

NOTE: Two, or three populations of vitrinite are present in many of the samples examined from Flinders No. 1. These result from contact alteration by igneous rocks and igneous rock fragments were found in many of the samples. However, igneous rocks are not always present in the sample with high reflectances and they are present in some samples showing only low vitrinite reflectances. It is concluded that hole conditions are such as to give significant cavings populations. The shallowest sample examined contains both the medium and low vitrinite reflectance populations so there must be an intrusion that has affected the rank of coals above that interval. A large part of the section shows thermally altered coals in the range 1.65 to 2.8%. This is a surprisingly low range for contact alteration. However, the samples over the interval from 2178 m to 2363 m show a gradual decrease suggesting that this interval represents the outer part of a contact metamorphic aureole. Samples such as that from 2553 m contain two modes but it is possible that both come from the nominated interval, igneous rock fragments being noted in the sample. Contact metamorphic aureoles can be restricted in thickness so that it would be possible to intersect altered and unaltered coals within a 5 m sampling interval. The same comment applies to a number of other samples. The reflectance level near the base of the section appears likely to be about 0.66 to 0.72% where contact alteration is not present.

A small proportion of samples in the interval 2178 m to 2363 m include coals that must have been proximal to intrusions and some of these samples have semi-coke structures such as small vesicles and poorly developed mosaic structure.

Probable volatile matter yields (similar to S2+S3) of the coals are about 4% for the coal with reflectances over 3%, about 10 to 15% for the coals with reflectances about 2.5% and about 35 to 45% for the coals with vitrinite reflectances of about 0.7%. The pyrolysis yields for most of the samples would be weighted averages of two or three populations.