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**REGISTRERT**

**OLJEDIREKTORATET**

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GEOCHEMICAL INVESTIGATION OF A SOURCE ROCK  
EXTRACT FROM WELL 9/3-1, NORWAY

by

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Sponsor: Shell Risavika Code: 774.10.300

Investigation: 812204155

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**KONINKLIJKE/SHELL EXPLORATIE EN PRODUKTIE LABORATORIUM**

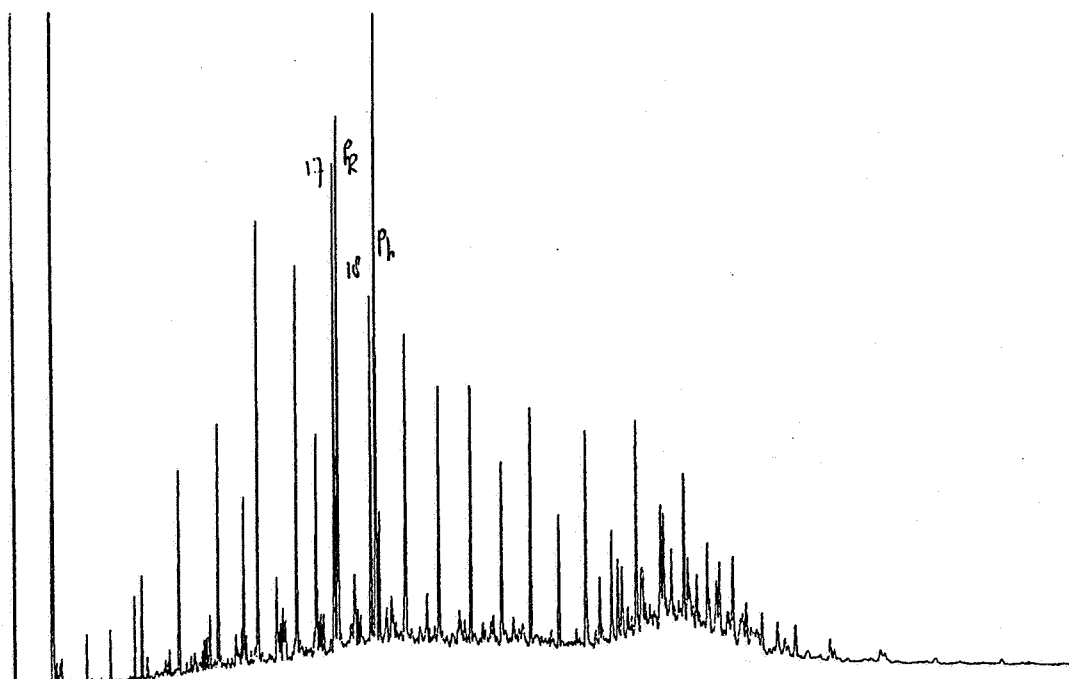
**RIJSWIJK, THE NETHERLANDS**

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TABLE 1 - GEOCHEMICAL DATA OF EXTRACTS

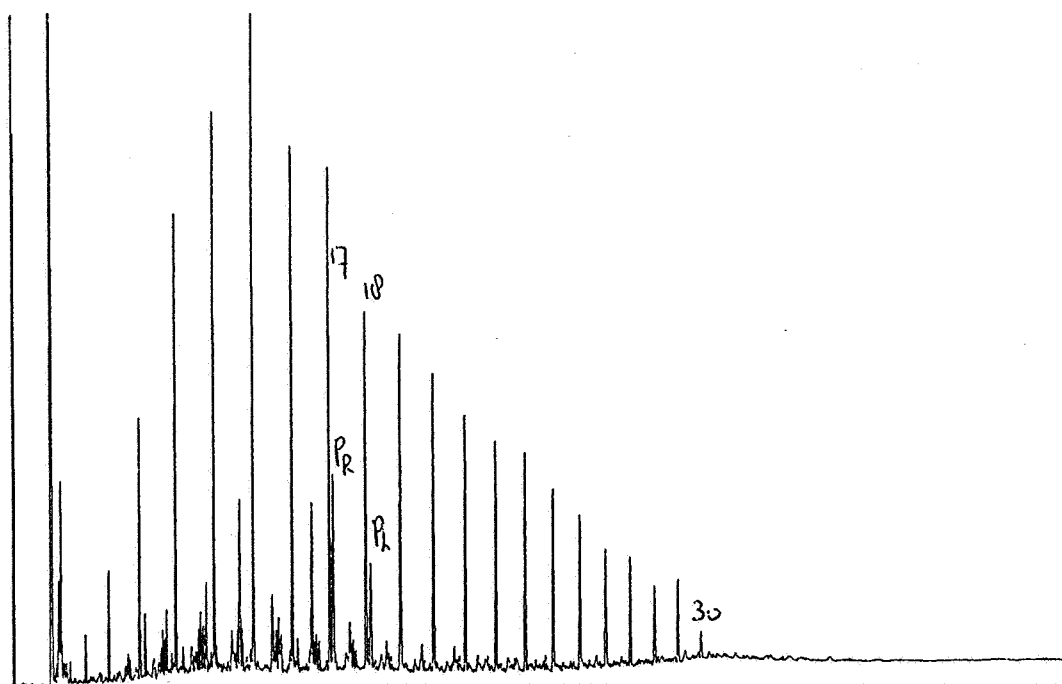
Sample	Norway 9/3-1 1699-1702 m. SWS	
	original	heated
% ethyl acetate extract	0.4	1.6
% organic carbon after ethyl acetate extraction	4.5	2.9
extract/original carbon (after extraction)	0.09	0.36
% sulphur		
ppm V as metals		
ppm Ni as metals		
pristane/phytane	0.8	1.7
pristane/nC17	1.3	0.5
phytane/nC18	2.3	0.4
C <sub>15</sub> distribution		
1-ring		
2-ring		
3-ring		
C <sub>30</sub> distribution		
3-ring		
4-ring		
5-ring		
C <sub>29</sub> VR/E		
% saturates*	7	13
% aromatics	15	40
% heterocompounds	77	47
% asphaltenes	0.4	0.4
$\delta^{13}\text{C}^0/\text{oo}$ (whole oil)	-29.4	-28.8
" (saturates)	-30.1	-29.8
" (aromatics)	-30.1	-29.2

\* Determined by thin layer chromatography  
N.D. = not detectable



GAS CHROMATOGRAM OF SATURATED HYDROCARBONS

FIG. 1. NORWAY 09/03-01 1699-1702M



GAS CHROMATOGRAM OF SATURATED HYDROCARBONS

FIG. 2. NORWAY 9/3-1 1699-1702M  
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Heated.

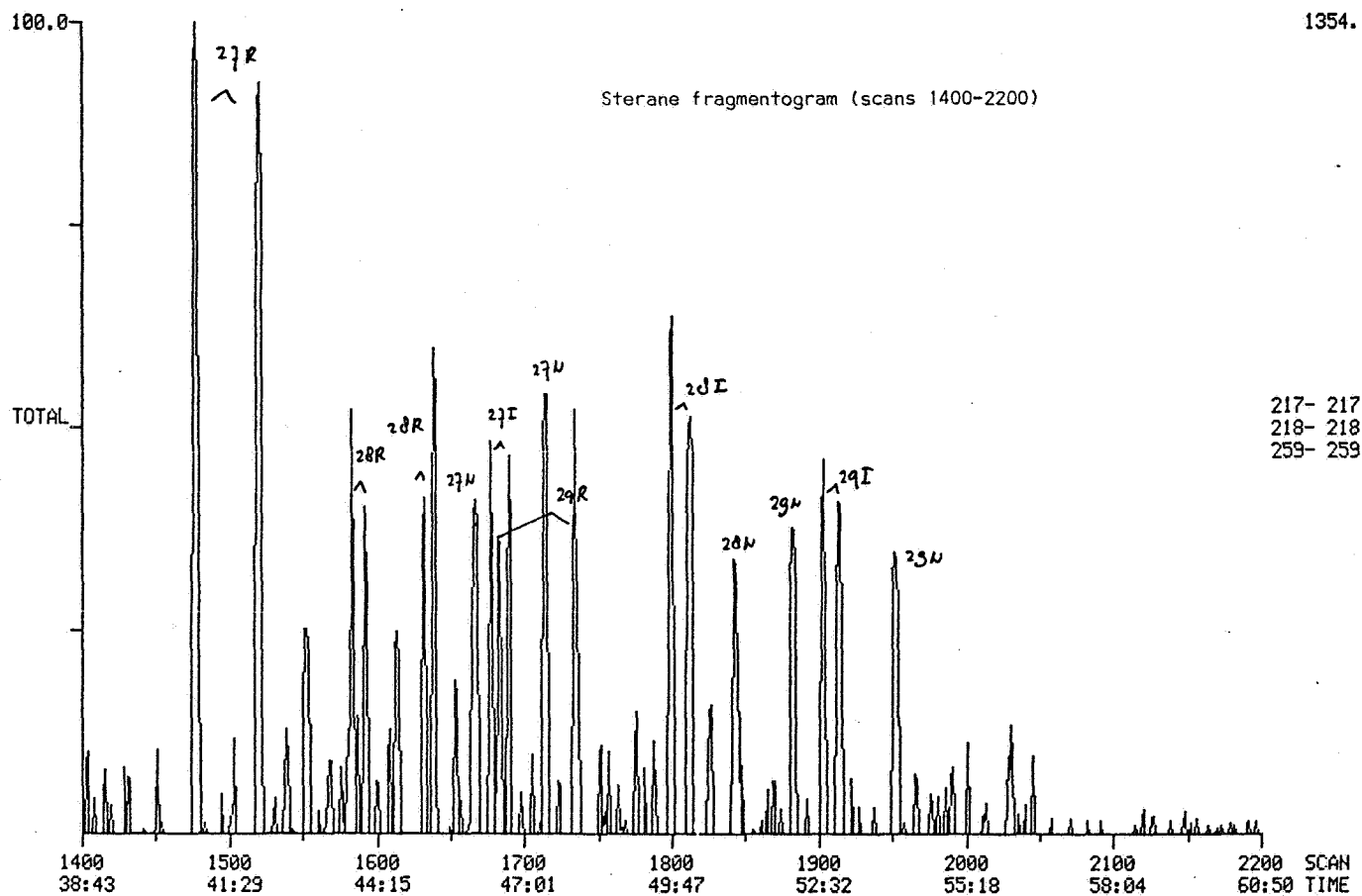
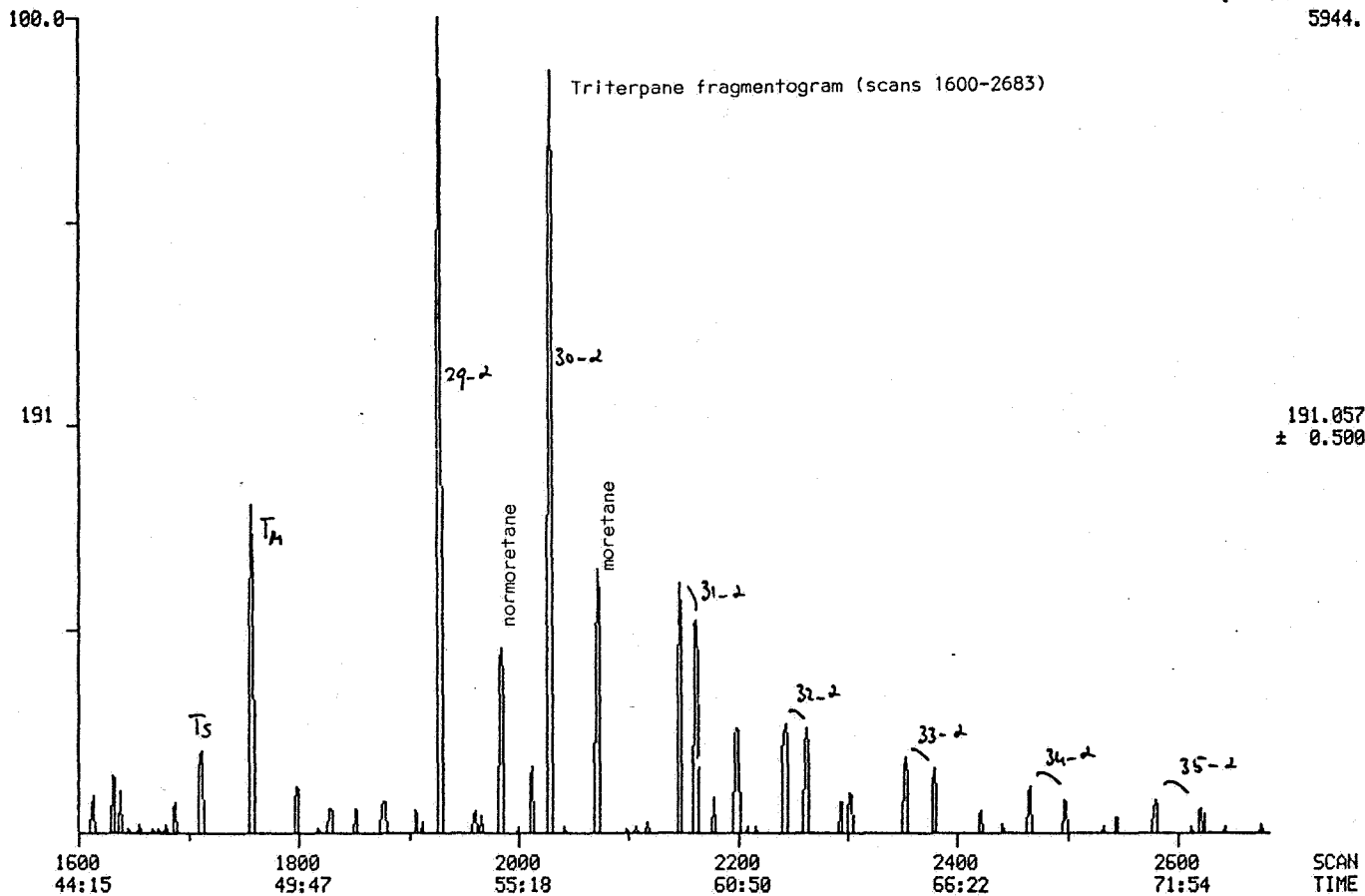
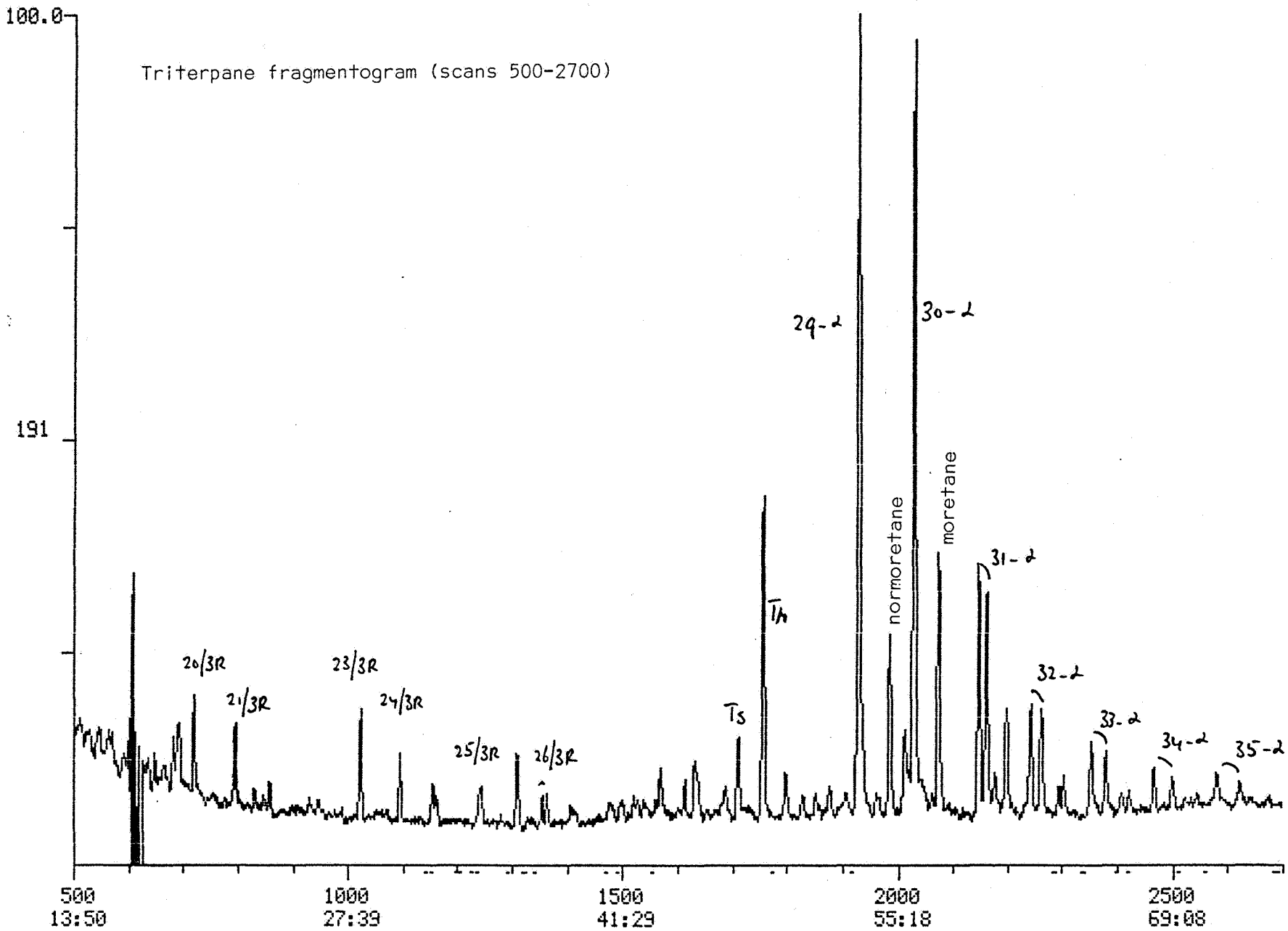


FIG. 6A. GC-MS analysis 9/3-1, 1699-1702 m, heated sample, source rock.



191.057  
± 0.500

FIG. 6B. GC-MS analysis 9/3-1, 1699-1702 m, heated sample, source rock.

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- 1701.0 M : S.O.M. PARTLY MICRINISED  
SAMPLE SLIGHTLY OXIDISED
- 1861.5 M : SAMPLE SLIGHTLY OXIDISED  
RARE FLUID INCLUSIONS
- 1864.0 M : INITIAL MICRINISATION S.O.M.  
RARE ARCITARCHS?
- 1867.0 M : INITIAL MICRINISATION S.O.M.  
RARE ARCITARCHS
- 1870.0 M : RESIN SHOWS MIGRATION FEATURES
- 1873.0 M : INITIAL MICRINISATION S.O.M.  
SAMPLE SLIGHTLY OXIDISED
- 1918.0 M : INITIAL MICRINISATION S.O.M.
- 1918.2 M : INITIAL MICRINISATION S.O.M.  
SAMPLE SLIGHTLY OXIDISED  
PARTLY COARSE GRAINED MATRIX, NSV  
RARE FLUID INCLUSIONS
- 1921.0 M : INITIAL MICRINISATION S.O.M.  
CONTAMINATED
- 1924.0 M : INITIAL MICRINISATION S.O.M.  
SAMPLE SLIGHTLY OXIDISED  
HETEROGENEOUS SAMPLE: FEW COAL PARTICLES, NSV
- 1940.0 M : SAMPLE SLIGHTLY OXIDISED  
PARTLY COARSE GRAINED MATRIX  
SPORANGIUM, NSV
- 1942.0 M : INITIAL MICRINISATION S.O.M.  
VITRINITE SHOWS OXIDATION FEATURES
- 1945.0 M : INITIAL MICRINISATION S.O.M.  
SAMPLE SLIGHTLY OXIDISED
- 1948.0 M : INITIAL MICRINISATION S.O.M.  
SAMPLE SLIGHTLY OXIDISED  
NSV

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