



Continental Shelf Institute

Institutt for kontinentalsokkelundersøkelser

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| REPORT TITLE | |
| SOURCE ROCK EVALUATION OF WELL 34/10 - 1 | |
| CONTRACTOR | |
| WELLFILE STATOIL | |
| CONTRACTORS REF.: | JOB. NO.: |
| S. G. Larsen | 0 - 170/78/2 |

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| SUMMARY |
| <p>Rock Eval pyrolysis of various samples from well 34/10 - 1 show these samples to be of type III kerogen.</p> |

KEY WORDS

Pyrolysis

PYROLYSIS

Seventeen samples taken from various depths, Table I, were pyrolysed on a Rock Eval instrument.

All the samples with exception of samples 10 and 11, 1820.6 and 1833.3, are typical type III kerogen, i.e. normally they will not be source rocks for oil. Samples 10 and 11 might have a high oxygen index value due to combustion of carbonate. If so, these might be of type II kerogen, and then be source rocks for oil.

Vitrinite reflectance of coal sample from well 34/10-1.

Ro = 0.33 (20)

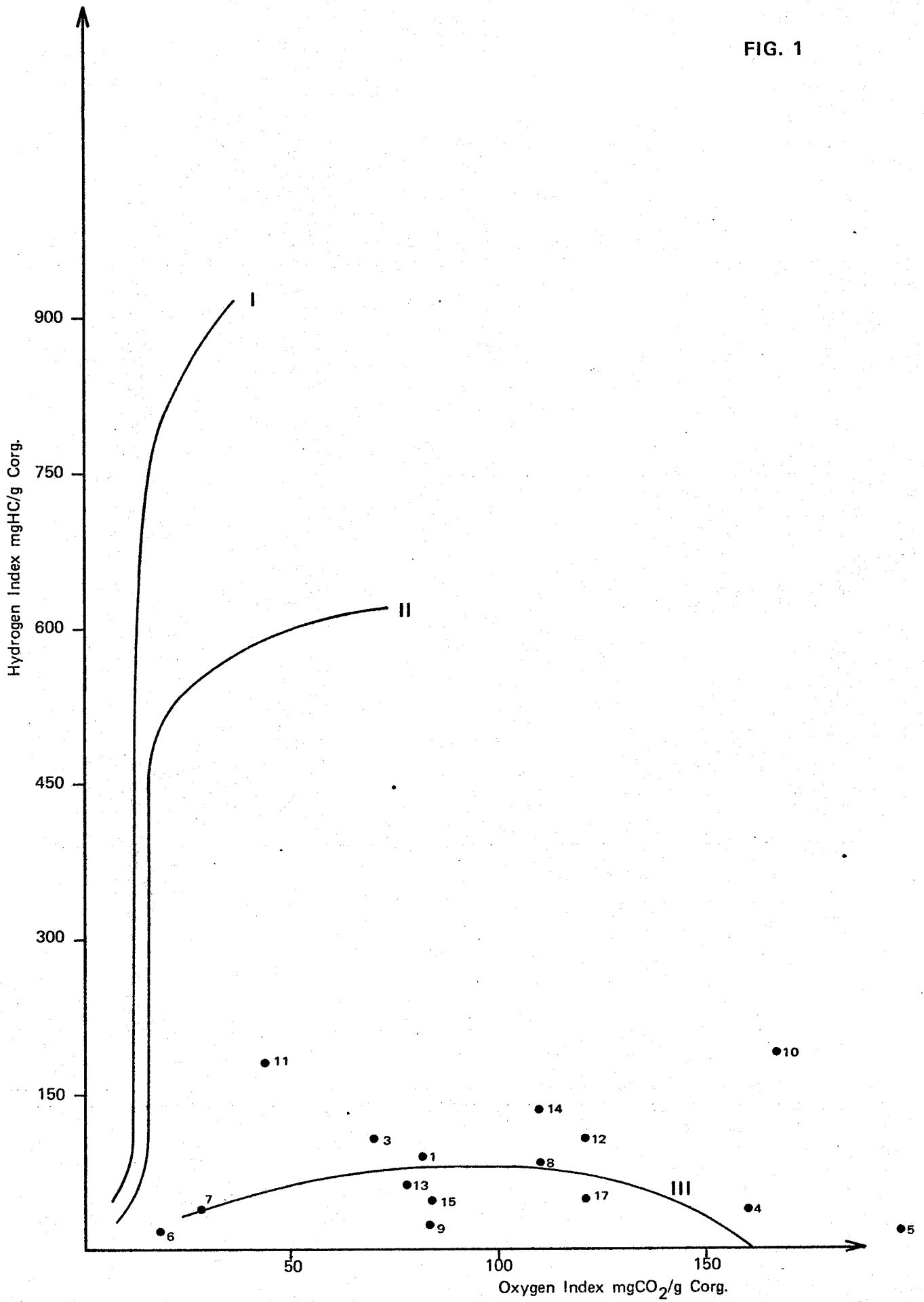
The sample contains plentiful of vitrinite and inertinite, however, together with dispersed clay. UV light shows a yellow/orange fluorescence from spores and a low exinite content.

The sample is a very dirty coal with a lot of included clay and small fragments of inertinite. It is probably a detrital, allocthonous coal full of washed - in debris, but not necessarily marine.

TABLE I
Rock Eval Pyrolysis

| Sample | VP mg | KW mg | CO ₂ mg | <i>TOC</i> | | | Depth | <i>T_{max}</i> Max. T °C | Oil kg/t. | |
|--------|----------|----------|-----------------------|------------|-----|-----|-------|--|--------------|-------|
| | | | | C org. | i H | i O | | | | |
| 1 | 0.011 | 0.073 | 0.066 | 0.81 | 90 | 82 | 0.13 | 1410-40 Cl.st. | 403 | 0.84 |
| 2 | 0.003 | 0.005 | 0.044 | 0.15 | 33 | 292 | 0.35 | 1410-40 L.st. | | 0.08 |
| 3 | 0.022 | 0.141 | 0.097 | 1.38 | 102 | 70 | 0.14 | 1470-1500 | 428 | 1.63 |
| 4 | 0.014 | 0.029 | 0.101 | 0.63 | 46 | 160 | 0.32 | 1590-1620 | 380 | 0.43 |
| 5 | 0.002 | 0.006 | 0.055 | 0.28 | 23 | 197 | 0.26 | 1650-80 L.st. | 426 | 0.08 |
| 6 | 0.052 | 0.068 | 0.095 | 5.05 | 13 | 19 | 0.43 | 1650-80 Cl.st. | 416 | 1.20 |
| 7 | 0.210 | 0.182 | 0.101 | 3.80 | 48 | 27 | 0.54 | 1680-1710 Cl.st. | | 3.92 |
| 8 | 0.049 | 0.075 | 0.107 | 0.98 | 77 | 110 | 0.40 | 1680-1710 L.st. | 421 | 1.24 |
| 9 | 0.003 | 0.018 | 0.089 | 1.03 | 18 | 87 | 0.14 | 1780,5 | 408 | 0.21 |
| 10 | 0.366 | 0.782 | 0.707 | 4.23 | 185 | 167 | 0.32 | 1820,6 | 419 | 11.48 |
| 11 | 0.085 | 0.870 | 0.220 | 5.03 | 173 | 44 | 0.09 | 1833,3 | 425 | 9.55 |
| X 12 | 0.023 | 0.148 | 0.173 | 1.43 | 103 | 121 | 0.14 | 1938,58 | 431 | 1.71 |
| 13 | 0.009 | 0.109 | 0.146 | 1.90 | 57 | 77 | 0.08 | 1951 | 433 | 1.18 |
| 14 | 0.041 | 0.283 | 0.251 | 2.30 | 123 | 109 | 0.13 | 2000-15 | 418 | 3.24 |
| 15 | 0.026 | 0.082 | 0.143 | 1.65 | 50 | 86 | 0.24 | 2075-90 | 421 | 1.08 |
| 16 | 0.021 | 0.111 | 0.410 | 1.42 | 78 | 289 | 0.16 | 2180-95 | 413 | 1.32 |
| 17 | 0.026 | 0.065 | 0.159 | 1.34 | 49 | 119 | 0.28 | 2325-40 | 403 | 0.91 |
| 18 | 0.003 | 0.011 | 0.068 | 0.30 | 36 | 226 | 0.19 | 2445-62 | | 0.14 |

FIG. 1



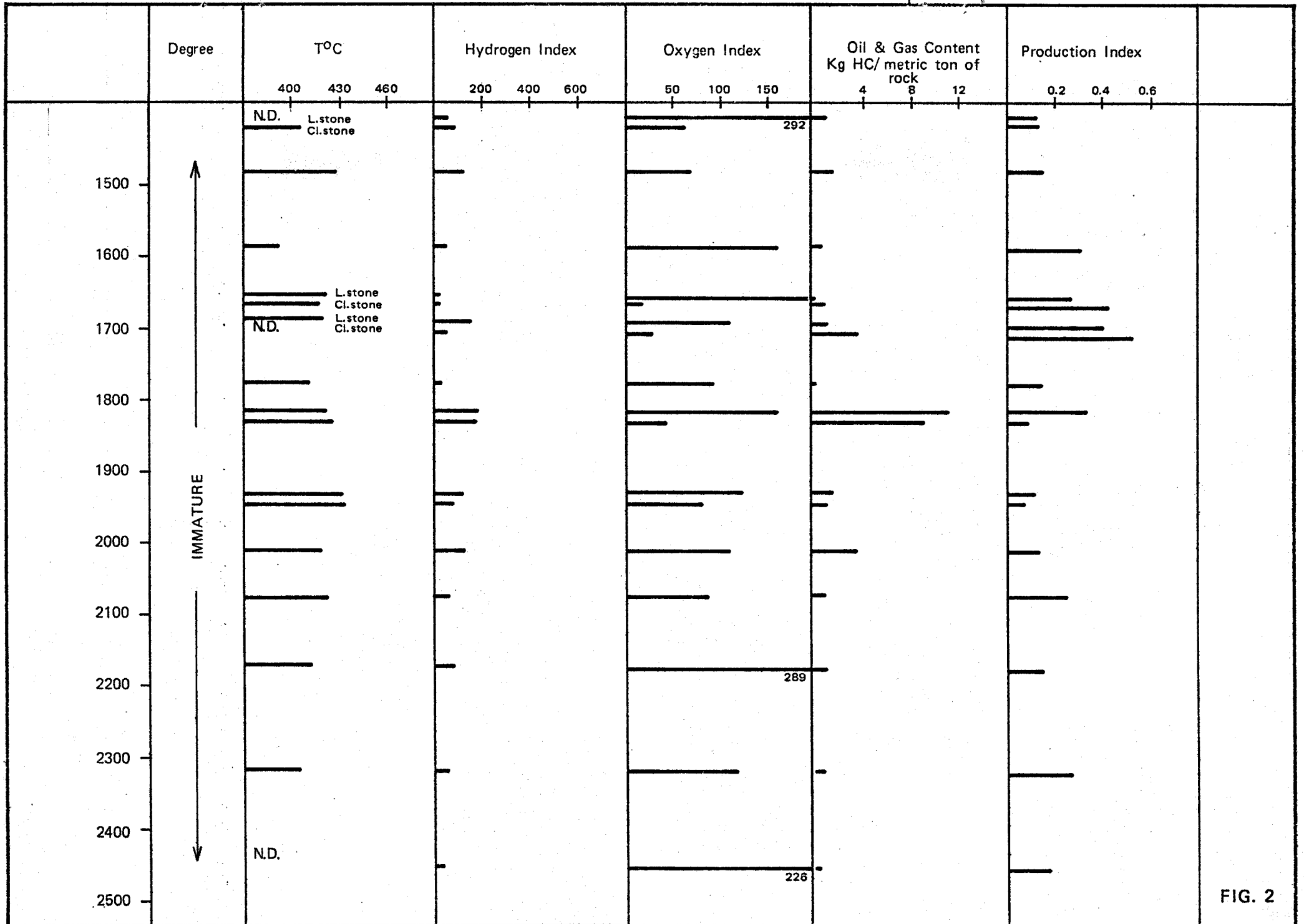
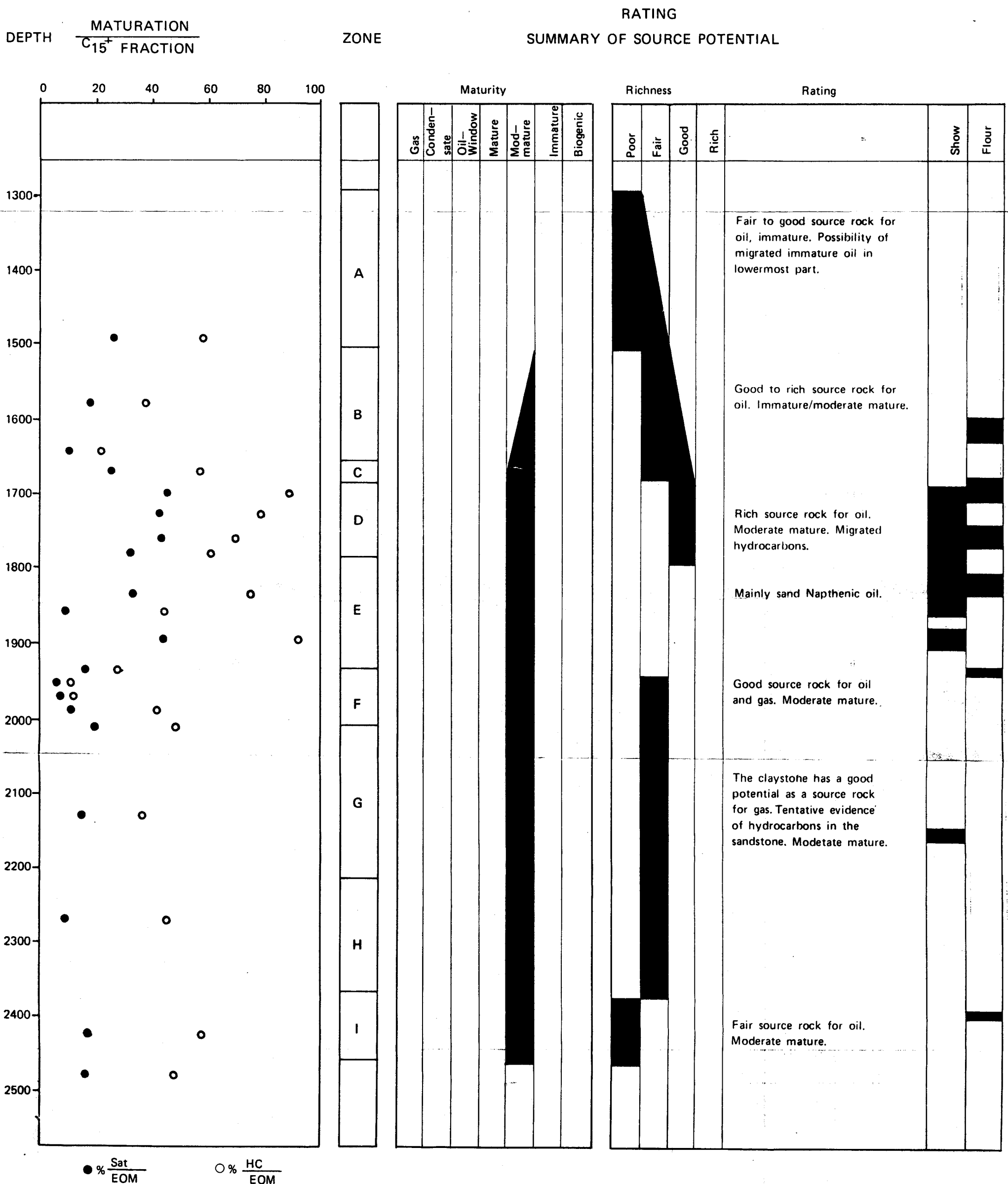


FIG. 2

INTERPRETATION DIAGRAM



Sat: Saturated Hydrocarbons
 HC: Hydrocarbons
 EOM: Extractable Organic Matter