CONFIDENTIAL

7205.3

WELL COMPLETION REPORT

PHILLIPS 7/11-1X

PRODUCTION LICENSE 018

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WELL COMPLETION REPORT

PHILLIPS 7/11-1X

PRODUCTION LICENSE 018

C O N T E N T S

A T T A C H M E N T S

Schlumberger Logs
Geoservices Masterlog and Chromatolog
Robertson Research Company Ltd. Micropaleontology and Stratigraphy Report
Phillips Petroleum Company Composite Log

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S U M M A R Y

Well:	Phillips 7/11-1X.
Classification:	New Field Wildcat.
Area:	Field 7, Block 11, Production License 018.
Contractor & Rig:	ODECO Norway Inc., "Ocean Viking".
Location:	Line NJV 5704, S.P. 1238,
	57° 04' 15.6" N,
	02° 26' 24.4" E.
Water Depth:	78 meters (257 feet) below mean sea level.
Rotary Kelly Bushing:	27 meters (90 feet) above mean sea level.
Objective:	To test the Tertiary and Mesozoic.
Results:	Tested gas and condensate from Paleocene sands.
Status:	Suspended well. New Field Discovery Wildcat.
Total Depth:	3974 meters (13,036 feet) RKB.

D R I L L I N G H I S T O R Y

Dates of Operations:

Spud:	26 February 1968
At Total Depth:	20 May 1968
Completed:	15 June 1968

Details of Operations:

Casing Program:

30-inch set at 140 meters (461 feet) RKB in 36" hole and cemented with 750 sacks cement.

20-inch set at 457 meters (1498 feet) RKB in 26" hole and cemented with 1900 sacks cement.

13-3/8-inch set at 1964 meters (6444 feet) RKB in 17-½" hole and cemented with 2400 sacks cement.

9-5/8-inch set at 3124 meters (10,248 feet) RKB in 12-1/4" hole and cemented with 1500 sacks cement.

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Mud Program:

Depth:	Weight (ppg)	Viscosity:	PV:	YP:	Water Loss:
0 - 4000 feet (0 - 1219 meters)	9.0	40	10	15	18
4000 - 6500 feet (1219 - 1981 meters)	9.5	60	20	25	12
6500 - 8100 feet (1981 - 2469 meters)	11.6	60	25	30	16
8100 - 9500 feet (2469 - 2896 meters)	12.5	50	35	40	10
9600 - 10300 feet (2926 - 3139 meters)	13.0	50	25	25	6
10300 - 13036 feet (3139 - 3974 meters)	12.0	40	20	4	8

A Drispac-Flosal-Desco mud system was used to a depth of 10,795 feet. At this depth the system was converted to a sodium chloride-saturated Drispac-Flosal-Desco system. The saltsaturated system was used to total depth.

Logging Program:

Schlumberger Tools:	Run:	Interval:
Induction Electric	1	1483 - 5066 feet
	2	4850 - 6513 "
	3	6444 -10328 "
Gamma Ray/Sonic-Caliper	1	1483 - 6503 feet Gamma Ray to subsea
	2	6444 -10230 feet
	3	10250 -13020 "
Laterolog	1	10249 -13022 feet
Microlaterolog - Caliper	1	1483 - 6513 feet
Microlaterolog/Microlog-Caliper	1	6444 -10244 feet
Microlog-Caliper	1	10250 -13023 feet
Formation Density	1	6444 -10246 feet
	2	10249 -13022 "
Neutron	1	6444 -10326 feet
Continuous Dipmeter	1	1483 - 6500 feet
	2	6444 -10320 "
	3	10252 -13018 "

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Schlumberger Tools:	Run:	Interval:
Gamma Ray - CCL	1	9000 - 10260 feet
Cement Bond Log	1	7100 - 10247 feet
Temperature Log	1	0 - 13033 feet

Drilling Problems:

Logging Surface Hole:

The only significant drilling problem encountered in well 7/11-1X was that of sloughing shale between the depths of 5500 feet and 7600 feet. It was found that a mud density of 12.0 ppg controlled the sloughing shale problem.

Hole Deviation:

Vertical deviation nil to 11,468 feet where deviation was 4.5^{o}. At the total depth of 13,000 feet deviation had increased to $11\frac{1}{2}^{o}$.

Stuck Pipe:

There was no problem with pipe sticking during the drilling of the well.

Lost Circulation:

No lost circulation problems occurred.

Coring:

Three cores were taken in the Paleocene sandstone in the following intervals:

9589 - 9622 feet, 9622 - 9678 feet, and 9688 - 9734 feet. (See Appendix 1.)

Ten sidewall cores were attempted and six were recovered between 8154 and 9923 feet. (See Appendix 2.)

Testing:

A general distinction can be made between three divisions of the Paleocene in regard to testing results. In the upper section, between 9427 - 9455 feet, 15 feet of net pay were tested. In the middle section between 9527 - 10078 feet 211 feet of net pay were tested. In the lower section between 10078 - 10388 feet which is generally tight, only minor amounts of gas were tested. No water was recovered on any of the tests. Total net pay tested was 226 feet.

Flow rates on tests of Paleocene in 7/11-1X were as follows:

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Upper:

DST No. 5 (9440' - 9455'): 26/64" choke, 6.5 MMCFGD, 480 BPD 50° API oil; 2 - 1" chokes, 10.5 MMCFGD; 12/64" choke, 2.67 MMCFGD, 228 BOPD; 4.01 MMCFGD, 359 BOPD.

Middle:

DST No. 4(9527' - 9697'): 2 - 1-1/4" chokes, 44.3 MMCFGD; on isochronal flows: 16/64" choke, 4.39 MMCFGD, 372 BPD distillate; 26/64" choke, 10.75 MMCFGD, 970 BPD distillate; 37/64", 18.00 MMCFGD, 868 BPD distillate; 48/64" choke, 25.20 MMCFGD, 850 BPD distillate. Absolute open flow potential 101 MMCFGD.

DST No. 3 (9767' - 9808'): on isochronal flows, from 1/4" through 5/8" chokes, from 4.15 to 5.88 MMCFGD and 311 to 665 BPD 54° API distillate.

Lower:

DST No. 2 (10175' - 10197'): 1½" choke, 5 MMCFGD; 1/4" choke, 121 M decreasing to 60 MCFGD, recovering 5 barrels brown to grey-green oil in water emulsion out of 30 barrels total.

DST No. 1 (10248' - 10370'): recovered ½ to 1 barrel of diesel with dark brown dissolved hydrocarbon.

Plugging and Abandonment:

The 9-5/8 inch casing was plugged as follows:

9325 - 9475 feet RKB:	Laid a 50 sack plug across final perforations.
9289 & 4988 feet RKB:	Set Baker cement retainers.
4700 - 4900 feet RKB:	Laid 70 sack plug, class "A", neat cement.
500 - 650 feet RKB:	Laid cement plug.

Set corrosion cap and abandoned.

G E O L O G Y

Geologic Objectives:

The objective of the 7/11-1X well was to test the hydrocarbon potential of the Tertiary and the Mesozoic sediments. Specific objectives were the Paleocene sandstone, the Upper Cretaceous carbonate section, and the Jurassic. Other objectives conceived to be possible were sandstones in the Lower Cretaceous and Triassic.

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Results:

Stratigraphy:

Stratigraphic Unit:	Depth RKB Meters	Depth RKB Feet	Depth MSL Meters	Depth MSL Feet	Drilled Thickness Meters	Drilled Thickness Feet
QUATERNARY						
Recent	106	347	- 78.3	- 257		
Pleistocene					404	1327
TERTIARY						
Upper Pliocene	510	1674	- 483	-1584	105	343
Lower Pliocene	615	2017	- 587	-1927	58	192
Upper Miocene	673	2209	- 646	-2119	57	187
Middle Miocene	730	2396	- 703	-2306	803	2634
Lower Miocene						
Burdigalian	1533	5030	-1506	-4940	172	564
Aquitanian	1705	5594	-1678	-5504	264	866
Oligocene	1969	6460	-1942	-6370	697	2288
Upper-Middle Eocene	2666	8748	-2639	-8658	142	467
?Lower Eocene-						
?Paleocene	2809	9215	-2781	-9125	65	212
Upper Paleocene	2873	9427	-2846	-9337	199	651
Lower Paleocene						
Danian	3072	10078	-3044	-9988	94	310
UPPER CRETACEOUS						
Upper Maestrichtian	3166	10388	-3139	-10298	291	954
Lower Maestrichtian	3457	11342	-3430	-11252	18	58
Campanian	3475	11400	-3447	-11310	16	53
Coniacian-Turonian	3491	11453	-3463	-11363	8	27
UPPER-?LOWER CRETACEOUS						
Turonian-Cenomanian-						
?Albian	3499	11480	-3472	-11390	244	800
-unconformity-						
UPPER PERMIAN						
Zechstein Anhydrite	3743	12280	-3716	-12190	5	15
Zechstein Salt	3748	12295	-3720	-12205	226+	741+
(Total Depth)	3973	13036	-3946	-12947		

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Lithology:

Quaternary:

Recent-Pleistocene undifferentiated:

Thickness 405 meters (1327 feet).

No lithology was observed to a depth of 1520 feet because the well was drilled without returns. The lower part of the unit is grey, soft, gummy, clay with abundant shell fragments.

Tertiary:

Upper Pliocene Clay Unit:

Thickness 105 meters (343 feet).

This unit is made up of grey to greyish brown, soft, gummy, slightly silty clay. Pyrite and limonite in small quantities together with thin stringers of fine grained, loose, clear sand are found toward the base of the unit.

Lower Pliocene Clay Unit:

Thickness 58 meters (192 feet).

This unit is entirely composed of dark grey clays with traces of shell fragments.

Upper Miocene Clay Unit:

Thickness 57 meters (187 feet).

This unit is composed entirely of dark grey, gummy clays which are slightly silty.

Middle Miocene Clay Unit:

Thickness 803 meters (2634 feet).

This unit is composed of dark grey, gummy clay with occasional thin stringers of very fine grained fair sorted, angular sand.

Lower Miocene Burdigalian Clay-Shale Unit:

Thickness 172 meters (564 feet).

This interval contains grey to dark brown, soft, slightly pyritic clays and shales. The upper portion contains good traces of white to grey, occasionally buff, very fine crystalline to sucrosic dolomite.

Lower Miocene Aquitanian Clay Unit:

Thickness 264 meters (866 feet).

The Aquitanian is predominantly grey to dark brown, plastic,

slightly silty clay with stringers of buff to white, fine crystalline dolomites and limestones in the lower portion.

Oligocene Shale Unit:

Thickness 697 meters (2288 feet).

This interval consists of dark grey to brown to black, slightly silty shales with soft clays interbedded. Grey to brown, hard crystalline dolomite and limestone stringers occur throughout.

Upper-Middle Eocene Shale Unit:

Thickness 142 meters (467 feet).

The unit is essentially composed of light grey to greenish, fissile to waxy shales.

?Lower Eocene-?Paleocene Shale Unit:

Thickness 65 meters (212 feet).

This unit is composed of light grey to greenish grey and occasionally purple shales. Traces of brown, hard, silty limestone are also observed.

Upper Paleocene Sandstone Unit:

Thickness 198 meters (651 feet).

The upper 100 feet is composed of light grey to greenish grey shales. The remainder of the unit is composed of interbedded light grey to brown, very fine grained, micaceous, silty, slightly calcareous sandstones and siltstones with light to medium greenish grey shales. Downward the base of the interval the sandstones become coarser, poorly sorted, and are subrounded to sub-angular.

Lower Paleocene Danian Limestone Unit:

Thickness 94 meters (310 feet).

The upper 30 feet of the unit are composed of white, chalky, soft to medium-hard limestone containing light brown, opaque chert nodules. The following 150 feet are mainly grey to buff to white, chalky to microcrystalline limestone with very occasional stringers of sandstones and shales. The lower 130 feet are made up of interbedded sandstones, shales, and limestones. The sandstone is light grey to brown, fine to medium grained, poorly sorted, and is calcareous and shaley, and the shale is grey to greenish grey. Limestone is as the upper section.

Upper Cretaceous Limestone and Chalk:

Upper Maestrichtian:

Thickness 291 meters (954 feet).

This unit is composed of white, light grey and light brown, chalky, dense, hard limestone containing traces of brown, translucent chert nodules. The lower 100 feet of the interval, in addition to the limestone, consists of stringers of light brown, medium to coarse crystalline to sucrosic dolomite with good vugular porosity.

Lower Maestrichtian:

Thickness 18 meters (58 feet).

This interval consists of light grey, microcrystalline, hard, dense limestone with traces of light brown crystalline dolomite.

Campanian:

Thickness 16 meters (53 feet).

The unit is composed of brown to white, very chalky to microcrystalline, soft to hard limestone with white to grey, soft marl in the lower part.

Coniacian-Turonian:

Thickness 8 meters (27 feet).

This interval is entirely composed of white, dense, hard limestone with abundant fractures.

Upper Cretaceous - ?Lower Cretaceous Limestone.

Turonian-Cenomanian-?Albian:

Thickness 244 meters (800 feet).

The unit is composed of white, chalky, and grey to brown, microcrystalline to fine crystalline, argillaceous, limestone with occasional chert nodules. Black carbonaceous shale stringers are prevalent toward the base of the interval. The lower 20 feet is composed of grey, fine to medium grained, poorly sorted, subangular, silty sandstone and hard, black, silty shale.

Upper Permian.

Zechstein Anhydrite:

Thickness 5 meters (15 feet).

This unit is entirely composed of white, hard, amorphous, somewhat shaley anhydrite.

Zechstein Salt:

Thickness 229+ meters (741+ feet).

This unit consists of clear, white, occasionally pink, translucent salt, with traces of hard anhydrite. The lower 100 feet are almost entirely pink, translucent salt.

APPENDIX 1 -(1)

DATE April 14, 1968

PHILLIPS PETROLEUM CO.

CORE NO. 1

TEST AREA

CORE DESCRIPTION

SHEET NO. 1

Cod

SCALE 1: 100
5 inches = 25 feet

WELL NO. 7/11-1X

LITHOLOGICAL SYMBOLS AS ON 1:500 SCALE GEOLOGICAL LOG

GEOLOGIST S.S. Warner

DEPTH IN FEET	LOG	DIPS	SHOWS	DESCRIPTION	REMARKS
9589				Core No. 1 - 9589 - 9622'. Rec. 33' 100%.	
				9589 - 91.5 SH, dk grey wxy hd, some sl micaceous with occ thin streaks of SS, vfg	
95				9591 - 95 SS, lt brn - gy brn vfg fri well sorted subrd occ grn grains w/SH in thin beds a.a.	
9600				9595 - 9607 SS, a.a.	
05				9607 - 14.5 SS, a.a. w/thin beds and laminations of SH, a.a.	
9610				9614 - 9622 SS, a.a. w/occ sh laminations	
15				Show: Core had fair gas odor and brn stain, v/faint fluor to fr fluor, cut milky to pale yellow. No salt taste. Good por. & perm.	
9620				Poor dips range 5 - 10°?	

CORE ANALYSIS CALCULATION SHEET										Company : PHILLIPS
CORE N° 1	from 9589 ft, to 9622 ft Recovery 100 %									Well : 7/11-1x
Sample number		1	2	3	4	5	6	7	8	9	10
Sample depth	H	9591,50	9595	9597	9599,5	9602	9604,5	9609	9612	9615,5	9617,3
	V										
PERMEABILITY — Tube constant		$0,08.10^5$	$0,08.10^5$	$1,01.10^5$	$0,08.10^5$	$0,08.10^5$	$0,08.10^5$	$0,08.10^5$	$1,01.10^5$	$0,08.10^5$	$3,41.10^5$
Sample length		2,55 cm	″	″	″	″	″	″	″	″	″
Sample diameter		2,20 cm	″	″	″	″	″	″	″	″	″
Sample section											
Time in seconds		23	32	70	14	18	19	12	41	23	20
Permeability in millidarcies		49	35	195	82	64	60	95	290	49	2
POROSITY — Po		85,25	″	″	″	″	″	″	″	″	″
P 1		64,75	65,45	64,55	63,75	63,85	63,85	65,55	64,95	64,50	63,30
P 2		193,55	194,40	197,75	196,35	196,65	196,75	196,25	197,45	197,15	193,60
P2 : P1		128,80	128,95	133,20	133,20	132,80	132,90	130,70	132,50	132,65	130,30
$V_t = \frac{P2 - P1}{d \text{ of Hg at } t°c}$		9,60	9,51	9,83	9,83	9,79	9,80	9,64	9,77	9,78	9,61
h		11,80	11,80	11,90	12,10	12,10	12,10	11,40	11,70	12,10	12,20
h - ho		5,4	5,1	5,5	5,7	5,7	5,7	5,0	5,3	5,7	5,8
V_s		7,80	7,60	8,00	8,15	8,15	8,15	7,50	7,80	8,15	8,25
$V_v = V_t - V_s$		1,60	1,91	1,83	1,68	1,64	1,65	2,14	1,97	1,63	1,36
$\phi\ \% = \frac{Vv \times 100}{Vt}$		16,0	20,3	18,7	17,4	16,6	16,9	22,25	20,2	16,9	14,2
DENSITY — P = Po - P1		20,50	19,80	20,70	21,50	21,40	19,70	20,30	20,75	20,75	21,95
$D = \frac{P}{Vt}$		2,16	2,08	2,10	2,18	2,18	2,18	2,04	2,07	2,12	2,28
OIL AND WATER SATURATION — Vo											
Vw											
$P_s = 100-(Vo\ do + Vw)$											
$Vt' = \frac{P_s}{D}$											
$Vv' = \frac{Vt' \times \phi \text{ of plug}}{100}$											
$So = \frac{Vo}{Vv'}$											
$Sw = \frac{Vw}{Vw'}$											

E April 15, 1968

APPENDIX 1 - (3)

PHILLIPS PETROLEUM CO.

CORE DESCRIPTION

CORE NO. 2

SHEET NO. 1

TEST AREA

Cod

SCALE 1" 100
3 inches = 25 feet

WELL NO. 7411-1X

LITHOLOGICAL SYMBOLS AS ON NOCO SCALE GEOLOGICAL LOG

GEOLOGIST

DEPTH IN FEET	LOG	DIPS	SHOWS	DESCRIPTION	REMARKS
9622				Core No. 2 - 9622 - 9678'. Rec. 22' - 39%.	
25				9622 - 27 SS, lt brn vfg fr fri well sorted subrd. Occ thin streaks and laminations of SH, gy-grn hd platy.	
9630					
35				9627 - 32 SS. a.a. and occ lam of SH.	
9640				9632 - 44 SS. a.a. w/SH, a.a. SS is sl more shy.	
				Show: Core had good gas odor and was bleeding gas.	
45	No Rec			SS had a brn stain that dissipated very quickly v faint fluor fr - poor milky cut w/CCl_4, fr por and perm, 15° - 20° dip.	
9650					
55					
9660					
65					
9670					
75					
78					

CORE ANALYSIS CALCULATION SHEET

Company : PHILLIPS

CORE N° (3) from 9688 ft, to 9734 ft Recovery 28 %

Well : 7/11-1X

Sample number		1	2	3							
Sample depth	H / V	9690	9694	9697							
PERMEABILITY	Tube constant	C	C	C							
	Sample length	2.45	2.51	2.50							
	Sample diameter	2.20	2.20	2.20							
	Sample section										
	Time in seconds	50	∞	∞							
	Permeability in millidarcies	0.8	< 0.1	< 0.1							
POROSITY	Po	85.2	85.2	85.2							
	P 1	65.2	57.00	57.00							
	P 2	191.9	187.2	187.2							
	P2 - P1	126.7	130.2	130.2							
	$V_t = \frac{P2 - P1}{d \text{ of Hg at } t°c}$	9.42	9.7	9.7							
	h	11.2	13.8	13.75							
	h - ho	4.9	7.5	7.45							
	V_s	7.45	9.65	9.60							
	$V_v = V_t - V_s$	1.97	0.05	0.1							
	$\phi\ \% = \frac{V_v \times 100}{V_t}$	21.00	0.6	1							
DENSITY	P = Po - P1	20	28.2	28.2							
	$D = \frac{P}{V_t}$	2.13	2.9	2.9							
OIL AND WATER SATURATION	Vo										
	Vw										
	$P_s = 100 - (Vo\ do + Vw)$										
	$V_t' = \frac{P_s}{D}$										
	$V_v' = \frac{V_t' \times \phi \text{ of plug}}{100}$										
	$So = \frac{Vo}{V_v'}$										
	$Sw = \frac{Vw}{V_w'}$										

APPENDIX 1 - (7)

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS RESULTS

Company Phillips Petroleum — Formation — File UKCA 109
Well 7/11-1X — Core Type Diamond — Date Report 13 May 1968
Field — Drilling Fluid — Analysts R.F.B./J.C.C.
County North Sea — State Norway — Elev. — Location

Lithological Abbreviations

SAND-SD, SHALE-SH, LIME-LM, DOLOMITE-DOL, CHERT-CH, GYPSUM-GYP, ANHYDRITE-ANHY, CONGLOMERATE-CONG, FOSSILIFEROUS-FOSS, SANDY-SDY, SHALY-SHY, LIMY-LMY, FINE-FN, MEDIUM-MED, COARSE-CSE, CRYSTALLINE-XLN, GRAIN-GRN, GRANULAR-GRNL, BROWN-BRN, GRAY-GY, VUGGY-VGY, FRACTURED-FRAC, LAMINATION-LAM, STYLOLITIC-STY, SLIGHTLY-SL/, VERY-V/, WITH-W/

Sample No.	Depth Feet	Permeability Millidarcys: Ka.	Kl.	Porosity Per Cent	Residual Saturation/Per Cent Pore: Oil	Total Water	Bulk Density	OB	WB	GB
1	9590.5	65	56	21.9	10.0	43.8	2.18	2.2	9.6	10.1
2	95.5	30	25	15.8	7.6	52.5	2.32	1.2	8.3	6.3
3	98	63	54	18.6	5.9	42.0	2.24	1.1	7.8	9.7
4	9601.5	11.6	9.1	22.3	4.9	39.9	2.16	1.1	8.9	12.3
5	03.5	65	56	18.1	6.1	30.8	2.23	1.1	5.6	11.4
6	06	71	62	19.2	0.0	34.9	2.17	0.0	6.7	12.5
7	08.5	95	84	21.0	5.2	44.2	2.12	1.1	9.3	10.6
8	11.5	98	87	17.5	0.0	42.3	2.23	0.0	7.4	10.1
9	15	15	12	15.9	0.0	52.2	2.29	0.0	8.3	7.6
10	16.5	6.2	4.7	15.0	0.0	52.0	2.24	0.0	7.8	7.2
11	23	104	93	21.4	0.0	53.8	2.21	0.0	11.5	9.9
12	25	1.03	0.70	15.0	8.0	62.0	2.39	1.2	9.3	4.5
13	28	12	10	9.7	0.0	76.3	2.47	0.0	7.4	2.3
14	30	51	43	22.3	4.9	44.0	2.14	1.1	9.8	11.4
15	33	37	31	16.3	0.0	31.9	2.16	0.0	5.2	11.1
16	36	54	46	19.4	5.7	43.8	2.23	1.1	8.5	9.8
17	40.5	0.82	0.55	11.6	10.6	54.2	2.42	1.2	6.3	4.1
18	42	144	129	21.7	5.1	38.3	2.17	1.1	8.3	12.3
19	90	2.4	1.7	15.9	7.6	40.8	2.34	1.2	6.5	8.2
20	92	0.31	0.19	15.8	0.0	50.0	2.33	0.0	7.9	7.9
21	9697	0.18	0.11	6.5	0.0	84.4	2.51	0.0	5.5	1.0

APPENDIX 1 - (5)

DATE April 17, 196

PHILLIPS PETROLEUM CO.

CORE DESCRIPTION

CORE NO. 3

SHEET NO. 1

TEST AREA

Cod

SCALE 1: 100
3 inches = 25 feet
LITHOLOGICAL SYMBOLS AS ON 1:500 SCALE GEOLOGICAL LOG

WELL NO. 7/11-1X

GEOLOGIST Sandridge

Drilling time Min/ft

DEPTH IN FEET	LOG	DIPS	SHOWS	DESCRIPTION	REMARKS
				Core No. 3 - 9688 - 9734. Rec 13' (7' Ss & 6' Sh, 28%).	
9688					
90			GAS	9688 - 9688.5 SH, dk gy, ck sli waxy, flakey, mica w/thin SS laminations.	
95		NONE APPARENT	GAS	9688.5 - 9690.5 SS, lt to med dk brn, vfg mica, shly, sli calc, poor to fair por, lt brn stn, faint fluor, sli cut. Bleeding gas.	
9700					
05				9690.5 - 9691 SH, lt gy-grn, waxy.	
				9691 - 1692 SS, a.a. w/se mottled gy-brn, v tite, v faint fluor, sli cut.	
9710					
15	No Recovery			9692 - 9693 SS, a.a., fractured, staining w/faint fluor along fractures but otherwise tite w/ns.	
9720				9693 - 9694 SS, brn, f-mg, sub-ang, mica, fair dk brn asph sptd stn w/dull fluor. Sli bleeding gas. Very tite.	
25					
9730				9694 - 9695 SS, gy, vfg, shly w/irreg sptd stn. No fluor.	
9734				9695 - 9697 SH, gy to gy-brn & lt gy-grn waxy in part.	
				9697 - 9697.5 SLTS, gy, vfg, mica, hd and v tite, v faint sptd fluor. $FeCO_3$ cmt.	
				9697.5 - 9699 SH, dk gy, waxy.	Except for top 2', ss is very tite.
				9699 - 9699.5 SLTS as above.	
				9699.5 - 9701 SH, lt gy w/thin SS lam.	

ROBERTSON RESEARCH COMPANY LIMITED

MICROPALAEONTOLOGICAL ANALYSIS CHART

DATE	ANALYST	LOCATION
12.6.68.	CWH. RJG.	Norwegian North Sea Well 7/11-1X

FOR	CHART NO.
Phillips Petroleum Limited, Norway.	9000' - 10000'

LIMESTONE · DOLOMITE · OOLITIC LIMESTONE · CLAY · SHALE · SILTY/SANDY SHALE · SILTSTONE · SANDSTONE · CONGLOMERATE · GYPSUM · VOLCANICS · INTRUSIVES · SALT · COAL · CHERT

LITHOLOGY | DEPTH IN FEET | SYSTEM | STAGE | ZONE | MICROFOSSILS

Samples analysed palynologically

FORAMINIFERA AND OSTRACODA

Bathysiphon eocenicus
Cyclammina placenta
Glomospira charoides
Rhabdammina sp.
Hyperammina sp.
Trochammina globigeriniformis
Trochammina globigeriniformis var. elliptica
Haplophragmoides sp.
Haplophragmoides carinatum
Haplophragmoides latidorsatus
Hormosina sp.
Cyclammina sp.
Ammodiscus incertus
Cribrostomoides sp.
PGlobigerina barbosa
Coscinodiscus sp.
Pelosina sp.
Hyppocrepina sp.
PGlobigerina cf. linaperta linaperta
Krithe cf. rutoti
PGlobigerina triangularis
Haplophragmoides cf. obliquicameratus
Cyclammina challinori
Cyclammina incisa
Trochammina pentagona
PGlobigerina triloculinoides
Involutina pyrotecnica
Glomospirella woodi
?Rzehakina sp.
Spiroplectammina spectabilis
Pullenia quaternaria
PGlobigerina inaequispira
PGlobigerina spiralis

MIOSPORES

Cicatricosisporites sp.
cf. Polyadopollenites sp.
Cicatricosisporites dorogensis
Cingulatisporites marwheimensis
Torispora sp.
Triatrisporites myricoides
Laevigatosporites haardti

FALSE BEDDING

DEPTH IN FEET	SYSTEM	STAGE	ZONE
100	?UPPER - ? MIDDLE EOCENE		
200			
300	?LOWER EOCENE - ?PALAEOCENE		
400			
500			
600	Core 1 Core 2		
700	?PALAEOCENE Core 3		
800			
900			
1000			