped all remaining mud. Proceeding with P and A program.

January 2

Proceeding with P and A program.

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	122°F/100psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	Casson Properties		
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-gms/100cm²			mg/	ppm				%	%	%	Bent. Eq.	C	N∞	N₇
18.10	Pit	1.08	150					11.4	16	31	31	31											N/A	
19/10	Pit	1.08	55					11.5	12	23	14	14											N/A	
20/10	225	1.08	125					11.3	27	37	27	72										73.39	14	5950
21/10	Pit	1.08	105					11.3	20	34	22	58											N/A	
22/10	486	1.07	100	NC				10.0	12	54	24	30										75.49	22	6429
23/10	518	1.07	108	NC				10.0	13	49	26	30											N/A	
24/10	Pit	1.06	43	14.4	1			9.9	6	13	15	24	9000	80	.1	.2		0	96	4		49.74	2.26	2626
25/10	518 Pit	1.06	39	14.6	1			9.9	5	12	16	32	9000	80	.1	.25		0	96	4	15	45.32	2.15	2189
26/10	518 Pit	1.06	39	14.6	1			9.9	5	12	16	32	9000	80	.1	.25		0	96	4	15	45.32	2.15	2189
	518 Pit	1.05+	41	13.1	1	15.7	2	11.9	5	16	19	34	9000	TR	1.0	1.8		0	96	4	15	63.22	1.05	4127
27/10	518 Pit	1.06-	41	13.1	1	15.7	2	11.9	5	16	19	34	9000	TR	1.0	1.8		0	96	4	15	63.22	1.05	4127
	518 Pit	1.06-	40	13.0	1	15.7	2	11.9	5	15	17	33	9000	TR	1.0	1.8		0	96	4	15	60.90	1.10	3837
28/10	518 Pit	1.06-	41	13.0	1	15.7	2	11.9	5	16	17	34	9000	TR	1.0	1.8		0	96	4	15	63.22	1.05	4127
	518 Pit	1.05	41	13.8	1	15.8	2	12.1	5.5	17	19	40	9000	TR	1.1	1.9		0	96.5	3.5	15	64.32	1.24	4282
29/10	518 Pit	1.05	41	13.8	1	15.8	2	12.1	5.5	17	19	40	9000	TR	1.1	1.9		0	96.5	3.5	15	64.32	1.24	4282
	518 Pit	1.05	41	13.5	1	15.6	2	12.1	5	17	19	39	9000	TR	1.1	2.0		0	96.5	3.5	15	62.06	1.30	3994
30/10	518 Pit	1.05	41	13.5	1	15.6	2	12.1	5	17	19	39	9000	TR	1.1	2.0		0	96.5	3.5	15	62.06	1.30	3994
	518 Pit	1.05	43	13.0	1	15.4	2	12.1	5.5	18	18	24	8200	TR	1.1	1.6		0	96.5	3.5	15	66.51	1.19	4570
31/10	518 Pit	1.05	42	13.2	1	15.6	2	12.1	5.5	17	18	25	8500	TR	1.1	1.6		0	96.5	3.5	15	64.32	1.24	4282

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	122°F 100psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	Casson Properties		
1979	metres	SG	secs	ccs	1"/32 mm	ccs	1"/32 mm		cp	lbs/100ft²-gms/100cm²			mg/	ppm				%	%	%	Bent. Eq.	C	N₀₀	N₁
1/11	Pit 518	1.05	42	13.2	1	25.6	2	12.1	5.5	17	16	24	8500	TR	1.1	1.7		0	96.5	3.5	15	64.32	1.24	4282
2/11	Pit 518	1.05	42	13.9	1	27.8	2	12.1	5	16	18	36	8500	TR	1.1	1.7		0	96.5	3.5	15	56.12	1.72	3299
3/11	Pit 518	1.05	42	13.6	1	25.8	2	12.1	5	17	18	38	8500	TR	1.1	1.7		0	96.5	3.5	15	65.46	1.00	4417
4/11	Pit 518	1.05	42	13.6	1	25.8	2	12.1	5	17	18	38	8500	TR	1.1	1.7		0	96.5	3.5	15	65.46	1.00	4417
5/11	Pit 518	1.05	40	13.2	1	25.2	2	11.7	5.5	11	14	37	8800	TR	1.0	1.6		0	98	2.0	15	41.01	2.69	1819
6/11	Pit 518	1.05	42	11.7	1	21.6	2	11.7	7.5	10	11	39	8500	TR	1.0	1.7		0	98	2.0	17.5	37.31	4.05	1546
7/11	492	1.05	40	11.7	1	21.6	2	11.7	7.5	10	11	39	8500	TR	1.0	1.7		0	98	2.0	17.5	37.31	4.05	1546
	524	1.05	42	29.1	2	54	3	12.3	6.5	12	9	11	10000	400	1.2	1.5		0	97.5	2.5	15.0	47.80	2.53	2439
	750	1.07	45	17.7	1	32	2	10.7	8	14	9	20	12500	320	0.2	0.5		0	95.5	4.5	17.5	51.68	3.13	2857
8/11	860	1.09	38	11.2	1	21	2	12.2	5.5	7	4	11	13000	40	1.4	2.1		0	93	7	17.5			
	1115	1.19	40	8.8	1	15.6	2	10.0	8	10	1	11	14000	60	.4	1.2		0	92	8	25			
	1210	1.18	39	8.2	1	15.2	2	10.0	4	3	1	9	14000	60	.5	1.2		0	92	8	25			
9/11	1405	1.20	41	7.5	1	14.6	2	11.2	10	6	2	15	13000	60	.9	1.8		0	91	9	27½			
	Pit	1.20	43	6.6	1	12.6	2	10.6	10	6	1	12	13500	60	.6	1.5		0	90	10	30			
	1500	1.22	49	7.0	1	13.6	2	10.6	11	7	2	16	14000	80	.65	1.5		0	89	11	37½			
10/11	Pit	1.25	46	6.8	1	13.2	2	11.3	11	6	2	20	14000	60	.9	1.9		0	89	11	35			
	1505	1.26	48	7.4	1	14.8	2	11.0	13	6	1	28	13500	60	.75	1.8		0	89	11	35			
11/11	Pit	1.26	52	7.2	1	14.0	2	10.8	13	7	2	33	13000	60	.6	1.5		0	89	11	35			
	1507	1.29	55	7.7	1	14.0	2	10.8	13	5	1	10	13500	60	.7	1.7		0	87	13	40			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt 122°f 100psi		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet				Cake				PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-gms/100			mg/	ppm				%	%	%	Bent. Eq.			
11/11	1512	1.29	51	7.5	1	14.8	2	11.4	13	4	0	18	14000	40	.85	1.25		0	86	14	37½			
12/11	1517	1.30	52	6.5	1	14.2	2	11.5	13	6	1	10	14000	40	.85	1.4		0	86	14	37½			
	1538	1.30	53	6.9	1	12.0	2	11.1	14	9	1	12	14500	60	.9	2.25		0	87	13	37½			
	1588	1.35	69	7.1	1	13.4	2	10.8	17	13	5	21	14500	60	.65	1.9		0	85	15	37½			
13/11	1610	1.35	57	6.7	1	12.4	2	11.0	17	11	4	24	15000	60	.8	2.0		0	85	15	37½			
	Pit	1.37	65	6.6	1	13.0	2	10.6	18	9	3	39	15500	60	.65	1.9		0	85	15	40			
14/11	Pit	1.36	65	7.3	1	14.2	2	10.0	18	12	5	46	15000	80	.5	1.8		0	85	15	42½			
15/11	Pit	1.36	60	6.8	1	16.0	2	11.5	15	10	4	17	15000	60	.9	2.25		0	85	15	40			
	Pit	1.40	45	8.6	1	18.6	3	11.5	14	6	2	26	14500	60	.9	2.3		0	86	14	35			
16/11	1613	1.40	53	8.0	1	19.2	2	11.7	16	9	2	16	14500	60	1.2	2.5		0	85	15	35			
	1700	1.45	53	8.2	1	22.4	3	11.0	18	11	6	10	14000	80	.8	1.9		0	83	17	37½			
	1735	1.53	70	8.9	2	26.8	3	10.6	21	14	15	17	13500	80	.7	1.75		0	80	20	35			
17/11	1742	1.68	51	7.6	2	19.8	3	11.1	20	13	3	37	13500	140	.85	2.0		0	77	23	35			
	1742	1.68	50	7.2	2	23.8	3	10.9	23	8	2	13	14000	120	.7	1.9		0	77	23	37½			
	1598	1.68	60	7.0	2	19.6	3	11.0	21	8	0	8	13000	160	.7	2.0		0	77	23	35			
18/11	Pit	1.68	50	6.8	2	19.0	3	10.8	19	8	2	30	13000	140	.65	1.7		0	77	23	35			
	1686	1.68	51	7.1	2	19.6	3	10.8	18	7	1	8	13000	160	.7	1.8		0	77	23	35			
	1740	1.68	57	7.0	2	19.6	3	10.8	19	8	2	12	12500	140	.7	1.9		0	77	23	35			
19/11	1586	1.68	50	6.2	2	18.0	3	11.5	15	7	1	12	11000	40	1.1	2.7		0	77	23	35			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	158°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	Casson Properties		
	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-gms/100 cm²			mg/	ppm				%	%	%	Bent. Eq.	C	N∞	N1
19/11	Pit	1.68	50	6.2	2	17.6	4	11.0	17	7	1	19	12000	120	.75	2.1		0	78	22	32½	11.29	16.54	236
20/11	1743	1.68	51	6.6	2	18.8	4	11.1	17	8	1	19	12500	120	.8	2.3		0	78	22	32½			
	1766	1.68	50	6.4	1	17.8	3	11.5	18	7	2	20	13000	80	1.2	2.8		0	78	22	30	18.71	15.00	510
21/11	1775	1.68	50	6.0	1	17.4	3	11.7	18	8	2	20	13500	60	1.3	3.2		0	78	22	30			
22/11	Pit	1.68	51	6.2	1	17.8	3	11.5	17	8	1	25	13500	100	1.0	2.8		0	78	22	30			
23/11	1779	1.70	54	6.7	1	26.8	3	12.4	24	10	9	20	12500	160	1.7	3.2		0	78	22	25	33.16	16.24	1383
	1804	1.73	54	7.4	1	31.0	3	12.3	24	8	3	23	13500	160	1.0	2.7		TR	76	24	25	27.64	17.32	1012
24/11	1910	1.75	60	5.7	1	26.0	3	11.7	25	11	4	30	14000	240	.6	1.4		TR	73	27	25	27.34	19.41	1008
	1912	1.75	54	6.5	1	28.0	3	11.5	23	8	3	19	14500	280	.5	1.4		TR	75	25	25	25.54	17.25	882
25/11	1949	1.77	53	6.6	1	26.2	3	12.2	21	8	3	14	14250	200	.85	2.0		TR	75	25	20	25.01	15.83	840
	1968	1.78	53	6.6	1	29.0	4	12.0	22	8	3	24	14000	200	.7	1.9		TR	74	26	20	27.18	15.91	971
26/11	1968	1.78	52	4.4	1	14.3	3	11.7	24	8	4	24	13500	200	.6	1.6		TR	74	26	25	27.64	17.32	1012
	Pit	1.78	56	4.8	1	18.2	3	11.8	20	6	1	14	13500	160	.9	2.5		TR	75	25	25	20.34	15.72	591
27/11	Pit 2037	1.78	56	4.4	1	18.0	3	11.4	24	9	3	20	13250	200	.7	2.0		TR	75	25	27.5	26.85	17.99	967
	2065	1.77+	57	4.5	1	15.2	3	11.0	23	10	2	15	14500	160	.6	2.0		TR	74	26	27.5	23.93	18.61	798
28/11	2130	1.78	58	3.9	1	18.2	3	11.5	24.5	9	1	11	14500	160	.8	2.8		TR	74	26	25	22.35	20.00	719
	2162	1.78	61	4.5	1	16.4	3	10.9	27	8	3	23	14750	200	.5	1.9		0	72	28	27.5	26.58	20.09	965
29/11	Pit 2162	1.78	61	4.5	1	16.4	3	10.9	27	8	3	23	14750	200	.5	1.9		0	72	28	27.5			
	2162	1.78+	73	4.1	1	16.0	3	11.4	28.5	10	3	22	14500	180	.7	2.3		0	72	28	25	26.36	22.19	965

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	CASSON PROPERTIES		
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-gms/100cm²			mg/	ppm				%	%	%	Bent. Eq.	C	N_{00}	N_1
30/11	2178	1.78	58	3.6	1	15.0	3	10.7	24	8	2	7	14500	160	.5	2.1		0	73	27	25	20.09	19.99	603
	2210	1.78	60	4.5	1	14.0	3	11.6	27	9	2	26	14500	160	.75	2.6		0	73	27	25	25.82	20.77	923
1/12	2210	1.78	60	4.5	1	14.0	3	11.6	27	9	2	26	14500	160	.75	2.6		0	73	27	25	25.82	20.77	923
	Pit 2210	1.78	70	3.9	1	15.2	3	11.3	28	11	2	20	14500	160	.65	2.9		0	73	27	25	26.36	22.19	965
2/12	Pit 2210	1.78	71	3.8	1	15.4	3	11.2	28	11	2	24	14600	160	.7	2.9		0	73	27	25	26.36	22.19	965
	1611	1.78	64	5.4	1	28.2	4	12.3	27	10	2	22	14500	180	3.0	6.5		0	73	27	27.5	21.47	22.84	689
3/12	1370	1.78	61	6.7	1	28.2	4	12.9	29	8	2	10	14500	160	3.5	6.0		0	73	27	27.5	23.59	22.86	805
4/12	Pit	1.78	60	6.0	1	27.4	4	12.9	26	7	2	35	14500	160	3.5	6.0		0	72	28	27.5	21.57	20.71	682
	Pit	1.78	58	3.6	1	16.2	3	12.4	27	6	2	20	14500	160	2.5	5.5		0	73	27	27.5	16.89	22.89	470
5/12	Pit	1.78	60	3.2	1	16.2	3	12.9	27	6	2	24	14500	160	2.8	5.9		0	73	27	27.5	16.89	22.89	470
6/12	Pit	1.78	61	4.0	1	18.4	4	12.4	25	8	1	25	15000	220	2.6	4.9		0	72	28	27.5			
7/12	Pit	1.78	61	4.1	1	18.6	4	12.4	26	7	2	22	15000	200	2.7	5.0		0	72	28	27.5			
	Pit	1.78	61	3.9	1	18.4	4	12.5	29	7	2	27	15000	200	2.6	4.8		0	72	28	27.5			
8/12	Pit	1.78	60	3.8	1	18.6	4	12.4	27	8	2	25	15000	200	2.7	4.8		0	72	28	27.5			
	Pit	1.78	59	3.6	1	18.2	4	12.6	26	8	2	27	15000	200	2.8	5.0		0	72	28	27.5			
9/12	Pit	1.77	59	3.9	1	18.0	4	12.5	26	9	2	24	15000	200	2.7	4.8		0	73	27	27.5			
	1435	1.74	54	4.0	1	20.6	4	12.5	25	7	2	14	15000	160	3.2	6.6		0	74	26	27.5			
10/12	1553	1.65	56	6.5	2	23.6	5	12.6	23	11	4	33	14500	130	5.8	7.7		0	76	24	30			
	2168	1.65	54	5.6	2	25.4	5	12.9	22	8	2	24	13500	160	6.4	8.2		0	78	22	30			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	176°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-		/100	mg/	ppm				%	%	%	Bent. Eq.			
11/12	2226	1.65	52	5.6	2	20.2	4	12.6	20	7	1	10	12500	130	5.3	7.3		0	77	23	30			
	2252	1.65	52	4.8	1	20.2	4	12.0	20	6	0	8	12500	120	4.4	6.3		0	78	22	30			
12/12	2341	1.65	50	5.6	1	19.8	4	11.9	19	7	1	9	13000	160	3.6	5.6		0	78	22	27.5			
	2363	1.65	57	5.0	1	21.0	4	12.0	23	7	1	11	13500	140	3.6	5.5		0	77	23	27.5			
13/12	2411	1.65	54	4.5	1	20.6	4	11.8	22	7	2	13	14000	160	2.6	4.5		0	77	23	27.5			
	Pit	1.65	54	5.7	1	23.2	4	11.8	19	7	3	26	14500	240	2.3	3.9		0	77	23	27.5			
14/12	Pit 2421	1.65	52	5.4	1	23.4	4	11.8	19	6	2	27	14500	200	2.2	3.9		0	77	23	27.5			
	Pit 2421	1.65	53	5.0	1	30.0	4	12.7	23	6	2	28	14500	240	2.5	4.8		0	78	22	22.5			
15/12	Pit 2421	1.65	58	4.8	1	26.2	3	12.8	24	7	3	34	14500	200	2.3	4.5		0	78	22	25			
16/12	Pit 2421	1.65	57	5.0	1	24.6	3	12.8	25	8	3	31	14500	200	2.3	4.5		0	78	22	27.5			
	2421	1.65	57	5.1	1	22.2	3	12.7	24	6.5	2	11	14500	240	2.3	4.6		0	77	23	25			
17/12	Pit 2421	1.65	57	5.0	1	23.4	3	12.7	24	7	2	16	14500	240	2.4	4.6		0	77	23	25			
	2435	1.64	61	4.3	1	20.6	4	12.7	25	8	2	10	14500	260	1.9	4.1		0	77	23	30			
18/12	2477	1.64	58	3.9	1	17.2	3	12.5	24	6	2	7	13750	240	1.7	4.0		0	77	23	25			
	Out 2501	1.64	64	4.4	1	20.2	3	12.5	23	6	1	7	13750	240	1.6	3.8		0	76	24	25			
19/12	2555	1.63+	60	4.1	1	17.6	3	12.4	23	8	2	9	13250	260	1.4	3.5		0	77	23	27.5			
	2582	1.64	58	3.8	1	20.4	3	12.4	23	8	2	9	12500	240	1.3	3.4		0	77	23	27.5			
20/12	2638	1.64	60	3.9	1	20.0	4	12.3	22	8	2	7	12000	240	1.3	3.3		0	77	23	27.5			
	Pit	1.65	65	4.2	1	19.8	4	11.7	23	9	2	11	12500	200	1.1	2.8		0	77	23	25			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	199 500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	Casson Properties		
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-		/100	mg/	ppm				%	%	%	Bent. Eq.	C	N_{oo}	N_1
21/12	2730	1.64	62	4.0	1	20.2	4	11.5	24	9	2	9	12000	220	1.0	2.8		0	77	23	25	19.29	20.71	568
	2763	1.64	63	3.4	1	17.8	3	11.3	24	9	1	10	12000	260	.75	2.2		0	77	23	27.5			
22/12	2780	1.64	61	3.2	1	15.6	3	11.4	25	8	1	9	13000	240	1.0	2.6		0	77	23	27.5	18.50	21.43	535
	Pit	1.65	65	3.0	1	13.2	3	11.5	22	8	2	16	13000	320	1.2	2.9		0	77	23	27.5			
23/12	Pit	1.65	62	2.9	1	13.6	3	11.5	23	8	2	16	13000	280	1.1	2.5		0	77	23	27.5	13.58	21.54	332
	Pit	1.64	61	3.0	1	13.4	3	11.5	23	7	1	8	14000	320	1.1	2.6		0	77	23	27.5			
24/12	Pit	1.64	64	3.7	1	14.2	3	12.0	23	9	3	28	13000	400	1.3	2.8		0	77	23	27.5	20.89	19.28	639
	Pit	1.65	63	3.6	1	14.0	3	11.8	24	8	2	30	13500	400	1.2	3.0		0	77	23	27.5			
25/12	Pit	1.64	60	3.6	1	14.4	3	11.9	24	7	4	32	13500	400	1.2	2.7		0	77	23	27.5			
	Pit	1.83	68	3.4	1	14.6	3	11.7	25	7	1	17	13500	280	1.0	2.6		0	72	28	27.5			
26/12	2150	1.83	64	3.6	1	14.6	3	11.9	26	8	2	11	13500	320	1.2	2.6		0	72	28	27.5	20.79	21.42	646
	1905	1.83	60	4.0	1	15.6	4	11.8	23	7	1	12	13500	180	1.4	3.3		0	72	28	25			
27/12	1950	1.83	57	4.1	1	15.8	4	12.0	23	8	1	8	13500	160	1.5	3.5		0	72	28	25	17.72	20.00	492
	Pit	1.82	62	4.3	1	16.4	4	12.1	25	9	5	37	14000	220	1.6	3.5		0	72	28	25			
28/12	Pit	1.83	57	4.4	1	N/C	-	12.1	24	8	4	32	14000	220	1.5	3.0		0	72	28	25	20.09	19.99	603
29/12	Pit 2150 PBD	1.82+	53	4.4	1	N/C	-	12.0	24	8	2	15	14000	220	1.4	2.9		0	72	28	25	20.09	19.99	603
	Pit	1.83	56	4.9	1	N/C	-	12.1	24	9	4	29	14000	240	1.6	4.1		0	73	27	22.5	23.13	19.30	758
30/12	2150	1.83	58	4.4	1	N/C	-	12.1	25	9	2	10	14000	240	1.5	3.1		0	73	27	22.5	21.57	20.71	682
	2150	1.83	59	4.5	1	N/C	-	12.2	25	8	2	8	14000	220	1.5	3.2		0	73	27	22.5	22.35	20.00	719

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
					Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	Casson Properties		
1979	metres	SG	secs	ccs	1"/32	ccs	1"/32		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	C	N₀₀	N₁
31/12	2150	1.83	57	4.4	1	N/C	-	12.2	24	8	2	10	14000	220	1.5	3.0		0	73	27	22.5	23.93	18.61	798
	Pit 200	1.83	57	4.4	1	N/C	-	12.2	24	8	2	10	14000	220	1.5	3.0		0	73	27	22.5			
1980																								
1/1	ALL SURFACE MUD DUMPED - WELL P+A.																							

JHa/KHaa
30.5.80

VI TESTING OPERATIONS AND RESULTS

DST - SUMMARY

One drill stem test was run in well 34/10-5.

The Tarbert formation was tested by perforating 2 m (1925 - 1927 m RKB). The zone produced oil of 29°API at a maximum rate of approx. 4500 B/D.

The test was run without problems.

DST NO. 1.

Perforated interval: 1925 - 1927 m RKB.

Objectives

To test the Tarbert formation for productivity, pressure and temperature. Obtain representative samples of the reservoir fluid.

Test the formations strength by perforating a short interval (2 m).

Test operation

A 3½" test string was run with Halliburton APR-N valve and RTTS tools.

Pressure and temperature was recorded downhole by two RPG - 3 and three Lynes 314 gauges.

The well was opened on a 3/4" choke for 2 mins. Then is was choked back to 20/64".

The well cleaned up and the rate stabilized at 2200 STB/D. Took 2 bottom hole samples when flowing well on 8/64" choke producing approx. 350 B/D.

The rate was then increased in steps to obtain critical rate/drawdown for sand production.

Flowed first on 24/64" choke producing 2850 B/D for 78 mins. Increased choke to 24/64" + 14/64" chokes in parallell, producing 3750 B/D for 77 mins.

Final choke setting was 32/64" producing 4500 B/D for 159 mins. Thereafter the well was shut in for a build-up period.

After each rate change small amounts of sand was produced

(max. BS&W .5%), but the well cleaned up at each rate.

First flow period:	306 mins.
Bottom hole sampling:	400 mins.
Secong flow period:	314 mins.
Build up:	199 mins.

Flowdata

The well produced 29° API oil with a GOR approx. 460 SCF/STB. At each rate the well performed very stable, both bottom hole and at surface, indicating high productivity.

Choke	Rate (B/D)	BHP (psi)	WHP (psi)
20/64	2200	4475	2274
24/64	2850	4460	2209
24/64 + 14/64	3750	4435	2116
32/64	4500	4403	2009

Test analysis

Reservoir pressure (p*)	4538 psi
kh	92595 mdft
k (h = 85 ft)	1128 md
Skin	5.3

RFT - SUMMARY

Date: 29.11. - 30.11.1979

Run: 1

Objective: Check of pore pressure and obtain fluid samples from the Brent formation.

A RFT-tool with GR and two 2 3/4 GAL sampling chambers were run in well 34/10-5.

16 pressure-measurements from 15 levels were successfully taken in the Brent formation.

Hydrostatic and formation pressure are tabulated below.

Several attempts were made to fill the two sampling chambers. Pressure during sampling indicated plugging of probe/flow-lines.

Received onshore the chambers were checked for pressure and contents.

No pressure were recorded. One of the chambers contained about .5 l of oil and 1 l of mud filtrate. The other were empty.

RFT results and analysis

Test no.	Depth (m RKB)	Pressure (psi)			Comments
		Hydrostatic		Formation	
		Before	After		
1	1898	4891	4903	4510	Lost seal
2	1898	4896	4897	4510	
3	1904,5	4914	4914	4518	
4	1912,5	4933	4933	4527	
5	1922,5	4958	4959	4537	
6	1928	4971	4971	4541	
7	1937	4997	4995	4552	
8	1951	5028	5033	4568	
9	1959	5055	5054	4577	
10	1975	5095	5093	4596	Oil/water
11	1984	5115	5117	4608	contact
12	1999	5152	5156	4631	
13	2018,5	5205	5207	4660	
14	2040	5259	5261	4688	
15	2066	5328	5330	4728	
16	2100,5	5417	5418	4777	

Gradient oil zone: .32 psi/ft (7.28×10^{-2} bar/m)

Gradient water zone: .44 psi/ft (9.97×10^{-2} bar/m)

FLOW RATES

Well no. 34/10-5 DST no. 1

Date: 29.12.79

TIME	CHOKE (1/64")	Qo (STBOPD)	Qg (MMSCFPD)	GOR ($\frac{SCF}{STB}$)
01.00 - 01.01	48			
01.03 - 06.10	20	2191.65	1.0366	473
07.57 - 08.33	8	408.0		
09.28 - 11.55	8	333.2		
12.47 - 14.04	24	2859.7	1.3524	473
14.04 - 15.17	28	3707.8	1.8184	490
15.17 - 15.22	24	3664.6	2.063	563
15.22 - 18.01	32	4556.3	2.0972	460