725.3 L-135

MOBIL EXPLORATION NORWAY INC

FINAL GEOLOGICAL SUMMARY

WELL 33/9-4

February 1975
Stavanger, Norway.

Contents

Enclosures

NORWAY OFFSHORE
STATFJORD FIELD
APPRAISAL WELL 33/9-4

WELL DATA

Well Designation:	33/9-4
Location:	Latitude 61° 19' 46.568" N Longitude 01° 54' 43.042" E
Classification:	Appraisal
Drilling period:	
Spudded:	30 July, 1975
Rig released:	18 September, 1975
KB Elevation:	25.0 m
Water Depth:	144 m
Rig:	Norskald
Status:	Oil well, plugged and abandoned
Total Depth:	
Planned:	3142.0 m (10,250')
Actual:	3075.5 m (10,090')
Objective:	Middle Jurassic, Brent Formation

Cost ($)	Total	Mobil's Share (15%)
Planned:	5,000,000	750,000
Actual:	4,463,000*	669,000 *

* As of 31 December, 1975

INTRODUCTION

Statfjord Field appraisal well 33/9-4 spudded on 30 July, 1975, reached a total depth of 3075.5 meters (10,090 feet) in Triassic sediments and was abandoned as an oil well in the Brent Formation on 18 September, 1975.

The well was drilled as an appraisal of the northern extension of the Statfjord Field (Brent Formation) in an area where Brent Sands are separated from the main field by a small down-to-the northeast normal fault. Reservoir data from this test was needed for production and development planning and the additional seismic velocity control was required for detailed field mapping.

The 33/9-4 appraisal well successfully accomplished its objectives. The Brent Formation was tested through 5 meters (16 feet) of perforations at a maximum rate of 7,324 BOPD on a 48/64 inch choke. The underlying Lower Jurassic Statfjord sands were wet, as was anticipated.

RESULTS

The objective Brent Formation was encountered at 2554.5 meters (8381 feet), 33.9 meters (111 feet) high to prognosis. Continuous coring was carried out from within the overlying Middle Jurassic shales through the base of the oil/water contact in the Brent sands, from 2547.2 to 2612.5 meters. Of the 56.7 meters cut by nine cores, 50.7 meters (89 percent) was recovered. Measured core porosities in the Brent, averaged 26 percent. Horizontal liquid permeabilities ranged from 0.05 to 11,005 millidarcies and averaged 2,155.3 millidarcies.

The oil/water contact for the Brent reservoir is at 2611.5 meters or -8485 feet, which is 7 feet low to the field oil/water contact of -8478 feet on the upthrown side of a normal fault between the well and the main portion of the field to the south. The reservoir contains 57 meters (187 feet) of gross oil column. Schlumberger's final CPI log analysis, using cutoffs of 40 percent clay volume, 12 percent porosity and 65 percent water saturation, indicates 36.8 meters (121 feet) of net pay with an average porosity of 25.4 percent and an average water saturation of 24.2 percent.

Two successful drillstem tests were run through casing, one near the top and one near the base of the Brent pay section. Results of the tests are summarized on the Final Composite Log.

Appraisal well 33/9-4 successfully met all objectives set forth in the program. Continuity of the Statfjord Field Brent oil reservoir to the north, across the fault, was established. Velocity data derived from the well enhanced seismic mapping of the northern Statfjord structure.

STRATIGRAPHY/STRUCTURE

The stratigraphic section encountered was much as predicted except for the total absence of the Upper Jurassic Hot Shales. Instead, the well penetrated some 13.5 meters (44 feet) of Middle Jurassic shale, not present in any other License 037 wells drilled thus far in the Statfjord Field. This shale unit has been encountered in wells west of the 037 License area where it underlies the Hot Shales and ranges in age from Upper to Middle Jurassic.

It can be distinquished from the very radioactive (very high gamma-ray count) Hot Shales by a lower, moderate to high gamma-ray reading and sometimes by a less dark colour. Many names have been applied to this unit and at present the name Cold Shale is proposed to distinquish it from the very high gamma-ray Hot Shale which can normally be expected to overly this unit.

Figure 1 illustrates actual versus prognosed stratigraphy and tops and shows that, structurally, the well ran high to prognosis on all horizons. Generally, differences were not excessive and can be attributed to slightly higher velocities than anticipated. The Statfjord Formation and Top Triassic were found over 200 and 300 feet high to prognosis respectively. This was due to a combination of higher velocites and normal faulting at approximately 2800 meters (9186 feet), which appears to have cut out as much as 73 meters (240 feet) of Dunlin Formation, as compared to the 33/9-3 well.

Paleontological results from Robertson Research are summarized on Table 1 and on Enclosure 4. Table 2 lists all wireline logging operations. Sidewall core descriptions are included as Enclosure 3.

TABLE 1

PALEONTOLOGICAL SUMMARY 33/9-4

Interval (meters)	Stage/Substage	System/Subsystem
230-265	-	Recent-Pliocene
270-550	-	Pliocene
560	-	Upper Miocene
570-980	-	Middle-?Lower Miocene
990-1230	-	Oligocene
1240-1400	-	Eocene ?
1410-1650	-	Lower Eocene-Paleocene
1660-1847	-	Paleocene
1850-1853	Danian	Lower Paleocene
1856-1949	Maastrichtian	
1952-2162	Early Maastrichtian-Late Companian	Upper Cretaceous
2168-2522	Early Companian	
2525-2528	Early Albian-Aptian	Lower Cretaceous
2534-2540	Barremian	
2546-2553	Early Callovian-Bathonian	
2555.5-2588	Bathonian	Middle Jurassic
2589-2729	Bajocian	
2735-2762	Late Toarcian	
2765-2798	Early Toarcian	Lower Jurassic
2801-2828	Domerian	
2834-2888	Carixian-Late Sinemurian	
2894-2955	Early Sinemurian-Hettangian	
2960-3074		Indeterminant (Triassic ?)

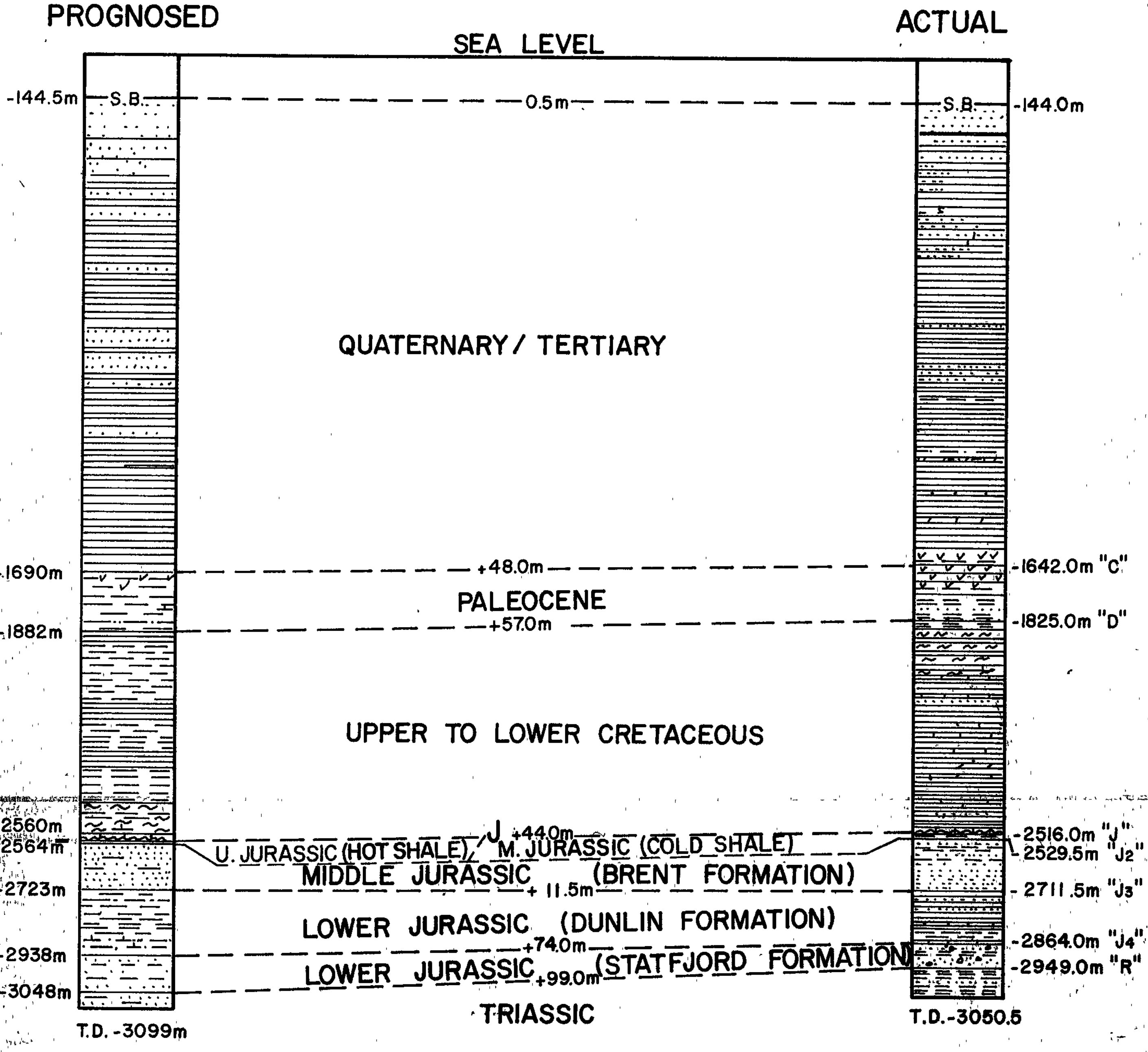
TABLE 2

WIRELINE LOGGING SUMMARY

WELL 33/9-4

Run No.	Date	Type Log	Interval - m KB
1	2 Aug. 1975	ISF/Sonic	229.0 - 484.0
2	11 Aug. 1975	ISF/Sonic	476.3 - 1700.0
3	4 Sept. 1975	ISF/Sonic	1693.5 - 3074.0
1	4 Sept. 1975	FDC/CNL	1695.0 - 3074.2
1	4 Sept. 1975	DLL/MSFL	1694.0 - 3074.5
1	4 Sept. 1975	HDT	1694.0 - 3074.0
1	8 Sept. 1975	CCL/perf.	184.0 - 2608.5 (4 Int.)
1	8 Sept. 1975	CBL	1640.0 - 3089.5
2	12 Sept. 1975	CBL	600.0 - 2526.0

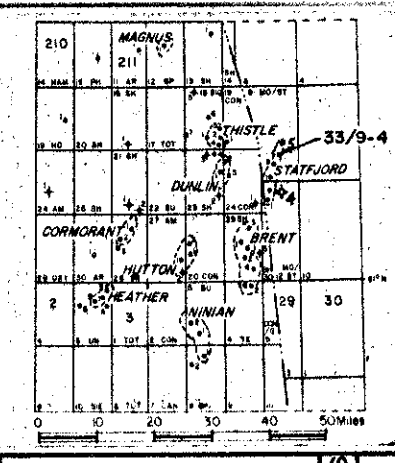
WELL 33/9-4 PROGNOSIS vs ACTUAL DEPTHS



ALL DEPTHS IN METRES SUBSEA
VERTICAL SCALE 1:20,000

FIGURE 1

NT/ FEB. 76



MOBIL EXPLORATION NORWAY INC.

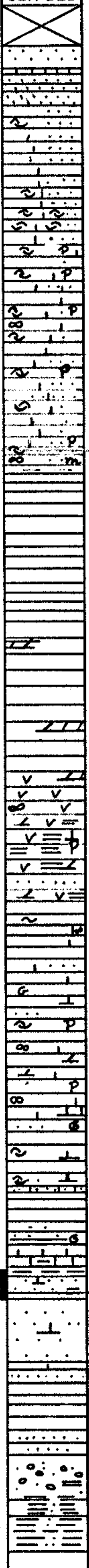
MOBIL/STATOIL/CONOCO/ESSO/SHELL/AMOCO-SAGA

SUMMARY LOG 33/9-4

SCALE: 1:10,000

COORDINATES LAT. N. 61°19'46.568 LONG. 01°54'43.042"
ELEVATION KB/ 25M
WATER DEPTH 142M
TOTAL DEPTH 3075.5M
RIG NORSKALD
SPUDDED 30-7-75
COMPLETED 18-9-75
STATUS P+A
OIL WELL

METERS	STRATIGRAPHY DEPTHS K.B.	OIL SHOWS	CASING CORES SWS	LITHOLOGY-INDICATIONS-TEST RESULTS REMARKS
	SEA LEVEL 25			
	167			SEA BED
	QUATERNARY: SEA BED 230		30" @ 229m	First sample at 240 m.
	RECENT-PLEISTONE (P)			Sd, clr, vf-vc, rdd-sbrdd. Ls, wh-buff, micxln, mod hd. Sd, clr, m-c, rdd-sbrdd. Cly, lt gy, sdy, calc, pyric, glauc.
	430 PLIOCENE (P)		20" @ 476m	
500	560			Cly, ltgy, sdy, sli calc; Sd, v c-lithic cong, abnt pelecypod frags.
	UPPER MIOCENE 570			
	TERTIARY: MIDDLE-LOWER MIOCENE (P)			Cly, gy, calc, pyric.
				Cly, gy calc, stky: Sd, vf-c-pbly, qtz, lithic frags, pyr, foss.
1000	990 OLIGOCENE (P)			Cly, gy, calc, stky; i/b sd, qtz, clr, m-c-vc, sbang-rdd, pyr, mica, forams, shell debris and glauc sltst. Clyst, olv-brn-gy, sli slty, sbfiss mod firm,
	1410 EOCENE (P) 1490			Clyst, a/a, bcmg blsh gy; tr Dol.
1500	LOWER EOCENE-PALEOCENE (P)			Clyst, gy-gybl, tuff, sli calc; tr Dol.
	PALEOCENE 1667 (L)		13 3/8 @ 1694m	Clyst, tuff, a/a; Mdst, gy, brn-gy, sft, blky, tuff
	UPPER CRETACEOUS 1850 (L)			Clyst, sdy, calc, firm, Mrl, wh-ltgy, firm.
2000	CRETACEOUS			Cly, wh-gy, calc, sft; Clyst, m-lt gy, firm, arg. Clyst, lt blsh gy, calc, firm. Clyst, lt gnsh gy, firm, glauc
				Clyst, dkgy, hd, subfiss-sft, blky
2500	2526 BARREMIAN			Cly & Clyst, gy, firm-sft, calc. Ls, wh, arg-chky, mod hd, lt.
	JURASSIC: BRENT SH. 2541		CORES 1-9	Sh, dkgy-blk, mica OIL/WATER CTC. -2586.3m
	BRENT FM. 2550			Ss, wh-lt brnshgy, f-med, sbang-sbrdd, mica, g por, g show.
	DUNLIN FM. 2723.5			Cly-Clyst, lt gy-brnsh gy, mica, sft-firm, sb fiss.
	2894 STATFJORD FM.			Ss-Cgl, clr-milky, med-vc-pbly, sbang-ang, fr sorting, kaolin mtx, calc cmt.
3000	TRI? - - - ? - - - 2974 UPPER TRIASSIC?			Mdst /Clyst, variagated, mica, calc, w/thin sltst.
	TD 3075.5m			



LOGS: ISF SONIC, HDT, BSGRC, LL7,IS, FDC/CNL, OTHER

FEET: 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000, 11000, 12000, 13000, 14000, 15000, 16000, 17000, 18000, 19000

METERS: 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500, 6000

Middle Jurassic Brent Reservoir Sand

Total Thickness	167 m
Gross Oil Sand	56.9 m
Net Oil Sand	40 m
Ave Ø	27.5%
Ave SW	26.9%

CORES

1	2547.2 - 2555.5	Recd. 2547.2-2553.7
2	2555.5 - 2565.0	" 2555.5-2557.2
3	2565.0 - 2568.5	" 2565.0-2568.5
4	2568.5 - 2577.7	" 2568.5-2577.7
5	2577.7 - 2581.1	" 2577.7-2581.1
6	2581.1 - 2585.0	" 2581.1-2583.2
7	2585.0 - 2594.2	" 2585.0-2594.2
8	2594.2 - 2603.3	" 2594.2-2597.5
9	2603.3 - 2612.5	" 2603.3-2612.2

All core depths are drilling depths

SIDEWALL CORES

30 cores 2540 - 3060 m
26 recovered

DST No. 1 2608 - 2610 m

771 BOPD 14/64" choke
GOR 649 38.0° API

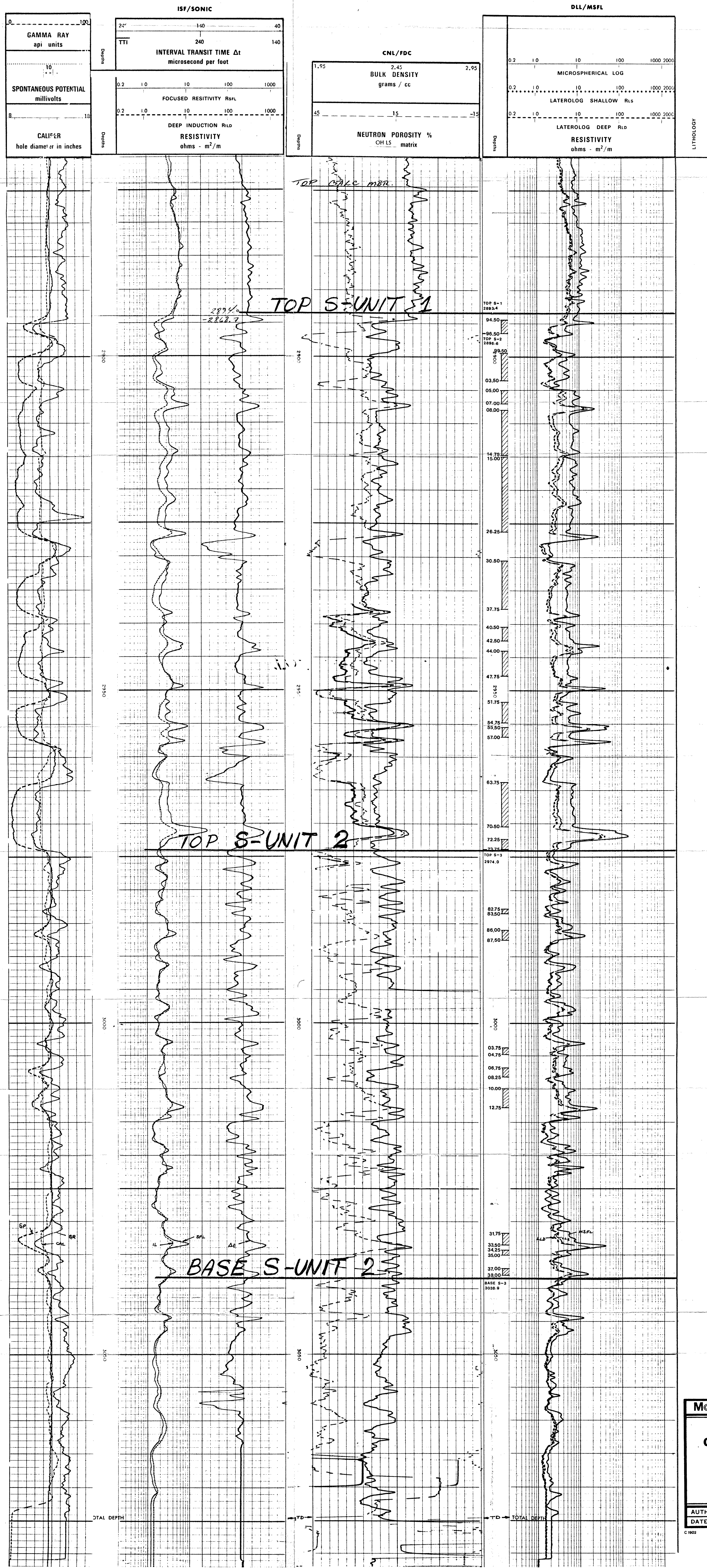
DST No. 2 2555 - 2560 m

Choke	BOPD	GOR	API
3/4"	6225	1043	36.4
1/2"	4375	753	37.0
1/4"	1172	853	38.3

(L) = Log Tops
(P) = Paleo. Tops

NT. DEC.-75

33/9-4



SSD/LOG/ 250 - 106
MEN

Mobil Exploration Norway Inc.

WELL 33/9-4
COMPOSITE LOG SECTION
STATFJORD FORMATION

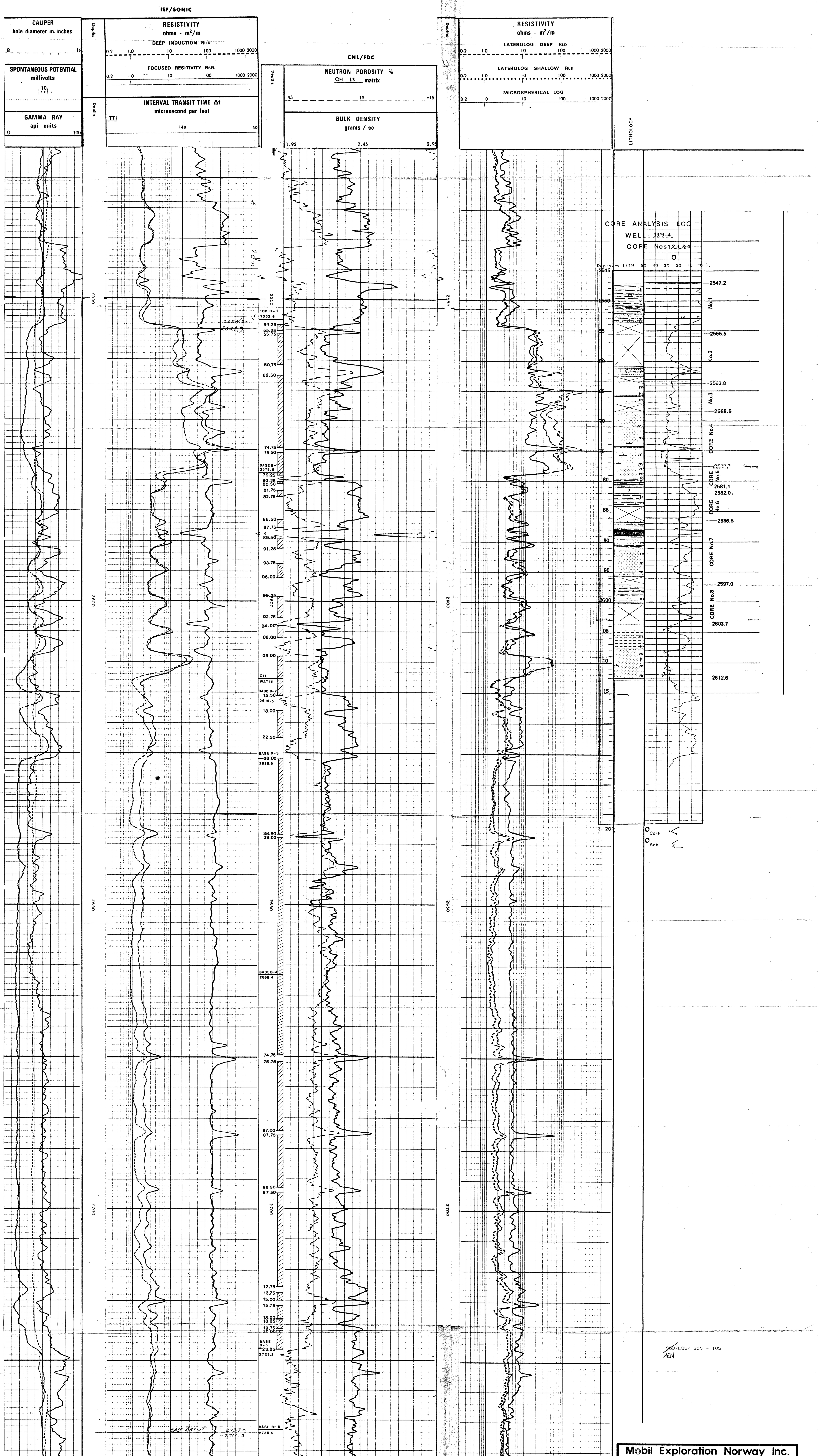
(UNIT NET SAND COUNT)

LOG SCALE 1/200 (FEET)

AUTHOR: ALC /NT/KES | DRAWN BY:
DATE: OKTOBER 1978 | MOEX No: 78/316/2840

C 1902

33/9-4



Mobil Exploration Norway Inc.

WELL 33/9-4
COMPOSITE LOG SECTION
BRENT FORMATION

(UNIT NET SAND COUNT)

LOG SCALE 1/200 (FEET)

AUTHOR: ALC /NT/KES	DRAWN BY:
DATE: OKTOBER 1978	MOEX No. 78/316/2841

WELL 33/9-4

SIDEWALL CORE DESCRIPTION

Core No.	Depth	Description
30	2540 m	Cl/clst, wh, gy, sft-hd, micro mic, micro py.
29	2555.5 m	ss, gy wh-lt bn, vf-f, fr srtd, ang-sb ang mic, lse-fri, p-fr por, yl wh fluor, bl wh fast strmy cut, bn res colour.
28	2558 m	ss, as core No. 29.
27	2562 m	clst, wh-lt bn sptd, hd-vhd, yl bn fluor.
26	2583 m	CL/clst, slty, m gy-dk gy, mic, sft-hd, lam with yl fluor, weak bl wh cut.
25	2598 m	CL/clst as core No. 26.
24	2602 m	ss, gy wh-lt bn, vf-f, fr srtd, ang-sb ang, lam, mic, lse-fri, yl fluor, bl wh fast cut, lt bn res colour.
23	2612.8 m	ss, as core No. 24.
22	2617.8 m	ss, gy wh-lt bn, vf-crse, p srtd, sb ang, mic, coal bndd, hd-fri, fr por, yl bn fluor, bl wh strmy cut, tan res colour.
21	2677 m	ss, gy wh, vf-f, w srtd, ang, mic lse-fri, p por.
20	2711.6 m	ss, as core No. 21.
19	2713.3 m	ss, gy wh, vf-f, g srtd, ang, mic, lam, m hd-fri, p por.
18	2717.4 m	ss, as core No. 19.
17	2722 m	ss, wh-clr, f-crse, fr srtd, sb ang-sb rdd, kao mtx, lse-fri, p por.
14	2894.5 m	Clst, slty, dk gy, mic, sft-mhd.
13	2895.2 m	ss, wh-clr, vf-m, m srtd, sb ang - sb rdd, kao mtx, fri, p -fr por.
12	2899.5 m	ss, as core No. 13

Core No.	Depth	Description
11	2900 m	ss, as core No. 13
10	2900.8 m	ss, gy wh - lt bn, f-crse, sb rdd - sb ang, kao mtx, fri, p por.
9	2902.5 m	ss, as core No.10
8	2907 m	ss, gy wh - lt bn, f-v crse, p srtd. sb rdd - sb ang, kao mtx, hd, p por.
7	2909.5m	ss, gy wh, f - v crse, sb rdd - sb ang kao mtx, fri, p por.
6	2926	ss, gy wh - clr, m-crse, sb-rdd, kao mtx, fri, p por.
4	3000.2 m	clst, slty, gn gy, sft, mic
2	3047 m	mdst, bn - rd bn, sft - m hd, mic
1	3060 m	mdst, as core No. 2

ROBERTSON RESEARCH INTERNATIONAL LIMITED

SUMMARY LOG 33/9-4

Enclosure 4

AREA : NORWEGIAN NORTH SEA   SPUD DATE : 30 JULY 1975

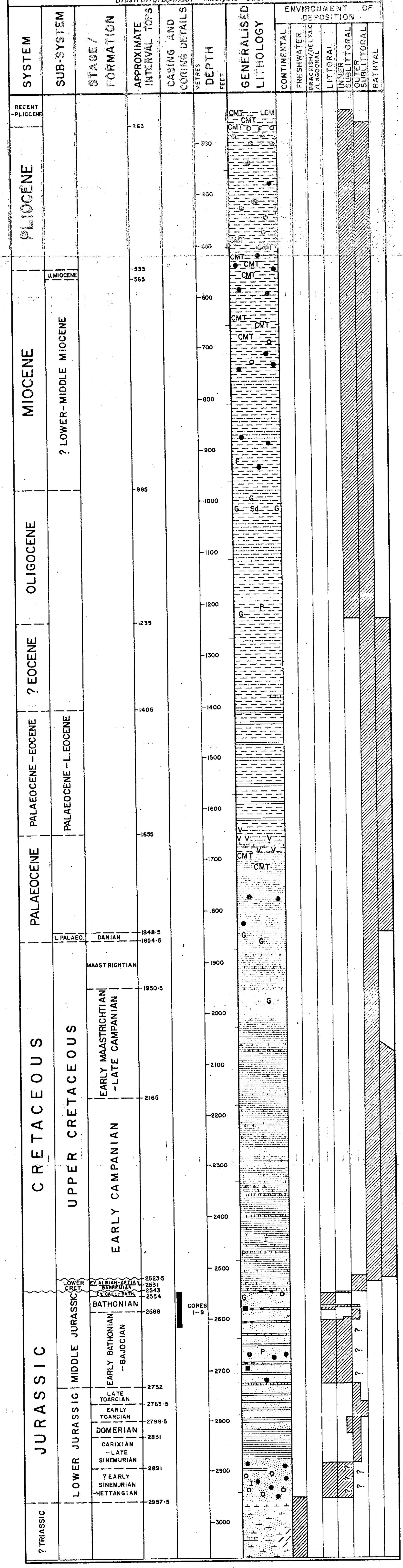
COMPANY : MOBIL EXPLORATION NORWAY INC.   COMPLETION DATE : 18 SEPT 1975

INTERVAL STUDIED : 230m – 3074m T. D. 3075.5m

Dr. No. 192 / 1322 / 3242   SCALE 1:5000   Date : FEB 1976

Cored Interval   Casing Shoe

The lithological symbols are a generalisation of those shown on Biostratigraphical Analysis Charts



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General Information

Well	33/9-4
Classification	Appraisal
Final Coordinates	
Latitude	61° 19' 46.568" N
Longitude	01° 54' 43.042" E
Kelly Bushing Elevation	+ 82'
Contractor/Rig	Rowan/Norskald
Objective	Jurassic Sandstones
Result	Oil Well
Present Status	Abandoned
Total Depth	10090'
Spud Date	00.30 hrs 30.07.75
Abandoned	21.30 hrs 17.09.75
Date Rig on Location	21.00 hrs 28.07.75
Date Rig Released	16.45 hrs 18.09.75

Summary of Operations on 33/9-4

The rig Norskald was under tow from Coast Center Base at 16.00 hrs 27th July 1975 and arrived at the location of 33/9-4 at 18.00 hrs 28th July 1975. The final position was determined with satellite positioning equipment and was 61^{o} 19' 46.568" N 01^{o} 54' 43.042" E. This was 67.6 meters at 93.5 degrees from the intended location. The water depth on location was 472 feet providing 554 feet from RKB to sea floor.

The well was spudded at 00.30 hrs 30th July 1975. 36" hole was drilled to 756 feet equivalent to 202 feet seabed penetration. 30" casing was run and cemented back to seabed. 17½" hole was drilled to 763 feet and the hole was displaced with mud. The formation was pressure tested to leak off at 11.2 ppg equivalent mud weight or 0.582 psi/ft.

The 30" pin connector and marine riser was run and 17 ½" hole was drilled to 1600 feet. The hole was displaced with seawater and before disconnecting the pin connector the well was checked for flow. No flow was observed and the pin connector was unlatched and retrieved. The 17 ½" hole was then opened up to 26" and 20" casing was run and cemented back to seafloor.

The B.O.P. stack was tested on the test stump prior to running. The choke and kill lines were tested as run. The stack was landed and latched on to the 18 3/4" wellhead. The stack was tested to 7500 psi, hydrils to 2500 psi. 17 ½" hole was drilled to 5587 feet using a lignosulfonate mud system with mud weights in the range of 9.4 to 10.1 ppg. The formation was pressure tested at 1573 feet to 0.65 psi/ft or 12.5 ppg equivalent mud weight. At 1680 feet there were some indications of gas in the drilling fluid with a 8.7 ppg mud weight. The gas was circulated and mud weight increased to 9.5 ppg. The section was drilled in 101 hours averaging 39.5 feet/hr. The hole was conditioned and Schlumberger ran induction, sonic and gamma ray logs.

13 3/8" casing was run with the shoe at 5558 feet and cemented back to seabed in 2 stages. 13 3/8" seal assembly was set and tested.

12 1/4" hole was drilled from 5587 feet to 8357 feet with the same mud system. The mud weight was increased to 13.5 ppg by 7900 feet. The formation was pressure tested at 5594 ft to 0.764 psi/ft or 14.7 ppg equivalent mud weight. The section was drilled in 122.5 hours at an average penetration rate of 22.6 feet/hr.

The core barrel was picked up and the following cores were cut with a 8 15/32" core bit.

	Interval cored(ft)	Recovery(ft)	Percentage Recovery	Coring time (hr)	Coring rate ft/hr
Core no 1	8357-8384	21	77.8	7	3.86
Core no 2	8384-8415	5.5	17.7	4.5	6.89
Core no 3	8415-8427	12	100	1.5	8.0
Core no 4	8427-8457	30	100	6	5.0
Core no 5	8457-8468	11	100	3.5	3.14
Core no 6	8468-8481	7.5	57.7	5.5	2.36
Core no 7	8481-8511	30	100	11	2.73
Core no 8	8511-8541	11	36.7	6	5.0
Core no 9	8541-8571	29	96.7	5	6.0

The rat hole was opened up to 12 1/4" and 12 1/4" hole was drilled to t.d. at 10090 feet. This section was drilled in 136.5 hrs at an average penetration rate of 11.1 feet/hr. The hole was conditioned prior to logging and the following logs were run: induction, sonic, dual laterolog, microspherical focused log, compensated neutron, formation density, dipmeter, velocity survey and side wall cores.

9 5/8" casing was run and cemented back into the 13 3/8" x 9 5/8" annulus. The seal assembly was set and tested. Schlumberger ran cement bond log, gamma ray, and collar locator log. The interval 8558-8562 feet was perforated with 4 shots per foot. The test string was run in the hole for D.S.T. no. 1. After the test a bridge plug was set at 8530 feet. Schlumberger perforated the interval 8383-8398 feet with 4 shots per foot and D.S.T. no 2 was run.

The hole was then plugged back to 582 feet. The B.O.P. stack and riser was washed out. The stack was unlatched and the riser pulled. An explosive charge was lowered into the wellhead and set off. The top of the 9 5/8" - 13 3/8" - 20" - 30" and the permanent guide structure were recovered. Divers went down to observe that the seabed was cleared. The anchors were pulled and the rig was released from location at 16.45 hrs 18th September 1975.

WELL 33-9/4

Summary of Testing Operations

DST no.1: Object: to obtain formation fluid samples from middle ratty zone just above OWC (at 2611 m).

Interval: 2608-2610m (8558'-8562')

Packer: 2568m (8425')

PBTD: 3022m (9915')

Bottom choke size: 2"

Cushion: Salt water to surface

Gas to surface: 70 mins

Oil to surface: 70 mins

Pressure Data	FLOPETROL		HOWCO	
Type gauge	Amerada no.8170	Amerada no.6432	BT5629	BT5623
Depth of gauge	2581m (8468')	2579m (8462')	2597m (8519')	2598m (8523')
Clock	24 hrs.	48 hrs.	48 hrs.	72 hrs.
Initial hydrostatic pressure, psig	6053	6057	6066	6084
Initial flowing period, psig - 20/64" choke (14 mins)	5456	5449	5577	5582
Initial shut-in period, psig (32 mins)	5513	5507	5643	5651
Second flowing period, psig - 20/64" choke (58 mins)	5440**	5435**	5566**	5574**
Second flowing period, psig - 14/64" choke (500 mins)	5505*	5499	5619	5627
Second shut-in period, psig (145 mins)		no data	5635	5640

Pressure Data (cont'd):	FLOPETROL		HOWCO	
Type gauge	Amerada no.8170	Amerada no.6432	BT5629	BT5623
Depth of gauge	2581m (8468')	2579m (8462')	2597m (8519')	2598m (8523')
Clock	24 hrs.	48 hrs.	48 hrs.	72 hrs.
Third flowing period, psig - 20/64" choke (31 mins)		5445	5574	5582
Third shut-in period, psig (69 mins)		no data	5640	5646
Fourth flowing period, psig - 40/64" choke (21 mins)		no data	5555	5558
Fourth shut-in period, psig (94 mins)		no data	5638	5640

* Last recording before clock ran out after 257 mins, stabilized.

** Not stabilized.

Production Data:

Choke	WHP	BOPD	GOR	Oil Gravity	Gas Gravity	BS & W	BHT
14/64"	2935	771	649	38.0 API at 60°F	.682	.1%	210°F.

Comments:

Oil-water contact at 2611m (8566')

The bottom hole samplers both had a small quantity of mud in them after transfer. The samples had been taken either at 2533m (8312') or 2372m (7781'). It appears that they were hung up in a 2" I.D. restriction although the maximum O.D. of the sampler carrier was 1 7/8". 3 oil and 3 gas separator samples were also taken.

DST no.2 Object: to obtain pressure production data and formation fluid samples

Interval: 2555-2560m (8382'-8398')

Packer: 2519m (8266')

PBTD: 2600m (8530')

Bottom choke size: 2"

Cushion: Sea water to surface

Gas to surface: 14 mins.

Oil to surface: 14 mins.

Pressure Data:	FLOPETROL		HOWCO	
Type Gauge	Amerada No.8167	Amerada No.12474	BT5629	BT5623
Depth of gauge	2534m(8315')	2533m(8309')	2550m(8366')	2552m(8374')
Clock	48 hrs.	72 hrs.	48 hrs.	72 hrs.
Initial hydrostatic pressure, psig	5937	5937	5962	5957
Initial flowing period, psig-48/64" choke (5 mins)	Illegible	Illegible	5066	5058
Initial shut-in period, psig, (31 mins)	Illegible	Illegible	5595	5585
Second flowing period, psig-48/64" choke (248 mins)	4947	4959**	4973**	4962**
Second shut-in period, psig (60 mins)	5622**	5637**	5632**	5622**
Third flowing period, psig-32/64" choke (150 mins)	5301	5314	5319**	5311
Third flowing period, psig-1/4" choke (277 mins)	5585	5596	5595	5585

Pressure Data (cont'd)	FLOPETROL		HOWCO	
Type gauge	Amerada no.8167	Amerada no.12474	BT5629	BT5623
Depth of gauge	2534m(8315')	2533m(8309')	2550m(8366')	2552m(8374')
Clock	48 hrs.	72 hrs.	48 hrs.	72 hrs.
Third shut-in period, psig (263 mins)***	5626	5638		
Third shut-in period, psig (388 mins)			5638	5630

** Not stabilized

*** Recordings not completed, build-up period was 388 mins.

Production Data:

Choke	WHP	BOPD	GOR	Oil Gravity	Gas Gravity	BS & W	BHT
48/64"	2190	7324	886	36.4 API at 60^{0}F	.660	Nil	No data
32/64"	2690	4482	848	37.0 API at 60^{0}F	.684	.1%	No data
1/4"	3055	1178	849	38.3 API at 60^{0}F	.684	Nil	209^{0}F

Comments:

The well began flowing strongly during initial flow period. However, there was no flow when tool was opened for final flow period. Apparently the system was clogged with formation solids, so 4 barrels of water were pumped downhole to 3500 psi to flush out perforated pipe. After this the well flowed strongly and test proceeded normally.

Used two Flopetrol drop samplers for BH sampling. One obtained satisfactory BH sample from 2283m (7490'), the other got jammed in the lubricator when dropped.

3 separator samples of each gas and oil were taken, also two 55-gal. drums of crude.

Used both burners during 48/64" and 32/64" choke flow tests.

HOLE, CASING, AND CEMENT DATA.

WELL 33/9-4.

Hole size (in)	Casing Depth (ft RTE)	Casing Size (in)	Casing Weight (PPF)	Grade	Thread	Cement Type	Sacks	Remarks
36	754	30	208' x 1" and 1½"		Vetco SQ	Class G Neat	700	Returns to sea floor
						Class G + 2% $CaCl_2$	700	
26	1564	20	1,019' x 91.5	X52	Vetco L	Class G + 8% gel	1,000	Returns to sea floor
						Class G neat	1,000	
17½	5558	13 3/8	2,442' x 72	N80	Buttress	Class G + 8% gel	1,000	Returns to sea floor
			2,568 x 68	K55	Buttress	Class G Neat	1,600	
						Class G Neat	775	2. stage DV tool at 1456'
12 1/4	9985	9 5/8	6218' x 47	N80	Buttress	Class G + 4% gel + 1.0% CFR2 + 0.75% HALAD9	1,055	Pressure test thru perf. at 1603' indicates that cement reached this level
			3208' x 43,5	N80	Buttress	Class G + 0.75% CFR2 + 0.2% HR-7	765	

PLUG BACK AND ABANDONMENT.

WELL 33/9-4.

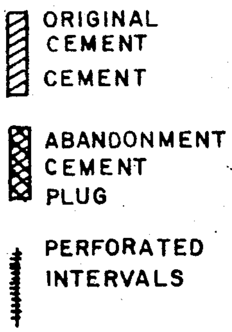
Hole Size (in)	Plug Depth (ft) Bottom - Top	Method of Placement	Plug Type	Sacks	Remarks
9 5/8	10,092 - 9,915		Class G, 0.75% CFR2, 0.2% HR7		Left in csg when cemented.
9 5/8	8,530	Wireline	EZY Drill Plug		
9 5/8	8,298 - 8,200	Wireline Balanced	EZY Drill Plug Class G, 0.5% HR4	 250	Csg. perforated at 8,562' - 8,558' and 8,398' - 8,383'. Squeezed cement, final pressure 1,700 psi. 200 sacks over, 50 sacks under retainer.
9 5/8	5,609 - 5,409	Balanced	Class G, Neat	100	
9 5/8	754 - 582	Wireline Balanced	EZY Drill Plug Class G, Neat	 72	Csg. perforated at 1603' and 603' Unable to circulate thru perforations at 1603' with 3000 psi.

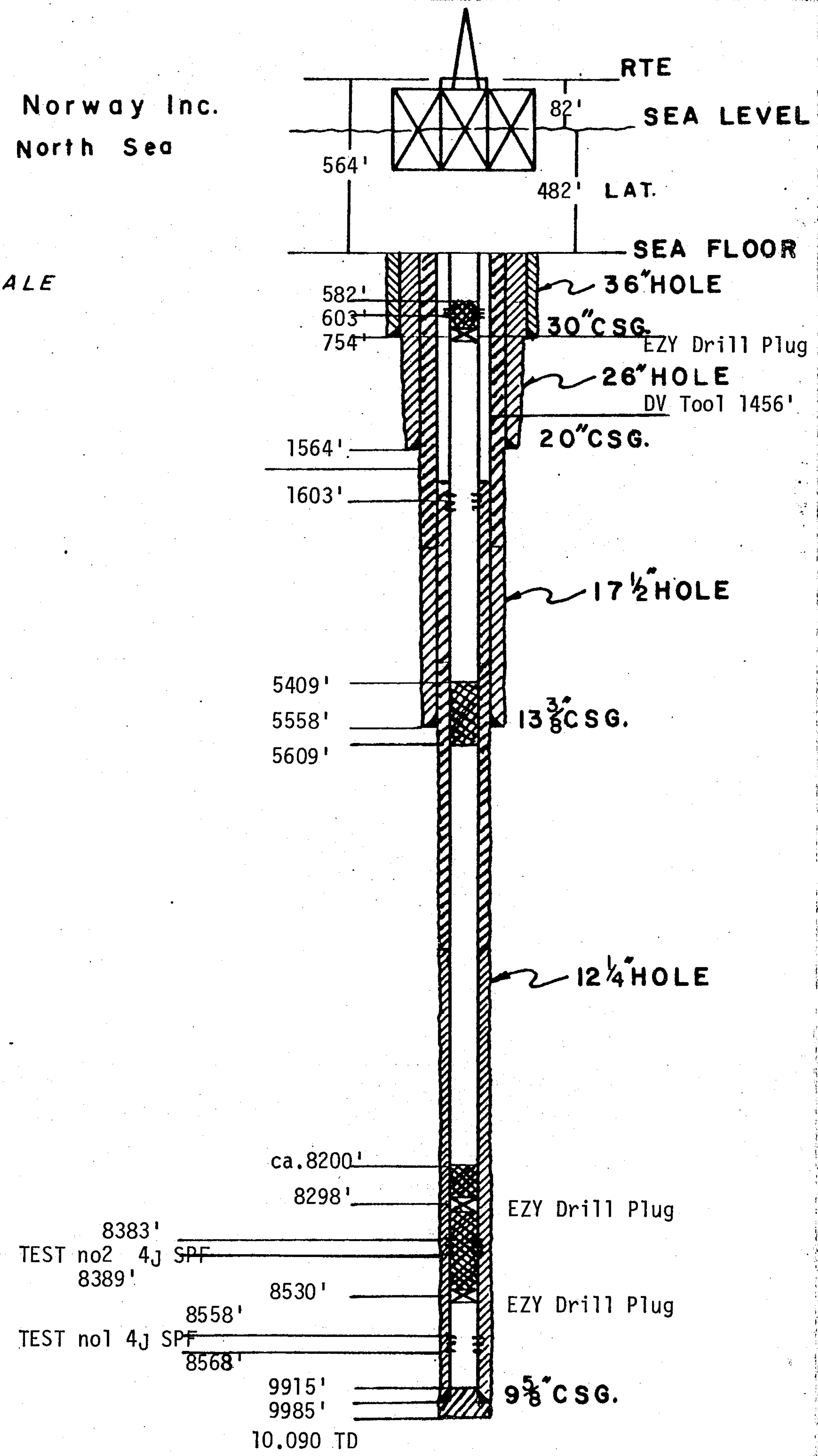
bil Exploration Norway Inc.

Norwegian Sector North Sea

Well 33/9-4

NOT TO SCALE





Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33-9-4 GROUP LICENSE 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION: PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUCTOR	OTHER	DRILLING FUNCTION: DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	EXPLORATION FUNCTION: LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER	REMARKS
7-28-75			5	3																				On location 20:50 hrs. Running anchors (3 hrs) splice electric line on compensator.
7-29				8			1½										14 ½							Setting anchors (8 hrs). Balance rig to 70' draft (1½ hrs) p.u. B.H.A., set back in derrick (3 hrs). Set G + A structure on spider deck P.U. 5 jts 30" (7½ hrs) Divers run bell to check equipm. (1 hr). P.U. B.H.A. while pulled (3 hrs), reset no 2 anchor (3 hrs)
7-30	704							13	4						5½		1 ½							Drill to 584', clean hole (6½ hrs) T.O.H. lay down hole opener, 17½" bit, T.I.H. (2½ hrs) Drill out fill, pump 100 bbl gel, cont. Drilling (3 hrs). Circulate, surveys (1½ hrs). Opening 17½" to 36" hole 565 ft. to 676 ft (5½ hrs)
7-31	763							4½	7	5½		½					6 ½							Survey/drilling alternately (3 hrs). Circ and spot 300 bbl gel mud (½ hr) run 30" csg and guide base p.u. 6 jts n.w.p. (2½ hrs) Run TV, divers dive to observe guide base (1½ hrs) Cement, drill shoe, formation test.
8-1	1600							9½	3		9½	1½					½							Running 30" pin conn, ball jt and riser pipe (6½ hrs) Land pin connector, set in diverter housing (½ hr) P.U. new 17 ½" bit. and T.I.H. to CSG (1 hr) - displace mud(1 hr) drilling / surveys (10½ hrs)
8-2	1600								12		5½	1½			2			3						Rig up, run Schlumberger gamma ray log (2½ hrs) T.I.H. w/D.P., H.W.P., displace mud W. seawater, T.O.H. (1 ½ hrs) pull pin connector and riser. Ream 17½" hole to 26", ream cement (2 hrs)
8-3	1600								7	8		2			7									Reaming hole 17½" to 26" (7 hrs) circulate, displ. Seawater w 580 bbl mud (1 hr) Pick up 9 jts dp, stand back in derrick, make up Halliburton valve on HWP, rig up to run 20" csg (2 hrs). Run 20" csg (6½ hrs). Cir before cmt. (½ hr)
8-4	1600								2	1	20						1							Cmt. 20" csg (1 hr) Back out 20" running tool, finish T.O.H. (2 hrs) P.U. B.O.P., put on guide lines, honeywell hole positioner, change resigliant (9 hrs) Run stack, test choke kill lines 7500 psi (9 hrs) Divers clean off 20" W.H. (1 hr)
8-5	1767							10 ½	4 ½		5	2½					1½							Landing B.O.P. (½ hr) test B.O.P's (3 hrs) T.O.M. W. test tool csg to 1200 psi (½ hr) Pick up B.H.A. , T.I.H. to drill out cmt and shoe (2 hrs), drlg cmt, dispalce w.mud, drill to 1609' (7 hrs). Test formation pressure to 12.5 ppg (1 hr), Circulate out gas at 1680' (2 hrs)
8-6	2842							18	4			½					1½							drlg. 17½" hole (4 hrs), T.O.H., change bit, T.I.H. (3 hrs) drlg 17½" (14 hrs)
8-7	3817							18	1½								4½							Make up hang off tool on HWP, T.I.H. to W.H. with 6 stands D.P. back out of tool (½ hr) Screw in to hang off tool, T.O.H., wear bushing was stuck (2 hrs) Make up runtool + wearbushing on tool T.I.H. with H.W.P., set wearbushing T.O.H. (2 hrs) trip in w. bit (1½ hrs) drilling (18 hrs)
8-8	4544							17½	5			1					½							Drilling (9½ hrs) circulate, flush BOP and riser (½ hr) Drop to TCO, pump slug (½ hr) TOH wear ring stuck on top of 17 ½" stab (3½ hrs) TIH with washing tool to wash out stack, TOH (1½ hrs)

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33-9-4 GROUP LICENSE 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION: PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUC-TOR	OTHER	DRILLING FUNCTION: DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	EXPLORATION FUNCTION: LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER	REMARKS
8-9-75	5081							14 ½	3 ½					5			1							T.I.H., set wear bushing, T.O.H.(1½ hrs) Made up new bit, T.I.H. (1 hr) cut off 85' drlg line (1 hr) Finish TIH (1 hr) drlg/circulating alternately. Working on pumps no 1 & 2.
8-10	5587							13	3			5 ½		1									1½	Circ. - Working on no 1 pump (1 hr).Short trip, pulled 15 stands, tight hole, 15 ft. fill (1½ hrs) Circulating condition mud (3 hrs) short trip 11 stands, no fill (1 hr). Circulating condition mud (1½ hrs). Short trip, no drag (1½ hrs). T.O.H., totco (1½ hrs)
8-11	5587								7½	6		2					2½	6						Finish T.O.H., S.L.M. (2 hrs) Rig up Schlumberger + run isf, sonic, gr (5½ hrs) T.I.H., circ (4½ hrs), T.O.H. (3 hrs) Retrieve wear bushing, wash out stack (2½ hrs). Rig up and run 13 3/8" casing (4½ hrs)
8-12	5587									18		3½					2½							Run 13 3/8" casing (6 hrs). Pick up landing jt, R.I.H. w/ casing, land casing, pick up off wellhead, make up Halliburton, cmt head and chicksands (2½ hrs). Land casing and circulate (1½ hrs). CMT 13 3/8" casing tested to 2500 PSI, bump plug w. 1800 psi (2½ hrs).OPEN D.V. tool and circ. (4 hrs). CMT and displace CMT, bump plug w/2500 PSI (1 hr). Break down Halliburton CMT head (½ hr/). Laying down 13 JT's 13 3/8" casing (2 hrs). Wash seal and P.U. 13 3/8" seal assy. Running tool, test cup tool, T.I.H. (2½ hrs). Setting 13 3/8" seal assy (½ hr)
8-13	5594							6½	5			2					10 ½							T.I.H. w/test plug and testing seal assy+stack (3½ hrs) T.O.H. w/test plug, tested choke manifold (½ hr) Running wear ring, set & T.O.H. (2½ hrs). T.I.H. w/12 1/4" bit to DV-tool at 1451.32' (3 hrs). Circ, displace water in riser w. mud(½ hr), Drill DV-tool at 1456'(2 hrs). P.U. 4 std. DP, test 13 3/8" casing, held 1485 psi for 10 MINS (½ hr). T.I.H., drill out baffle plate, cement, float collar, shoe, 7 ft. Formation (5 hrs) Circ. mud (1½ hrs) Test formation bleed-off at 5594' (2 hrs)
8-14	6247							16	5			1					2							Formation bleed off at 14.7 ppg mud (1½ hrs) Circulating at 5981' (½ hr), drop totco (½ hr) Pump slug, T.O.M. (2 ½ hrs) P.U. 2 stands, T.I.H. (2 ½ hrs), wash 36 ft. bottom - drlg (7 hrs)
8-15	7023							16 ½	6 ½			½					½							Drilling (16 ½ hrs). Circulate, drop totco (½ hr) T.O.H. layed down 2 stb (3 hrs) P.U. bit tilt (3 hrs) slip 27" drill. line (½ hr), T.I.H. (½ hr)
8-16	7578							23	1															Finish trip (1 hr)

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33-9-4 GROUP LICENSE 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION						DRILLING FUNCTION										EXPLORATION FUNCTION						REMARKS
		PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUCTOR	OTHER	DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER	
8-17-75	7815							15	7½			1					½							Circulating through kill line at 7715', drop totco (½ hr). P.U. bit, 2-12 1/4" stb, slow T.I.H.
8-18	8127							24																
8-19	8357							21 ½												1½			1	T.O.H. to run core bbl (1 hr)
8-20	8357										4½									½			19	Finish T.O.H. + S.L.M., no correction (4 hrs). Washed B.O.P. with washing tool, T.O.H. (1 ½ hrs). Wear bushing pulled (2 hrs) T.I.H. to test stack (1 hr) rams. Pressure tested to 5000 P.S.I., hydril to 2500 PSI, leak found and repaired (3½ hrs), wear bushing set (2½ hrs). Hang off. drill (2 hrs). P.U. core bbl, T.I.H. to CSG shoe (2½ hrs). Cut and slip 85' drlg. Line (1 hr). Finish T.I.H. (1 hr)
8-21	8403																		9½	4½			10	Core no. 1, recovered 21' (78%) T.O.H. spinning every stand out w/pipe spinner (5 hrs). Make up core bbl, T.I.H. (5 hrs). Start core no. 2 (2½ hrs)
8-22	8430																		4½	4½			15	Core no. 2, recovered 5 ½' (18%). T.O.H. spinning every stand out w/pipe spinner (4 hrs). Break down core bbl (1 hr) P.U. core bbl, T.I.H. (2½ hrs). Coring no 3, recovered 12' (100%) T.O.H., break and lay down core bbl (4½ hrs). P.U. other core bbl, T.I.H. (3 hrs). Start core no. 4.
8-23	8468																		5	2½		1	15½	Core no. 4, recovered 30' (100%). T.O.H. lay down core, T.I.H. w/core bbl (7 hrs). Core no. 5 recovered 12' (100%). T.O.H., lay down core, P.U. other core bbl, T.I.H. w. 12 1/4" bit (6 hrs). Cut and slip 85' drlg. line (1 hr) Finish T.I.H. (1½ hrs)
8-24	8481																		5½	3½			15	Reaming from 8357' to 8468' (3½ hrs). T.O.H., P.U. core bbl, T.I.H. (6½ hrs). Core no 6, recovered 7½' (58%). T.O.H., lay down core bbl, P.U. other core bbl, T.I.H. for core no 7 (5 hrs)
8-25	8538																		11	1½			11½	Finish T.I.H.. Core no 7 recovered. T.O.H., lay down core bbl, P.U. core bbl, T.I.H. to shoe (6½ hrs) slip and cut 1800' drlg line - fault in line - then slipped 85' line(2½ hrs). Finish T.I.H. (1 hr). Coring no 8.
8-26	8571																		5½	2½			16	Core no 8, recovered 11' (37%). T.O.H., lay down core bbl, P.U. other core bbl, T.I.H. (6½ hrs). Core no 9. Recovered 29' (97%). T.O.H., lay down core bbl (3½ hrs). Made up B.H.A., T.I.H., reaming from 8468' to 8473' (6 hrs)

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC. **Well** 33/9-4 GROUP LICENCE 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION: PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUCTOR	OTHER	DRILLING FUNCTION: DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	EXPLORATION FUNCTION: LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER	REMARKS
8-27-75	8744							17	6½			½												Reaming to 12 1/4" from 8473' to 8571' (6½ hrs). Drilling ahead, T.O.H., lay down junk sub. T.I.H., drilling
8-28	9027							24																
8-29	9263							24																
8-30	9436							21 ½	2½															Pull 41 STDS up to casing shoe at 5558'. Trip back to bottom.
8-31	9659							15	8½								½							Drilling. Then T.O.H. layed down 12 1/4" stabilizer, P.U. junk sub. Slipped 27' drlg. line (½ hr) T.I.H., drilling.
9-1	9784							11	9½						3½									Drilling, then T.O.H. to make up new bit and two 12 1/4" stabilizers. T.I.H., reaming from 9555' to 9712'. Drilling.
9-2	10014							24																
9-3	10090							9	7½			4½					1	2						Drilling and circulating, pull up to casing at 5558' (48 stds D.P.). Pumping through choke and kill lines (½ hr) T.I.H. w/48 STDS pipe. Circulating at 10090'. Dropped survey and pumped slug (½ hr). T.O.H. Rigged up Schlumberger (1 hr), running ISF and sonic log. (1 hr)
9-4	10090																	24						Running ISF and sonic. Rig up and run MSFL and dual laterolog. Run FDC and CNL. Rig up and run HDT, rig up and run seismic survey.
9-5	10090										4	2½		½			11½	5½						Running seismic, rig up and run 30 shot side wall core, rig down Schlumberger. T.I.H. screw into wear bushing, T.O.H. (1½ hrs). Test bop: all pipe rams, outer and inner choke and kill lines to 5000 PSI, upper and lower hydrils to 2500 psi. T.I.H. w/wear bushing, T.O.H. (1½ hrs). Rig down bushing puller, T.I.H. to casing shoe (48 stds) (2½ hrs). Cut 87' drlg. line (1 hr), finish T.I.H. (1½ hrs). Circulating at 10090'. T.O.H. (3½ hrs)
9-6	10090									16		4					4							T.O.H. (1½ hrs). Retrieve wearbushing (1½ hrs). Rig up to run 9 5/8" casing (1 hr). Running 9 5/8" casing. Run casing hanger on landing string of heavy wall pipe. P.U. cementing head and land casing hanger in well head. Circulating then pump 10 bbls water. Drop ball and prepare to cement.

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33/9-4 GROUP LICENCE NO 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION						DRILLING FUNCTION										EXPLORATION FUNCTION						REMARKS
		PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUC-TOR	OTHER	DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER TEST	
9-7-75	10090								6	3½	3½	2					9							CMT. w/1577 cu ft. Class "C" 4% gel + 1% CFR2 + 0.75% HALAD 9 followed by 880 cu ft. Class "G" + 0.75" CFR2 + 0.2% HR7. Dropped plug and pumped down w/6973 strokes. Inplace, held with 2500 psi. Back out running tool , lay down cement head. Displace riser w/water while pulling out of hole. T.I.H. w/wash tool, wash BOP, T.O.H. (1½ hrs). Make up seal assy. and running tool, then T.I.H. to set 9 5/8" assy, T.O.H. and T.I.H. w/test plug (2½ hrs). Test middle and bottom rams, well head, seal assy. Collet connector to 6000 psi, OK. T.O.H. w/running - tool, T.I.H. w/wear bushing (1 hr). Set wear bushing, T.O.H., rig up to T.I.H. (1 hr). T.I.H. w/8½" bit and 6½" D.C. tagged float at 9915'. Circulating, T.O.H. Lay down D.C. (3 hrs)
9-8	10090																						24	Run collar locator and CBL. Run perforating gun, perforated 8558' - 8562', 4 shots per foot. Rig down Schlumberger. Rig up Halliburton test tree and make up Halliburton drill string test tool. T.I.H. w/test tool, P.U. sstt and land in stack.
9-9	10090																						24	Set packer at 8424'. Pressure test surface equipment to 8000 psi, D.P. to 5000. Try to open tool, did not open first time. Tool open for 15 mins, 850 psi pressure. Shut tool for 30 mins. Ipened again, cleaning well on 5/16" choke. Flowing well for 20 hrs, dropped bottom hole sampler at 10:30 A.M. Shut well for 3½ hrs, flowing well for ½ hr, shut in T.O.H. w/RTTS tool house.

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33/9-4 GROUP LICENCE 037

Time Distribution

DATE	DEPTH	MOVING FUNCTION: PULL ANCHRS.	TOW	RUN ANCHRS.	WO WTHR.	SET CONDUCTOR	OTHER	DRILLING FUNCTION: DRILL	TRIP FOR BIT CHANGE	RUN & CEMENT CASING	BOPS RUN TEST	COND. HOLE	FISH	REPAIRS	REAM	WO WTHR	OTHER	EXPLORATION FUNCTION: LOG	CORE	CIRC. SAMPLE	COND. HOLE	REPAIRS	OTHER	REMARKS
9-10	10090																						24	Rig down DST equipment (10 hr). Repair leak in head (1½ hr). Plug at 8530' (3½ hrs). Perforated
																								8383 - 8398,4 shots/ft (3½ hr). Pick up and rih with test tool (5½ hr)
9-11	PB8530																						24	Rih and make up test equipment (5 hr). Tested equipment (1 hr) DST no 2 (19 hr)
9-12	PB8530																						24	Well shut in (2 hr). Reverse circulate and pull test string (13½ hr). Rig Schlumberger and place EZY
																								Drill Packer at 8298 (8½ hr)
																	24							Rig down Schlumberger. Rig stinger and rih to cement (3 hr). Cement 250 sxs Class G w/0.5%HRY(1½hr).Reverse out at 8200'. Pump slug and roh to 5609'. Rig to ~~cement (2½ hrs) Cement - 100 sxs Class G neat.~~
9-13	PB8298																							(½ hr). Reverse out. Roh and rig up Schlumberger (2½ hr) Schlumberger rih and perforated
																								1603' and 603'. Place plug at 754'. Rig down Schlumberger (4½ hr). TIH Squeeze. Tried to
																								circulate thru perforations, could not (4 hr). Cemented with 72 sxs Class G neat at 754 ft.
																								Reversed out at 582' (1 hr). TOH (½ hr) Tih and displace 582', wash stack w/sea water (2 hr)
																								Trip laying down DP (2 hr).
9-14	PB582															12	12							Laying down DP and DC (10 hr). Retrieving wear ring (2 hr)
9-15	PB582															24								W O W
9-16	PB582										6					18								W O W (18 hr). Pulling stack and riser (6 hr)
9-17	PB582										7½					½	16							Pull and set back riser (7½ hr). Rig up Comex. Run bomb and blow csg (5½ hrs). Retrieve
																								wellhead (6½ hr). Divers make observation dive (2 hr). WOW (½ hr). Lay down HWDP (2 hr)
9-18		15 1/4			1½																			WOW (1½ hr). Ballast up (3 hr). Pulling anchors. Rig released at 16.45
Cumulative total		15 1/4	5	11	1½		1½	386½	129½	58	65½	38½		6½	18	63½	120½	40½	41	21		1	224½	
Function total				34½								886½								328				
% of total		1.22	0.4	0.88	0.12		0.12	30.95	10.37	4.64	5.25	3.08		0.52	1.44	5.09	9.65	3.24	3.28	1.68		0.08	17.98	
Function %				2,74								70.99								26,27				
Total time charge to well						=		1248 3/4	=	52.03 days														

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY

Well

Drilling Summary

MUD PROPERTIES

DATE Mud Report	DEPTH	WEIGHT LBS/GAL	FUNNEL VIS, SEC	API W.L. CC	PH	% SOLIDS	% SAND	% OIL	CL, PPM	O/W RATIO	HT/HP W.L. CC	FL TEMP.
July 31	754	8.6	102									
Aug. 1	763	8.5	36									
Aug 2	1600	9.6	60	8.2	9	9	1	-	3700	-	-	
Aug 3	1600			SEA	WATER							
Aug 4	1600											
Aug 5	1600											36.5
Aug 6	2078 ✓	9.5	44	14.8	11	9	1/4	-	1400	-	-	-
Aug 7	2842	9.4	43	15	10	10	3/4	-	1400	-	-	37.5
Aug 8	4150	9.6	43	17.2	9.5	10	3/4	-	2000	-	-	41.8
Aug 9	4580	9.4	43	16	9	9	3/4	-	1600	-	-	33.4
Aug 10	5311	9.3	43	14	9	9	1/2	-	1700	-	-	45.6
Aug 11	5584 ✓	9.7	74	16	9	10	2	-	1400	-	-	47.5
Aug 12	5587	10.1	105	12	9	11	2	-	1600	-	-	-
Aug 13	5587	9.5	40	15.2	9	10	1.5	-	1700	-	-	-
Aug 14	5750 ✓	10.4	41	15.4	11	13.5	trace	-	1400	-	-	-
Aug 15	6589	11.7	42	9.4	9	15	1/2	-	1800	-	-	38.4
Aug 16	7148	13.0	46	7.2	9	23	1/2	-	1800	-	-	35.
Aug 17	7660	13.4	52	6.2	8.5	26	1/2	-	1800	-	-	34.6
Aug 18	7913	13.5	50	5.8	8.5	23	1/2	-	1850	-	-	36.7
Aug 19	8197	13.5	47	5.7	8.5	24	1/2	-	1850	-	-	39.9
Aug 20	8357	13.5	46	5.6	9	24	1/2	-	1700	-	-	41.6
Aug 21	8371	13.5	47	5.4	9.5	24	3/4	-	1500	-	-	28.3
Aug 22	8415 ✓	13.5	45	5	9	24	1	-	1400	-	-	28.1
Aug 23	8457	13.5	47	4.8	10.5	24	3/4	-	1400	-	-	25.5
Aug 24	8468	13.5	44	4.2	10.5	20	3/4	trace	1700	-	-	31.3
Aug 25	8482	13.5	44	4.2	10	23	1	trace	1500	-	-	
Aug 26	8541	13.5	43	4	10.5	23	1/2	trace	1400	-	-	23
Aug 27	8541	13.5	42	4.8	10.5	23	1/2	nil	1500	-	-	34.2
Aug 28	8860	13.4	43	4.6	10.5	23	1/2	nil	1400	-	-	38.2
Aug 29	9065	13.4	44	5.1	10.5	23	1/2	nil	1700			46.1

MUD MATERIAL CONSUMPTION

DATE	BARYTE SX	BENTONITE SX	CMC, SX	CAUSTIC SX	uni-cal+ RD555	$CaCl_2$	Drispac	MD ornm	Bi-carb	Al. stea-rate	Soda Ash	Mil Plug	LD-7
July 31		238sks 23,800		10sks 500									
Aug. 1													
Aug 2		122		3	25	18	2						
Aug 3													
Aug 4	40	20											
Aug 5		245		3			1						
Aug 6	350	55		2	48								
Aug 7	35				16					1			
Aug 8	154			3	4								
Aug 9		11		6	24								
Aug 10	68			4	20								
Aug 11	340	11		3	42			1					
Aug 12	476	45											
Aug 13	202	60		0	6								
Aug 14	236	112		5	53				12				
Aug 15	1040		16		94					2			
Aug 16	3368			2	29								
Aug 17	945		10	4	83			1		1			
Aug 18	232			3	19			1			7	4	
Aug 19	188			8	69					1	4	6	1
Aug 20	210	8		9	36								2
Aug 21	68												
Aug 22	195			12	18			1					
Aug 23		10		24	11								
Aug 24	68	10		2	21								
Aug 25	68	1			12								
Aug 26	135			3									
Aug 27	68			6	7								
Aug 28	30			8	4			1				3	
Aug 29	235				12					1		10	

BITS / HYDRAULICS / PARAMETERS

DATE	BIT NO.	SIZE	TYPE	JETS	HOURS RUN	DEPTH OUT	FOOTAGE	FEET/HOUR	CONDITION B	T	G	G.P.M.	PRESSURE P.S.I.	ANNL VEL. FT./MIN.	PUMP HHP	ΔP AT BIT	BIT HHP	JET NOZZLE VEL. FT./SEC.	WT. ON BIT 1000 LBS.	ROTARY R.P.M.	TOTCO AT BIT CHANGE
July 31	1 RR	17 1/2 x	36 SERVCO	-	8 1/2		202	23.8				720	750	63	315				3	60	1°
Aug. 1	2 RR	17 1/2	Hughes	17	1/2		9					720	800	63	336				5	60	-
Aug 2	3	17 1/2	SMF	16	9 1/2		837	88.1				960	3000	84	1680				10-15	100	1/2°
Aug 3	RR-HO	17 1/2x26	Servco		6							1440	2500	126	2100				5-10	100	-
Aug 4	RR-HO	17 1/2x26	Servco									1440	2500	126	2100				10-15	100	-
Aug 5																					
Aug 6	3-RR	17 1/2	TS3J SMF	16	24	2078	1314	54.8	3	4		960	3200	84	1792	2300	1288	520	15-25	60-160	-
Aug 7	4	17 1/2	TS3J SMF	16	14	2842	764	54.6	2	2		960	3200	84	1792	2300	1288	520	20-30	60-100	1/4°
Aug 8	5	17 1/2	TS3J SMF	16	35 1/2	4544	1702	47.9	2	2	I	924	3200	82	1725	2200	1186	500	10-30	90	-
Aug 9	6	17 1/2	SMF	22	27 1/2	5587	1043	37.9	2	2	I	1140	3200	99	2128	920	612	330	20	90	1°
Aug 10	6RR											1212	3200	106	2263	1025	724	345	20-40	50-90	-
Aug 11	6RR											1212	3260	106	2315	1025	724	345	35	50	3/4°
Aug 12	RR6	17 1/2	TS3J SMF	22	2	5587	0					1080	3200	94	2016	900	567	310	-	-	-
Aug 13																					
Aug 14	7	12 1/4	M4LJ SEC	14	26 1/2	5981	394	25.4	3	3	2	708	3000	138	1239	2400	991	505	10-30	60	-
Aug 15	8	12 1/4	S33 SEC	14	23 1/2	7023	1042	44.3	2	2	1	636	3000	124	1113	2200	816	450	25	80	1 1/2°
Aug 16	9	12 1/4	S-13G Reed	15	5							612	3000	120	1071	1650	589	375	30	80	1/2°
Aug 17	9RR	12 1/2	" "	15	29	7715	692	21.6	3	3		612	2500	120	893	1850	661	375	25	100	-
Aug 18	10	12 1/4	SDT Smith	15	12							600	3000	118	1050	1670	585	320	35	100	1°
Aug 19	10RR	12 1/4	" "	15	36							588	1300	115	1063	1650	566	310	35-40	90-100	-
Aug 20	10RR	12 1/4	" "	" "	51 1/2	8357	642	12.5	S	S	I	588	3100	115	1063	1650	566	310	35-40	100	-
Aug 21	11	8 15/32	Chris	-	4		14					247	1000	128	144				17	95	
Aug 22	11RR	8 15/32	Chris	-	11.5	8384 8415	58					277	1150	144	186				20	110	
Aug 23	11RR	8 15/32	Chris		13	8427						198	800	103	92				12	100	
Aug 24	12	12 1/4	SDT Smith	18	3 1/2	8468	111	31.7				684	3000	184	1197	1040	415	295	20	50	
Aug 25	13	8 15/32	Chris	-	-	8571	73					264	900	137	139				20-22	80	
Aug 26	13RR	8 18/32	Chris	-	-							198	800	103	92				10	100	
Aug 27	RR12	12 1/4	SDT Smith	18	10 1/2	8614		20.4	-	-	-	690	3000	135	1208	1060	427	295	25/30	70	
Aug 28	14	12 1/4	J22 Hughes	15	13 1/4	RUN	266					614	3000	130	1075	1750	627	375	20/35	50	
Aug 29	14	12 1/4	Hughes	15	37 1/2	RUN	466					722	4200	141	1769	2400	1011	445	35/60	50	

Mobil Oil Corporation Mobil Technical Services Inc.

Company MOBIL EXPLORATION NORWAY INC.

Well 33 - 9 - 4

Drilling Summary

DATE (Mud Report)	DEPTH	MUD PROPERTIES: WEIGHT LBS/GAL	FUNNEL VIS, SEC	API W.L. CC	PH	% SOLIDS	% SAND	% OIL	CL, PPM	O/W RATIO	HT/HP W.L. CC	FL TEMP.
Aug 30	9302 ✓	13.4	46	5.0	9.5	24	½	NIL	1500	-	-	48.1
Aug 31	9475	13.4	45	5.1	9.5	25	½	NIL	1500	-	-	50.1
Sept 1	9709	13.4	46	5.0	9.5	25	½	NIL	1600	-	-	49.3
Sept 2	9825	13.4	46	5.0	10.0	25	½	NIL	1600	-	-	50.2
Sept 3	10.064	13.5	47	5.0	9.5	25	½	NIL	1600	-	-	53.5
4	10.090 ✓	13.5	48	4.8	9	24	½	NIL	1400	-	-	55.
5	10.090	13.5	48	4.8	9	23	½	NIL	1400	-	-	-
6	10.090	13.5	52	4.6	9	23	½	NIL	1400	-	-	-
7	10.090	13.5	58	4	9	23	½	NIL	1400	-	-	-
8	10.090	13.5	47	4	9	23	½	NIL	1400	-	-	-
9	10090	13.5	47	4.2	9.0	23	½	NIL	1400	-	-	-
10	10090	13.5	52	4.0	9.0	23	½	TR.	2500			
11	8530	13.5	49	4.4	9.0	23	½	TR.	2400			
12	8530	13.5	49	4.3	8.5	23	½	TR.	2400,			
13	8298	13.5	50	5.2	8.0	23	½	½	4000			
14	587	12.9	49	7.0	10.5	20	½	TR.	3200			
15	-	12.6	60	8.1	10.5	17	½	TR.	3800			

DATE	MUD MATERIAL CONSUMPTION: BARYTE BAGS	BENTONITE LBS.	CMC, LBS.	CAUSTIC LBS.	UNICAL FCL	MD	AL stearate	lubriklean
Aug 30	135				17			
Aug 31	439			3	39			
Sept 1	148			8	21			
Sept 2	68			7	15	2 DR	1	1 DR
Sept 3	135			6	44		1	
4	135			3	36			
5								
6	68				23			
7		14						
8	270				22			
9		TESTING.						
10	100				2			
11	30				2			
12		TESTING.						
13	202							
14	135	ABANDON HOLE						
15			360	BBL STORAGE				

BITS: BIT NO.	SIZE	TYPE	JETS	HOURS RUN	DEPTH OUT	FOOTAGE	FEET/HOUR	CONDITION B	T	G	HYDRAULICS: G.P.M.	PRESSURE P.S.I.	ANNL VEL. FT./MIN.	PUMP HHP	ΔP AT BIT	BIT HHP	JET NOZZLE VEL. FT./SEC.	PARAMETERS: WT. ON BIT 1000 LBS.	ROTARY R.P.M.	TOTCO AT BIT CHANGE
14	12 1/4	~~HUG~~ HES	15	RUN	IN						722	4200	141	1769	2400	1011	445	35/60	40	
14	12 1/4	H.W.	15	86½	9559	945	10.0	2	5	I	722	4200	141	1769	2400	1011	445	35/60	50	
15	12 ½	M4L SEC	16	10½	9712	153	14.6	4	2	1	712	4200	140	1744	1800	748	385	55/60	50/70	
16	12 1/4	J22 HTC	16	12		130					749	4200	147	1835	2050	896	410	60/65	55	
16	12 1/4	HTC	16	36		352					703	4200	138	1723	1780	730	380	65	55	
16	12 1/4	HTC	16	36	10090	378	10.5	6	3		703	4200	138	1723	1780	730	380	65	55	1°

MOBIL EXPLORATION NORWAY INC.

STATFJORD FIELD

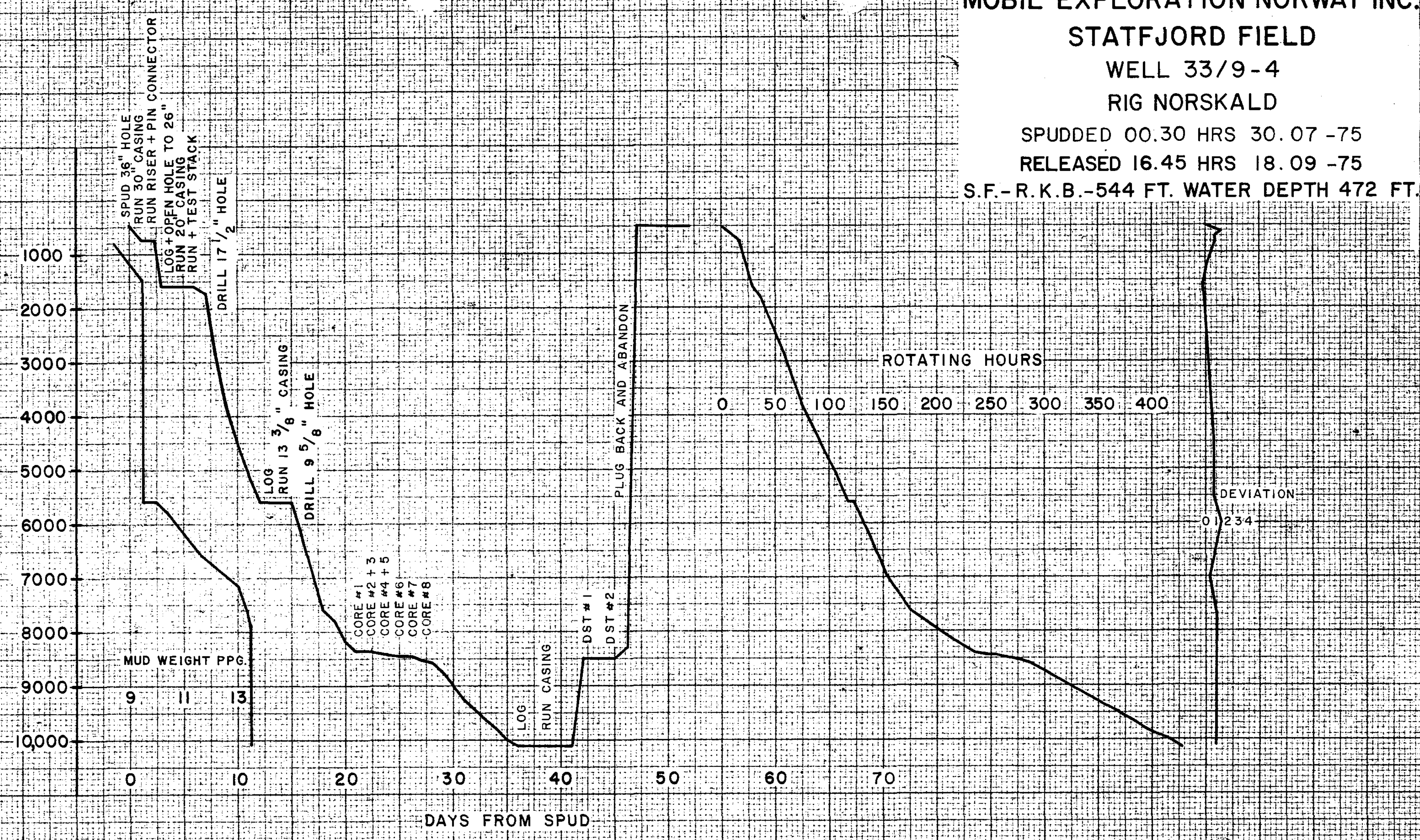
WELL 33/9-4

RIG NORSKALD

SPUDDED 00.30 HRS 30.07 -75

RELEASED 16.45 HRS 18.09 -75

S.F.- R.K.B.-544 FT. WATER DEPTH 472 FT.



WELL 33/9-4 NORWAY 1975 RIG: NORSKALD