



**SANTOS PALYNOLOGY SECTION  
EXPLORATION SERVICES DEPARTMENT**

Palynology Report No. 2003/32

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PALYNOLOGICAL REPORT NO. 2003/32  
PALYNOSTRATIGRAPHICAL ANALYSIS

CLAM -1 WELL

**Santos Ltd**  
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## Introduction

Eleven sidewall core samples and two conventional core samples from Esso Clam-1, drilled off north-western Tasmania, were examined palynologically.

The palynostratigraphic results are presented in on Table 1.

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 Study: Clam-1  
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PALYNOSTRATIGRAPHICAL DATA  
 Table 1

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SAMPLE	DEPTH (M)	PALYNOSTRATIGRAPHICAL UNIT (Age)	INFERRED STRATIGRAPHICAL UNIT	REWORKED ELEMENTS		PRESER VATION	YIELD	DIVER SITY	REMARKS
				%	AGE				
SWC	846.7	<i>Forcipites longus</i> (Maastrichtian)	Timboon Sandstone (Otway equivalent)	-	-	Fair	High	High	High diversity spore-pollen suite with <i>Quadraplanus brossus</i> , <i>Gambierina</i> spp., <i>Tricolporites lilliei</i> in a suite dominated by triporate pollen (40%+), with prominent <i>Phyllocladidites mawsonii</i> . No marine microplankton recorded. Non-marine.
FHC	962.8	<i>Nothofagidites senectus</i> (Campanian)	Skull Creek Mudst. (Otway equivalent)	7	Perm.	Fair	High	Mod.	Moderately diversity spore-pollen suite with <i>Nothofagidites senectus</i> with <i>Gambierina rudata</i> and dominated by <i>Cyathidites</i> spp. (21%), bisaccate pollen (13%) and triporate pollen (20%). Permian reworking prominent (7%). No marine microplankton recorded. Non-marine.
FHC	964.4	<i>Nothofagidites senectus</i> (Campanian)	Skull Creek Mudst. (Otway equivalent)	-	Perm.	Fair	High	Mod.	Moderately diverse spore-pollen suite with <i>Nothofagidites</i> spp. (3%) with <i>Gambierina rudata</i> and dominated by <i>Proteacidites</i> cf. <i>amolosexinus</i> (25%). No microplankton recorded. Non-marine.
SWC	1053.1	<i>Isabelidium rotundatum</i> (Santonian-basal Campanian)	Nullawarre Greensand (Otway equivalent)	-	Perm.	Fair	High	Mod.	Moderately diverse microplankton suite (17% of total palynomorphs) with <i>Isabelidium rotundatum</i> (prominent), <i>I. belfastense</i> and <i>Trithyrodinium vermiculatum</i> . Spore-pollen suite includes <i>Nothofagidites senectus</i> . Near-shore marine.

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## PALYNOSTRATIGRAPHICAL DATA

Table 2

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SAMPLE	DEPTH (M)	PALYNOSTRATIGRAPHICAL UNIT (Age)	INFERRED STRATIGRAPHICAL UNIT	REWORKED ELEMENTS		PRESER- VATION	YIELD	DIVER- SITY	REMARKS
				%	AGE				
SWC	1108.6	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	-	Perm.	Fair	Low	High	High diversity microplankton suite with <i>Isabelidinium spp.</i> , <i>I. belfastense</i> and <i>Amphidiadema denticulata</i> . <i>Odontochitina</i> cf. <i>costata</i> prominent (15%). Spore-pollen suite highly diverse, conforms to <i>Tricolporites apoxyexinus</i> Zone. Shelfal marine.
SWC	1251.8	<i>Tricolporites apoxyexinus</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	-	-	Fair	High	Low	Moderately diverse spore-pollen suite with <i>Tricolporites apoxyexinus</i> , dominated by bisaccate pollen (32%) and <i>Dilwynites granulatus</i> (12%). Low diversity dinocyst suite with <i>Heterosphaeridium spp.</i> , <i>Maduradinium?</i> sp. and <i>Trithyrodinium</i> sp. Near-shore marine.
SWC	1258.8	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	-	-	Fair	Mod.	High	Moderately diverse microplankton suite with <i>Isabelidinium spp.</i> (4% - including <i>I. cretaceum</i> ), <i>Heterosphaeridium spp.</i> (6%) and <i>Trithyrodinium marshalli</i> (3%). <i>Amosopollis cruciformis</i> particularly prominent (15%). Near-shore marine.
SWC	1260.0	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	-	-	Fair	Mod.	High	Low diversity microplankton suite with <i>Isabelidinium cretaceum</i> (tentative), <i>I. rectangulare</i> , and <i>Trithyrodinium marshalli</i> . Moderately diverse spore-pollen suite with <i>Tricolporites apoxyexinus</i> and prominent <i>Dilwynites granulatus</i> fraction (8%). Near-shore marine

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## PALYNOSTRATIGRAPHICAL DATA

Table 2

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SAMPLE	DEPTH (M)	PALYNOSTRATIGRAPHICAL UNIT (Age)	INFERRED STRATIGRAPHICAL UNIT	REWORKED ELEMENTS		PRESER VATION	YIELD	DIVER SITY	REMARKS
				%	AGE				
SWC	1261.3	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	1	Perm.	Fair	High	High	Moderately diverse microplankton suite with <i>Isabelidinium cretaceum</i> , <i>I. belfastense</i> , <i>I. rectangulare</i> and <i>Trithyrodinium marshalli</i> . Spore-pollen suite lacks first order indices and is dominated by <i>Dilwynites</i> (11%) and bisaccate pollen (11%). Near-shore marine.
SWC	1261.9	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	-	Perm.	Fair	Mod.	High	Moderately diverse microplankton suite with <i>Isabelidinium cretaceum</i> and <i>Trithyrodinium marshalli</i> . <i>Amosopollis cruciformis</i> relatively prominent (9%). Near-shore marine.
SWC	1263.1	<i>Isabelidinium cretaceum</i> (Santonian)	Belfast Mudstone "C" (Otway equivalent)	1	Perm.	Fair	Mod.	High	Moderately diverse microplankton suite with <i>Isabelidinium cretaceum</i> , <i>I. cf. belfastense</i> and <i>Trithyrodinium marshalli</i> . Spore-pollen suite dominated by <i>Cyathidites</i> spp. (9%), <i>Dilwynites</i> (6%) and bisaccate pollen (20%). Near-shore marine.
SWC	1284.1	<i>Conosphaer'm striatoconus</i> to <i>Isabelidinium cretaceum</i> (Coniacian to Santonian)	Upper Flaxman Fm to Belfast Mudstone (Otway equivalent)	-	-	Fair	Mod.	Mod.	Moderately diverse spore-pollen suite with <i>Phyllocladidites mawsonii</i> , triporate, tricolpate and tricolporate pollen. Very restricted dinocyst suite including forms tentatively identified as <i>Trithyrodinium</i> sp. Near-shore marine.
SWC	1302.4	Indeterminate	Indeterminate	-	-	-	Barren	-	No palynomorphs identified.

Well Name : Clam-1

Operator : Esso
Interval : 840m - 1295m
Scale : 1:3000
Chart date: 30 October 2003

Sampling
Cutting
Core
Sidewall core
Text Keys
\*1 Absolute abundance (30mm=100 counts)

