W 761
WHALE-1 . W.C.R.

Hudbay Oil (Australia) Ltd.

Subsidiary of Hudson's Bay Oil & Gas Company Ltd.

COMPOSITE WELL LOG

WHALE – 1

PETROLEUM PERMIT: Vic/P11
LOCATION: Latitude 38° 01' 17·182" S
Longitude 148° 33' 34·172" E
WELL STATUS: Plugged and Abandoned
ELEVATION: Rotary Table at 9·45m above Mean Low Water and 61·45 m above Sea Floor

TOTAL DEPTH: 810m
AGE AT TOTAL DEPTH: Lower Cretaceous

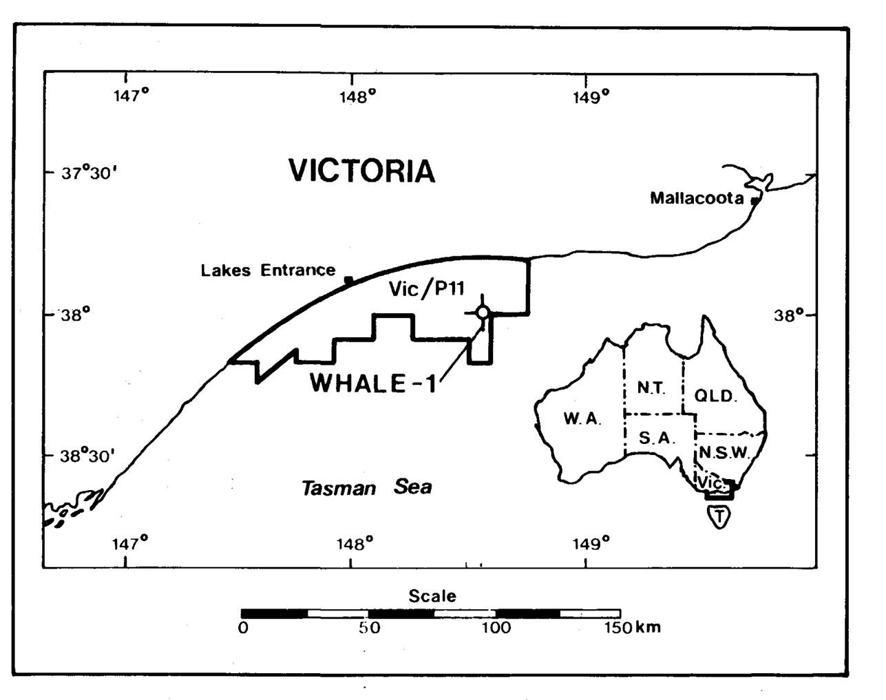
DATE ON LOCATION: 30th November, 1981
DATE SPUDDED: 2nd December, 1981
DATE AT TOTAL DEPTH: 12th December, 1981
DATE OF RIG RELEASE: 25th December, 1981
WELL HEAD FITTING: None
DRILLED BY: Petromarine Drilling Company "Petromar North Sea"
LOGGED BY: Schlumberger
DRILLING METHOD: Rotary
CEMENTED BY: Haliburton Pty Ltd
MUD LOGGING: Exploration Logging (Australia)

CEMENT PLUGS:

FROM	TO	SACKS
405m	435m	18
100m	165m	77
545m	605m	66

PERFORATIONS:
460m – 465m
445m – 454m

LOCALITY MAP



ROCK TYPES

- SHALE/CLAYSTONE
- SILTSTONE
- GREYWACKE
- SANDSTONE
- CONGLOMERATE
- GREENSAND
- CALCILUTITE
- CALCISILTITE
- CALCARENITE
- CALCIRUDITE
- LIMESTONE (recrystallised)
- MARL
- DOLOMITE
- SIDERITE IRONSTONE
- ANHYDRITE
- GYPSUM
- HALITE
- COAL
- PLUTONIC, basic
- PLUTONIC, acidic
- VOLCANIC
- METAMORPHIC

CEMENT

- SILICA
- CALCITE
- DOLOMITE
- SIDERITE
- PYRITE

MATRIX

- CLAY MINERALS
- MICRITE
- QUARTZ SILT
- CALCITE SILT

MINOR CONSTITUENTS

- QUARTZ GRAINS
- QUARTZ PEBBLES
- LITHIC FRAGMENTS
- FELDSPAR
- GLAUCONITE
- PYRITE
- MICA
- CHERT
- LIGNITE, COAL Carbonaceous matter
- HEMATITE
- QUARTZ CRYSTALS
- SIDERITIC CONCRETIONS
- CALCITE CRYSTALS
- OOLITHS
- ALGAE
- SKELETAL FRAGMENTS
- CORALS
- CRINOIDS
- FORAMINIFERA
- BRYOZOA
- OSTRACODA
- RADIOLARIA
- INOCERAMUS
- CHLORITE

MUD RECORD

DEPTH (m)	S.G.
0 – 205	1·06
205–404	1·06
404–438	1·08–1·26
438–580	1·44
580–780	1·45
780–810	1·46

ENGINEERING LEGEND:

- CASING SEAT
- DST INTERVAL
- FORMATION TEST FAILED
- FORMATION TEST PRESSURE RECOVERED
- FORMATION TEST SAMPLE RECOVERED
- PERFORATIONS
- CORED INTERVAL (Recovered)
- SIDEWALL CORE (Recovered)
- SIDEWALL CORE (No Recovery)
- HYDROCARBON INDICATIONS
- PLUGGED

CASING RECORD / OPEN HOLE RECORD

Run Nº	Size	Wt (lb/ft)	Interval (m)	Bit Size	Interval (m)
				36"	52 – 74
1	20"	94	58·16-201·03	26"	74 – 215
2	9⅝"	40	57·88-394·85	12¼"	215 – 810
3	7"	29	288·13-515·0		

Enclosure 1

TEST RECOVERY DST 1: 8·4 bbls water, IFP = 66 – 519psi, ISF = 641psi, FFP = 456 – 623psi (10mins) FSIP = 641psi
DST 2: 0·27 bbls water, IFP = 217·3 – 219·6 psi, ISP = 621psi, FFP = 252 – 487psi (78mins) FSIP = 487psi

RESISTIVITY LOGS

Log	DIT	DLL				
Run No.	1	2				
Date	4-12-81	12-12-81				
First Reading	405·0m	806·0m				
Last Reading	202·0m	396·0m				
Interv. Logged	203·0m	410·0m				
Csg Logger	202·0m	202·0m				
Csg Driller	201·0m	201·0m				
Depth Logger	406·0m	810·0m				
Depth Driller	404·0m	810·0m				
Bit Size	12·25"	8·5"				
Mud Nature	S/W Gel+Ligno	Baracarb-Brine				
Dens. / Visc.	1·08 / 40·0	1·45 / 64·0				
pH / Fluid Loss	8·8 / 14·5	8·8 / 8·8				
Sample Source	Flowline	Flowline				
Rm @ Meas. Temp.	0·702@22·2°C	0·067@23·8°C				
Rmf @ Meas. Temp.	0·584@22·2°C	0·047@23·8°C				
Rmc @ Meas. Temp.	0·847@22·2°C	0·135@23·8°C				
Rm @ BHT	0·589@30·5°C	0·047@43·3°C				
Source: Rmf / Rmc	Press / Press	Press / Press				
Time Since Circ.	330min	360min				
Max. Rec. Temp.	30·5°C	43·3°C				
Equip. / Location	151/Sea	151/Sea				
Recorded By:	Miller	Miller				
Witnessed By:	Roestenburg	Husten				

NEUTRON POROSITY – FORMATION DENSITY LOGS

Log	FDC/GR	FDC/CNL				
Run No.	1	2				
Date	4-12-81	12-12-81				
First Reading	405·0m	809·0m				
Last Reading	202·0m	396·0m				
Interv. Logged	203m	413m				
Csg Logger	202m	202·0m				
Csg Driller	201m	201·0m				
Depth Logger	406m	810·0m				
Depth Driller	404m	810·0m				
Bit Size	12·25"	8·5"				
Mud Nature	S/W Gel+Ligno	Baracarb-Brine				
Dens. / Visc.	1·06 / 40·0	1·45 / 64·0				
pH / Fluid Loss	9·0 / 14·5	8·8 / 8·8				
Sample Source	Flowline	Flowline				
Rm @ Meas. Temp.	0·702@22·2°C	0·067@23·8°C				
Rmf @ Meas. Temp.	0·584@22·2°C	0·047@23·8°C				
Rmc @ Meas. Temp.	0·847@22·2°C	0·135@23·8°C				
Rm @ BHT	0·589@30·5°C	0·047@43·3°C				
Source: Rmf / Rmc	Press / Press	Press / Press				
Time Since Circ.	450min	540min				
Max. Rec. Temp.	30·5°C	43·3°C				
Equip. / Location	151 / Sea	151 / Sea				
Recorded By:	Miller	Miller				
Witnessed By:	Roestenburg	Husten				

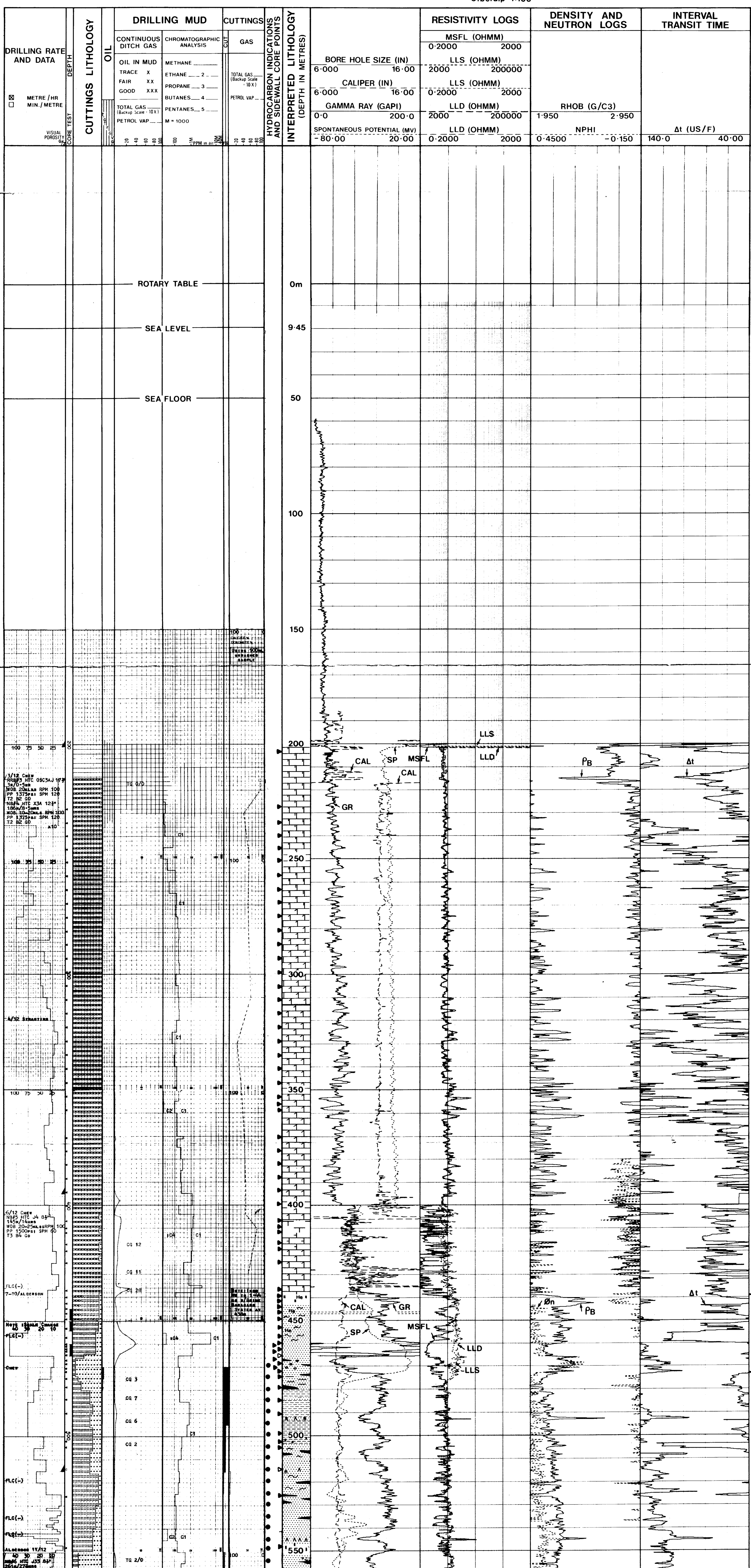
SONIC LOGS

Log	BHC/GR					
Run No.	Spliced 1+2					
Date	12-12-81					
First Reading	808·0m					
Last Reading	202·0m					
Interv. Logged	606·0m					
Csg Logger	202·0m					
Csg Driller	201·0m					
Depth Logger	810·0m					
Depth Driller	810·0m					
Bit Size	12·25"/ 8·5"					
Mud Nature	Baracarb-Brine					
Dens. / Visc.	1·45 / 64·0					
pH / Fluid Loss	8·8 / 8·8					
Sample Source	Flowline					
Rm @ Meas. Temp.	0·067@23·8°C					
Rmf @ Meas. Temp.	0·047@23·8°C					
Rmc @ Meas. Temp.	0·135@23·8°C					
Rm @ BHT	0·047@43·3°C					
Source: Rmf / Rmc	Press / Press					
Time Since Circ.	420min					
Max. Rec. Temp.	43·3°C					
Equip. / Location	151/Sea					
Recorded By:	Miller					
Witnessed By:	Husten					

VERTICAL SCALE: 1:1000
LITHOLOGY BY: J. Roestenburg
COMPILED BY: J. Roestenburg
SUPERVISED BY: G. Dann/E. Tucker
DRAWN BY: T.C.

OTHER BORE-HOLE LOGS: CST 1:200 & Listing. Runs 1&2. Cement Retainer Log
RFT 1:200
HDT 1:200
CBL 1:200
Cyberlook 1:200
Ciberdip 1:100

ABBREVIATIONS
T Trace
G.T. Good Trace
F Fair
G Good
V.G. Very Good



LITHOLOGY DESCRIPTION

220-404 metres
(184 metres)
Calcarenite, skeletal, light yellow grey to medium light grey, occasionally light orange, 20% quartz grains, very coarse grained, rounded near top of interval, 20-30% fossil fragments, 20-30% calcite silt, trace-35% micrite, becoming more argillaceous with depth, good to fair intra-skeletal porosity, soft.

404-420 metres
(16 metres)
Marl, very light grey to green grey, trace skeletal fragments, trace calcite silt, 45% clay minerals, trace glauconite, trace pyrite, soft to moderately hard.

With trace
Sandstone, clear to white, medium to coarse grained, well sorted, angular, unconsolidated.

420-438·5 metres
(18·5 metres)
Calcilutite, calcarenitic, argillaceous at top of interval, trace-45% skeletal fragments, 5% fine to medium sized quartz grains at base of interval 0-20% calcite silt, trace-30% glauconite, increasing with depth, trace pyrite, soft to unconsolidated.

438·5-444 metres
(5·5 metres)
Siltstone, geothitic, nodular, dark brown to brownish black, 10-25% clay minerals, trace-45% calcite cement, increasing with depth, 20-70% geothite, trace glauconite, trace pyrite, soft to moderately hard.

444-459 metres
(15 metres)
Sandstone, silty geothitic and glauconitic, dark brown to brownish black, very fine to granular, dominantly very fine, moderately well sorted, trace-20% clay minerals, 10-25% quartz silt, trace-40% glauconite, soft.

459-465 metres
(6 metres)
Sandstone, clear to white to light brown, very fine to fine grained, dominantly very fine, becoming coarser with depth, angular to subangular, moderately well sorted, soft.

465-473 metres
(8 metres)
Sandstone, conglomeratic, clear to white, fine to granular, dominantly very coarse, poorly sorted, angular to rounded, 5-10% glauconite, trace pyrite, trace coal at 467 metres.

473-500 metres
(27 metres)
Claystone, medium dark grey to grey, moderately hard to hard.

With interbeds of
Sandstone, argillaceous, light grey to grey, very fine grained, angular, well sorted, trace carbonaceous material, trace silicification, moderately hard.

And thin laminae of
Coal at 475, 478 and 484 metres.

500-599 metres
(99 metres)
Sandstone, medium dark grey to dark grey, very fine to fine grained, dominantly very fine grained, well sorted, angular, trace silica cement at 508, 545 and 587 metres, trace calcite cement at 571 metres, 5-10% clay minerals, moderately hard.

With thin laminae of
Coal, black, brittle, at 504, 521, 526, 532, 536 and 556 metres.

And between 500-503 metres
Siltstone, Argillaceous, medium grey to medium dark grey, 30% clay minerals, moderately hard.

599-615 metres
(16 metres)
Claystone, medium grey to medium dark grey, trace carbonaceous material at 601 and 605 metres, becoming silty with depth, hard.

615-677 metres
(62 metres)
Sandstone, silty in part, medium dark grey to dark grey, very fine grained, well sorted, 10-30% quartz silt, especially between 631-647 metres, trace-5% lithic fragments, moderately hard.

677-683 metres
(6 metres)
Siltstone, medium dark grey to dark grey, 10% clay minerals, trace carbonaceous material, hard.

683-731 metres
(48 metres)
Sandstone, medium grey to medium dark grey, very fine to fine, dominantly very fine, moderately well sorted, subangular to rounded, 10% quartz silt, trace carbonaceous material, trace-30% lithic fragments, moderately hard.

731-735 metres
(4 metres)
Claystone, medium dark grey to dark grey, moderately hard.

735-765 metres
(30 metres)
Sandstone, medium dark grey to dark grey, very fine to fine grained, moderately well sorted, angular, 5% carbonaceous material, trace-15% lithic fragments, moderately hard, becoming silty with depth.

765-810 metres
(45 metres)
Claystone, as between 731-735 metres.

With interbeds of
Sandstone, as between 735-765 metres.

And
Siltstone, as for between 677-683 metres.

CASING PLUGS DEVIATION: 20" 201·03; ½°; 9⅝" 394·85; 7" 515; ½°; 1°

TESTS: S 11; P 27; S 20; S 2,13,14,15,18,25; S 24; P 10; S 19,30,31,32,33; S 16,17; S 1,21,22,26; P 23,28; P 29; P 8; P 7; P 9; P 6; S 12; P 5; P 4; P 3

STRATIGRAPHY (STAGE / SERIES / SYSTEM):
MIOCENE TO RECENT — NEOGENE
UPPER EOCENE TO LOWER OLIGOCENE — PALAEOGENE
APTIAN? — LOWER CRETACEOUS