NORSK PETROLEUM SERVICES A/S

OPERATING AREA Statoil 30/3-2

OPERATOR Statoil

WELL NAME/No. 30/3-2

CONTRACTOR Odfjell Drilling & Consulting Co.

RIG Deep Sea Saga

BAROID ENGINEERS Nolan, Tattersfield, Jenner, Ruffing

T.D. 3567.5 m

HOLE SIZE	CASING SIZE	CASING SET AT	MUD TYPE	MUD COST	DRILLING DAYS
36"	30"	260 m	SPUD MUD	$ 5,540.69	1
26"	20"	940 m	SPUD MUD	$ 34,033.15	6
17½"	13 3/8"	2332 m	GYP/LIGNOSULFONATE	$221,626.25	8.5
12 1/4"	9 5/8"	3054 m	GYP/LIGNOSULFONATE	$ 69,025.68	24
8½"	7"	3564	GEL/LIGNOSULFONATE	$ 29,273.75	14

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MATERIALS USED PER CASING INTERVAL

30" CASING, set at 260 m.

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
AQUAGEL	MT	13	3,216.85	18	4,454.10
CAUSTIC SODA	25 kg	8	88.96	14	155.68
SODA ASH	50 kg	5	70.00	8	137.92
LIME	25 kg	17	56.78	3	16.17
WALLNUT (C)	25 kg			36	436.32
BARITE	MT			3	340.50
TOTAL COST			3,943.34		5,540.69
COST PER DAY			1,971.67		5,540.69
COST PER BARREL			4.09		3.46
COST PER BBL/DAY			2.04		3.46
COST PER METER			66.84		113.08

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MATERIALS USED PER CASING INTERVAL

20" CASING, set at

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
WYO. BENTONITE	MT	92	22,765.40	94	26,471.11
CAUSTIC SODA	25 kg	69	767.28	122	1,356.64
SODA ASH	50 kg	34	476.00	4	68.96
LIME	25 kg	69	230.46	23	123.97
BARITE	MT	9	1,021.50	25	2,837.50
Q-BROXIN	25 kg			22	390.91
WALLNUT	25 kg			168	2,036.16
MICA	25 kg			54	747.90
TOTAL COST			25,260.64		34,033.15
COST PER DAY			5,052.13		4,254.14
COST PER BARREL			3.32		6.31
COST PER BBL/DAY			0.60		0.79
COST PER METER			37.09		

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MATERIALS USED PER CASING INTERVAL

13 3/8" CASING, set at 2332 m

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
BARITE	MT	414	46,989.00	860	97,610.00
WYO. BENTONITE	MT	67	16,579.00	41	10,995.38
AQUAGEL	100 lb			576	7,079.04
CAUSTIC SODA	25 kg	107	1,189.84	624	8,299.20
Q-BROXIN	25 kg	300	3,783.00	1339	16,884.79
CC-16	50 lb	300	4,578.00	705	10,758.30
CMC LV	25 kg	107	4,498.28	388	18,639.52
SODA ASH	50 kg	13	182.00	66	1,137.84
CON DET	55 gal	30	8,712.00	66	19,166.40
HPD POLYMER	25 kg			99	6,201.36
SOLTEX	50 lb			419	16,630.11
LIME	40 kg			15	80.85
GYPSUM	40 kg			348	2,714.40
SALT	50 kg			158	892.70
ALUM. STEARATE	25 kg			8	330.72
WALLNUT	25 kg			347	4,205.64
TOTAL COST			86,514.27		221,626.25
COST PER DAY			8,651.43		5,682.72
COST PER BARREL			14.71		20.81
COST PER BBL/DAY			1.47		0.53
COST PER METER			61.80		157.18

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OPERATING AREA Statoil 30/3-2

MATERIALS USED PER CASING INTERVAL

12 1/4" HOLE

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
AQUAGEL	MT	56	13,857.20	25.5	6,838.59
WYO. BENTONITE	MT			138	1,696.02
CAUSTIC SODA	25 kg	90	1,000.80	334	4,442.20
Q-BROXIN	25 kg	295	3,719.95	909	11,462.49
CC-16	50 lb	295	4,501.70	65	991.90
CMC LV	25 kg	90	3,783.60	296	14,219.84
SODA ASH	50 kg	45	630.00	4	68.96
TORQ TRIM	55 gal	25	12,663.00		
HPD POLYMER	25 kg			26	1,628.64
GYPSUM	40 kg			283	2,207.40
CON DET	55 gal			22	6,388.80
WALLNUT	25 kg			58	702.96
SOD. BICARBONATE	50 kg			4	63.04
ALUM. STEARATE	25 kg			1	41.34
BARITE	MT	346	39,271.00	161	18,273.50
TOTAL COST			79,427.25		69,025.68
COST PER DAY			3,782.25		1,816.46
COST PER BARREL			16.11		18.96
COST PER BBL/DAY			0.77		0.50
COST PER METER			111.87		97.22

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MATERIALS USED PER CASING INTERVAL

8½" HOLE and 7" LINER

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
AQUAGEL	MT	19	4,701.55		
CAUSTIC SODA	25 kg	30	333.60	140	1,862.00
Q-BROXIN	25 kg	130	1,639.30	301	3,795.61
CC-16	50 lb	290	4,425.40	23	362.48
CMC LV	25 kg	30	1,261.20	97	4,659.88
SODA ASH	50 kg	15	210.00	14	241.36
TORQ TRIM	55 gal	15	7,596.80		
WYO. BENTONITE	MT			32	8,581.76
HPD POLYMER	25 kg			19	1,190.16
SALT	50 kg			26	146.90
SOD. BICARBONATE	50 kg			23	362.48
BARITE	MT	138	15,663.00	57	6,469.50
TOTAL COST			35,831.85		29,273.75
COST PER DAY			1,706.28		1,045.49
COST PER BARREL			21.58		13.48
COST PER BBL/DAY			1.28		0.48
COST PER METER			65.15		57.68

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MATERIALS USED PER CASING INTERVAL

TESTING and PLUGGING

MATERIALS	UNITS	ESTIMATED		ACTUAL	
		QUANTITY	COST	QUANTITY	COST
WYO. BENTONITE	MT	1.7	420.66	8	2,145.44
AQUAGEL	100 lb			113	1,388.77
CAUSTIC SODA	25 kg	5	55.60	10	133.00
SOD. BICARBONATE	50 kg			41	646.16
SODA ASH	50 kg	2	28.00	5	86.20
Q-BROXIN	25 kg	15	189.15	10	126.10
CMC (LV)	25 kg	5	210.20	21	1,008.84
HPD POLYMER	25 kg			55	3,445.20
BARITE	MT	100	11,350.00	135	15,322.50
TOTAL COST			12,253.61		24,302.21
COST PER DAY			1,225.36		398.40
COST PER BARREL			81.69		26.56
COST PER BBL/DAY			8.17		0.43

I. Summary

DST No. 1

The sand from 2,884 m. to 2,936 m. is the dominant pay in well 30/3-2. One section of this sand between two tight streaks (2,916 m. - 2,923 m.) was perforated for test.

The well was flowed 8.78 hours on December 23, 1980. The final stabilized rate was 2,035 Bbls/day oil and 938 MCF/day gas on ½" choke. No water was produced.

The bottom hole pressure drawdown and buildup data both indicate the zone tested has a much larger capacity than can be expected from the perforated interval. Further examination of the core data indicates that the tight streak on top of the section is not totally impermeable. We conclude that additional pay was in communication and the actual zone tested is from 2,907 m. to 2,925 m.

The reservoir pressure is 4,740 psig (0.496 psi/ft.) and the average permeability of the zone is 124.2 md. The well completion efficiency is low at 14.4%.

This low completion efficiency may be due to several factors. The most significant factors are over balanced mud weight and restricted entry from partial completion.

No barrier or depletion had been detected during this test.

DST No. 2

On January 22, 1981, the sand at 2,870 m. - 2,874 m. was perforated and tested. It flowed 14.63 hours on ½" choke. The final stabilized rate was 2,320 Bbls/day oil and 1,112 MCF/day gas with no water.

The formation pressure is 4,664 psig (0.499 psi/ft), and the average permeability is 280.2 md. The interval has a moderate completion efficiency of 55%.

On the buildup plot, the slope of the curve continuously changes. This can be interpreted as either caused by the change of reservoir properties or by the presence of multiple barriers.

There was no indication the reservoir was depleting during test.

UNION OIL CO.

DRILL STEM TEST ANALYSIS

Field 30/3

Well 2

BASIC WELL DATA

DST	No. 1
DATE	Dec. 22, 1980
INTERVAL DESIGNATION	2907m-2925m
PERFORATED INTERVAL	2916m-2923m
NET PAY, FT.	59
GAGE DEPTH, FT.	9559
GAGE NUMBER	BT 2651

PRODUCTION DATA

INITIAL FLOW	INITIAL FLOW, PSIG	2,131
	FINAL FLOW, PSIG	2,816
INITIAL CLOSED IN PRESSURE, PSIG		4,734
FINAL FLOW	INITIAL FLOW, PSIG	2,852
	FINAL FLOW. PSIG	3,396
FINAL CLOSED IN PRESSURE, PSIG		4,728
WHFP, PSIG		760
SURFACE CHOKE, INCHES		1/2
OIL/CONDENSATE B/D		2,035
° API		38.5
GAS, MCF/D		938
GRAVITY		0.713
WATER, B/D		0
SALINITY/RESISTIVITY		-
PRODUCING RATIO, SCF/STB		461
WATER CUT, %		0
B.H. TEMP, °F @ DEPTH		258 @ 2914m

CALCULATED DATA

RESERVOIR PRESSURE P* @ GAGE, PSIG	4,740
PRESSURE GRADIENT, PSI/FT.	0.496
TEMPERATURE GRADIENT °/100'	2.30
PERMEABILITY, MD - MAJOR FLUID	124.2
PRODUCTIVITY INDEX - ACTUAL	1.51
PRODUCTIVITY INDEX - IDEAL	10.82
COMPLETION EFF, %	14.4
RADIUS TESTED, FT.	1,170
BARRIERS DETECTED	-

COMMENTS

TS - TOO SMALL TO MEASURE
ND - NONE DETECTED
NM - NOT MEASURED

UNION OIL CO.

DRILL STEM TEST ANALYSIS

Field 30/3
Well 2

BASIC WELL DATA

DST	NO. 2
DATE	JAN. 22, 1981
INTERVAL DESIGNATION	2870 m. - 2874 m.
PERFORATED INTERVAL	2870 m. - 2874 m.
NET PAY, FT.	13
GAGE DEPTH, FT.	9322
GAGE NUMBER	SSDR-1

PRODUCTION DATA

INITIAL FLOW	INITIAL FLOW, PSIG	2900
	FINAL FLOW, PSIG	3027
INITIAL CLOSED IN PRESSURE, PSIG		4664
FINAL FLOW	INITIAL FLOW, PSIG	3227
	FINAL FLOW, PSIG	3298
FINAL CLOSED IN PRESSURE, PSIG		4573
WHFP, PSIG		887
SURFACE CHOKE, INCHES		½
OIL/CONDENSATE B/D		2320
° API		38.5
GAS, MCF/D		1,112
GRAVITY		0.710
WATER, B/D		0
SALINITY/RESISTIVITY		-
PRODUCING RATIO, SCF/STB		480
WATER CUT, %		0
B.H. TEMP, °F @ DEPTH		252 @ 2841 m.

CALCULATED DATA

RESERVOIR PRESSURE P* @ GAGE, PSIG	4664 (1)
PRESSURE GRADIENT, PSI/FT.	0.499
TEMPERATURE GRADIENT °/100'	2.45
PERMEABILITY, MD - MAJOR FLUID	280.2
PRODUCTIVITY INDEX - ACTUAL	3.1
PRODUCTIVITY INDEX - IDEAL	5.6
COMPLETION EFF, %	55
RADIUS TESTED, FT.	1,189
BARRIERS DETECTED	-

COMMENTS

(1) FROM INITIAL BUILDUP

TS - TOO SMALL TO MEASURE
ND - NONE DETECTED
NM - NOT MEASURED