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GEOCHEMICAL INVESTIGATION OF A SOURCE ROCK EXTRACT
FROM WELL 12/28-2, UNITED KINGDOM

by

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1. INTRODUCTION

A geochemical investigation has been carried out on a combined set of Devonian sidewall samples (6520 + 6530 + 6540 + 6560 + 6570 ft) in well 12/28-2, U.K. The results are shown in Table 1 and in Figures 1-5.

2. RESULTS AND CONCLUSIONS

The low SRI value (120 units), low organic carbon content (0.8 %), maceral description (Fig. 5) and the high extract/organic carbon ratio point all to a marginal, impregnated source rock. Maceral description indicates an inhomogenous sample that contains few excellent, just-mature algal source rock particles (Fig. 5). It is therefore plausible that the impregnation was derived from the same source rock.

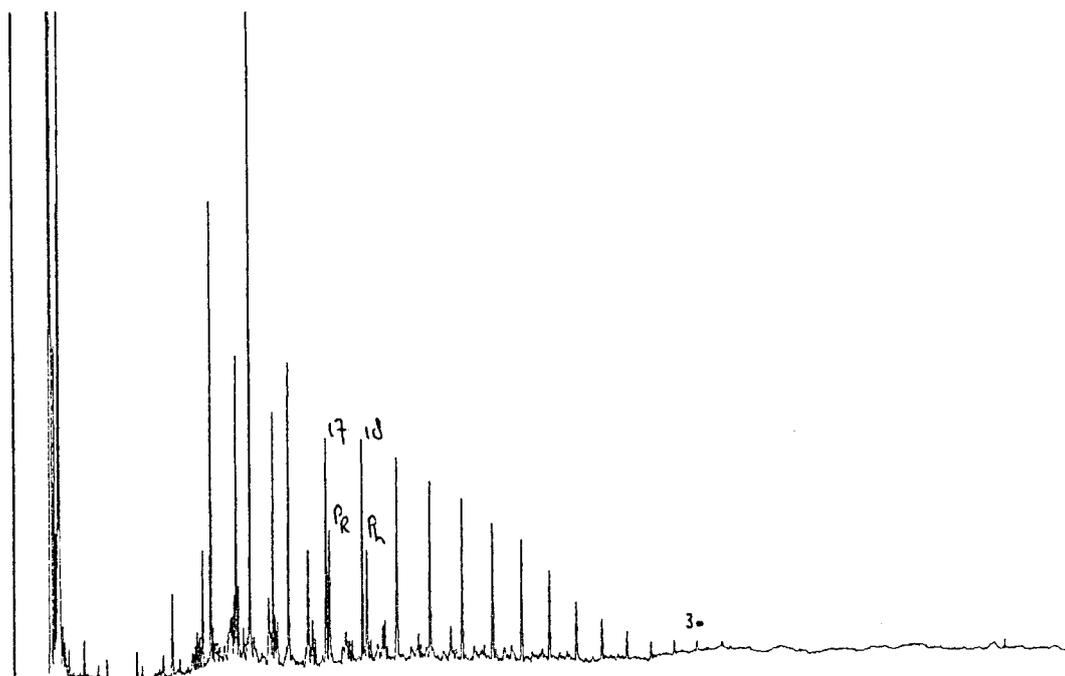
The extract has a just-mature character (gaschromatogram, Fig. 1; sterane fragmentogram showing nearly complete isomerisation features, Fig. 4). The high amounts of rearranged steranes (Fig. 4) indicate a shaly character of the source rock. The C₂₇-sterane predominance may indicate algal matter (Fig. 4).

TABLE 1 - GEOCHEMICAL DATA OF EXTRACT

Sample	UK 12/28-2 6520-6570 ft
% ethyl acetate extract	0.3
% organic carbon after ethyl acetate extraction	0.8
extract/original carbon (after extraction)	0.38
% sulphur	-
ppm V as metals	-
ppm Ni as metals	-
pristane/phytane	1.2
pristane/nC17	0.8
phytane/nC18	0.7
C ₁₅ distribution	
1-ring	
2-ring	
3-ring	
C ₃₀ distribution	
3-ring	
4-ring	
5-ring	
C ₂₉ VR/E	
% saturates*	33
% aromatics	17
% heterocompounds	51
% asphaltenes	0
$\delta^{13}\text{C}^{\text{o}}$ /oo (whole oil)	NEM
" (saturates)	-29.2
" (aromatics)	-28.6

* Determined by thin layer chromatography

N.D. = not detectable



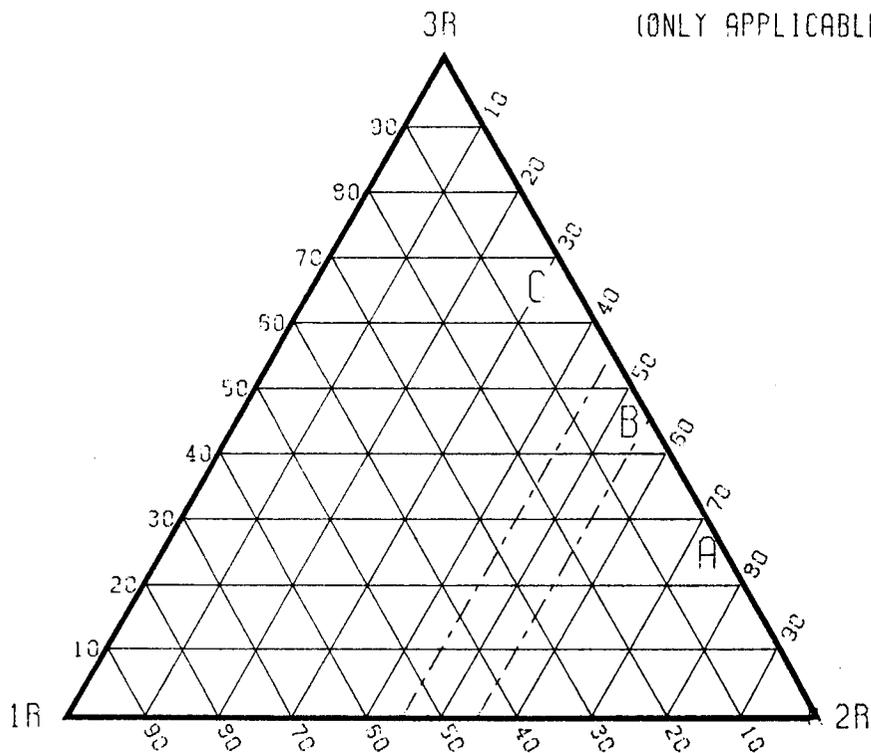
GAS CHROMATOGRAM OF SATURATED HYDROCARBONS

FIG. 1, U.K. 12/28-2 6530-6570 F1

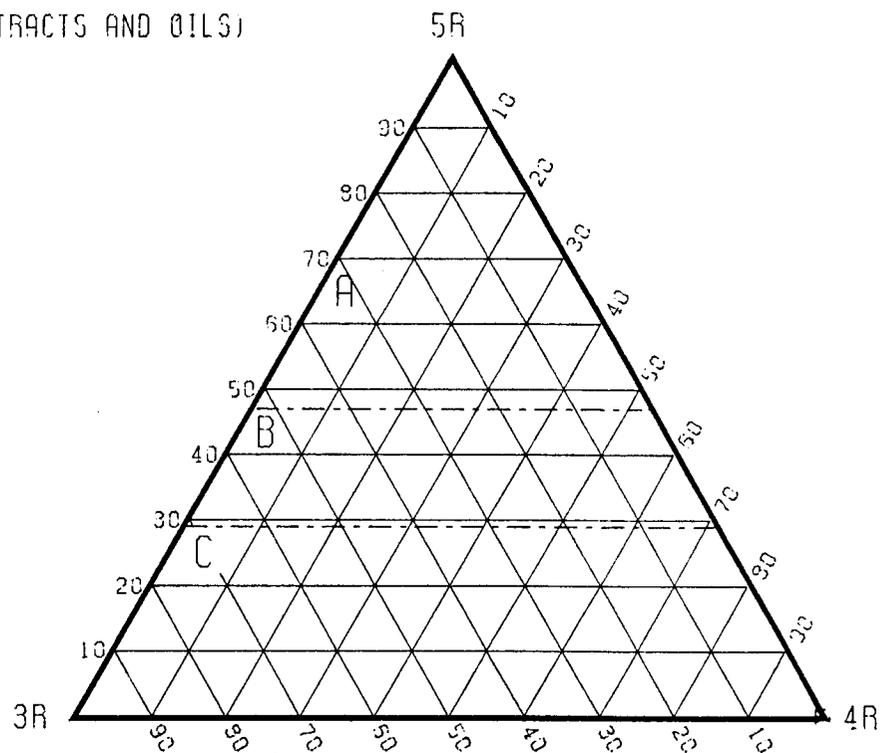
FIELD IONISATION MASS SPECTRUM

C₁₅-RING DISTRIBUTION

(ONLY APPLICABLE FOR MATURE EXTRACTS AND OILS)



C₃₀-RING DISTRIBUTION



- A. ORGANIC MATTER WITH SUBSTANTIAL LANDPLANT RESIN CONTRIBUTION
- B. MIXED LANDPLANT RESIN/SOM OR MIXED ALGAL/SOM
- C. STRUCTURELESS ORGANIC MATTER (SOM)



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FIG. 3

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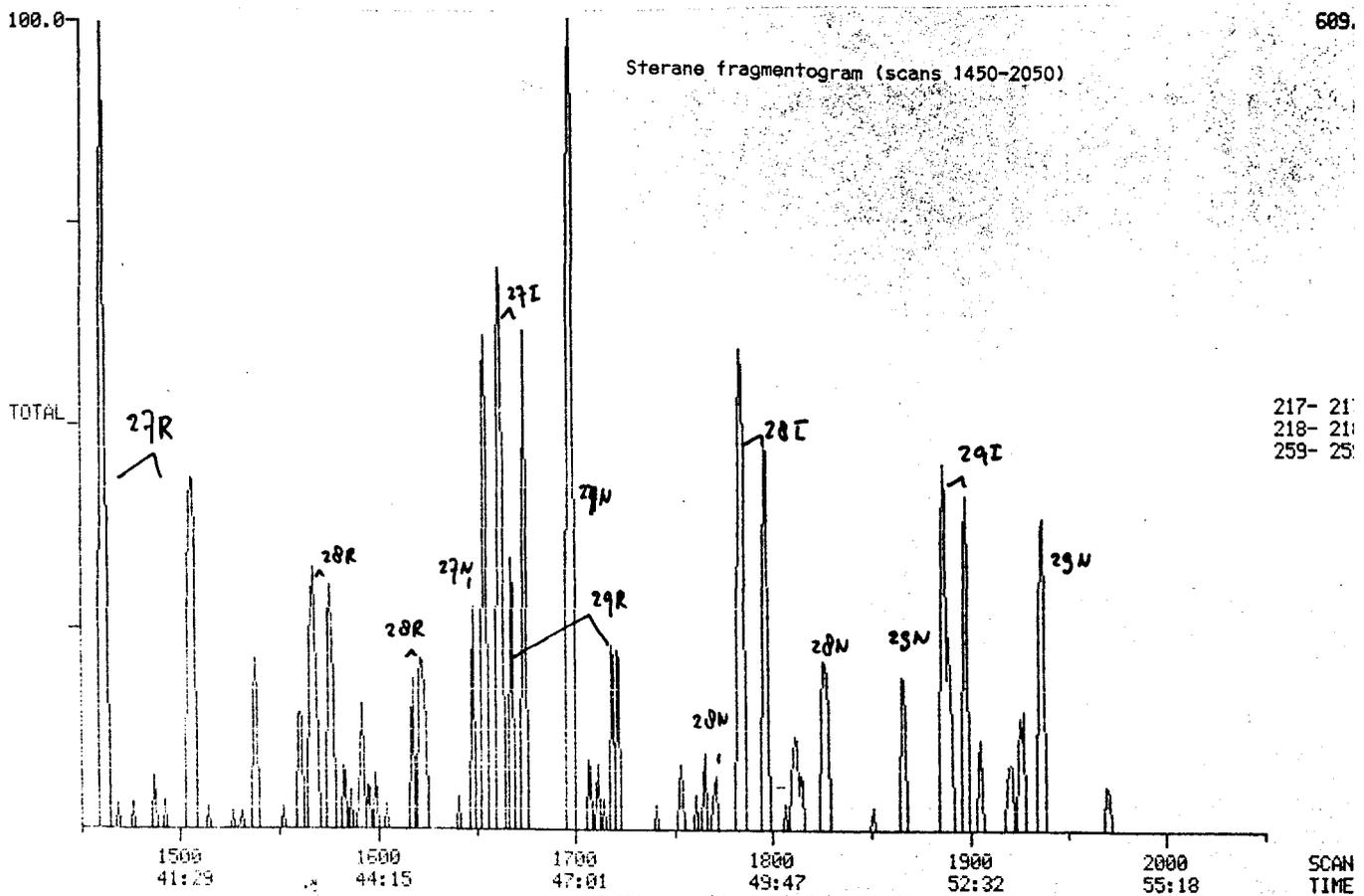
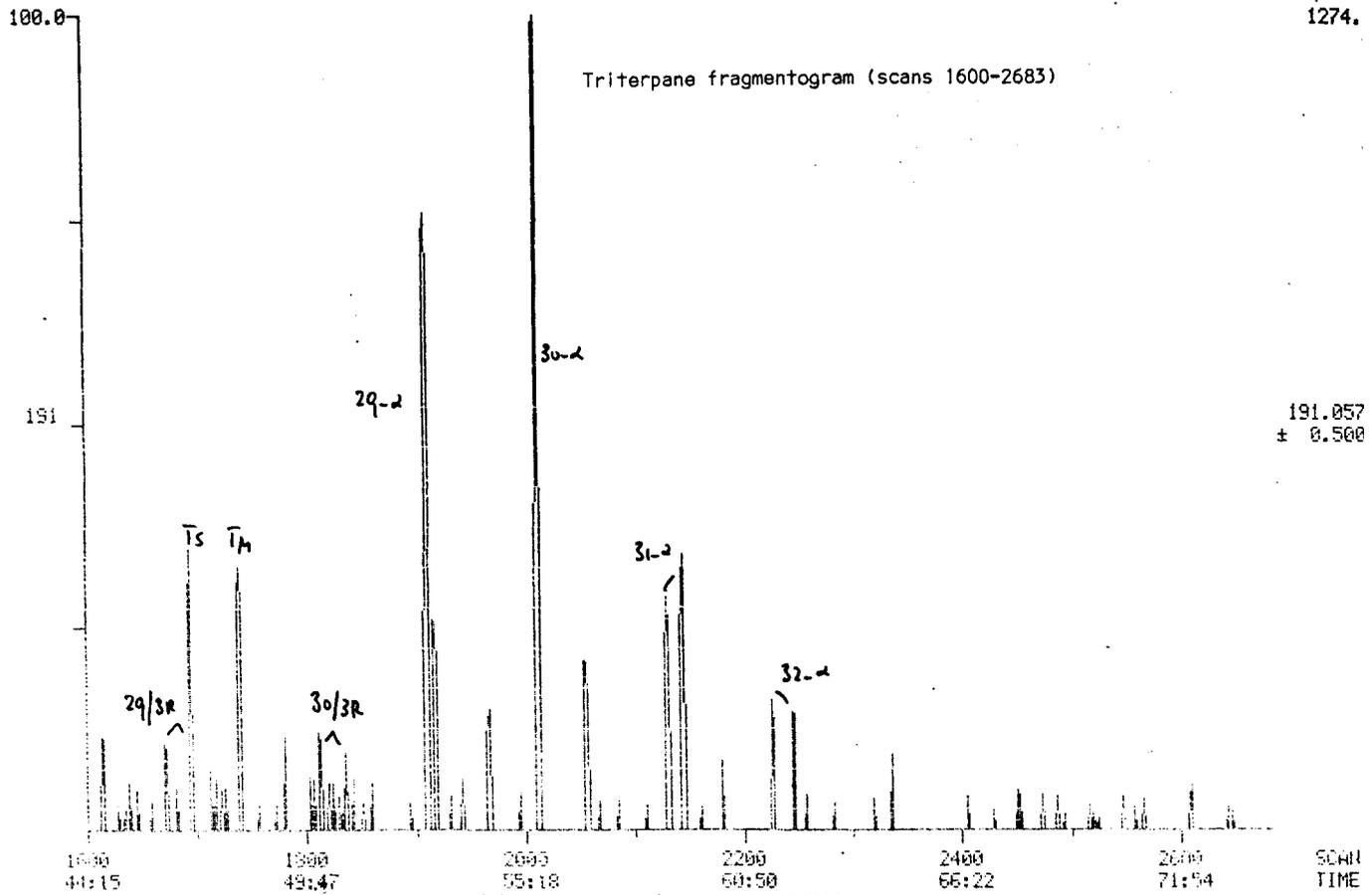


FIG. 4A. GC-MS analysis 12/28-2, 6520-6570 ft, source rock.

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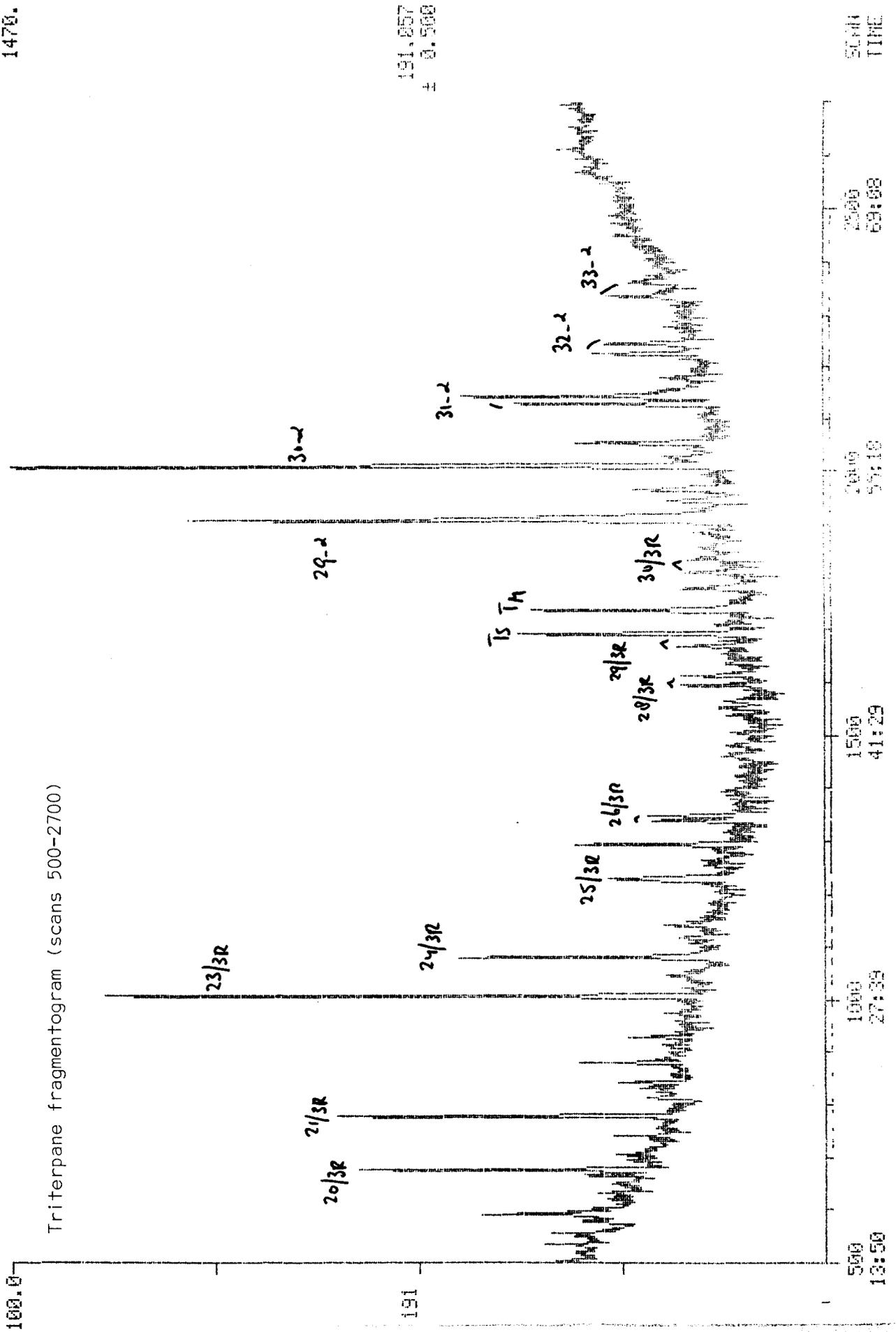


FIG. 4B. GC-MS analysis 12/28-2, 6520-6570 ft, source rock.

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