

1. INTRODUCTION

One core sample from King-1 was received for extraction and geochemical analysis of any oil recovered.

This report is a formal presentation of results forwarded by facsimile as they became available.

2. ANALYTICAL PROCEDURES

Analytical procedures are presented in Appendix 1.

3. RESULTS

Analytical data is presented in this report as follows:

	<u>Table</u>	<u>Figure</u>
Extract Yields and Bulk Composition	1	1
GC of Saturates Fraction	-	2
GC-MS of Aromatics and Aromatic Maturity Ratios	2	3
GC-MS of Naphthenes	3	4, Appendix 2

4. INTERPRETATION

4.1 Maturity and Migration

GC-MS analysis performed on the aromatic hydrocarbons isolated from the King-1 residual oil indicates that this oil was generated and expelled from a marginally mature source ($VR_{calc} = 0.54\%$; Boreham et al calculation: Table 2, Figure 3).

The sterane, hopane and diasterane maturity indicators (Table 3) generally concur with the aromatic derived maturity.

The C_{29} 20S/20R regular sterane ratio (Biomarker Ratio 4, Table 3) equilibrates at approximately 1 for mature oils. A value of 0.68 was obtained for the King-1 residual oil however this is likely to have been influenced by biodegradation. Preferential degradation of the 20R epimer relative to the 20S epimer results in an increase of the 20S/20R ratio indicating a higher maturity than expected.

The C_{27} 20S/20R diasterane ratio (Biomarker Ratio 5, Table 3) reaches equilibrium at approximately 1.5 at the onset of oil generation. The value obtained for this sample is 1.42, supporting a marginal maturity.