

PALYNOLOGICAL DETERMINATIONS FOR TOOLKA-1,  
BASS BASIN, AUSTRALIA

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SUMMARY

<u>Depths</u>	<u>Spore-Pollen Zone</u>	<u>Age</u>
4540'	Middle <i>N. asperus</i>	M. Eocene
5089 - 5113'	Lower <i>N. asperus</i>	M. Eocene
5263 - 5461'	Probably Lower <i>N. asperus</i>	M-E. Eocene?
5657 - 5927'	<i>P. asperopolus</i>	E. Eocene
6105 - 6343'	Upper <i>M. diversus</i>	E. Eocene
6449 - 6828'	Middle <i>M. diversus</i>	E. Eocene
6990 - 7100'	Lower <i>M. diversus</i>	E. Eocene
7225 - 7288'	Probably Lower <i>M. diversus</i>	E. Eocene?
7362 - 8898'	Not Determinable, samples barren	

The above determinations are based on the examination of palynomorphs obtained from 17 sidewall and 1 conventional core. With the exception of SWC 29 (siltstone at 4540 feet), the palynological assemblages were recovered from sandstones which in general yield less diverse and fewer spore, pollen and dinoflagellates than intervening siltstones and shales. Because of this, the confidence ratings for an unusual number of samples from Toolka-1 is relatively low by comparison with the results from other Bass Basin wells. Of the 24 samples submitted for study, the deepest 6 samples from 7362 to 8898 are barren or nearly so.

Dinoflagellates occur in assemblages from 4540 to 5263 feet and from 5657 to 7100 feet and are abundant in some samples from the *M. diversus* zones, for example, sidewall cores 19, 15, 14 and 11. A marked change in the character and preservational quality of the palynomorph assemblages occurs between 6828 and 6900 feet and a similar but less obvious change also occurs between 7100 and 7225 feet. These changes may reflect significant lithological differences or hiatuses within the depositional sequence, or both.

DISCUSSION

SWC 29 at 4540 feet.

Zone: Middle *N. asperus*

Age: Middle Eocene

\*C.R.: 1

\*K.R.: 1+, slightly altered

\*C.R. = confidence rating

K.R. = kerogen rating