

chosen for more detailed geochemical analyses. The T.O.C. and hydrogen index values for these samples are illustrated on Enclosure 36. Samples with high T.O.C. content are pervasive throughout the basin. Half the samples with detailed analyses have characteristics that indicate that the thermal maturation products would be liquid.

The correlation of any of these samples as the potential source rock for the oil samples recovered from the Cormorant-1, Yolla-1, and Pelican-5 wells could not be established. Analabs concluded that the samples fall into two groups based on the predominance of C_{31} or C_{30} hopanes.

Group I, having a predominance of C_{31} hopanes, are excluded as potential source rock candidates. Group II, having a predominance of C_{30} hopanes like the Cormorant-1, Yolla-1, and Pelican-5 oils, are more likely potential source rock candidates. According to Analabs, only a few of the Group II samples provide a reasonable match to the oils in terms of sterane and diterpane distributions, although slightly different diterpane patterns exists. Amoco's Tulsa Research Center examined Analabs' report and conclusions and believes that the geochemical correlations are unreliable and that none of the samples analyzed are capable of generating the type of oils found in the Bass Basin. In addition, Tulsa Research thinks that only the *Tilana L. balmei* cuttings have the capability of generating oil similar to the oil seen to date in the basin.