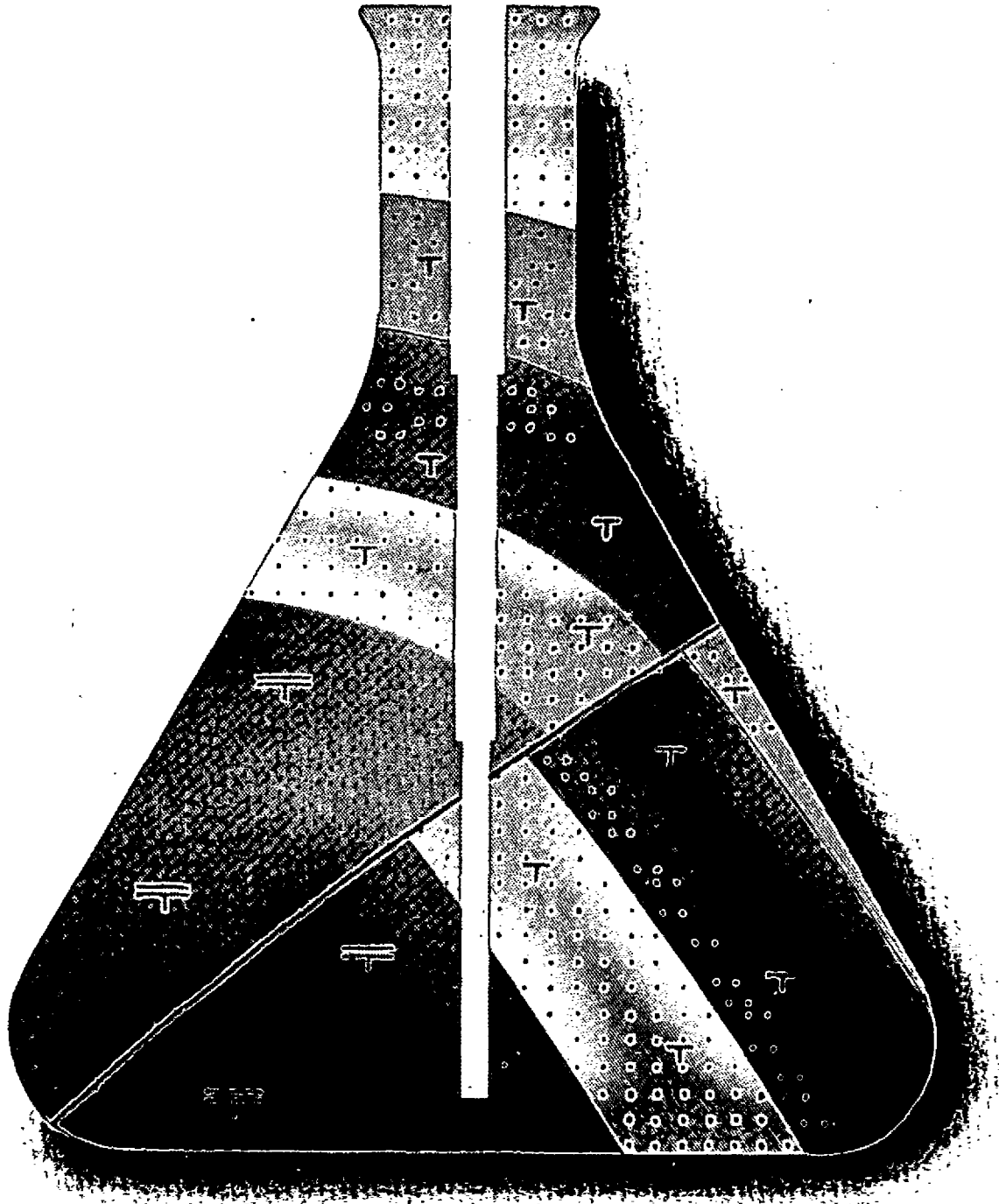


Geochemical Report on Reservoir Section of Eldfisk Well NOCS 2/7-3X



Geochemical Report on reservoir section of Eldfisk

Well NOCS 2/7-3X

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SUMMARY

No clear variations in petroleum composition were observed in the oil column of this well.

DISCUSSION

1. General Comments

This well was one of the early appraisal wells in the Eldfisk area and proved a considerable thickness of Upper Jurassic source rock on top of Permian evaporites. In addition to the main Eldfisk reservoir in the chalk section, oil was tested in Upper Jurassic sandstones.

2. Analytical Program

Twenty core samples were available for analysis and all were analysed for TOC, Rock-Eval and GHM.

<u>Analysis type</u>	<u>No of sample</u>	<u>Figures</u>	<u>Tables</u>
Lithology description	20	1	1
TOC	20		1,2
Rock-Eval pyrolysis	20	2	2
Thermal extraction GC (GHM, S ₁)	20	3	
Pyrolysis GC (GHM, S ₂)	20	4,5	3
Soxhlet Extraction of organic matter	6		
MPLC/HPLC separation	6	7a-b	4a-d
Saturated hydrocarbon GC	6	8	5a-b
Aromatic hydrocarbon GC	6	9	6a-b
Thermal Extraction-GC-MS	6	10	7a-f

3. Lithology, TOC and Rock Eval Data (Tables 1 & 2)

The analysed sections of the well are shown on the hydrocarbon log in Figure 1. TOC, S1 and S2 contents follow variations in porosity (Figure 2). The EC layer above 2853m which has the highest porosities also has the highest TOC, S1 and S2 contents (1.5%-3%, 9-15 mg HC/g rock and 6-13 mg HC/g rock respectively). In the EC layer below 2853m, and in the rest of the Ekofisk and Tor Fm. where there are lower porosities, TOC, S1 and S2 values are significantly lower (0.5-1.5% TOC, 2-10 S1 and 1-7 S2). The analysed Hod Fm. section shows a slight increase in TOC, S1 and S2 although porosities are lower than the Tor Fm..

4. Thermal Extraction-Pyrolysis-Gas Chromatography (Table 3)

There are no significant variations in thermal extracts or pyrolysis products in the analysed samples. Figures 3 and 4 show thermal extract- and pyrolysis-gas chromatograms which are typical of the majority of chalk core samples in the Eldfisk area. The C₁₅₊ pyrolysate content is very uniform in the analysed samples (Figure 5) suggesting that there are no significant barriers to flow.

5. Iatroscan Analysis (for data see NRG report on Iatroscan analysis)

6. Solvent Extraction and Chromatography (Tables 4a-d)

There are no obvious trends in solvent (DCM) extractable organic matter (EOM) content in the analysed section. The analysed sample from the ED layer has a distinctly lower EOM content than the rest of the analysed sample. This was expected since the Rock-Eval S1 of this sample is also significantly lower than the other analysed samples.

7. Saturated and Aromatic Hydrocarbon Gas Chromatography

(Tables 5a-b, 6a-b)

There are no discernable significant differences in the saturated and aromatic hydrocarbon distributions of the analysed samples from this well. See appendices in data report for individual gas chromatograms.

8. Thermal Extraction - Gas Chromatography - Mass Spectrometry

(Tables 7a-f)

There are no obvious variations in biomarker composition in this well (e.g. Figure 10) suggesting that the hydrocarbons in the analysed section of this well are from one single charge or are well mixed.

Averaged values of the most useful biomarker ratios are as follows:

Terpane parameters from m/z 191 fragmentograms¹

Ts/Tm	1.67	(peaks A/B)
C ₂₉ /C ₃₀ αβ	0.46	(peaks C/E)
C ₃₀ diahopane/C ₃₀ αβ	0.08	(peaks X/E)
C ₂₈ bisnorhopane/C ₃₀ αβ	0.04	(peaks Z/E)
C ₂₃ tricyclic terpane/C ₃₀ αβ	0.04	(peaks Q/E)
C ₂₉ +C ₃₀ βα/αβ	0.12	(peaks D+F/C+E)
C ₃₂ αβ 22S	57.9	(peaks J1/[J1+J2] * 100)

¹ See Appendix 4 for m/z 191 and 217 fragmentograms and experimental procedures for peak identification tables

Sterane parameters from m/z 217 fragmentograms¹

C_{27} dia/dia+regular	0.47	(peaks a/(a+j))
% C_{29} $\alpha\alpha\alpha$ 20S/20S+20R	43,85	(peaks q/(q+t) * 100)
C_{27}/C_{29} diasteranes	0.71	(peaks $\frac{[a+b+c+d]}{[h+k+l+n]}$)
% C_{29} $\alpha\beta\beta/\alpha\alpha\alpha+\alpha\beta\beta$ steranes	58.2	(peaks r+s/q+r+s+l*100)
C_{29} $\alpha\beta\beta$ 20S+20R/ $\alpha\alpha\alpha$ 20R	2.46	(peaks [r+s]/l)

CONCLUSIONS

There are no apparent heterogeneities in the analysed sections of this well.

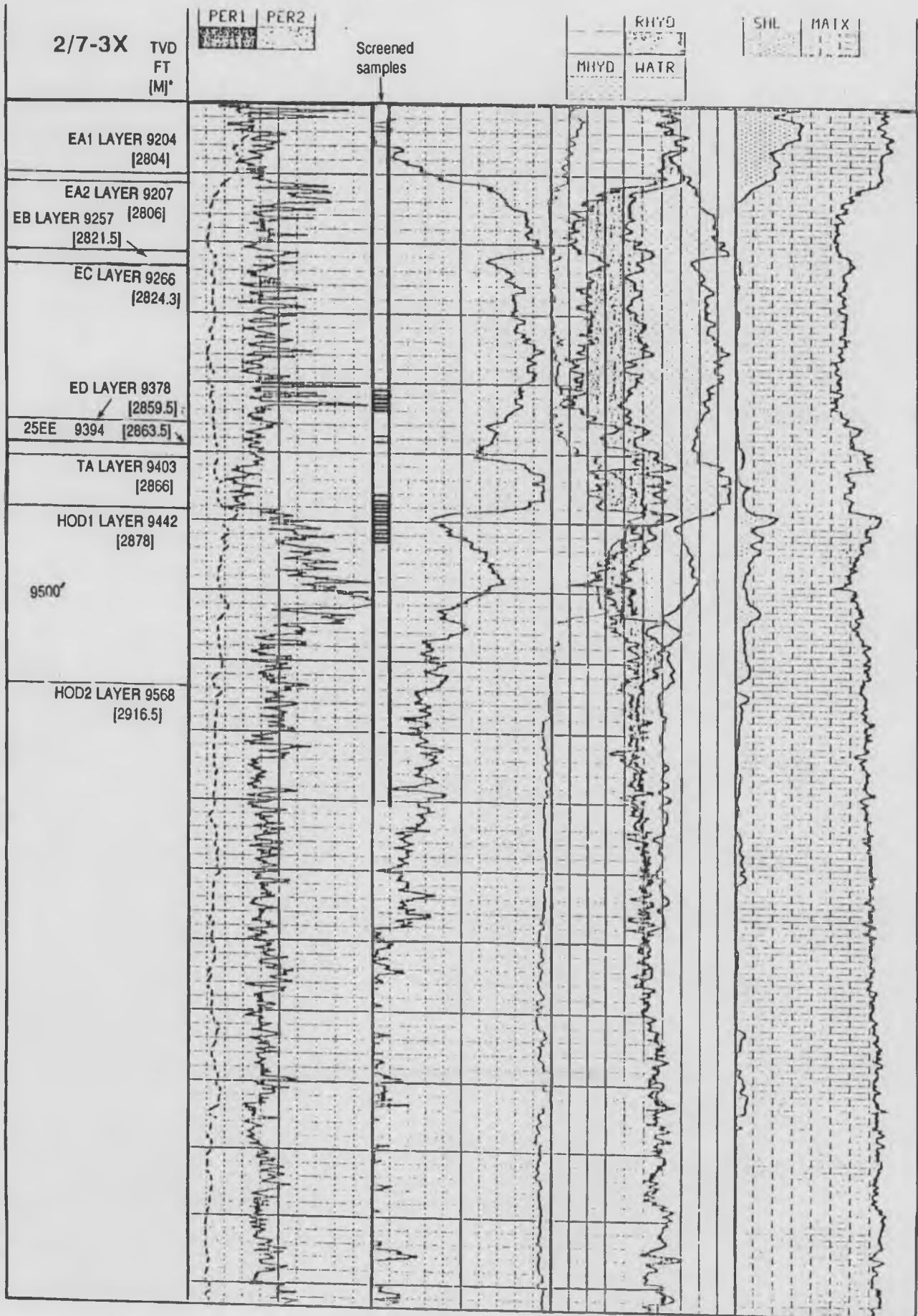
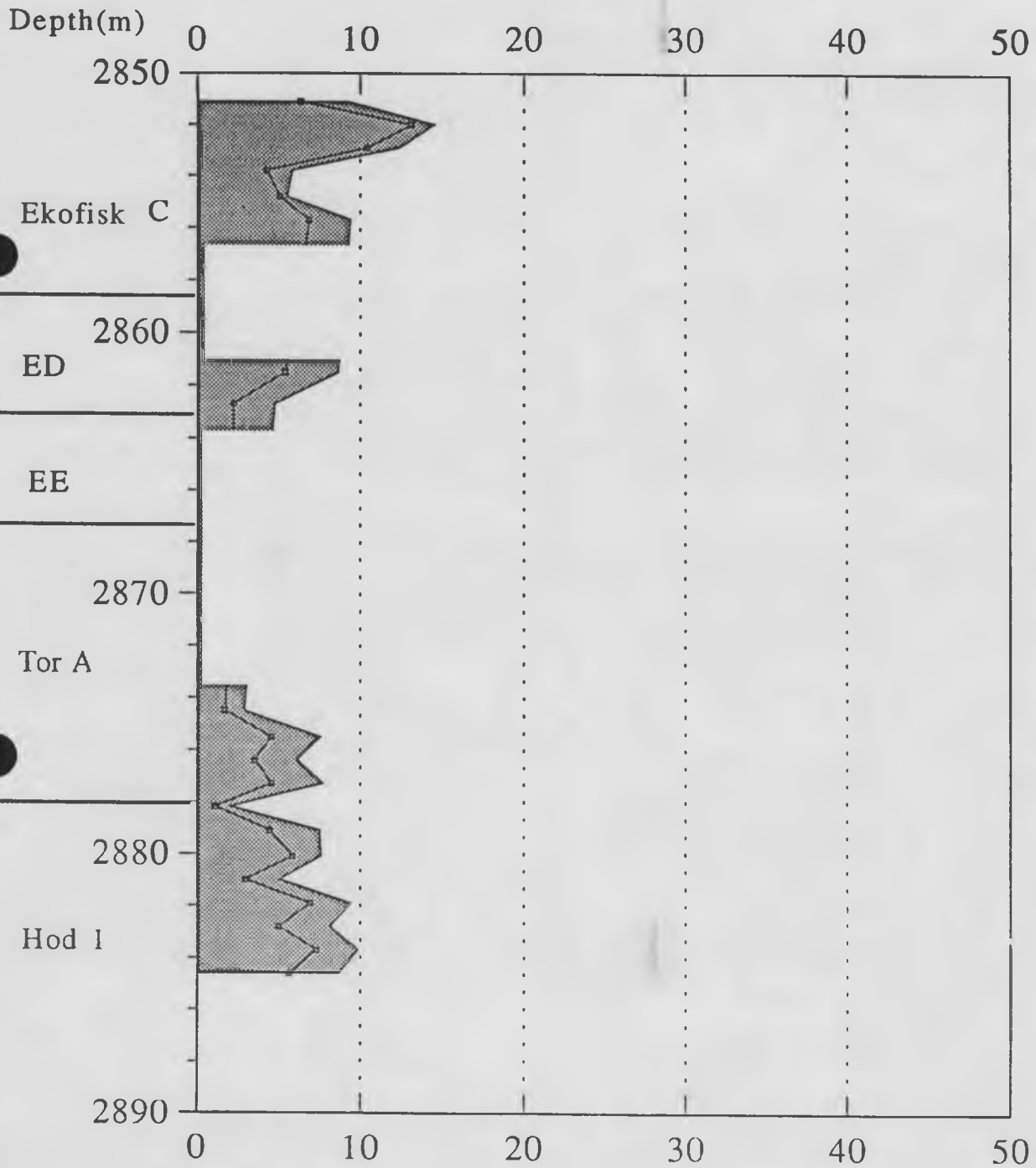


FIGURE 1.

2/7-3X

Rock-Eval S1 & S2 vs Depth

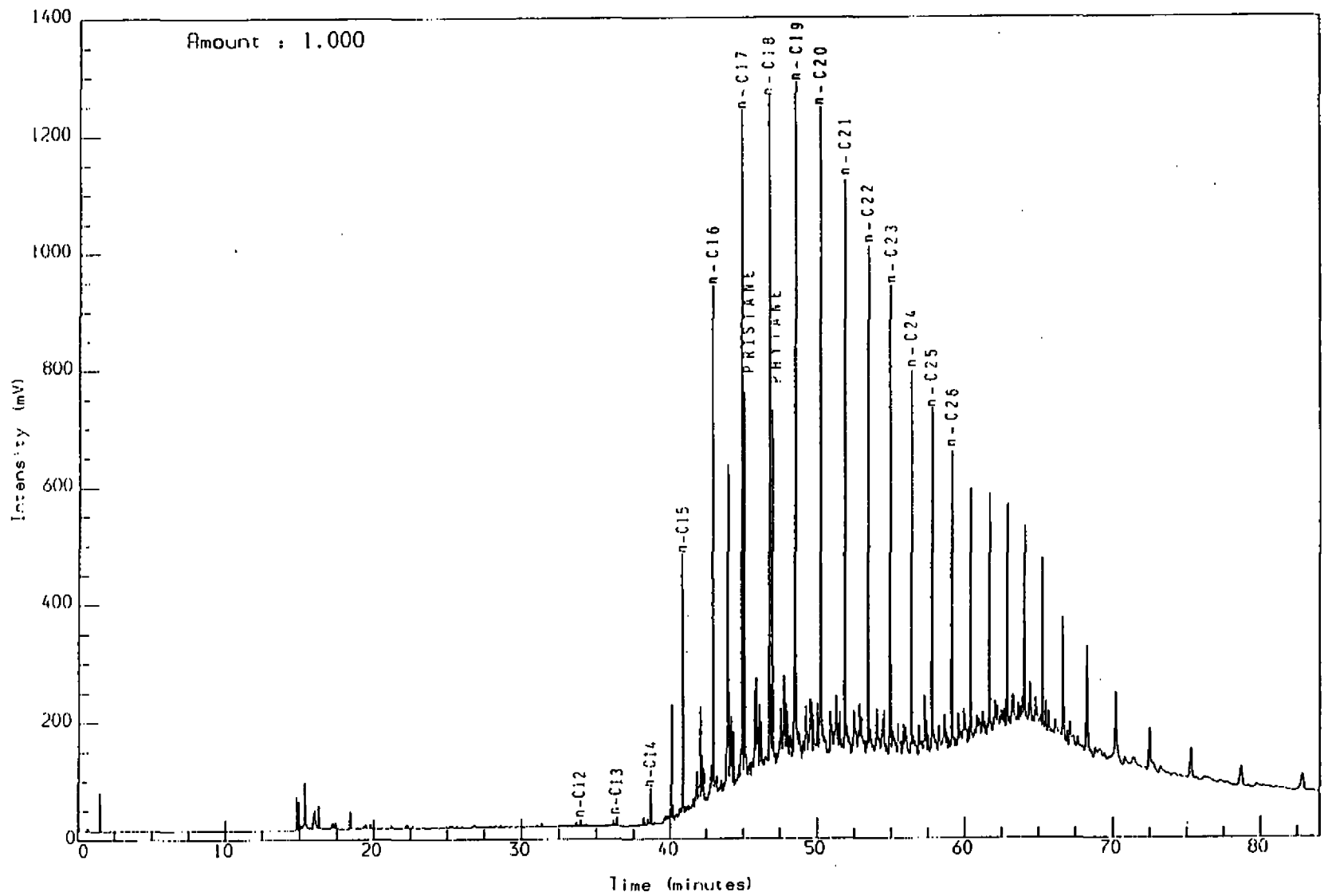
S2



S2
S1

S1

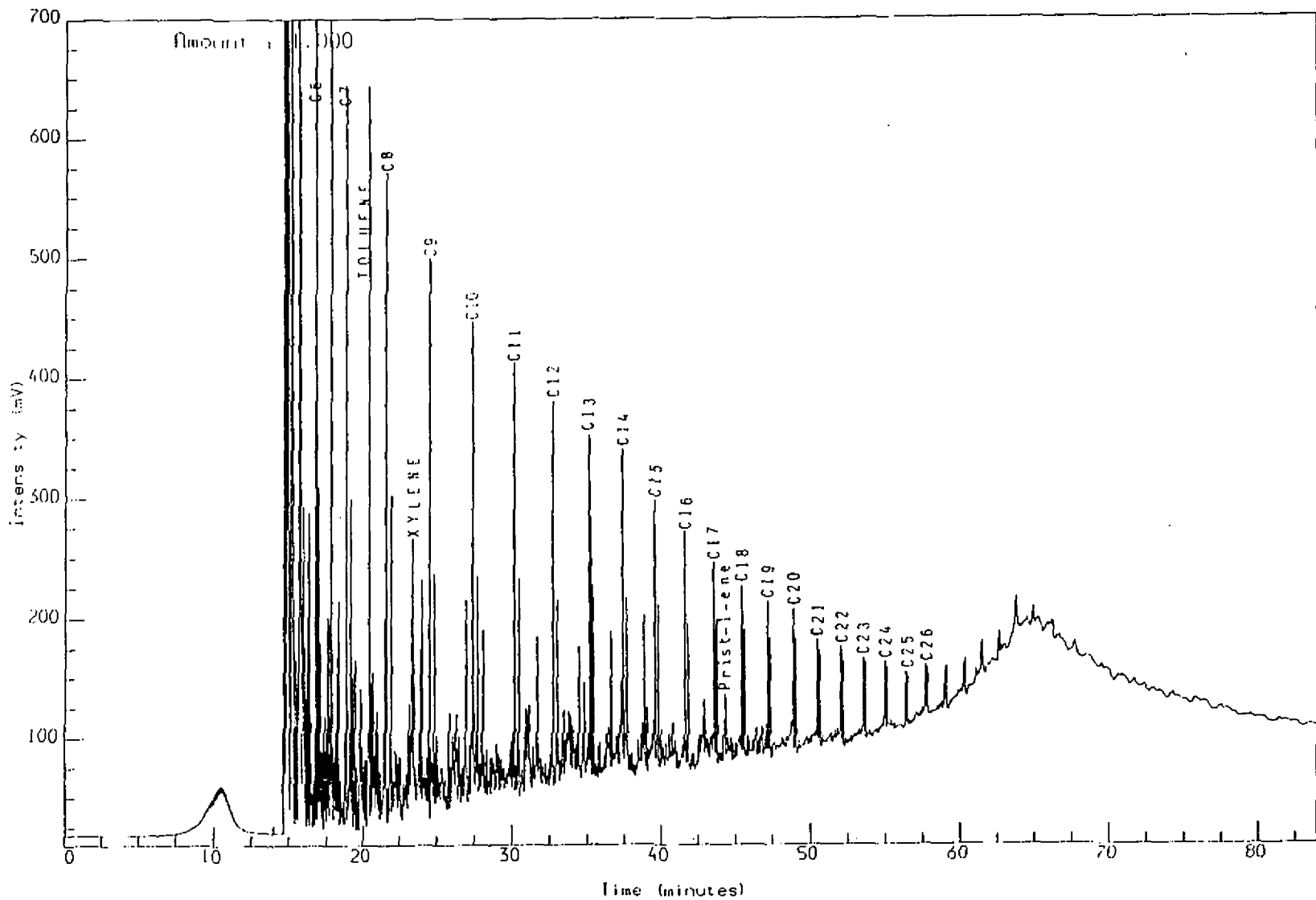
FIGURE 2.



WELL NOCS 2/7-3X 2876.40m ccp
 THERMAL EXTRACTION GC (S1)
 Ca: 1t or to or gy

Reported on 4-JAN-1991 at 08:54

FIGURE 3.



WELL NOCS 2/7-3X
 PYROLYSIS GC (S2)
 Ca: lt or to or gy

2876.40m ccp

Reported on 4-JAN-1991 at 15:15

FIGURE 4.

Schlumberger GECO-PRAKLA

GEOLAB NOR

2/7-3X

%C15+ Pyrolysis Products vs Depth (m)

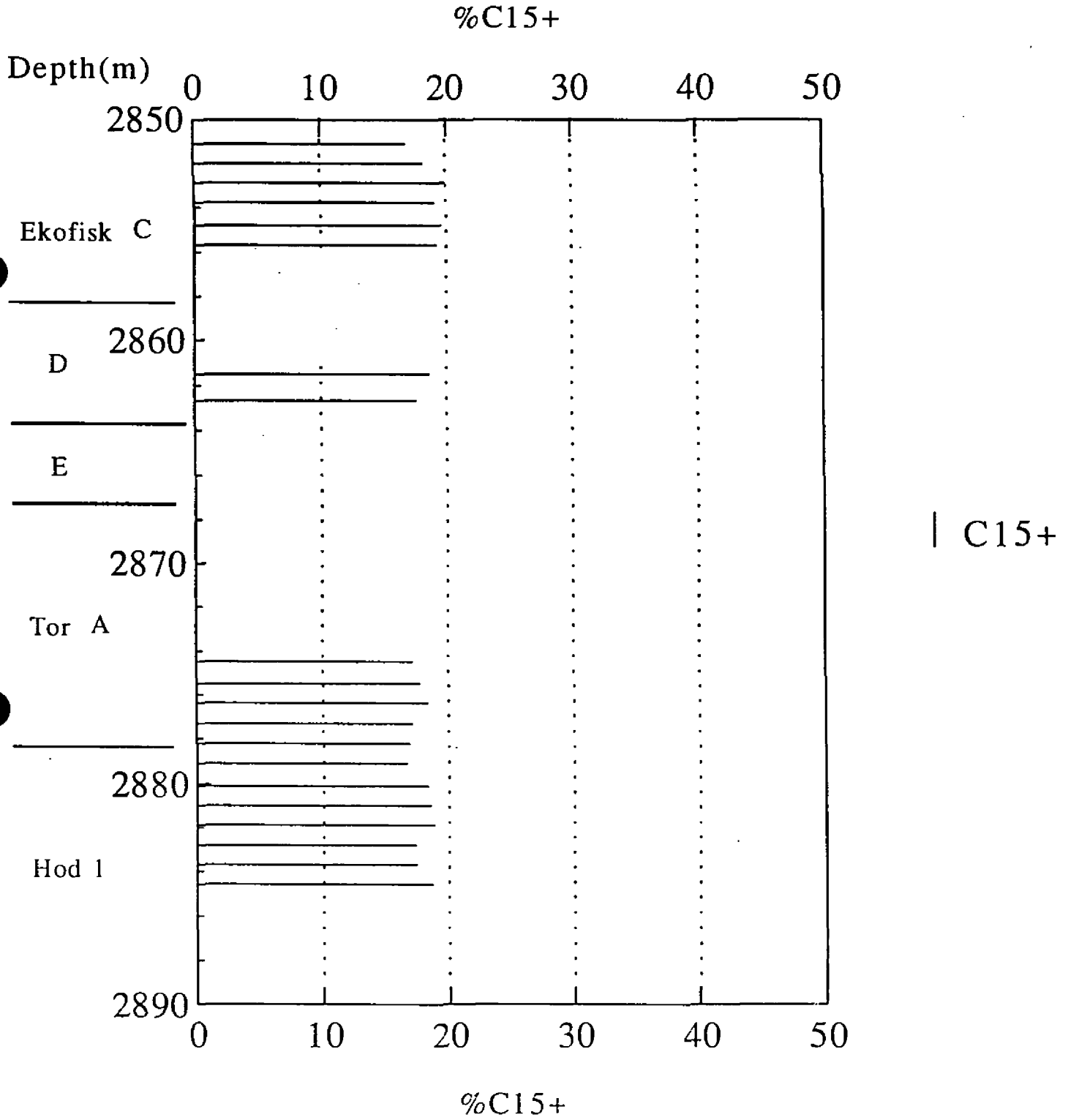


FIGURE 5.

NO FIGURE 6.

2/7-3X

% Hydrocarbons & Non-Hydrocarbons vs Depth

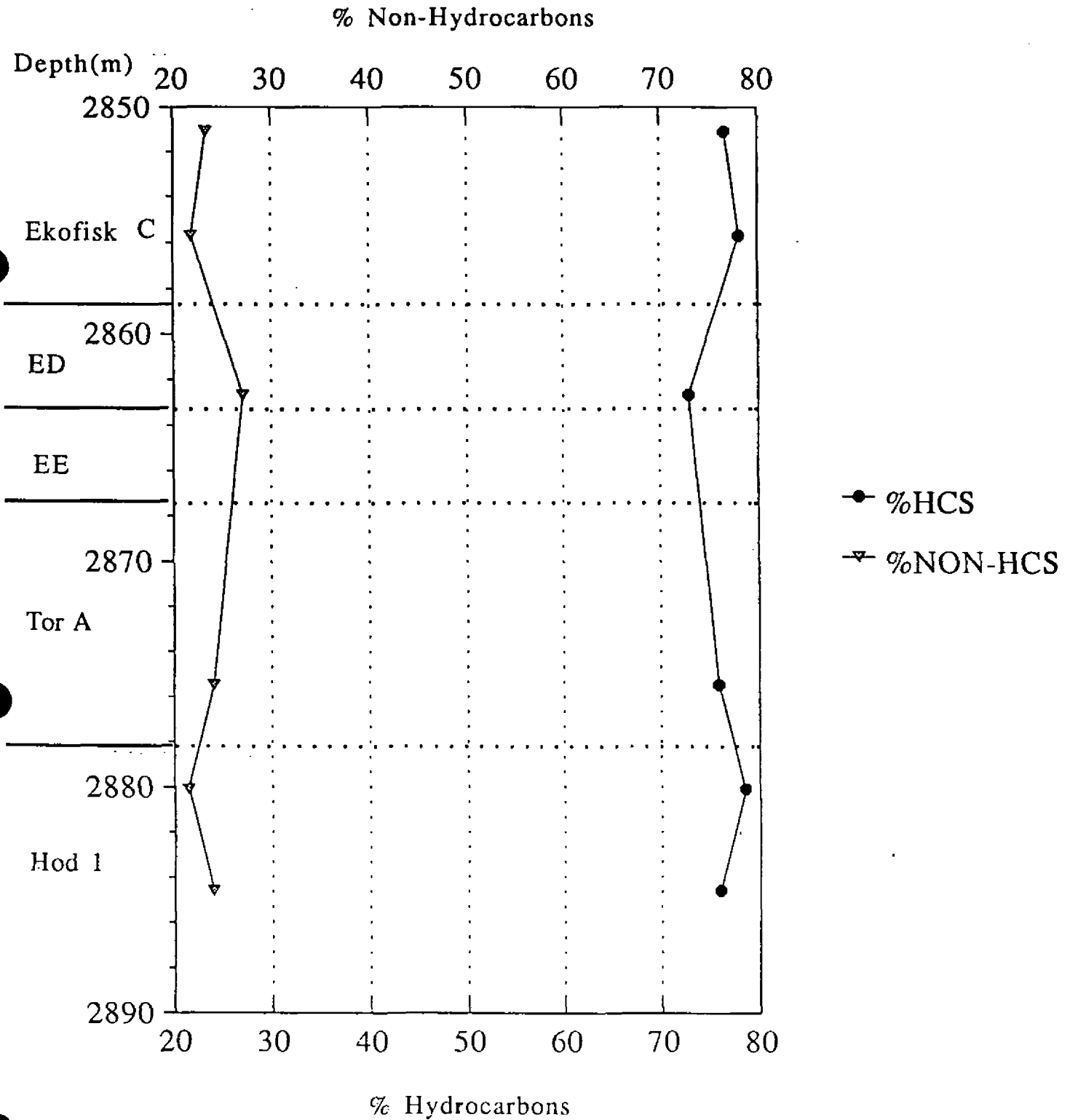


FIGURE 7a.

2/7-3X

Saturates/Aromatics vs Depth

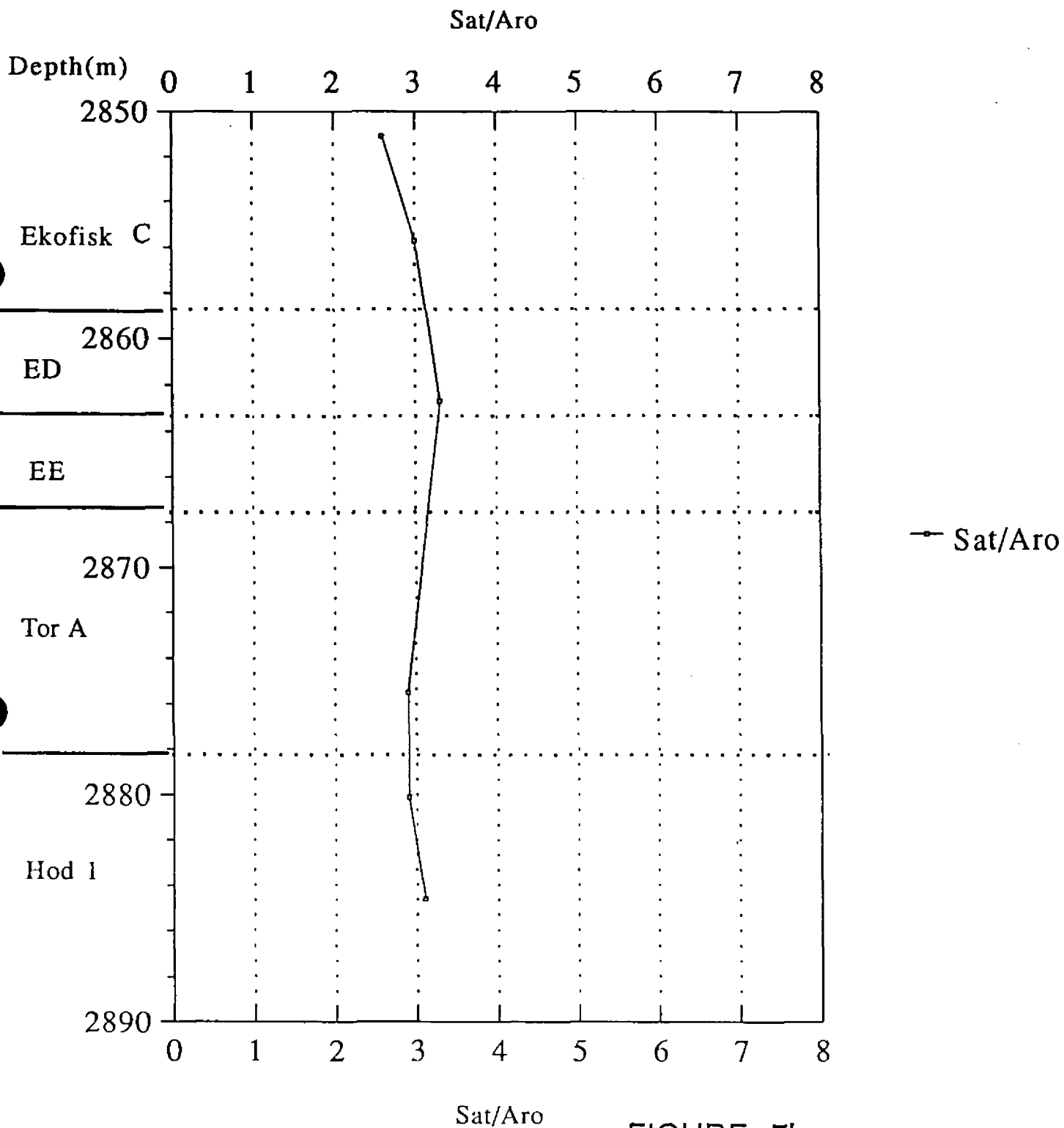
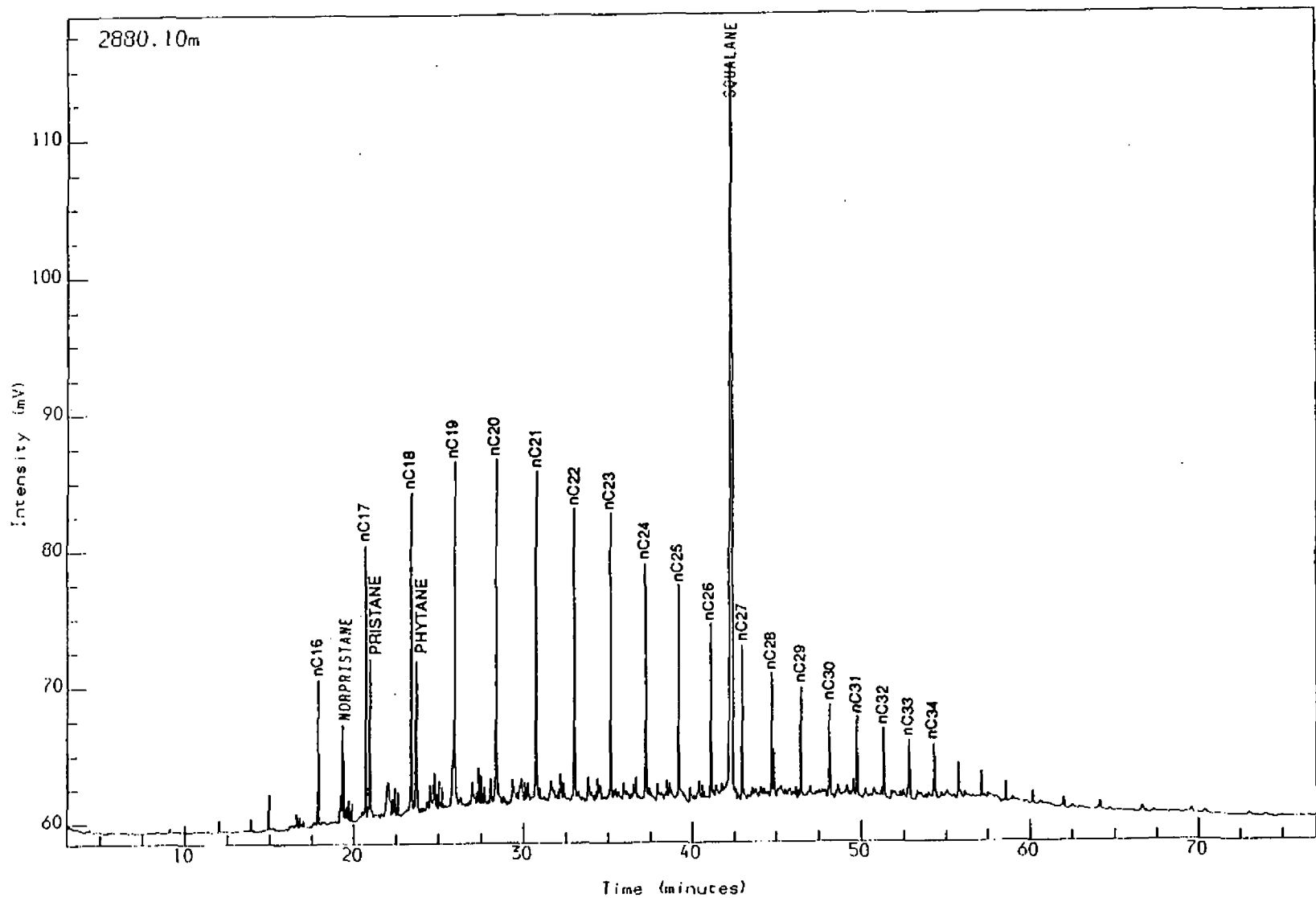


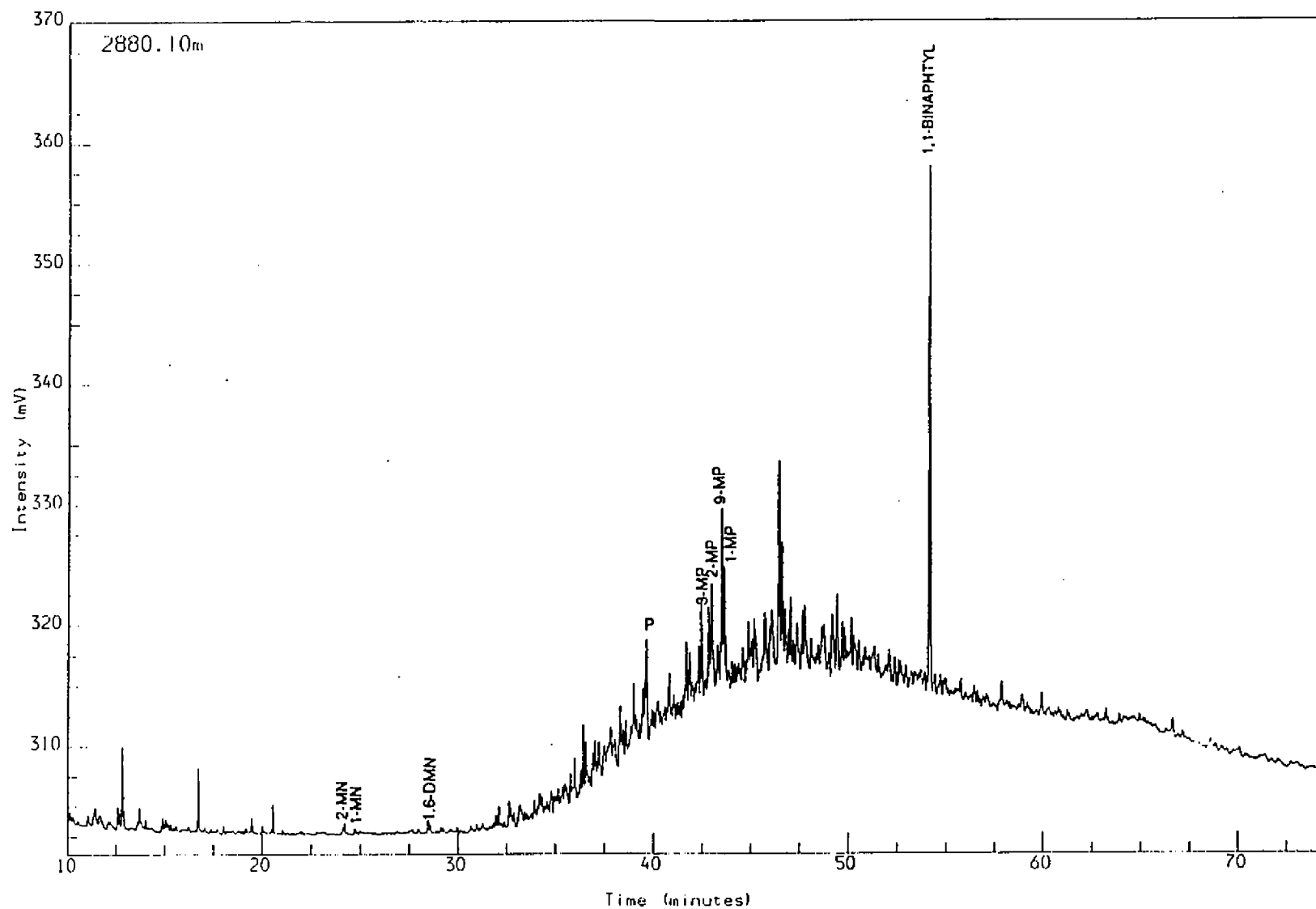
FIGURE 7b.



WELL NOCS 2/7-3X 2880.10m
 SATURATED GC
 Ca:It or to or gy

Reported on 11-MAR-1992 at 17:43

FIGURE 8.



WELL: NOCS 2/7-3X
 AROMATIC GC (FID)
 Ca: It or to or gy

2880.10m

Reported on 10-APR-1992 at 12:12

FIGURE 9.

2/7-3X

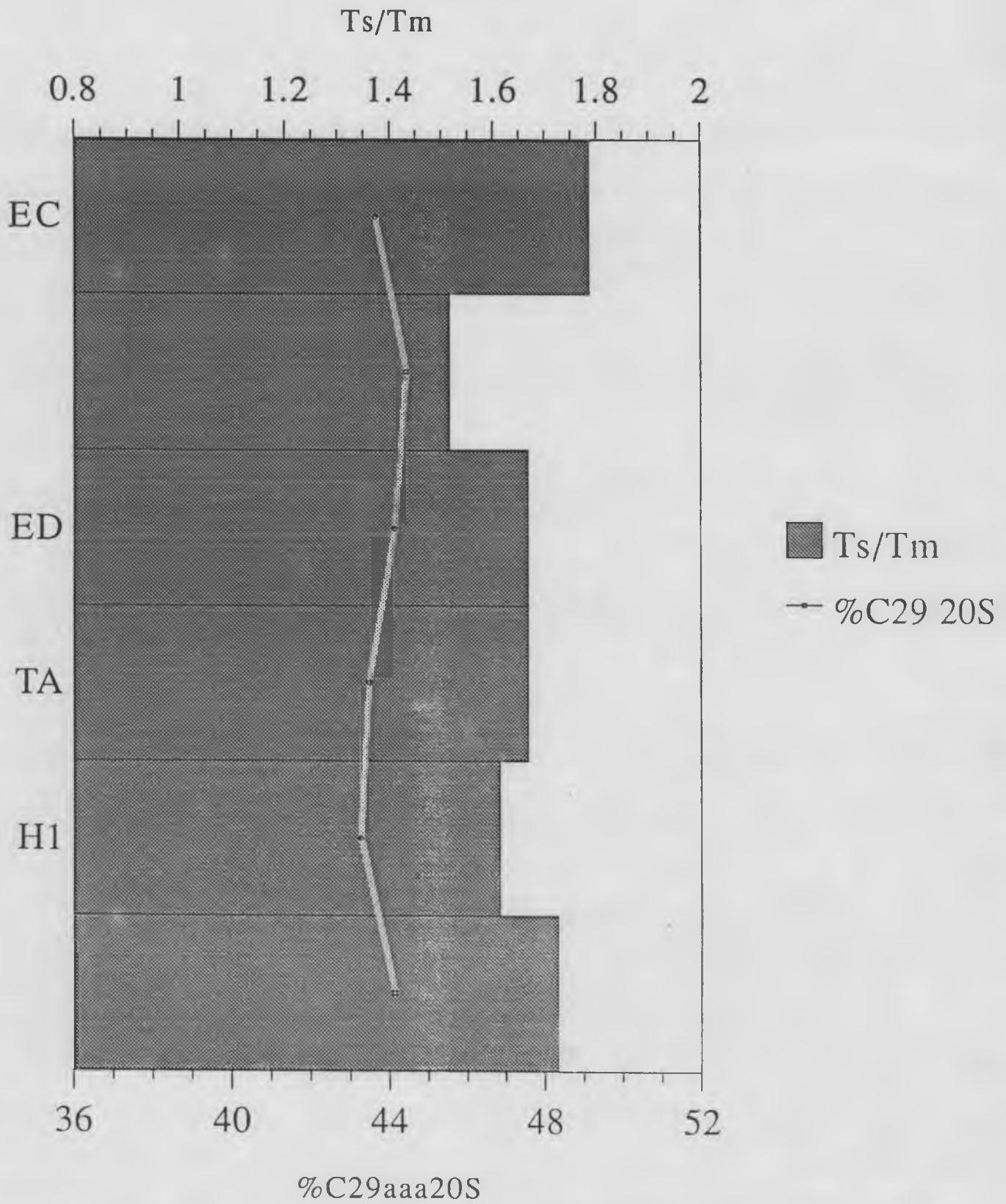


FIGURE 10

**INTERPRETATION LIMITS
ABBREVIATIONS
EXPERIMENTAL PROCEDURES
ANALYTICAL METHODS**

List of abbreviations used for parameters, ratios and analytical methods
(sorted alphabetically)

CPI	=	Carbon Preference Index, $0.5 \times \frac{C_{25}+C_{27}+C_{29}+C_{31}+C_{33}}{C_{24}+C_{26}+C_{28}+C_{30}+C_{32}} + \frac{C_{25}+C_{27}+C_{29}+C_{31}+C_{33}}{C_{26}+C_{28}+C_{30}+C_{32}+C_{34}}$
EOM	=	Extractable Organic Matter
FID	=	Flame Ionisation Detector
FPD	=	Flame Photometric Detector
GC	=	Gas Chromatograph
GC-MS	=	Gas Chromatograph - Mass Spectrometer
GHM	=	Geofina Hydrocarbon Meter (combined thermal extraction - pyrolysis gas chromatograph)
HC	=	Hydrocarbons
HI	=	Hydrogen Index (100 x S ₂ /TOC)
HPLC	=	High Pressure Liquid Chromatograph
MDBT(4/1)	=	Ratio of 4-/1-methyl dibenzothiophene
MNR	=	Ratio of 2-/1-methyl naphthalene
MP	=	Methyl phenanthrene
MPI1	=	Methyl phenanthrene Index, $1.5 \times (3MP+2MP) / P+9MP+1MP$
MPLC	=	Medium Pressure Liquid Chromatograph
NSO	=	Nitrogen-, Sulphur- and Oxygen-compounds
OI	=	Oxygen Index (100 x S ₃ /TOC)
P	=	Phenanthrene
PI	=	Production Index (S ₁ /(S ₁ +S ₂))
PP	=	Petroleum Potential (S ₁ +S ₂)
Ro (%)	=	Measured Vitrinite Reflectance in Percent
Rock-Eval	=	Oil show and source rock evaluation instrument
S ₁	=	Amount of Free Hydrocarbons, Rock-Eval
S ₂	=	Amount of Kerogen pyrolysate, Rock-Eval
S ₃	=	Amount of Oxidised Organic Material
SCI	=	Spore Colour Index (maturity indicator)
TCD	=	Thermal Conductivity Detector
TAI	=	Thermal Alteration Index (maturity indicator)
Tmax	=	Temperature of maximum pyrolysate yield, Rock-Eval.
TOC	=	Total Organic Carbon

Experimental Procedures

Total Organic Carbon (TOC) and Total Carbon Analysis

This analysis is performed using a LECO CS244 Carbon Analyser.

Hand-picked lithologies from cuttings samples are crushed with a mortar and pestle and approximately 200 mg (50 mg for coals) are accurately weighed into LECO crucibles. The samples are then treated three times with 10 % hydrochloric acid to remove oxidized (carbonate) carbon, and washed four times with distilled water. The samples are dried on a hotplate at 60 - 70°C before analysis of total organic carbon. Total carbon is also analysed on the same instrument using approximately 200 mg of untreated crushed whole rock. Oxidized (carbonate) carbon is calculated by weight difference.

Total organic carbon can also be analysed on the Rock-Eval II Pyrolyser during the normal run of the instrument.

Rock-Eval Pyrolysis

This analysis is performed by using a Rock-Eval II Pyrolyser. Approximately 100 mg crushed whole rock is analysed. The sample is first heated at 300°C for three min in an atmosphere of helium to release the free hydrocarbons present (S1 peak) and then pyrolysed by increasing the temperature from 300°C to 600°C (temp. gradient 25°C/min) (S2 peak). Both the S1 and S2 yields are measured using a flame ionization detector (FID). In the temperature interval between 300°C and 390°C, the released gases are split and a proportion passed through a carbon dioxide trap, which is connected to a thermal conductivity detector (TCD). The value obtained from the TCD corresponds to the amount of oxygen contained in the kerogen of the sample and is reported as the S3 peak.

The Rock-Eval II Pyrolyser also analyses the TOC of each sample during the normal run of the instrument.

Thermal Extraction/Pyrolysis Gas Chromatography

The instrument used for this analysis is a Varian 3400 Gas Chromatograph interfaced to a pyrolysis oven (the pyrolyser). Up to 15 mg of whole rock sample is loaded on the pyrolyser and heated isothermally, at 300°C, for 4 min, during which time thermal extraction of the free hydrocarbons occurs (equivalent to the S1 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap.

After 4 min the pyrolysis oven is temperature programmed up to 530°C, at a rate of 37°C/min, causing bound hydrocarbons to be released from the kerogen (equivalent to the S2 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap.

The temperature program of the gas chromatograph oven, in which the columns are housed is -10°C to 290°C at a rate of 6°C/min.

Both the columns are linked to a FID.

Solvent Extraction of Organic Matter (EOM)

The samples are extracted using a Tecator Soxtec HT-System. Carefully weighed samples are taken in a pre-extracted thimble. Some activated copper is added to the extraction cup and dichloromethane is used as an extraction solvent. The samples are boiled for 1 hour and then rinsed for 2 hours. If the samples contain more than 10 % TOC, then the whole procedure is repeated once. The resulting solution is filtered and the solvent removed by rotary evaporation (200 mb, 30°C). The amount of EOM is gravimetrically established.

Removal of Asphaltenes

Asphaltenes are removed from the EOM by precipitation in n-pentane. N-pentane is added to the EOM and the solution is then stored in the dark and at ambient temperature for at least 8 hours. The solution is then filtered (Baker 10-spe system) and the precipitated asphaltenes dissolved in dichloromethane are returned to the original flask. The solvent is removed by rotary evaporation (200 mb and 30°C).

Chromatographic Separation of deasphalted EOM

Chromatographic separation is performed using an MPLC system developed by the company. The EOM (minus asphaltenes) is injected into the MPLC and separated using hexane as an eluent. The saturated and aromatic hydrocarbon fractions are collected and the solvent removed using a rotary evaporator at 30°C. The fractions are then transferred to small pre-weighed vials and evaporated to dryness in a stream of nitrogen. The vials are re-weighed to obtain the weights of both the saturated and the aromatic fractions. The weight of the NSO fraction which is retained on the column, is obtained by weight difference.

Gas Chromatographic Analyses

Saturated hydrocarbon fractions:

The instrument used for this analysis is a PERKIN ELMER 8320 Gas Chromatograph equipped with an FID detector and an OV1 column. The carrier gas is helium and the temperature program runs from 80°C to 300°C at a rate of 4°C/min. Final hold time is 20 mins. The saturated hydrocarbon fraction is diluted by 1:30 and a 1 microlitre aliquot of this is injected into the instrument.

Aromatic hydrocarbon fractions:

The instrument used is a Varian 3400 Gas Chromatograph with a 25 m SE 54 capillary column, split injector and a column splitter leading to FID and FPD detectors, which allows simultaneous analysis of co-eluting hydrocarbons and sulphur compounds. The carrier gas is helium and the temperature program runs from 40°C to 290°C at a rate of 4°C/min. Final hold time is 10 mins. The aromatic hydrocarbon fraction is diluted by 1:30 and a 1 microlitre aliquot of this is injected into the instrument.

Thermal Extraction - Gas Chromatography - Mass Spectrometry (GHM-MS)

The GHM-MS comprises a GHM injector installed onto a modified Varian Model 3400. The gas chromatograph is coupled via a heated (300 °C) transfer line directly to a Vestec model 201 quadrupole mass spectrometer in which a differentially-pumped vacuum system is employed. A capillary column of 0.32 mm i.d. is used, coated with a 0.5 μ film thickness of OV 1 methyl silicone stationary phase. The column is temperature-programmed from 30 °C up to 300 °C at 4 °C/minute with an initial isothermal time of 5 minutes to allow the thermal extraction (desorption) to take place and a final isothermal time of 10 minutes to allow complete elution of high molecular weight compounds. The capillary column is fed directly into the ion source of the mass spectrometer to within 5 mm of the ion beam. The ion source of the MS is a low volume, high sensitivity type operating at 70 eV ionisation energy and 200 μ A trap current and a temperature of 260 °C. The electron beam is collimated by two permanent magnets. The ions are detected by a Channeltron electron multiplier, the output of which is fed to a Technivent mass spectrometry data system employing a Compaq model 286 IBM-compatible computer.

Ions monitored were those which were useful in identifying terpanes, steranes and certain aromatic compounds.

Terpanes

The most commonly used fragment ions for detection of terpanes are M/Z 163 for detection of 25,28,30 trisnormoretane or 25,28,30 trisnorhopane, M/Z 177 for detection of demethylated hopanes or moretanes, M/Z 191 for detection of tricyclic, tetracyclic- and pentacyclic terpanes and M/Z 205 for methylated hopanes or moretanes. The molecular ions M/Z 370 and 384 are also recorded for identification of C₂₇ and C₂₈ triterpanes respectively.

Steranes

The most commonly used fragment ions for detection of steranes are M/Z 149 to distinguish between 5 α and 5 β steranes, M/Z 189 and 259 for detection of rearranged steranes, M/Z 217 for detection of rearranged and normal steranes and M/Z 218 for detection of 14 β (H) 17 β (H) steranes.

Alkyl-substituted Benzenes

The M/Z 106 fragment ion is often used to detect the alkyl-substituted benzenes. It is especially useful for the detection of di-substituted benzenes. M/Z 134 can also be used for the detection of C₄-alkylbenzenes, but benzothiophene will also give a signal with this fragment ion.

Naphthalenes

Methyl naphthalenes are normally detected by the M/Z 142 fragment ion, while C₂-naphthalenes are detected by M/Z 156 and C₃-naphthalenes by M/Z 170.

Benzothiophenes and Dibenzothiophenes

Benzothiophene can be detected, as mentioned above, by M/Z 134. The M/Z 198 and M/Z 212 fragment ions are used for methyl-substituted dibenzothiophenes and dimethyl-substituted dibenzothiophenes respectively.

Phenanthrenes

Phenanthrene is detected using the M/Z 178 fragment ion. Anthracene will, if present, also give a signal in the M/Z 178 fragment ion. Methyl-substituted phenanthrenes give signals in the M/Z 192 fragment ion, while the M/Z 206 fragment ion shows the dimethyl-substituted phenanthrenes and the M/Z 220 fragment ion shows the C₃ substituted phenanthrenes.

Aromatic Steranes

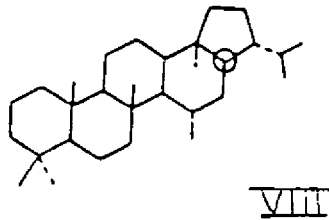
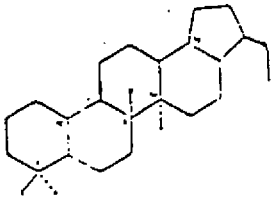
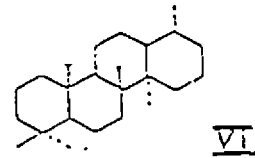
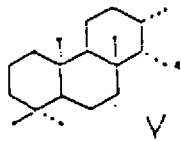
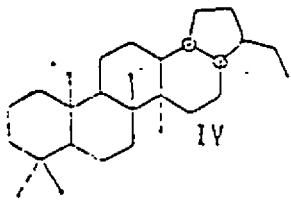
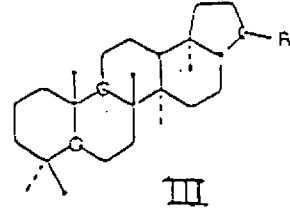
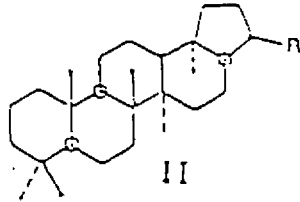
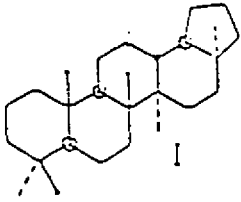
Monoaromatic steranes are detected using the M/Z 253 fragment ion, while the triaromatic steranes are detected using the M/Z 231 fragment ion.

Mass Fragmentograms representing Terpanes
(M/Z 163, 177, 191, 205, 370, 384, 398, 412 and 426)

Peak Identification: (α and β refer to hydrogen atoms at C-17 and C-21 respectively unless indicated otherwise)

A.	18 α trisnorneohopane (T _s)	C ₂₇ H ₄₆	(I)
B.	17 α trisnorhopane (T _m)	C ₂₇ H ₄₆	(II, R=H)
Z.	Bisnorhopane	C ₂₈ H ₄₈	(IV)
C.	$\alpha\beta$ norhopane	C ₂₉ H ₅₀	(II, R=C ₂ H ₅)
D.	$\beta\alpha$ norhopane	C ₂₉ H ₅₀	(III, R=C ₂ H ₅)
E.	$\alpha\beta$ hopane	C ₃₀ H ₅₂	(II, R=i-C ₃ H ₇)
F.	$\beta\alpha$ hopane	C ₃₀ H ₅₂	(III, R=i-C ₃ H ₇)
G.	22S $\alpha\beta$ homohopane	C ₃₁ H ₅₄	(II, R=i-C ₄ H ₉)
H.	22R $\alpha\beta$ homohopane	C ₃₁ H ₅₄	(II, R=i-C ₄ H ₉)
I.	$\beta\alpha$ homohopane	C ₃₁ H ₅₄	(III, R=i-C ₄ H ₉)
J.	22S $\alpha\beta$ bishomohopane	C ₃₂ H ₅₆	(II, R=i-C ₅ H ₁₁)
	22R $\alpha\beta$ bishomohopane	C ₃₂ H ₅₆	(II, R=i-C ₅ H ₁₁)
K.	22S $\alpha\beta$ trishomohopane	C ₃₃ H ₅₈	(II, R=i-C ₆ H ₁₃)
	22R $\alpha\beta$ trishomohopane	C ₃₃ H ₅₈	(II, R=i-C ₆ H ₁₃)
L.	22S $\alpha\beta$ tetrakishomohopane	C ₃₄ H ₆₀	(II, R=i-C ₇ H ₁₅)
	22R $\alpha\beta$ tetrakishomohopane	C ₃₄ H ₆₀	(II, R=i-C ₇ H ₁₅)
M.	22S $\alpha\beta$ pentakishomohopane	C ₃₅ H ₆₂	(II, R=i-C ₈ H ₁₇)
	22R $\alpha\beta$ pentakishomohopane	C ₃₅ H ₆₂	(II, R=i-C ₈ H ₁₇)
N.	Tricyclic terpene	C ₂₁ H ₃₈	(V, R=C ₂ H ₅)
O.	Tricyclic terpene	C ₂₂ H ₄₀	(V, R=C ₃ H ₇)
P.	Tricyclic terpene	C ₂₃ H ₄₂	(V, R=i-C ₄ H ₉)
Q.	Tricyclic terpene	C ₂₄ H ₄₄	(V, R=i-C ₅ H ₁₁)
R.	Tricyclic terpene (17R, 17S)	C ₂₅ H ₄₆	(V, R=i-C ₆ H ₁₃)
S.	Tetracyclic terpene	C ₂₄ H ₄₂	(VI)
T.	Tricyclic terpene (17R, 17S)	C ₂₆ H ₄₈	(V, R=i-C ₇ H ₁₅)
Y.	25,28,30-trisnorhopane/moretane	C ₂₇ H ₄₆	(VII)
X.	$\alpha\beta$ diahopane	C ₃₀ H ₅₂	(VIII)

STRUCTURES REPRESENTING TERPANES

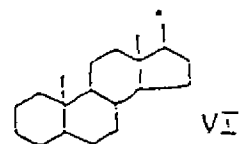
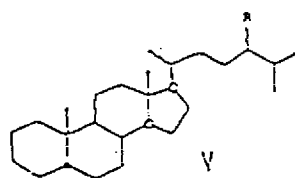
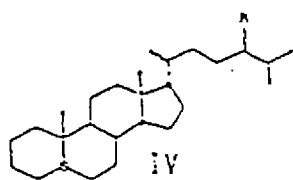
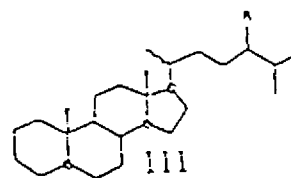
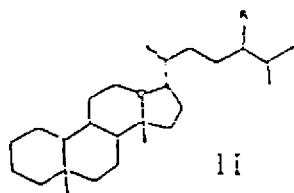
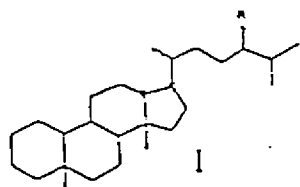


Mass Fragmentograms representing Steranes
(M/Z 149, 189, 217, 218, 259, 372, 386, 400 and 414)

Peak Identifications: α and β refer to hydrogen atoms at C-5, C-14 and C-17 in regular steranes and at C-13 and C-17 in diasteranes).

a.	20S $\beta\alpha$ diacholestane	$C_{27}H_{48}$	(I, R=H)
b.	20R $\beta\alpha$ diacholestane	$C_{27}H_{48}$	(I, R=H)
c.	20S $\alpha\beta$ diacholestane	$C_{27}H_{48}$	(II, R=H)
d.	20R $\alpha\beta$ diacholestane	$C_{27}H_{48}$	(II, R=H)
e.	20S $\beta\alpha$ 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH ₃)
f.	20R $\beta\alpha$ 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH ₃)
g.	20S $\alpha\beta$ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH ₃)
	+ 20S $\alpha\alpha\alpha$ cholestane	$C_{27}H_{48}$	(III, R=H)
h.	20S $\beta\alpha$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
	+ 20R $\alpha\beta\beta$ cholestane	$C_{27}H_{48}$	(IV, R=H)
i.	20S $\alpha\beta\beta$ cholestane	$C_{27}H_{48}$	(IV, R=H)
	+ 20R $\alpha\beta$ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH ₃)
j.	20R $\alpha\alpha\alpha$ cholestane	$C_{27}H_{48}$	(III, R=H)
k.	20R $\beta\alpha$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(I, R=C ₂ H ₅)
l.	20R $\alpha\beta$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
m.	20S $\alpha\alpha\alpha$ 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH ₃)
n.	20R $\alpha\beta\beta$ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH ₃)
	+ 20R $\alpha\beta$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
o.	20S $\alpha\beta\beta$ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH ₃)
p.	20R $\alpha\alpha\alpha$ 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH ₃)
q.	20S $\alpha\alpha\alpha$ 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C ₂ H ₅)
r.	20R $\alpha\beta\beta$ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C ₂ H ₅)
s.	20S $\alpha\beta\beta$ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C ₂ H ₅)
t.	20R $\alpha\alpha\alpha$ 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C ₂ H ₅)
u.	5 α sterane	$C_{21}H_{36}$	(VI, R=C ₂ H ₅)
v.	5 α sterane	$C_{22}H_{38}$	(VI, R=C ₃ H ₇)

STRUCTURES REPRESENTING STERANES

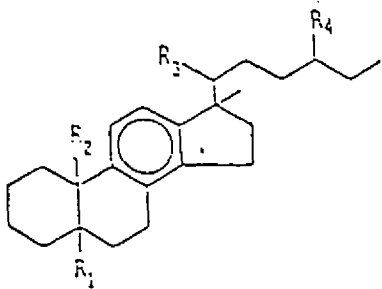
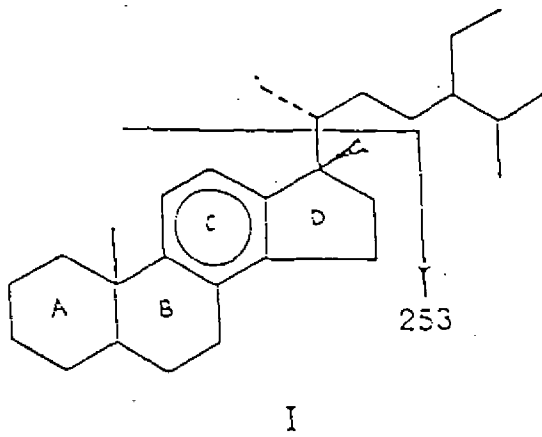


**Mass Fragmentograms representing Monoaromatic Steranes
(M/Z 253)**

Description of C-ring monoaromatic steroid hydrocarbons

Peak	R ₁	Substituents		R ₄	Abbreviation of Compound
		R ₂	R ₃		
A1					C ₂₁ M
B1					C ₂₂ MA
C1	β(H)	CH ₃	S(CH ₃)	H	βSC ₂₇ MA
	β(H)	CH ₃	R(CH ₃)	H	βRC ₂₇ MA
D1	CH ₃	H	R(CH ₃)	H	RC ₂₇ DMA
	α(H)	CH ₃	S(CH ₃)	H	αSC ₂₇ MA
E1	β(H)	CH ₃	S(CH ₃)	CH ₃	βSC ₂₈ MA
	CH ₃	H	S(CH ₃)	CH ₃	SC ₂₈ DMA
F1	α(H)	CH ₃	R(CH ₃)	H	αRC ₂₇ MA
	α(H)	CH ₃	S(CH ₃)	CH ₃	αSC ₂₈ MA
	β(H)	CH ₃	R(CH ₃)	CH ₃	βRC ₂₈ MA
G1	CH ₃	H	R(CH ₃)	CH ₃	RC ₂₈ DMA
	β(H)	CH ₃	S(CH ₃)	C ₂ H ₅	βSC ₂₉ MA
	CH ₃	H	S(CH ₃)	C ₂ H ₅	SC ₂₉ DMA
	α(H)	CH ₃	R(CH ₃)	CH ₃	αRC ₂₈ MA
H1	β(H)	CH ₃	R(CH ₃)	C ₂ H ₅	βRC ₂₉ MA
	CH ₃	H	R(CH ₃)	C ₂ H ₅	RC ₂₉ DMA
I1	α(H)	CH ₃	R(CH ₃)	C ₂ H ₅	αRC ₂₉ MA

STRUCTURES REPRESENTING MONOAROMATIC STERANES

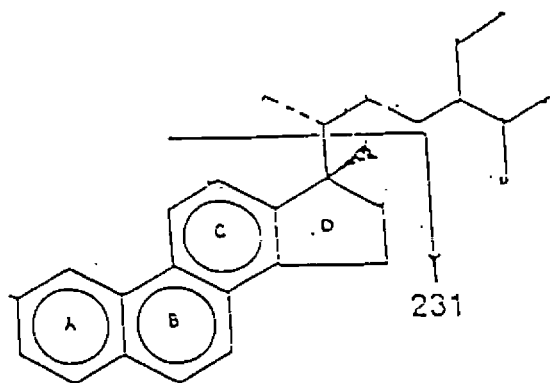


**Mass Fragmentograms representing Triaromatic Steranes
(M/Z 231)**

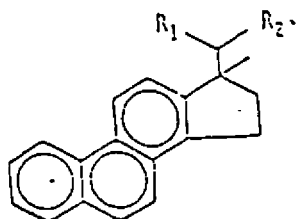
Description of ABC-ring triaromatic steroid hydrocarbons

Peak	Substituents		Abbreviation of Compound
	R ₁	R ₂	
a1	CH ₃	H	C ₂₀ TA
b1	CH ₃	CH ₃	C ₂₁ TA
c1	S(CH ₃)	C ₆ H ₁₋₃	SC ₂₆ TA
d1	R(CH ₃)	C ₆ H ₁₃	RC ₂₆ TA
	S(CH ₃)	C ₇ H ₁₅	SC ₂₇ TA
e1	S(CH ₃)	C ₈ H ₁₇	SC ₂₈ TA
f1	S(CH ₃)	C ₇ H ₁₅	RC ₂₇ TA
g1	R(CH ₃)	C ₈ H ₁₇	RC ₂₈ TA

STRUCTURES REPRESENTING TRIAROMATIC STERANES



II



NOTE

Depths used in figures and text are calculated TVD values. In the Tables and Appendices the measured depths are used.

APPENDIX 1:
TABLES

- 1-

Table 1 : Lithology description for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2851.10	ccp					0001	
	1.52	100 Ca	: lt or to or gy			0001-1L	
2852.00	ccp					0002	
	2.95	100 Ca	: lt or to or gy			0002-1L	
2852.90	ccp					0003	
	2.52	100 Ca	: lt or to or gy			0003-1L	
2853.80	ccp					0004	
	1.17	100 Ca	: lt or to or gy to ol gy			0004-1L	
2854.80	ccp					0005	
	1.49	100 Ca	: lt or to or gy			0005-1L	
2855.70	ccp					0006	
	1.81	100 Ca	: lt or to or gy to lt brn gy			0006-1L	
2861.50	ccp					0007	
	1.53	100 Ca	: lt or to or gy			0007-1L	

- 2-

Table 1 : Lithology description for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2862.70	ccp					0008
		0.69	100	Ca	: lt or to or gy	0008-1L
2874.50	ccp					0009
		0.70	100	Ca	: lt or to w	0009-1L
2875.50	ccp					0010
		1.39	100	Ca	: lt or to or gy	0010-1L
2876.40	ccp					0011
		1.03	100	Ca	: lt or to or gy	0011-1L
2877.30	ccp					0012
		1.40	100	Ca	: lt or to or gy	0012-1L
2878.20	ccp					0013
		0.46	100	Ca	: lt or to or gy	0013-1L
2879.10	ccp					0014
		1.17	100	Ca	: lt or to or gy	0014-1L
2880.10	ccp					0015
		1.71	100	Ca	: lt or to or gy	0015-1L

- 3-

Table 1 : Lithology description for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
2881.00	ccp					0016
	0.85	100	Ca		: lt or to or gy	0016-1L
2881.90	ccp					0017
	1.70	100	Ca		: lt or to or gy	0017-1L
2882.80	ccp					0018
	1.36	100	Ca		: lt or to or gy	0018-1L
2883.70	ccp					0019
	1.84	100	Ca		: lt or to or gy	0019-1L
2884.60	ccp					0020
	1.64	100	Ca		: lt or to or gy	0020-1L

Table 2 : Rock-Eval table for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2851.10	ccp Ca	: lt or to or gy	9.19	6.36	0.55	11.56	1.52	418	36	15.6	0.59	421	0001-1L
2852.00	ccp Ca	: lt or to or gy	14.52	13.13	0.64	20.52	2.95	445	22	27.7	0.53	416	0002-1L
2852.90	ccp Ca	: lt or to or gy	12.40	10.40	0.63	16.51	2.52	413	25	22.8	0.54	421	0003-1L
2853.80	ccp Ca	: lt or to or gy to ol gy	5.85	4.26	0.52	8.19	1.17	364	44	10.1	0.58	424	0004-1L
2854.80	ccp Ca	: lt or to or gy	5.51	5.07	0.67	7.57	1.49	340	45	10.6	0.52	423	0005-1L
2855.70	ccp Ca	: lt or to or gy to lt brn gy	9.39	6.87	0.52	13.21	1.81	380	29	16.3	0.58	423	0006-1L
2861.50	ccp Ca	: lt or to or gy	8.62	5.40	0.47	11.49	1.53	353	31	14.0	0.61	420	0007-1L
2862.70	ccp Ca	: lt or to or gy	4.80	2.25	0.36	6.25	0.69	326	52	7.1	0.68	424	0008-1L
2874.50	ccp Ca	: lt or to w	2.90	1.73	0.51	3.39	0.70	247	73	4.6	0.63	417	0009-1L
2875.50	ccp Ca	: lt or to or gy	7.58	4.56	0.55	8.29	1.39	328	40	12.1	0.62	420	0010-1L
2876.40	ccp Ca	: lt or to or gy	6.12	3.55	0.45	7.89	1.03	345	44	9.7	0.63	420	0011-1L
2877.30	ccp Ca	: lt or to or gy	7.71	4.58	0.50	9.16	1.40	327	36	12.3	0.63	417	0012-1L
2878.20	ccp Ca	: lt or to or gy	2.07	1.11	0.38	2.92	0.46	241	83	3.2	0.65	414	0013-1L
2879.10	ccp Ca	: lt or to or gy	7.49	4.47	0.39	11.46	1.17	382	33	12.0	0.63	423	0014-1L

Table 2 : Rock-Eval table for well NOCS 2/1-3X

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2880.10	ccp	Ca : lt or to or gy	7.61	5.87	0.58	10.12	1.71	343	34	13.5	0.56	421	0015-1L
2881.00	ccp	Ca : lt or to or gy	5.07	2.99	0.41	7.29	0.85	352	48	8.1	0.63	423	0016-1L
2881.90	ccp	Ca : lt or to or gy	9.41	6.94	0.47	14.77	1.70	408	28	16.4	0.58	423	0017-1L
2882.80	ccp	Ca : lt or to or gy	8.14	5.03	0.55	9.15	1.36	370	40	13.2	0.62	420	0018-1L
2883.70	ccp	Ca : lt or to or gy	9.83	7.31	0.48	15.23	1.84	397	26	17.1	0.57	423	0019-1L
2884.60	ccp	Ca : lt or to or gy	8.67	5.67	0.46	12.33	1.64	346	28	14.3	0.60	421	0020-1L

Table 3 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
2851.10	ccp	Ca : lt or to or gy	4.04	28.77	50.38	16.81	-	0001-1L
2852.00	ccp	Ca : lt or to or gy	2.64	30.65	48.56	18.15	-	0002-1L
2852.90	ccp	Ca : lt or to or gy	3.58	27.59	48.94	19.89	-	0003-1L
2853.80	ccp	Ca : lt or to or gy to ol gy	3.32	27.25	50.36	19.07	-	0004-1L
2854.80	ccp	Ca : lt or to or gy	3.98	28.42	48.02	19.58	-	0005-1L
2855.70	ccp	Ca : lt or to or gy to lt brn gy	4.23	25.82	50.80	19.16	-	0006-1L
2861.50	ccp	Ca : lt or to or gy	4.09	28.75	48.60	18.56	-	0007-1L
2862.70	ccp	Ca : lt or to or gy	4.24	29.71	48.50	17.54	-	0008-1L
2874.50	ccp	Ca : lt or to w	3.22	27.08	52.54	17.16	-	0009-1L
2875.50	ccp	Ca : lt or to or gy	3.59	30.21	48.52	17.68	-	0010-1L
2876.40	ccp	Ca : lt or to or gy	3.58	27.98	50.04	18.29	-	0011-1L
2877.30	ccp	Ca : lt or to or gy	3.73	29.50	49.56	17.10	-	0012-1L
2878.20	ccp	Ca : lt or to or gy	3.23	28.05	51.84	16.89	-	0013-1L
2879.10	ccp	Ca : lt or to or gy	3.78	28.51	51.07	16.65	-	0014-1L

Table 3 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
2880.10	ccp	Ca : lt or to or gy	4.55	26.88	50.28	18.29	-	0015-1L
2881.00	ccp	Ca : lt or to or gy	4.06	26.61	50.84	18.49	-	0016-1L
2881.90	ccp	Ca : lt or to or gy	4.63	27.99	48.60	18.78	-	0017-1L
2882.80	ccp	Ca : lt or to or gy	3.88	27.68	51.10	17.34	-	0018-1L
2883.70	ccp	Ca : lt or to or gy	4.62	29.65	48.32	17.41	-	0019-1L
2884.60	ccp	Ca : lt or to or gy	4.03	29.98	47.32	18.68	-	0020-1L

Table 4 a: Weight of EOM and Chromatographic Fraction for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC(e) (%)	Sample
2851.10	ccp Ca	: lt or to or gy	3.0	51.4	28.4	11.0	2.3	9.7	39.4	12.0	1.57	0001-1L
2855.70	ccp Ca	: lt or to or gy to lt brn gy	3.0	58.1	34.1	11.3	2.3	10.4	45.4	12.7	1.62	0006-1L
2862.70	ccp Ca	: lt or to or gy	3.0	24.0	13.4	4.1	1.2	5.3	17.5	6.5	1.79	0008-1L
2875.50	ccp Ca	: lt or to or gy	3.0	50.7	28.7	9.8	2.0	10.2	38.5	12.2	0.66	0010-1L
2880.10	ccp Ca	: lt or to or gy	3.0	47.6	27.8	9.6	1.3	8.9	37.4	10.2	1.38	0015-1L
2884.60	ccp Ca	: lt or to or gy	3.0	63.4	36.5	11.7	2.3	12.9	48.2	15.2	1.39	0020-1L

Table 4 b: Concentration of EOM and Chromatographic Fraction (wt ppm rock) for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2851.10	ccp	Ca : lt or to or gy	17133	9466	3666	766	3233	13133	4000	0001-1L
2855.70	ccp	Ca : lt or to or gy to lt brn gy	19366	11366	3766	766	3466	15133	4233	0006-1L
2862.70	ccp	Ca : lt or to or gy	8000	4466	1366	400	1766	5833	2166	0008-1L
2875.50	ccp	Ca : lt or to or gy	16900	9566	3266	666	3400	12833	4066	0010-1L
2880.10	ccp	Ca : lt or to or gy	15866	9266	3200	433	2966	12466	3399	0015-1L
2884.60	ccp	Ca : lt or to or gy	21133	12166	3899	766	4300	16066	5066	0020-1L

Table 4 c: Concentration of EOM and Chromatographic Fraction (mg/g TOC(e)) for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2851.10	ccp	Ca : lt or to or gy	1091.30	602.97	233.55	48.83	205.94	836.52	254.78	0001-1L
2855.70	ccp	Ca : lt or to or gy to lt brn gy	1195.47	701.65	232.51	47.33	213.99	934.16	261.32	0006-1L
2862.70	ccp	Ca : lt or to or gy	446.93	249.53	76.35	22.35	98.70	325.88	121.04	0008-1L
2875.50	ccp	Ca : lt or to or gy	2560.61	1449.49	494.95	101.01	515.15	1944.44	616.16	0010-1L
2880.10	ccp	Ca : lt or to or gy	1149.76	671.50	231.88	31.40	214.98	903.38	246.38	0015-1L
2884.60	ccp	Ca : lt or to or gy	1520.38	875.30	280.58	55.16	309.35	1155.88	364.51	0020-1L

Table 4 d: Composition of material extracted from the rock (%) for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	HC	Non-HC	Sat	HC	Sample
			EOM	EOM	EOM	EOM	EOM	EOM	Aro	Non-HC	
2851.10	ccp	Ca : lt or to or gy	55.25	21.40	4.47	18.87	76.65	23.35	258.18	328.33	0001-1L
2855.70	ccp	Ca : lt or to or gy to lt brn 9Y	58.69	19.45	3.96	17.90	78.14	21.86	301.77	357.48	0006-1L
2862.70	ccp	Ca : lt or to or gy	55.83	17.08	5.00	22.08	72.92	27.08	326.83	269.23	0008-1L
2875.50	ccp	Ca : lt or to or gy	56.61	19.33	3.94	20.12	75.94	24.06	292.86	315.57	0010-1L
2880.10	ccp	Ca : lt or to or gy	58.40	20.17	2.73	18.70	78.57	21.43	289.58	366.67	0015-1L
2884.60	ccp	Ca : lt or to or gy	57.57	18.45	3.63	20.35	76.03	23.97	311.97	317.11	0020-1L

Table 5a: Saturated Hydrocarbon Ratios for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	Pristane	Pristane	Pristane + Phytane	Phytane	CPI	Sample
			nC17	Phytane	nC17 + nC18	nC18		
2851.10	ccp Ca	: lt or to or gy	0.56	1.05	0.51	0.46	1.00	0001-1L
2855.70	ccp Ca	: lt or to or gy to lt brn gy	0.53	1.05	0.50	0.47	0.99	0006-1L
2862.70	ccp Ca	: lt or to or gy	0.83	1.45	0.68	0.54	1.02	0008-1L
2875.50	ccp Ca	: lt or to or gy	0.62	1.12	0.56	0.50	1.02	0010-1L
2880.10	ccp Ca	: lt or to or gy	0.58	1.04	0.52	0.47	1.02	0015-1L
2884.60	ccp Ca	: lt or to or gy	0.59	0.84	0.52	0.48	1.02	0020-1L

Table 5B: Saturated Hydrocarbon yield (ppm) for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	nC16-nC34	Norpristane	Pristane	Phytane	Sample
2851.10	ccp Ca	: lt or to or gy	2427	48	76	82	0001-1L
2855.70	ccp Ca	: lt or to or gy to lt brn gy	1888	82	116	113	0006-1L
2862.70	ccp Ca	: lt or to or gy	526	15	28	23	0008-1L
2875.50	ccp Ca	: lt or to or gy	1476	53	79	82	0010-1L
2880.10	ccp Ca	: lt or to or gy	1227	42	66	69	0015-1L
2884.60	ccp Ca	: lt or to or gy	1872	33	61	78	0020-1L

Table 6a: Aromatic Hydrocarbon Ratios for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT	(3+2) /1MDBT	Sample
2851.10	ccp	Ca : lt or to or gy	-	-	-	1.02	0.83	0.92	0.90	-	2.25	-	0001-1L
2855.70	ccp	Ca : lt or to or gy to lt brn 9Y	0.73	-	-	0.91	0.76	0.83	0.86	-	-	-	0006-1L
2862.70	ccp	Ca : lt or to or gy	1.12	1.38	-	1.49	0.95	1.25	0.97	-	-	-	0008-1L
2875.50	ccp	Ca : lt or to or gy	0.83	1.44	-	0.93	0.79	0.87	0.87	-	-	-	0010-1L
2880.10	ccp	Ca : lt or to or gy	1.70	-	-	0.94	0.78	0.85	0.87	-	-	-	0015-1L
2884.60	ccp	Ca : lt or to or gy	-	-	-	0.98	0.79	0.92	0.87	-	-	-	0020-1L

Table 6B: Aromatic Hydrocarbon yield (ppm) for well NOCS 2/7-3X

Depth unit of measure: m

Depth	Typ	Lithology	MP	Sample
2851.10	ccp Ca	: lt or to or gy	21.1	0001-1L
2855.70	ccp Ca	: lt or to or gy to lt brn gy	16.4	0006-1L
2862.70	ccp Ca	: lt or to or gy	4.3	0008-1L
2875.50	ccp Ca	: lt or to or gy	10.7	0010-1L
2880.10	ccp Ca	: lt or to or gy	18.3	0015-1L
2884.60	ccp Ca	: lt or to or gy	10.2	0020-1L

Table 7A: Variation in Triterpane Distribution (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	B/A	B/B+A	B		C/E	C/C+E	X/E	Z/E	Z/C	Z/Z+E	Q/E	C+D		J1		Sample
				B+E+F									E/E+F	C+D+E+F	D+F/C+E	J1+J2%	
2851.10	Ca	0.56	0.36	0.09		0.45	0.31	0.08	0.04	0.09	0.04	0.04	0.90	0.31	0.12	58.54	0001-1
2855.70	Ca	0.66	0.40	0.10		0.47	0.32	0.07	0.03	0.07	0.03	0.04	0.89	0.32	0.12	57.38	0006-1
2862.70	Ca	0.60	0.38	0.10		0.47	0.32	0.07	0.04	0.08	0.04	0.04	0.90	0.32	0.11	57.41	0008-1
2875.50	Ca	0.60	0.38	0.10		0.48	0.32	0.08	0.04	0.08	0.04	0.04	0.90	0.32	0.11	57.89	0010-1
2880.10	Ca	0.62	0.38	0.09		0.44	0.31	0.07	0.04	0.09	0.04	0.04	0.90	0.31	0.12	58.18	0015-1
2884.60	Ca	0.58	0.37	0.09		0.47	0.32	0.08	0.04	0.09	0.04	0.05	0.89	0.32	0.13	57.98	0020-1

Table 7B: Variation in Sterane Distribution (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Ratio10	Sample
2851.10	Ca	0.47	43.64	73.30	0.73	0.76	0.28	0.20	0.58	0.77	2.44	0001-1
2855.70	Ca	0.49	44.44	73.88	0.73	0.76	0.25	0.17	0.59	0.80	2.55	0006-1
2862.70	Ca	0.47	44.14	73.12	0.75	0.75	0.29	0.21	0.58	0.79	2.44	0008-1
2875.50	Ca	0.47	43.48	73.83	0.72	0.76	0.29	0.20	0.59	0.77	2.50	0010-1
2880.10	Ca	0.46	43.27	73.47	0.66	0.76	0.27	0.19	0.58	0.76	2.44	0015-1
2884.60	Ca	0.45	44.14	72.86	0.68	0.75	0.28	0.19	0.57	0.79	2.40	0020-1

Ratio1: $a / a + j$

Ratio2: $g / g + t * 100\%$

Ratio3: $2(r + s) / (g + t + 2(r + s)) * 100\%$

Ratio4: $a + b + c + d / h + k + l + n$

Ratio5: $r + s / r + s + q$

Ratio6: $u + v / u + v + g + r + s + t$

Ratio7: $u + v / u + v + i + m + n + q + r + s + t$

Ratio8: $r + s / q + r + s + t$

Ratio9: q / t

Ratio10: $r + s / t$

Table 7C: Raw GCMS triterpane data (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	p	q	r	s	t	a	b	z	c	Sample
		x	d	e	f	g	h	i	jl		
		j2	k1	k2	l1	l2	m1	m2			
2851.10	Ca	412340.00	173183.00	144319.00	255651.00	103085.00	814372.00	453574.00	164936.00	1896764.00	0001-1
		329872.00	247404.00	4247102.00	494808.00	2061700.00	1505041.00	268021.00	1484424.00		
		1051467.00	1237020.00	907148.00	700978.00	494808.00	371106.00	268021.00			
2855.70	Ca	167608.00	94280.00	62853.00	125706.00	0.00	398069.00	261888.00	73329.00	1005648.00	0006-1
		157133.00	104755.00	2147478.00	261888.00	1047550.00	743761.00	125706.00	733285.00		
		544726.00	628530.00	460922.00	335216.00	230461.00	178084.00	125706.00			
2862.70	Ca	276976.00	155799.00	103866.00	225043.00	95211.00	692440.00	415464.00	138488.00	1644545.00	0008-1
		259665.00	173110.00	3531444.00	380842.00	1575301.00	1090593.00	207732.00	1073282.00		
		796306.00	900172.00	657818.00	502019.00	346220.00	259665.00	207732.00			
2875.50	Ca	309087.00	154544.00	103029.00	240401.00	103029.00	686860.00	412116.00	128786.00	1682807.00	0010-1
		274744.00	171715.00	3537329.00	377773.00	1648464.00	1133319.00	206058.00	1133319.00		
		824232.00	944433.00	686860.00	515145.00	360602.00	274744.00	188887.00			
2880.10	Ca	175967.00	86948.00	62106.00	124212.00	62106.00	382987.00	238073.00	82808.00	952292.00	0015-1
		144914.00	113861.00	2153008.00	248424.00	993696.00	683166.00	124212.00	662464.00		
		476146.00	569305.00	414040.00	310530.00	207020.00	160441.00	124212.00			

Table 7C: Raw GCMS triterpane data (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	p	q	r	s	t	a	b	z	c	Sample
		x	d	e	f	g	h	i	jl		
		j2	k1	k2	l1	l2	m1	m2			
2884.60	Ca	444349.00	193195.00	115917.00	289793.00	106257.00	734141.00	425029.00	173876.00	1854672.00	0020-1
		309112.00	251154.00	3979817.00	482988.00	1931950.00	1352365.00	270473.00	1333046.00		
		965975.00	1062573.00	811419.00	637544.00	463668.00	347751.00	231834.00			

Table 7D: Raw GCMS sterane data (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
2851.10	Ca	528540.00	378787.00	607821.00	378787.00	140944.00	176180.00	281888.00	140944.00	519731.00	0001-1
		836855.00	731147.00	695911.00	361169.00	123326.00	211416.00	475686.00	528540.00		
		378787.00	422832.00	784001.00	546158.00	546158.00					
2855.70	Ca	222120.00	167824.00	306032.00	187568.00	78976.00	98720.00	145612.00	69104.00	236928.00	0006-1
		454112.00	365264.00	320840.00	172760.00	69104.00	113528.00	227056.00	271480.00		
		182632.00	217184.00	394880.00	296160.00	271480.00					
2862.70	Ca	427770.00	305550.00	482090.00	278390.00	118825.00	142590.00	217280.00	115430.00	380240.00	0008-1
		638260.00	522830.00	543200.00	258020.00	101850.00	169750.00	366660.00	420980.00		
		278390.00	332710.00	590730.00	434560.00	420980.00					
2875.50	Ca	462180.00	331229.00	516101.00	308120.00	138654.00	154060.00	246496.00	119397.00	400556.00	0010-1
		754894.00	608537.00	577725.00	292714.00	107842.00	181021.00	400556.00	462180.00		
		308120.00	346635.00	639349.00	485289.00	450626.00					
2880.10	Ca	249696.00	184960.00	282064.00	166464.00	69360.00	92480.00	138720.00	64736.00	245072.00	0015-1
		453152.00	337552.00	337552.00	171088.00	64736.00	106352.00	231200.00	258944.00		
		184960.00	208080.00	393040.00	272816.00	272816.00					

Table 7D: Raw GCMS sterane data (peak height) SIR for Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
2884.60	Ca	518905.00	351800.00	562880.00	351800.00	114335.00	175900.00	281440.00	140720.00	510110.00	0020-1
		826730.00	703600.00	699203.00	351800.00	123130.00	211080.00	466135.00	527700.00		
		378185.00	430955.00	791550.00	518905.00	545290.00					

Table 7E: Amount of triterpanes (ppb) in Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	p		q		r		s		t		a		b		z		c	Sample
		x		d		e		f		g		h		i		j1			
		j2		k1		k2		l1		l2		m1		m2					
2851.10	Ca	730		307		256		453		183		1442		803		292		3360	0001-1
		1862	584	2191	438	1607	7522	1242	876	876	3652	2666	475	475	2629				
2855.70	Ca	558		314		209		419		0		1326		873		244		3351	0006-1
		1815	524	2094	349	1536	7156	1117	873	768	3491	2478	419	419	2443				
2862.70	Ca	236		133		89		192		81		591		354		118		1403	0008-1
		679	222	768	148	561	3013	428	325	295	1344	930	177	177	916				
2875.50	Ca	561		281		187		437		187		1247		748		234		3056	0010-1
		1497	499	1715	312	1247	6424	936	686	655	2994	2058	343	374	2058				
2880.10	Ca	510		252		180		360		180		1110		690		240		2760	0015-1
		1380	420	1650	330	1200	6239	900	720	600	2879	1980	360	360	1920				

Table 7E: Amount of triterpanes (ppb) in Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	p	q	r	s	t	a	b	z	c	Sample
		x	d	e	f	g	h	i	j1		
		j2	k1	k2	l1	l2	m1	m2			
2884.60	Ca	743	323	194	485	178	1228	711	291	3103	0020-1
		517	420	6658	808	3232	2263	453	2230		
		1616	1778	1358	1067	776	582	388			

Table 7F: Amount of steranes (ppb) in Well NOCS 2/7-3X

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
2851.10	Ca	936	671	1077	671	250	312	499	250	921	0001-1
		1482	1295	1233	640	218	374	843	936		
		671	749	1389	967	967					
2855.70	Ca	740	559	1020	625	263	329	485	230	789	0006-1
		1513	1217	1069	576	230	378	757	905		
		609	724	1316	987	905					
2862.70	Ca	365	261	411	237	101	122	185	98	324	0008-1
		544	446	463	220	87	145	313	359		
		237	284	504	371	359					
2875.50	Ca	839	602	937	560	252	280	448	217	727	0010-1
		1371	1105	1049	532	196	329	727	839		
		560	630	1161	881	818					
2880.10	Ca	724	536	817	482	201	268	402	188	710	0015-1
		1313	978	978	496	188	308	670	750		
		536	603	1139	791	791					

Table 7F: Amount of steranes (ppb) in Well NOCS 2/7-3X

Depth unit of measure: m

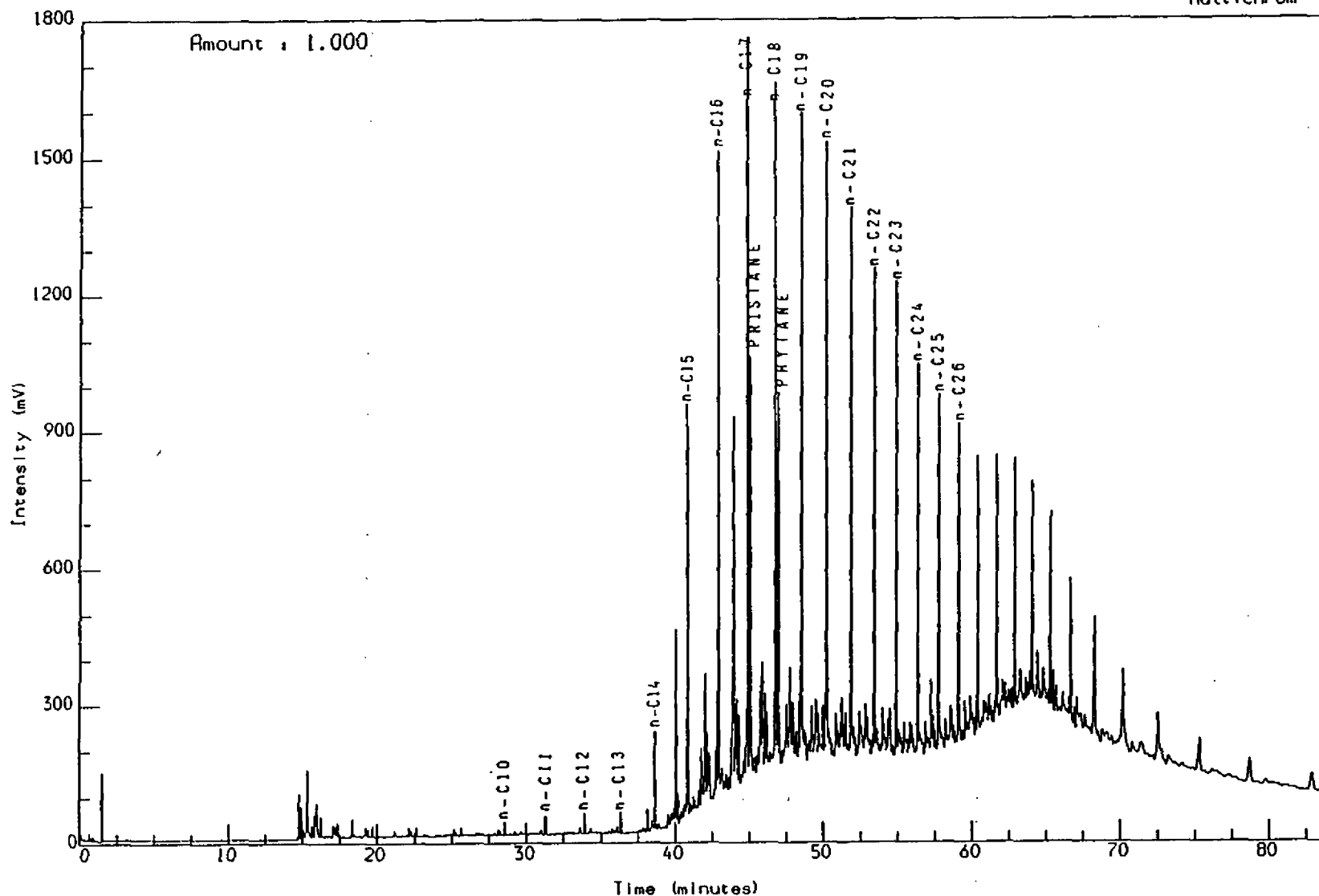
Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h		i	j	k	l	m	n	o	
		p	q	r	s	t					
2884.60	Ca	868	589	942	589	191	294	471	235	853	0020-1
		1383	1177	1170	589	206	353	780	883		
		633	721	1324	868	912					

APPENDIX 2:

**GHM THERMAL EXTRACT AND
PYROLYSIS-GAS CHROMATOGRAMS**

Analysis Name : [P2304PHIL] 23 PE6400011,1,1.

Multichrom



WELL NOCS 2/7-3X 2851.10m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 20-DEC-1990 at 08:59

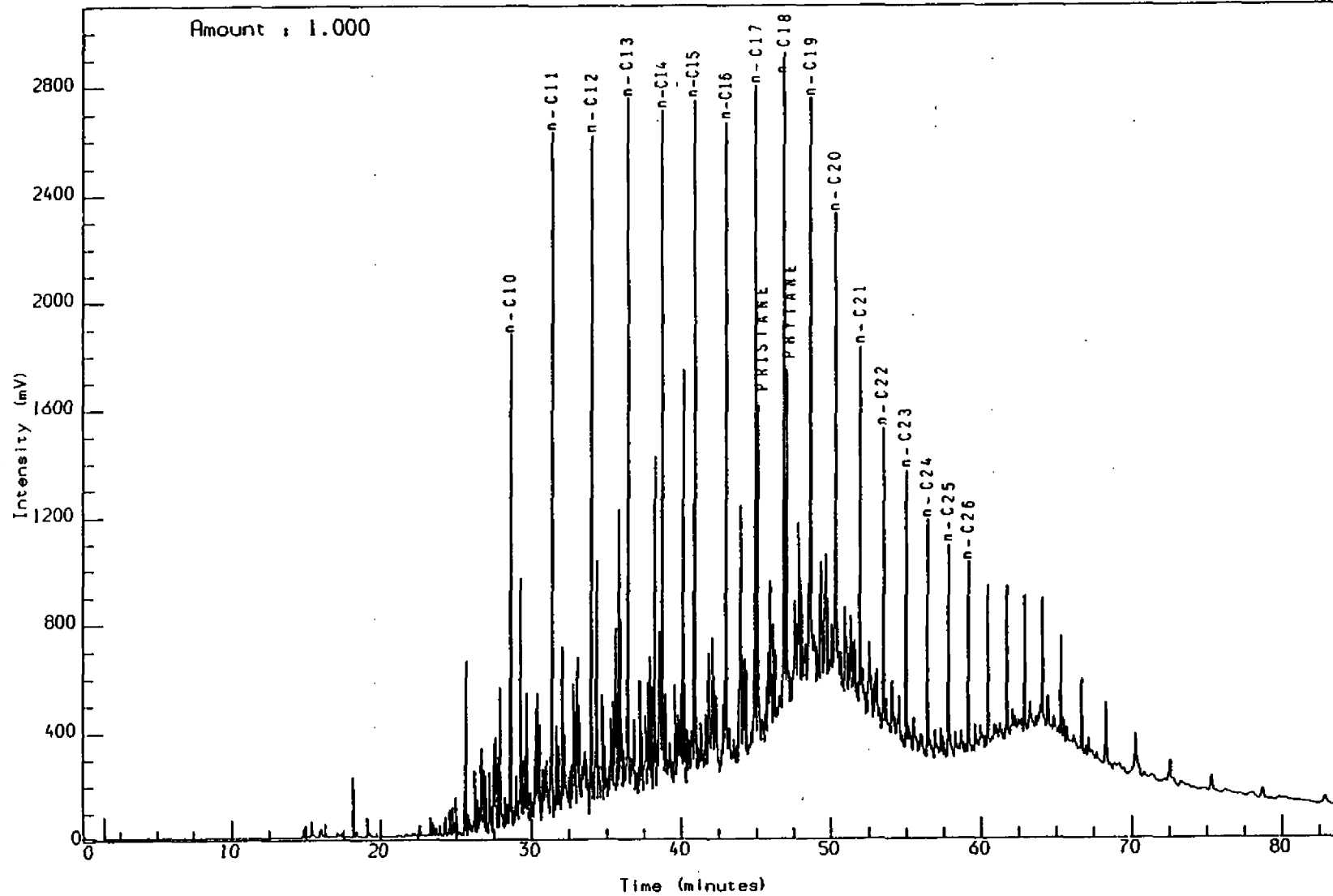
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400021.1.1.

Multichrom



WELL NOCS 2/7-3X 2852.00m ccp
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Ca: lt or to or gy

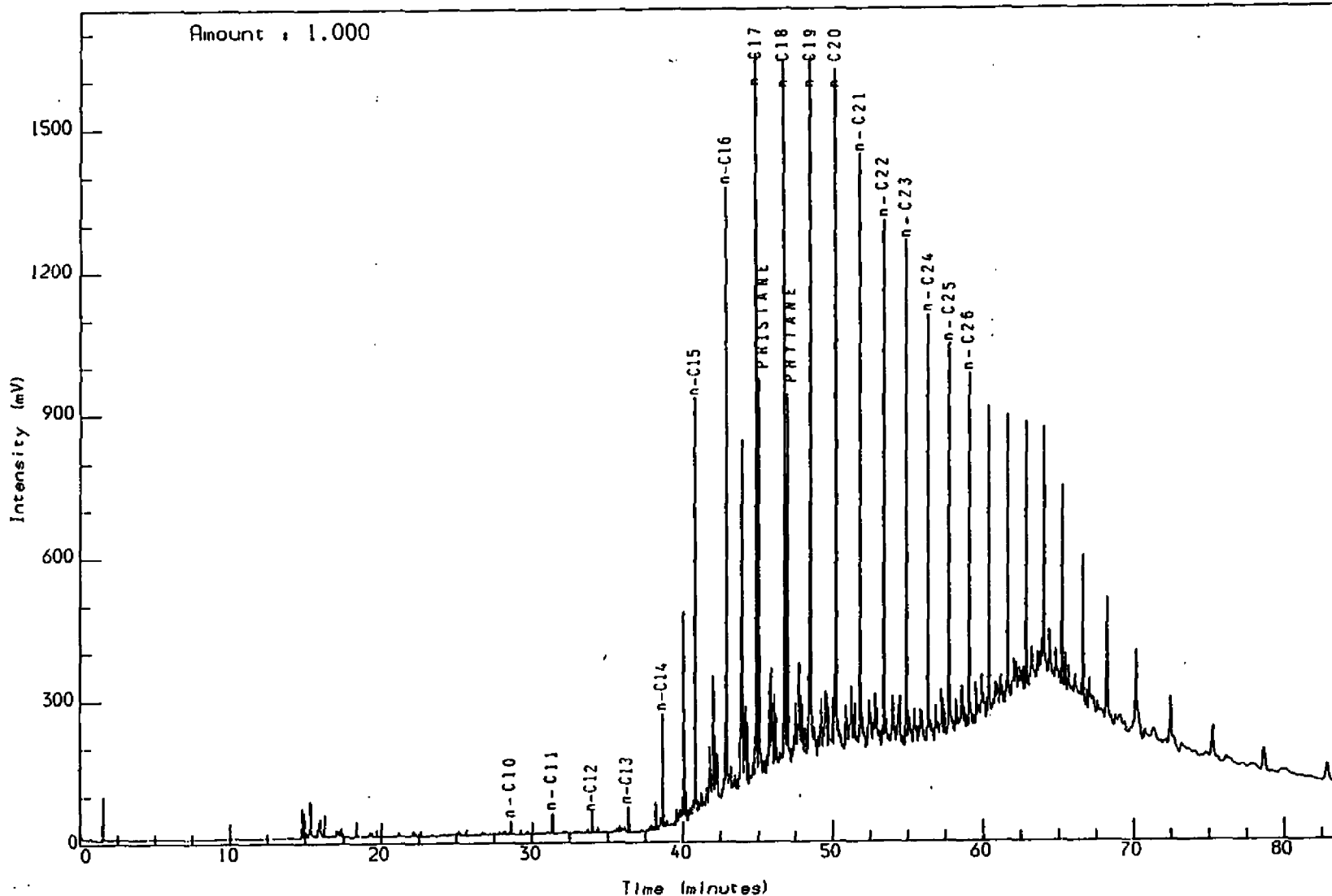
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Schlumberger GECO-PRAKLA

GEOLAB/NOR

Analysis Name : [P2304PHIL] 23 PE6400031.1.1.

Multichrom



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THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 20-DEC-1990 at 10.20

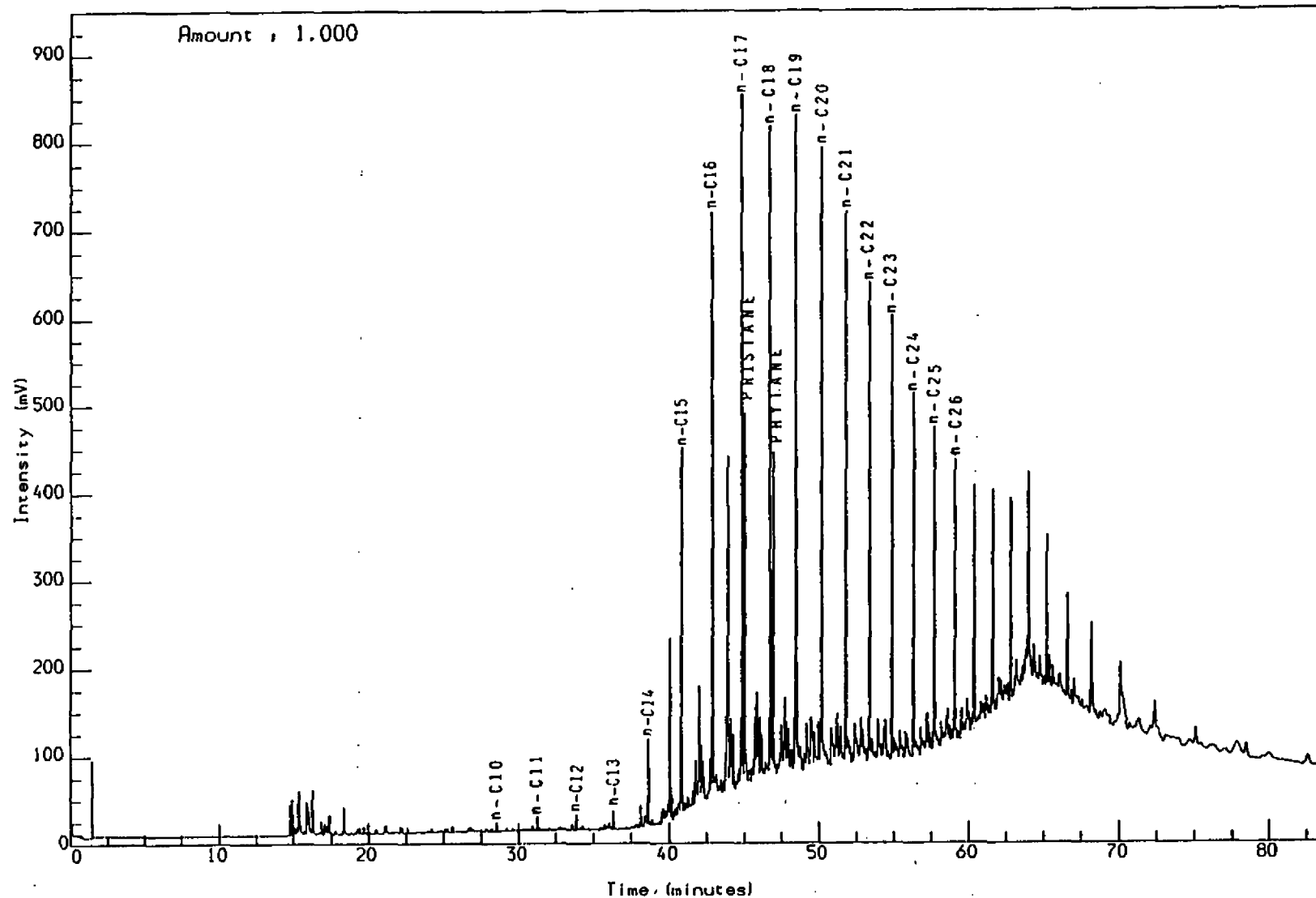
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400041.1.1.

Multichrom



WELL NOCS 2/7-3X 2853.80m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy to ol gy

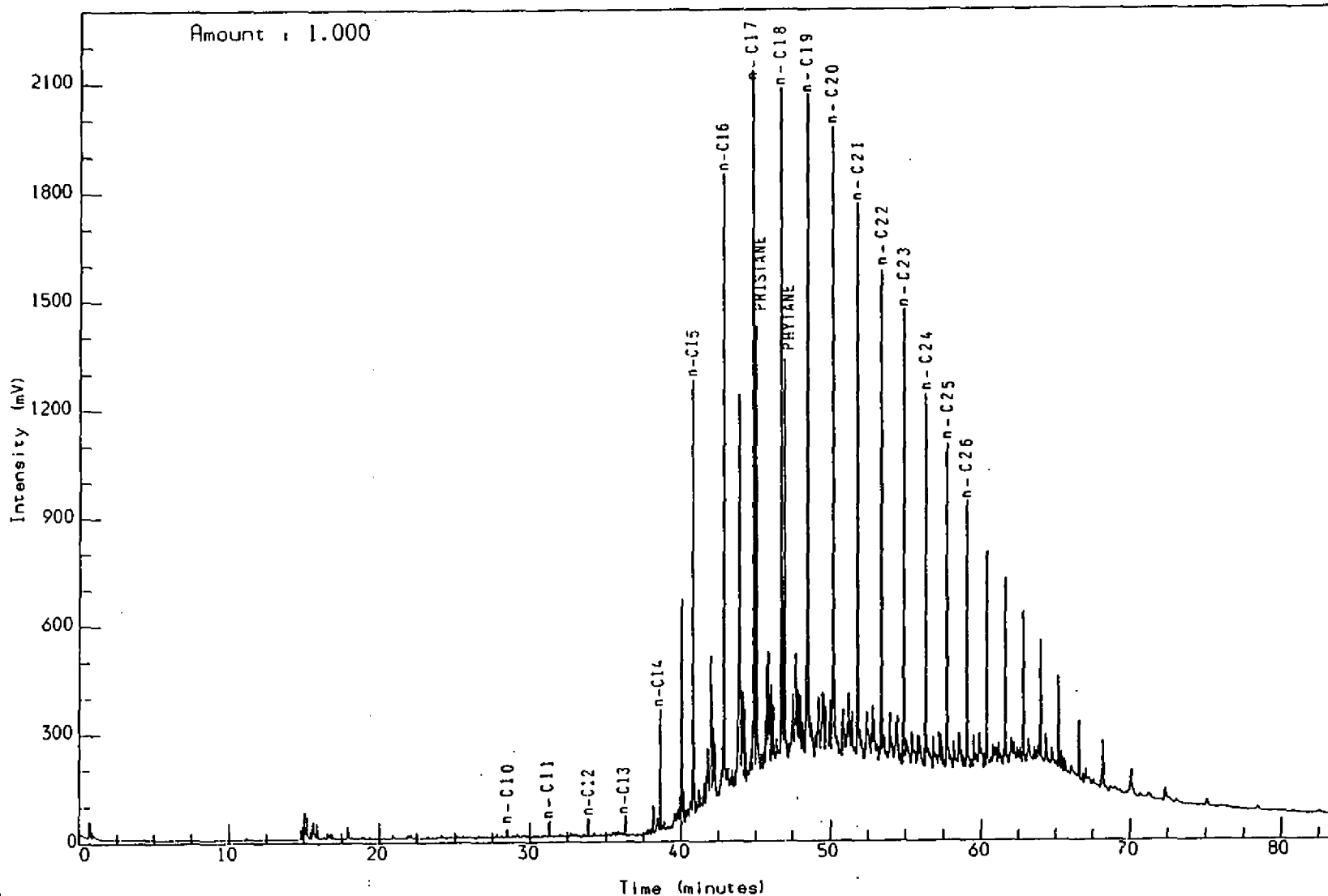
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Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400051,1,1.

Multichrom



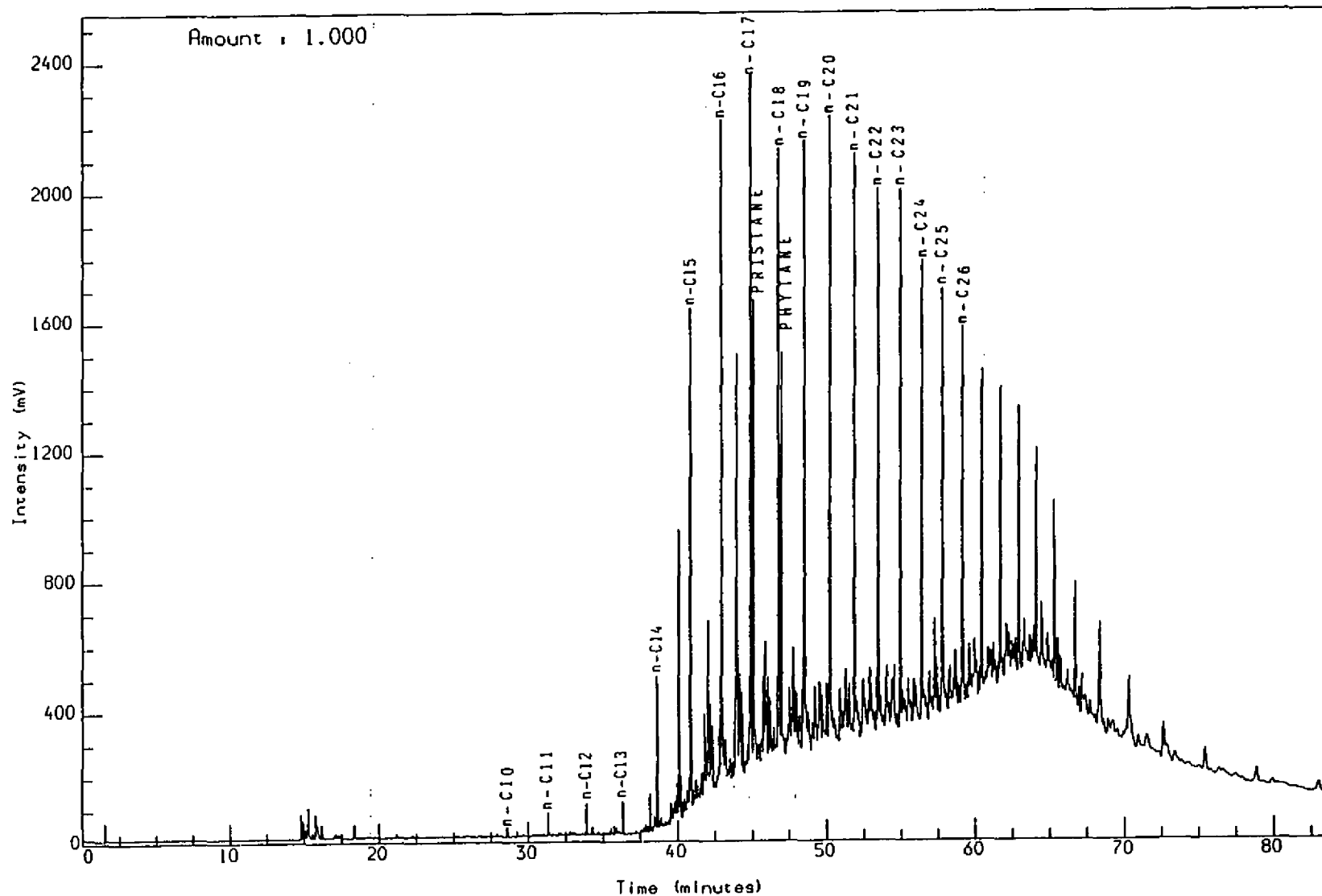
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THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 20-DEC-1990 at 15:32

Schlumberger

GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X 2855.70m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy to lt brn gy

Reported on 20-DEC-1990 at 15:33

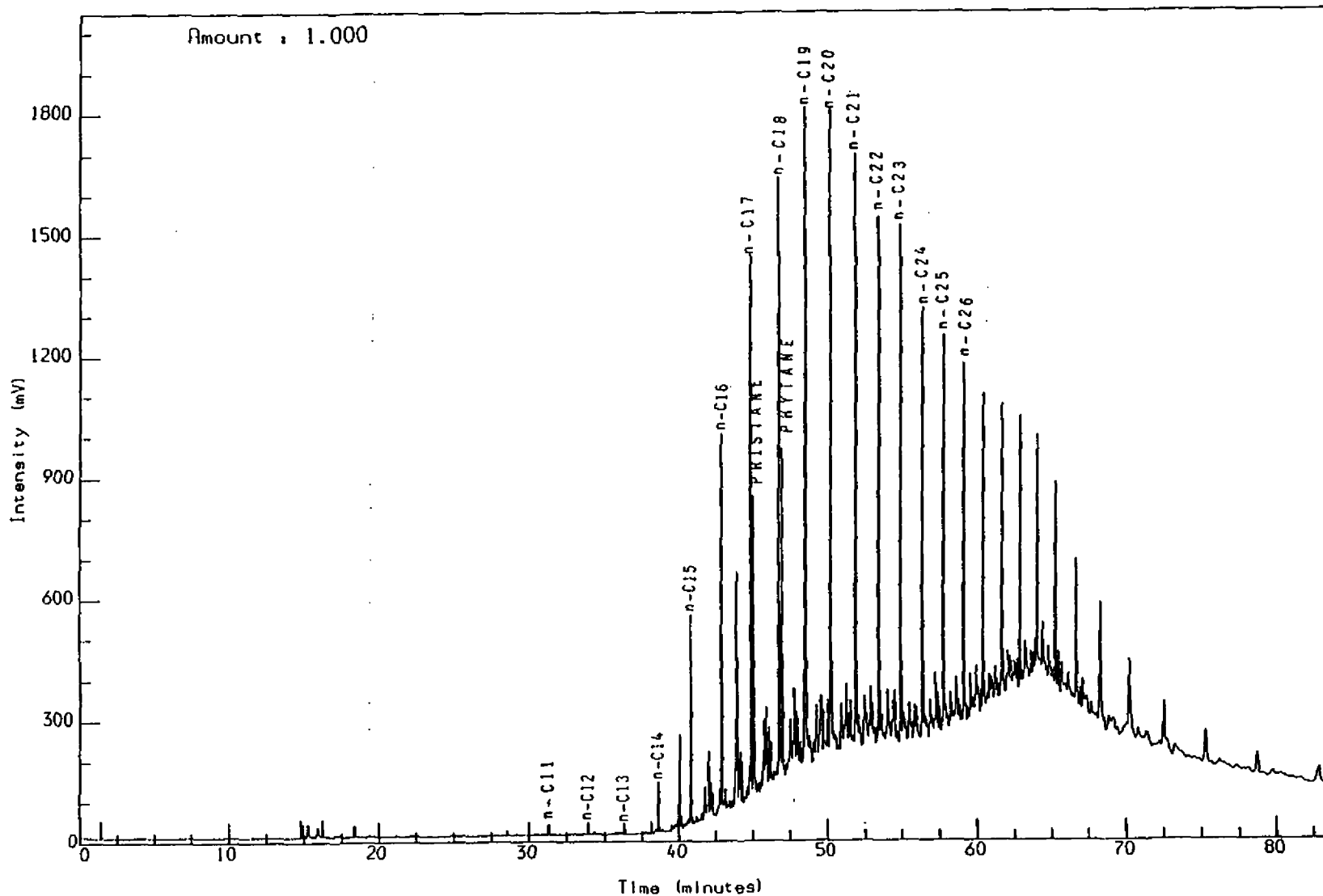
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400071.1.1.

Multichrom



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THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 20-DEC-1990 at 15:33

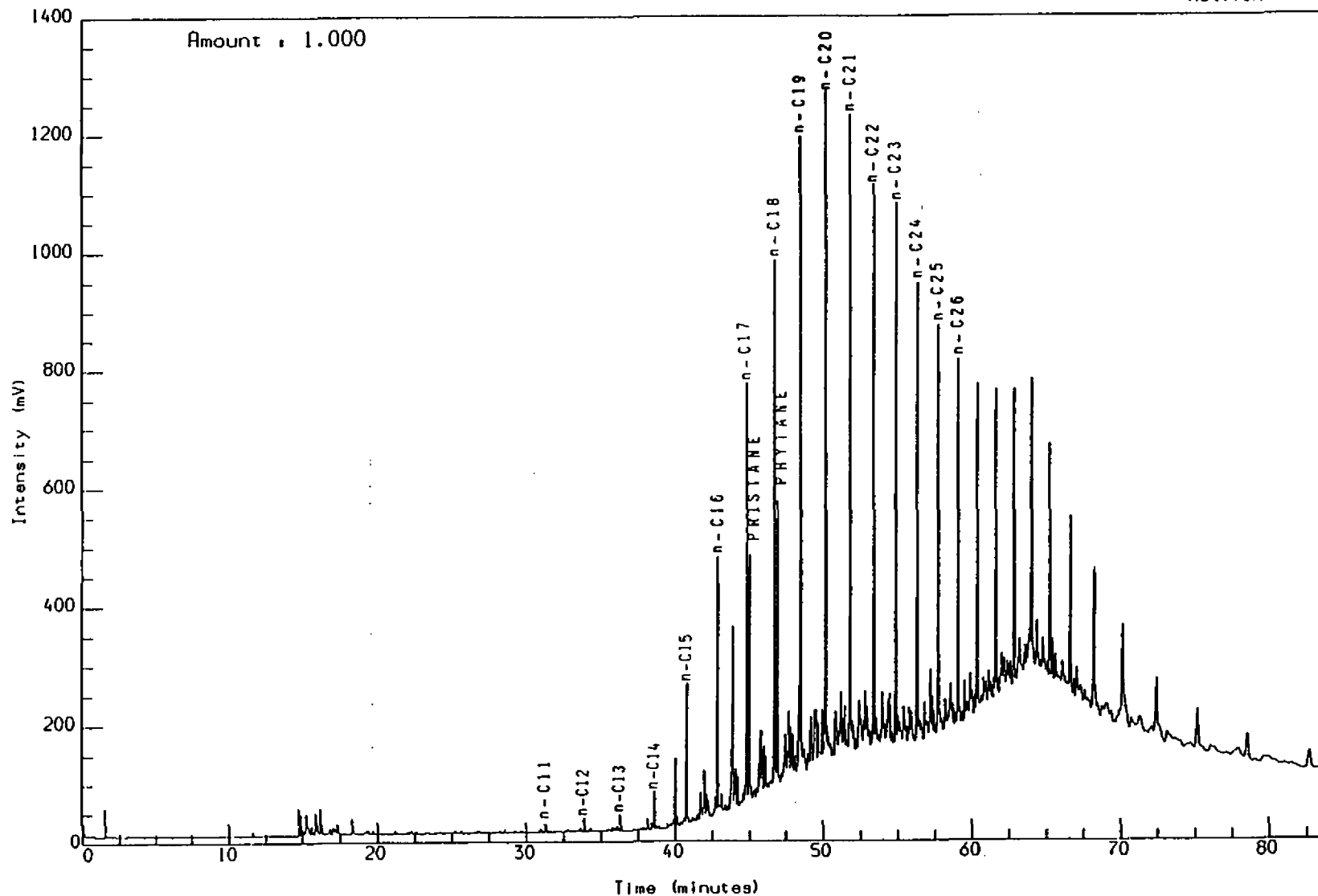
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400081.1.1.

Multichrom



WELL NOCS 2/7-3X 2862.70m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

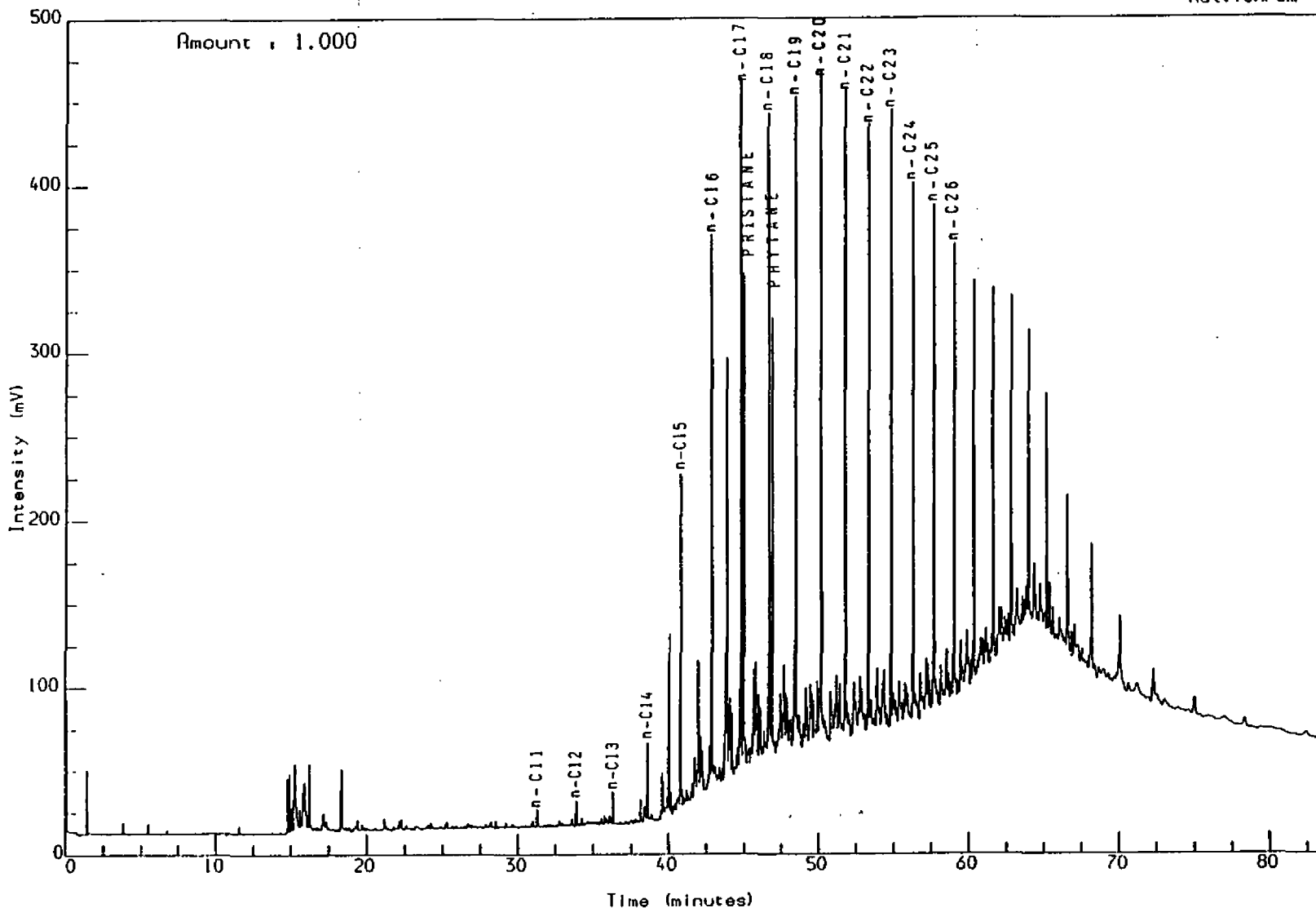
Reported on 4-JAN-1991 at 08.51

Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400091.1.1.

Multichrom



WELL NOCS 2/7-3X 2874.50m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to w

Reported on 4-JAN-1991 at 08:52

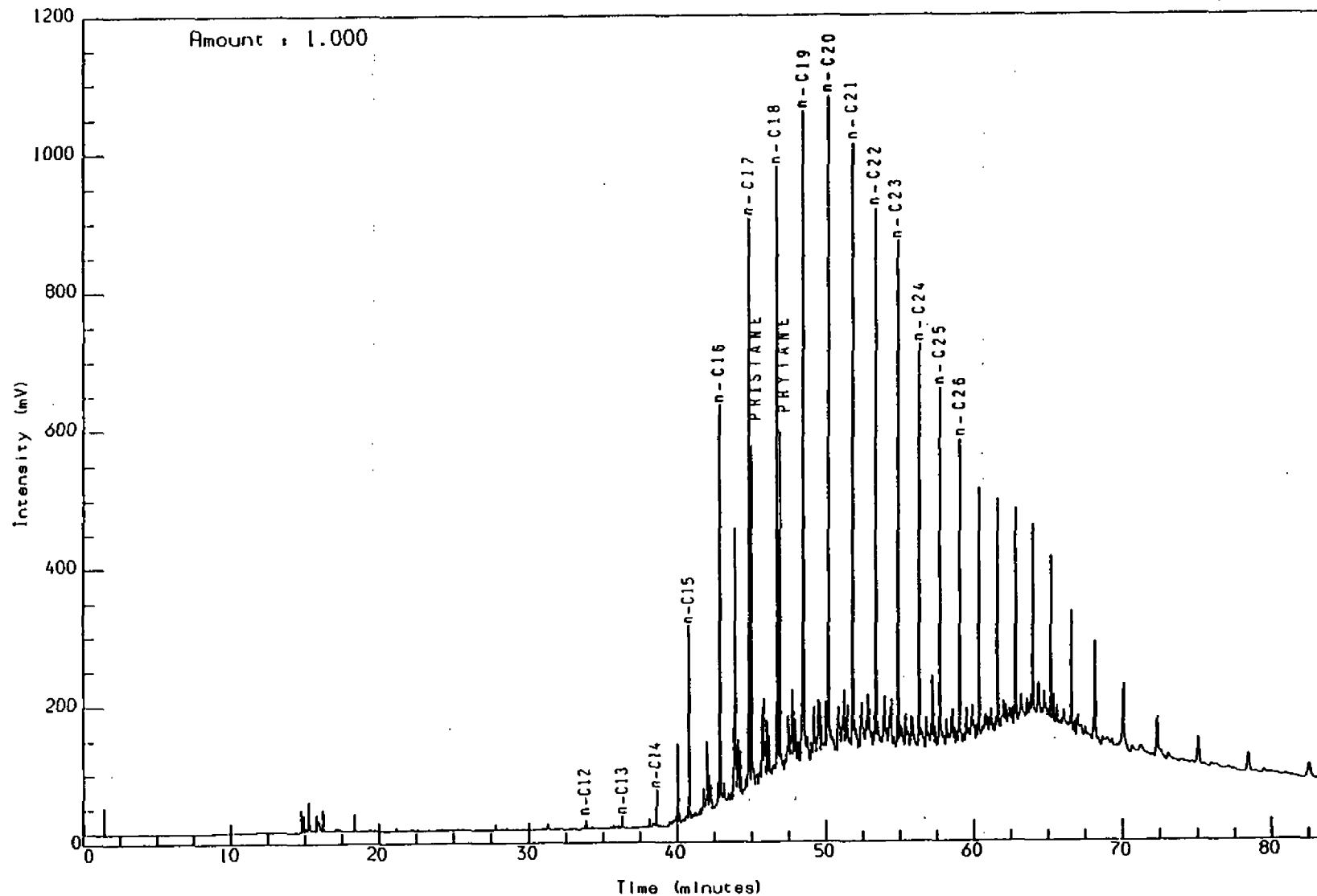
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name , [P2304PHIL] 23 PE6400101.1.1.

Multichrom



WELL NOCS 2/7-3X 2875.50m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

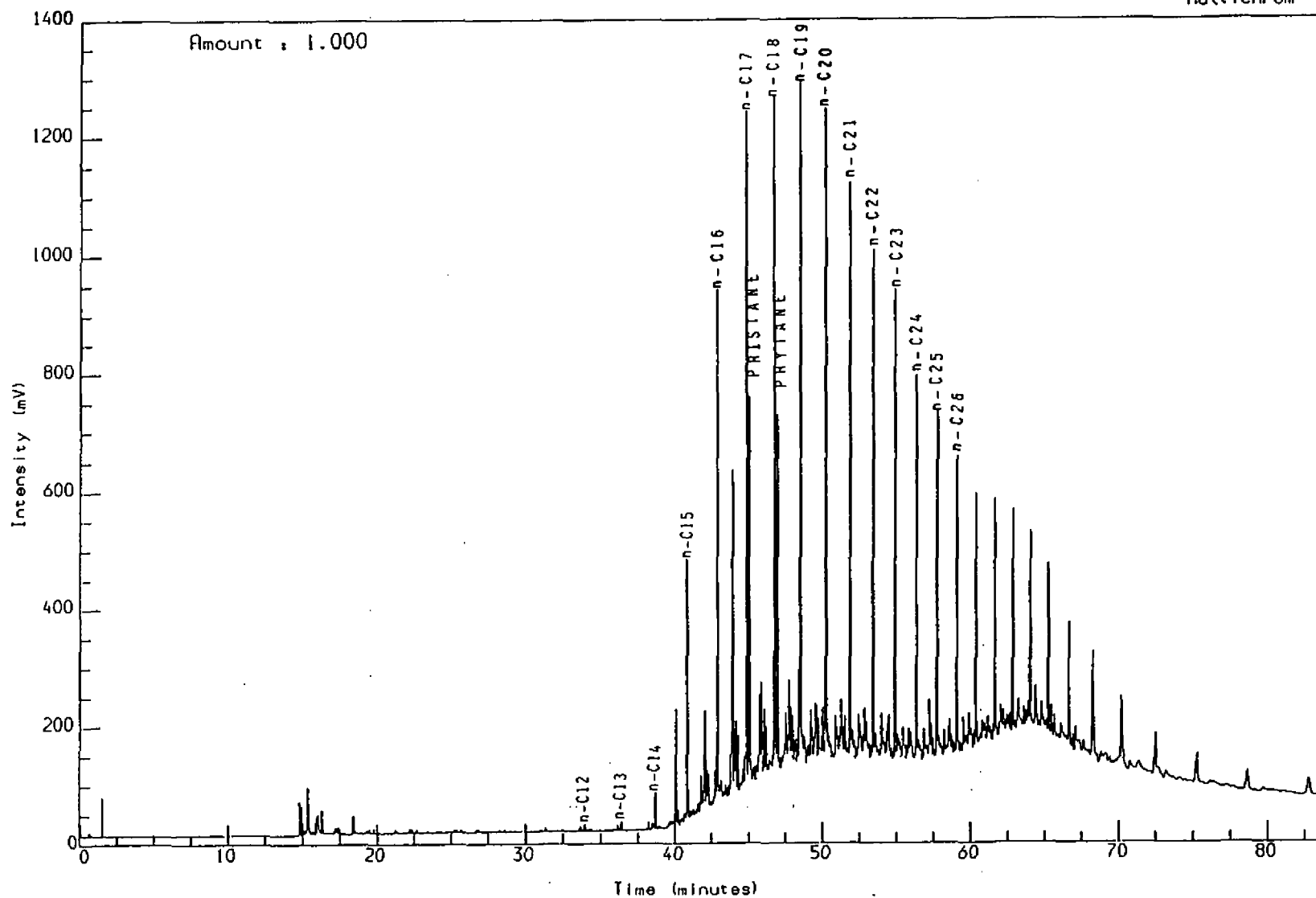
Reported on 4-JAN-1991 at 08.53

Schlumberger GECO-PRAKLA

GEOLABOR

Analysis Name : [P2304PHIL] 23 PE6400111.1.1.

Multichrom



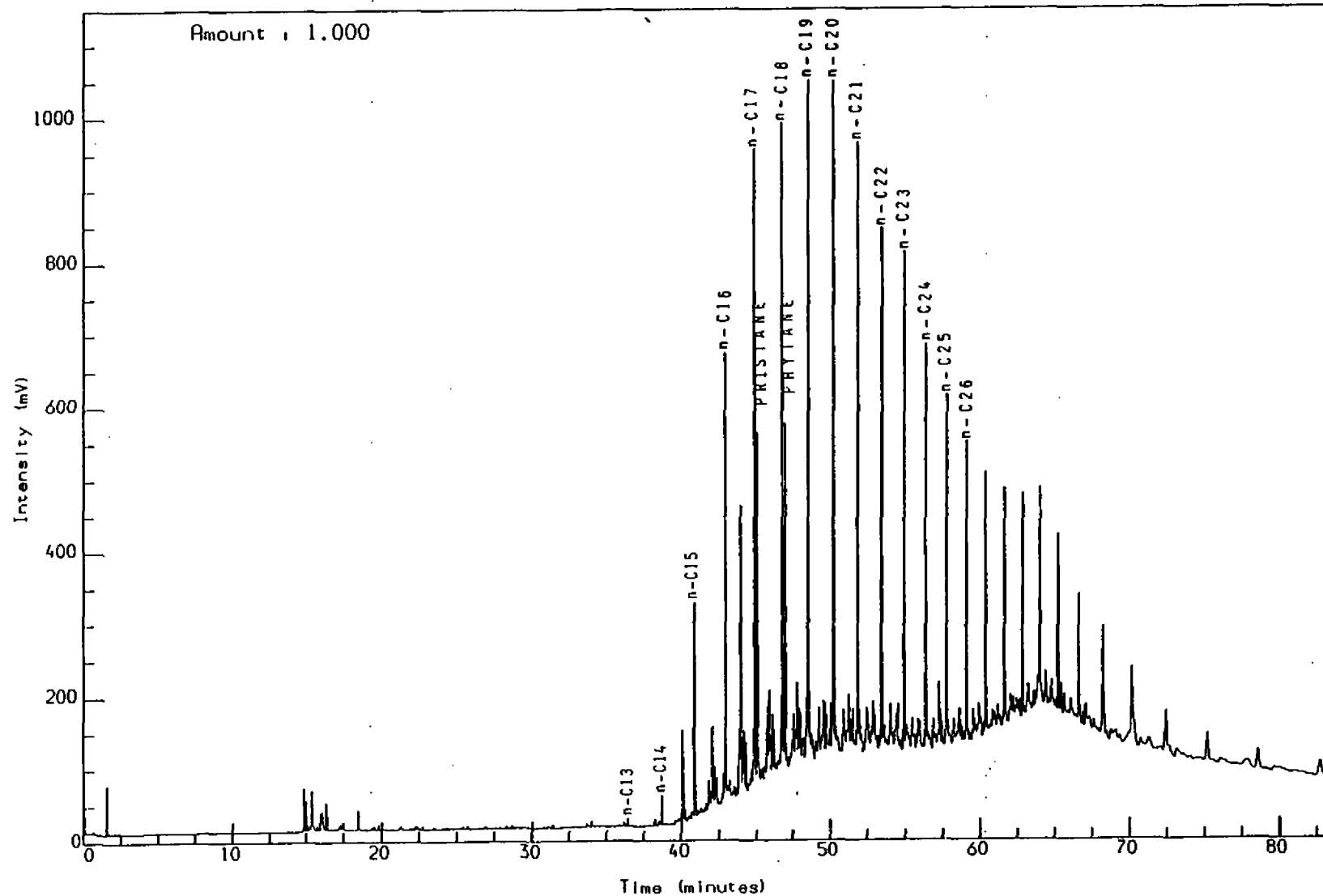
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THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 4-JAN-1991 at 08.54

Schlumberger

GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X 2877.30m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 4-JAN-1991 at 08:55

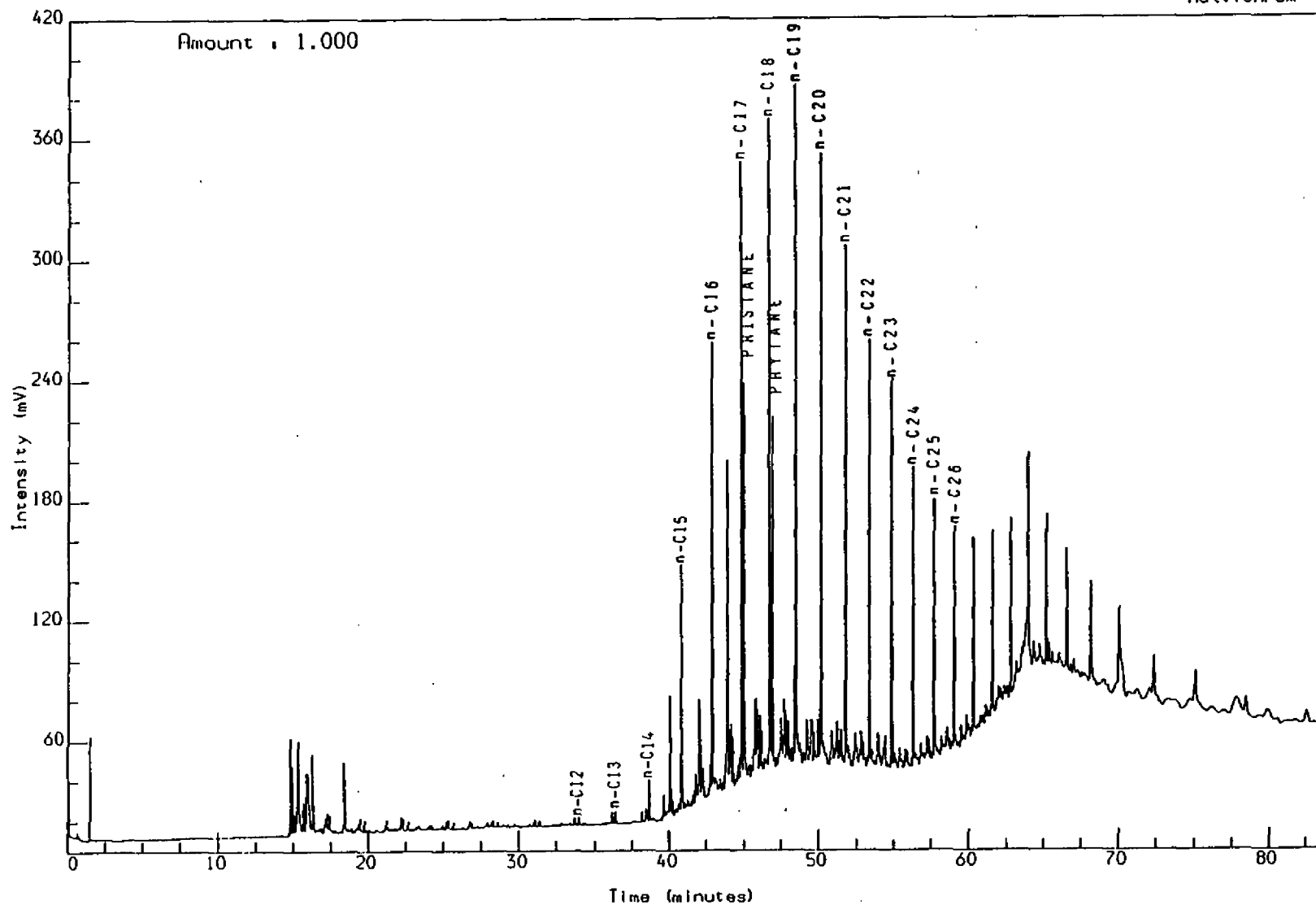
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400131,1,1.

Multichrom



WELL NOCS 2/7-3X 2878.20m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 4-JAN-1991 at 08:56

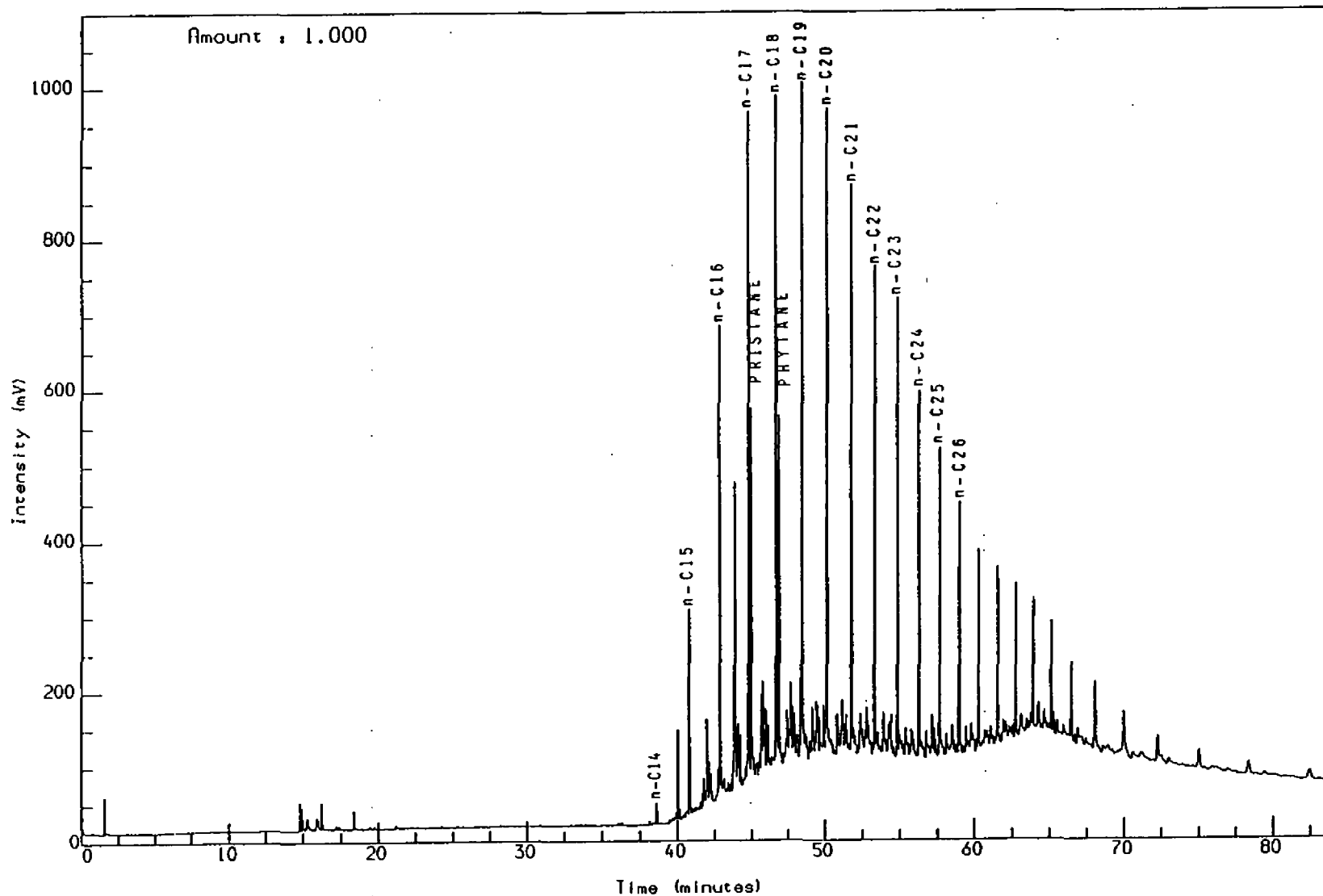
Schlumberger

GECO-PRAKLA

GEOLABOR

Analysis Name : [P2304PHIL] 23 PE6400141,1,1.

Multichrom



WELL NOCS 2/7-3X 2879.10m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

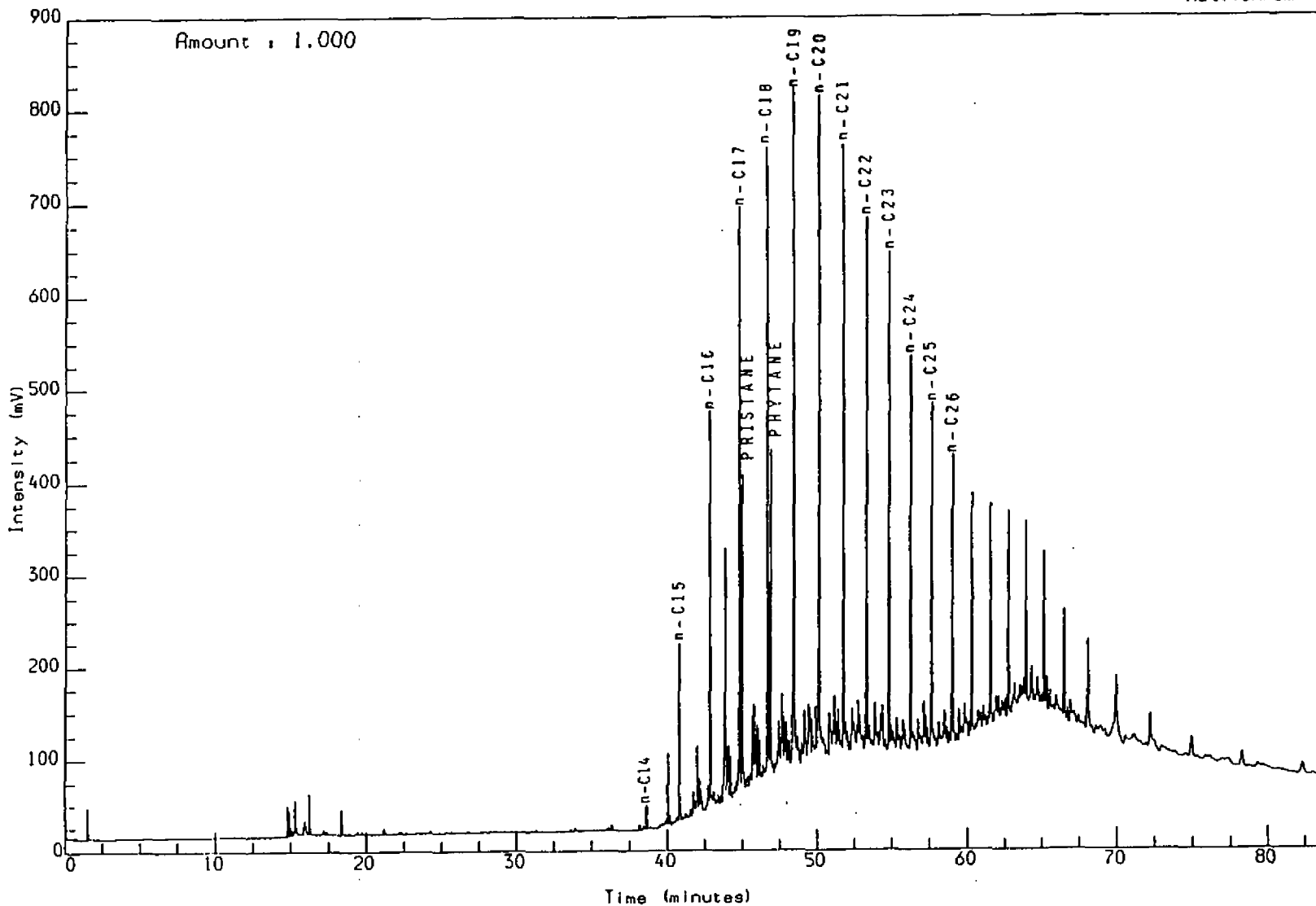
Reported on 7-JAN-1991 at 13.23

Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400151.1.1.

Multichrom



WELL NOCS 2/7-3X 2880.10m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt. or. to or gy

Reported on 7-JAN-1991 at 13:28

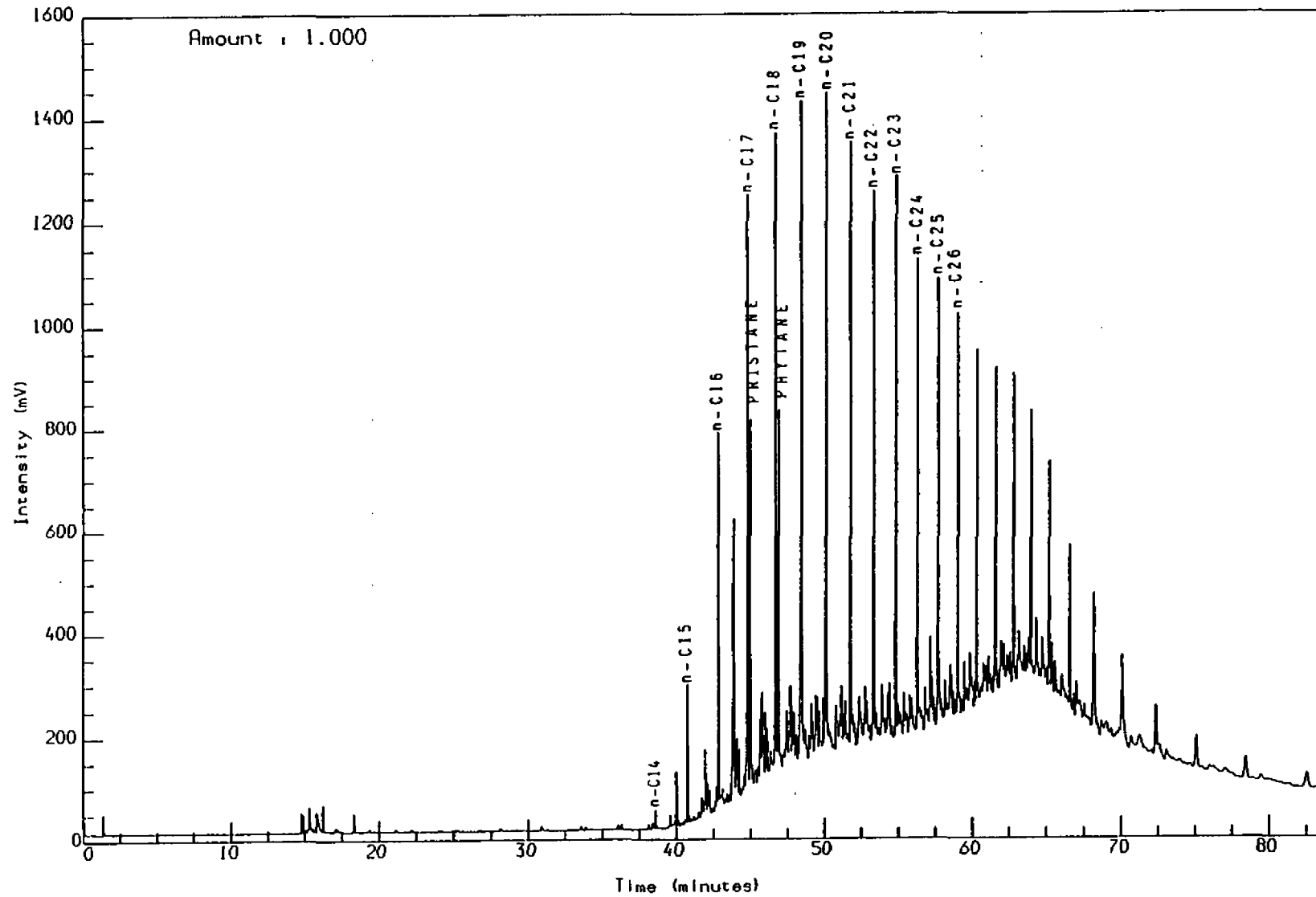
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400161,1,1.

Multichrom



WELL NOCS 2/7-3X 2881.00m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

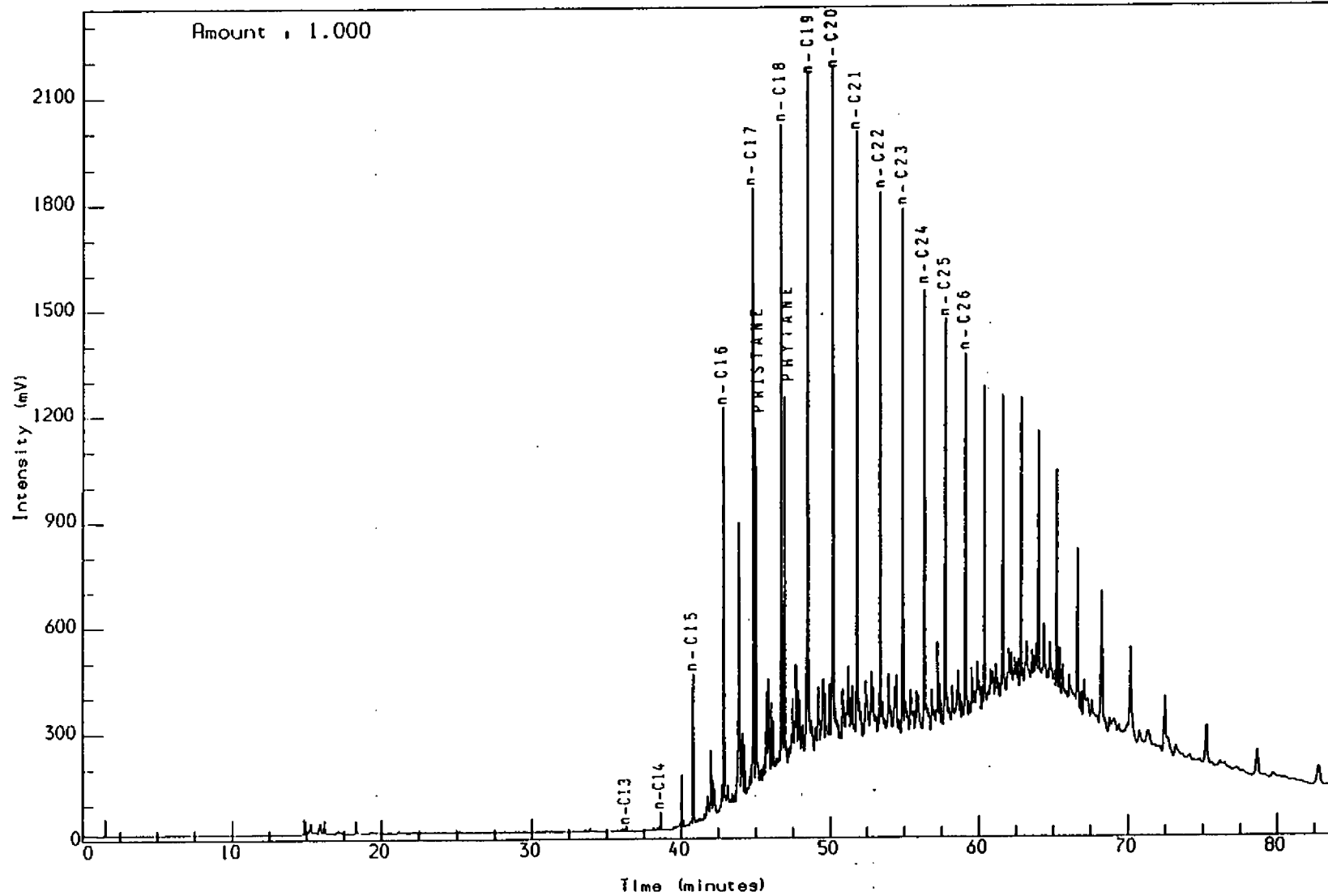
Reported on 7-JAN-1991 at 13:53

Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400171,1,1.

Multichrom



WELL NOCS 2/7-3X 2881.90m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

Reported on 7-JAN-1991 at 13:54

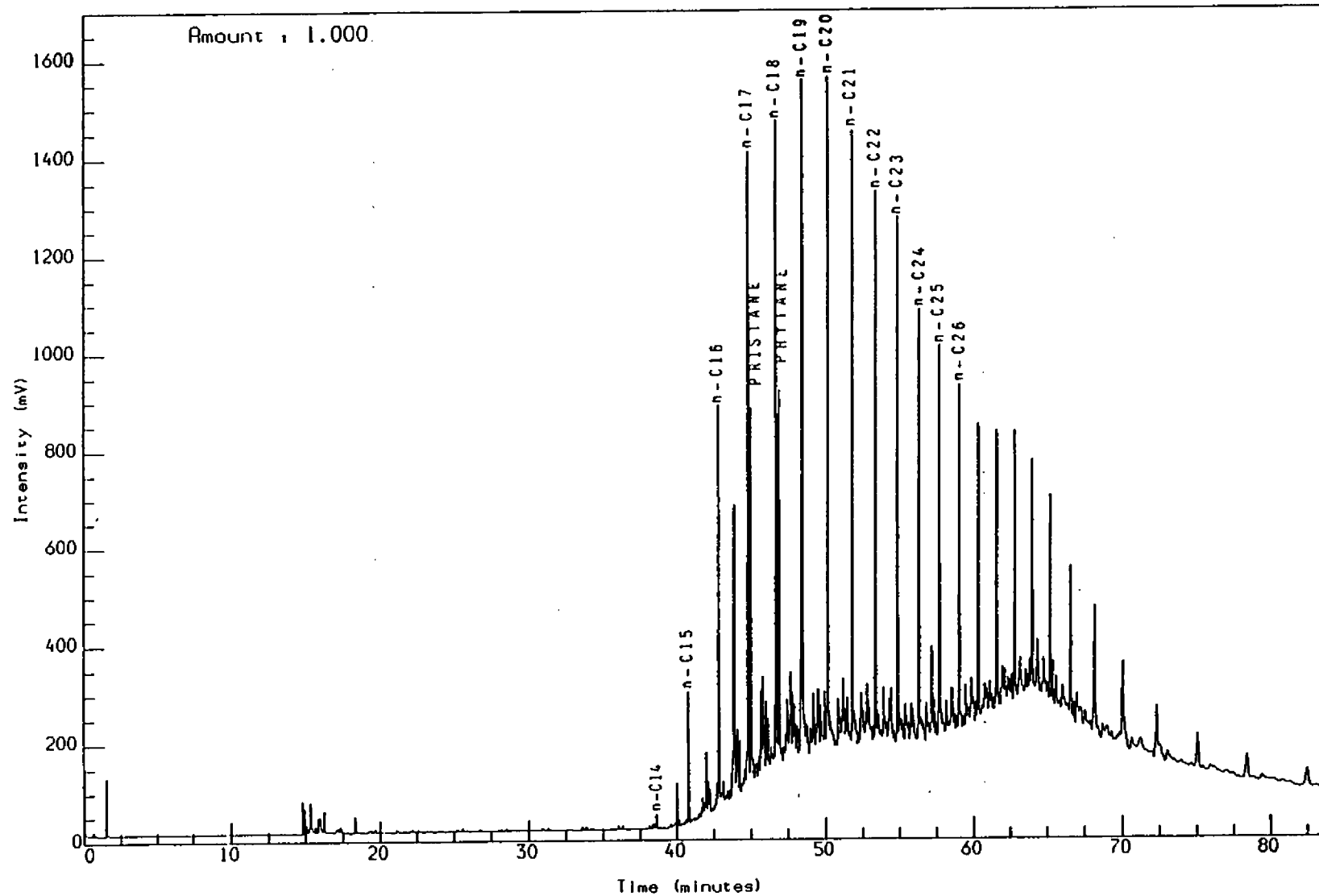
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400181,1,1.

Multichrom



WELL NOCS 2/7-3X 2882.80m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

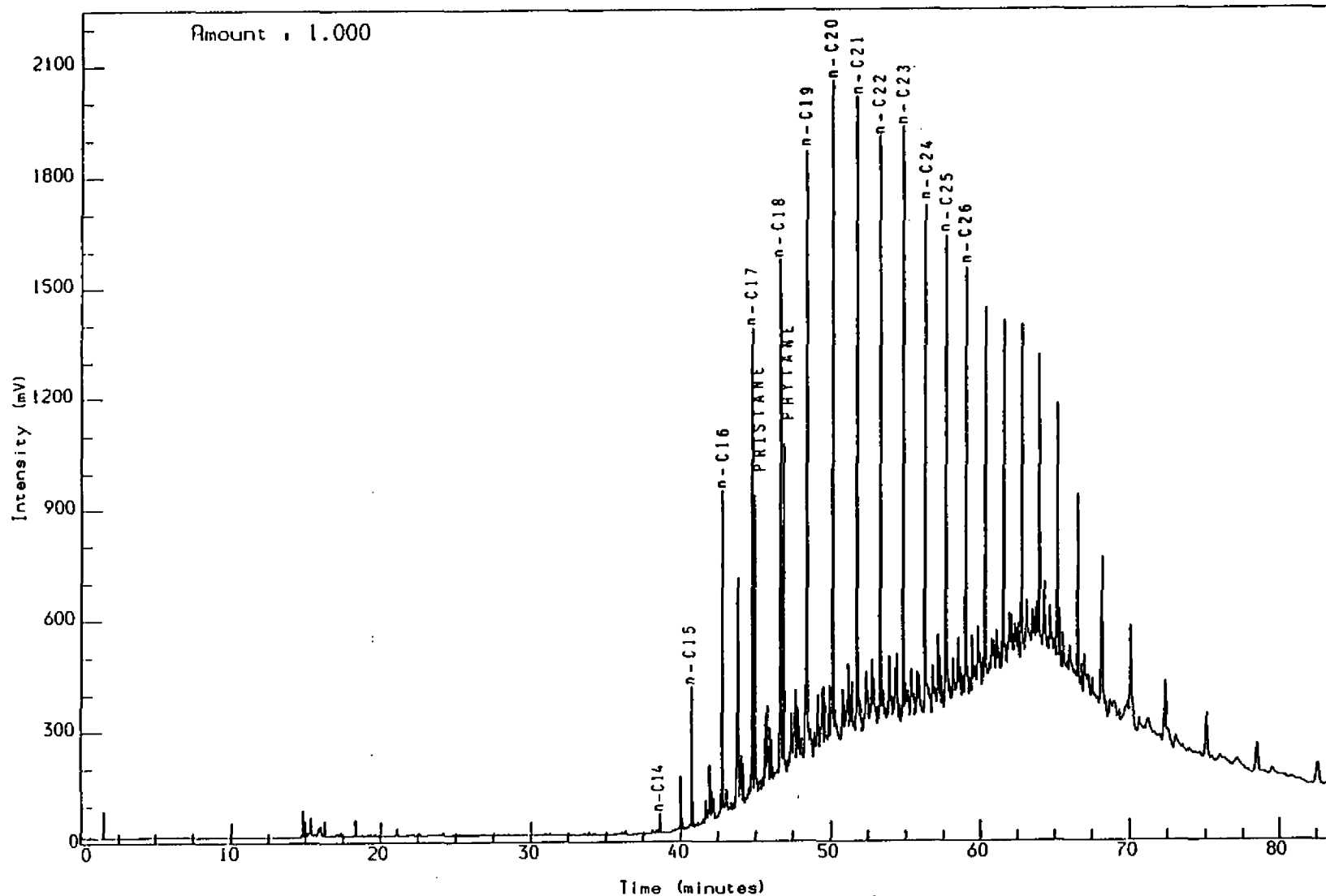
Reported on 7-JAN-1991 at 13.56

Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 23 PE6400191,1,1.

Multichrom



WELL NOCS 2/7-3X 2883.70m ccp
THERMAL EXTRACTION GC (S1)
Ca: lt or to or gy

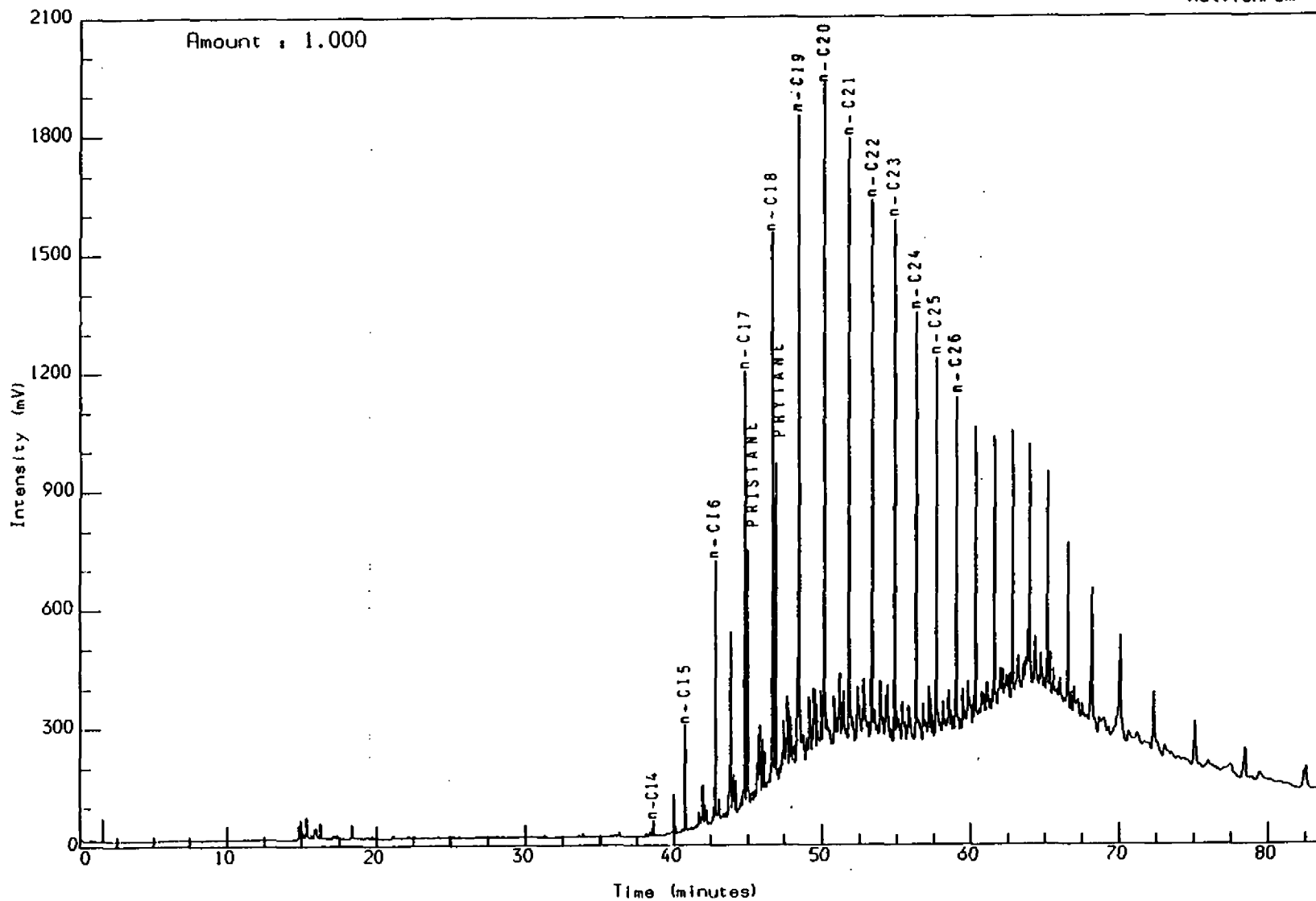
Reported on 8-JRN-1991 at 08:32

Schlumberger GECO-PRAKLA

GEOLAB/NOR

Analysis Name : [P2304PHIL] 23 PE6400201.1.1.

Multichrom



WELL NOCS 2/7-3X 2884.60m ccp
THERMAL EXTRACTION GC (S1)
Ca: 1t or to or gy

Reported on 8-JAN-1991 at 08.33

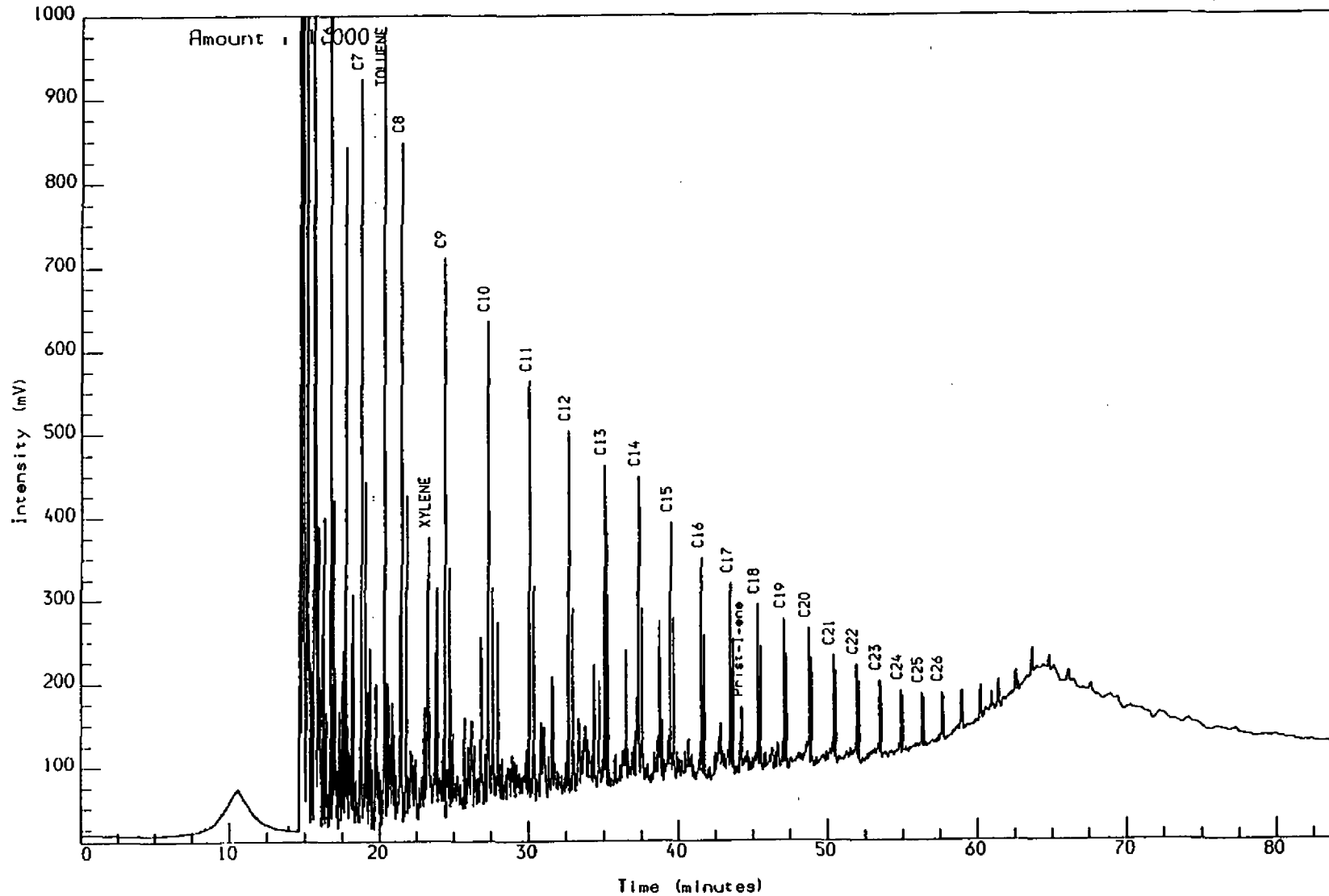
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400011,1,1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2851.10m ccp

Reported on 20-DEC-1990 at 10:22

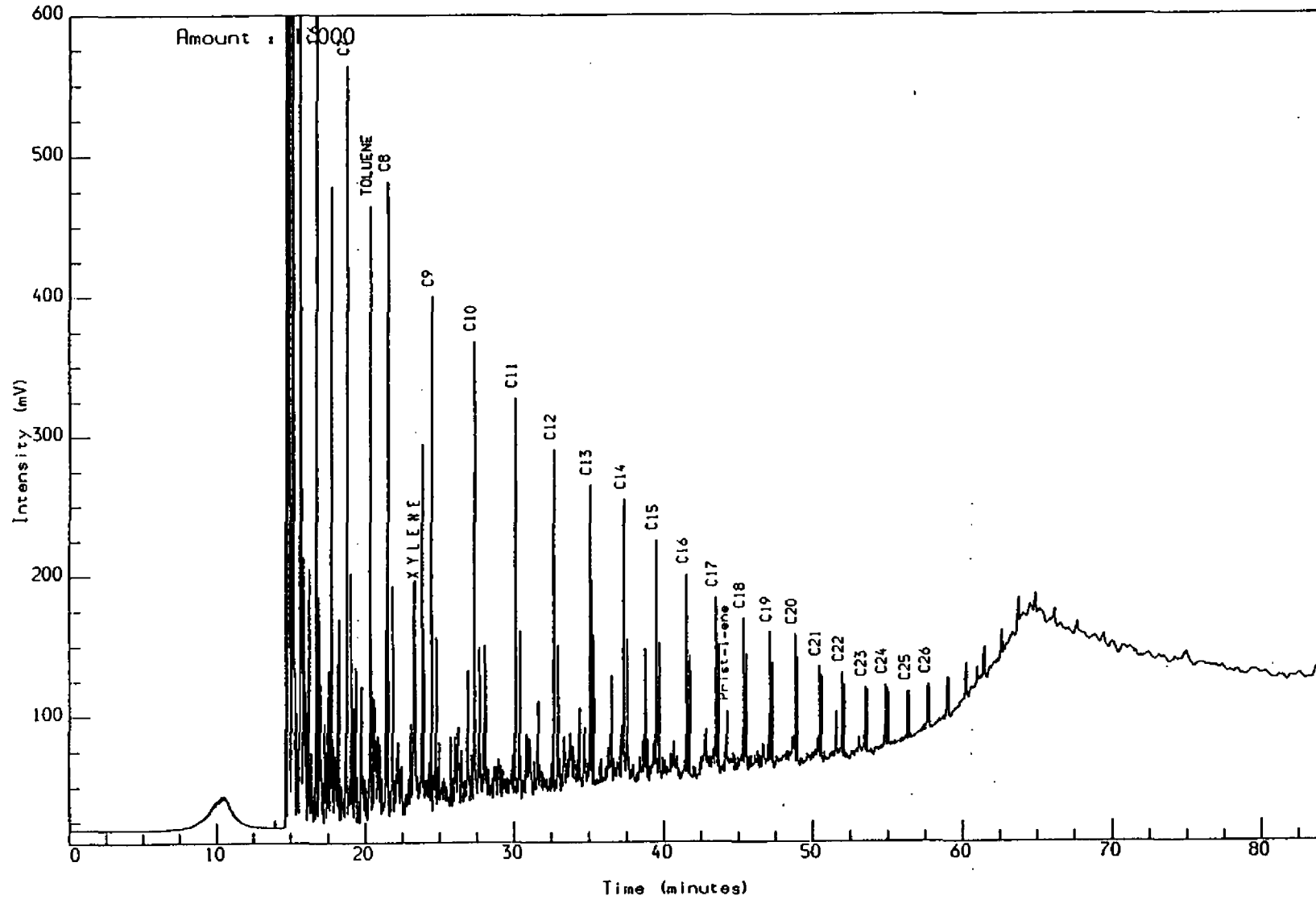
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400021.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2852.00m ccp

Reported on 20-DEC-1990 at 10.23

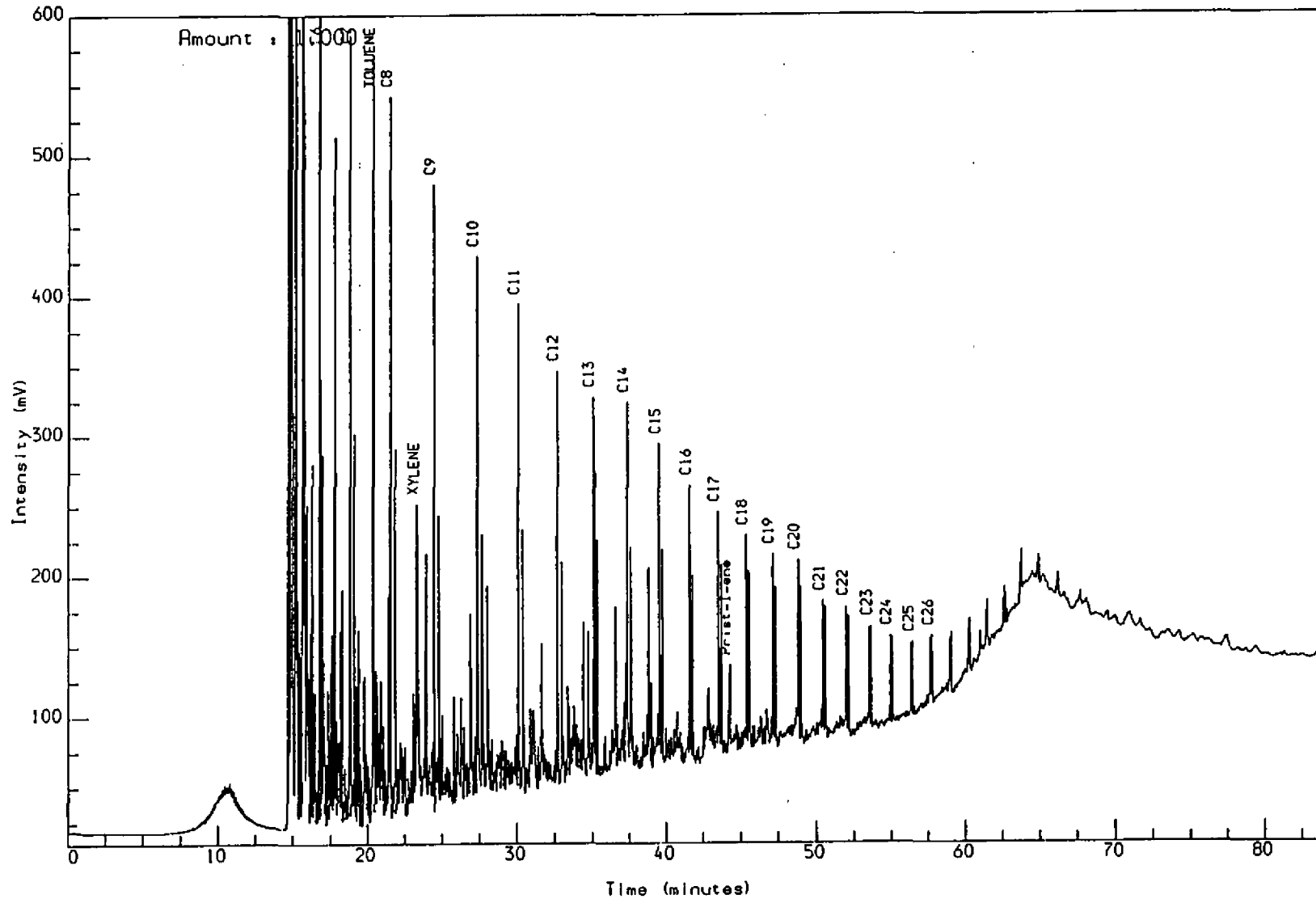
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400031,1,1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2852.90m ccp

Reported on 20-DEC-1990 at 10:24

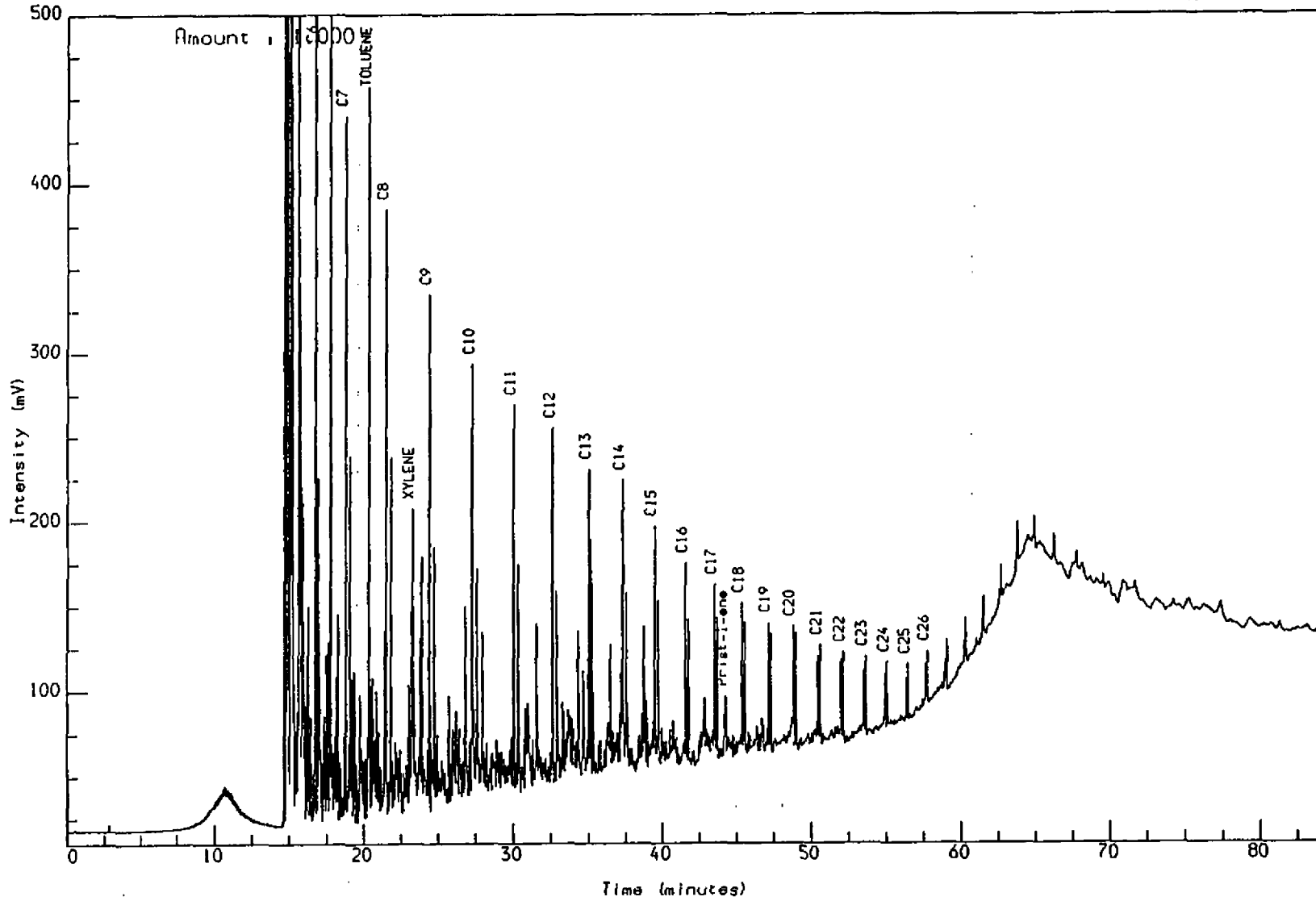
Schlumberger

GECO-PRAKLA

GEOLAB/NOR

Analysis Name : [P2304PHIL] 24 PE6400041.1.1.

Multichrom



WELL NOCS 2/7-3X 2853.80m ccp
PYROLYSIS GC (S2)
Ca: lt or to or gy to ol gy

Reported on 20-DEC-1990 at 10.26

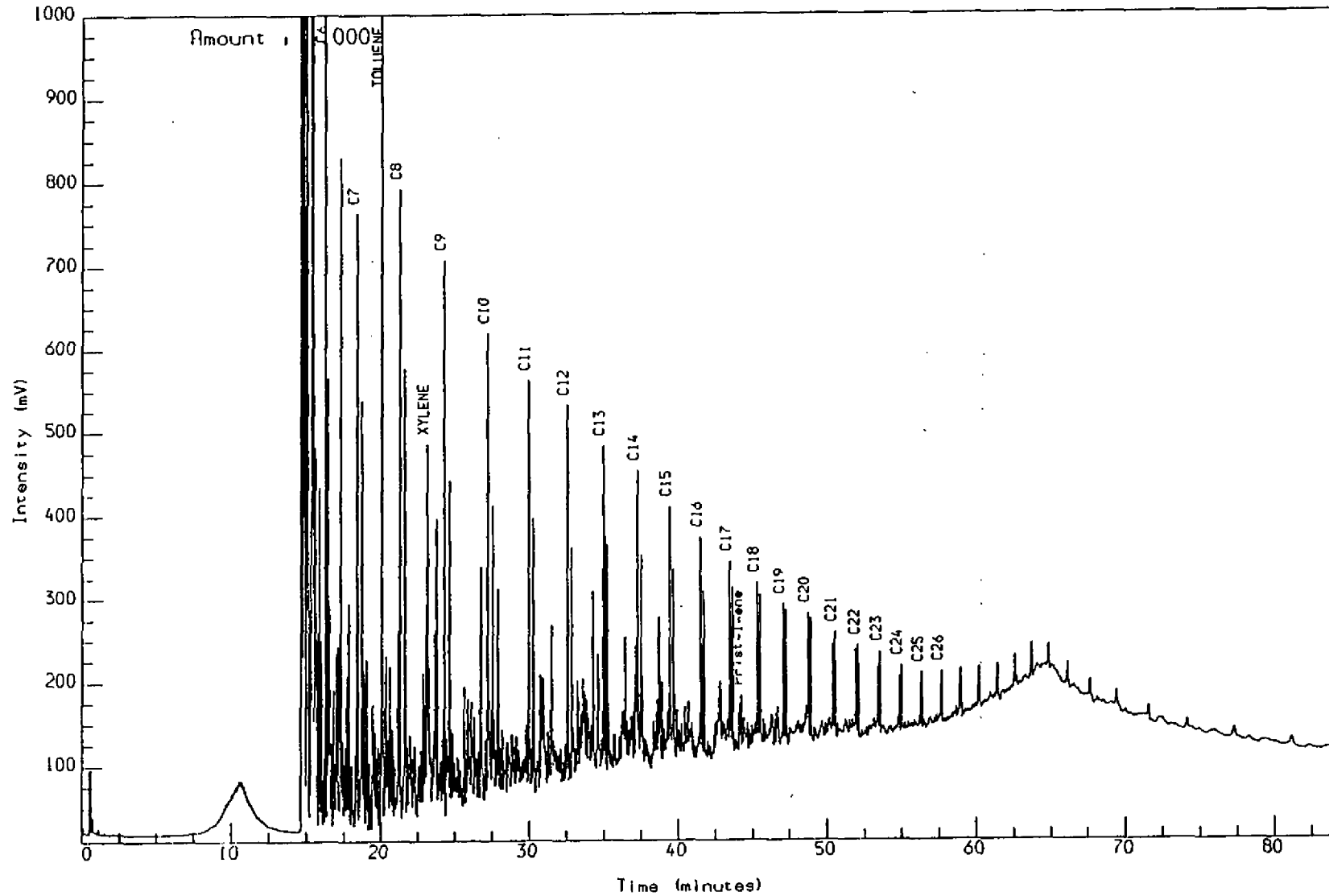
Schlumberger

GECO-PRAKLA

GEOLABOR

Analysis Name : [P2304PHIL] 24 PE6400051.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

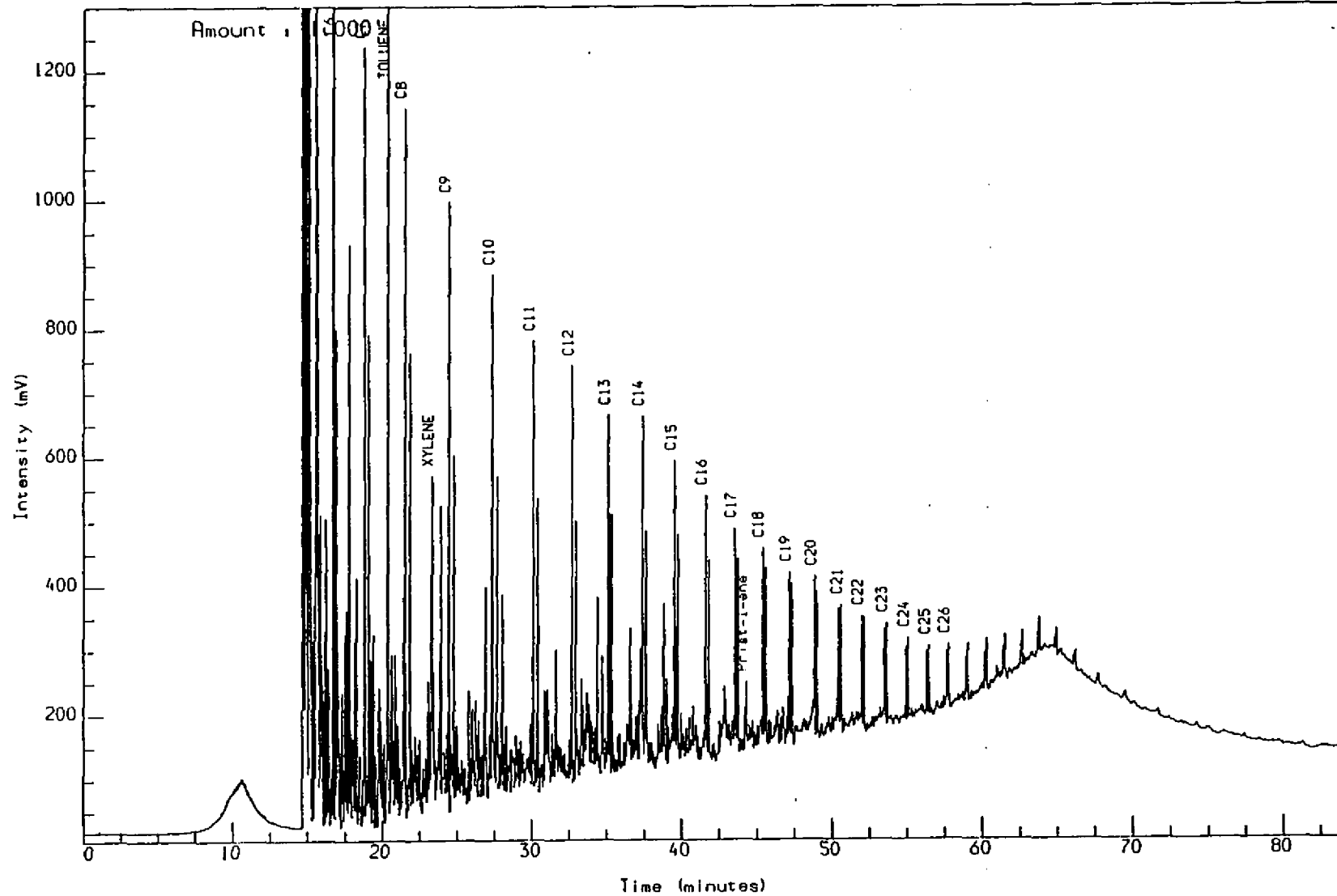
2854.80m ccp

Reported on 20-DEC-1990 at 15.34

Schlumberger

GECO-PRAKLA

GEOLAB NOR



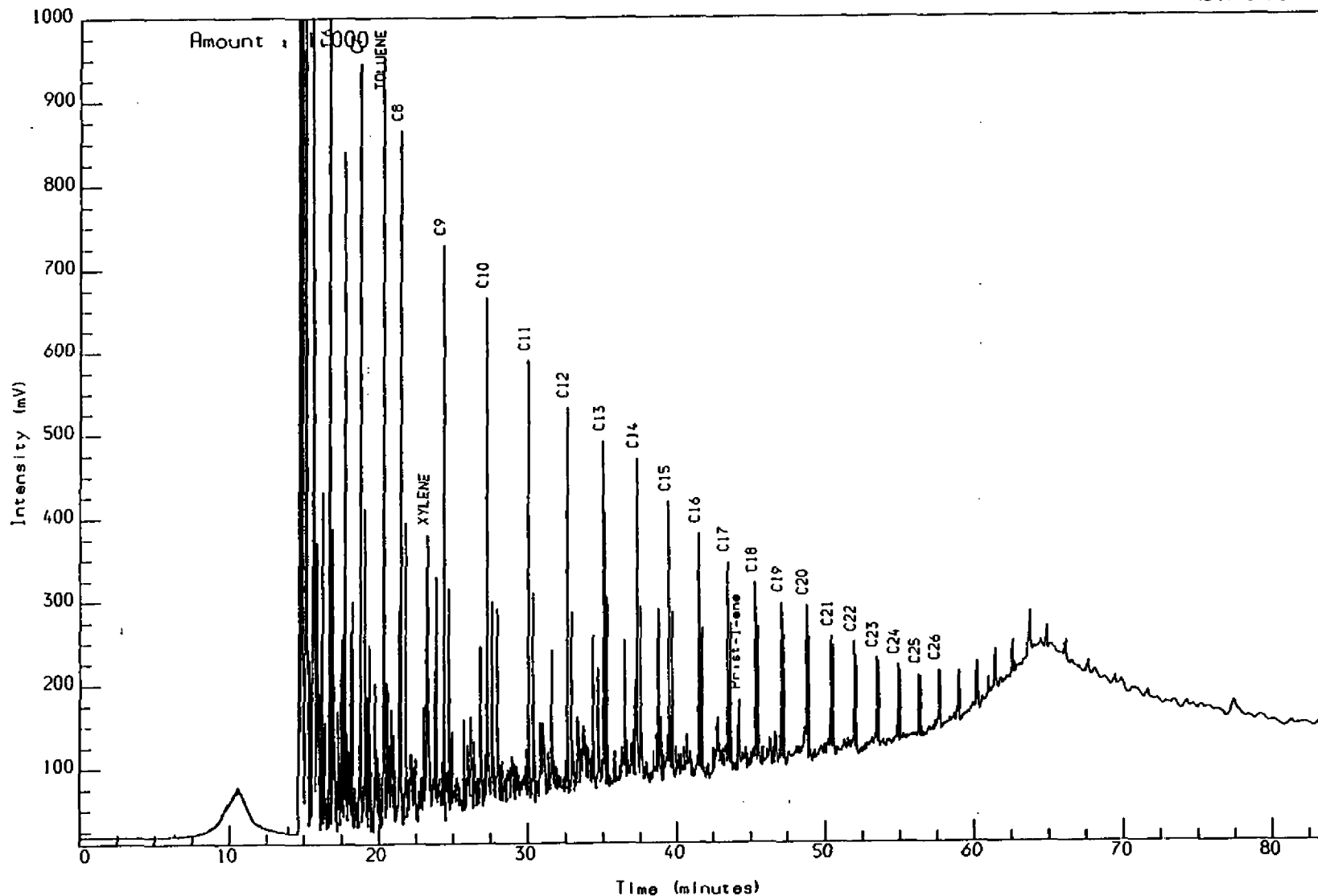
WELL NOCS 2/7-3X 2855.70m ccp
PYROLYSIS GC (S2)
Ca: lt or to or gy to lt brn-gy

Reported on 20-DEC-1990 at 15.36

Schlumberger

GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2861.50m ccp

Reported on 20-DEC-1990 at 15:37

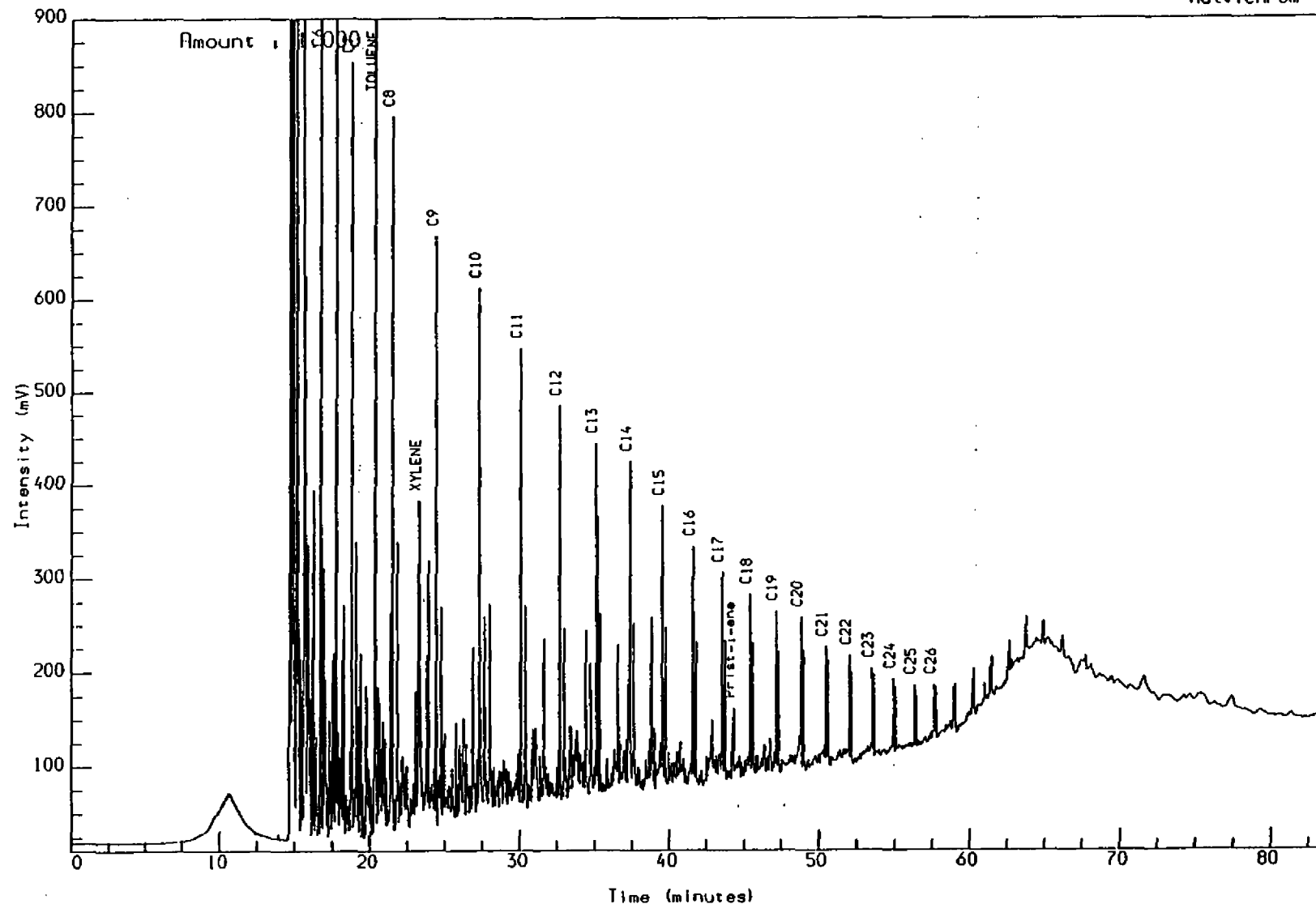
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400081.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: 1t or to or gy

2862.70m ccp

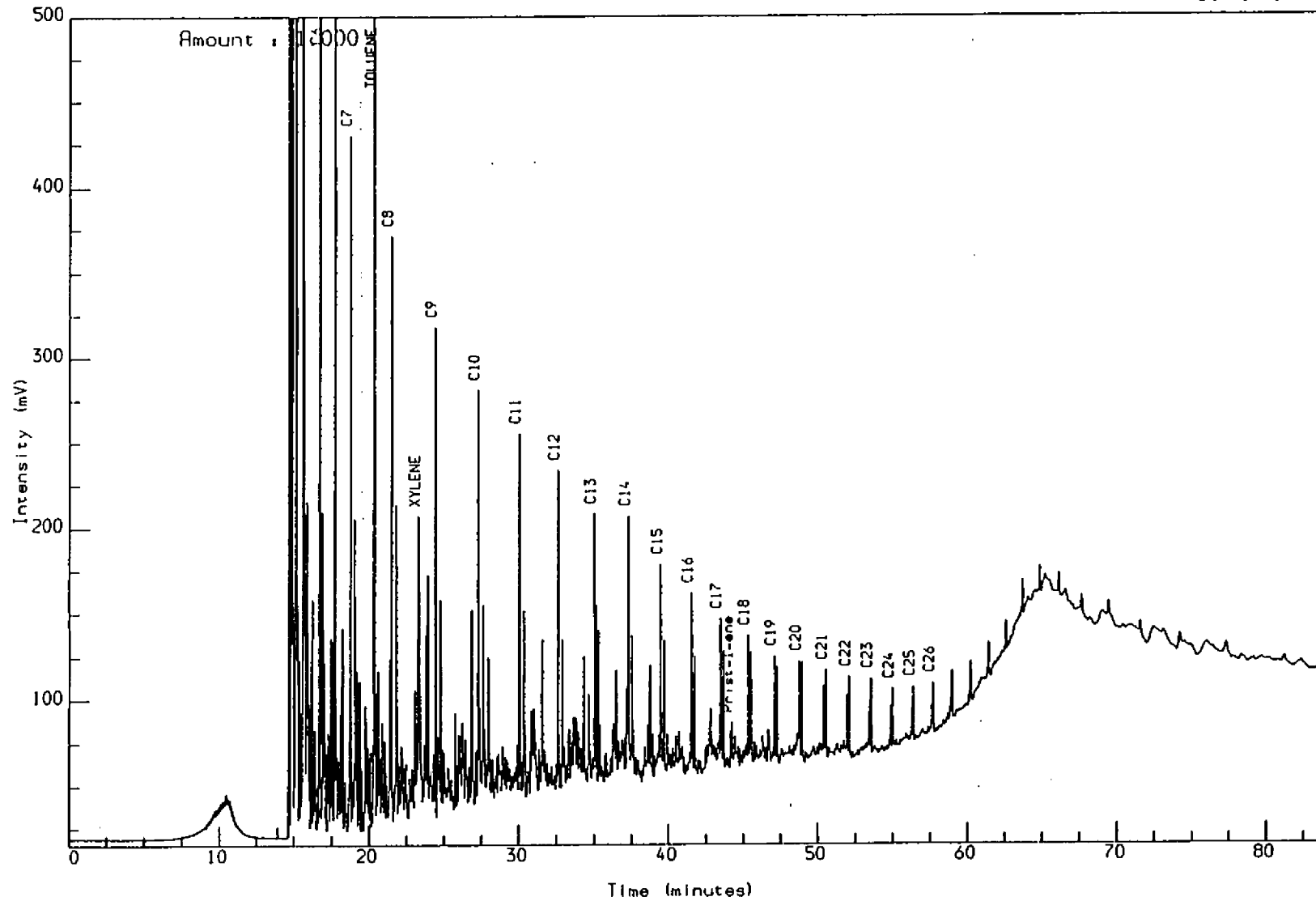
Reported on 4-JAN-1991 at 08:58

Schlumberger GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400091,1,1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to w

2874.50m ccp

Reported on 4-JAN-1991 at 08.59

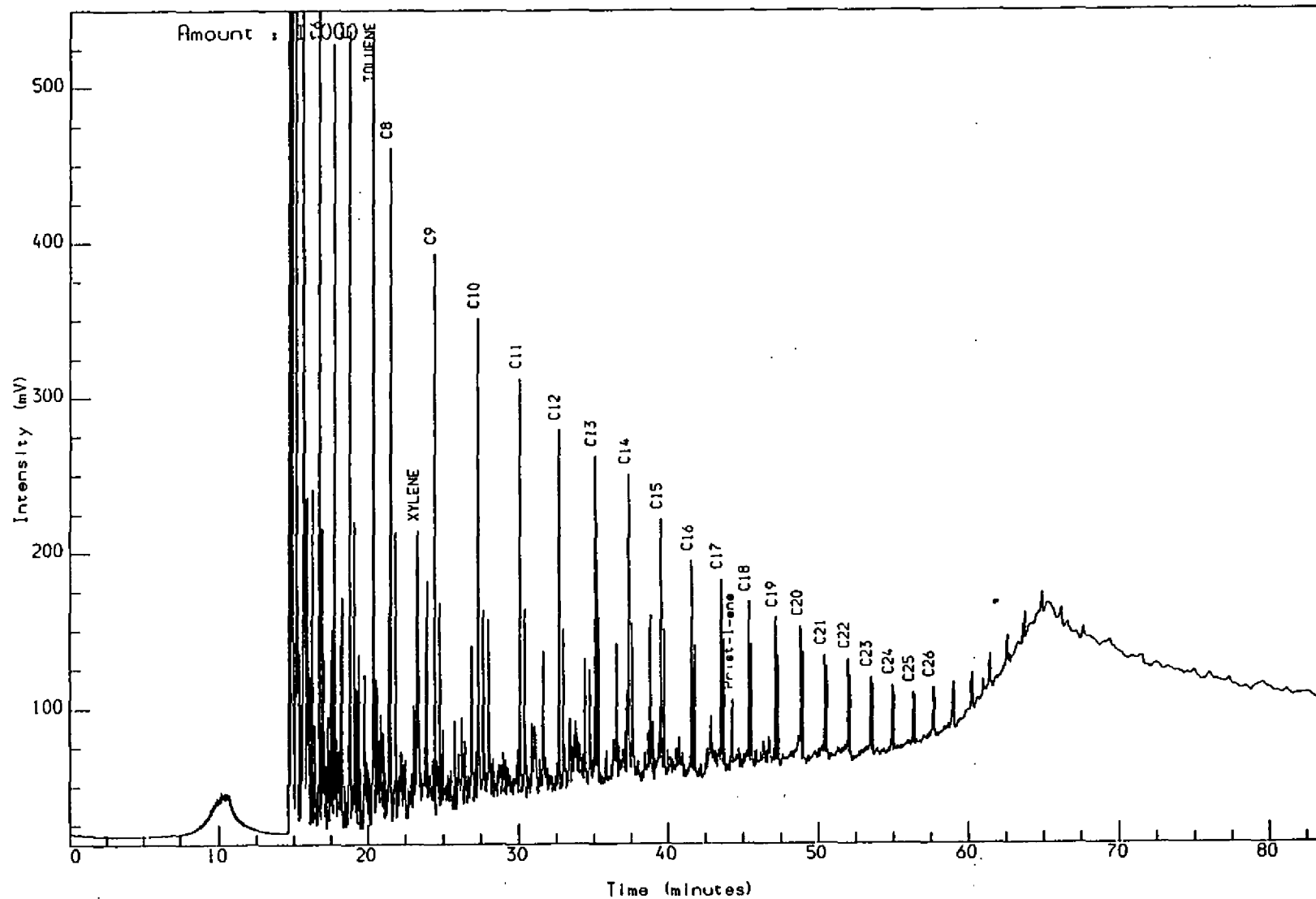
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400101.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt_or. to or gy

2875.50m ccp

Reported on 4-JAN-1991 at 09.00

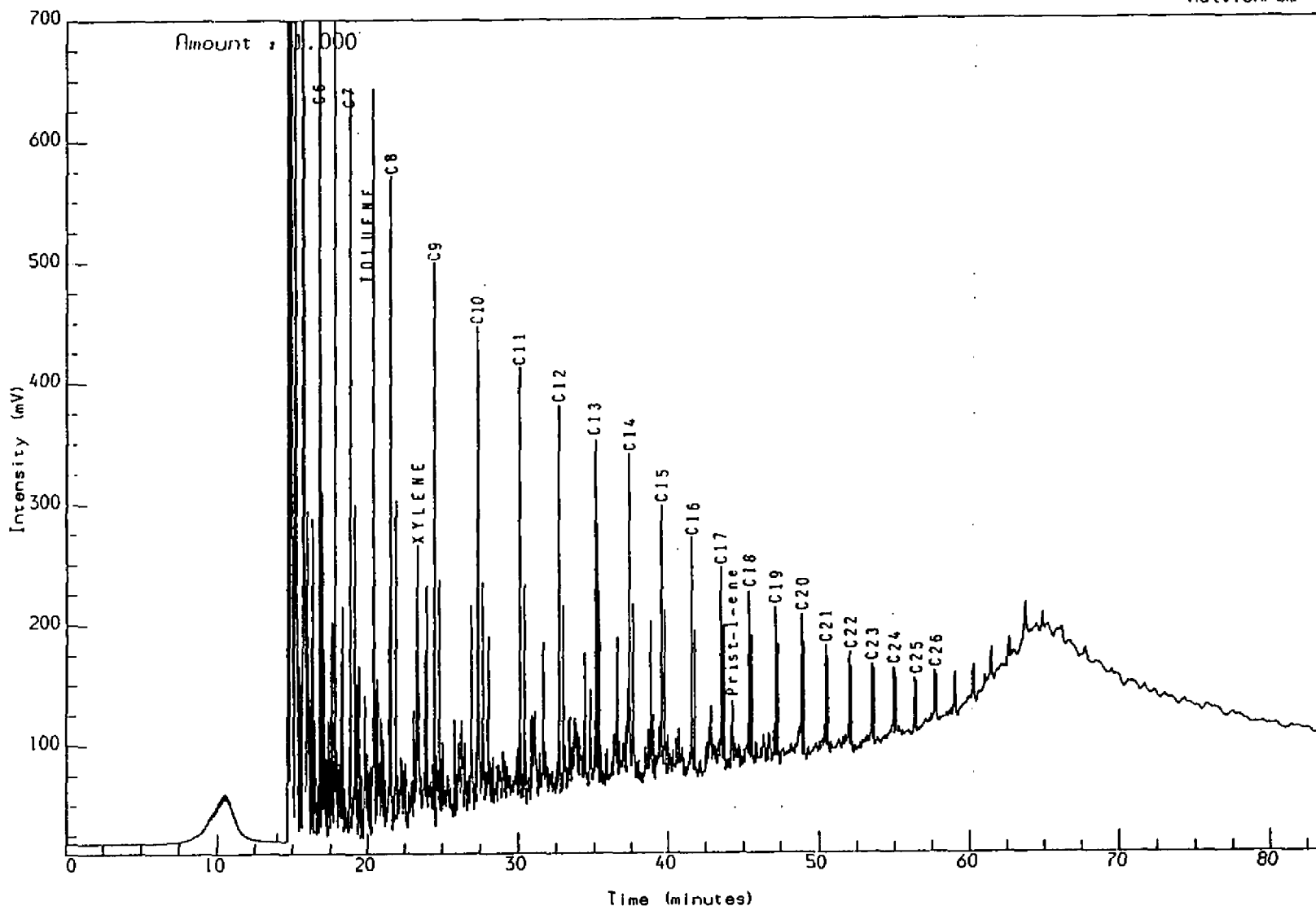
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400111,1,1.

Multichrom



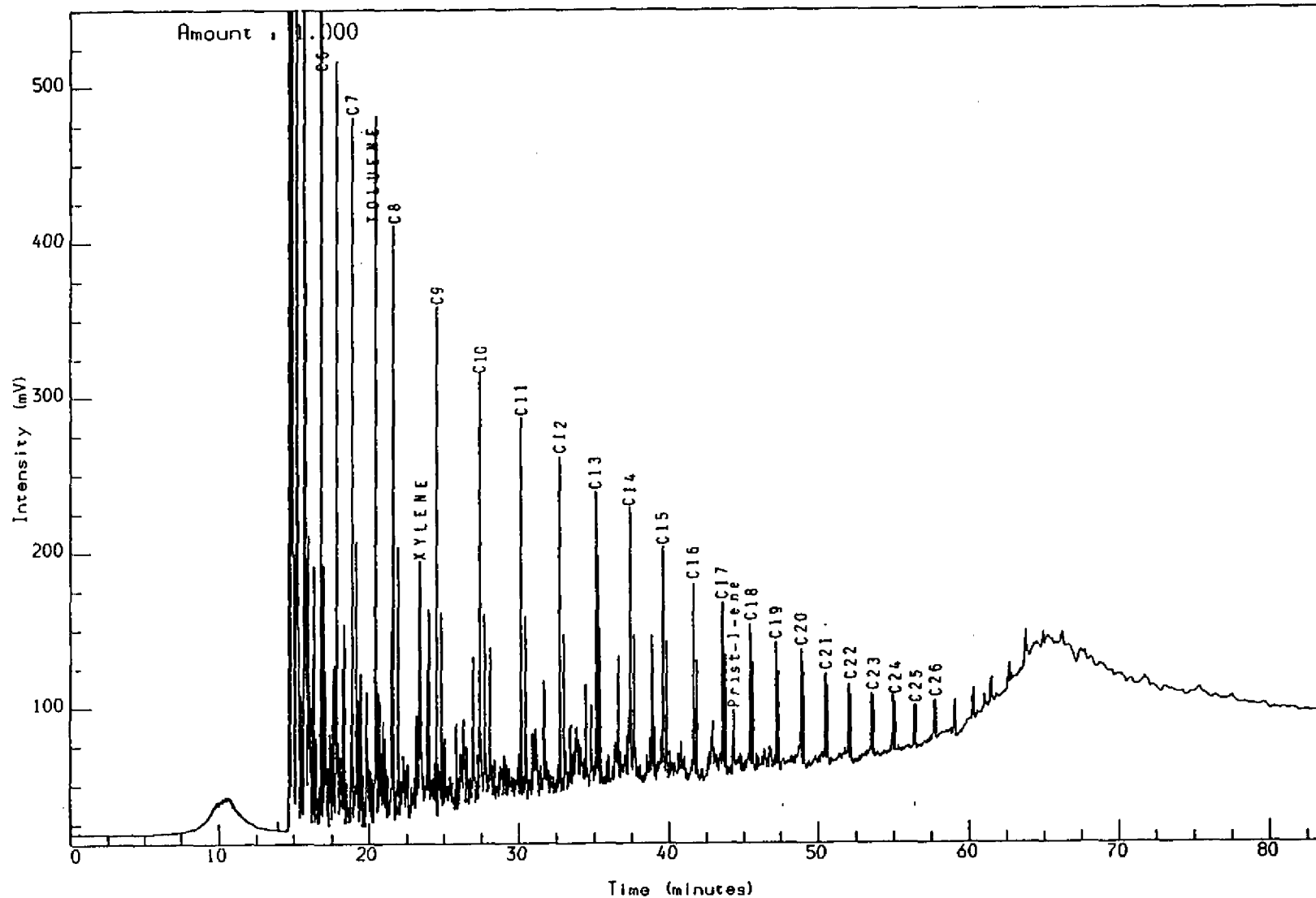
WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2876.40m ccp

Reported on 4-JAN-1991 at 15:15

Schlumberger GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2877.30m ccp

Reported on 4-JAN-1991 at 15:16

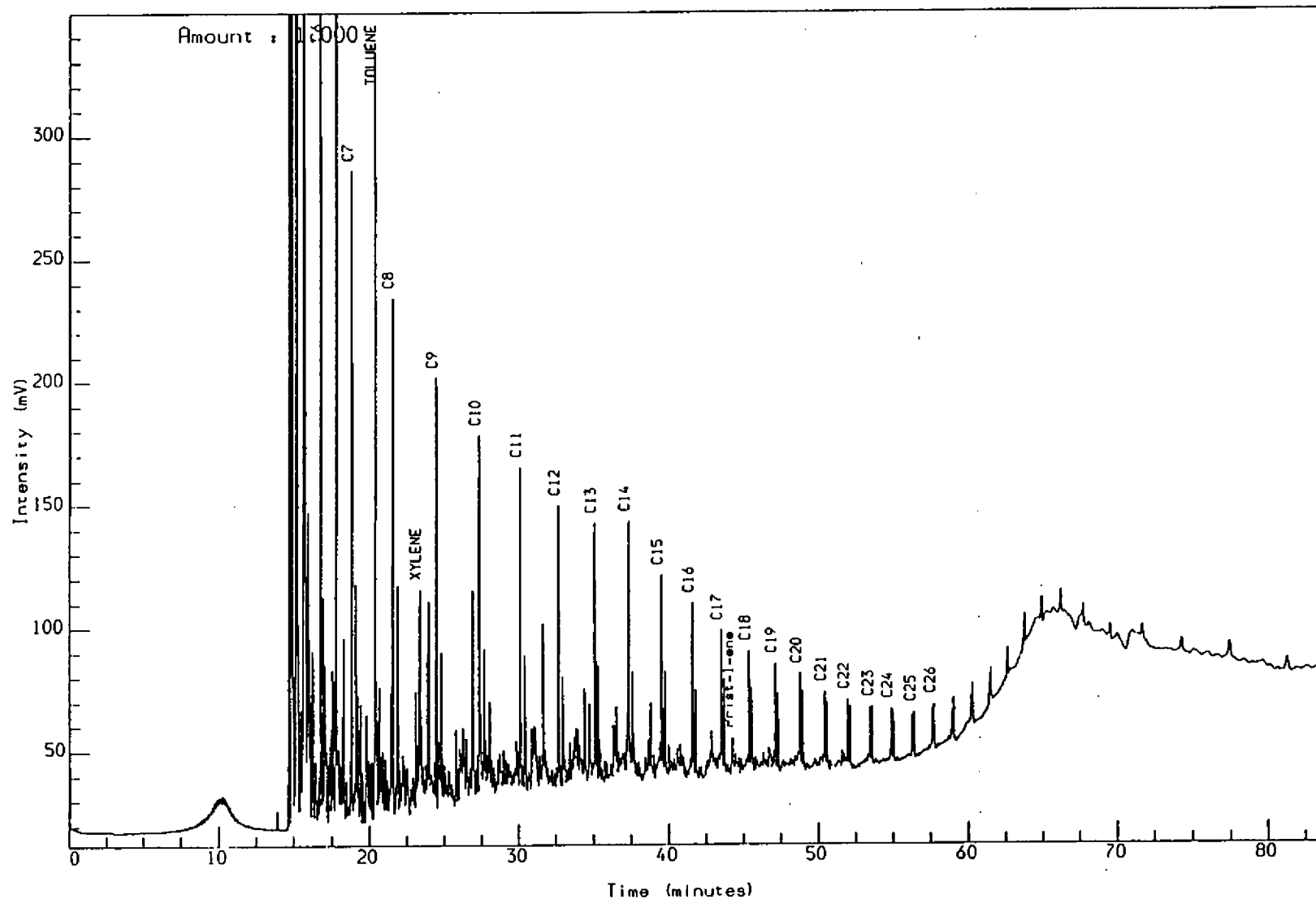
Schlumberger

GECO-PRAKLA

GEOLAB  NOR

Analysis Name : [P2304PHIL] 24 PE6400131.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2878.20m ccp

Reported on 4-JAN-1991 at 09.08

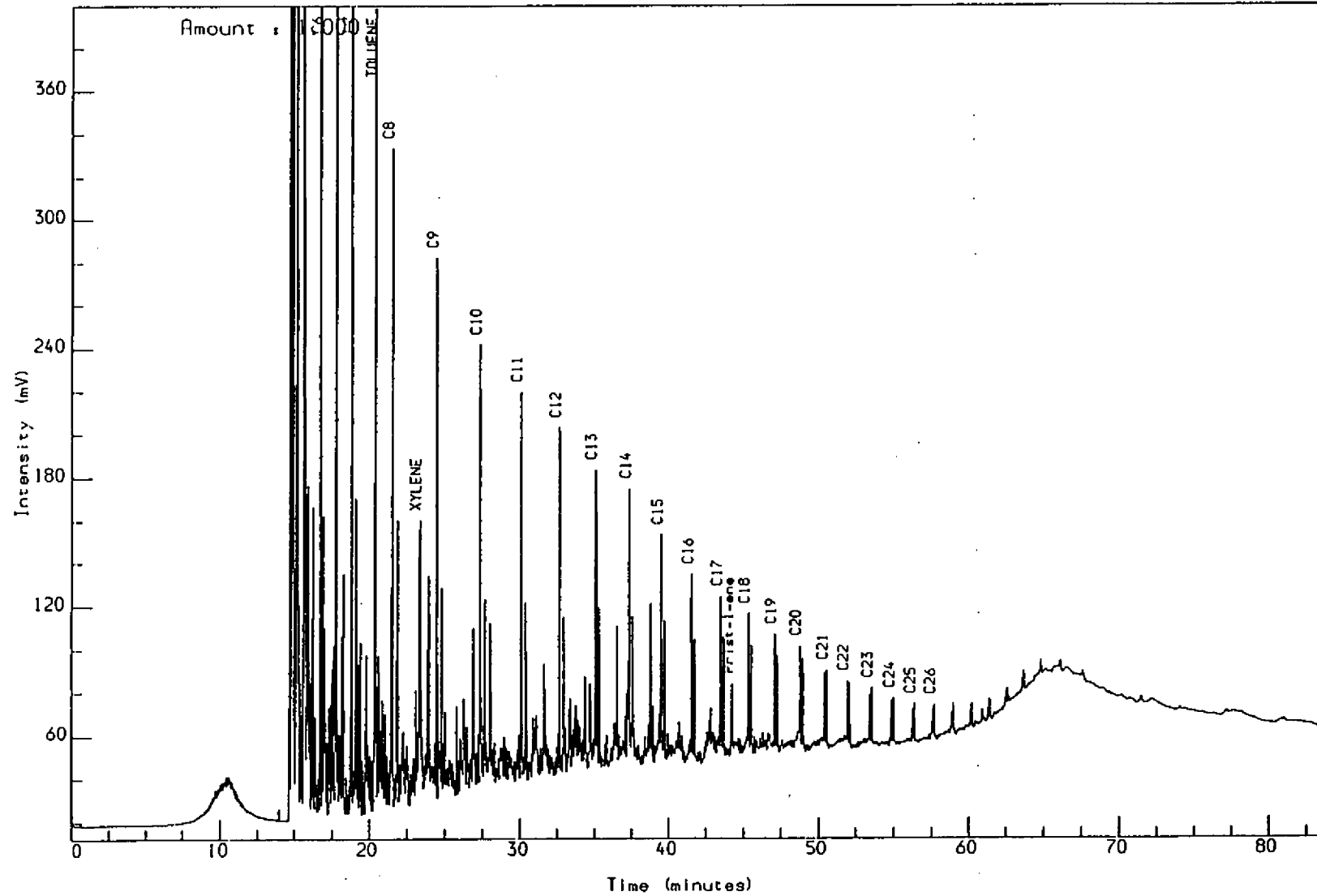
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name , [P2304PHIL] 24 PE6400141.1.1.

Multichrom



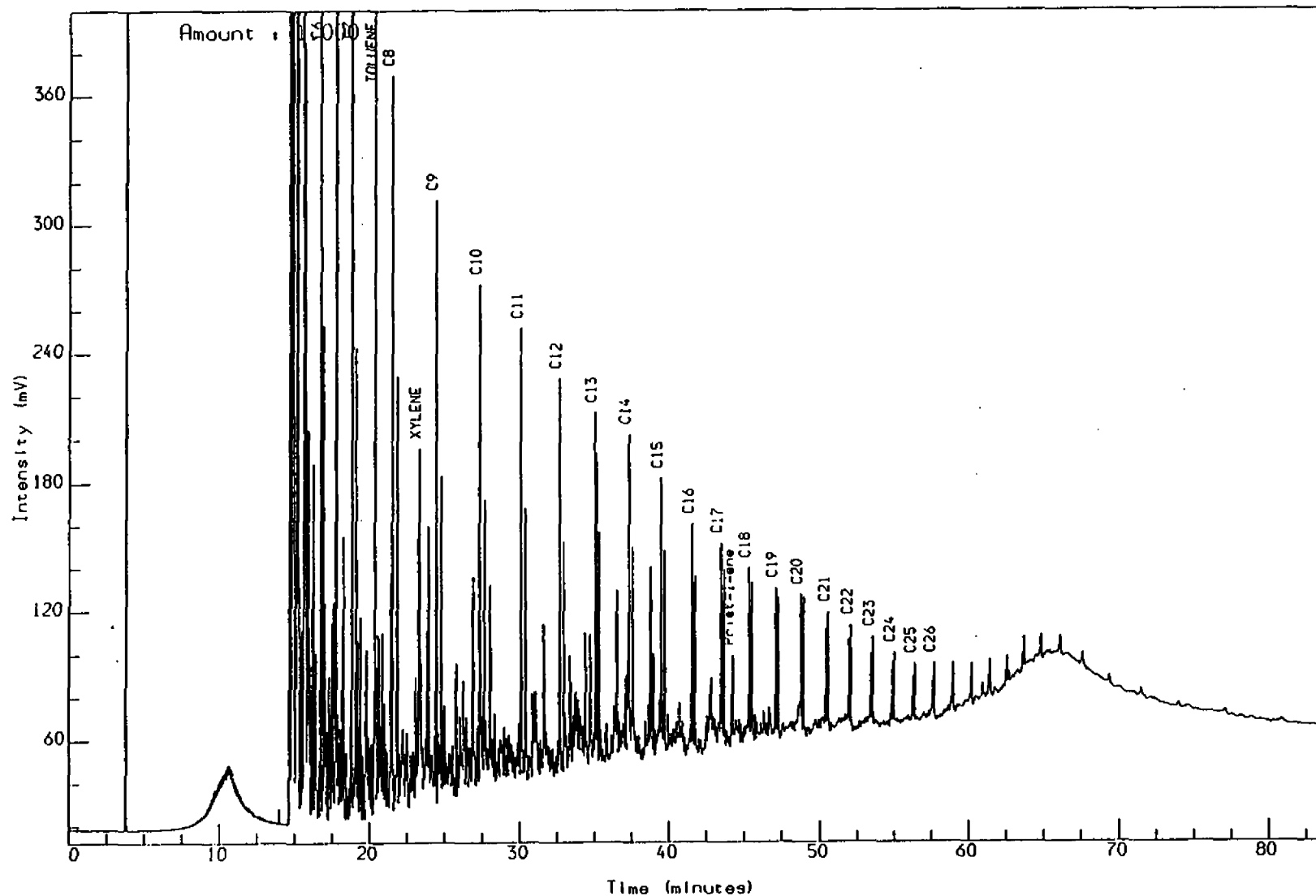
WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: 1t or to or gy

2879.10m ccp

Reported on 7-JAN-1991 at 13.25

Schlumberger GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2880.10m ccp

Reported on 7-JAN-1991 at 13:26

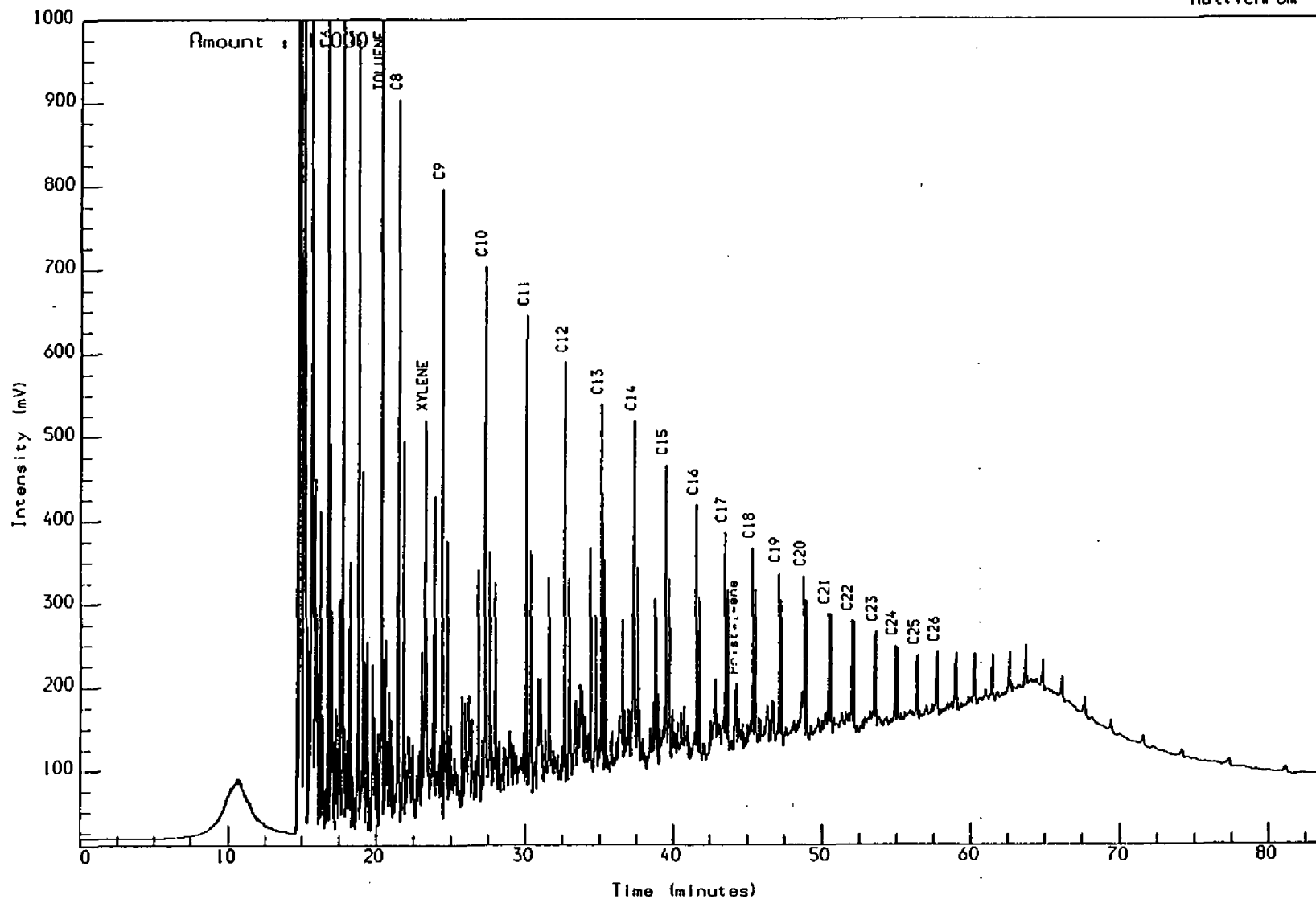
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400161.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2881.00m ccp

Reported on 7-JAN-1991 at 13.57

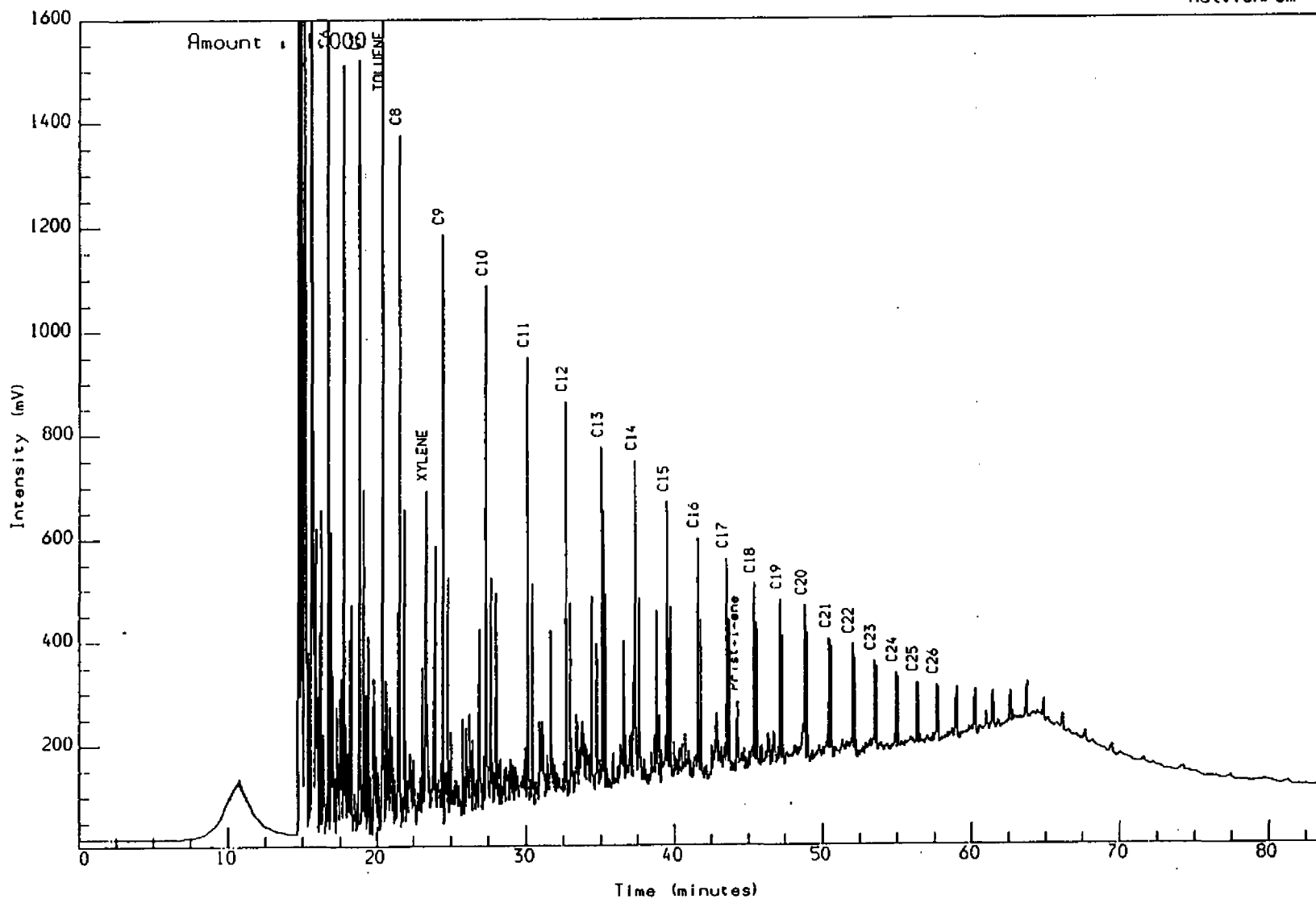
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400171.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2881.90m ccp

Reported on 7-JAN-1991 at 14.00

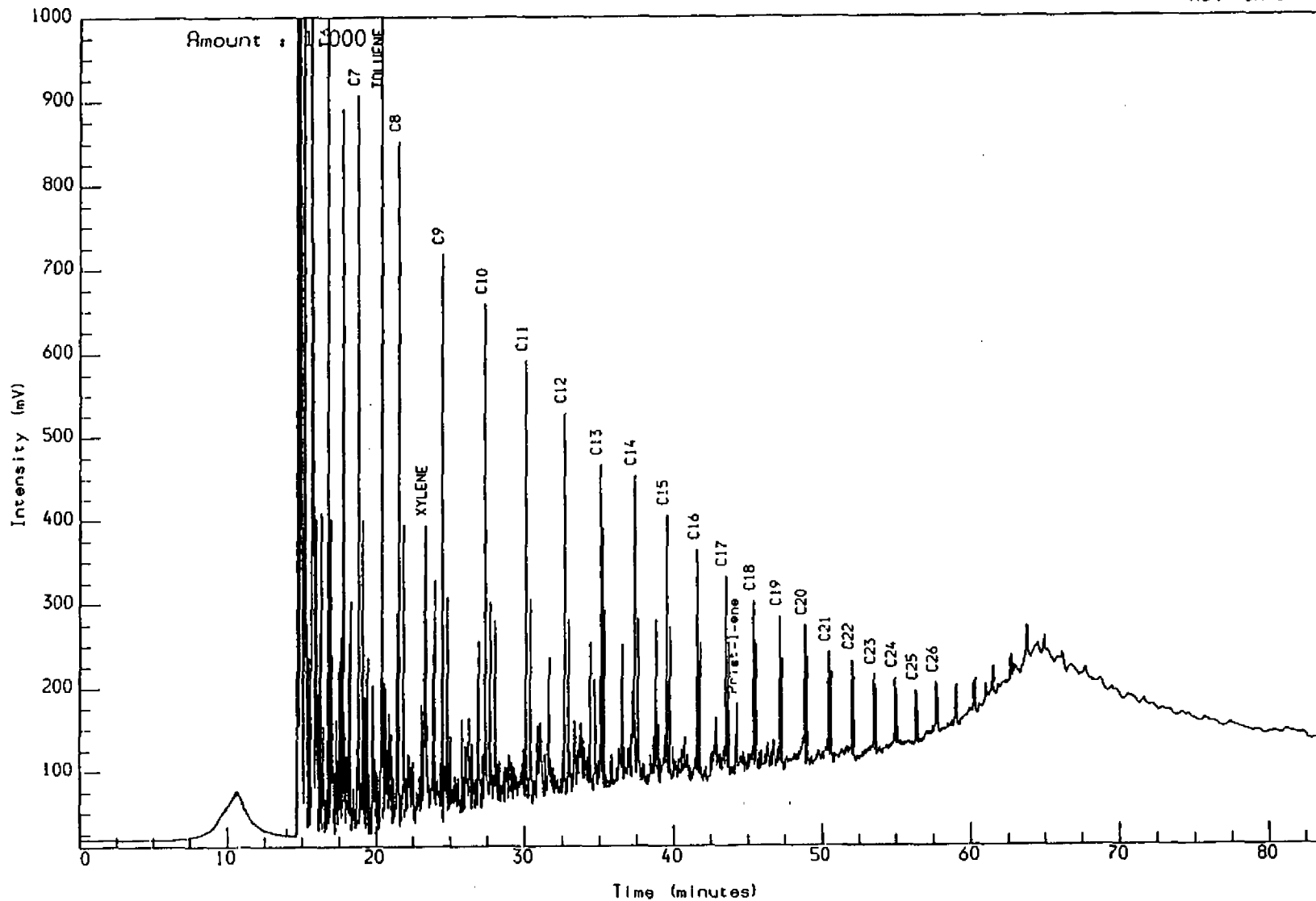
Schlumberger

GECO-PRAKLA

GEOLAB/NOR

Analysis Name : [P2304PHIL] 24 PE6400181.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: lt or to or gy

2882.80m ccp

Reported on 7-JRN-1991 at 13.59

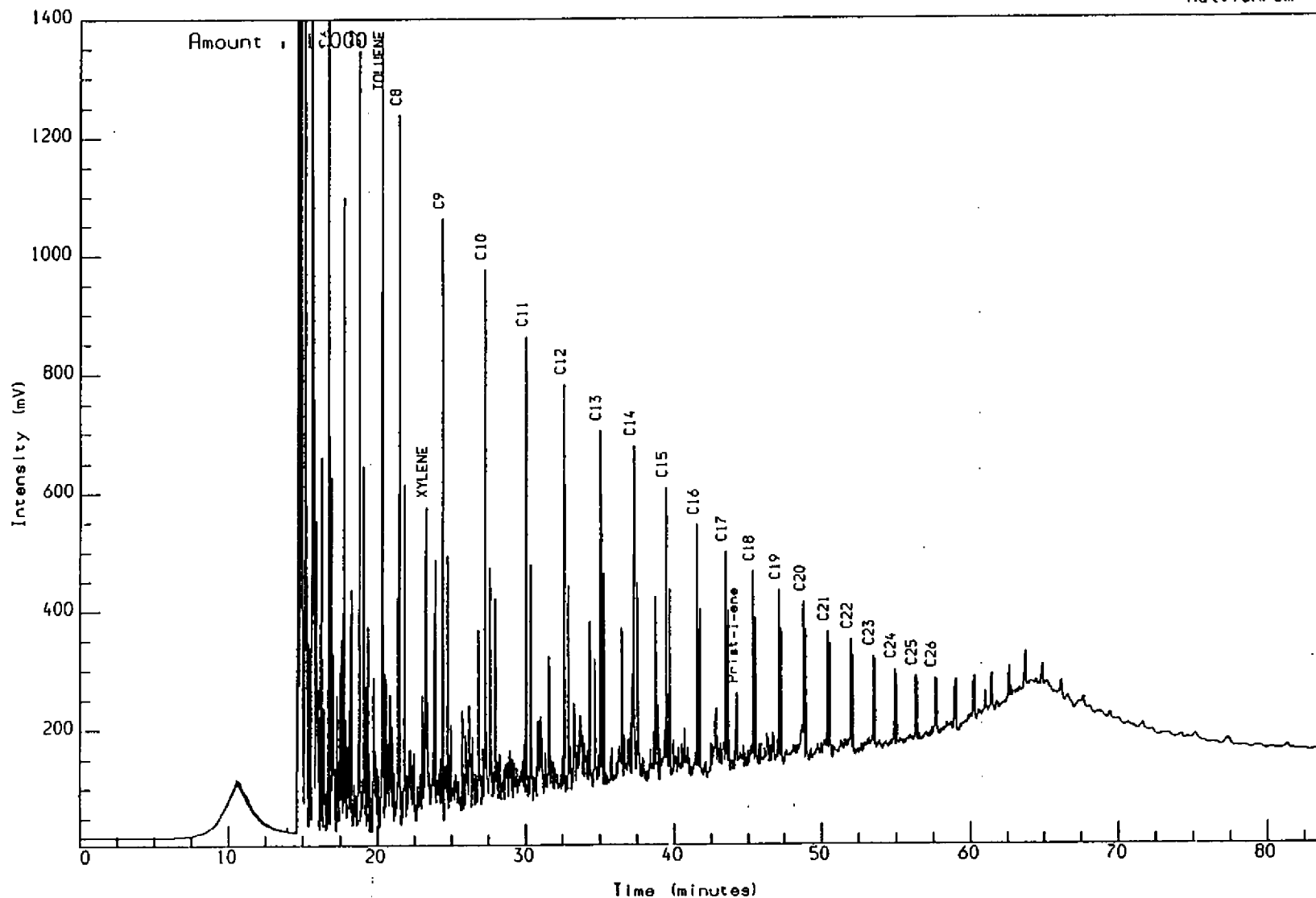
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304PHIL] 24 PE6400191.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
-Ca: lt or to or gy

2883.70m ccp

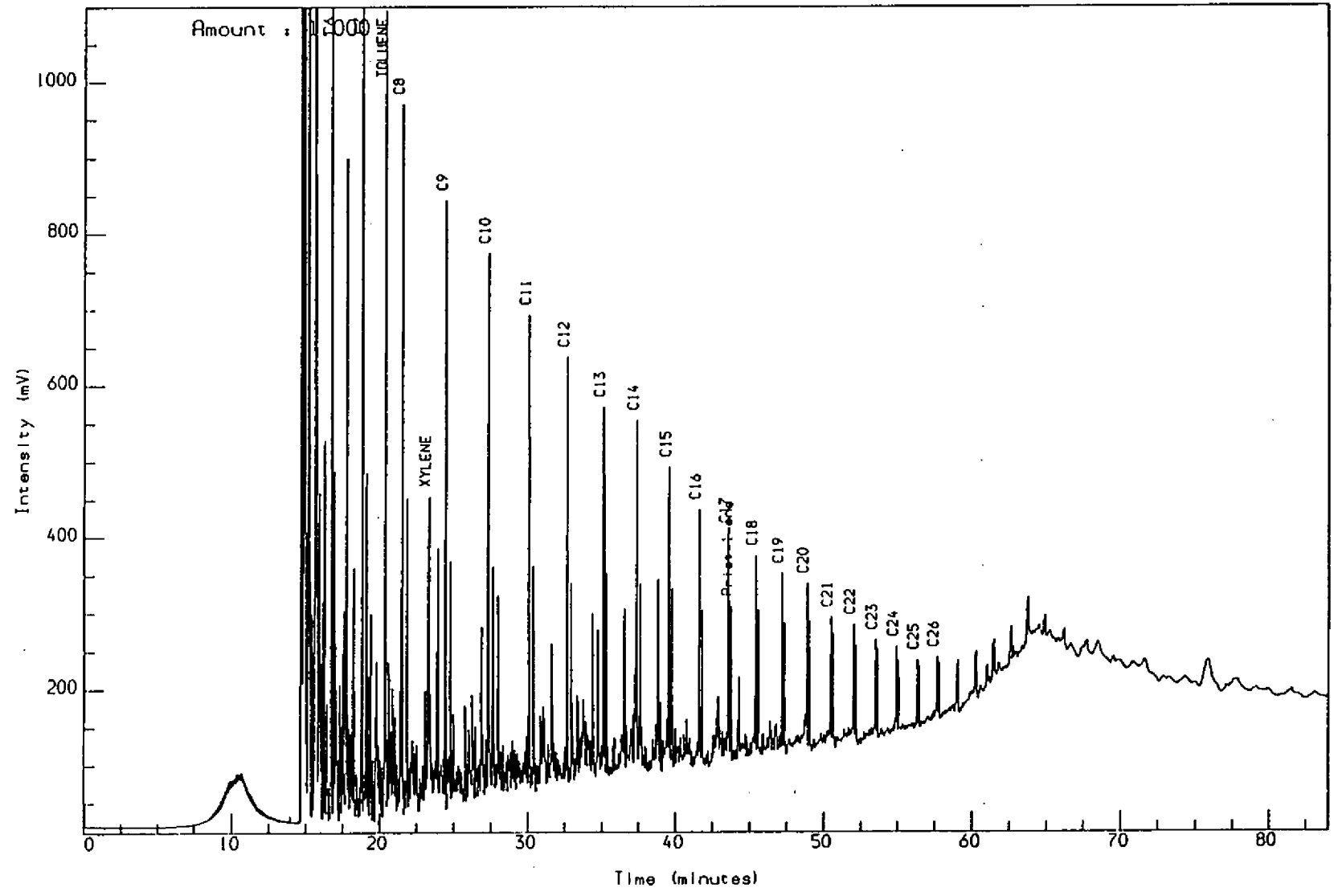
Reported on 8-JAN-1991 at 08.34

Schlumberger GECO-PRAKLA

GEOLABOR

Analysis Name : [P2304PHIL] 24 PE6400201.1.1.

Multichrom



WELL NOCS 2/7-3X
PYROLYSIS GC (S2)
Ca: 1t or to or gy

2884.60m ccp

Reported on 8-JAN-1991 at 08.35

Schlumberger GECO-PRAKLA

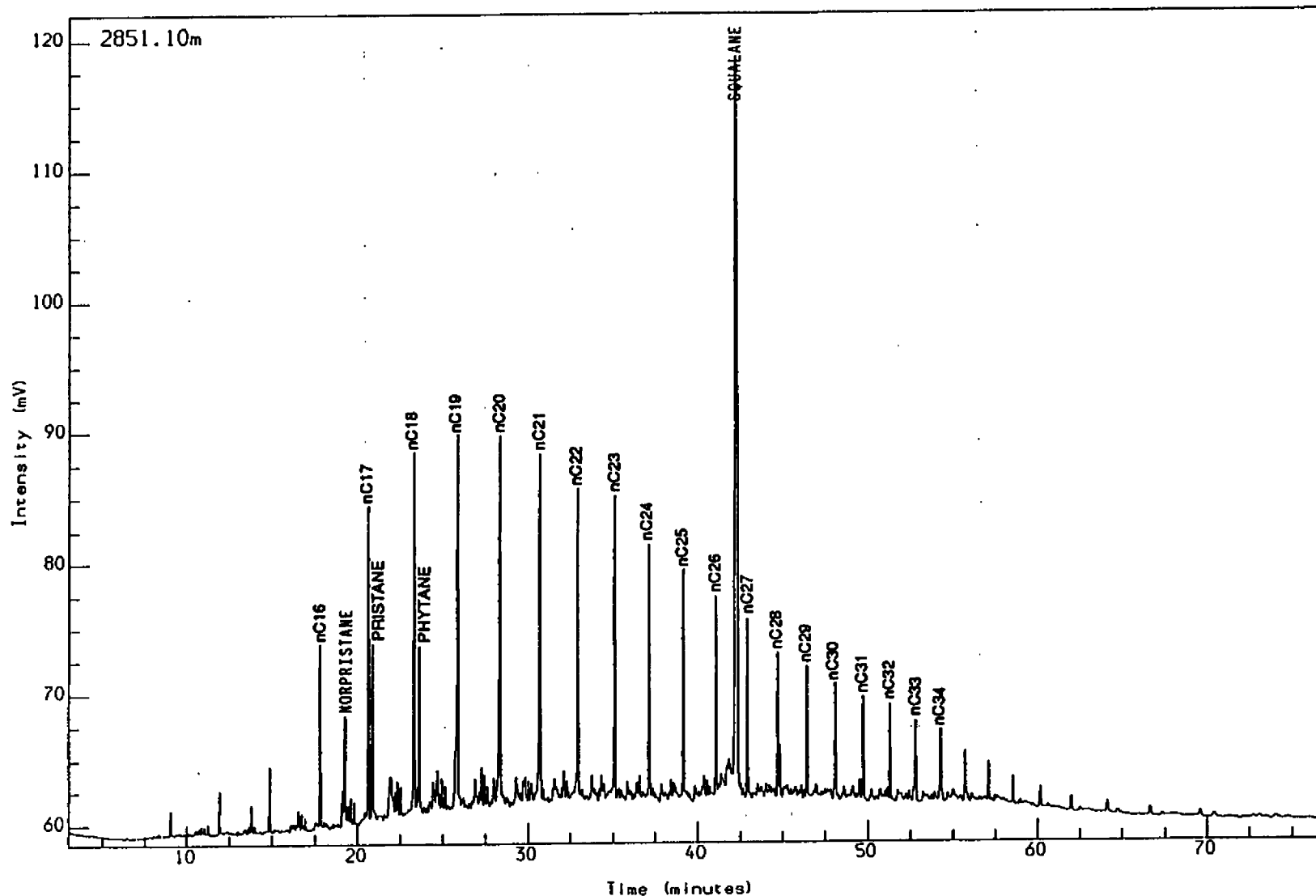
GEOLAB NOR

APPENDIX 3:

**SATURATED AND AROMATIC
HYDROCARBON GAS
CHROMATOGRAMS**

Analysis Name : [P2304] 11 SE6400011L,1,1.

Multichrom



WELL NUOS 2/7-3X
SATURATED GC
Ca:lt or to or gy

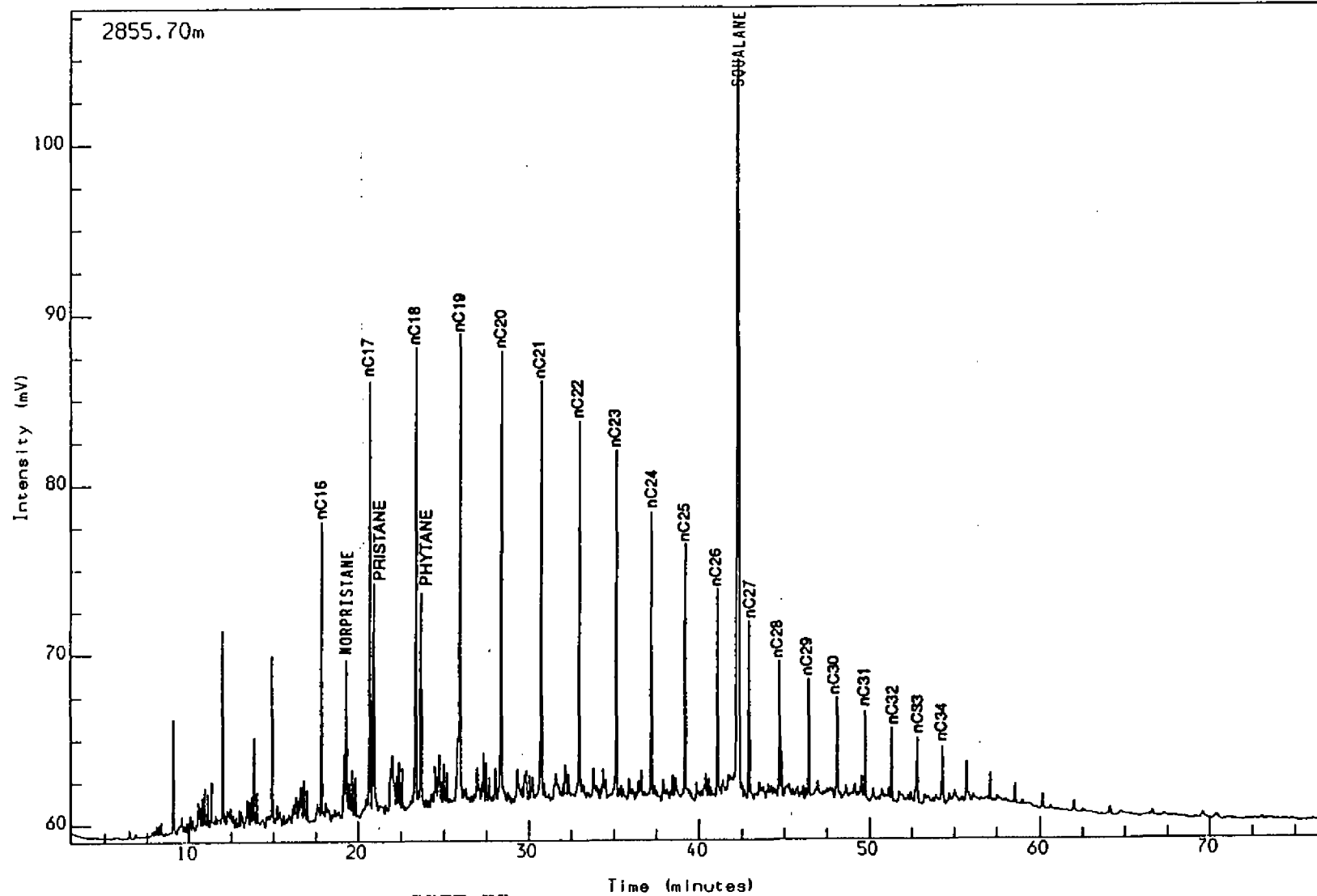
2851.10m

Reported on 11-MAR-1992 at 08:56

Schlumberger

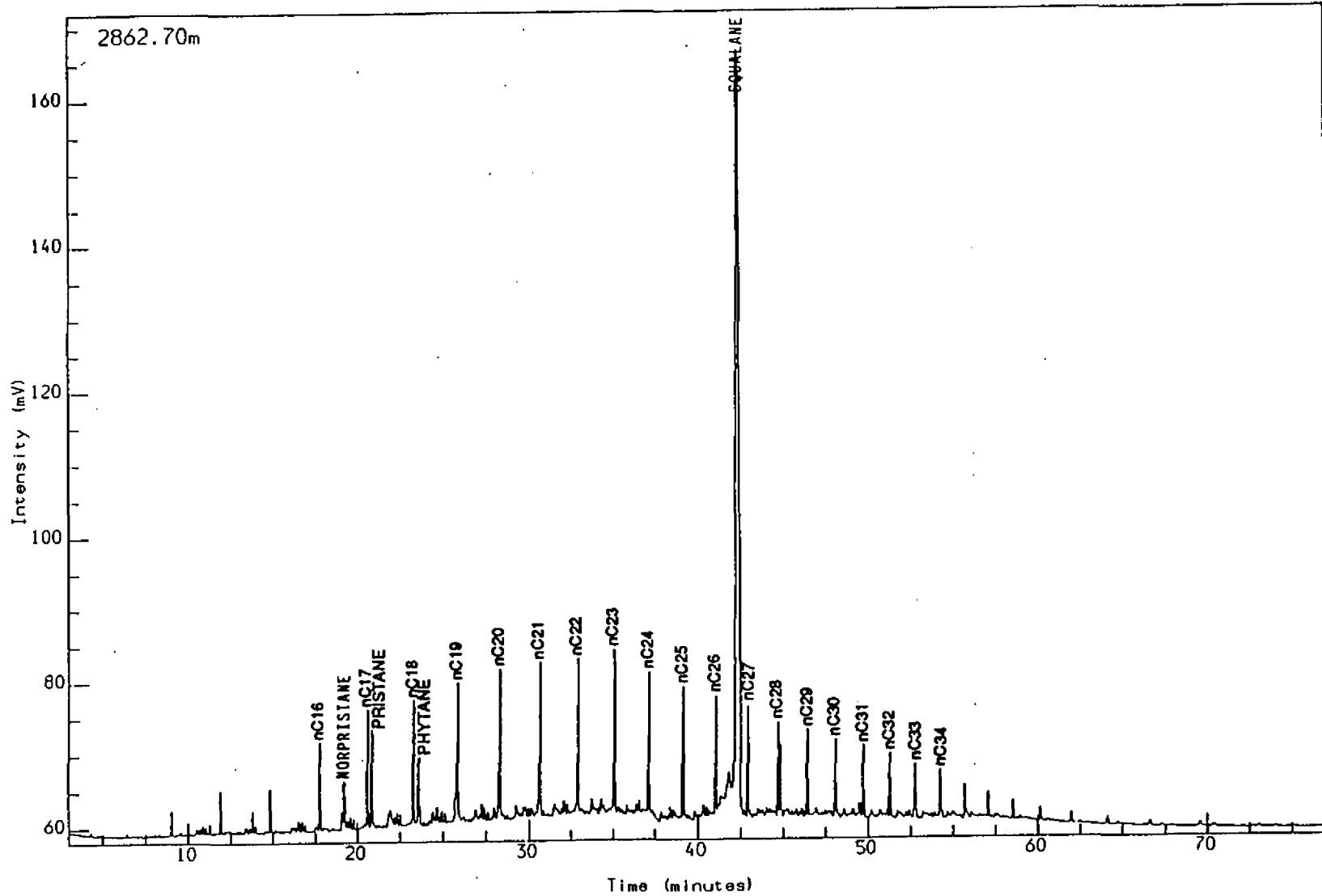
GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X 2855.70m
SATURATED GC
Ca:lt or to or gy to lt brn gy

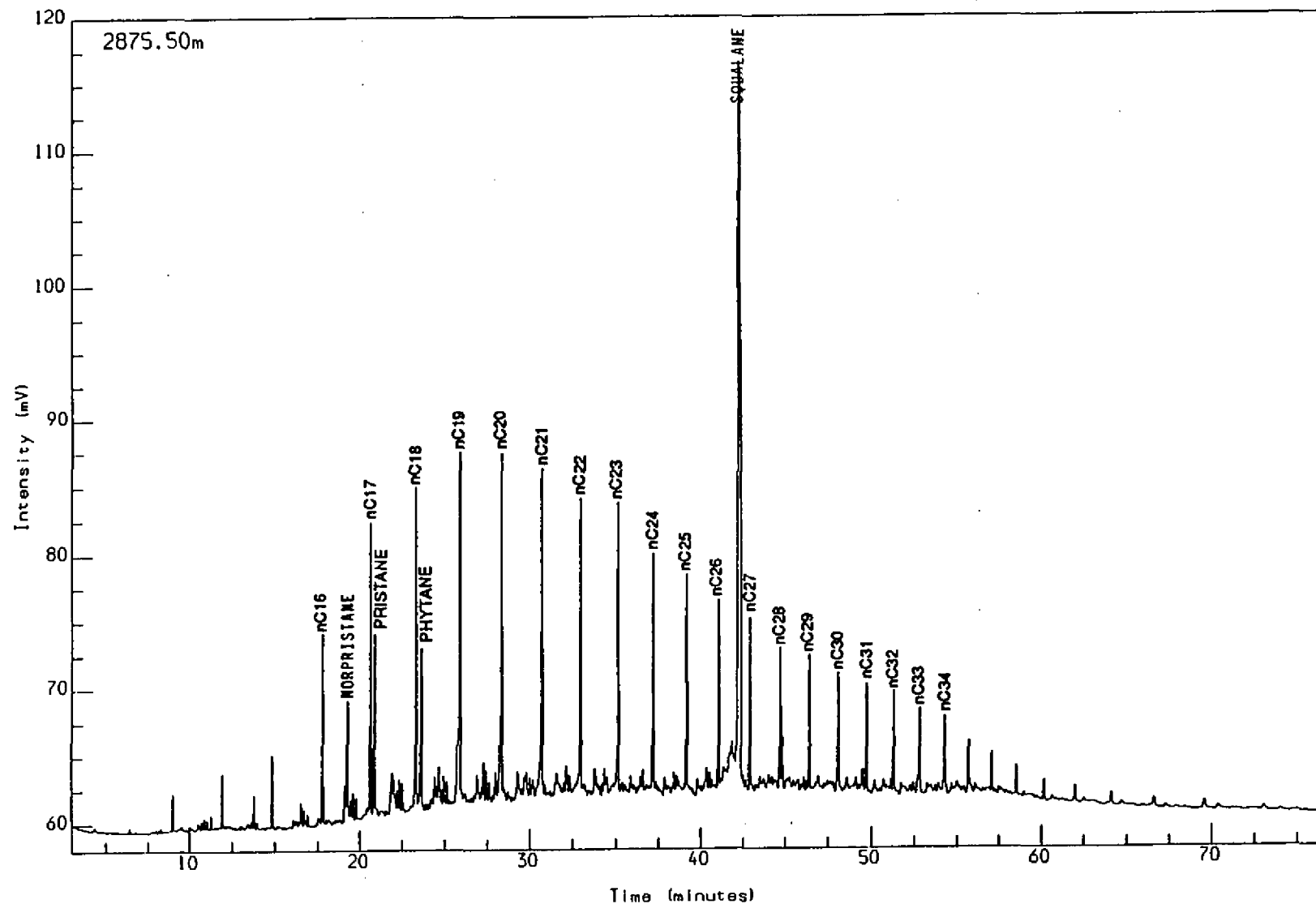
Reported on 11-MAR-1992 at 08.58



WELL NOCS 2/7-3X
SATURATED GC
Ca:1t or to or gy

2862.70m

Reported on 11-MAR-1992 at 08:59



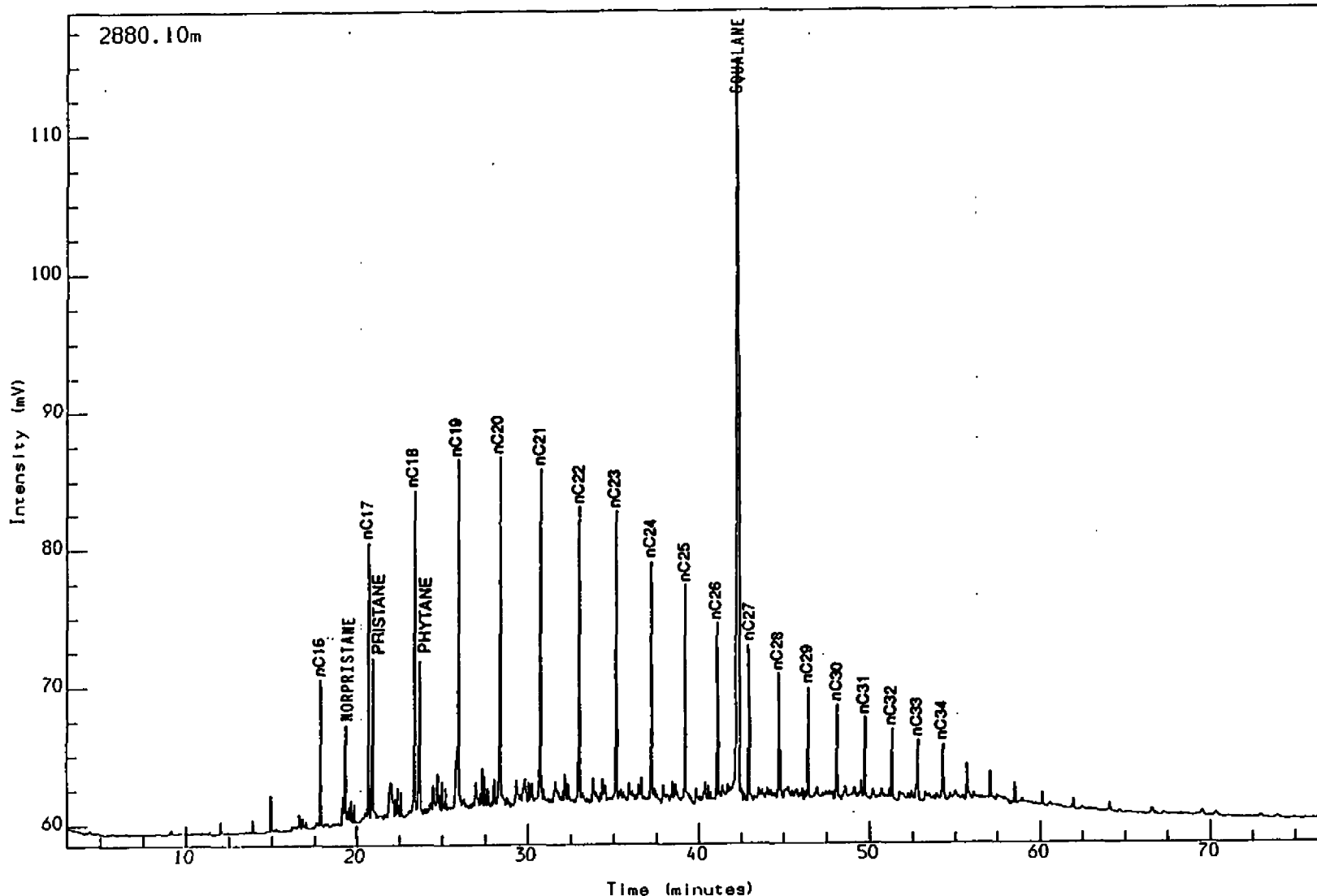
WELL NOCS 2/7-3X
SATURATED GC
Ca:lt or to or gy

2875.50m

Reported on 11-MAR-1992 at 09:01

Analysis Name : [P2304] 11 SE6400151L,1,1.

Multichrom



WELL NOCS 2/7-3X
SATURATED GC
Ca:It or to or gy

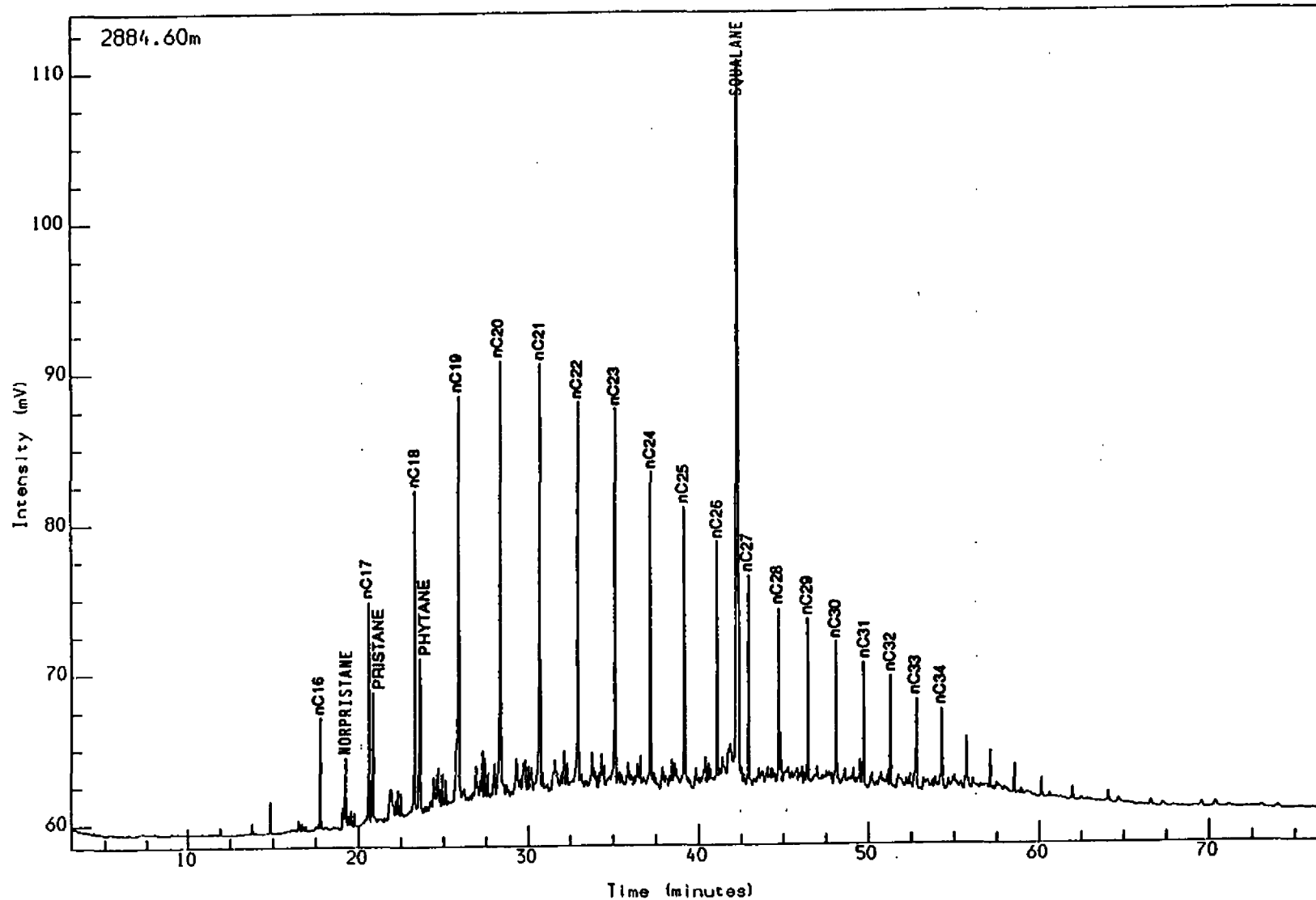
2880.10m

Reported on 11-MAR-1992 at 17.43

Schlumberger

GECO-PRAKLA

GEOLAB NOR



WELL NOCS 2/7-3X
SATURATED GC
Ca:lt or to or gy

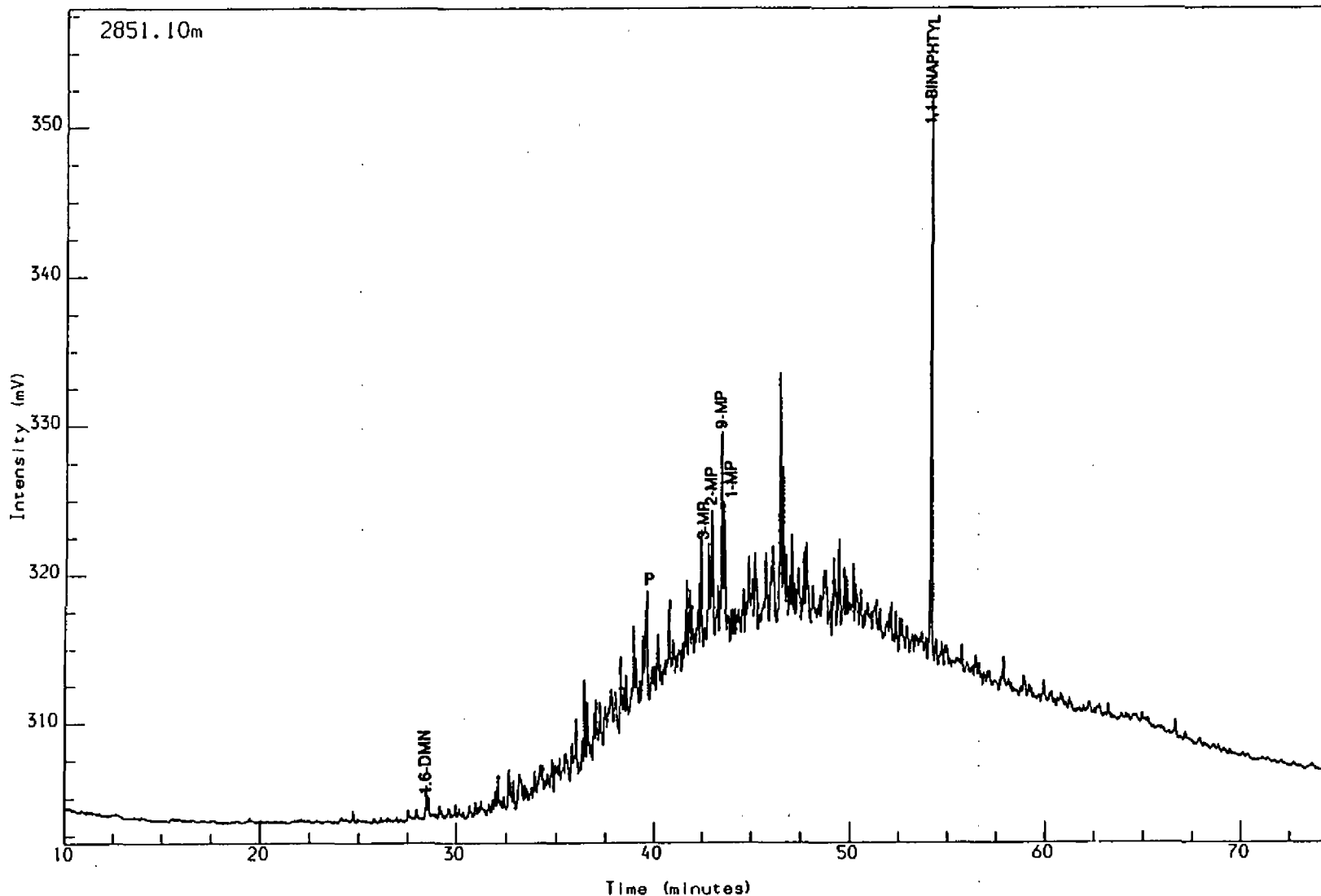
2884.60m

Reported on 11-MAR-1992 at 17:44

Schlumberger

GECO-PRAKLA

GEOLAB NOR

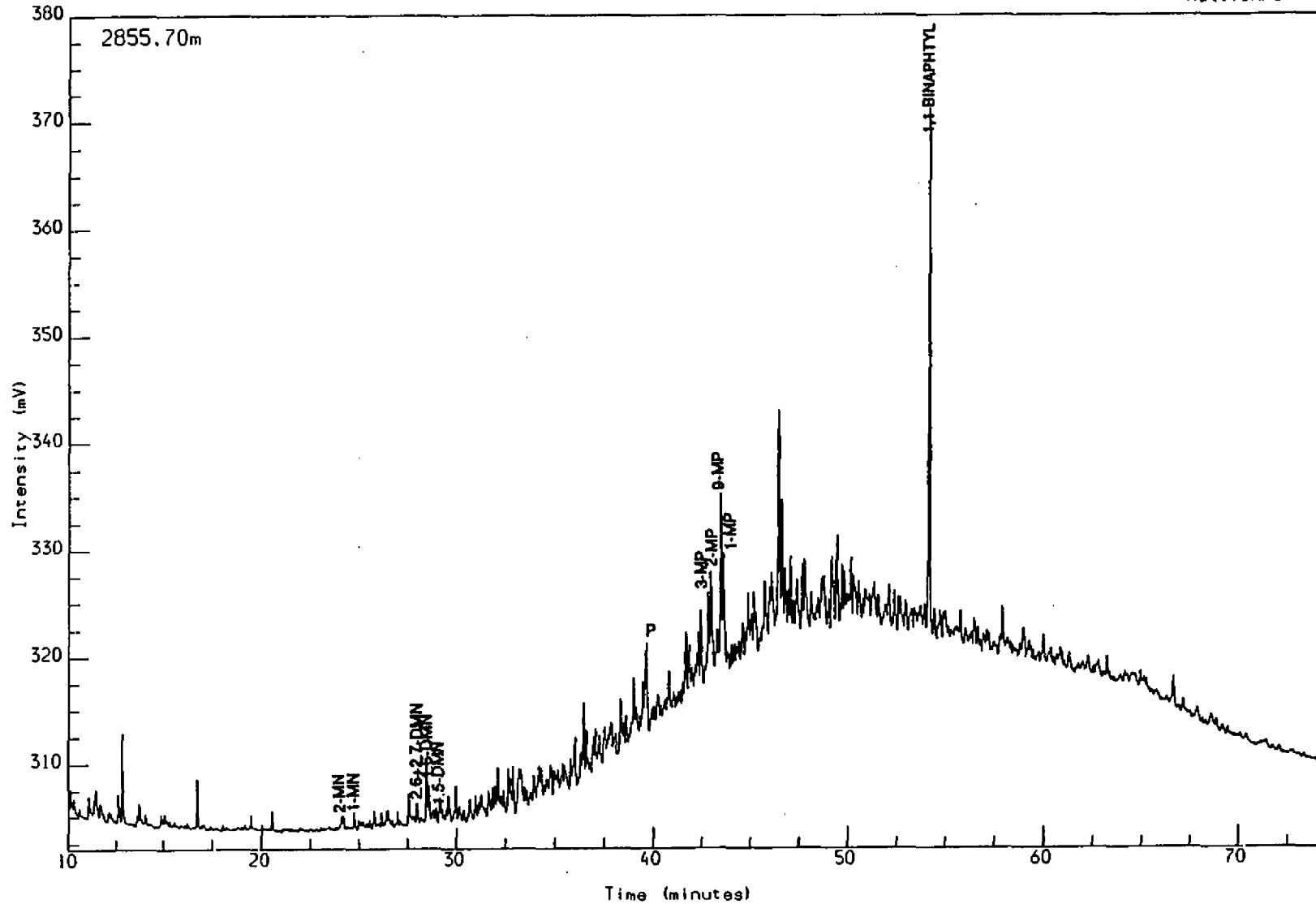


WELL NOCS 2/7-3X 2851.10m
AROMATIC GC (FID)
Ca:lt or to or gy

Reported on 10-APR-1992 at 11.32

Analysis Name : [P2304] 29 AE6400011L,4,1.

Multichrom



WELL NOCS 2/7-3X 2855.70m
AROMATIC GC (FID)
Ca:lt or to or gy to lt brn gy

Reported on 10-APR-1992 at 12:02

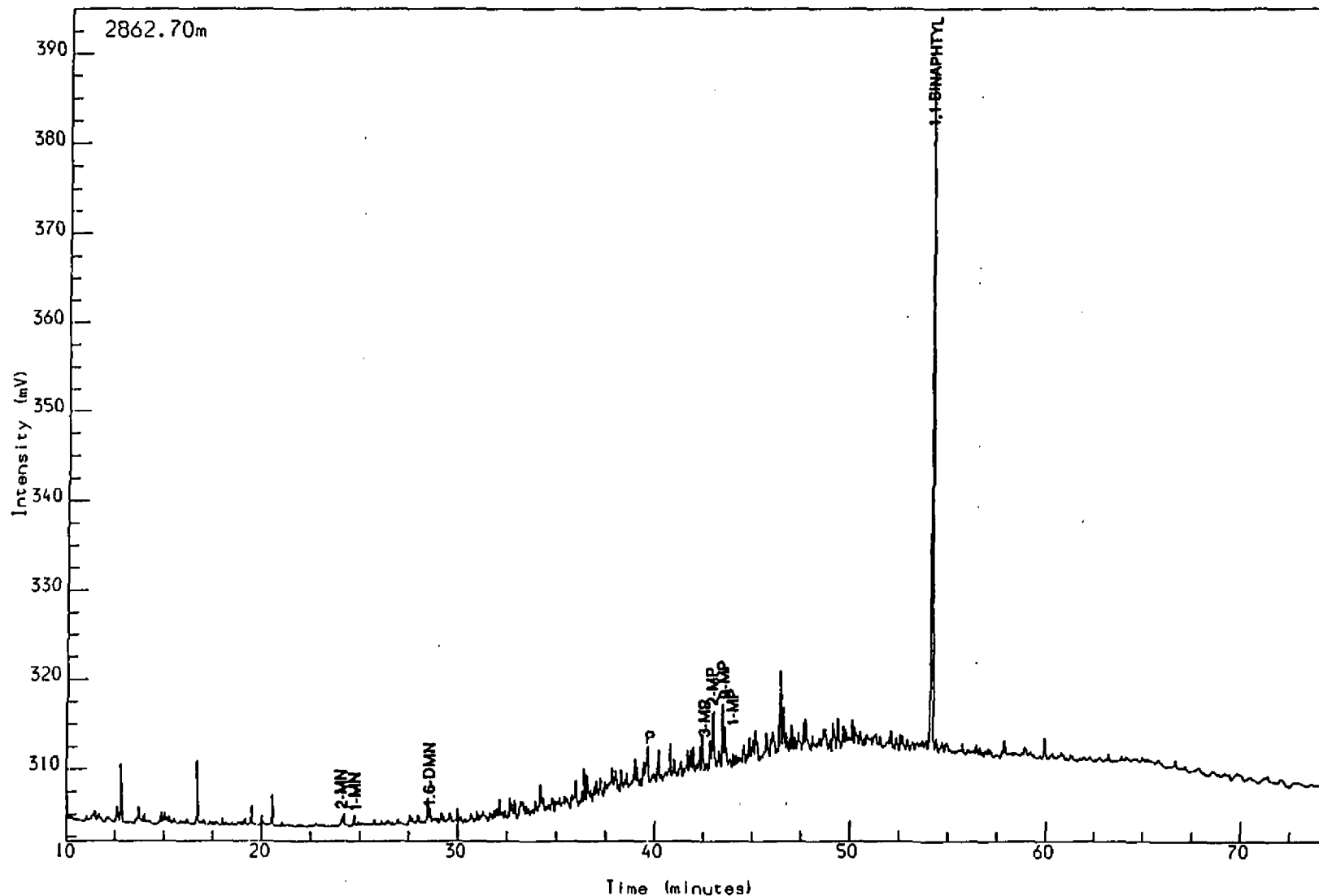
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 29 AE6400011L.5.1.

Multichrom



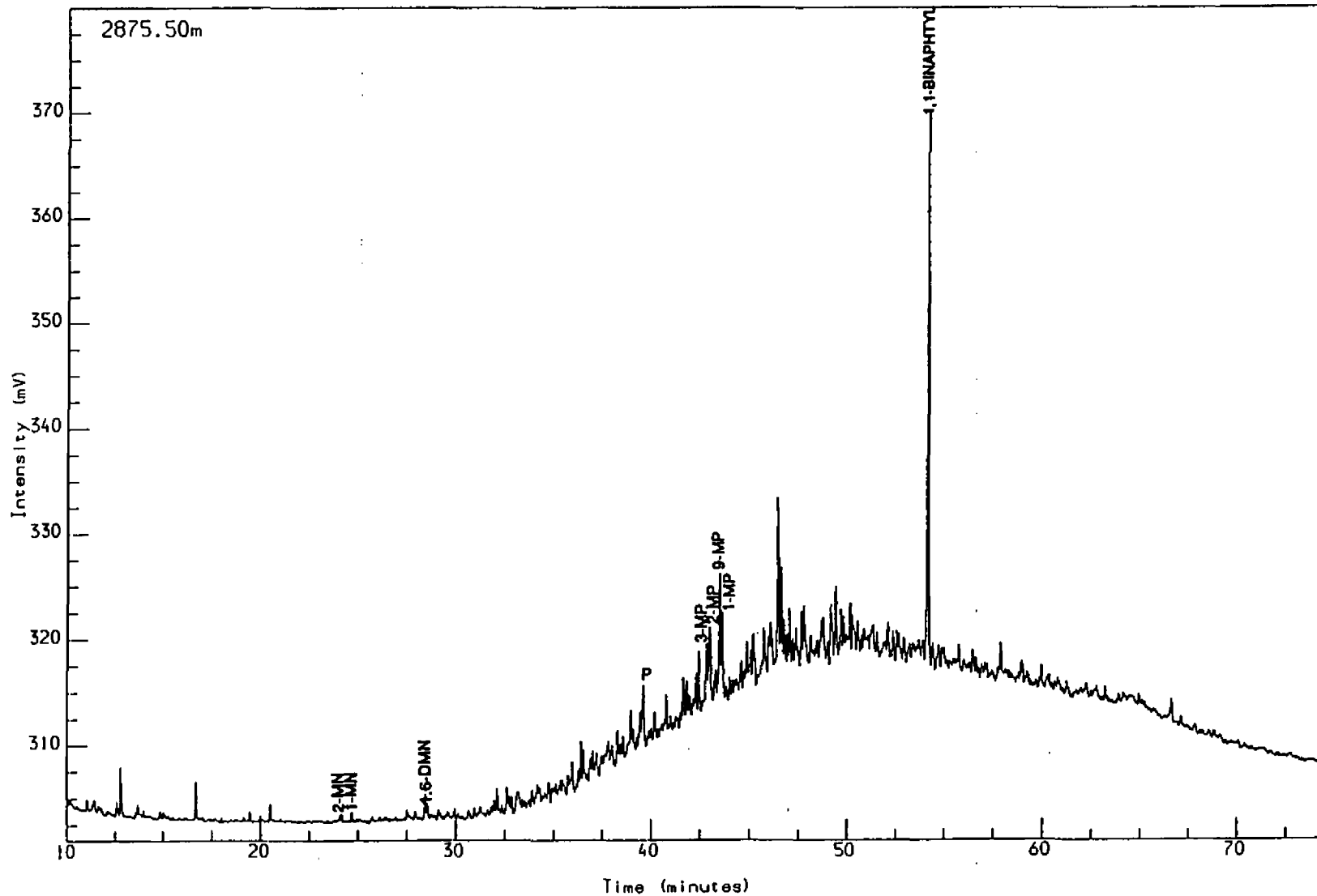
WELL NOCS 2/7-3X 2862.70m
AROMATIC GC (FID)
Ca:lt or to or gy

Reported on 10-APR-1992 at 12.15

Schlumberger

GECO-PRAKLA

GEOLAB NOR

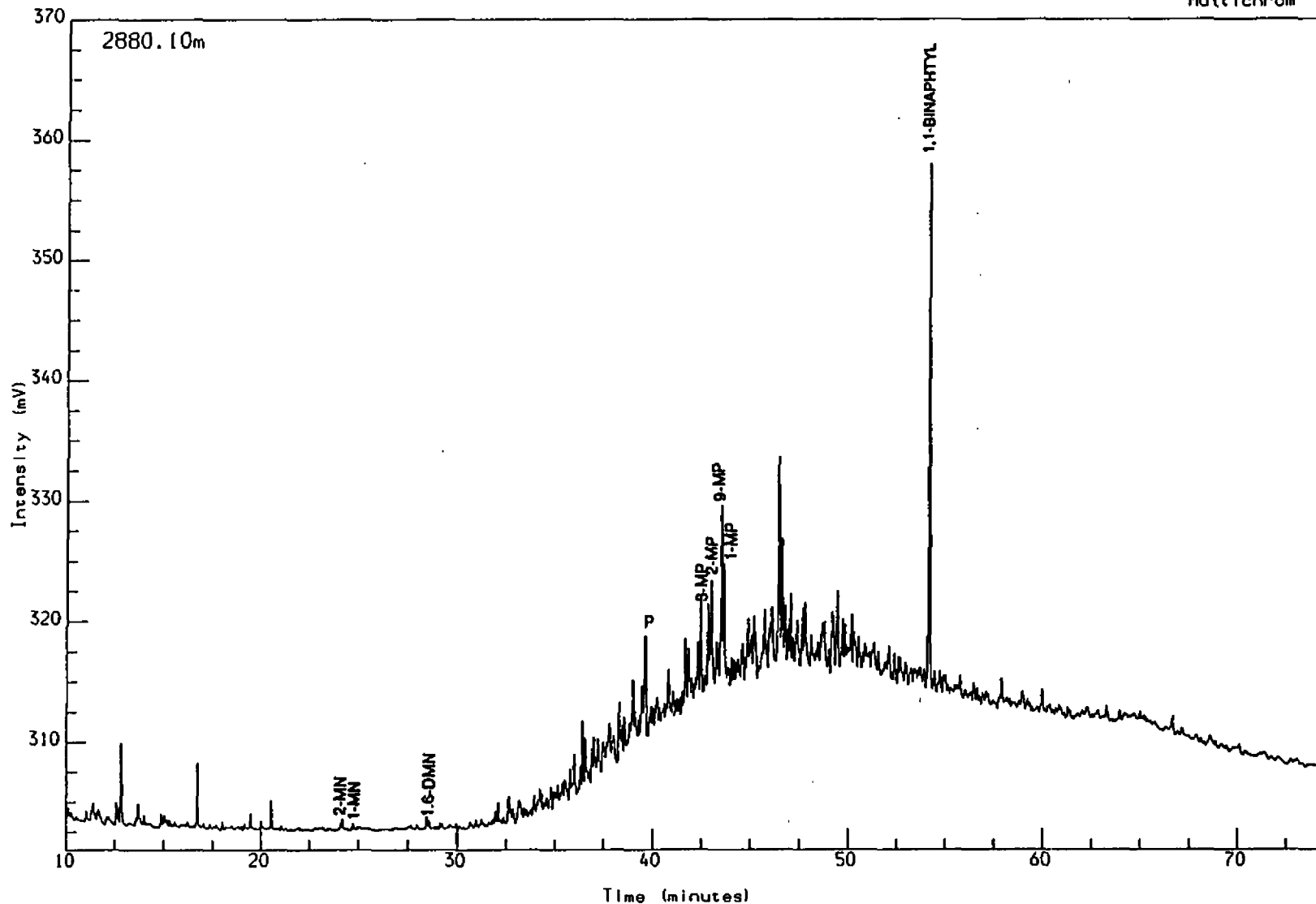


WELL NOCS 2/7-3X 2875.50m
AROMATIC GC (FID)
Ca:lt or to or gy

Reported on 10-APR-1992 at 12:17

Analysis Name , [P2304] 29 AE6400011L.7.1.

Multichrom



WELL NOCS 2/7-3X 2880.10m
AROMATIC GC (FID)
Ca:lt or to or gy

Reported on 10-APR-1992 at 12:12

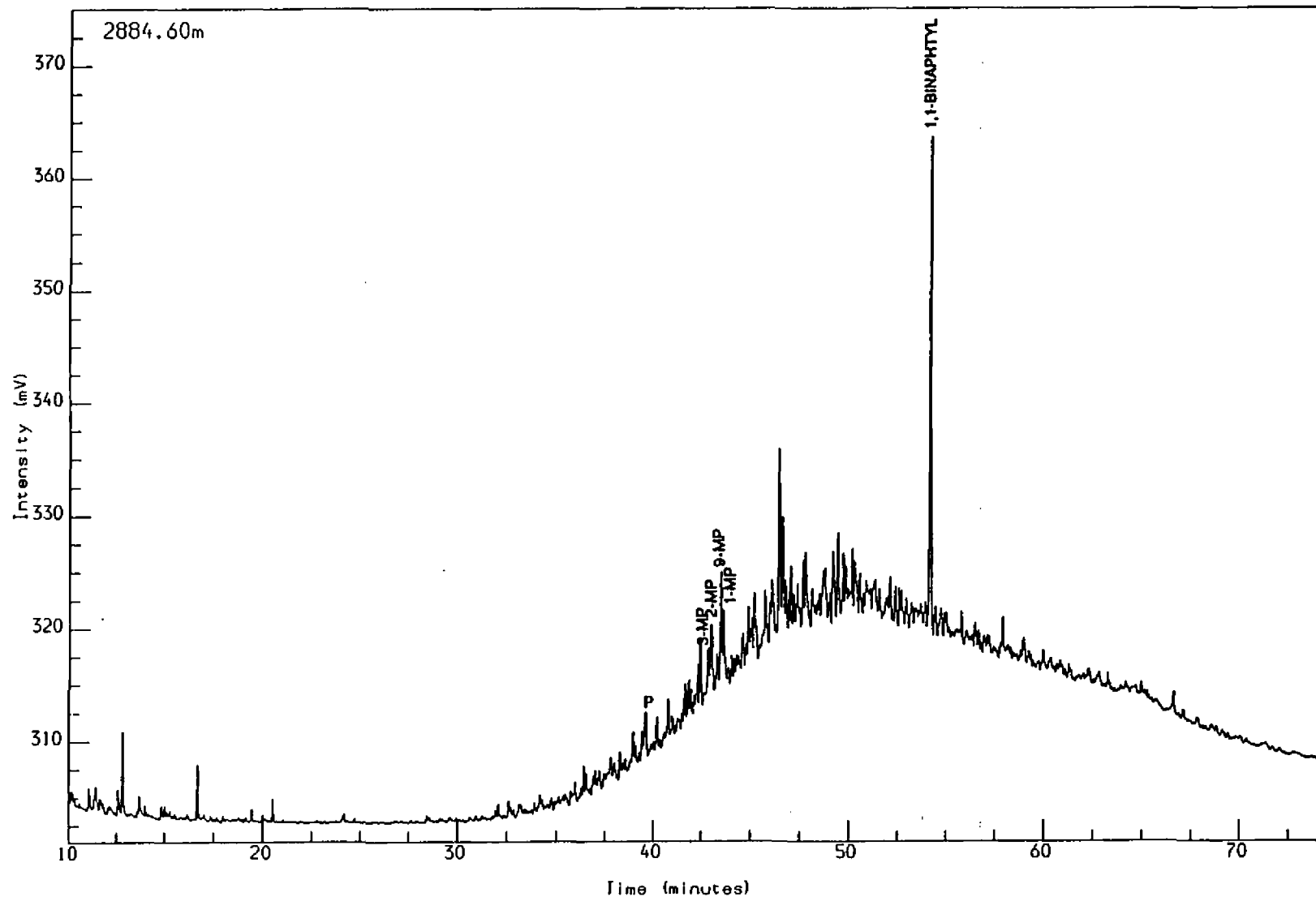
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 29 AE6400011L.8.1.

Multichrom



WELL NOCS 2/7-3X 2884.60m
AROMATIC GC (FID)
Ca:lt or to or gy

Reported on 10-APR-1992 at 12:20

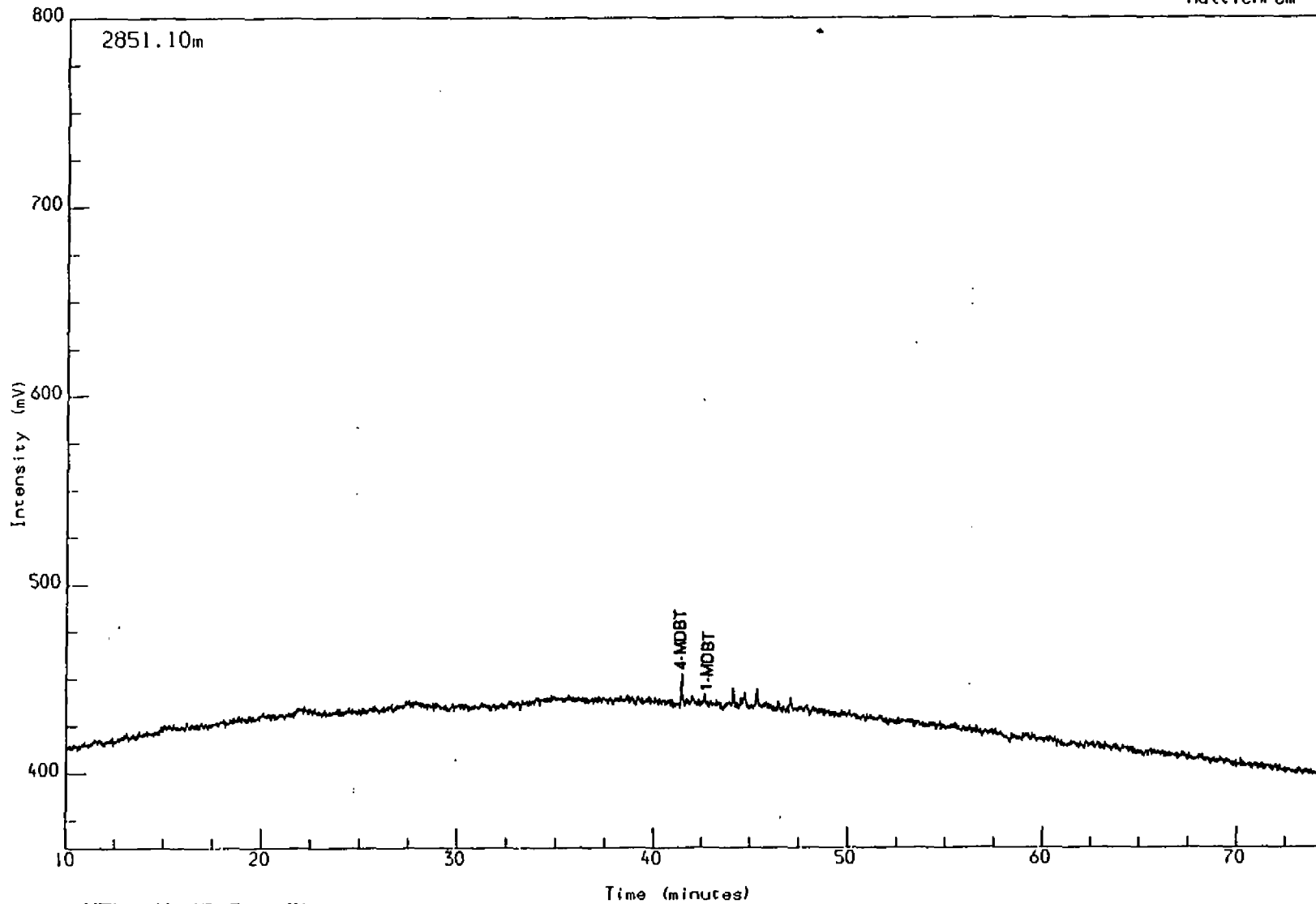
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L.3.1.

Multichrom



WELL NO: 2/7-3X 2851.10m
AROMATIC GC (FPD)
Ca: it or ta or gy

Reported on 9-APR-1992 at 12:26

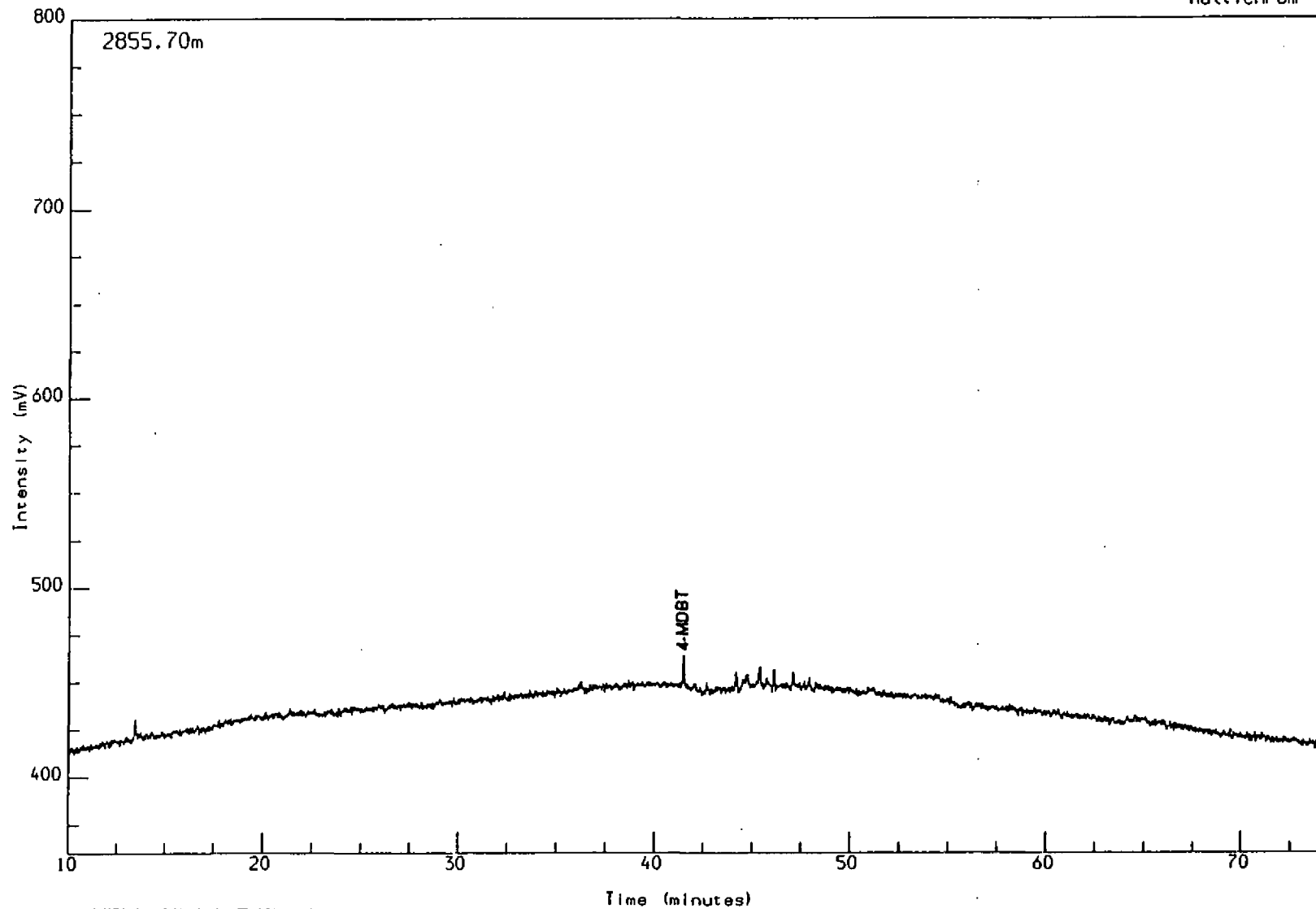
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L,4,1.

Multichrom



WELL NOCS 2/7-3X 2855.70m
AROMATIC GC (FPD)
Ca:1t or to or gy to 1t brn gy

Reported on 9-APR-1992 at 12:29

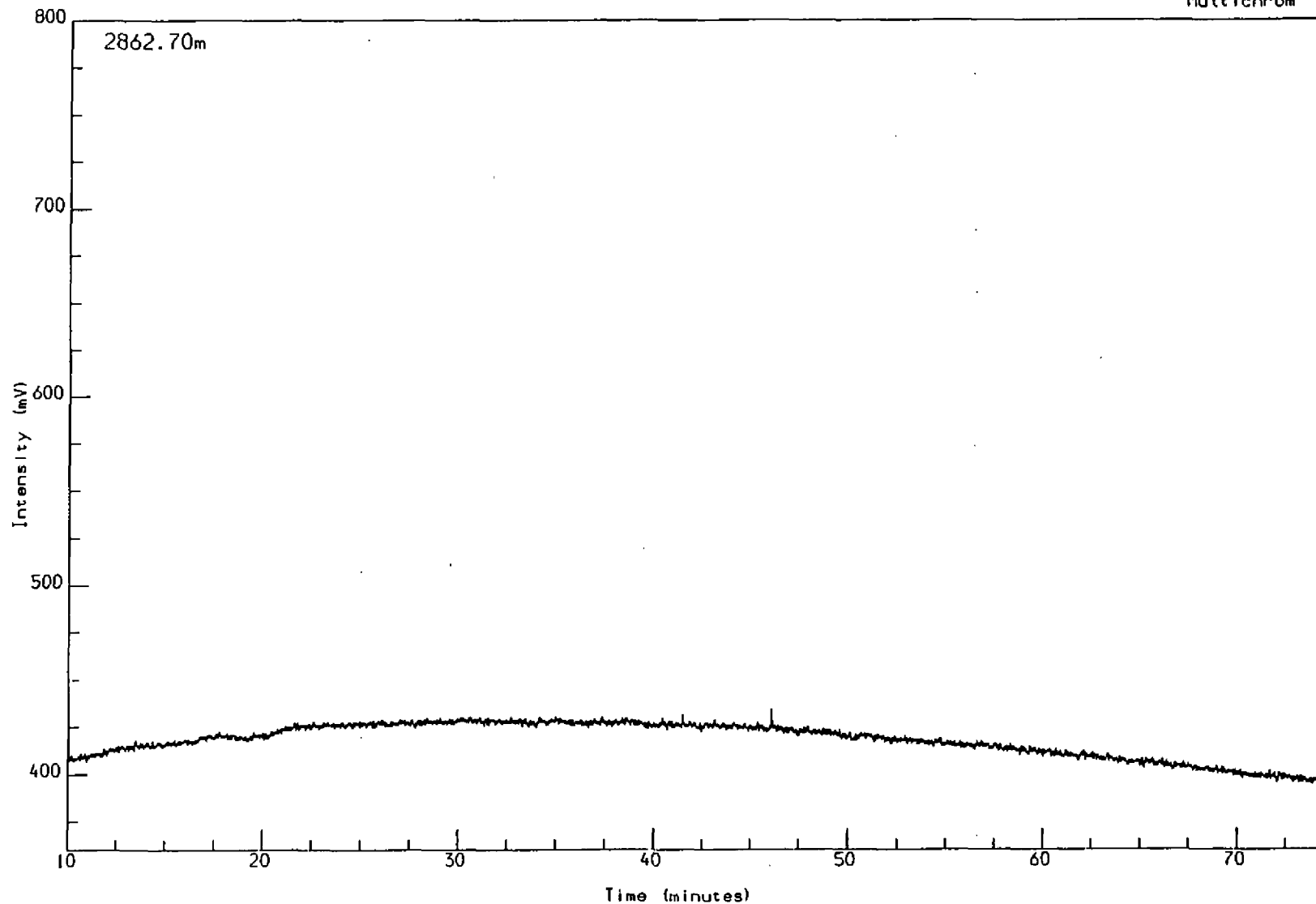
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L,5,1.

Multichrom



WELL NOCS 2/7-3X
AROMATIC GC (FPD)
Ca:lt or to or gy

2862.70m

Reported on 9-APR-1992 at 12:31

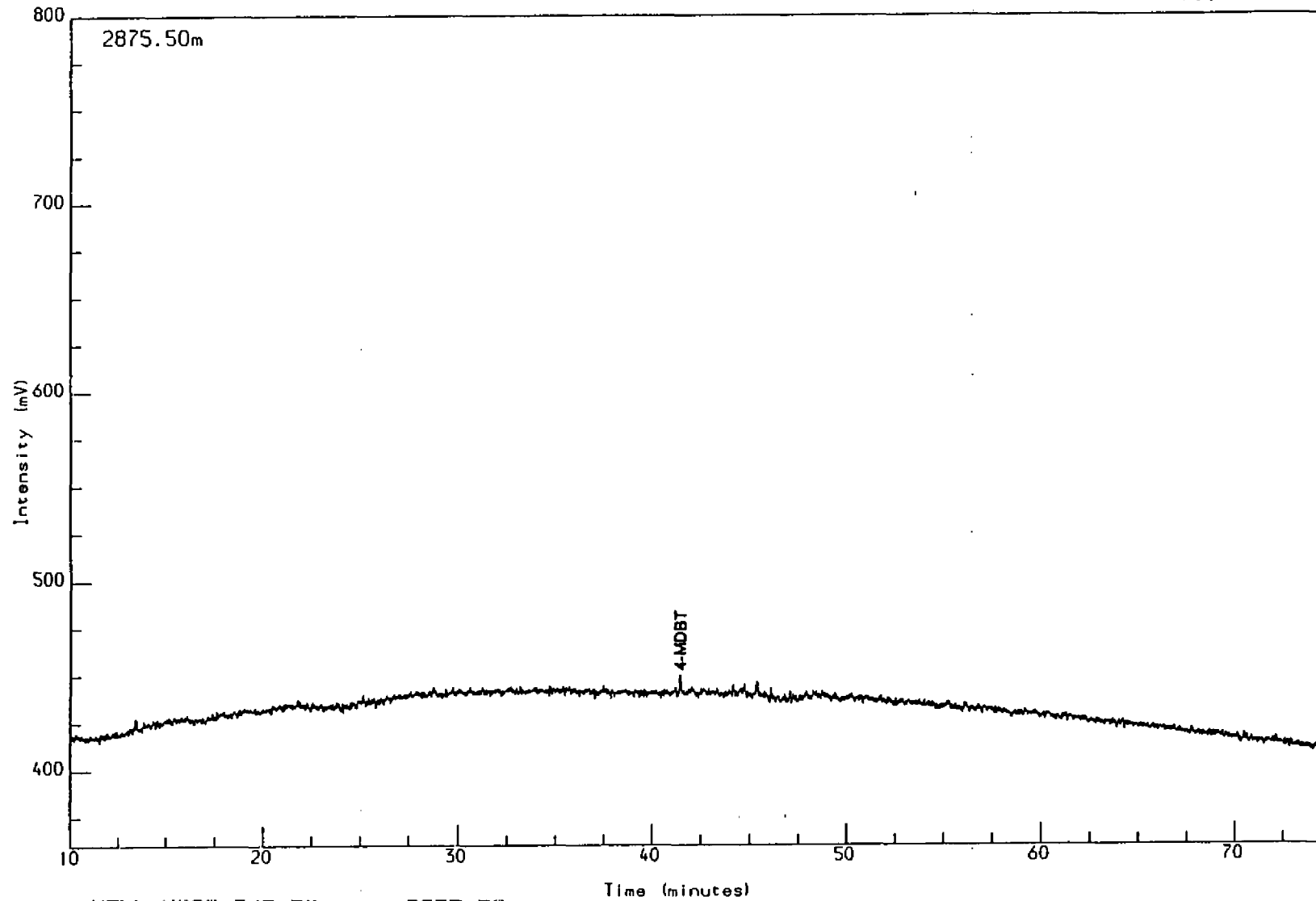
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L,6,1.

Multichrom



WELL NOCS 2/7-3X
AROMATIC GC (FPD)
Ca:1t or to or gy

2875.50m

Time (minutes)

Reported on 9-APR-1992 at 12:34

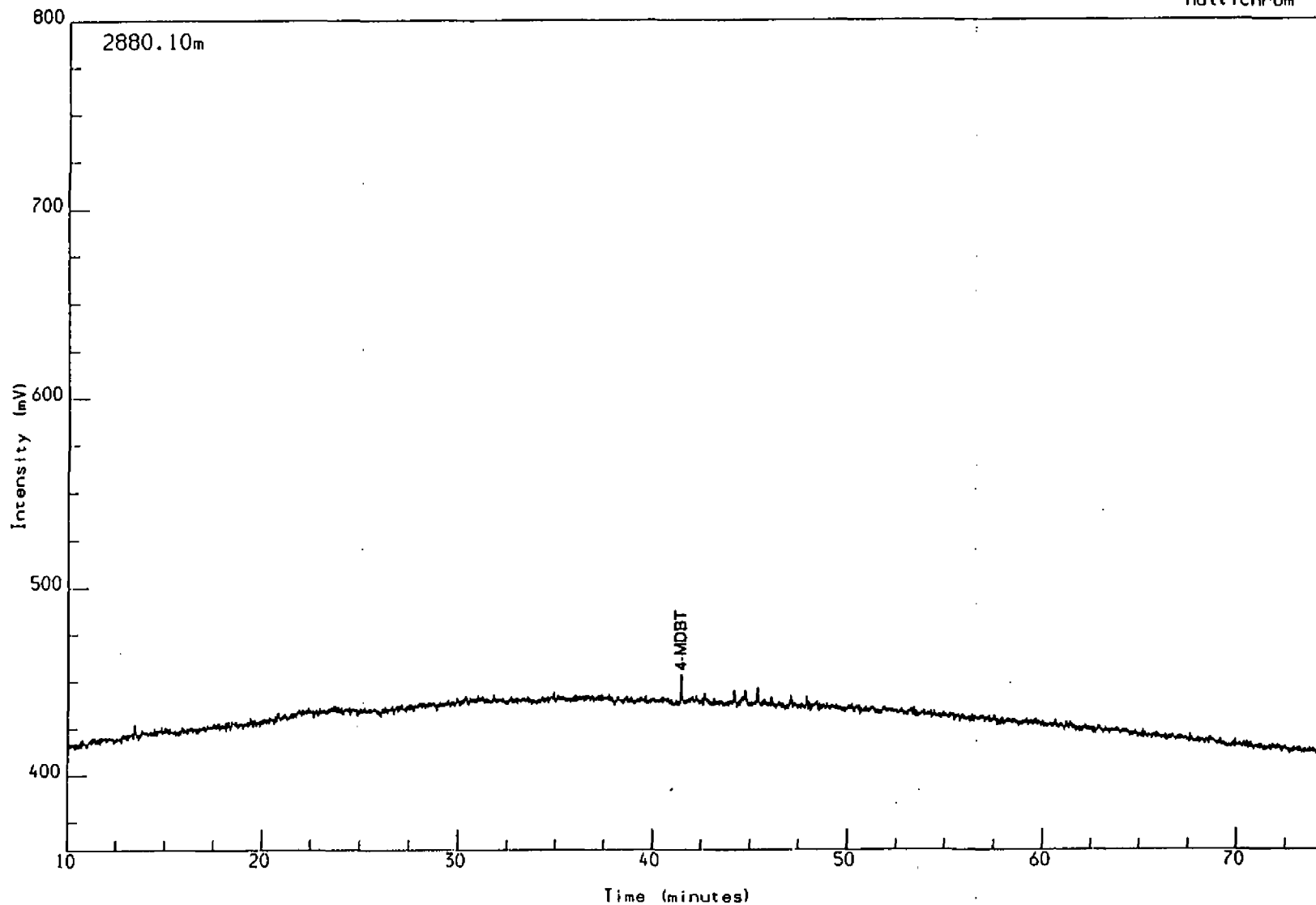
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L.7.1.

Multichrom



WELL NDCS 2/7-3X
AROMATIC GC (FPD)
Ca:lt or to or gy

2880.10m

Reported on 9-APR-1992 at 12:37

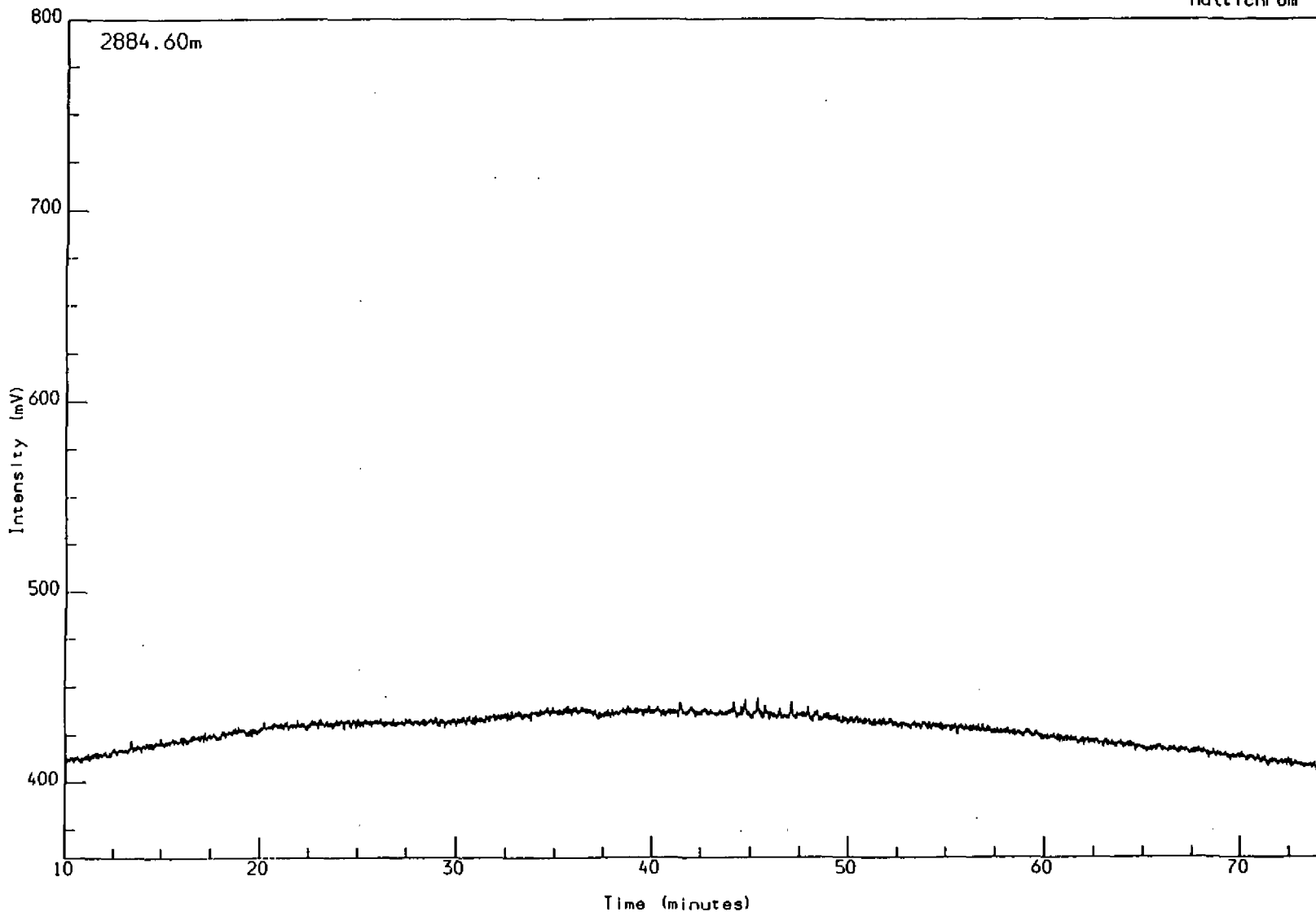
Schlumberger

GECO-PRAKLA

GEOLAB NOR

Analysis Name : [P2304] 30 AE6400011L,8,1.

Multichrom



WELL NOCS 2/7-3X
AROMATIC GC (FPD)
Ca:It or ta or gy

2884.60m

Reported on 9-APR-1992 at 12:39

Schlumberger

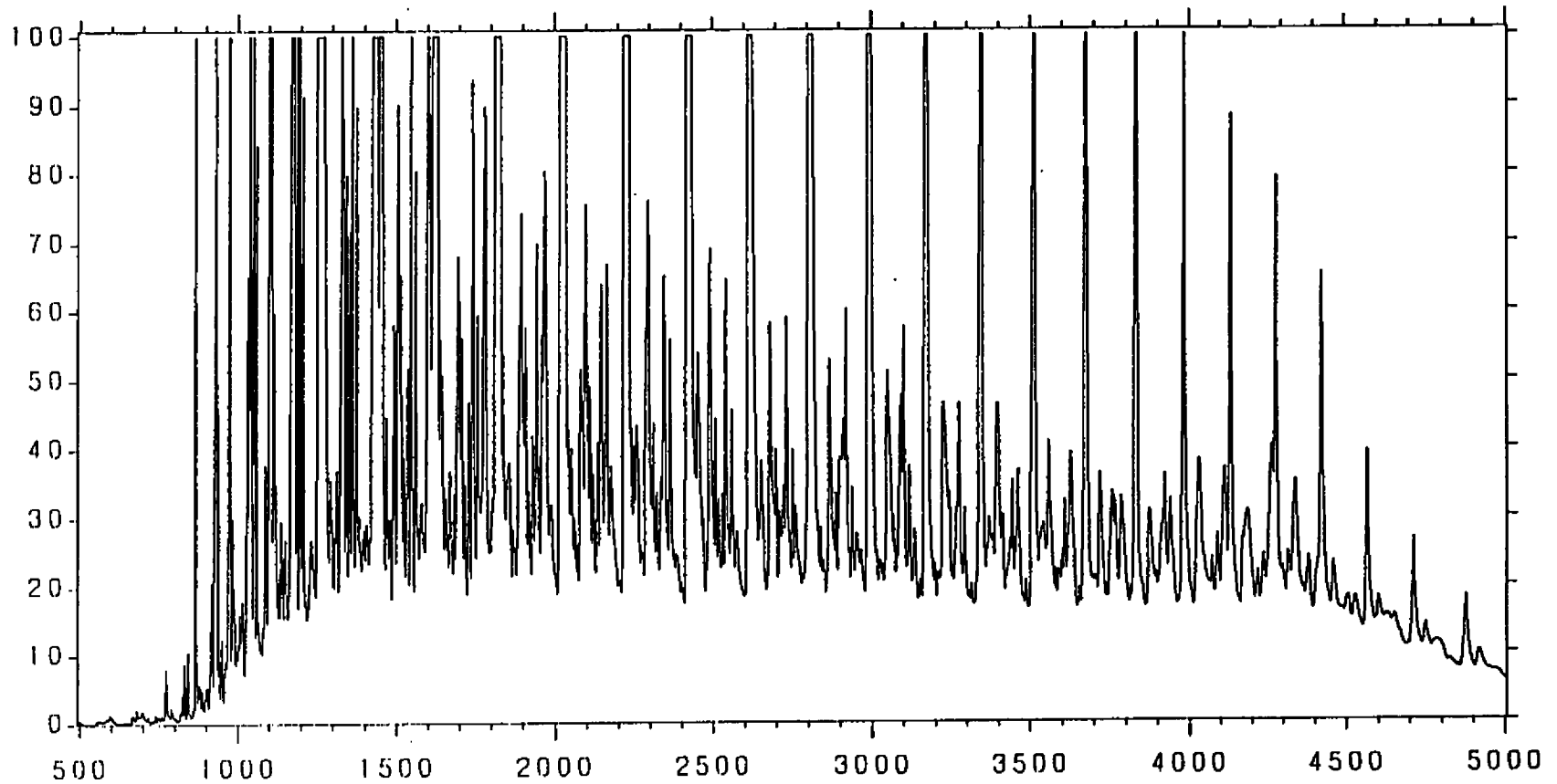
GECO-PRAKLA

GEOLAB NOR

APPENDIX 4:

MASS FRAGMENTOGRAMS

M/z 99 * 1.01849: Min = 1190, Max = 65535, Delta = 64345



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

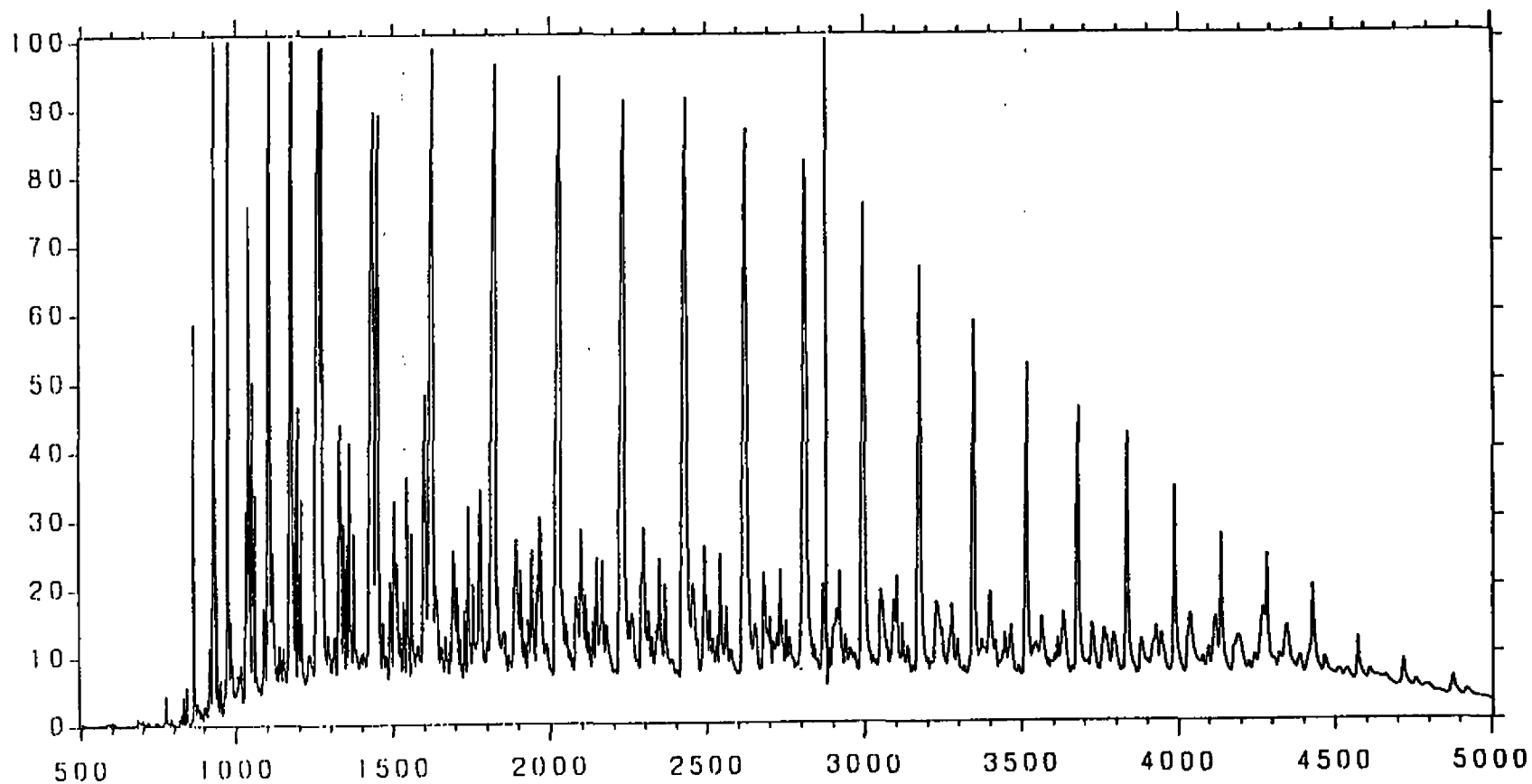
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 99 • 1.01244: Min = 805, Max = 65535, Delta = 64730



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

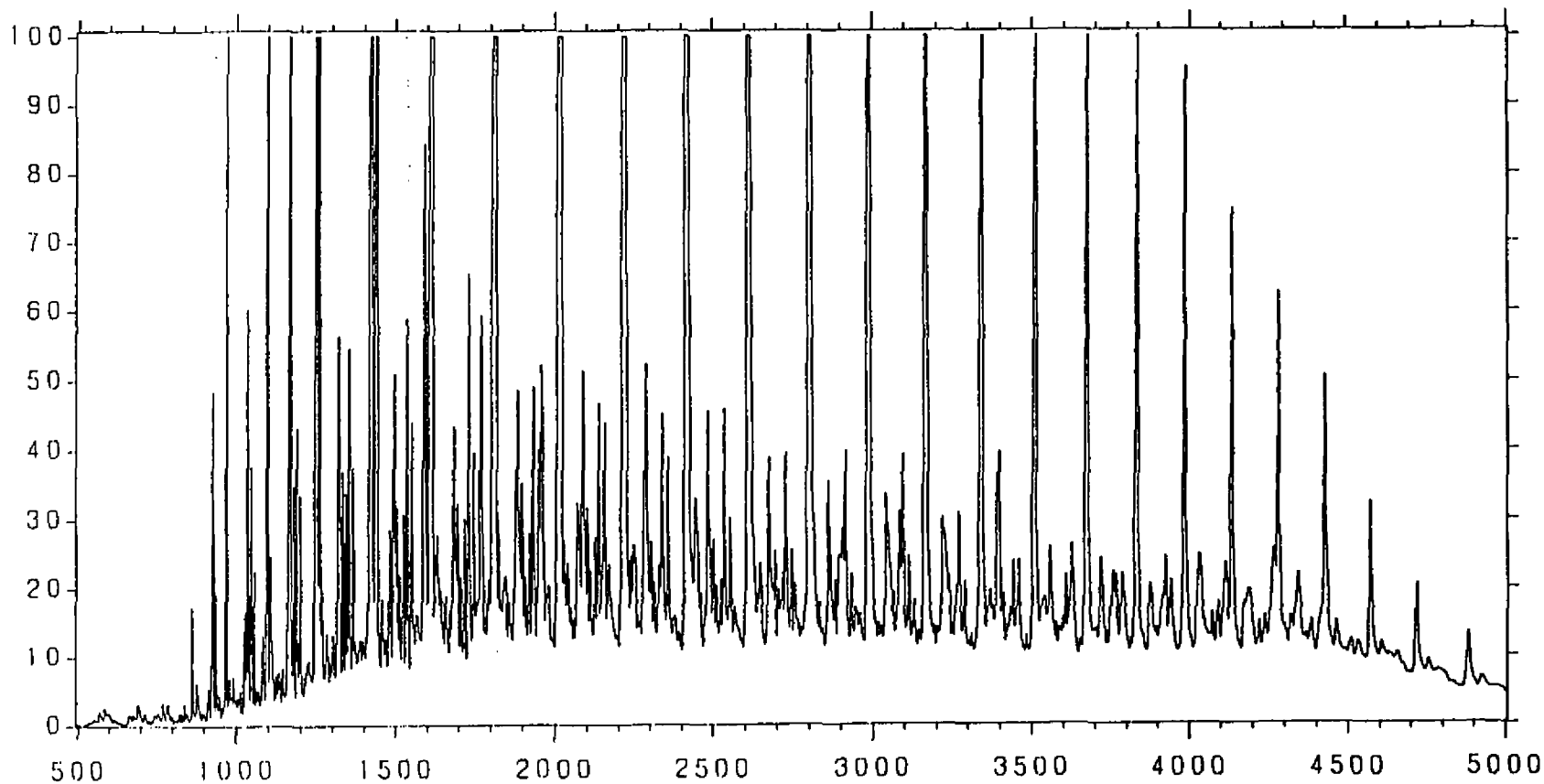
2855.70M, 7.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 99 • 1.02394: Min = 1532, Max = 65535, Delta = 64003



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

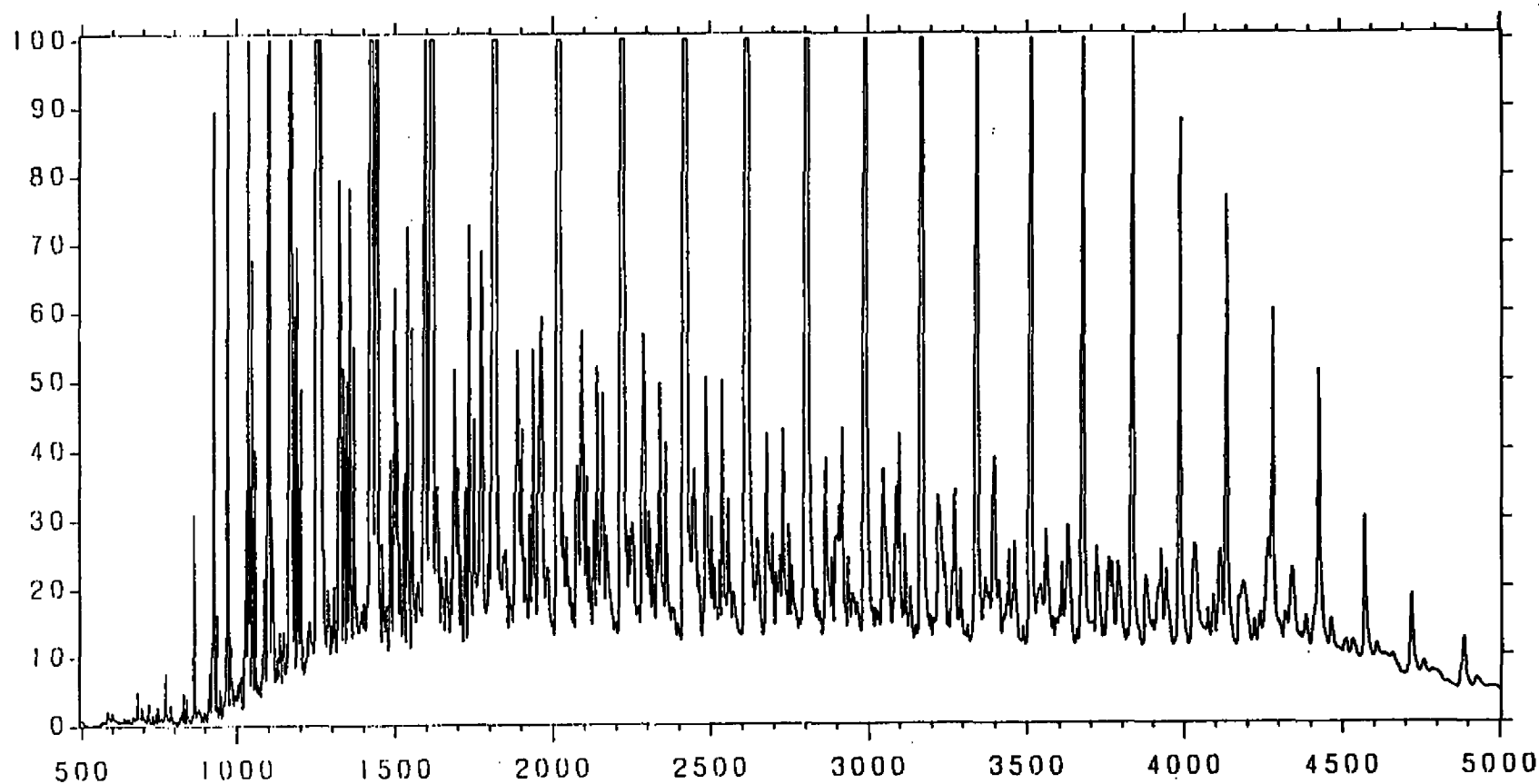
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 99 • 1.0194: Min = 1247, Max = 65535, Delta = 64288



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

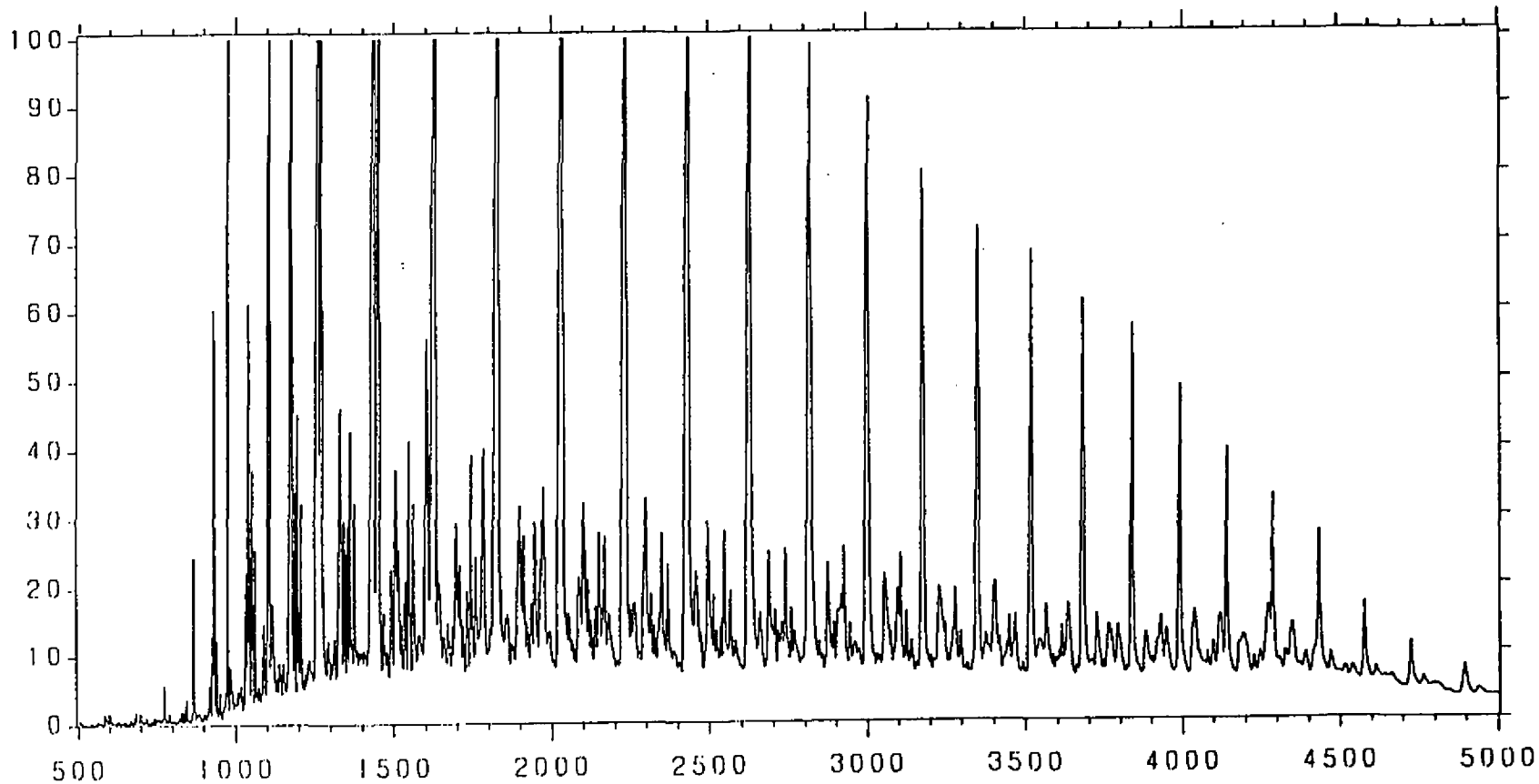
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 99 • 1.01247: Min = 807, Max = 65535, Delta = 64728



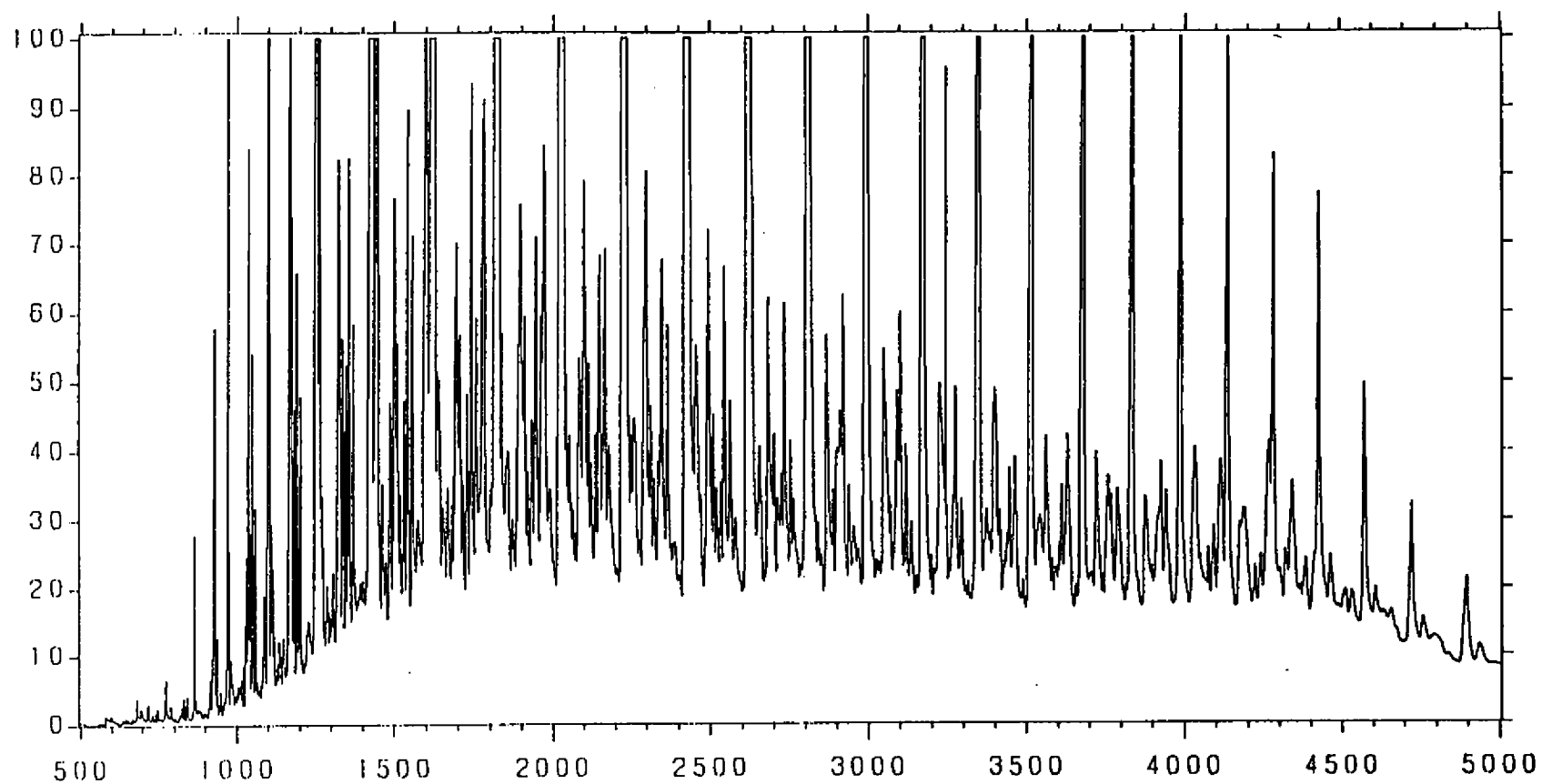
E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2880.10M, 7.0MG SAMPLE

M/z 99 + 1.01622: Min = 1046, Max = 65535, Delta = 64489



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

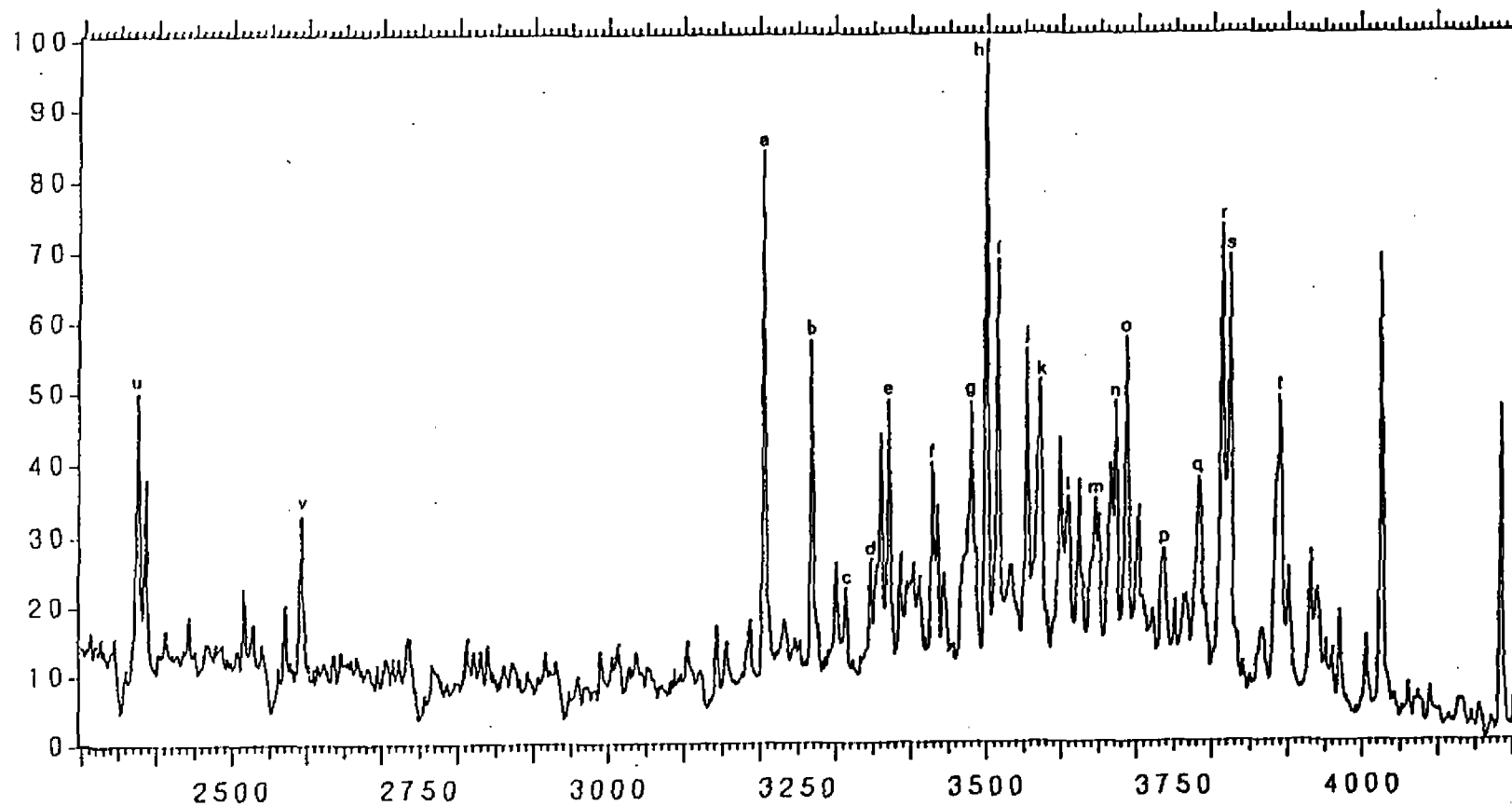
2884.60M, 6.9MG SAMPLE

Schlumberger

GECO-PRAKLA

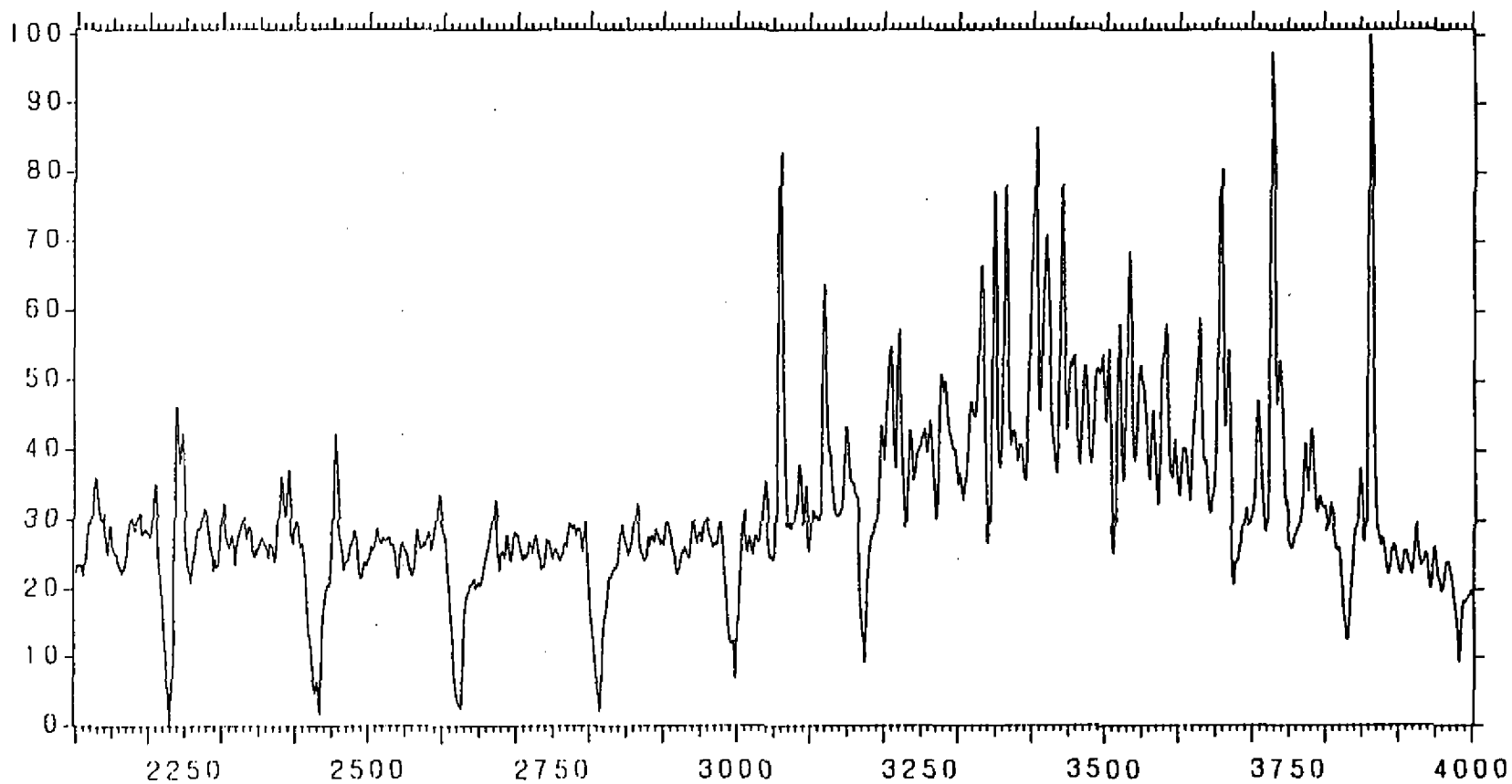
GEOLAB NOR

M/z 149 • 15.1142: Min = 872, Max = 5208, Delta = 4336



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 149. 5-alpha and 5-beta STERANES.

M/z 149 • 4.64688: Min = 4694, Max = 18797, Delta = 14103



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

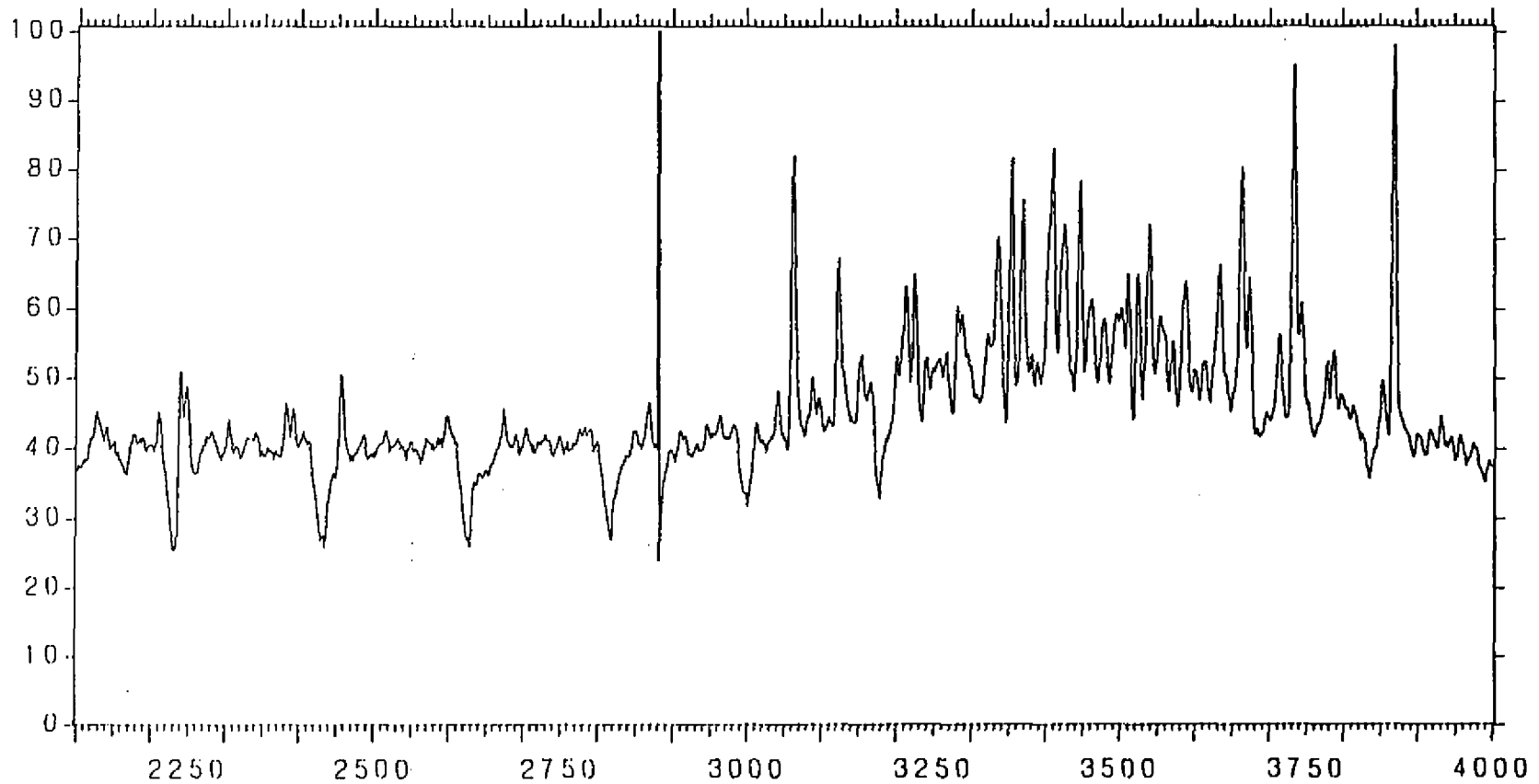
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2851.10M, 7.5MG SAMPLE.

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 149 + 7.6: Min = 0, Max = 8623.03, Delta = 8623.03



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

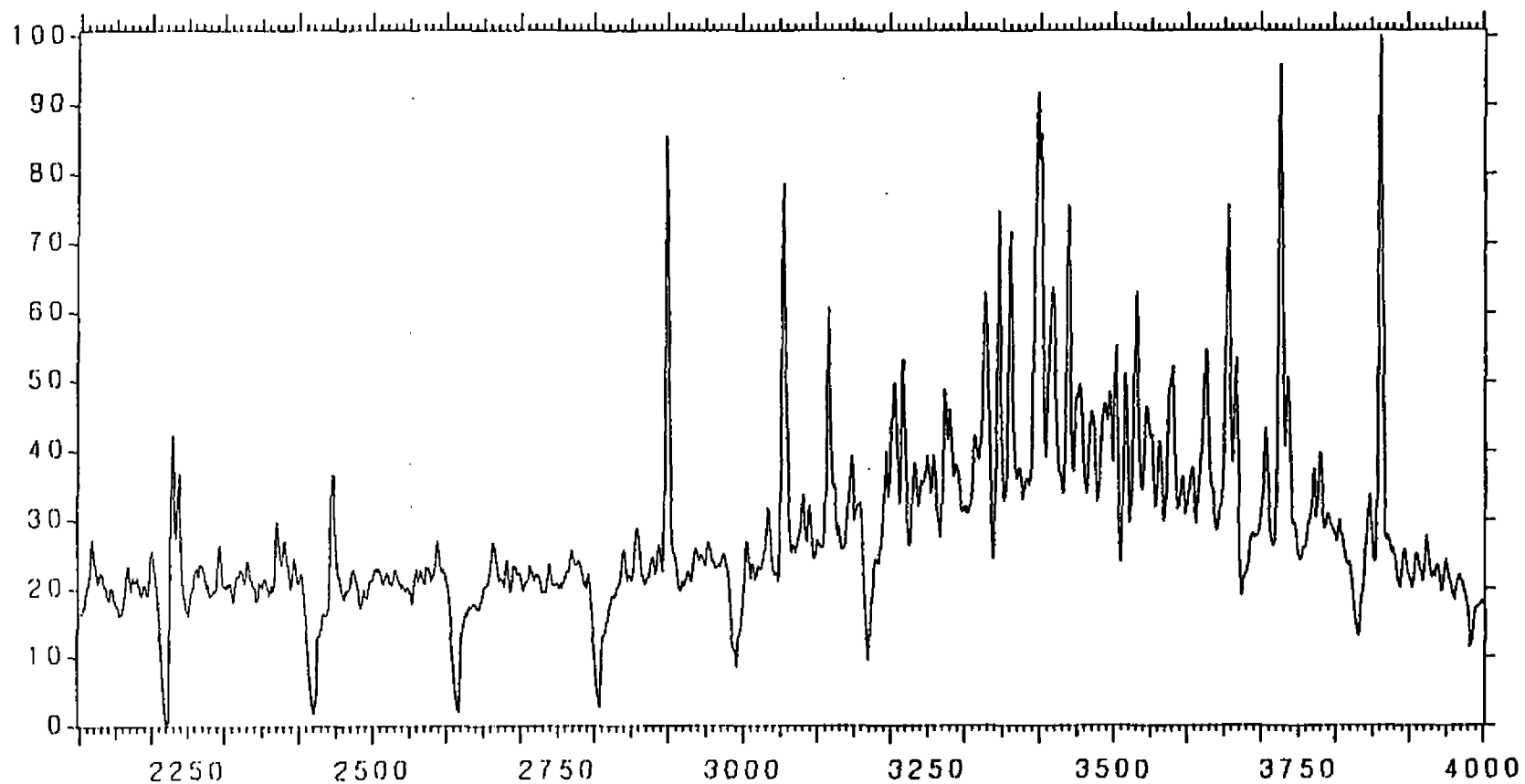
2855.70M, 7 IMG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 149 • 6.09912: Min = 3702, Max = 14447, Delta = 10745



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

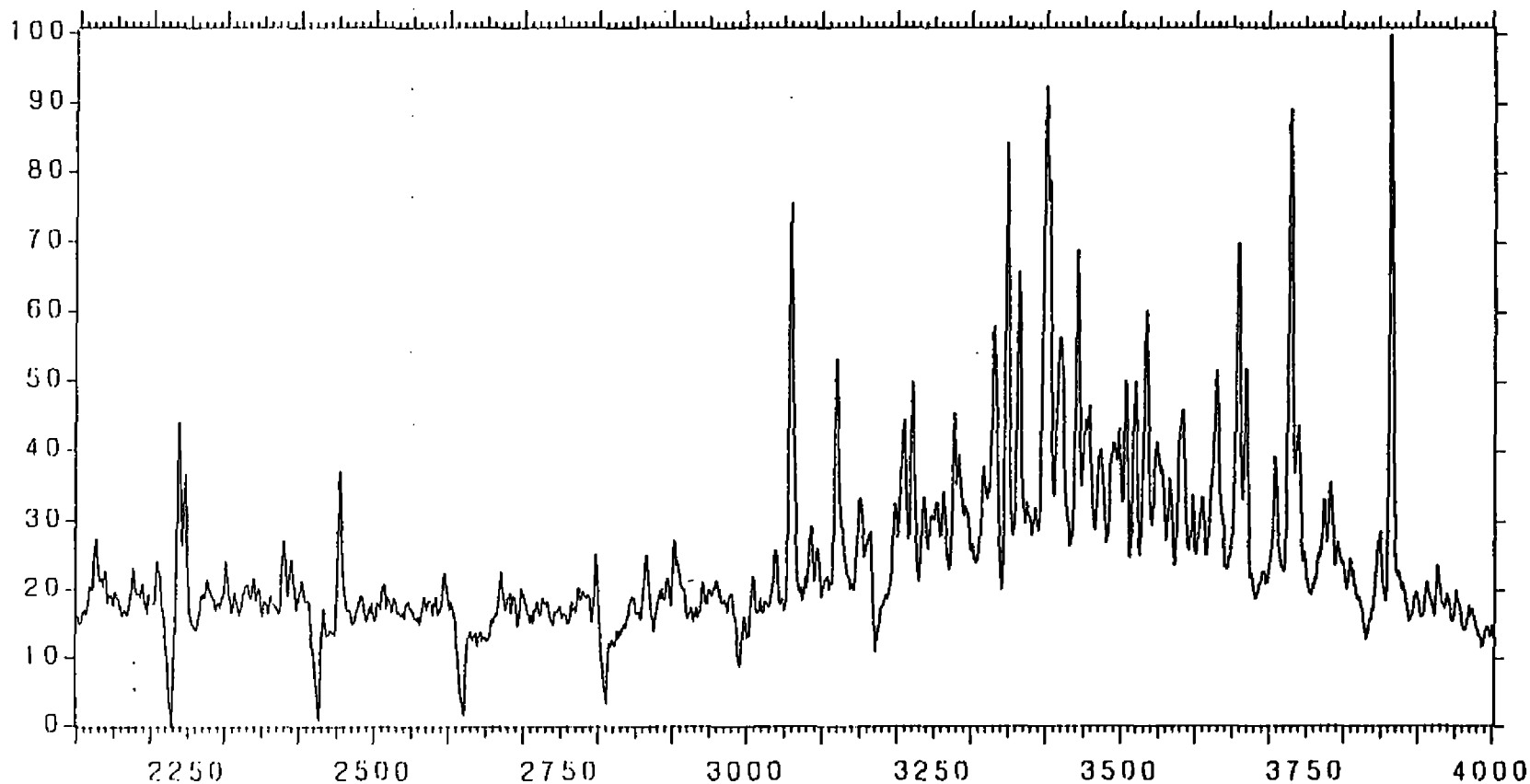
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2862.70M, 9.0MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 149 • 19.1791: Min = 1416, Max = 4833, Delta = 3417



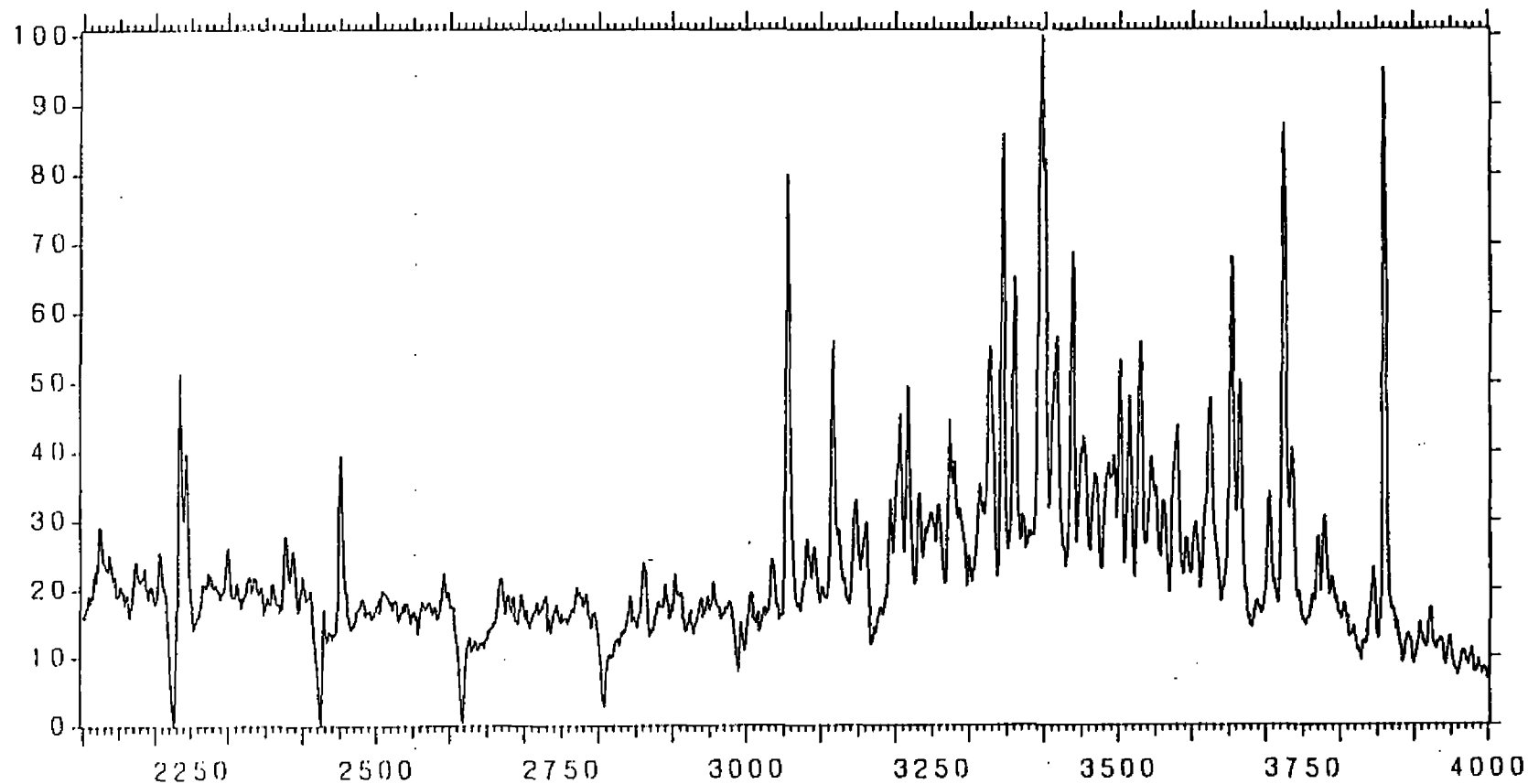
E642875A

3607 scans acquired on 6 Feb, 1992 at 15:30:32 Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

2875.50M, 4.5MG SAMPLE

M/z 149 * 20.6996: Min = 1439, Max = 4605, Delta = 3166



E642880A

3607 scans acquired on 6 Feb, 1992 at 21:38:51. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

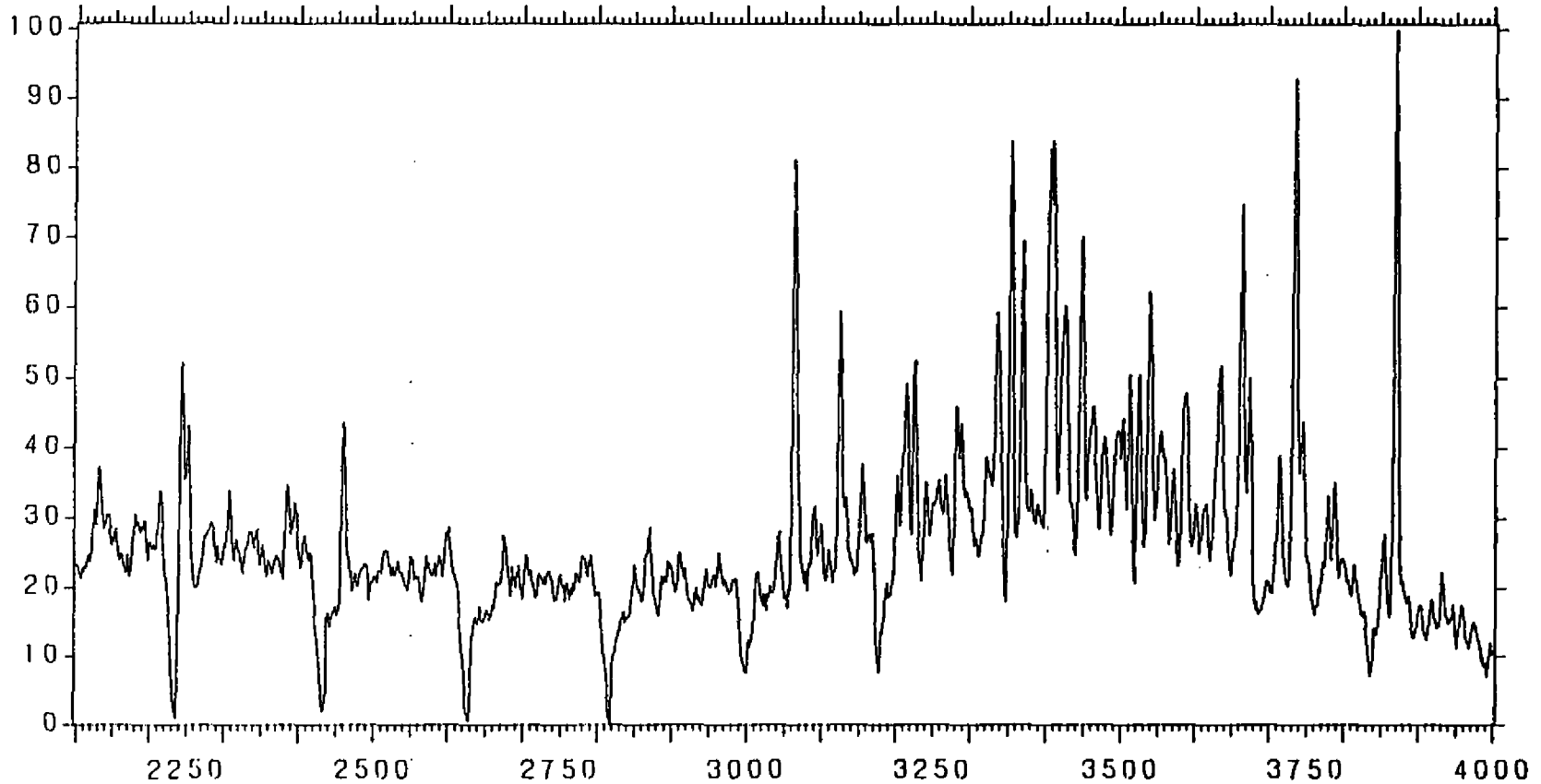
2880.10M, 4.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 149 • 17.9893: Min = 1687, Max = 5330, Delta = 3643



E642884

3607 scans acquired on 6 Feb, 1992 at 12:29:57. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

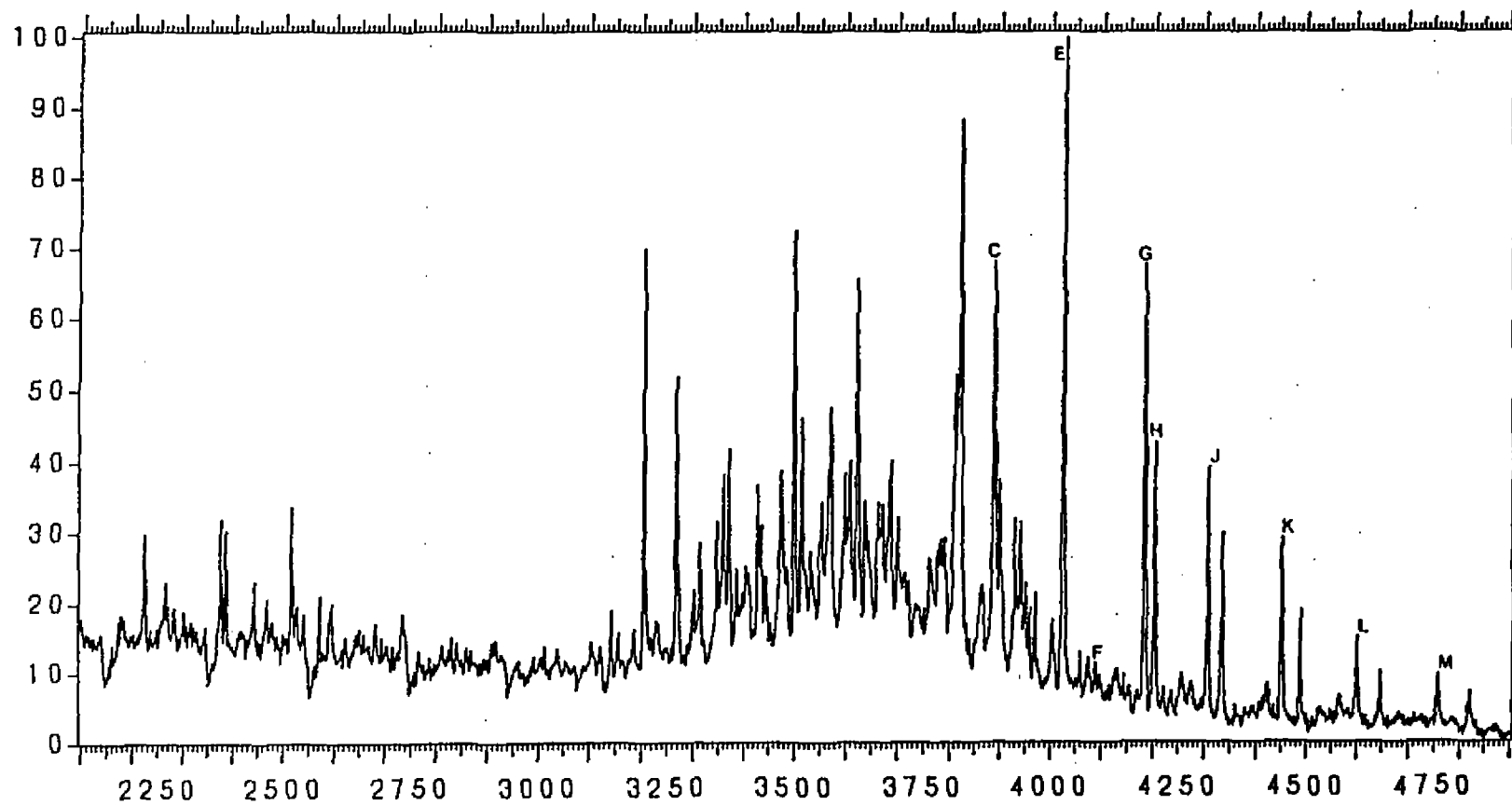
2884.60M, 5.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 163 + 20.3525: Min = 591, Max = 3811, Delta = 3220



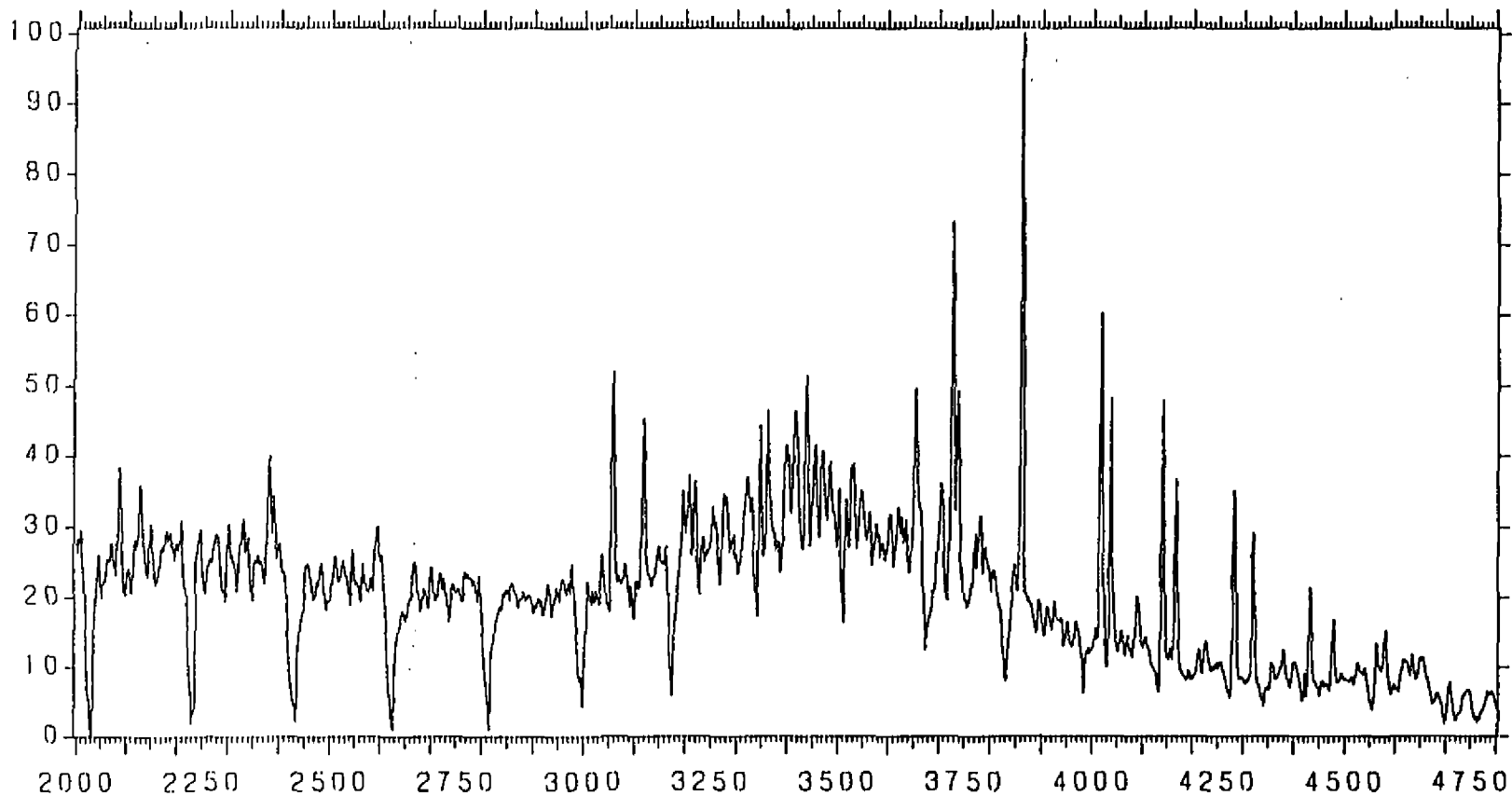
EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 163

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 163 • 4.7565: Min = 4174, Max = 17952, Delta = 13778



F642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

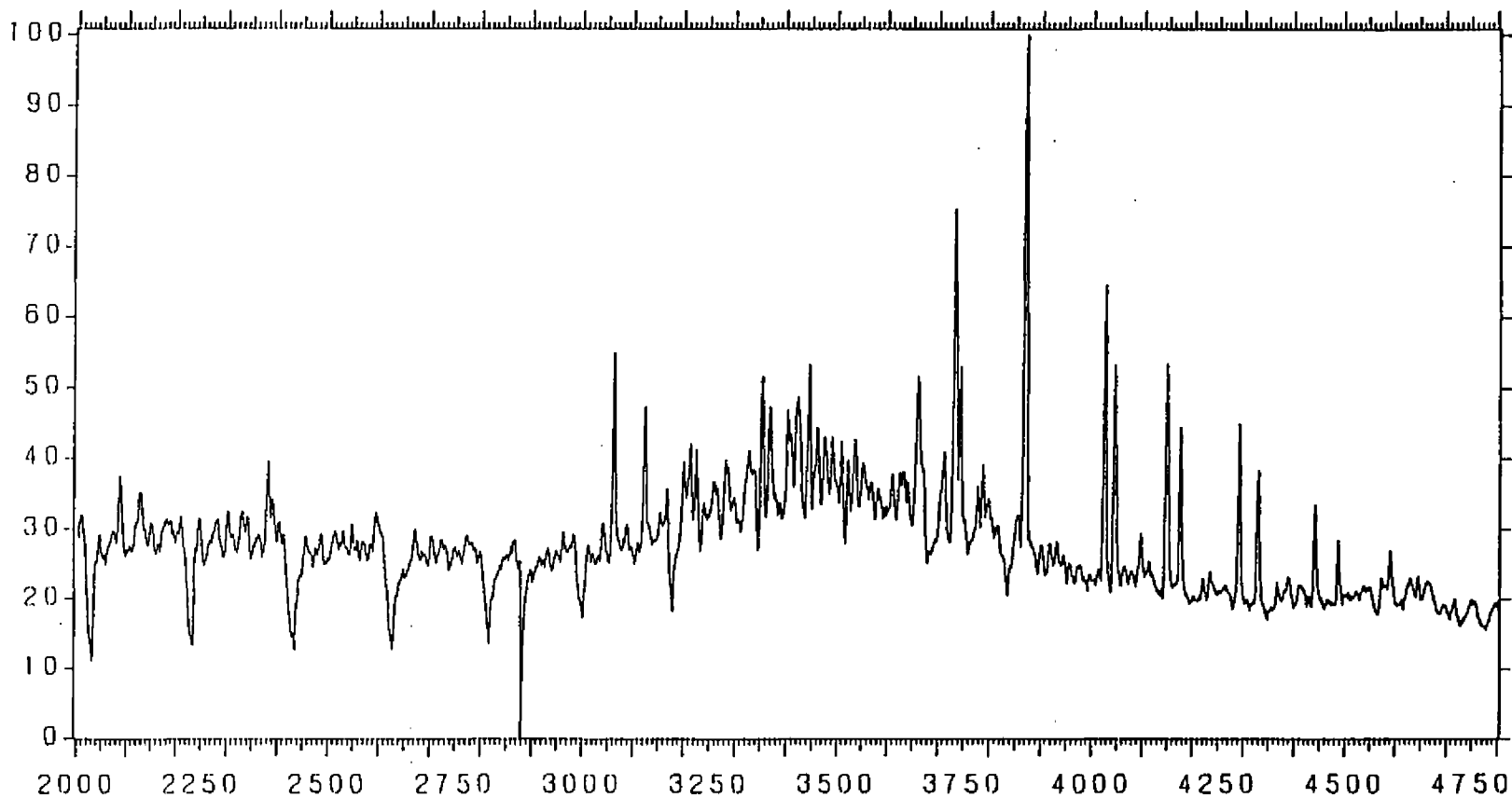
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 163 • 8.85369: Min = 950, Max = 8352, Delta = 7402



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

2855.70M, 7.1MG SAMPLE

Schlumberger

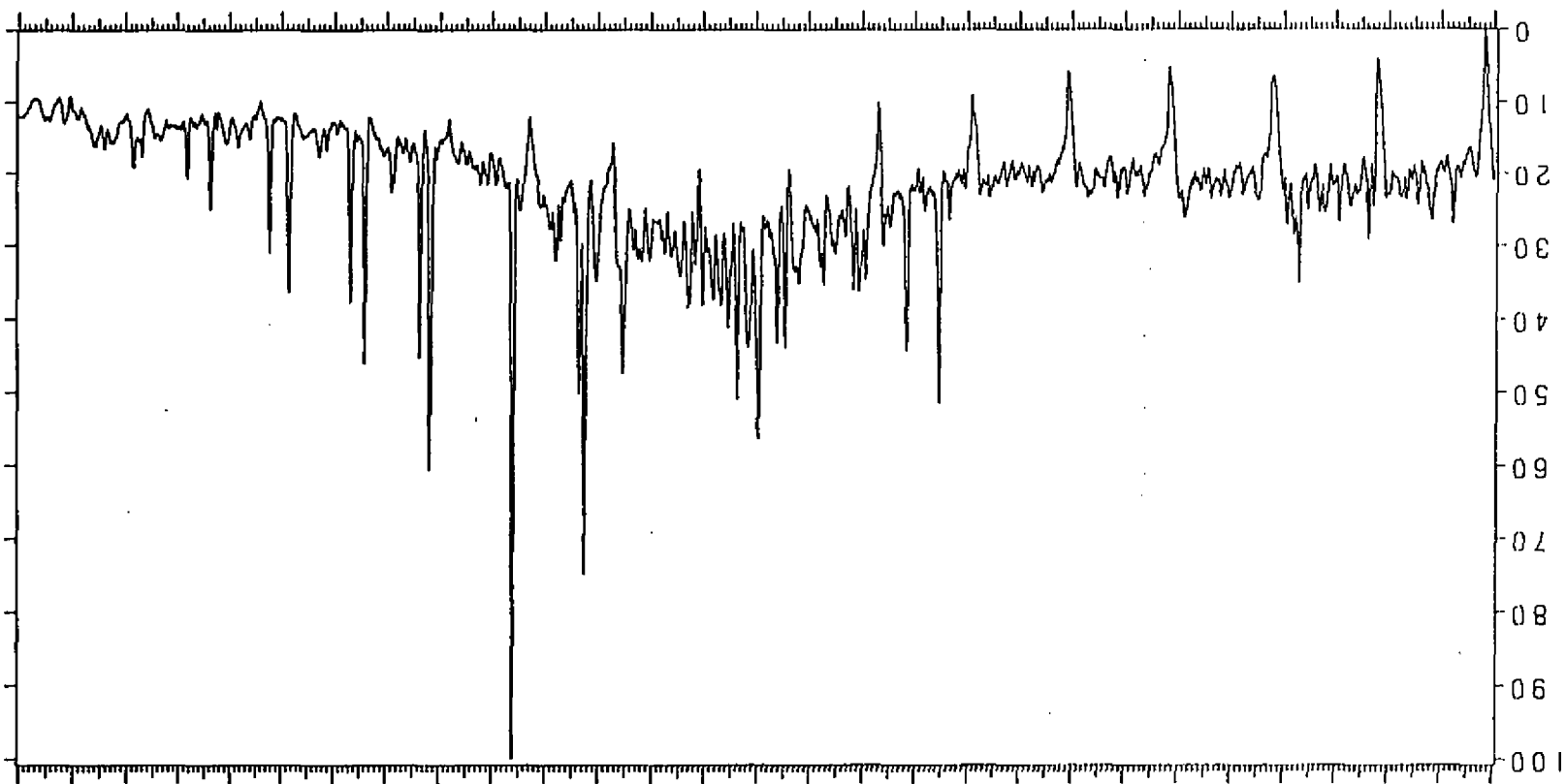
GECO-PRAKLA

GEOLAB  NOR

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL 04 3.4MG/100ML ADDED
2862.70M, 9.0MG SAMPLE

E642862

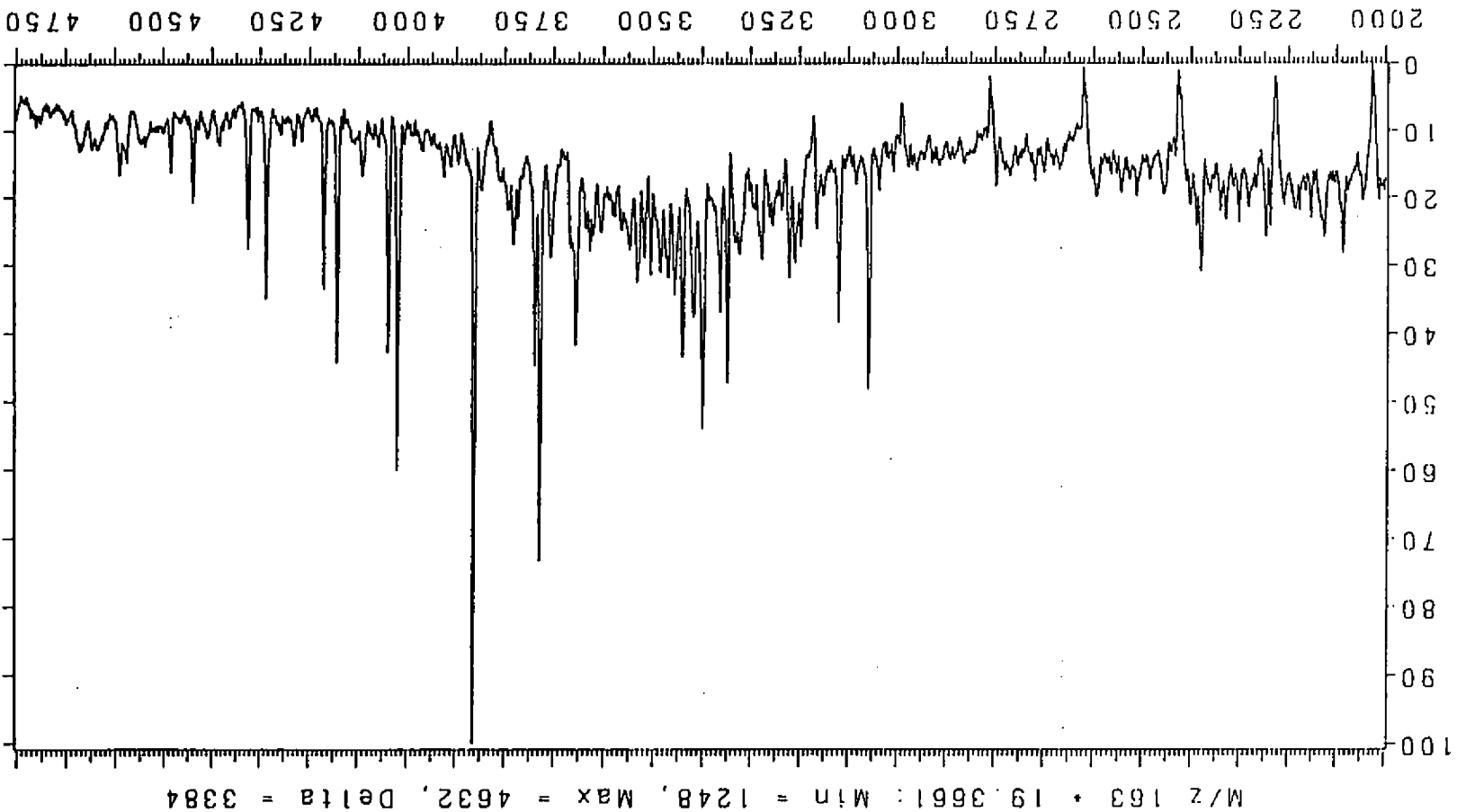
2000 2250 2500 2750 3000 3250 3500 3750 4000 4250 4500 4750



M/z 163 • 5.77248: Min = 2836, Max = 14189, Delta = 11353

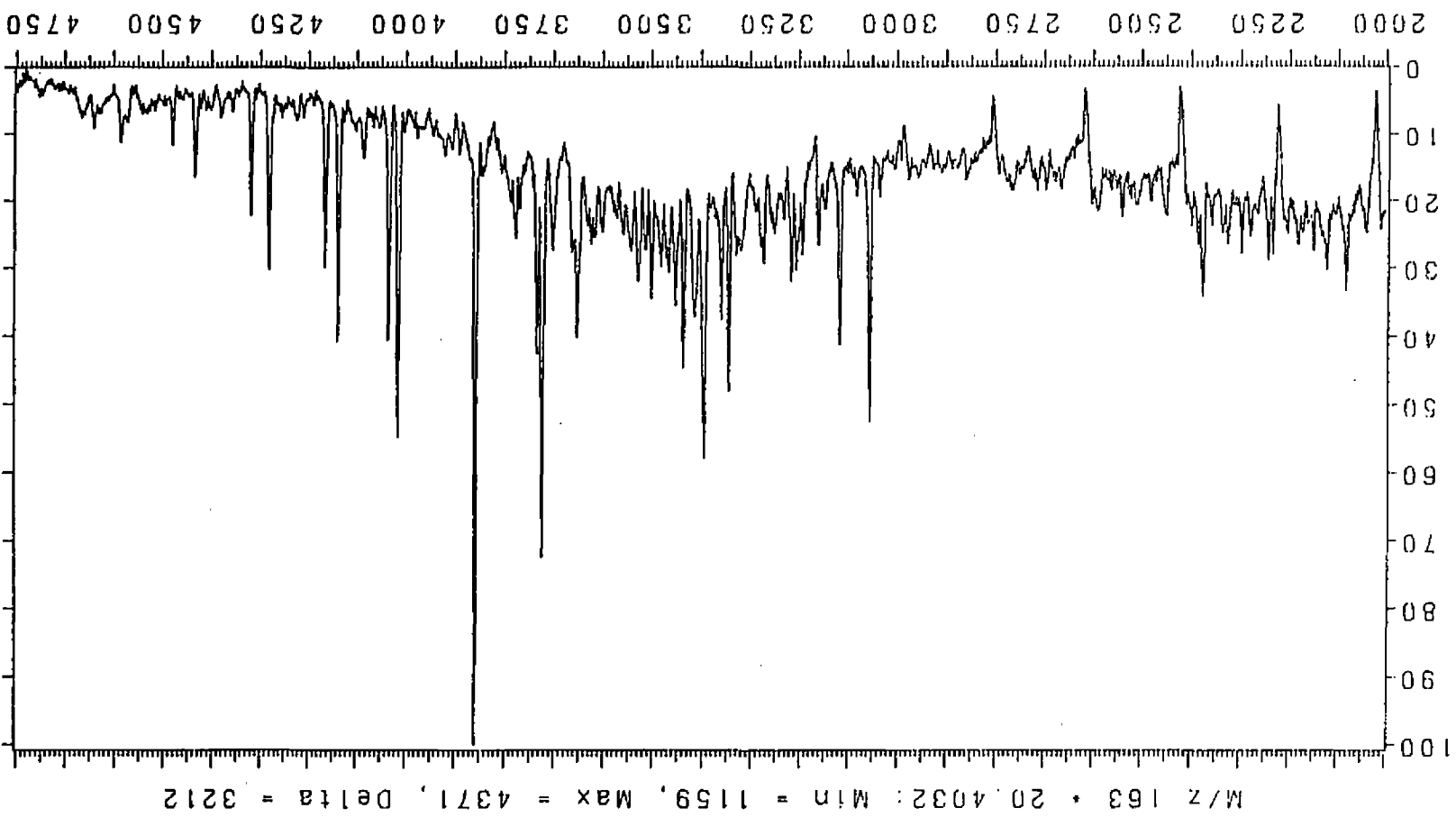
Intensity

E642875A
3607 scans acquired on 6 Feb, 1992 at 15:30:32. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
2875.50M, 4.5MG SAMPLE



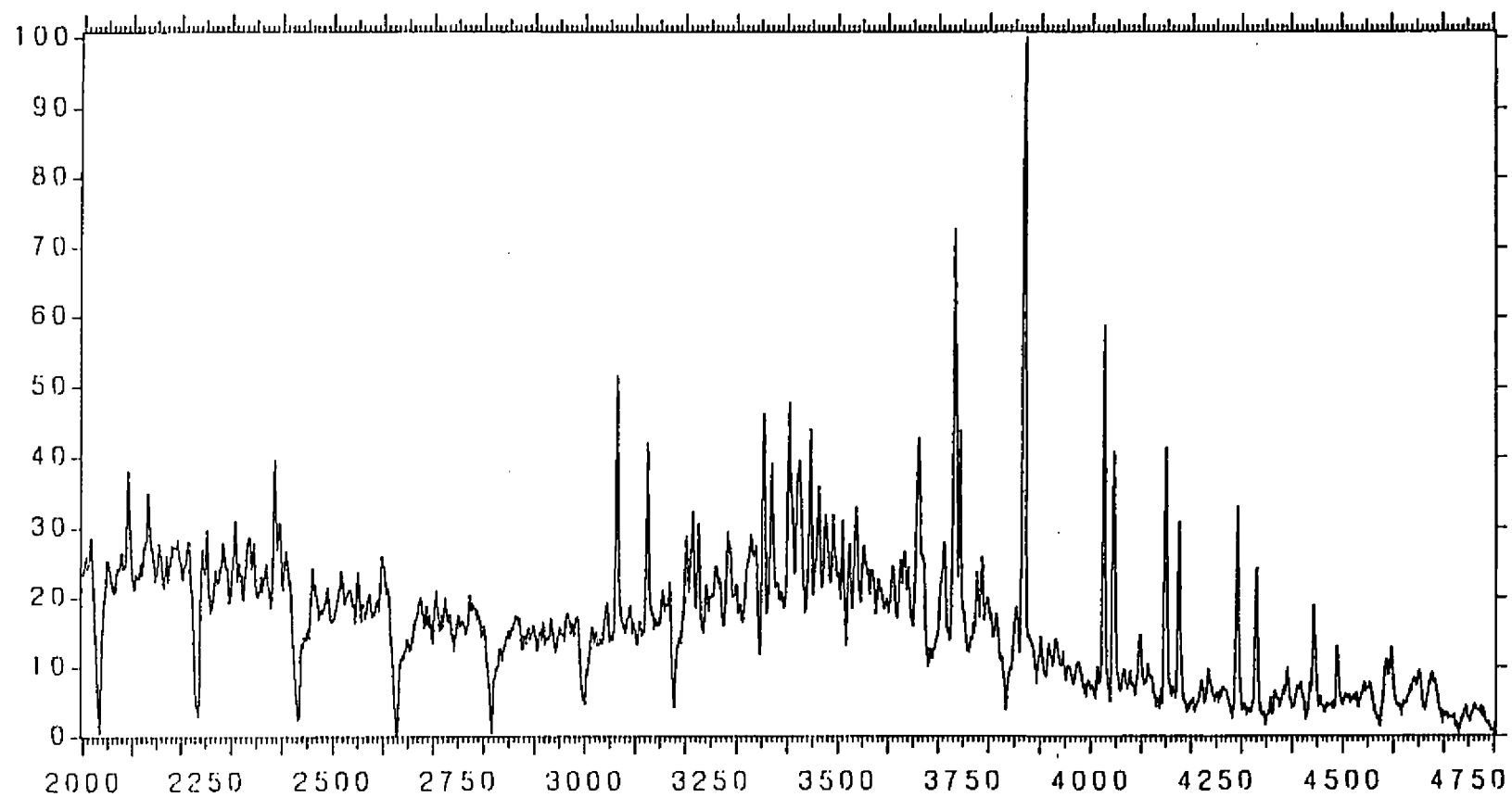
2880.10M, 4.0MG SAMPLE
WELL 2/7-3X, IUC D4 3.4MG/100ML ADDED
3607 scans acquired on 6 Feb, 1992 at 21:38:51. Rate = 1.414 seconds/scan

E642880A



2000 3000 4000 4750

M/z 163 + 17.504: Min = 1446, Max = 5190, Delta = 3744



E642884

3607 scans acquired on 6 Feb, 1992 at 12:29:57. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

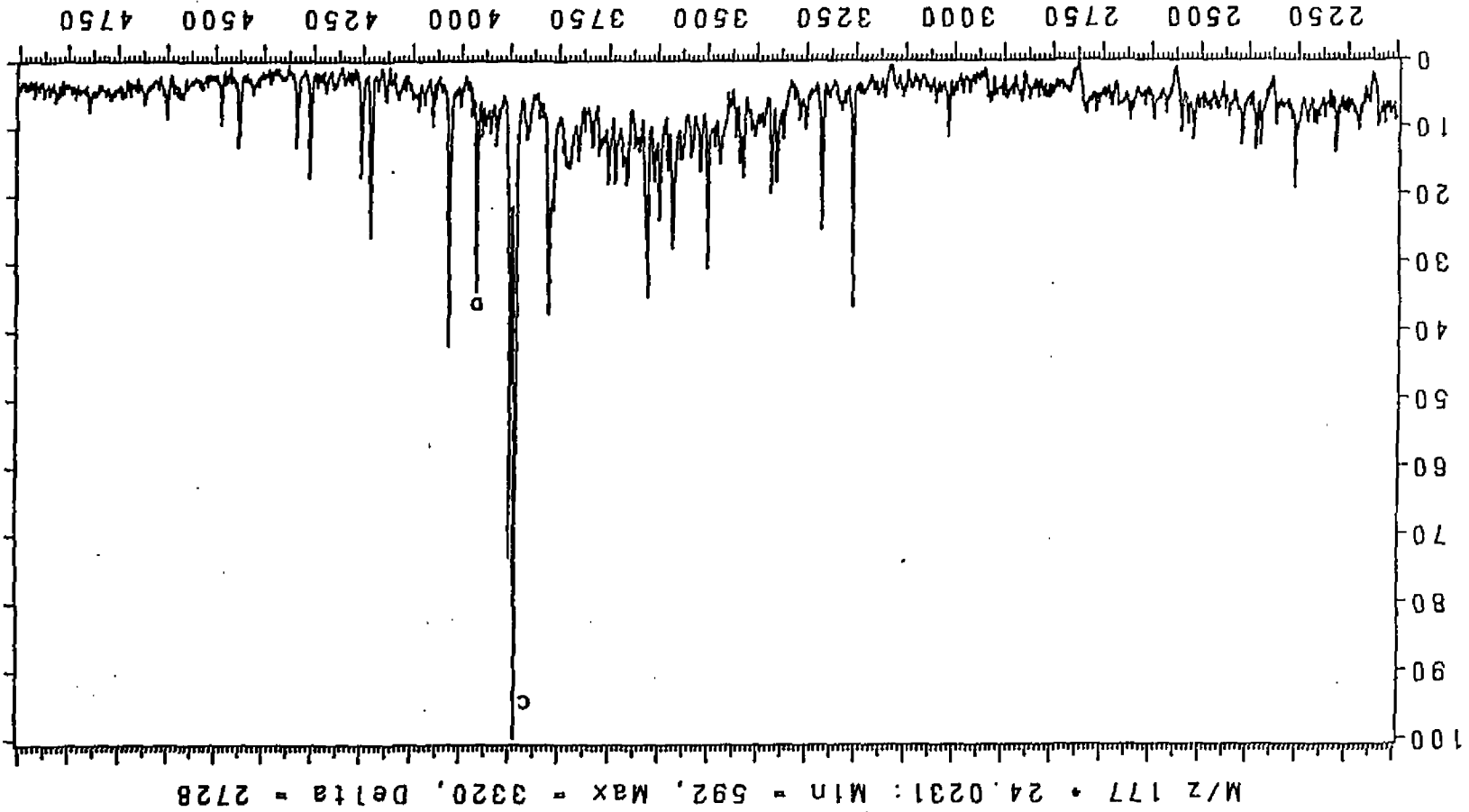
2884.60M, 5.1MG SAMPLE

Schlumberger

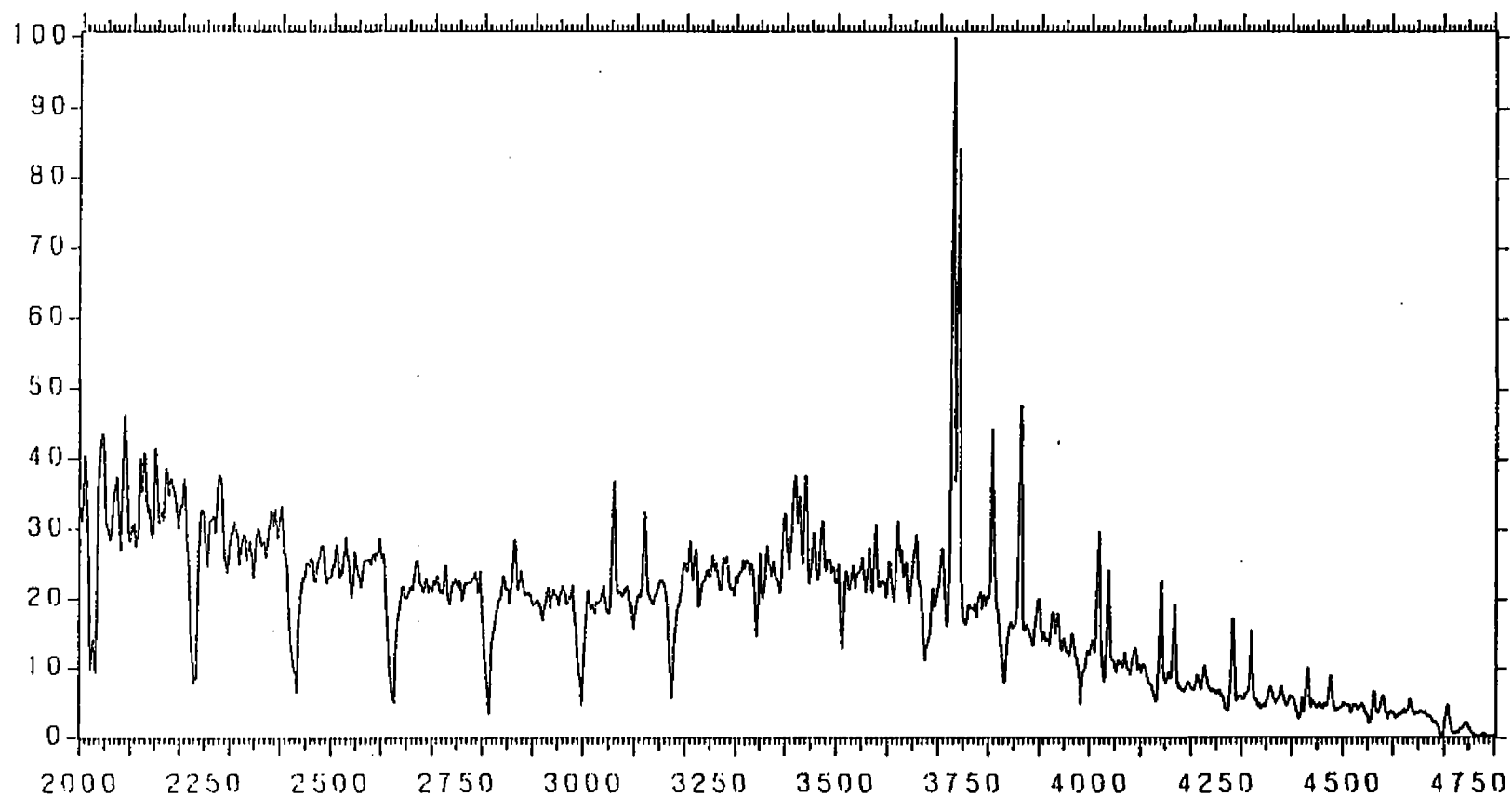
GECO-PRAKLA

GEOLAB  NOR

EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 177. DEMETHYLATED TRITERPANES



M/z 177 • 5.81964: Min = 3044, Max = 14305, Delta = 11261



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

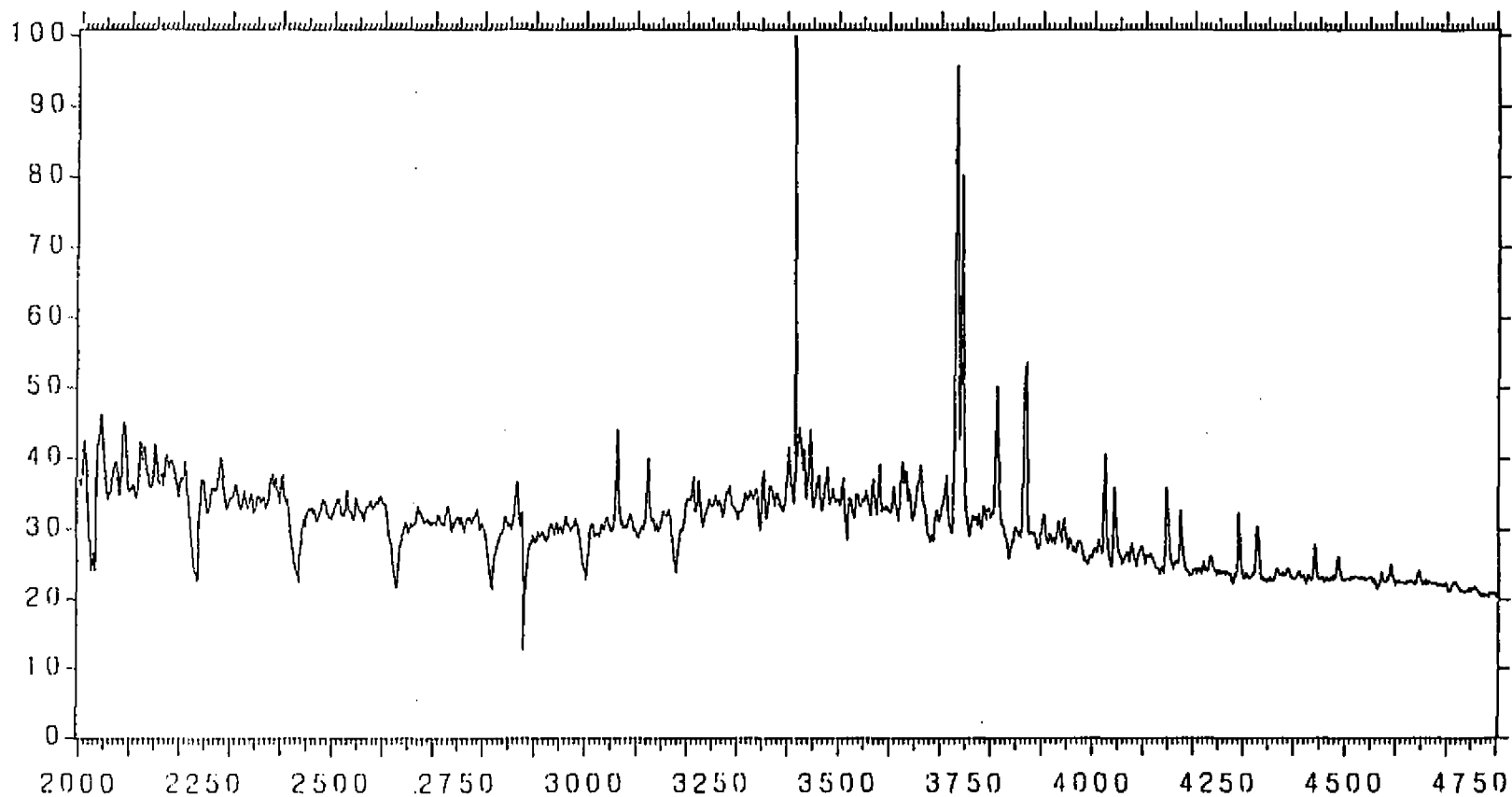
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 177 + 9.2: Min = 0, Max = 7123.37, Delta = 7123.37



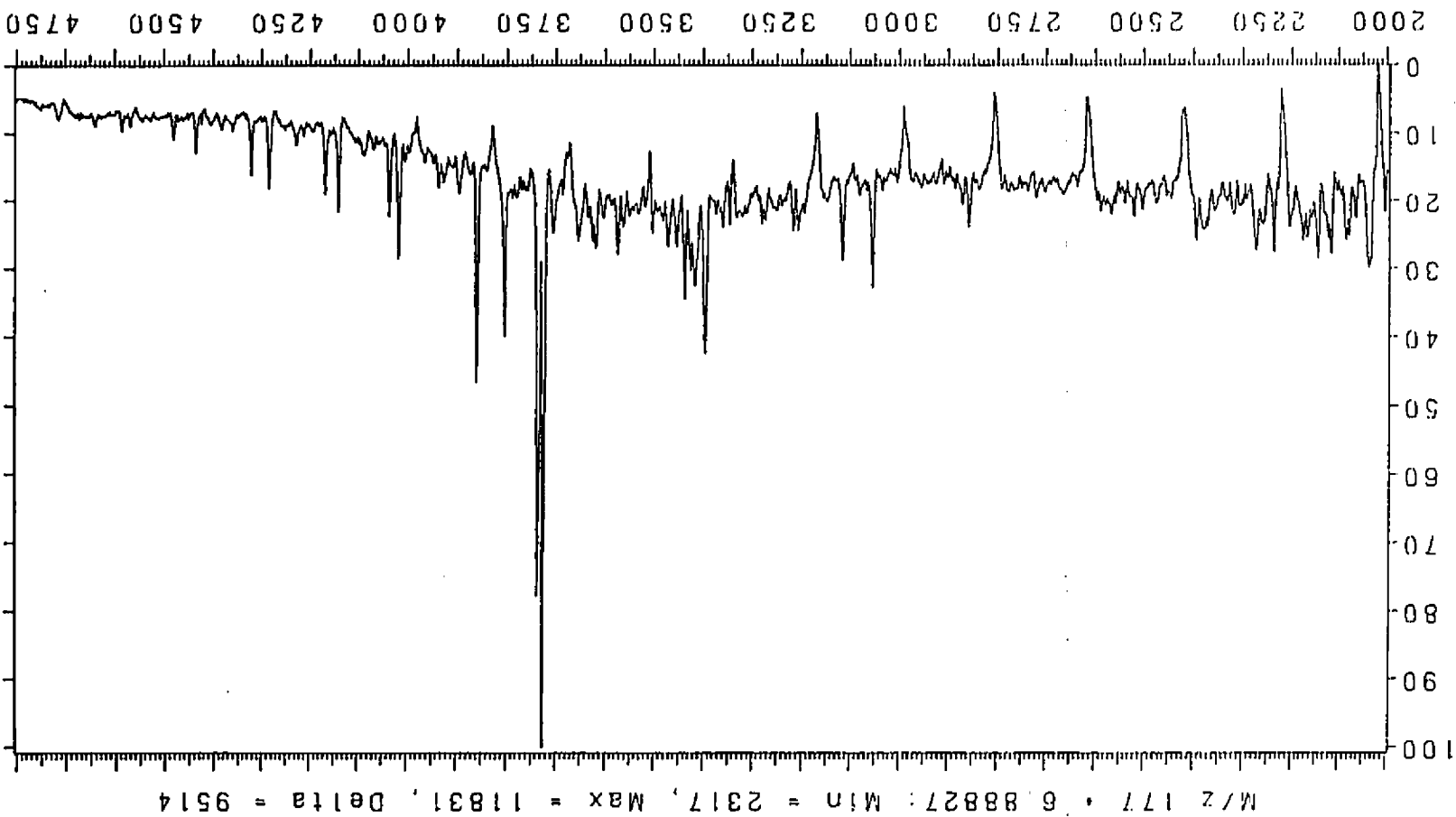
E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45, Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

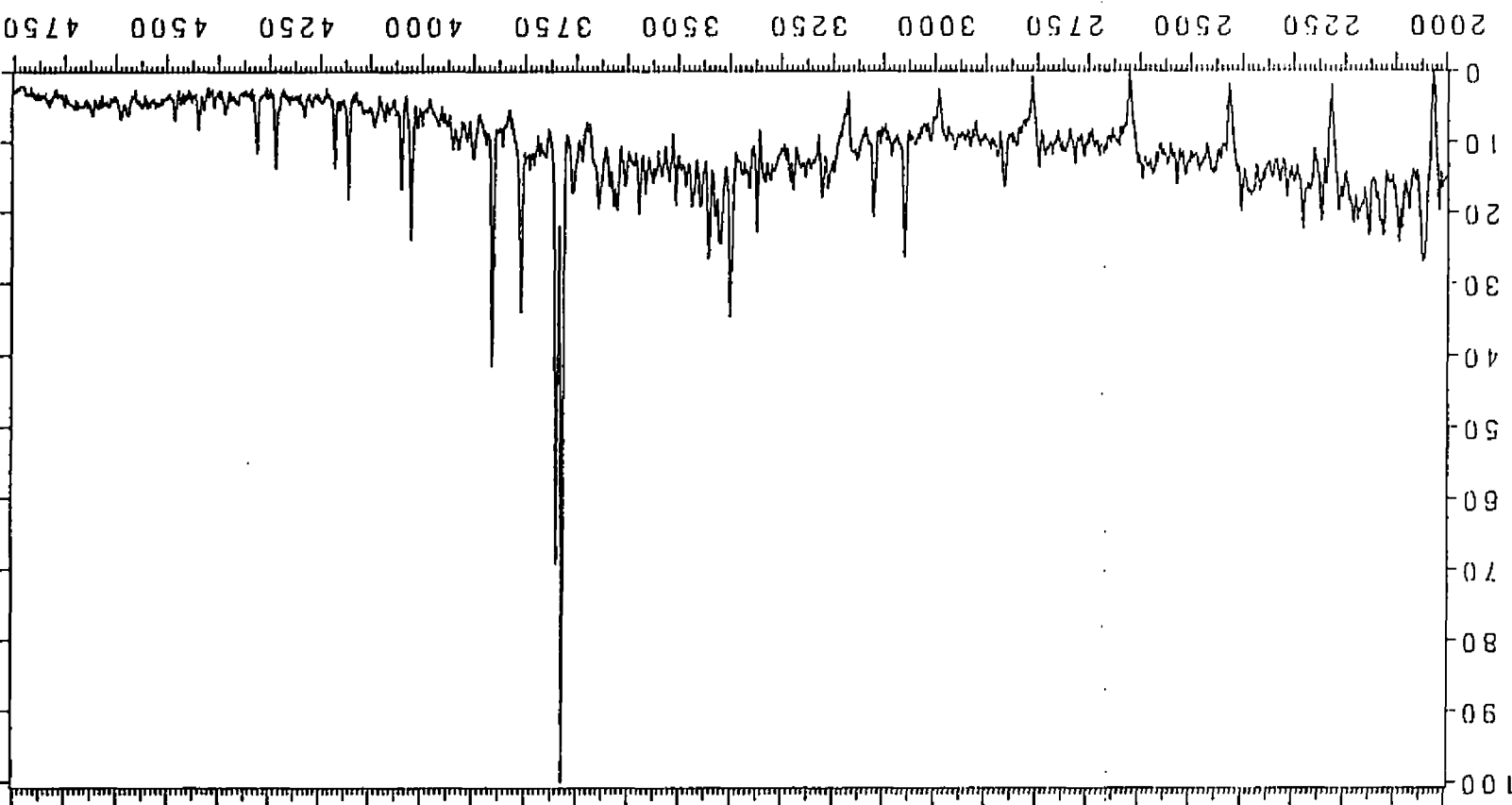
2855.70M, 7 IMG SAMPLE

EG42862
3565 scans acquired on 29 Jan, 1992 at 10:26:21; Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL 04 3.4MG/100ML ADDED
2862.70M, 9.0MG SAMPLE



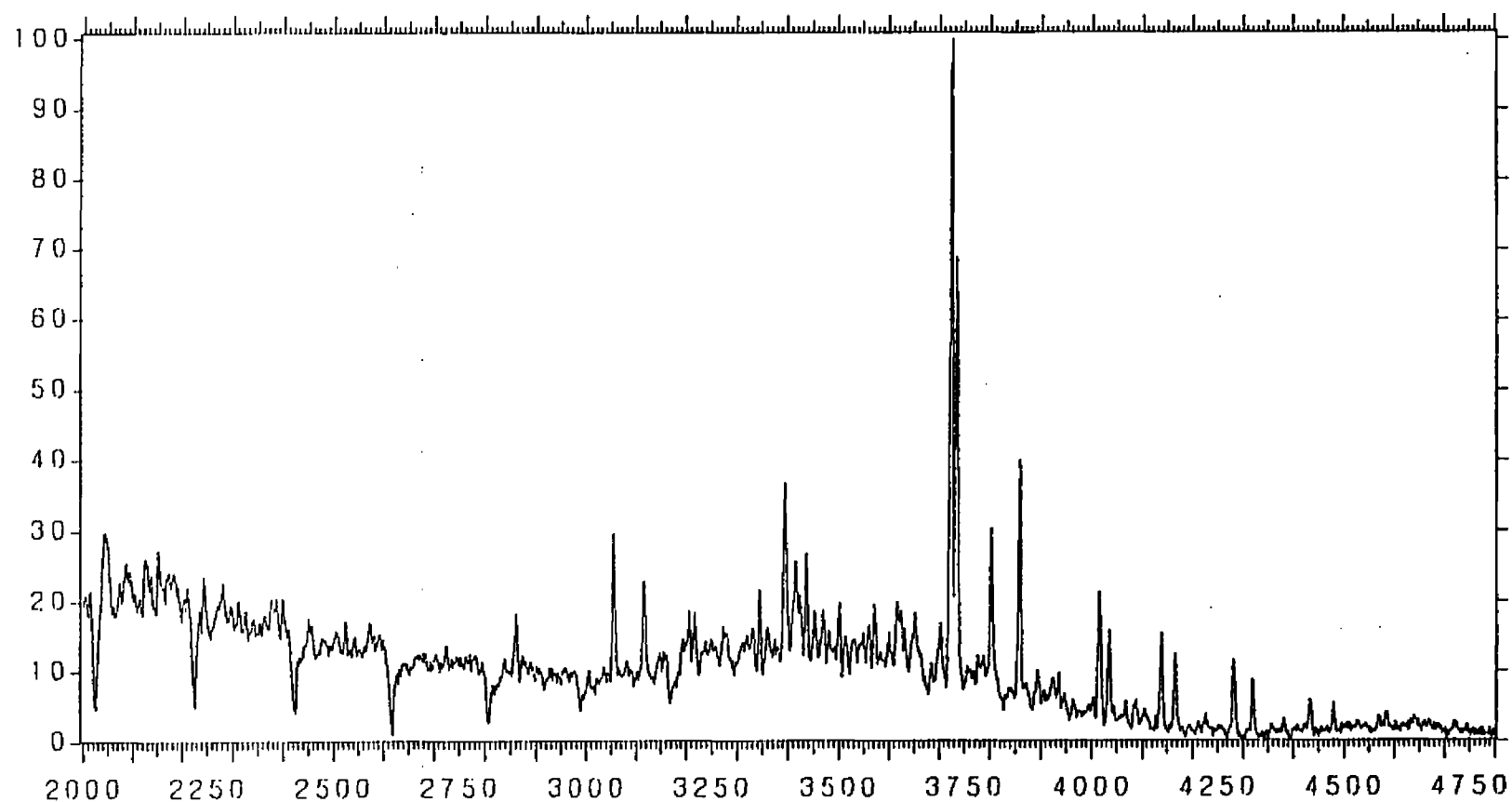
3607 scans acquired on 6 Feb, 1992 at 15:30:32. Rate = 1.414 seconds/scan
WELL 2/7-3X, TUL 04 3.4MG/100ML ADDED
2875.50M, 4.5MG SAMPLE

E642875A



M/Z 177 • 19.349: Min = 1084, Max = 4471, Delta = 3387

M/z 177 + 20.4032: Min = 995, Max = 4207, Delta = 3212



E642880A

3607 scans acquired on 6 Feb, 1992 at 21:38:51. Rate = 1.414 seconds/scan

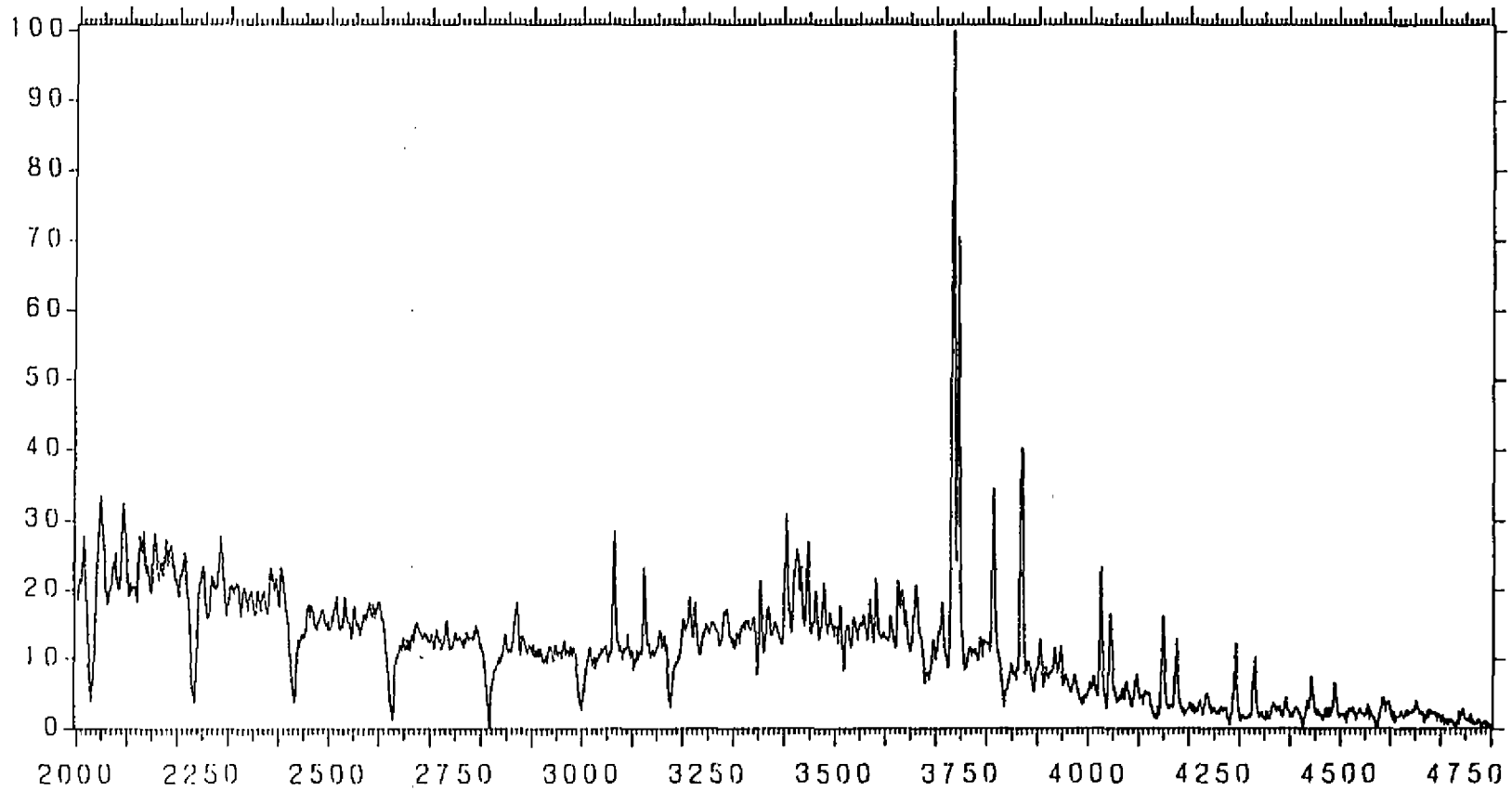
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

2880.10M, 4.0MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB  NOR

M/z 177 + 17.1468: Min = 1185, Max = 5007, Delta = 3822



E642884

3607 scans acquired on 6 Feb, 1992 at 12:29:57. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

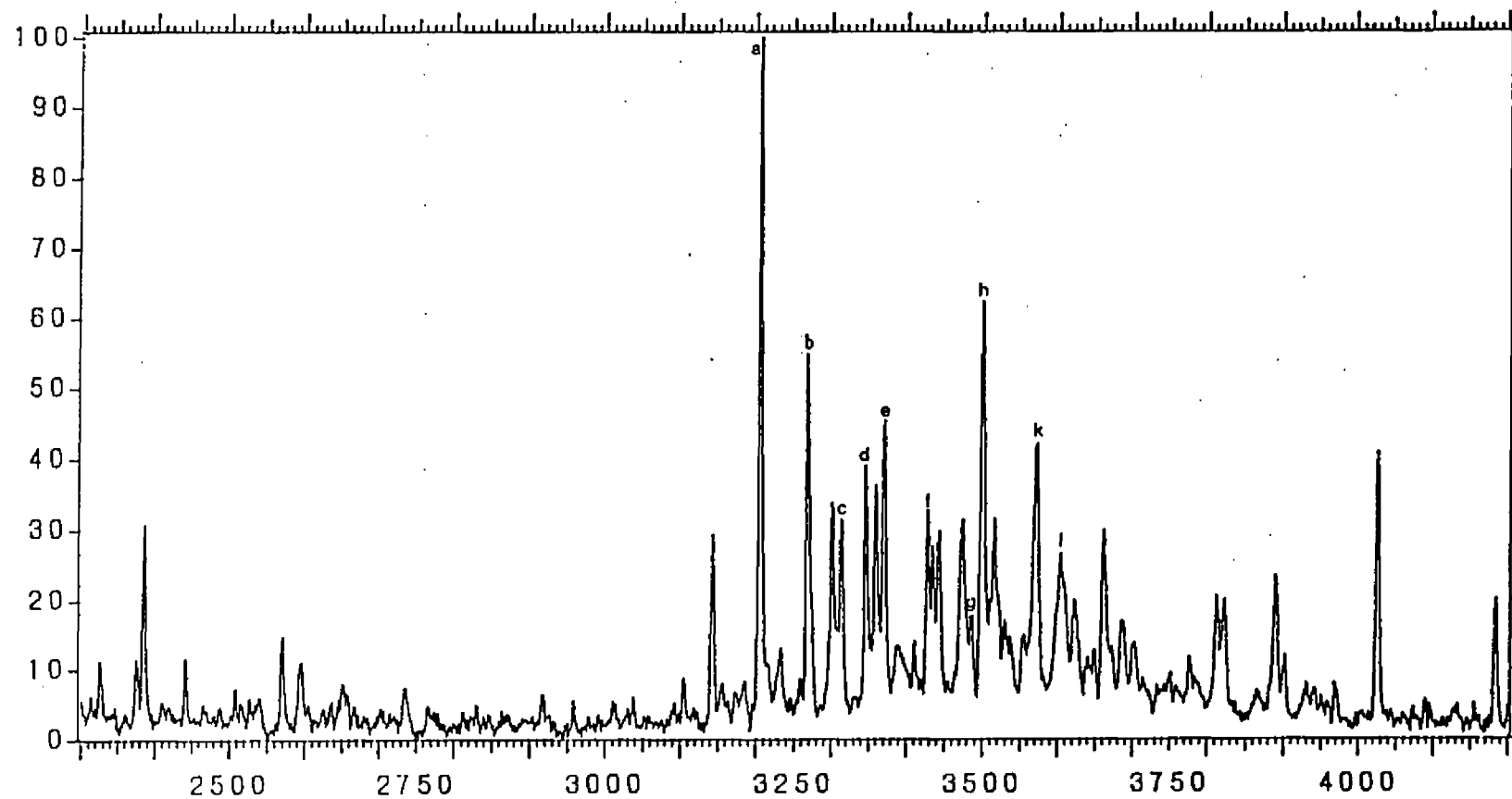
2884.60M, 5.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 189 • 34.5467: Min = 353, Max = 2250, Delta = 1897



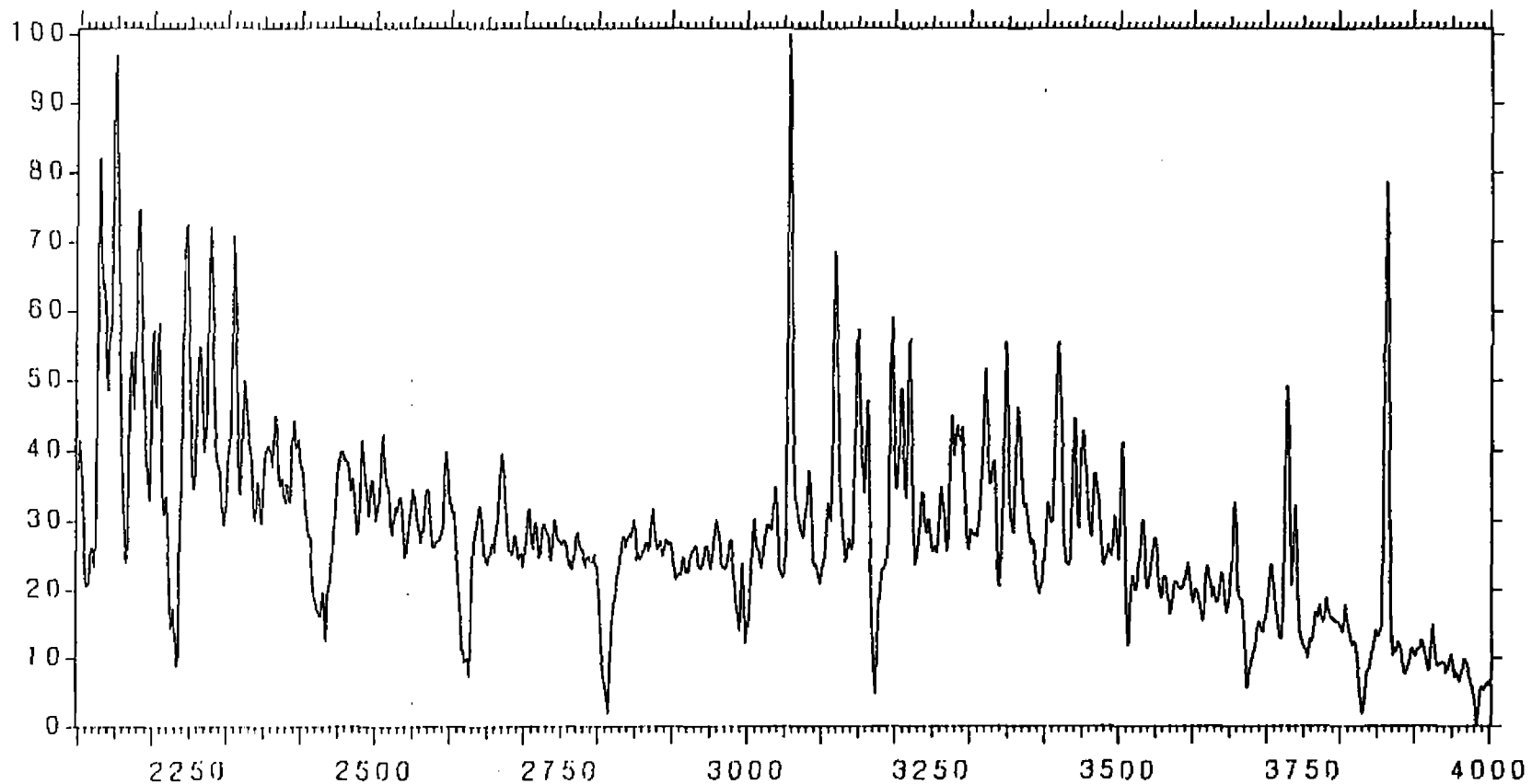
EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 189 REARRANGED STERANES

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 189 • 9.44036: Min = 2751, Max = 9693, Delta = 6942



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

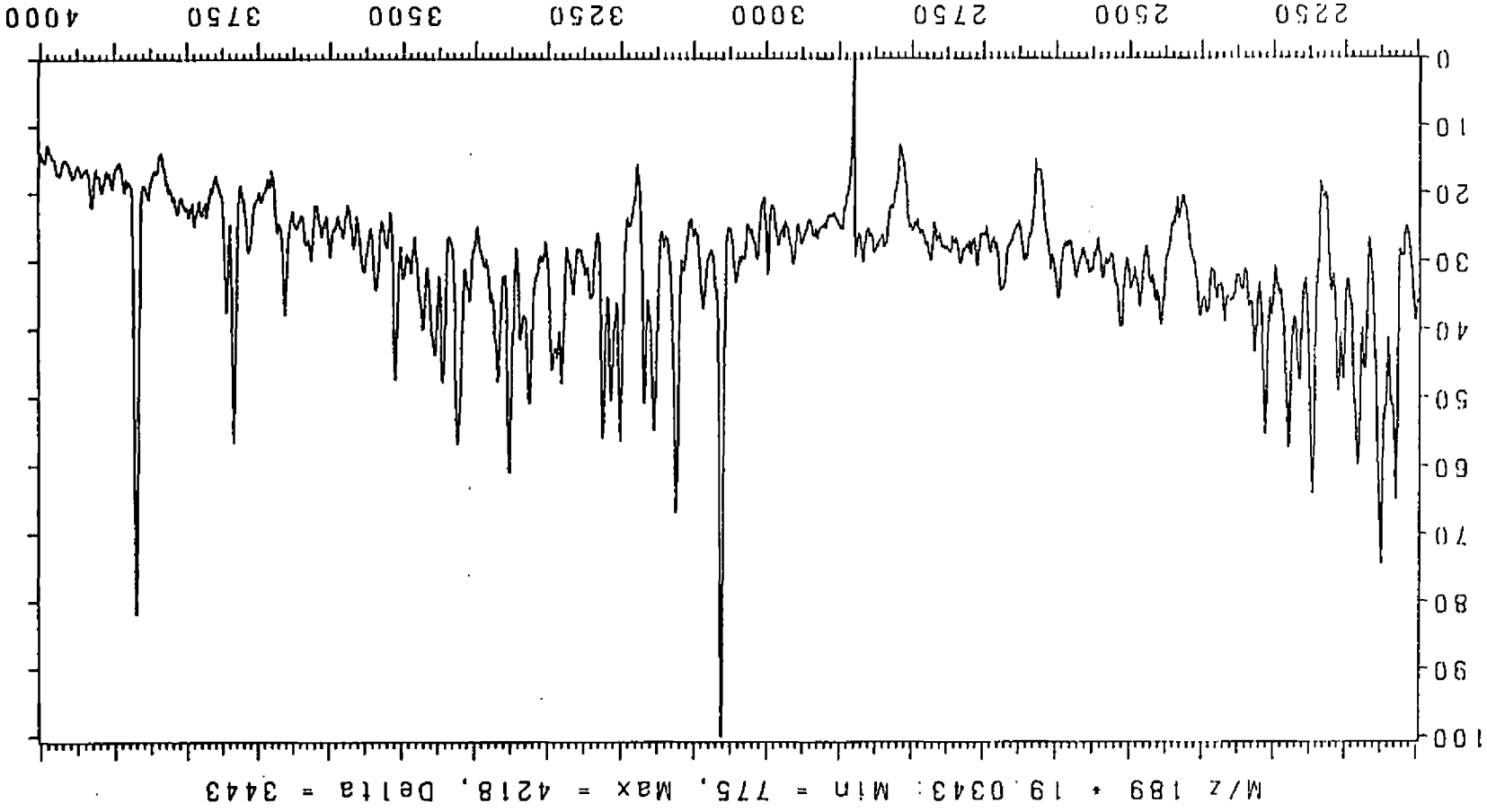
2851.10M, 7.5MG SAMPLE

Schlumberger

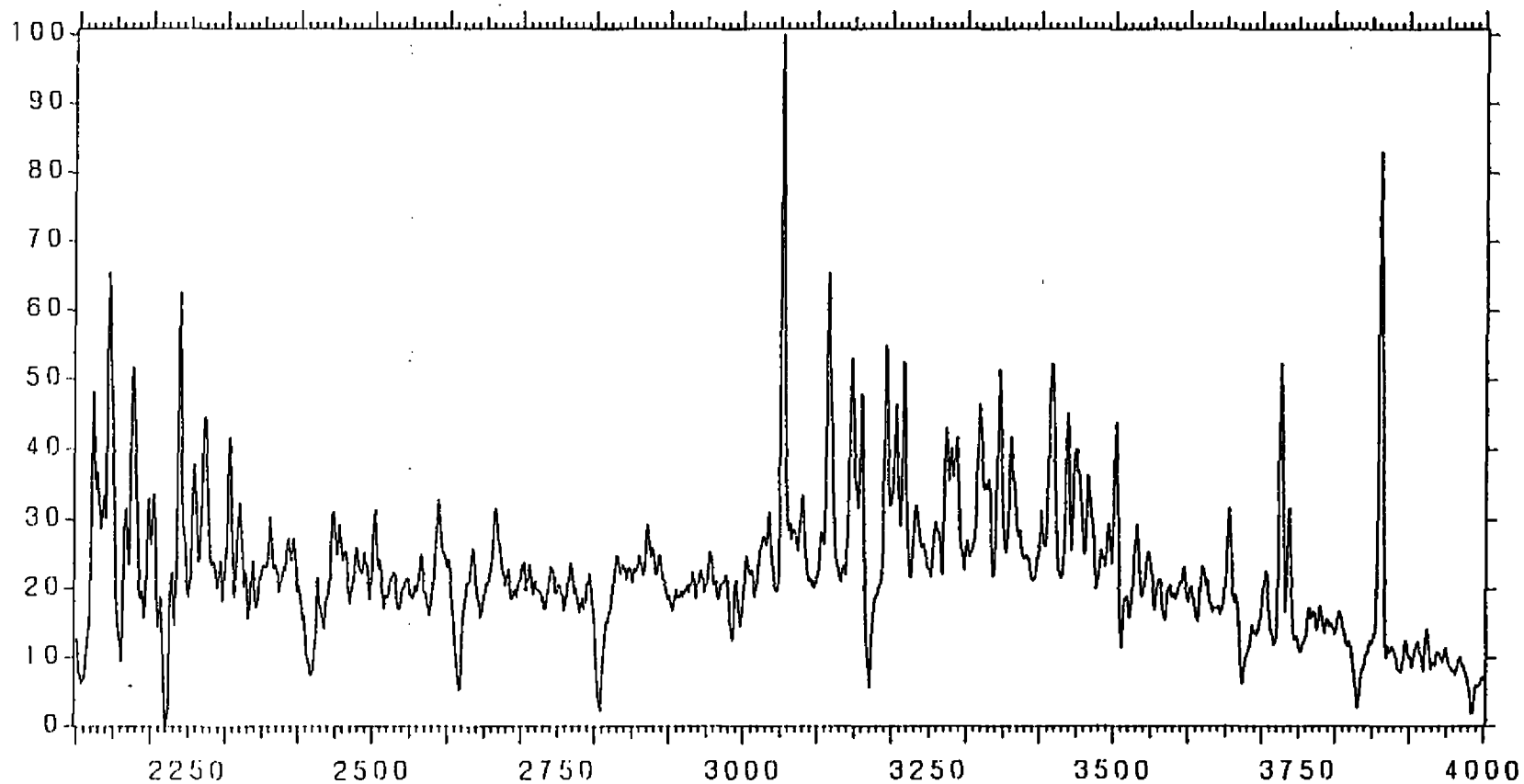
GECO-PRAKLA

GEOLAB NOR

E642855
3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
2855.70M, 7 IMG SAMPLE



M/z 189 • 12.2886: Min = 2262, Max = 7595, Delta = 5333



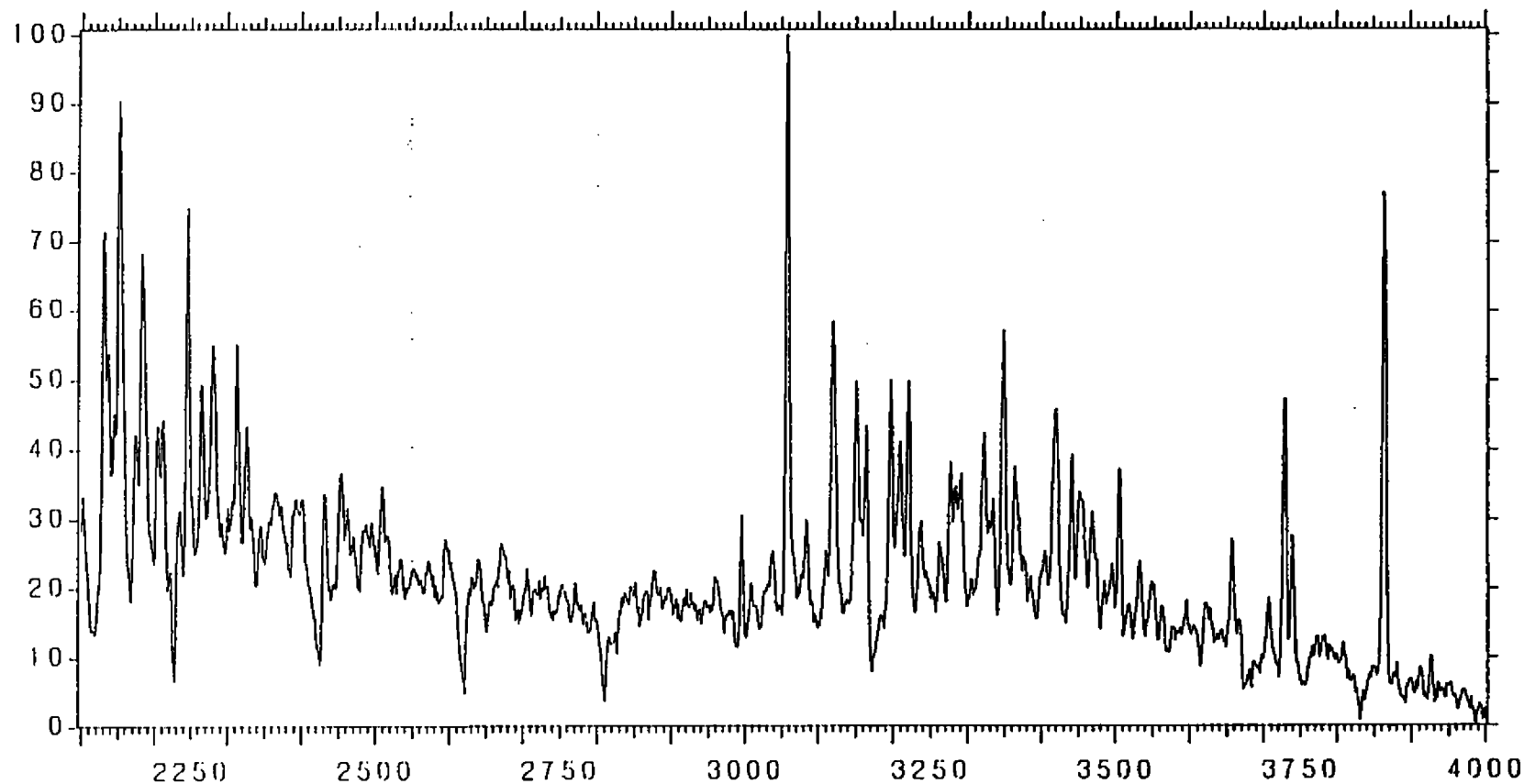
F642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2862.70M, 9.0MG SAMPLE

M/z 189 • 35.8899: Min = 938, Max = 2764, Delta = 1826



E642875A

3607 scans acquired on 6 Feb, 1992 at 15:30:32. Rate = 1.414 seconds/scan

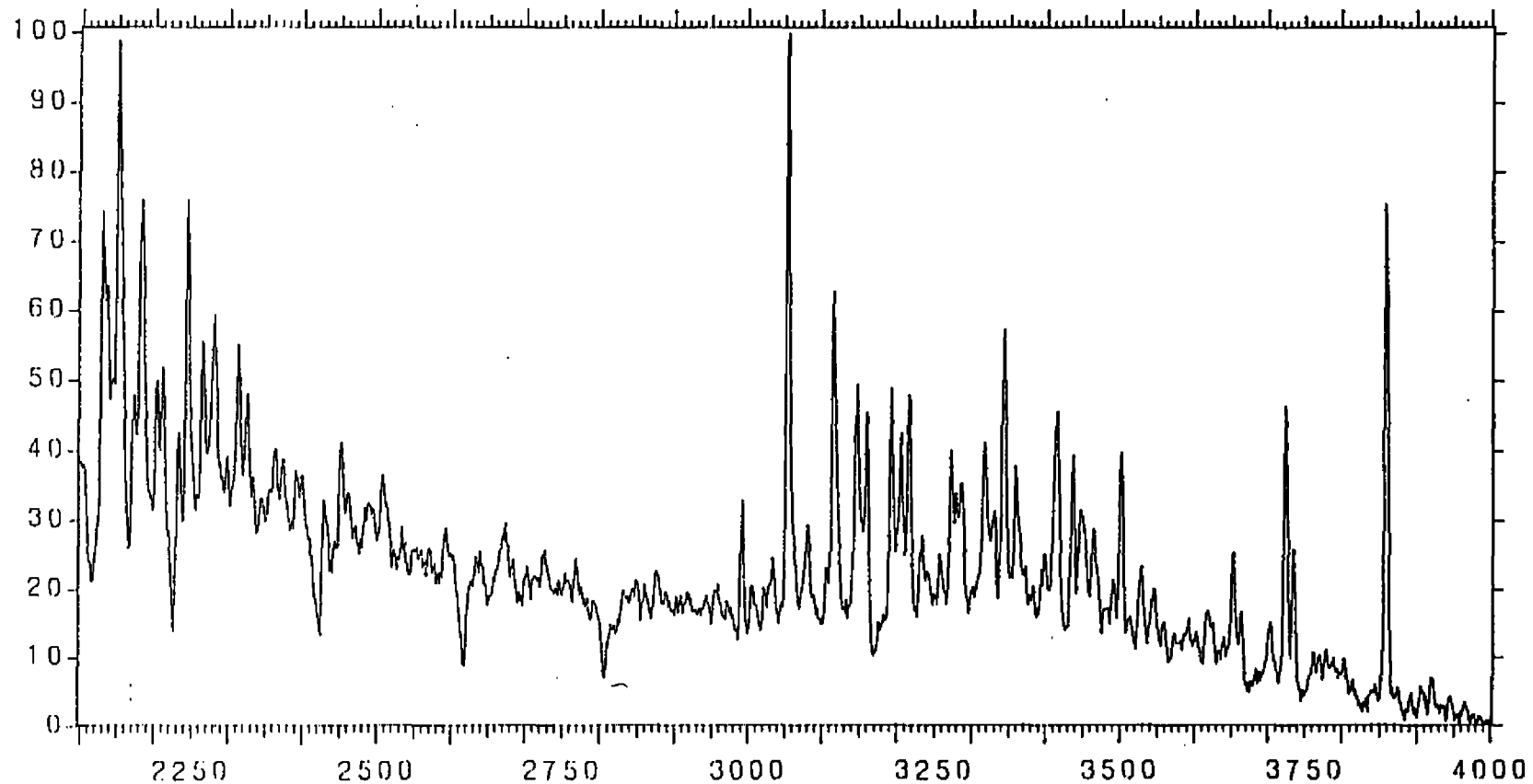
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2875.50M, 4.5MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 189 + 37.7506: Min = 806, Max = 2542, Delta = 1736



F642880A

3607 scans acquired on 6 Feb, 1992 at 21:38:51. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

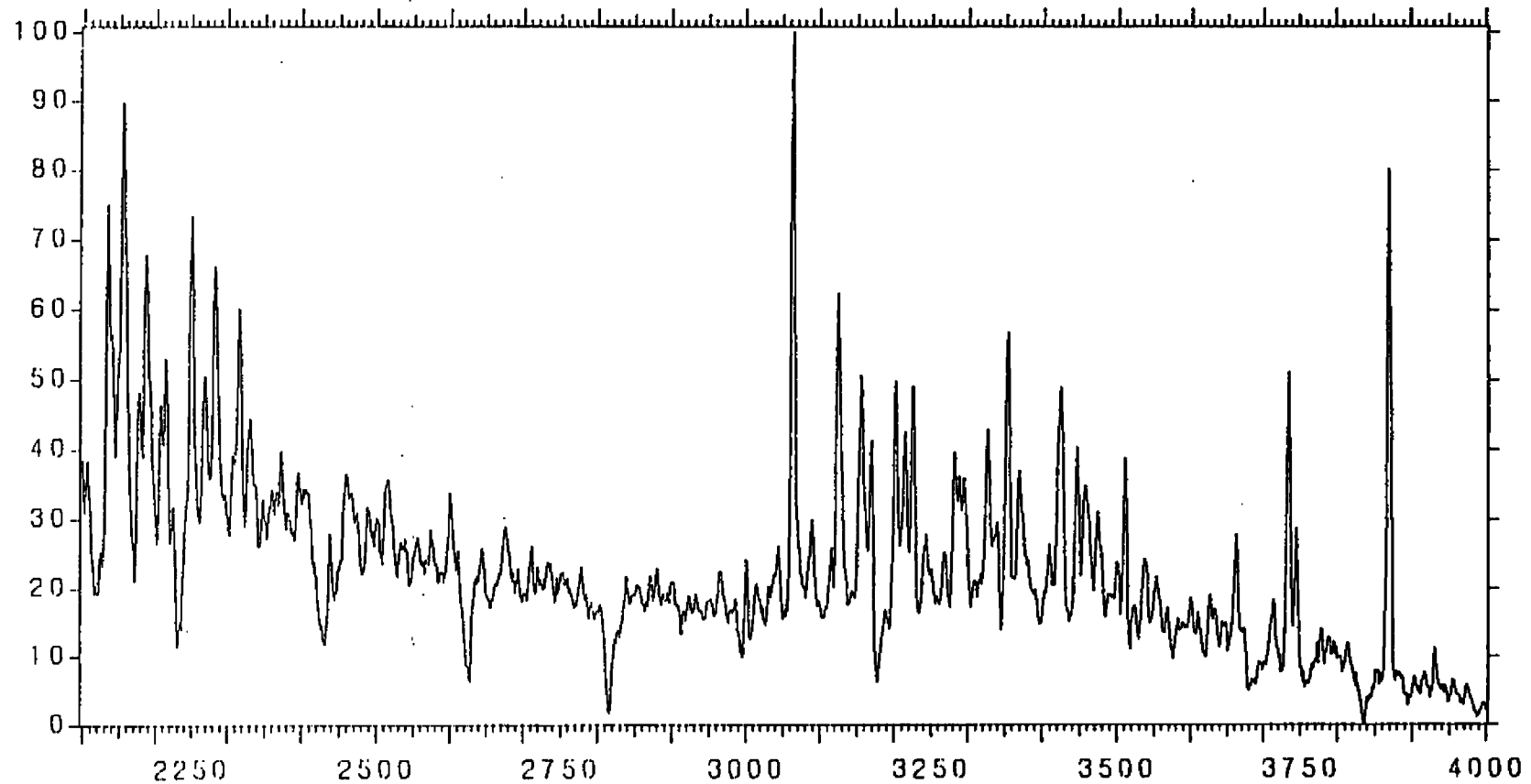
2880.10M, 4.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 189 * 30.9565: Min = 976, Max = 3093, Delta = 2117



E642884

3607 scans acquired on 6 Feb, 1992 at 12:29:57. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

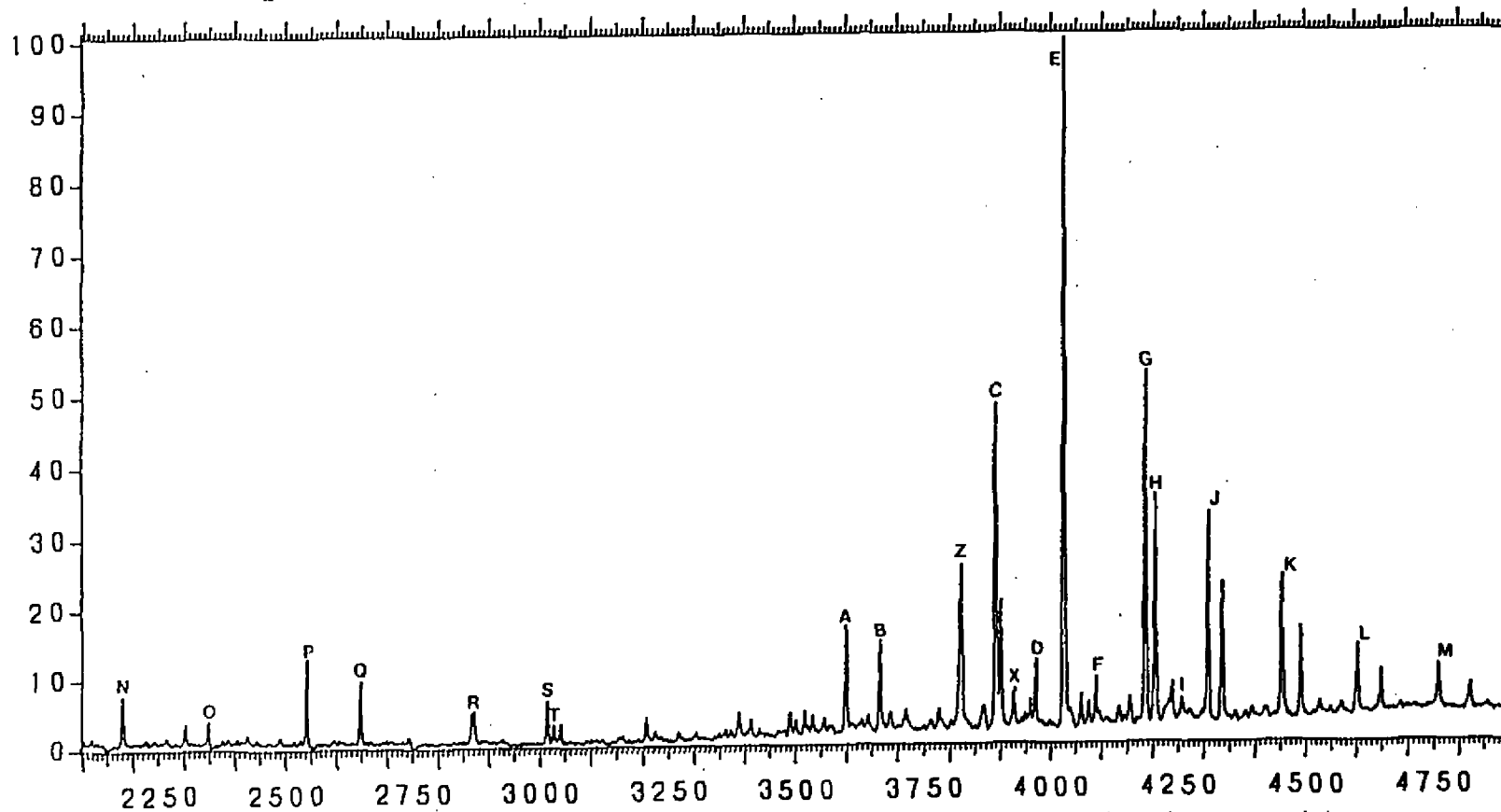
2884.60M, 5.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

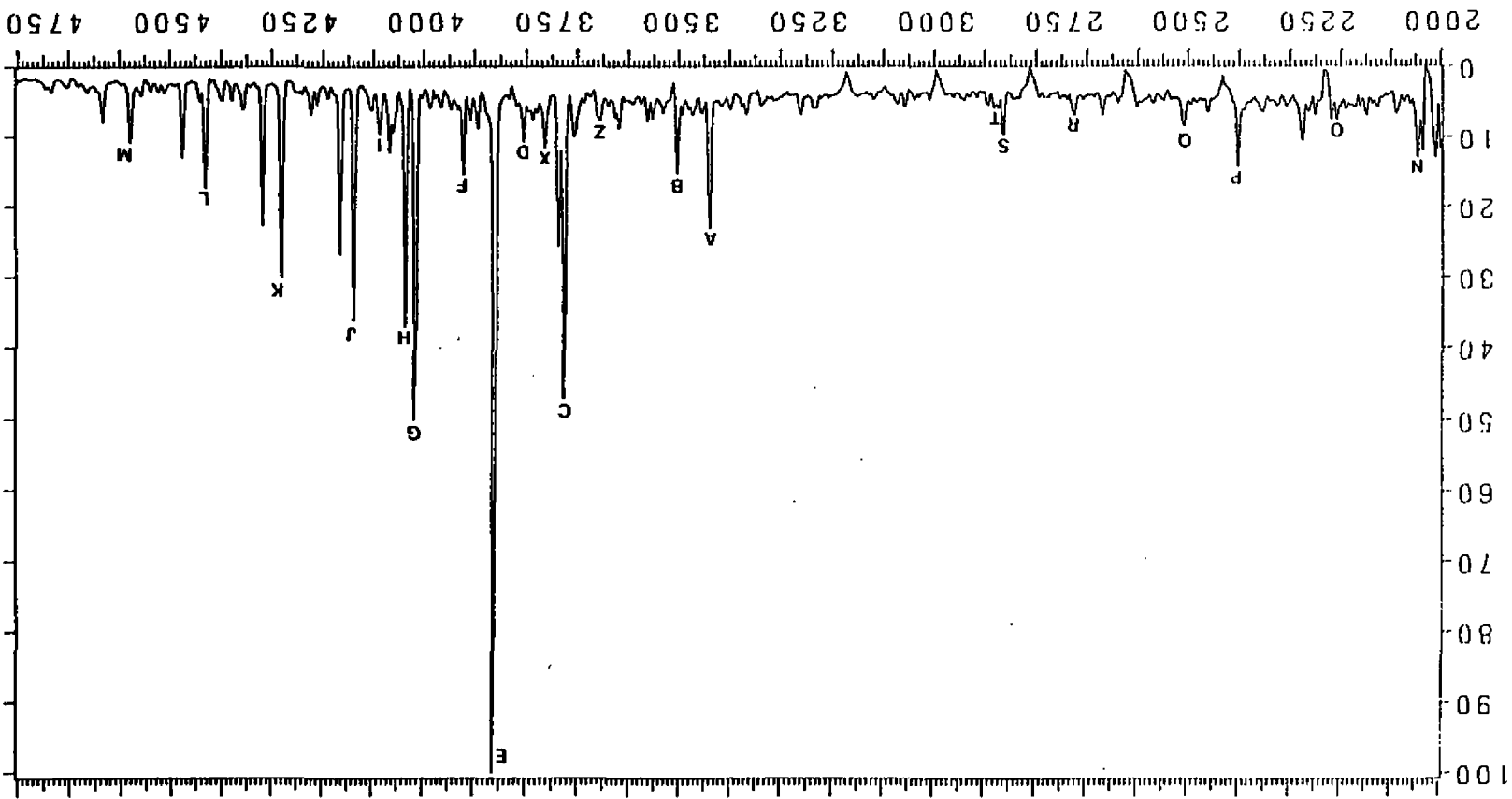
M/z 191 + 5.39827: Min = 473, Max = 12613, Delta = 12140



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 191 TRITERPANES

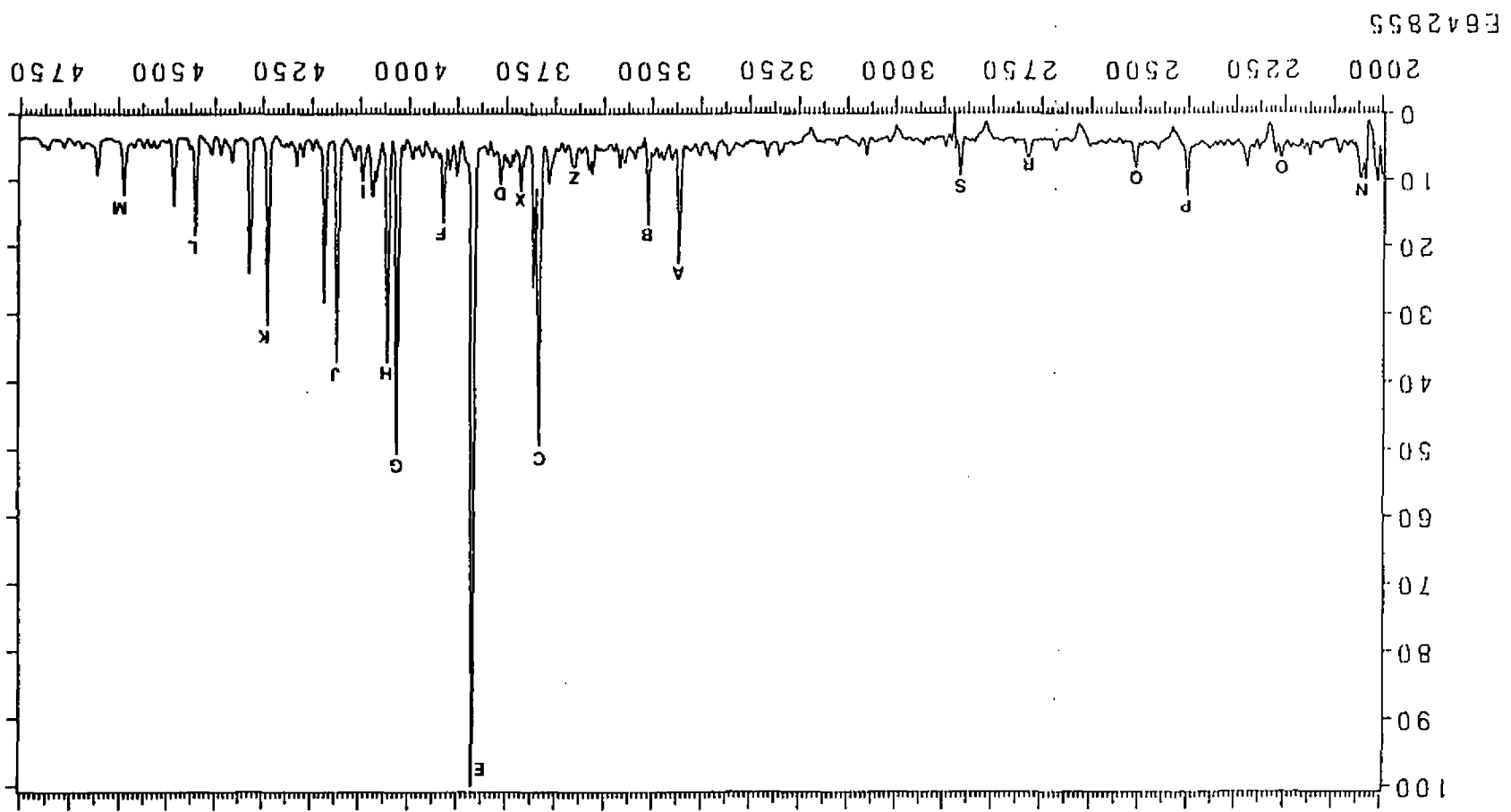
2851.10M, 7 5MG SAMPLE
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

E642851



M/Z 191 • 1.58934: Min = 2723, Max = 43957, Delta = 41234

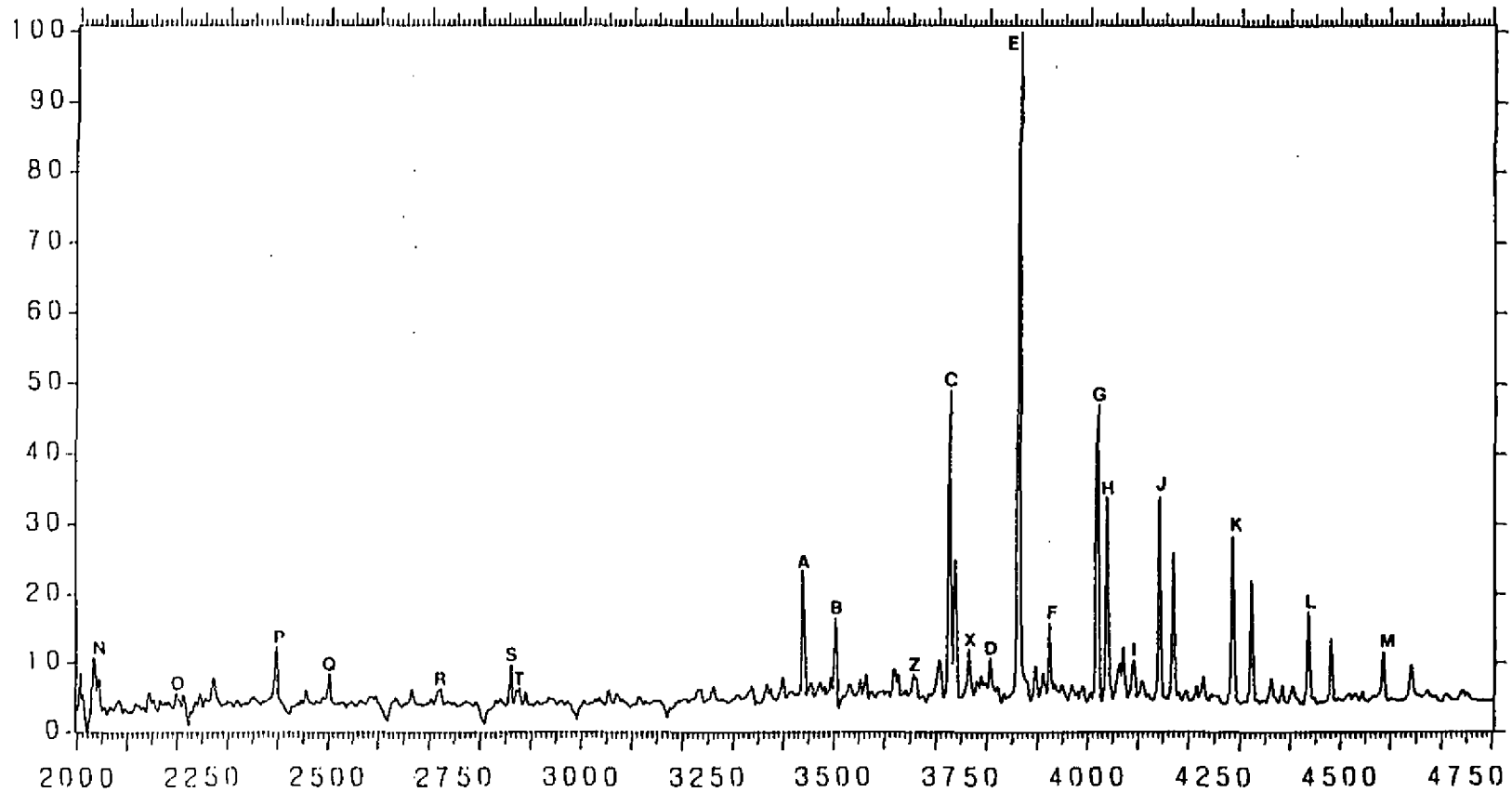
3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan
WELL 2/7-3X, TUL D4 3.4MG/100ML ADDED
2855.70M, 7 IMG SAMPLE



M/z 191 + 3.12801; Min = 949, Max = 21900, Delta = 20951

E642855

M/z 191 • 1.89287: Min = 1707, Max = 36329, Delta = 34622



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

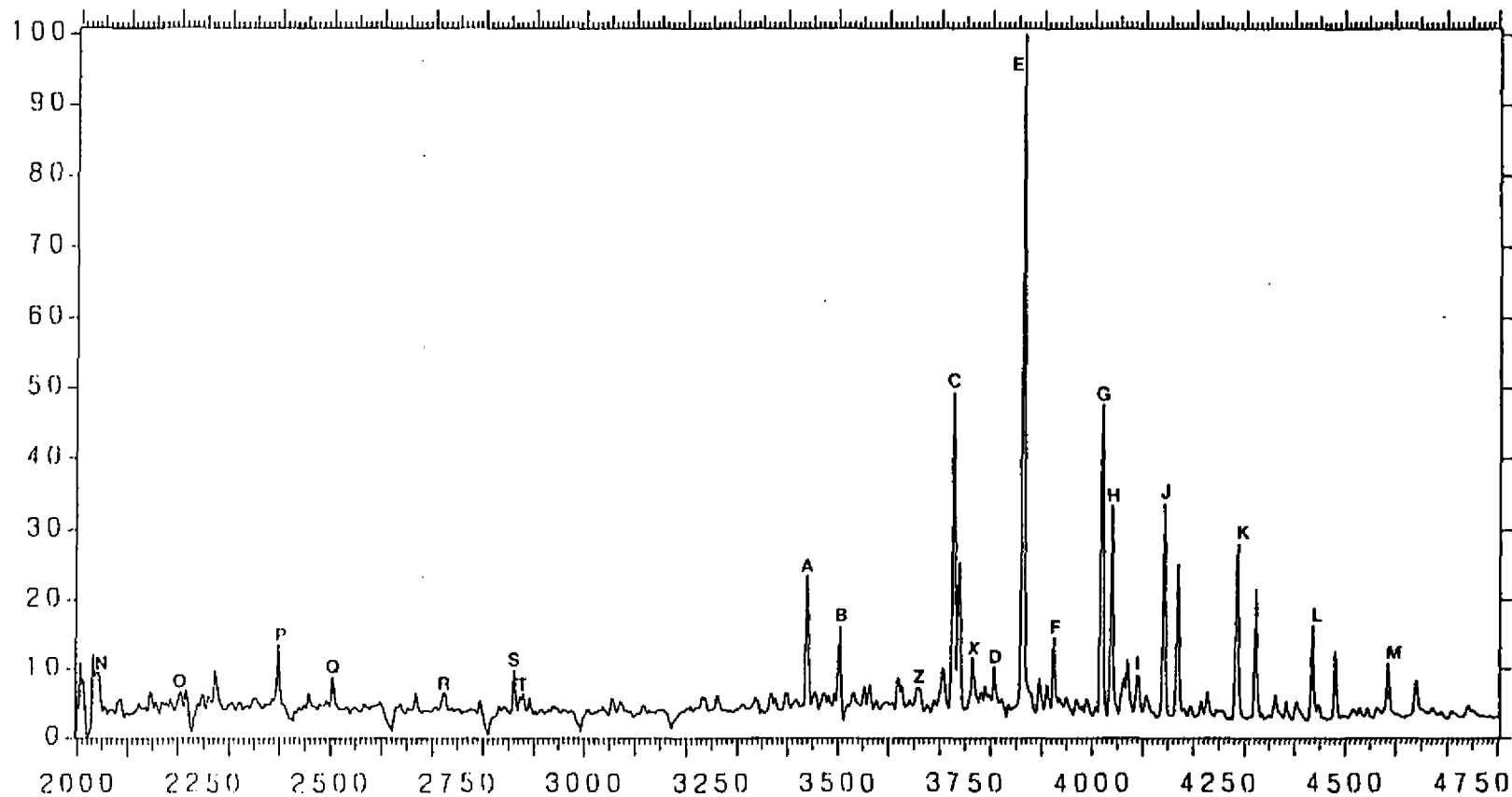
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 191 + 1.90825: Min = 2148, Max = 36491, Delta = 34343



E642875

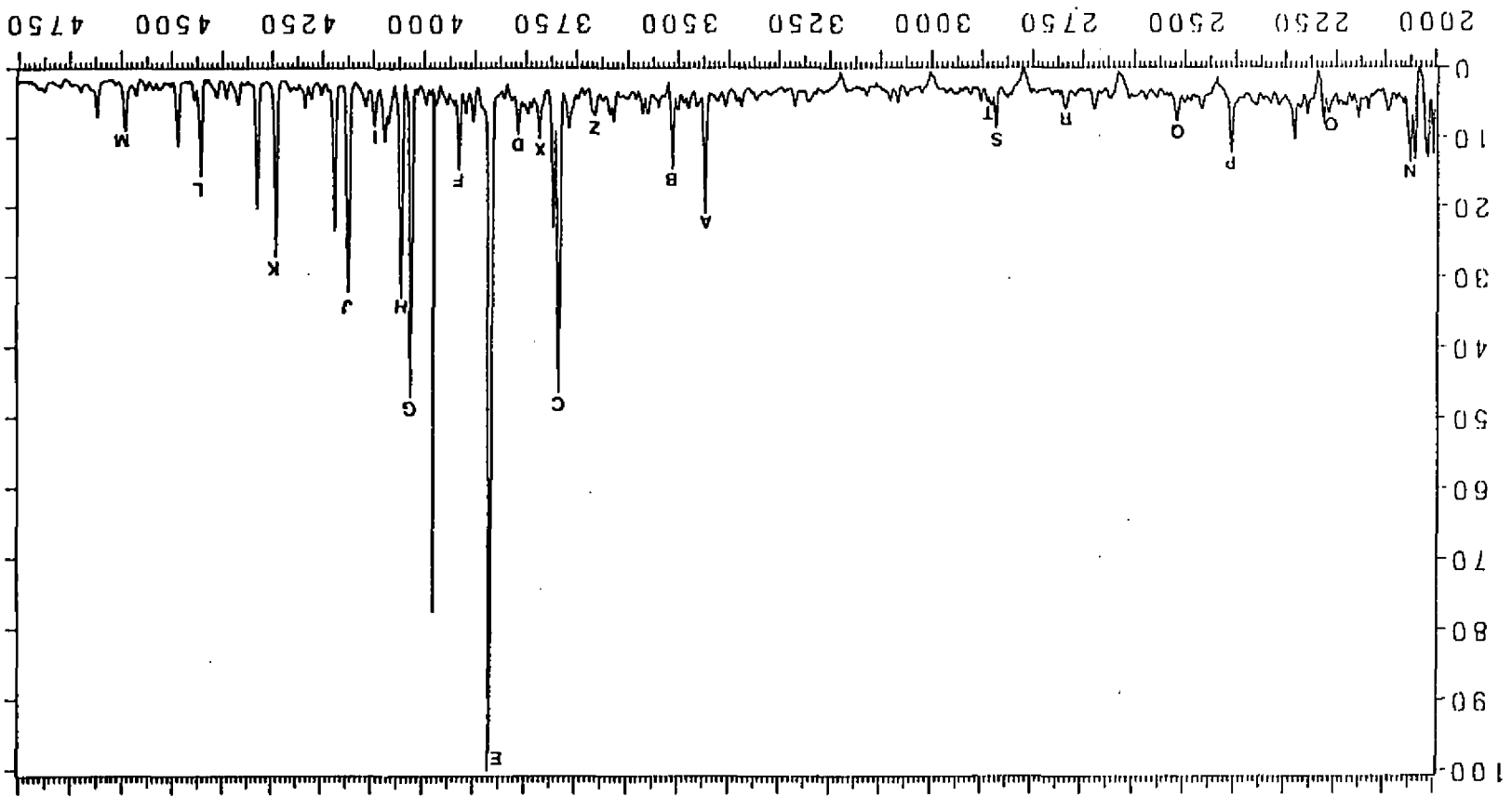
3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 10L D4 3.4MG/100ML ADDED

2875.50M, 5.2MG SAMPLE

2880.10M, 7 OMG SAMPLE
WELL 2/7-3X, IUL 04 3.4MG/100ML ADDED
3565 scans acquired on 29 Jan, 1992 at 13:50:28, Rate = 1.414 seconds/scan

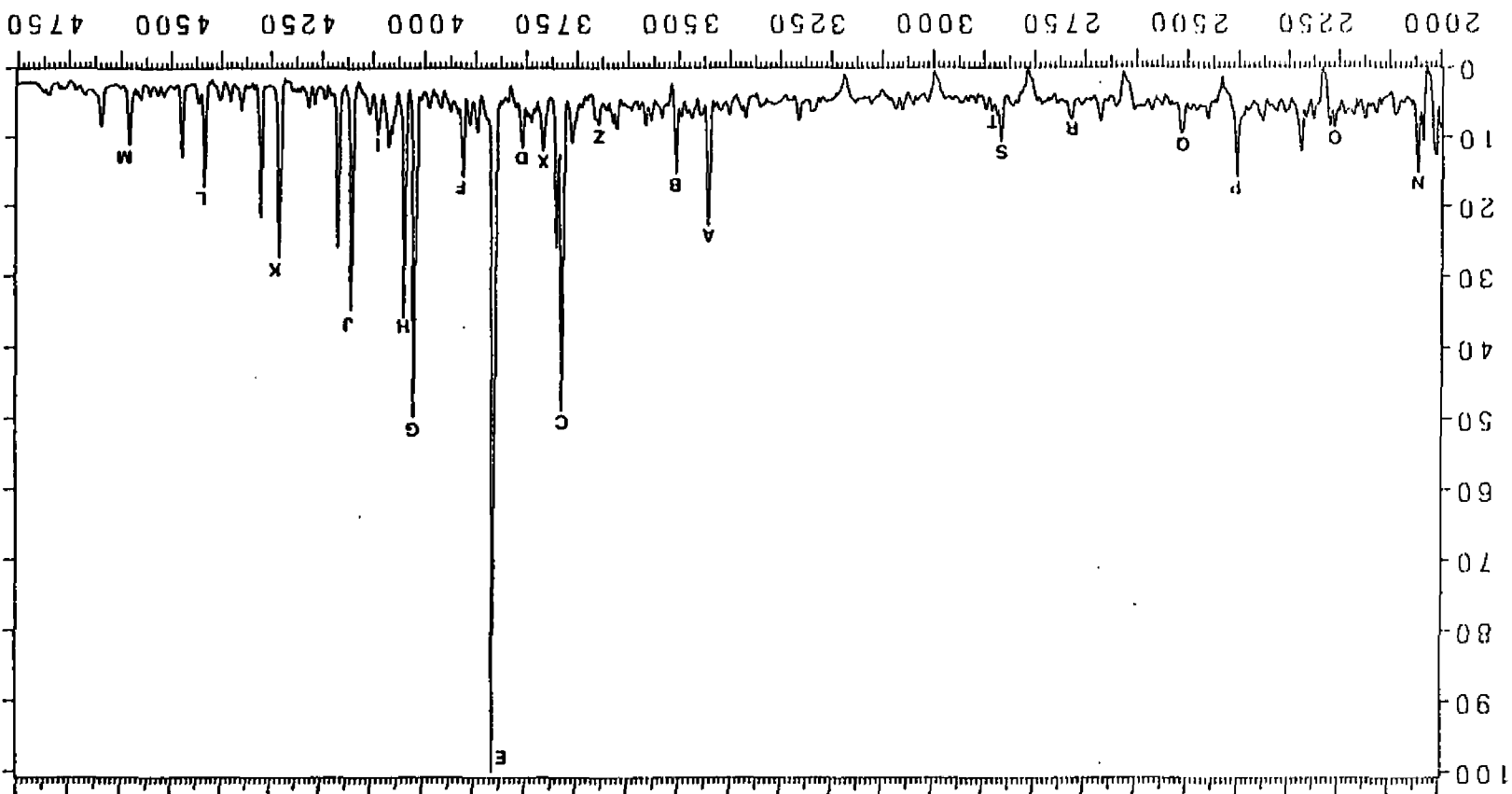
E642880



M/z 191 • 3.16564: Min = 1476, Max = 22178, Delta = 20702

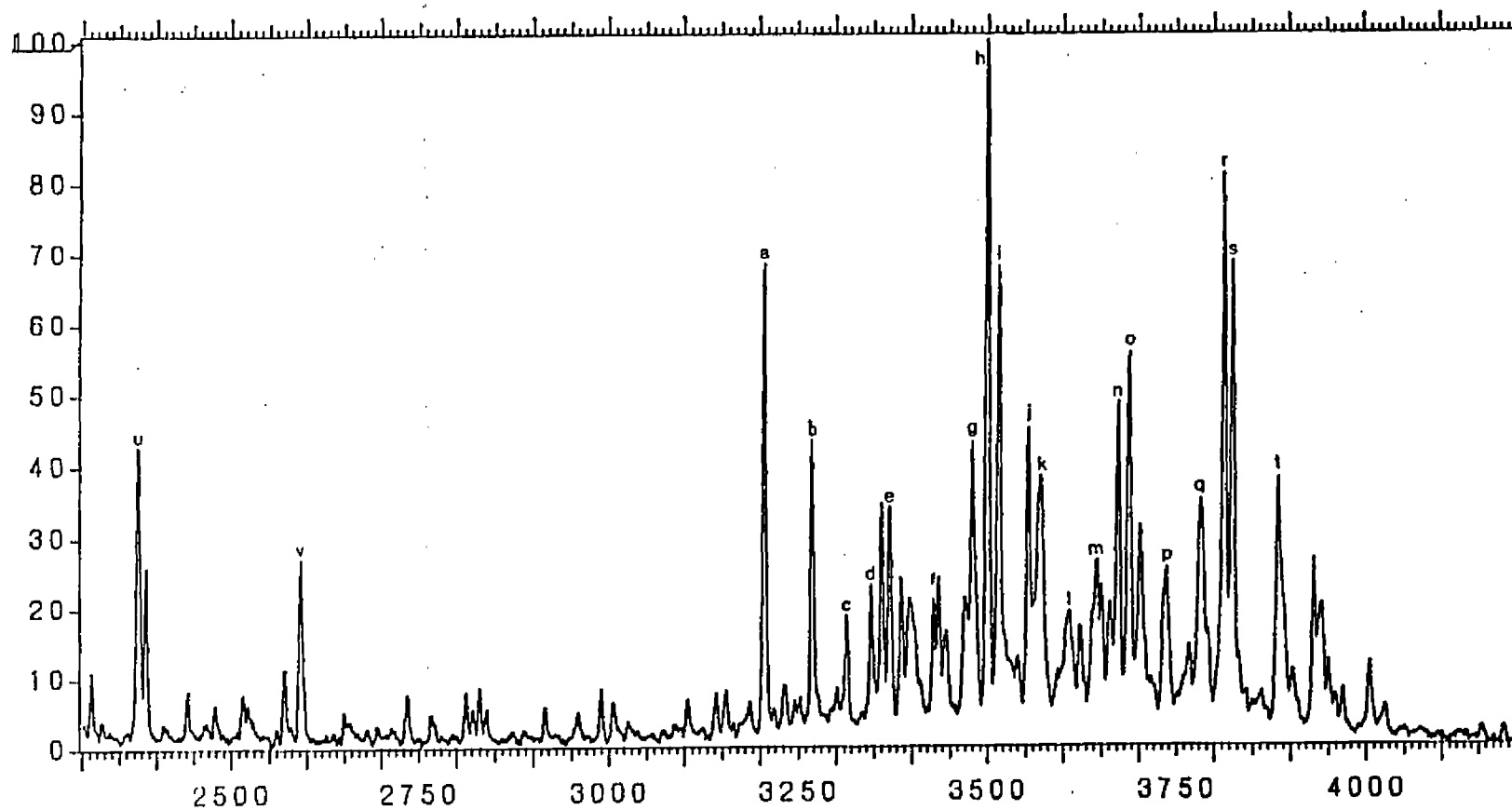
2884.60M, 6.9MG SAMPLE
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED
3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

E652884



M/z 191 • 1.69608: Min = 3064, Max = 41703, Delta = 38639

M/z 217 * 16.4661: Min = 315, Max = 4295, Delta = 3980



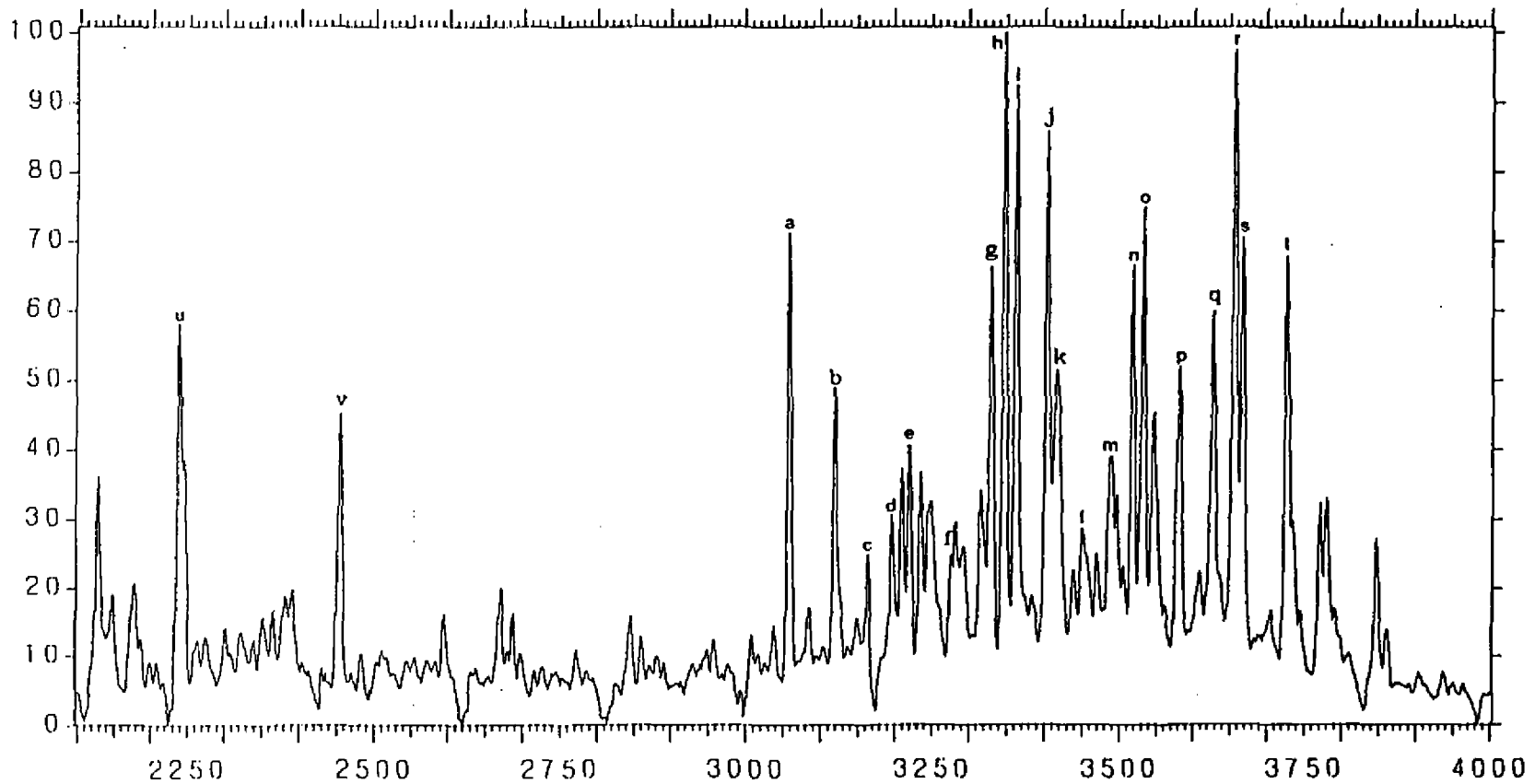
EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 217 STERANES

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 217 • 7 43955: Min = 1598, Max = 10407, Delta = 8809



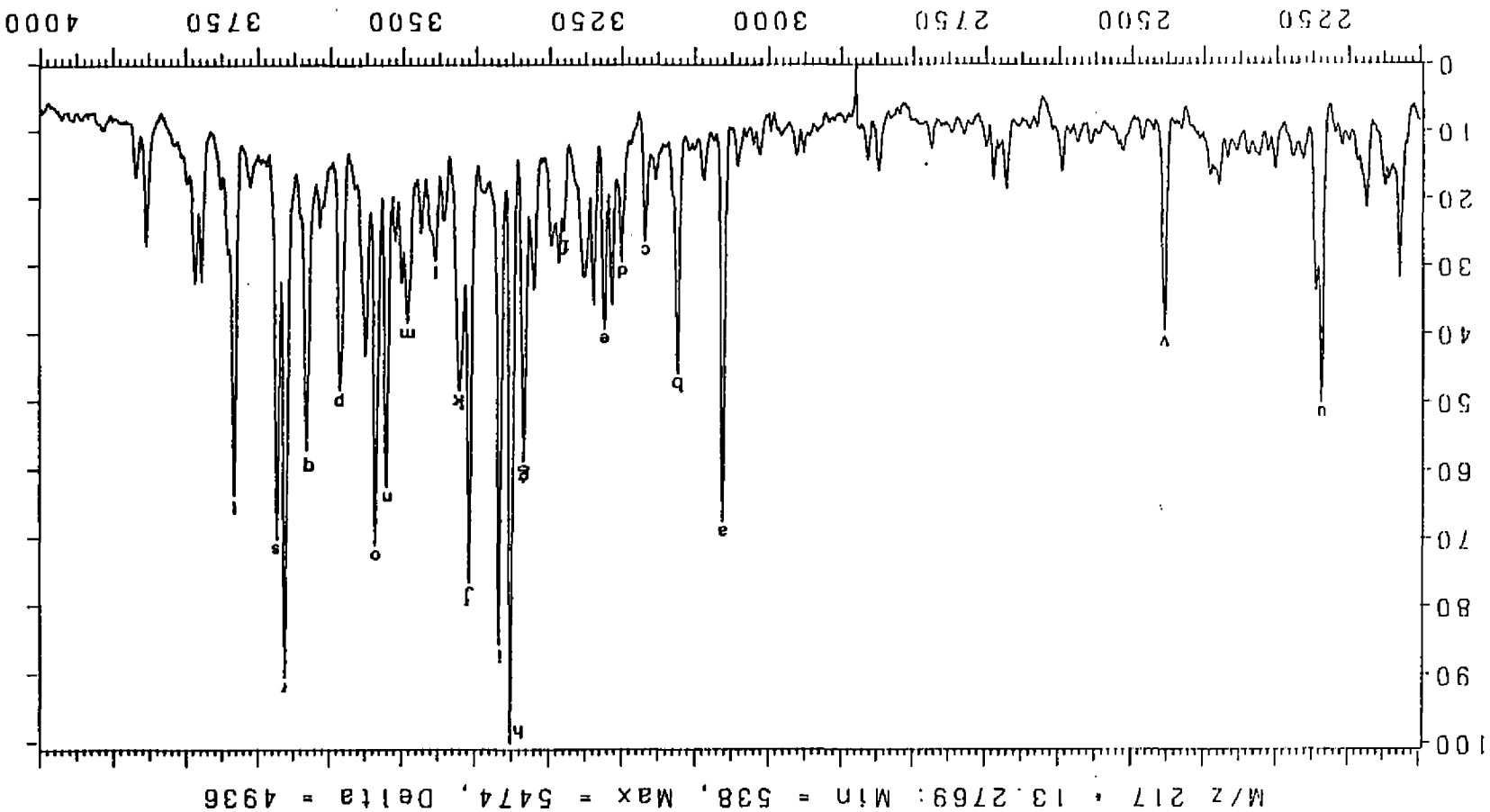
E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

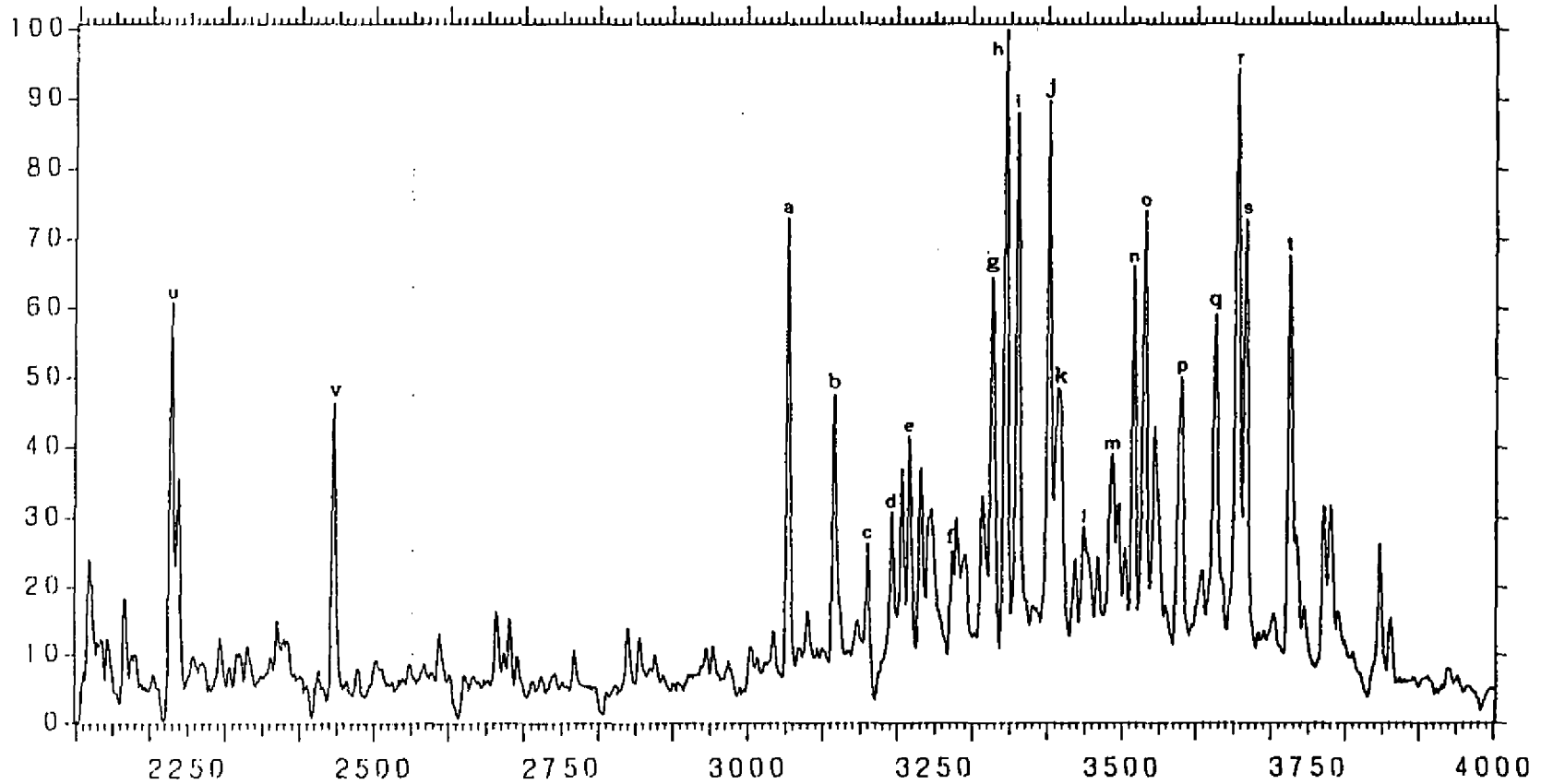
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2851.10M, 7 5MG SAMPLE

E642855
3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
2855.70M, 7 IMG SAMPLE



M/z 217 • 9.65169: Min = 1193, Max = 7983, Delta = 6790



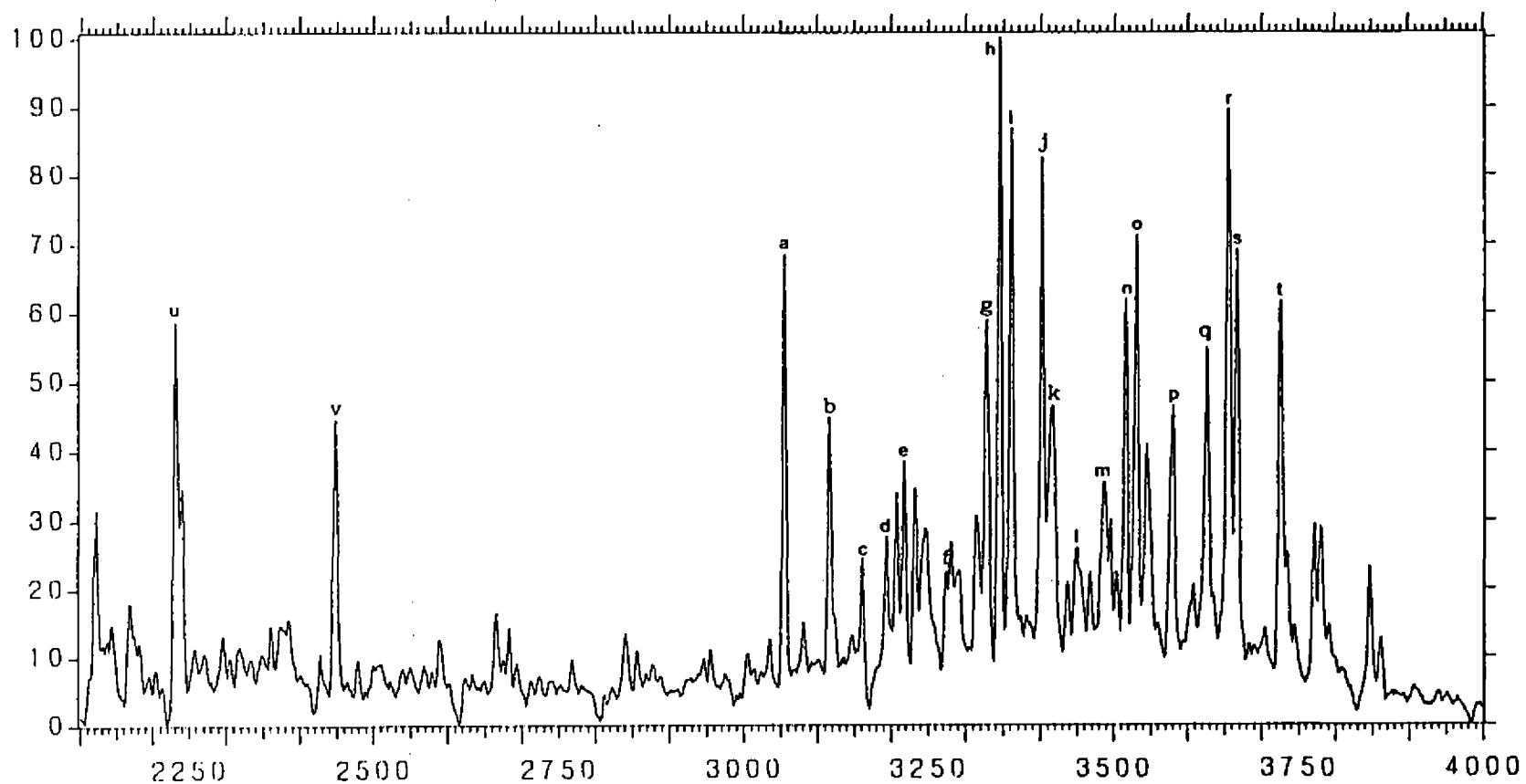
E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2862.70M, 9.0MG SAMPLE

M/z 217 • 8.50772: Min = 1317, Max = 9020, Delta = 7703



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

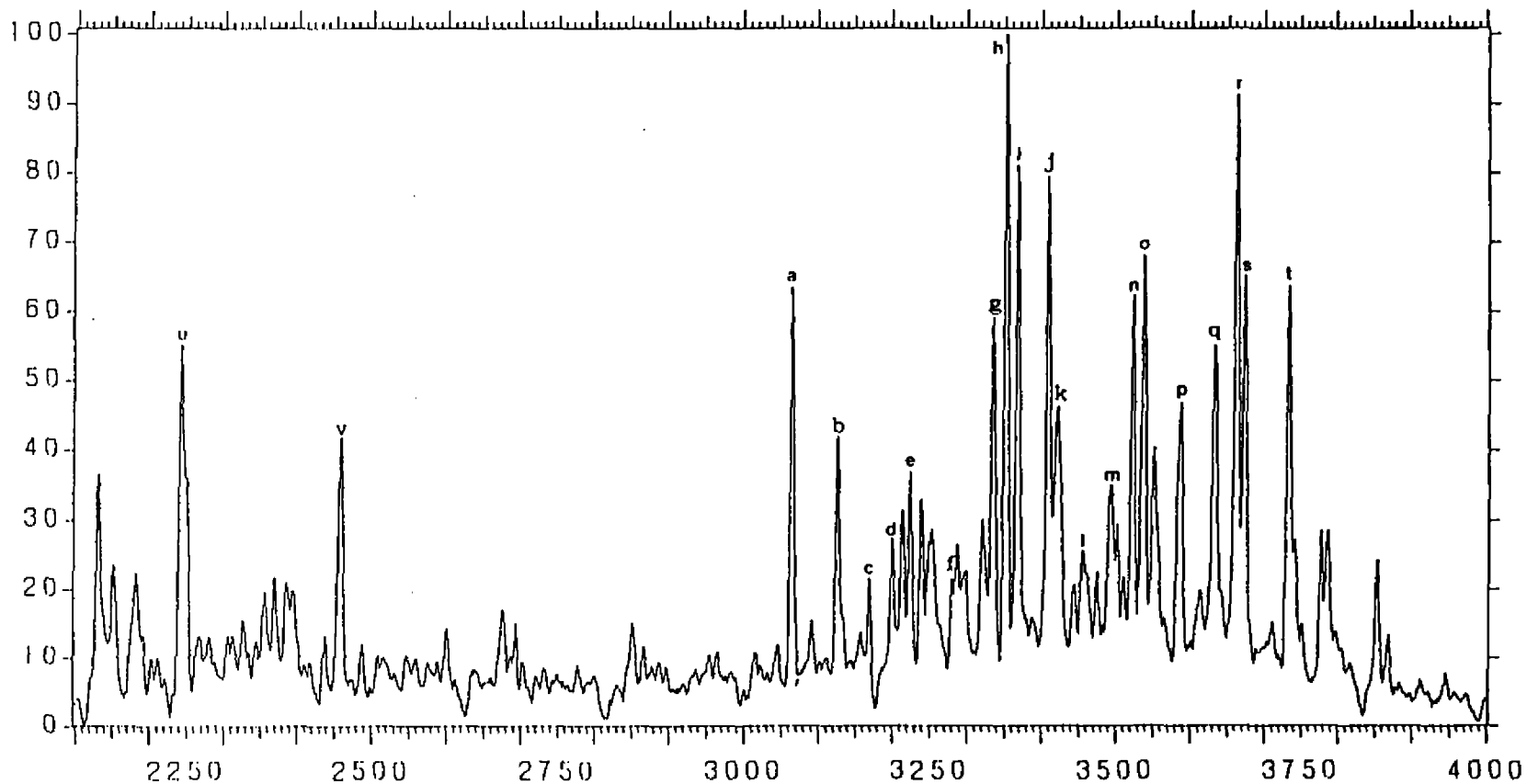
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 217 • 14.1728: Min = 923, Max = 5547, Delta = 4624



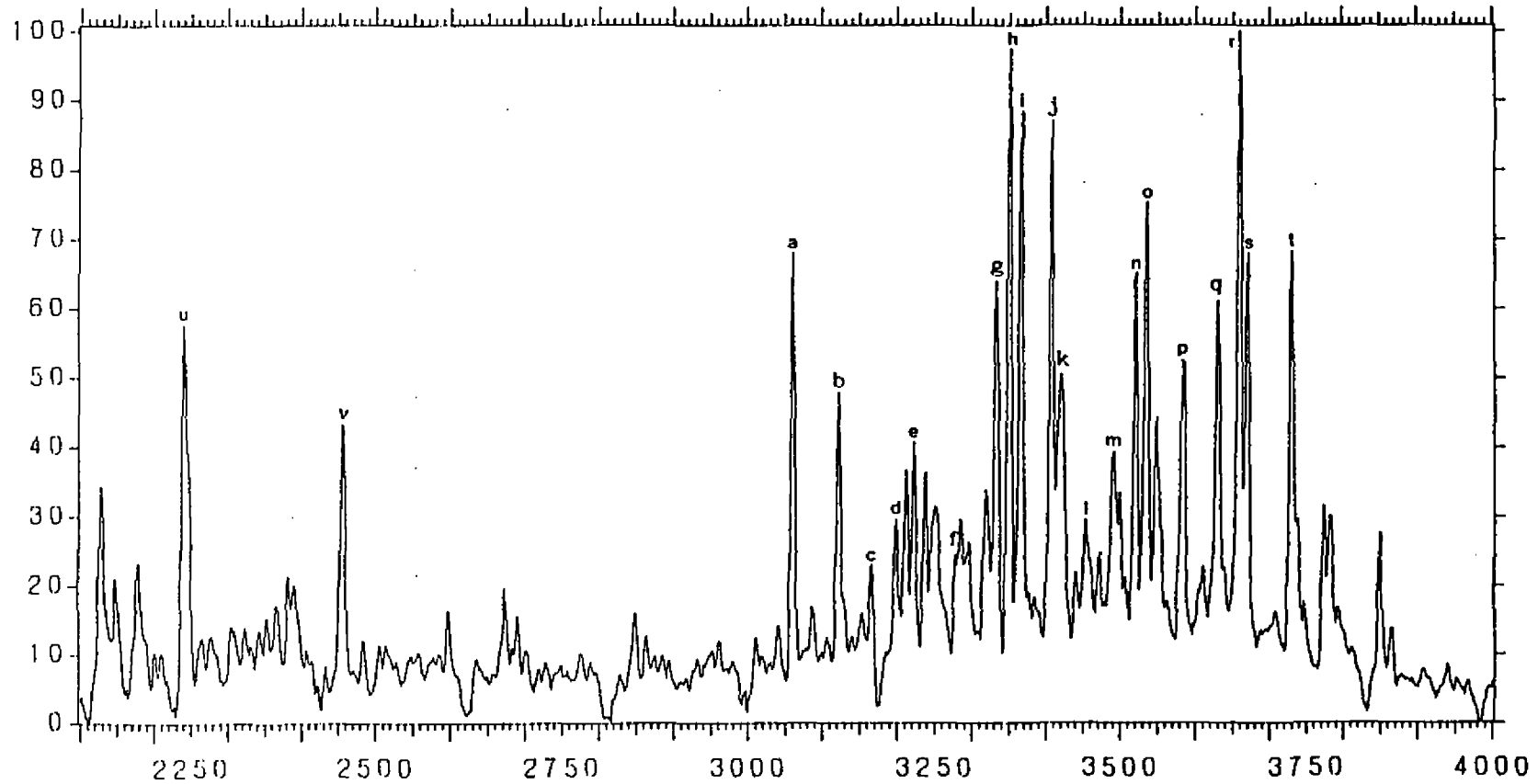
E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2880.10M, 7.0MG SAMPLE

M/z 217 • 7.45139: Min = 1748, Max = 10543, Delta = 8795



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

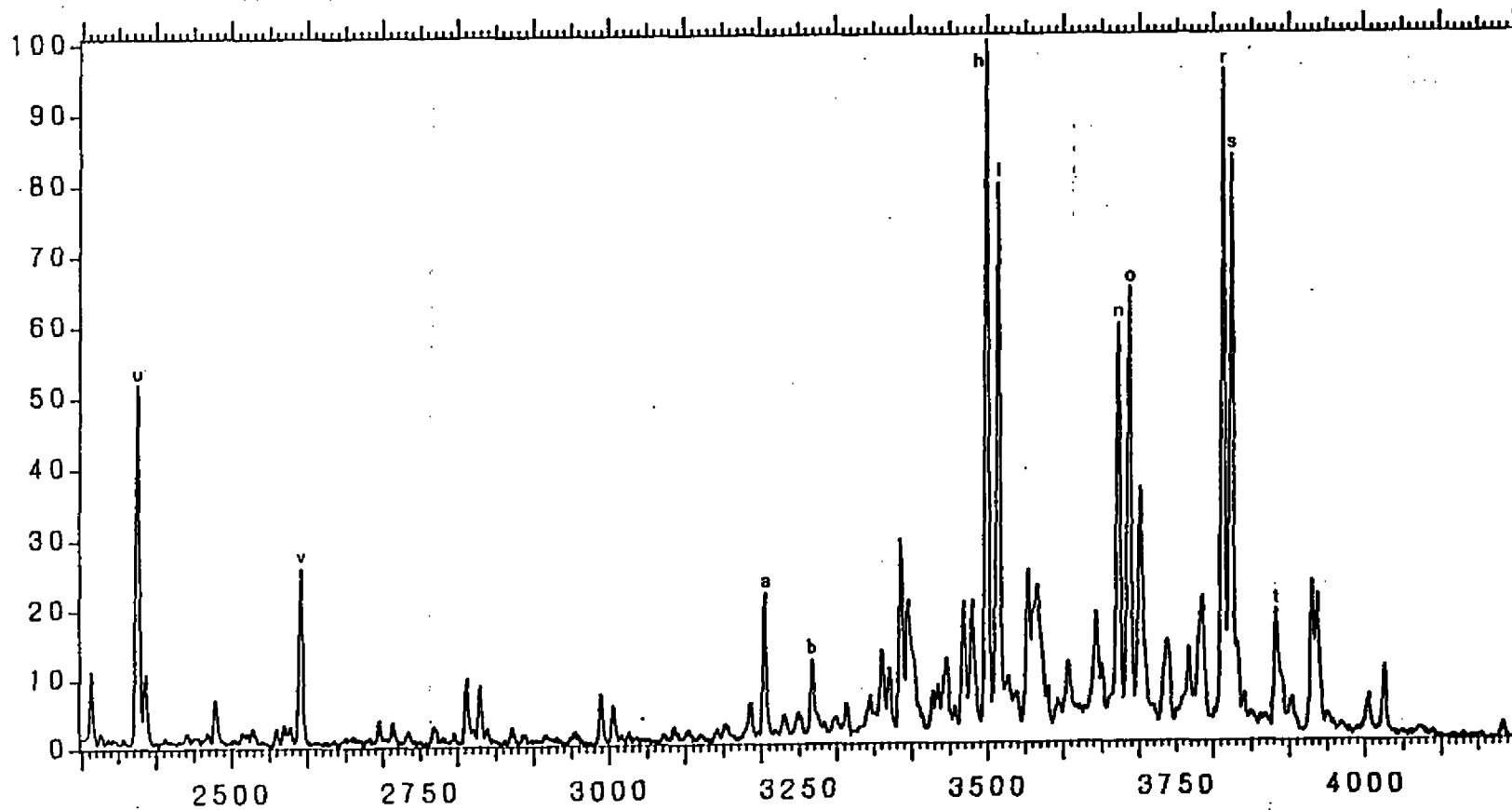
2884.60M, 6 9MG SAMPLE

Schlumberger

GECO-PRAKLA

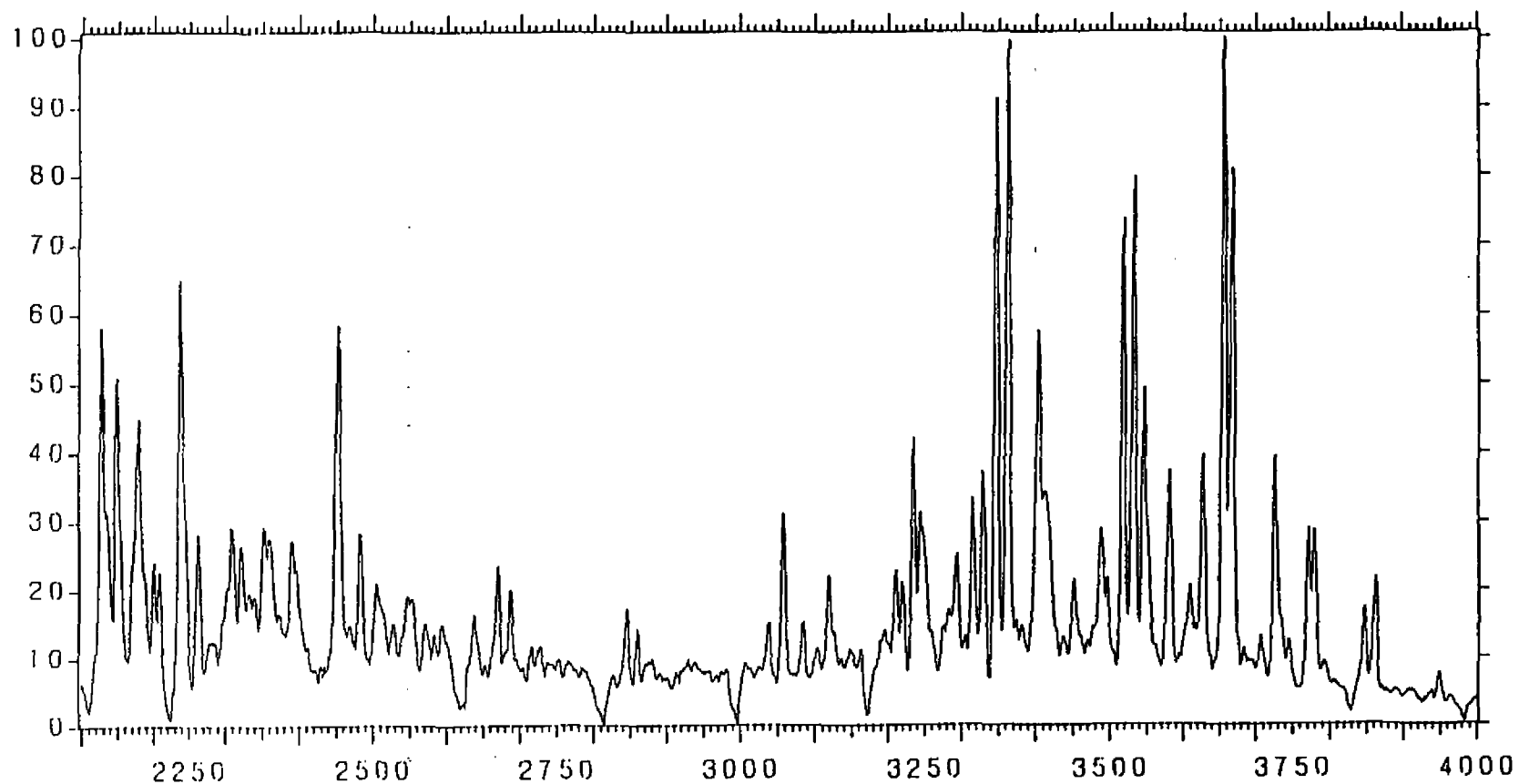
GEOLAB NOR

M/z 218 * 14.3058: Min = 305, Max = 4886, Delta = 4581



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 218. 14beta(H), 17beta(H) STERANES.

M/z 218 • 8.38151: Min = 1398, Max = 9217, Delta = 7819



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

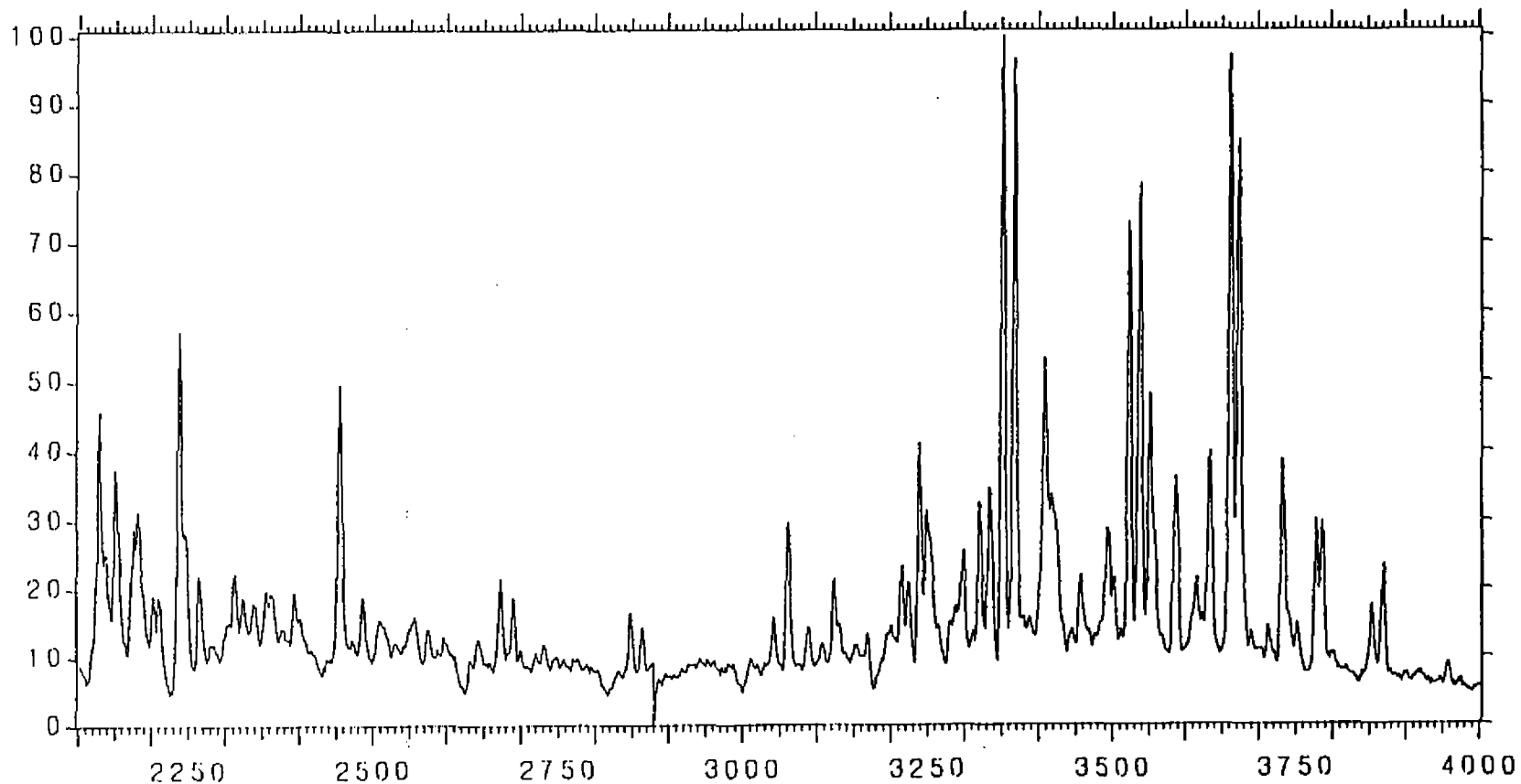
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 218 * 14.5214: Min = 523, Max = 5036, Delta = 4513



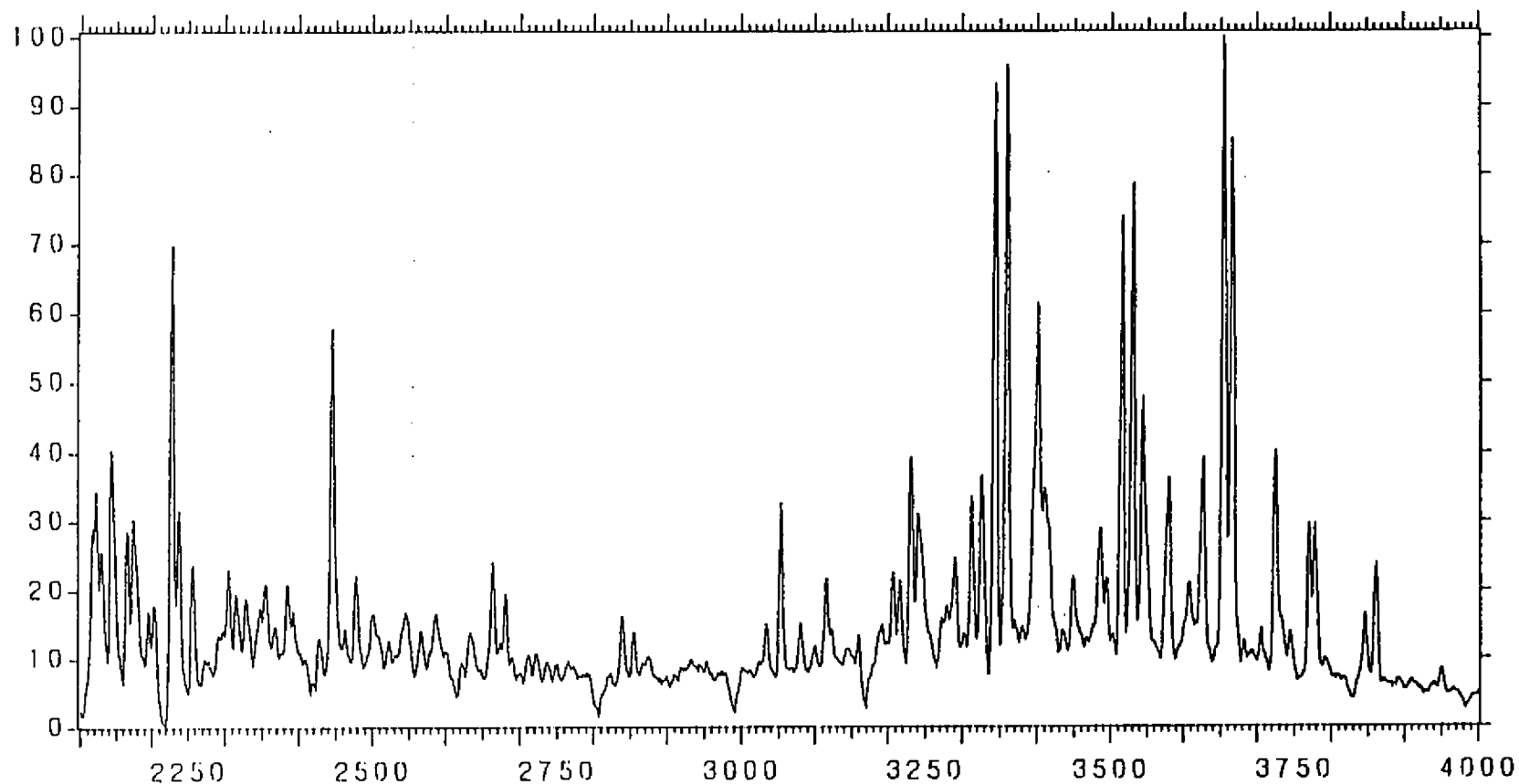
E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2855.70M, 7 1MG SAMPLE

M/z 218 • 10.6978: Min = 1027, Max = 7153, Delta = 6126



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL 04 3.4MG/100ML ADDED

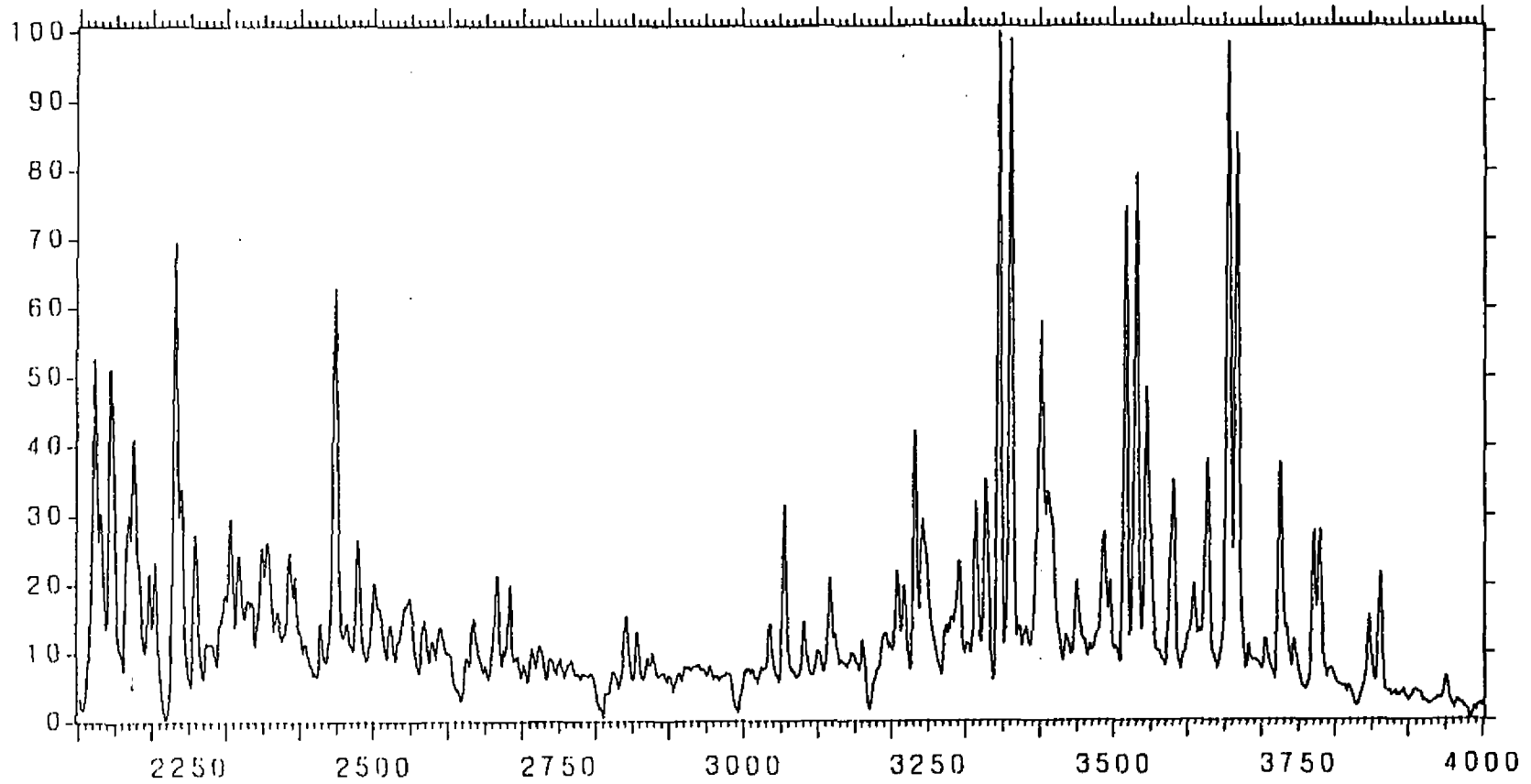
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 218 + 10.1526: Min = 1174, Max = 7629, Delta = 6455



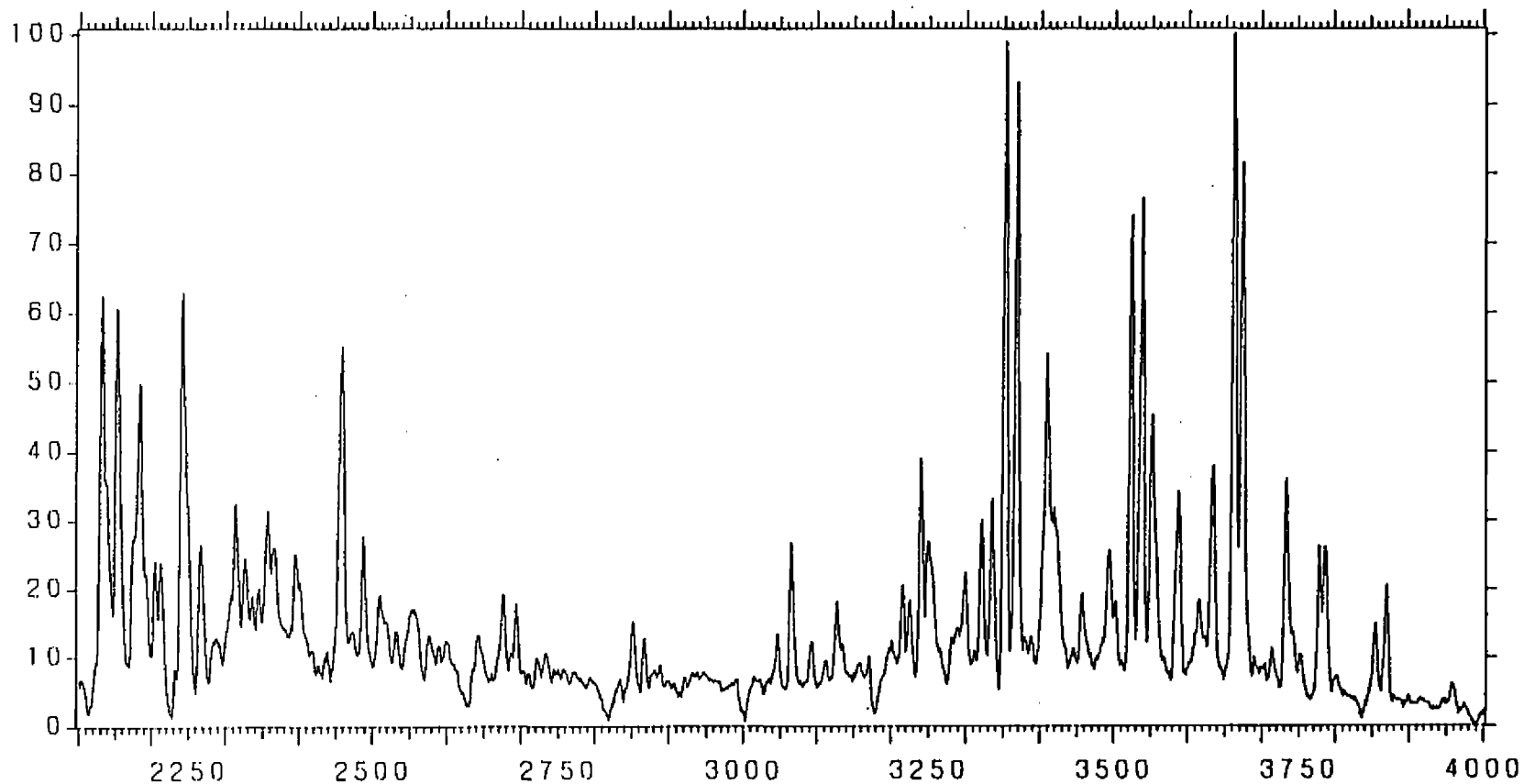
E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2875.50M, 5.2MG SAMPLE

M/z 218 • 15.4382: Min = 830, Max = 5075, Delta = 4245



E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

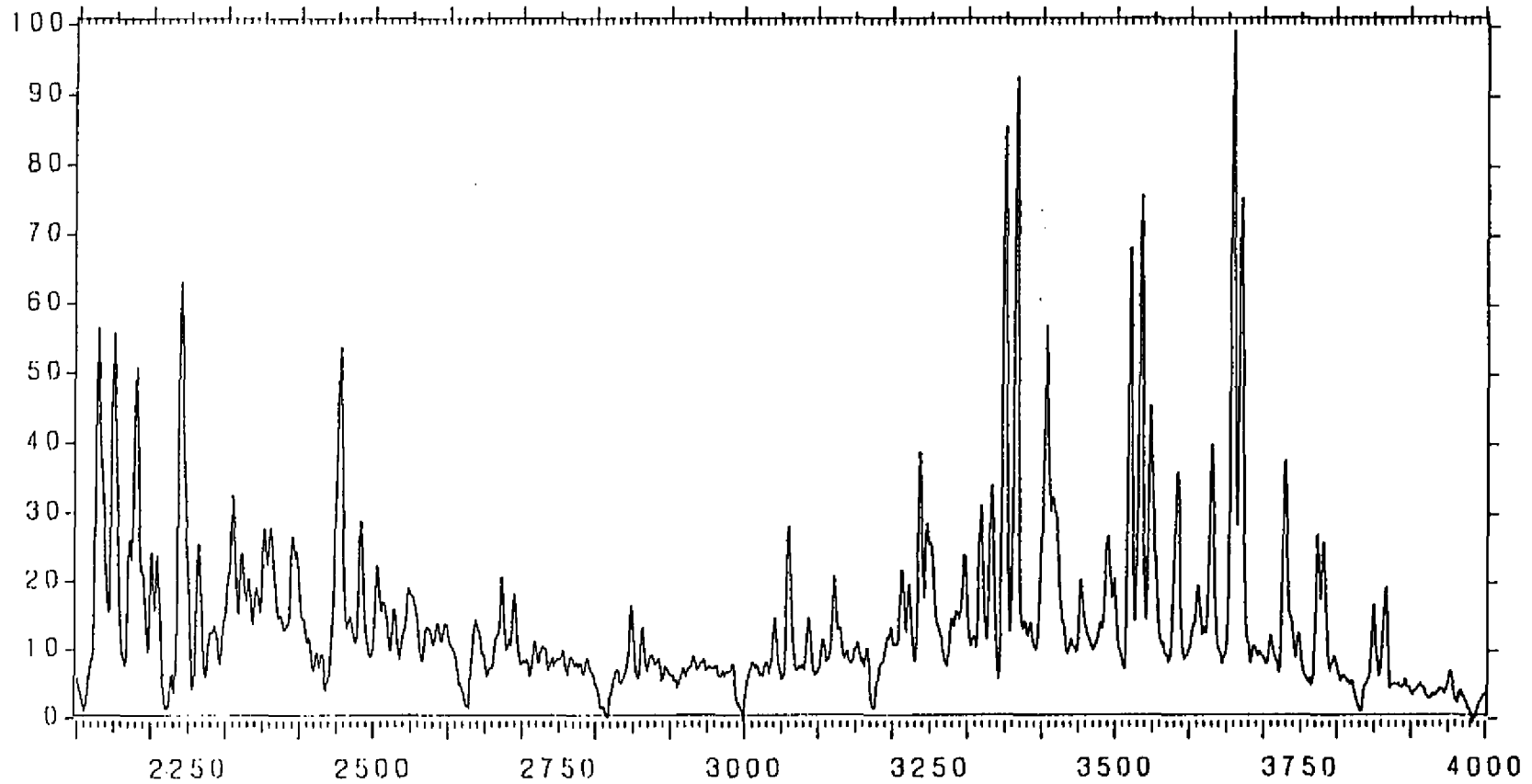
2880.10M, 7.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 218 • 8.14099: Min = 1532, Max = 9582, Delta = 8050



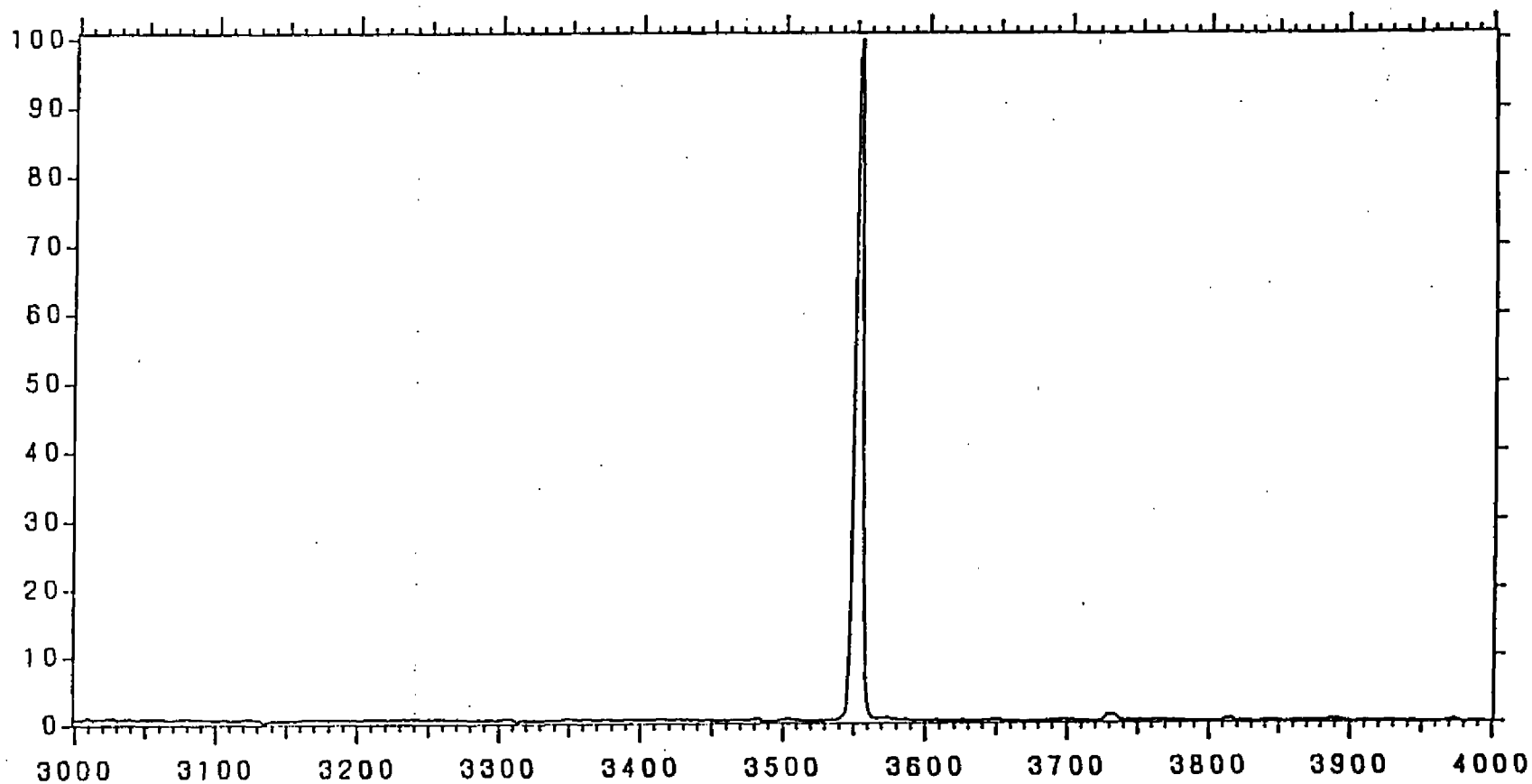
E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

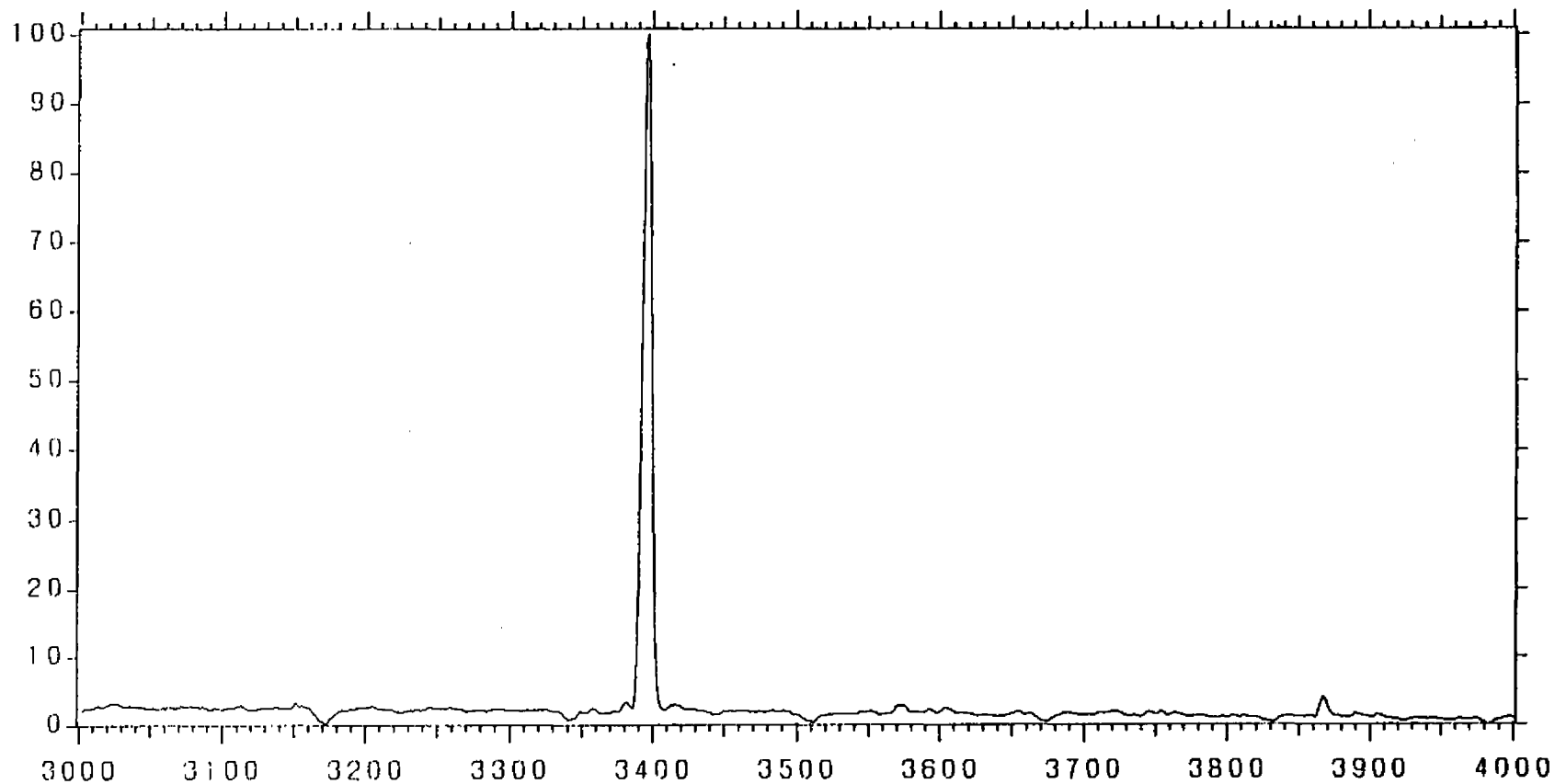
2884.60M, 6.9MG SAMPLE

M/z 221 • 2.49277: Min = 629, Max = 26919, Delta = 26290



EXAMPLE OF PEAK IDENTIFICATION FOR M/z 221 D4 CHOLESTANE

M/z 221 • 2.68851: Min = 1699, Max = 26075, Delta = 24376



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55, Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

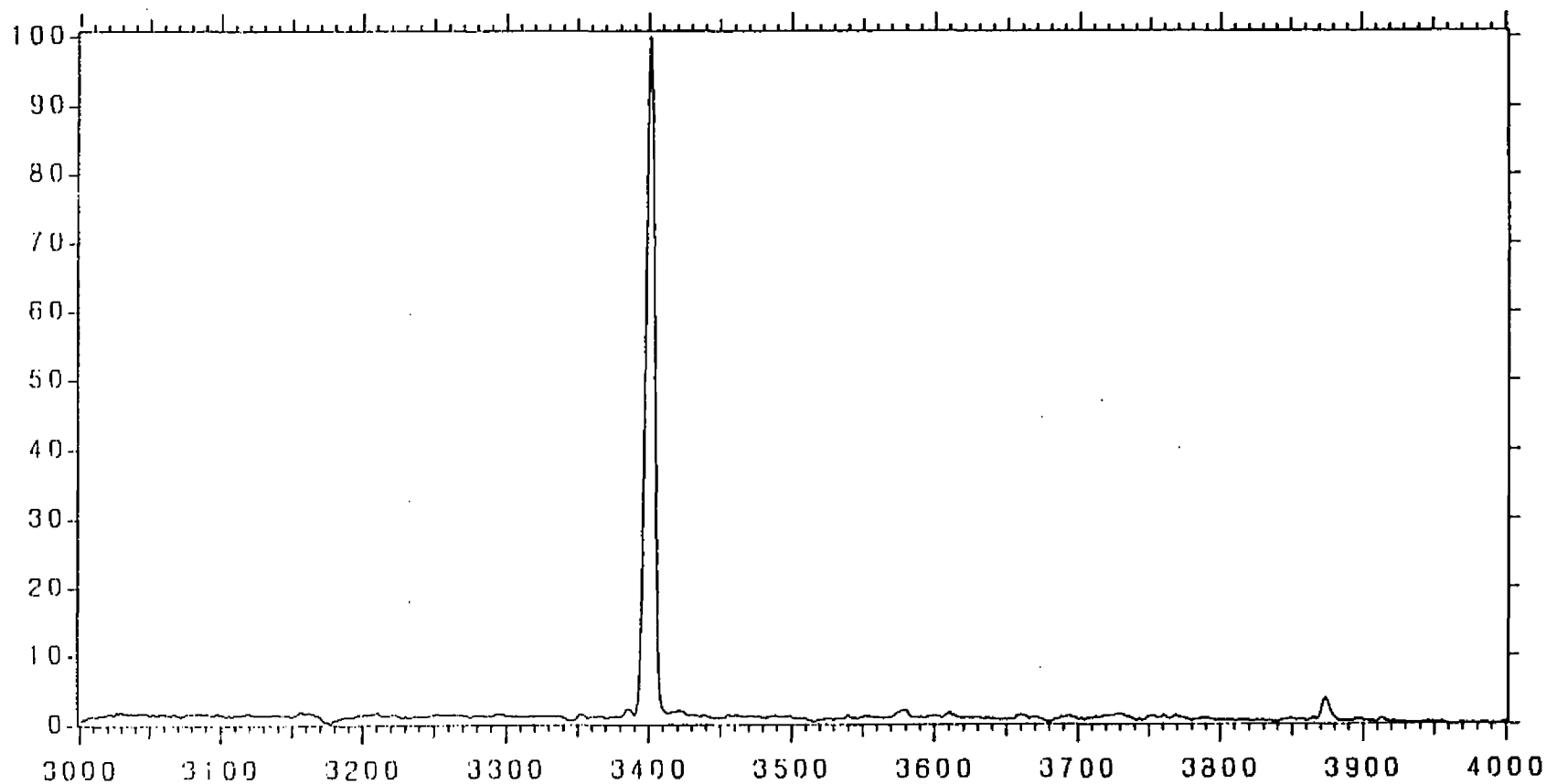
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 221 • 4.83368: Min = 850, Max = 14408, Delta = 13558



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

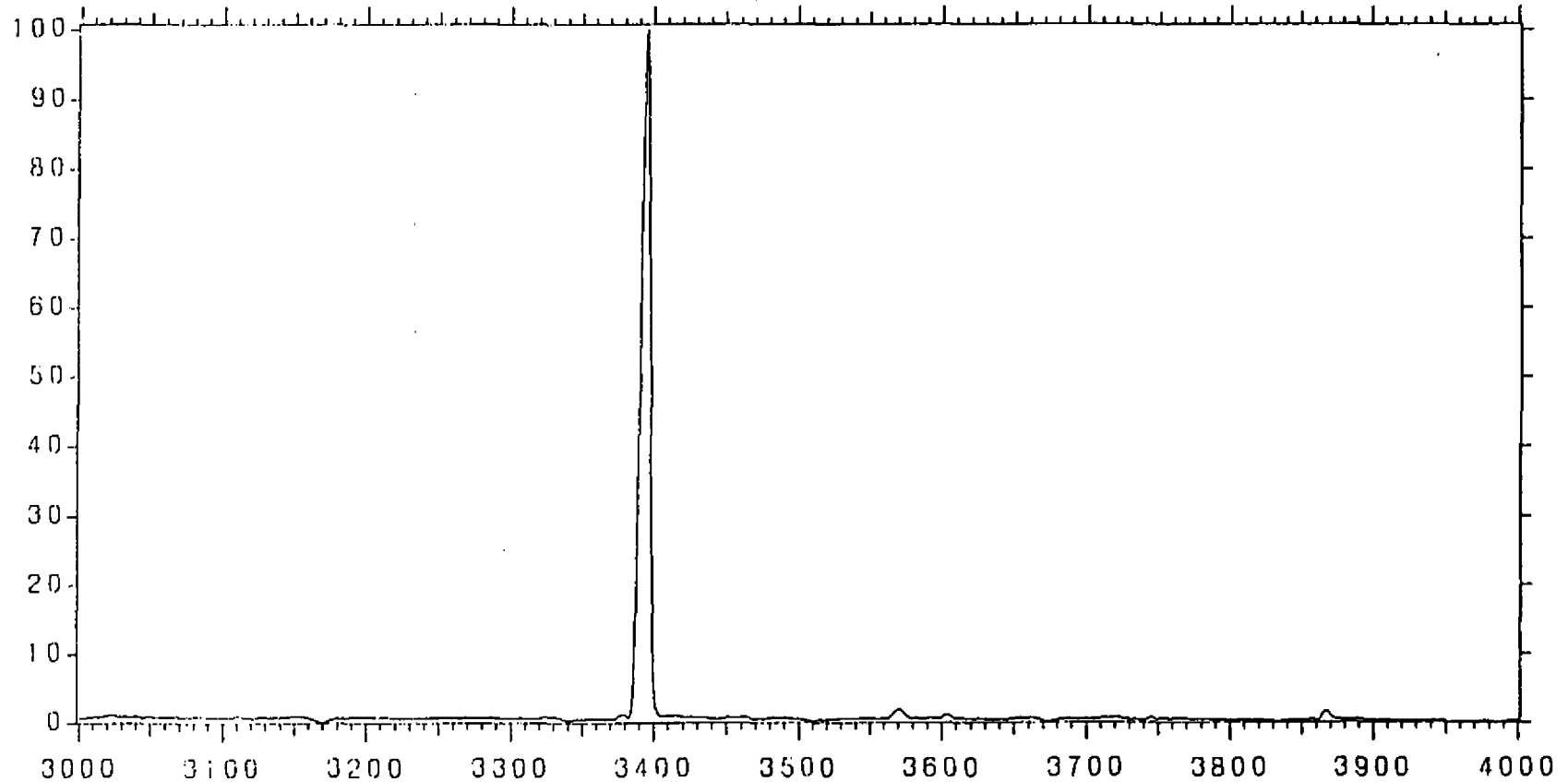
2855.70M, 7 IMG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 221 * 1.57604: Min = 1403, Max = 42985, Delta = 41582



F642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL 04 3.4MG/100ML ADDED

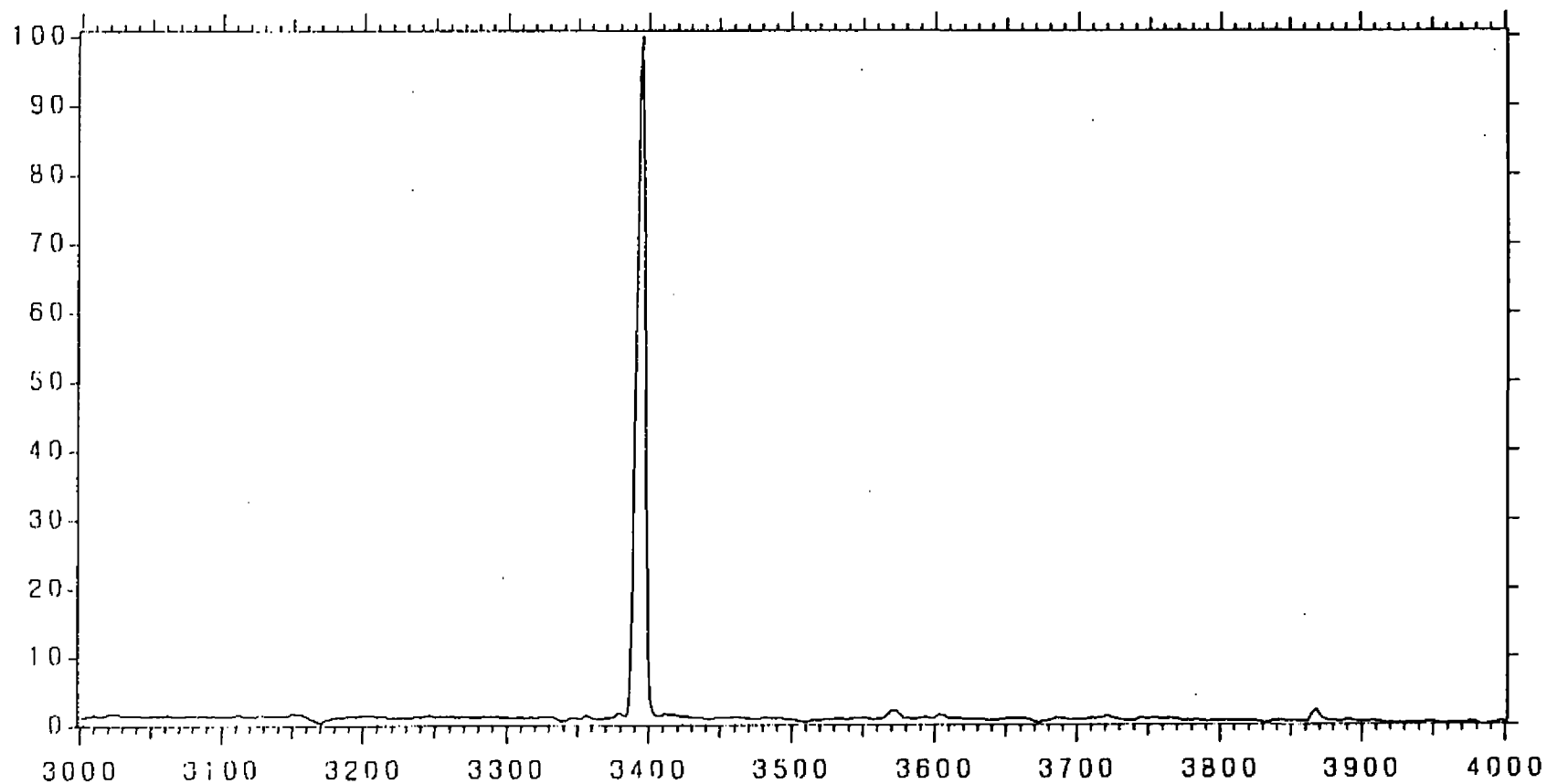
2862.70M, 9 0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 221 + 1.92943: Min = 1373, Max = 35339, Delta = 33966



F.642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

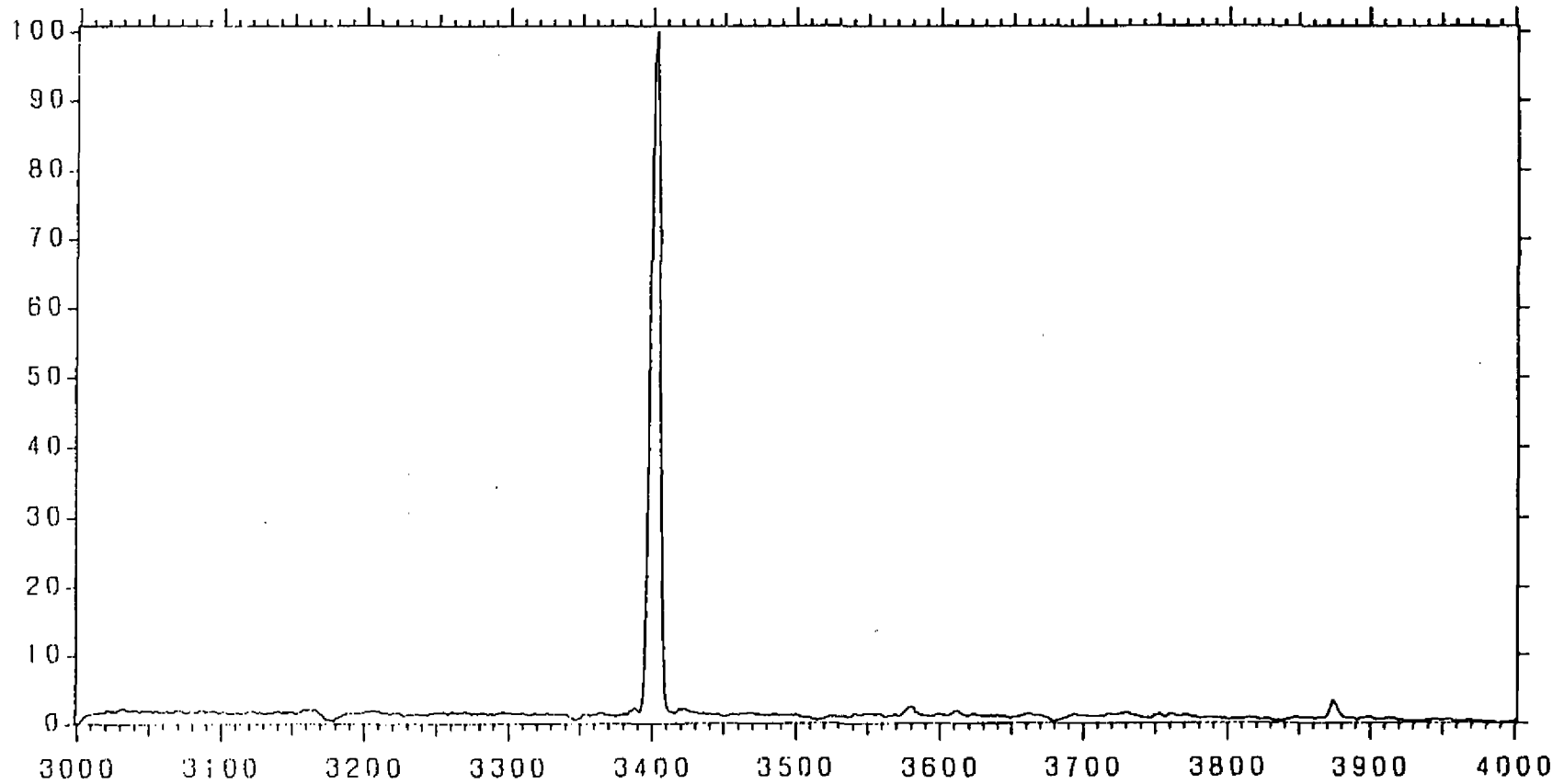
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2875.50M, 5.2MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB  NOR

M/z 221 * 4.14437: Min = 983, Max = 16796, Delta = 15813



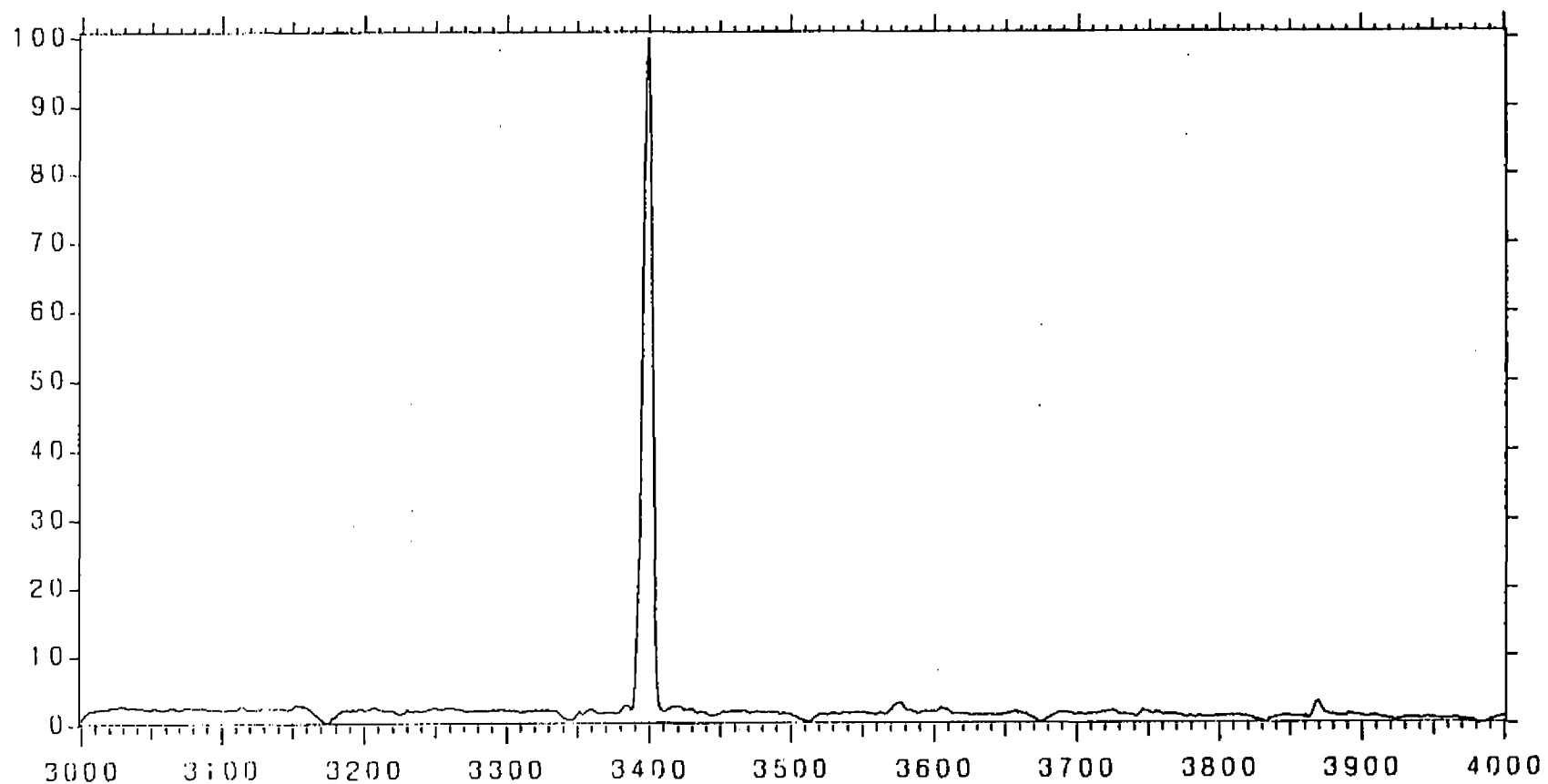
E:642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2880.10M, 7.0MG SAMPLE

M/z 221 + 2.33636: Min = 1853, Max = 29903, Delta = 28050



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

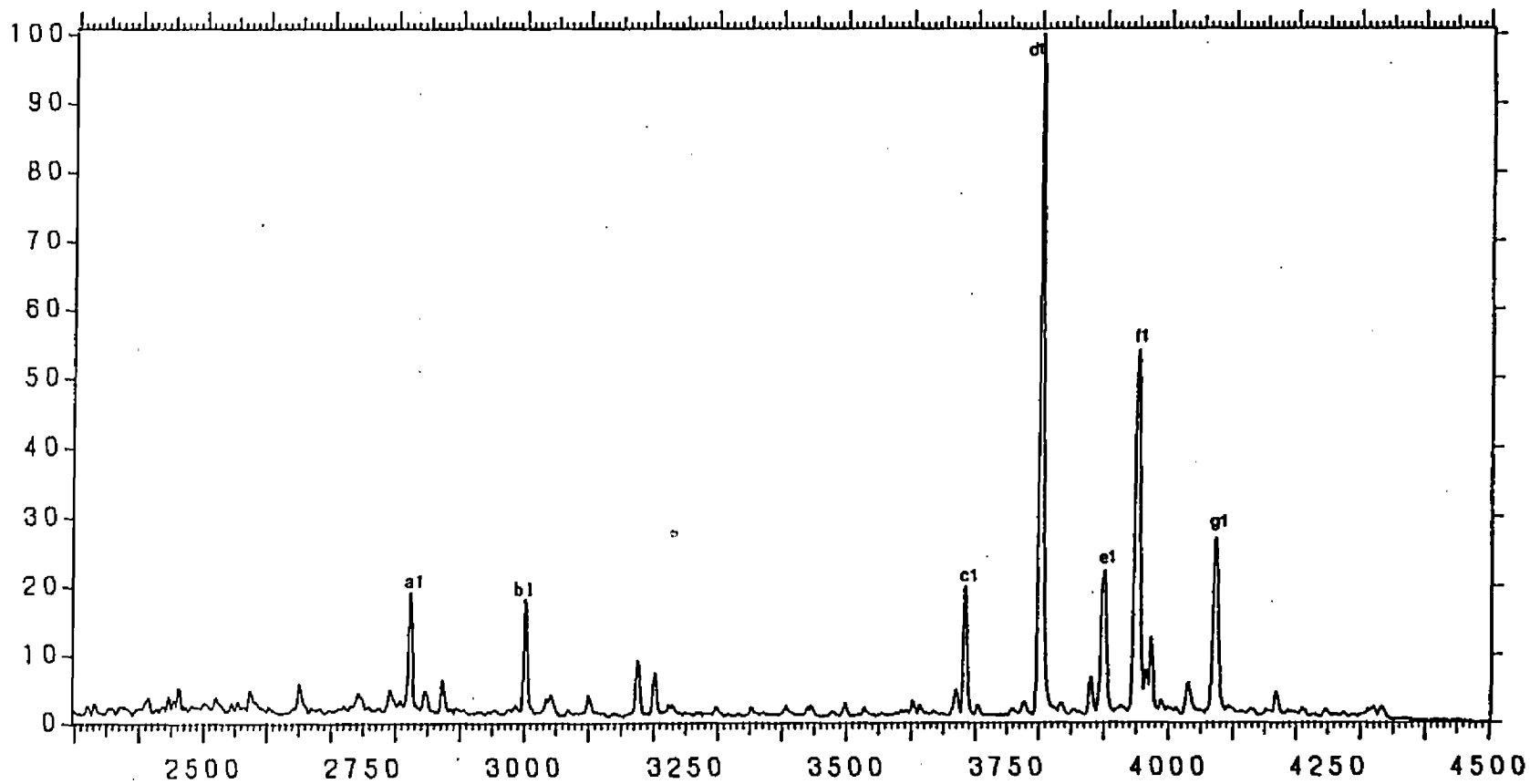
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2884.60M, 6.9MG SAMPLE

Schlumberger GECO-PRAKLA

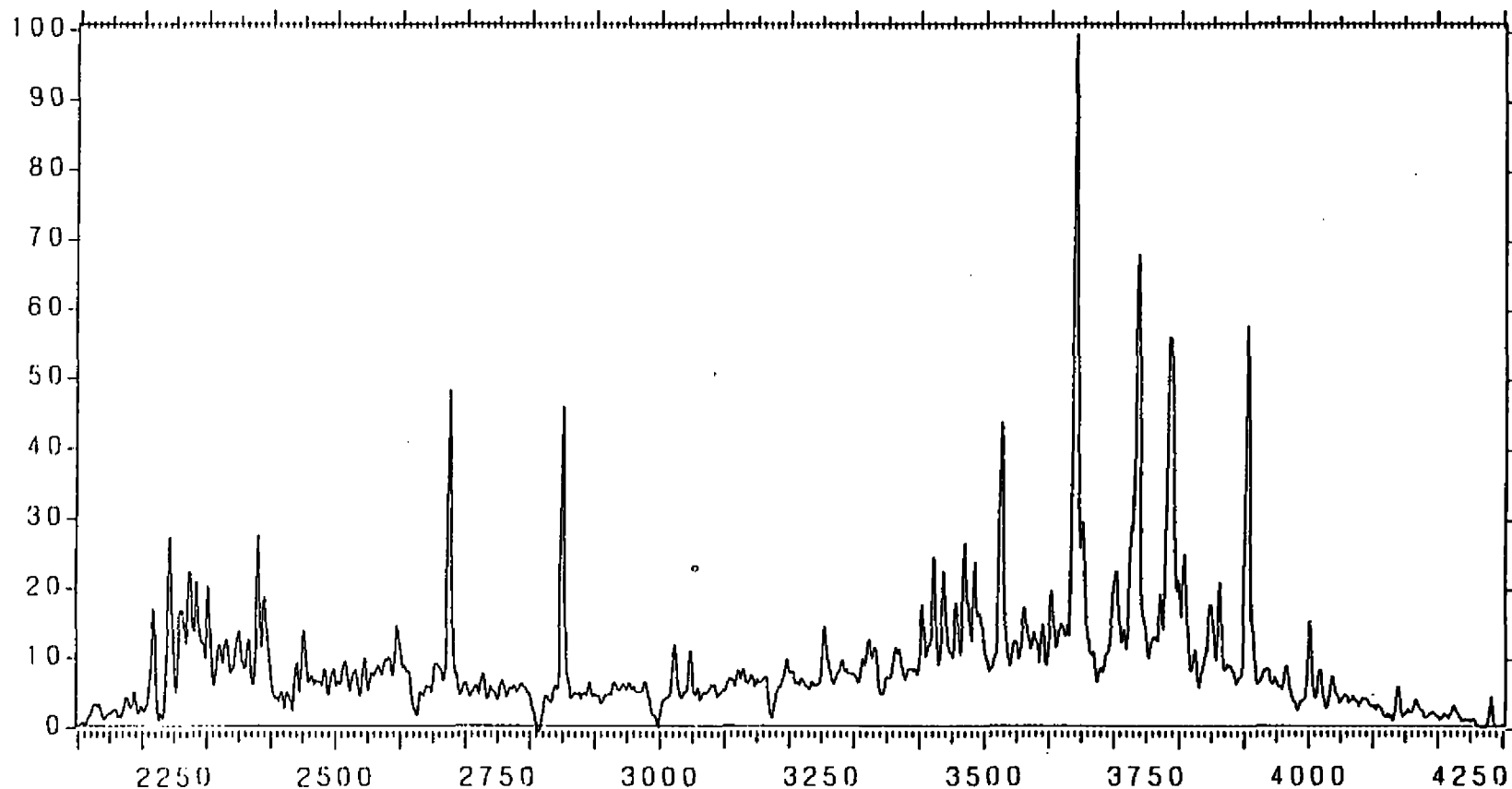
GEOLAB  NOR

M/z 231 • 4.04213: Min = 376, Max = 16589, Delta = 16213



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 231 METHYL STERANES

M/z 231 • 6.1843: Min = 1244, Max = 11841, Delta = 10597



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

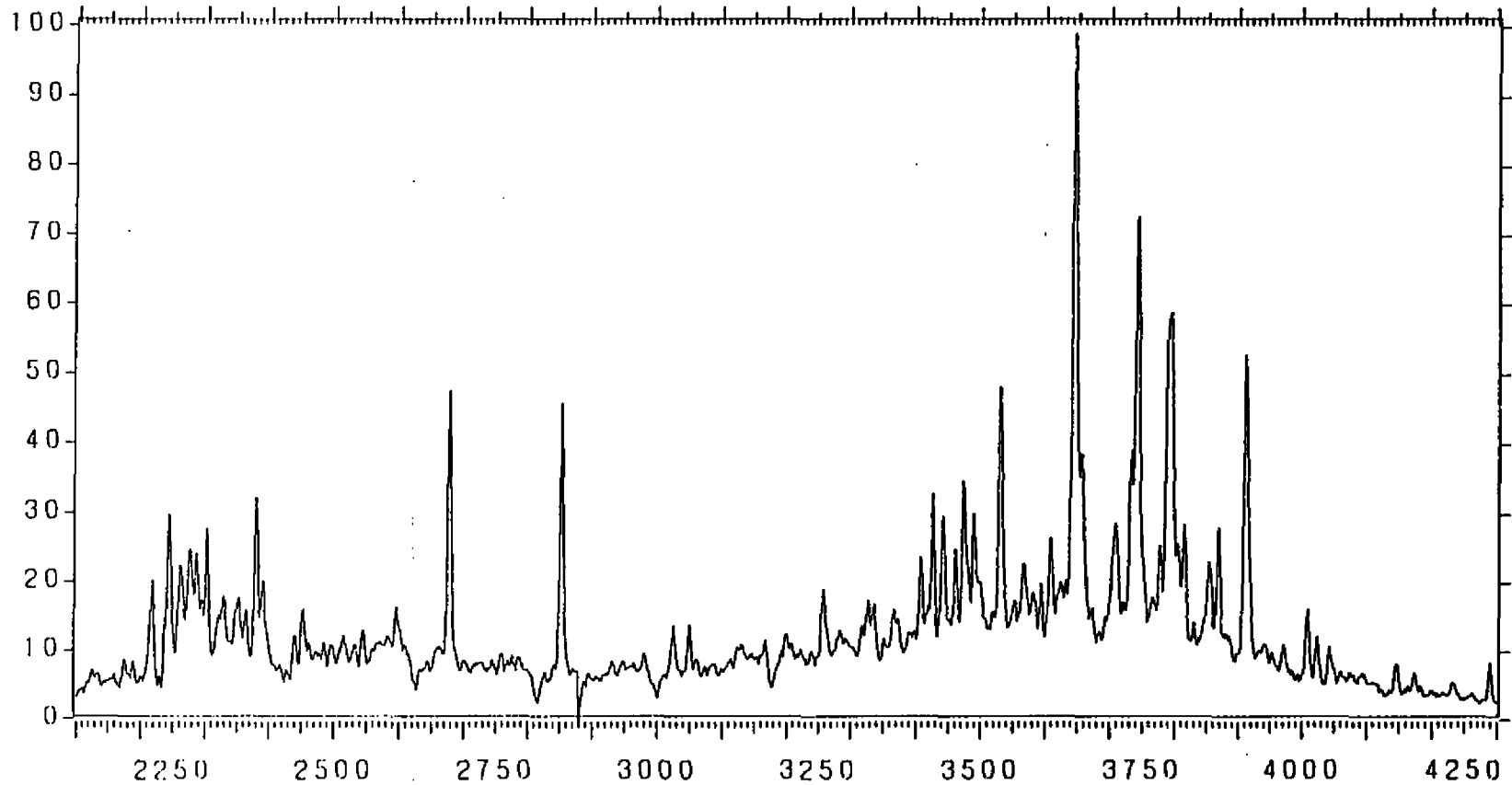
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 231 * 15.4564: Min = 511, Max = 4751, Delta = 4240



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

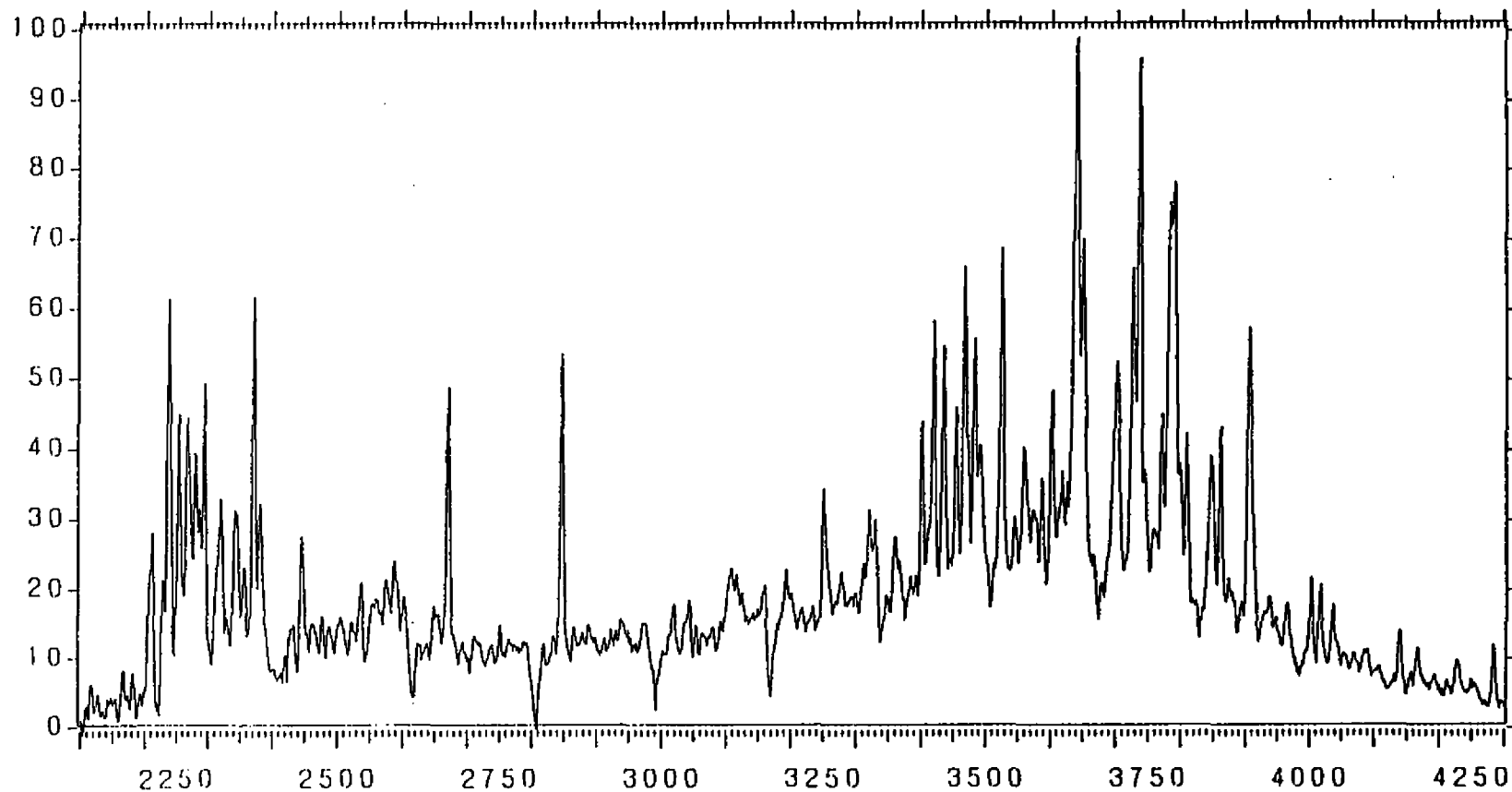
2855.70M, 7.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 231 • 19.7038: Min = 966, Max = 4292, Delta = 3326



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

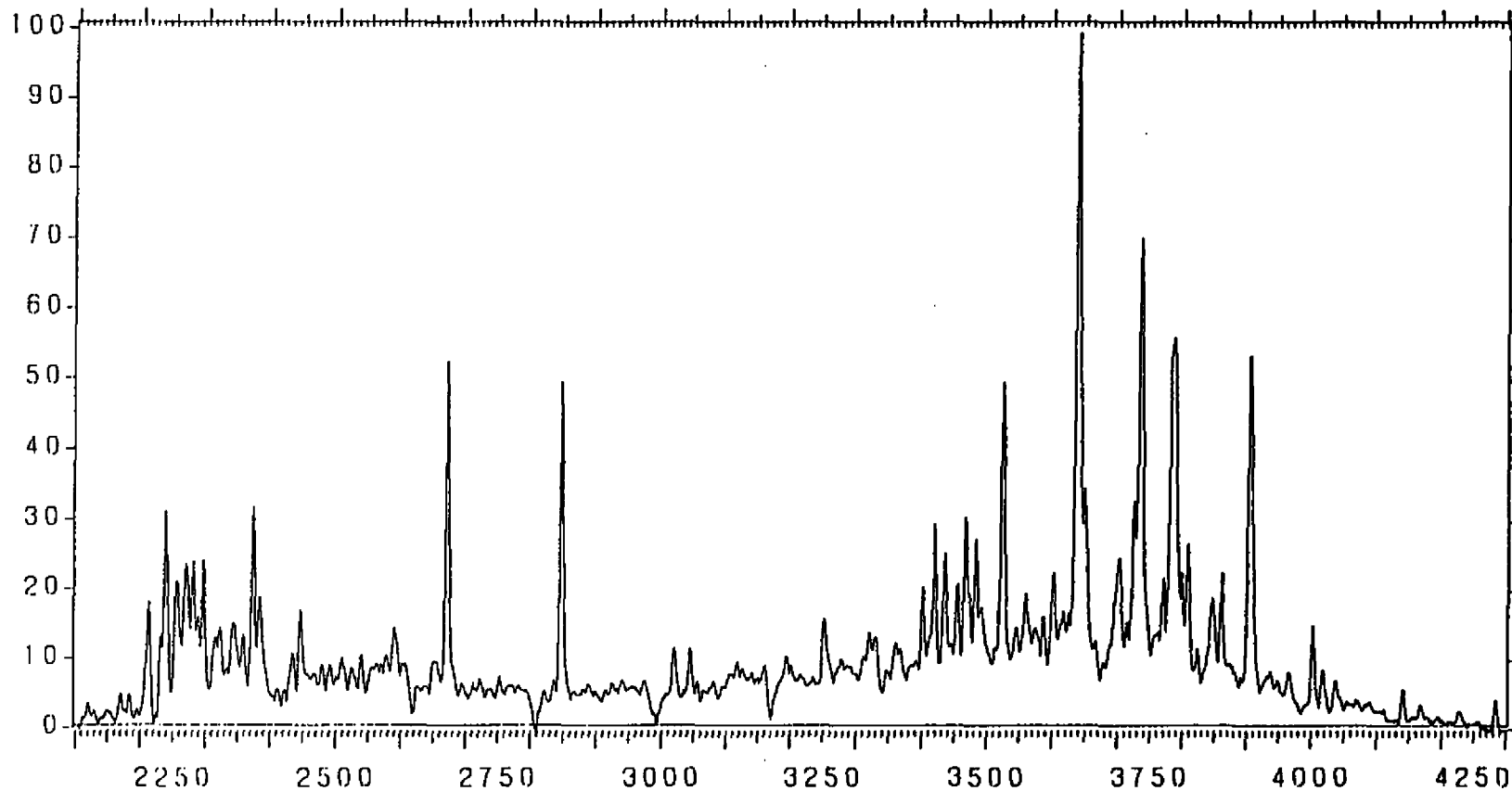
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 231 + 9.02065: Min = 1046, Max = 8311, Delta = 7265



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

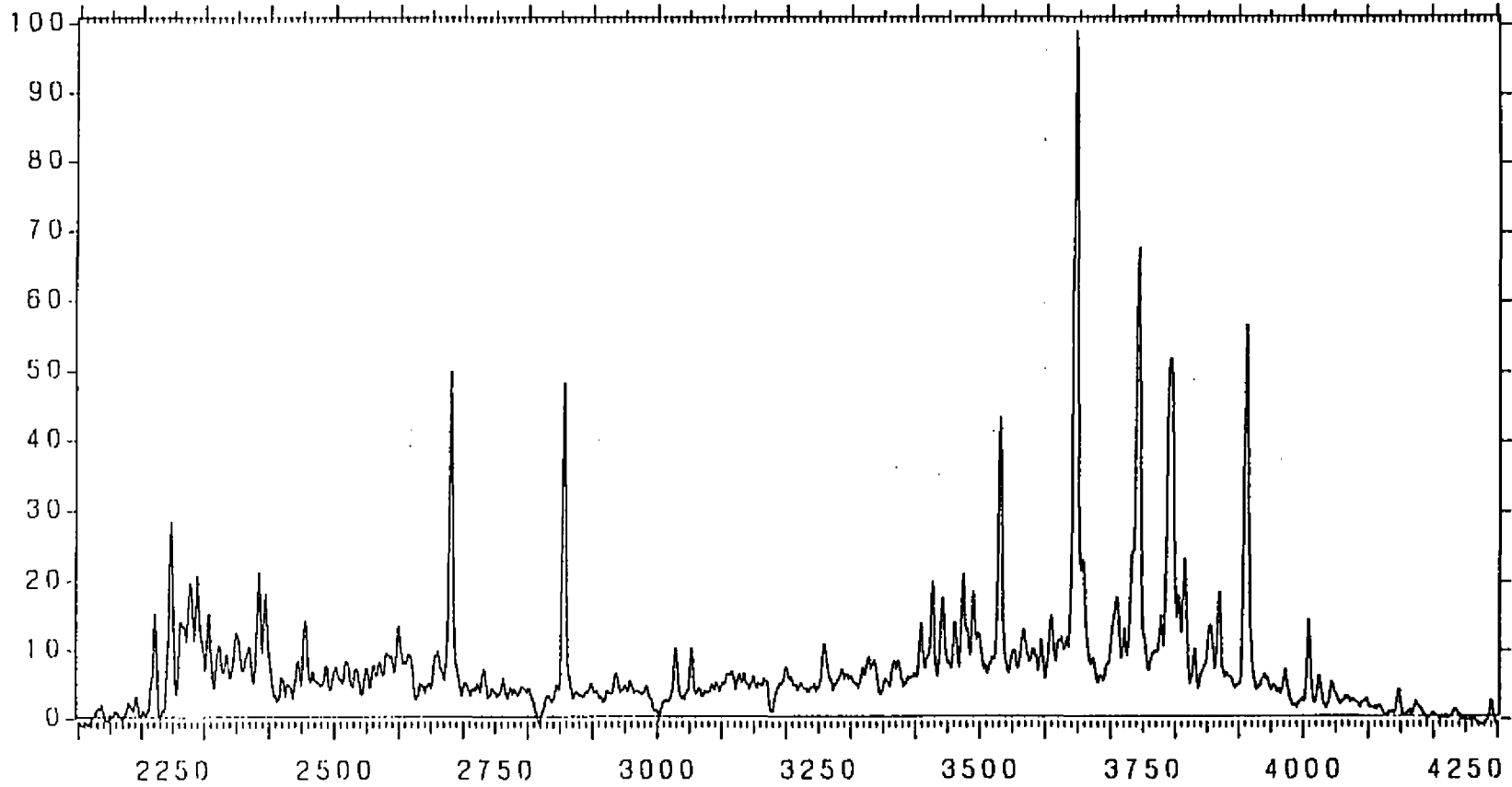
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 231 * 10.5907: Min = 776, Max = 6964, Delta = 6188



E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

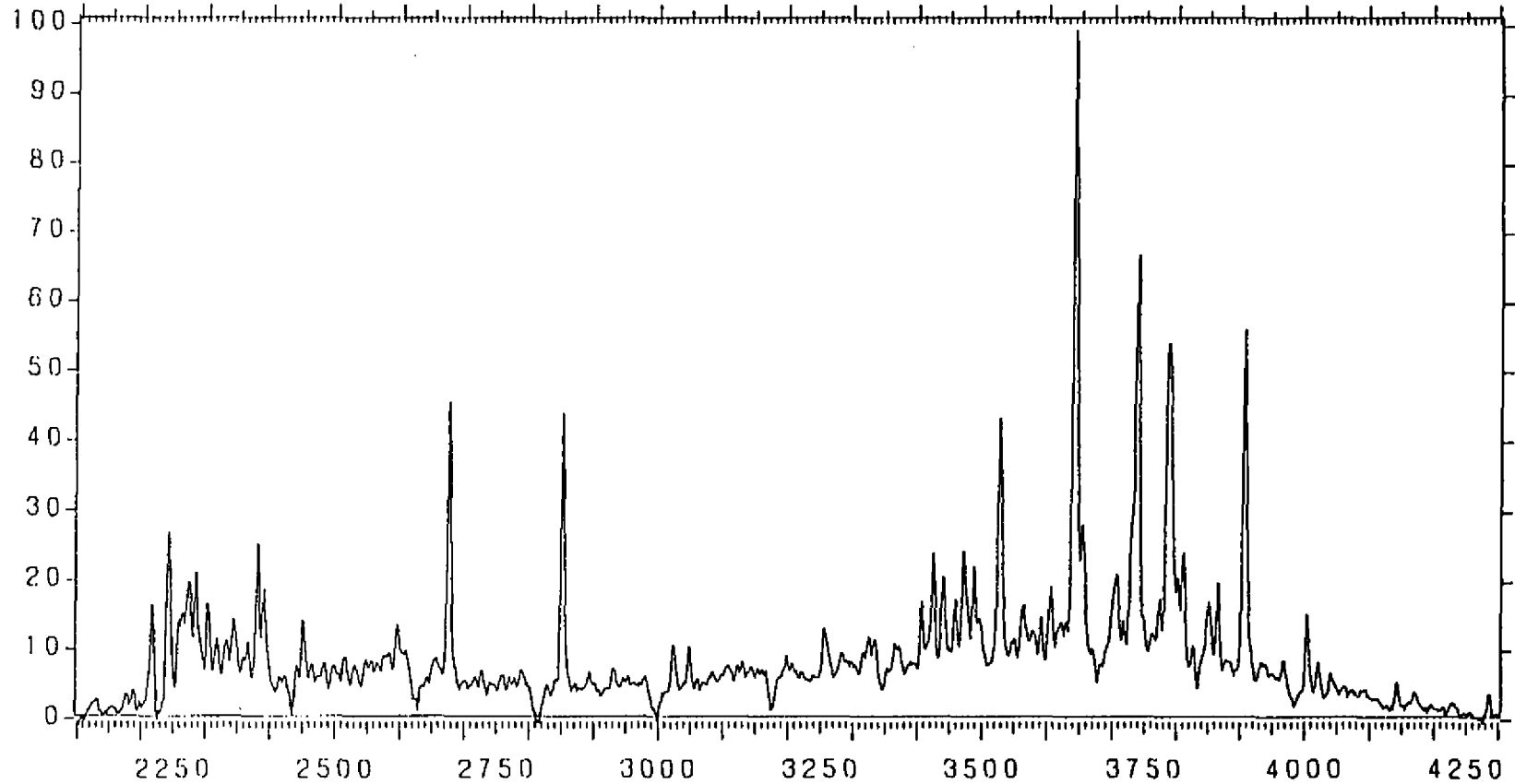
2880.10M, 7.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 231 • 5.97838: Min = 1347, Max = 12309, Delta = 10962



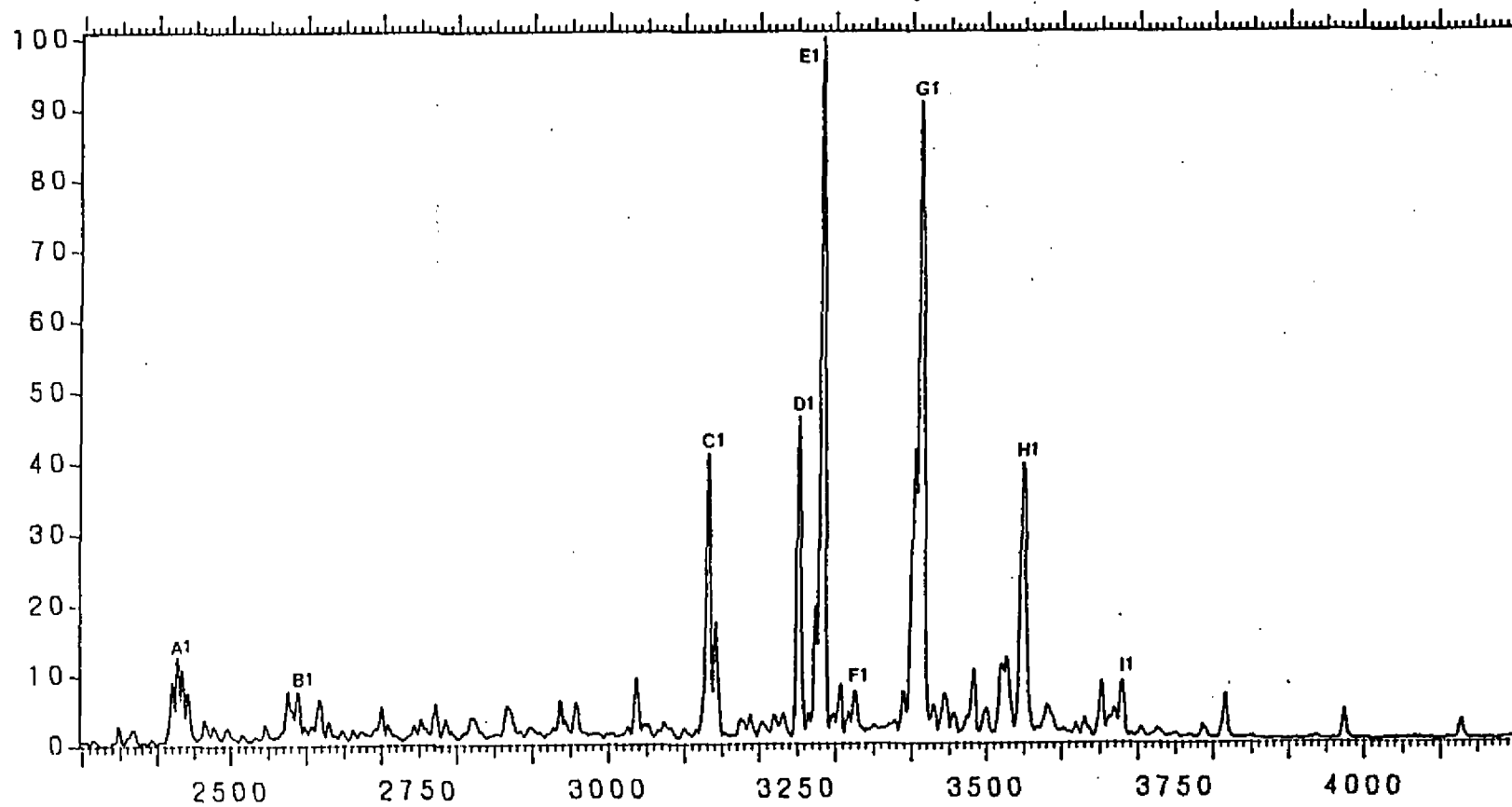
E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

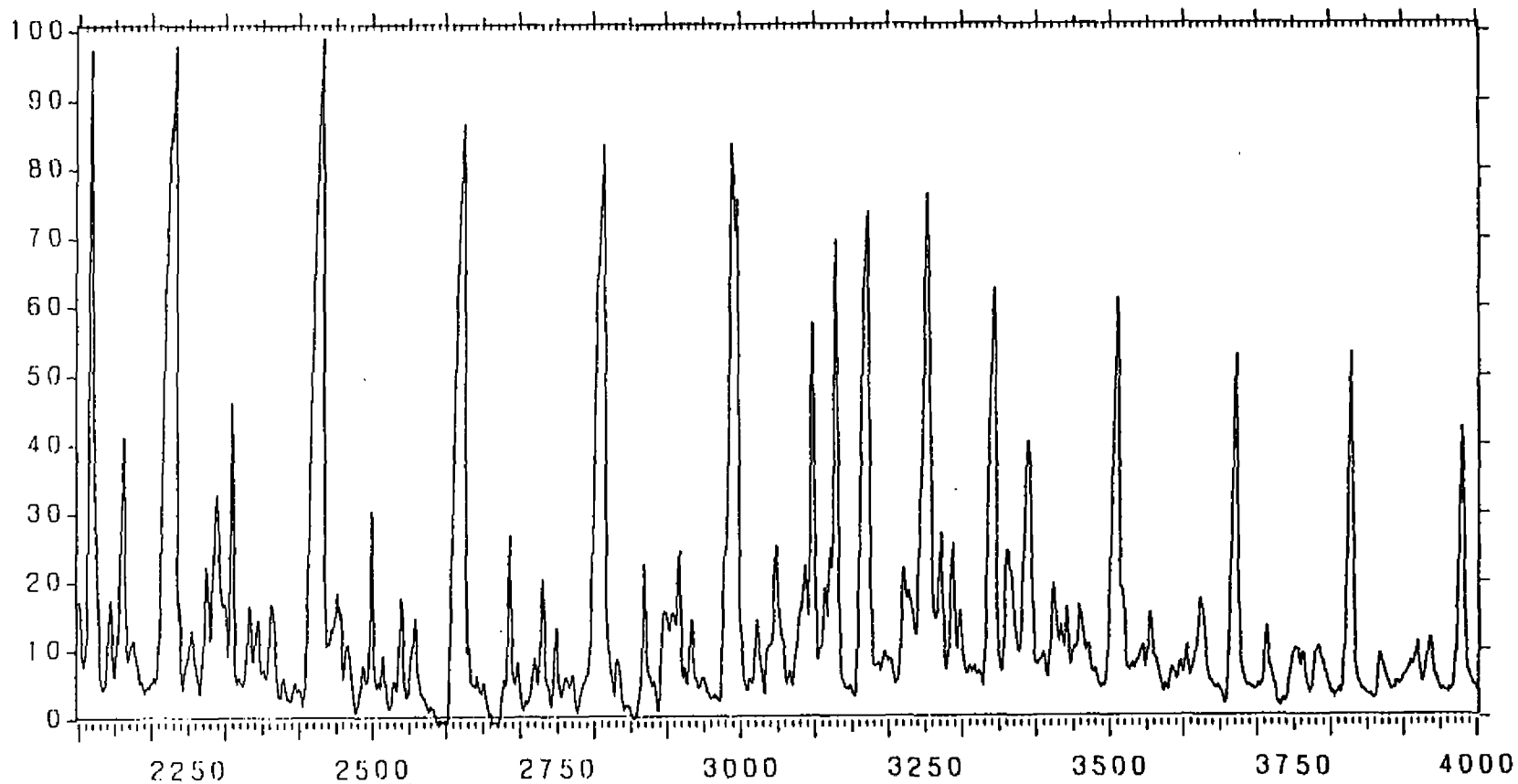
2884.60M, 6.9MG SAMPLE

M/z 253 • 4.26966: Min = 508, Max = 15857, Delta = 15349



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 253 METHYL STERANES

M/z 253 • 14.0332: Min = 1029, Max = 5699, Delta = 4670



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55, Rate = 1.414 seconds/scan

WELL 2/7-3X, 10L D4 3.4MG/100ML ADDED

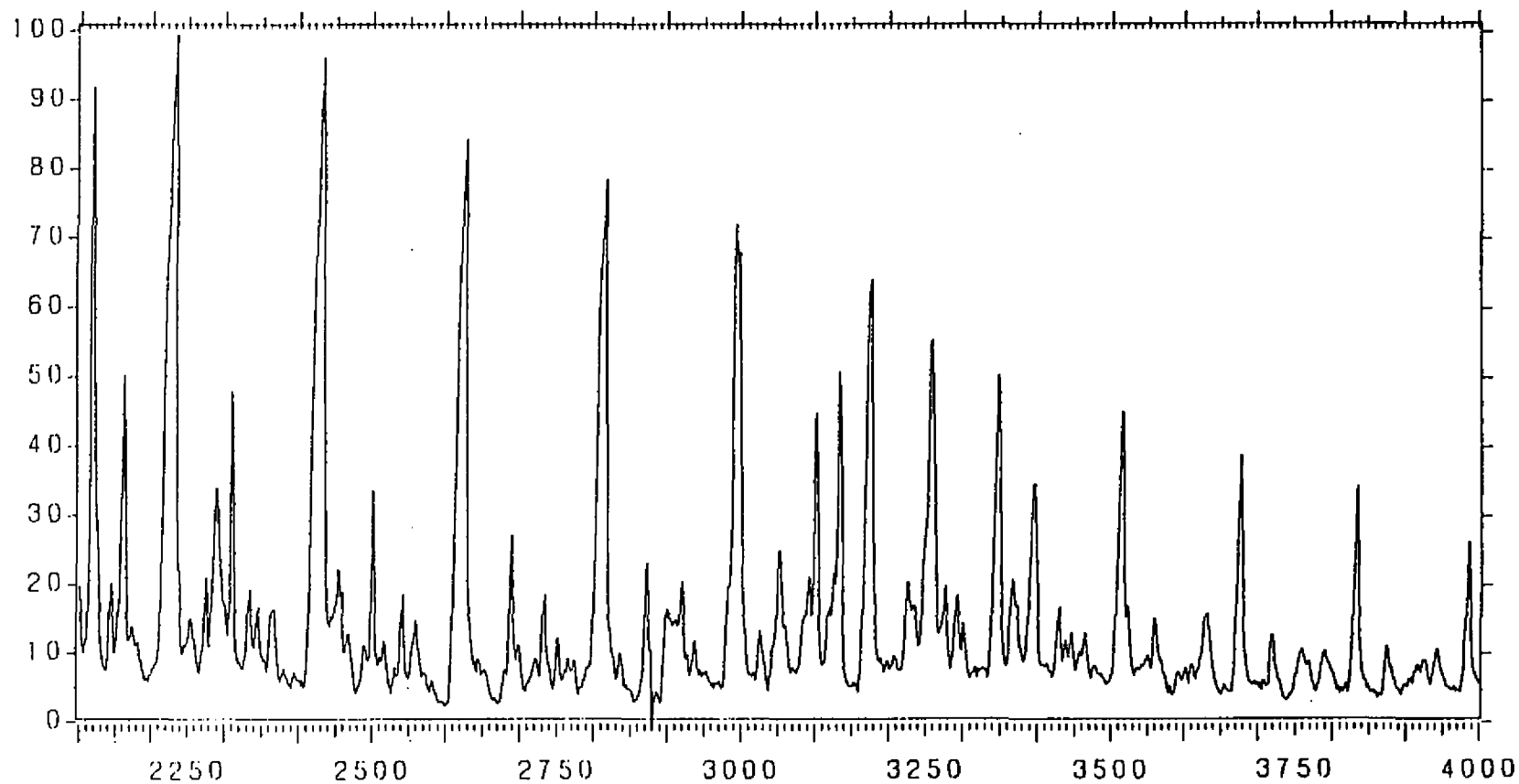
2851.10M, 7.5MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 253 * 21.6359: Min = 505, Max = 3534, Delta = 3029



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

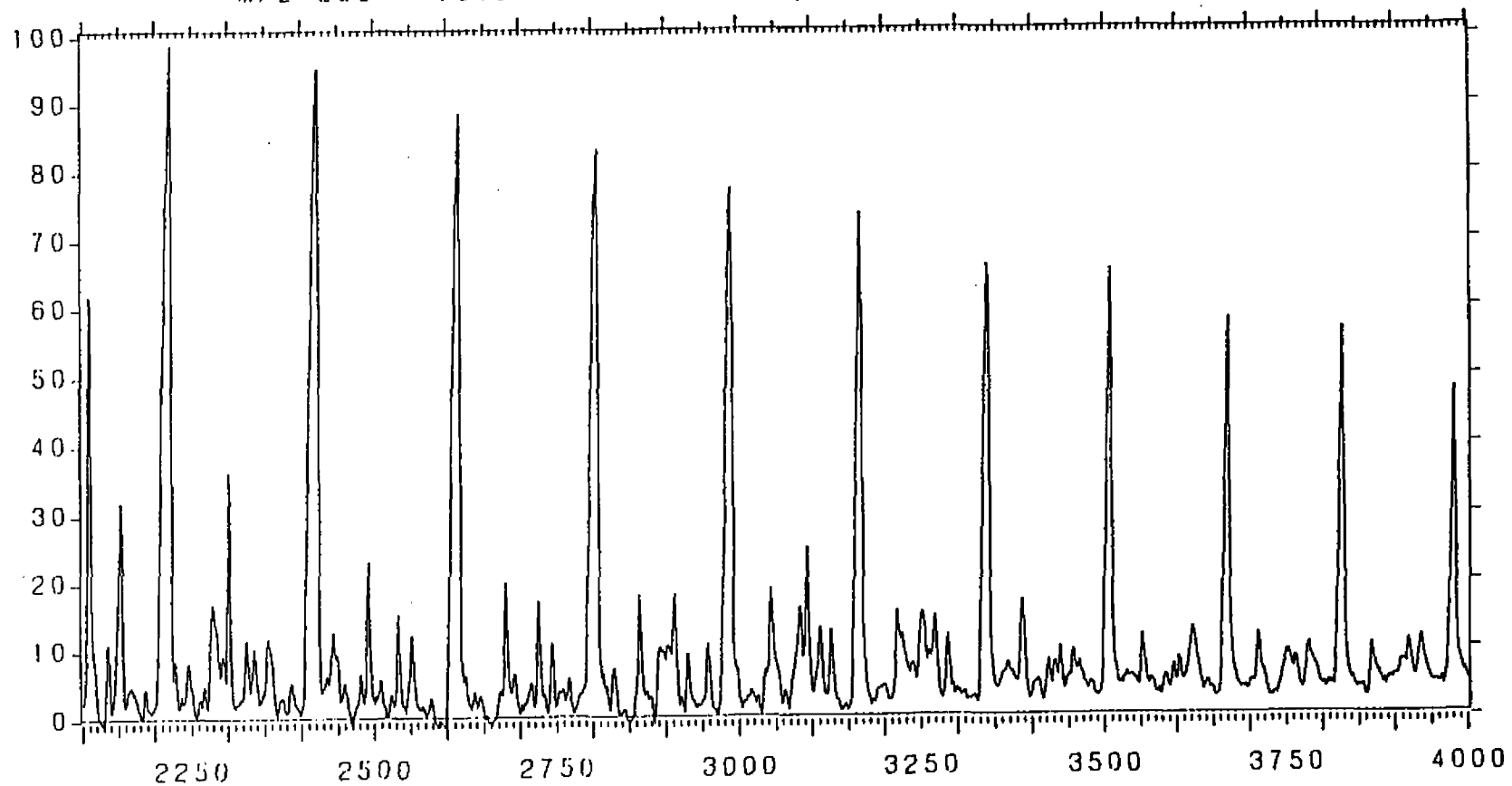
2855.70M, 7 1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 253 • 15.8106: Min = 784, Max = 4929, Delta = 4145



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21...Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

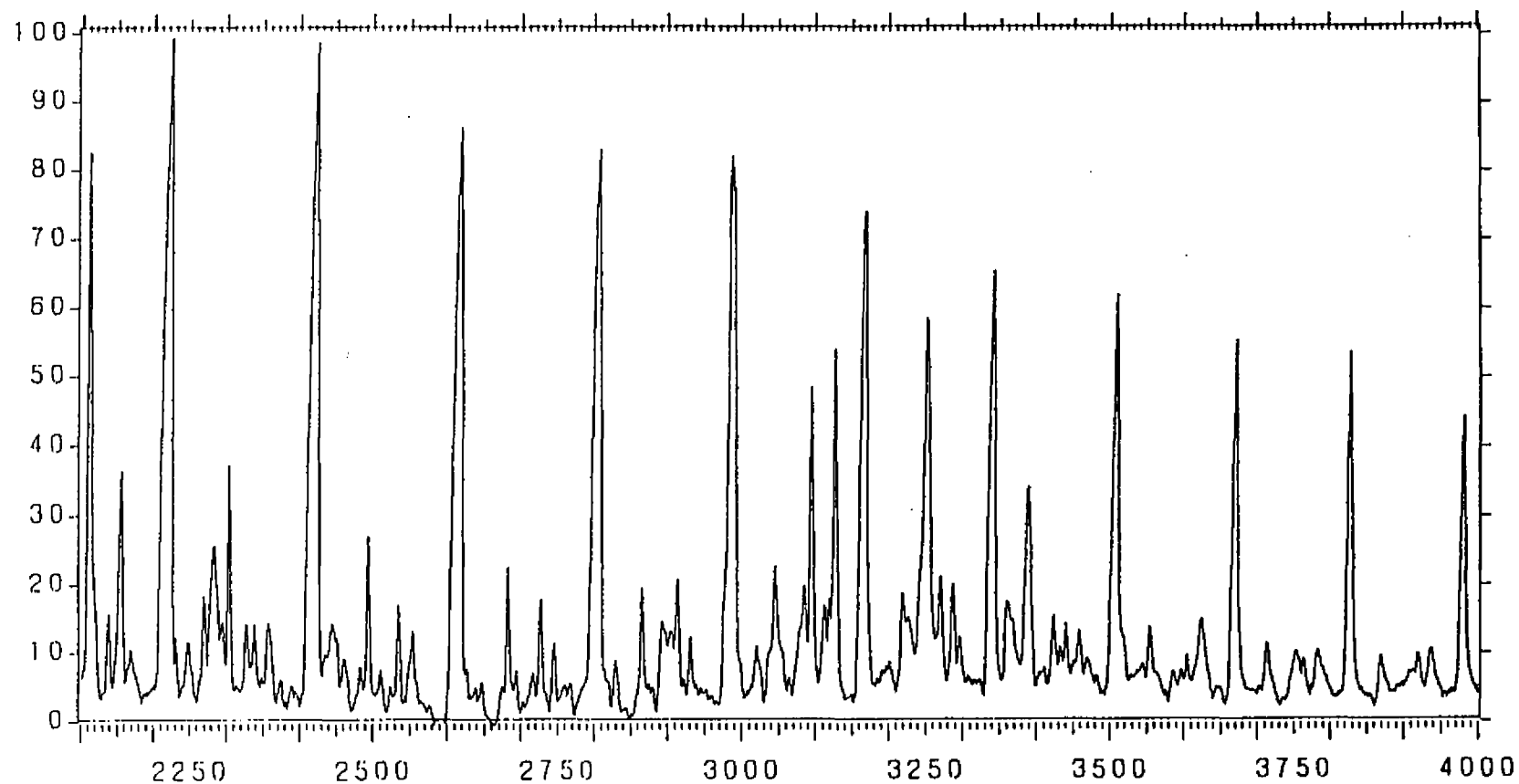
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB  NOR

M/z 253 • 15.6782: Min = 834, Max = 5014, Delta = 4180



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06... Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

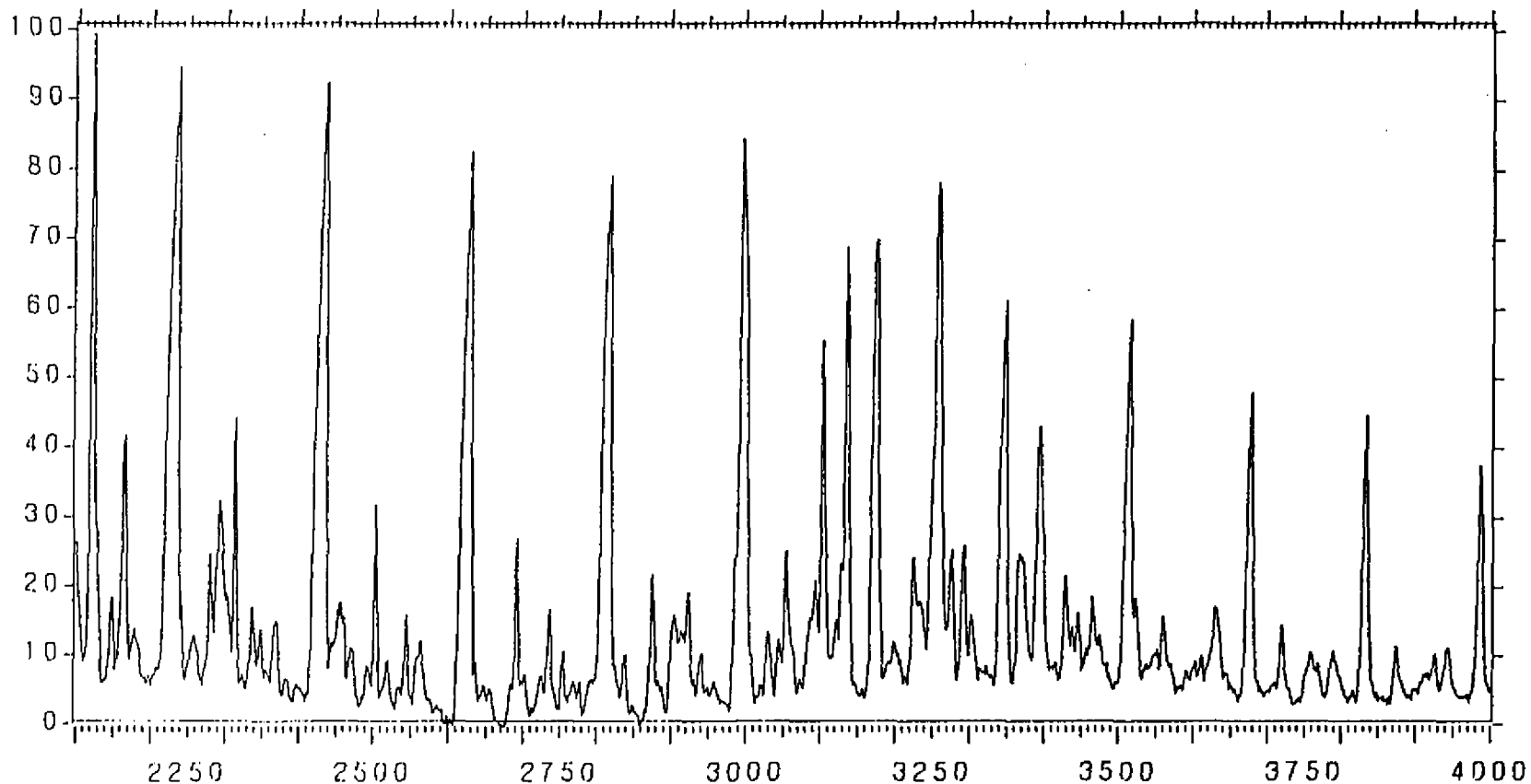
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB  NOR

M/z 253 + 24.3444: Min = 664, Max = 3356, Delta = 2692



E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28, Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

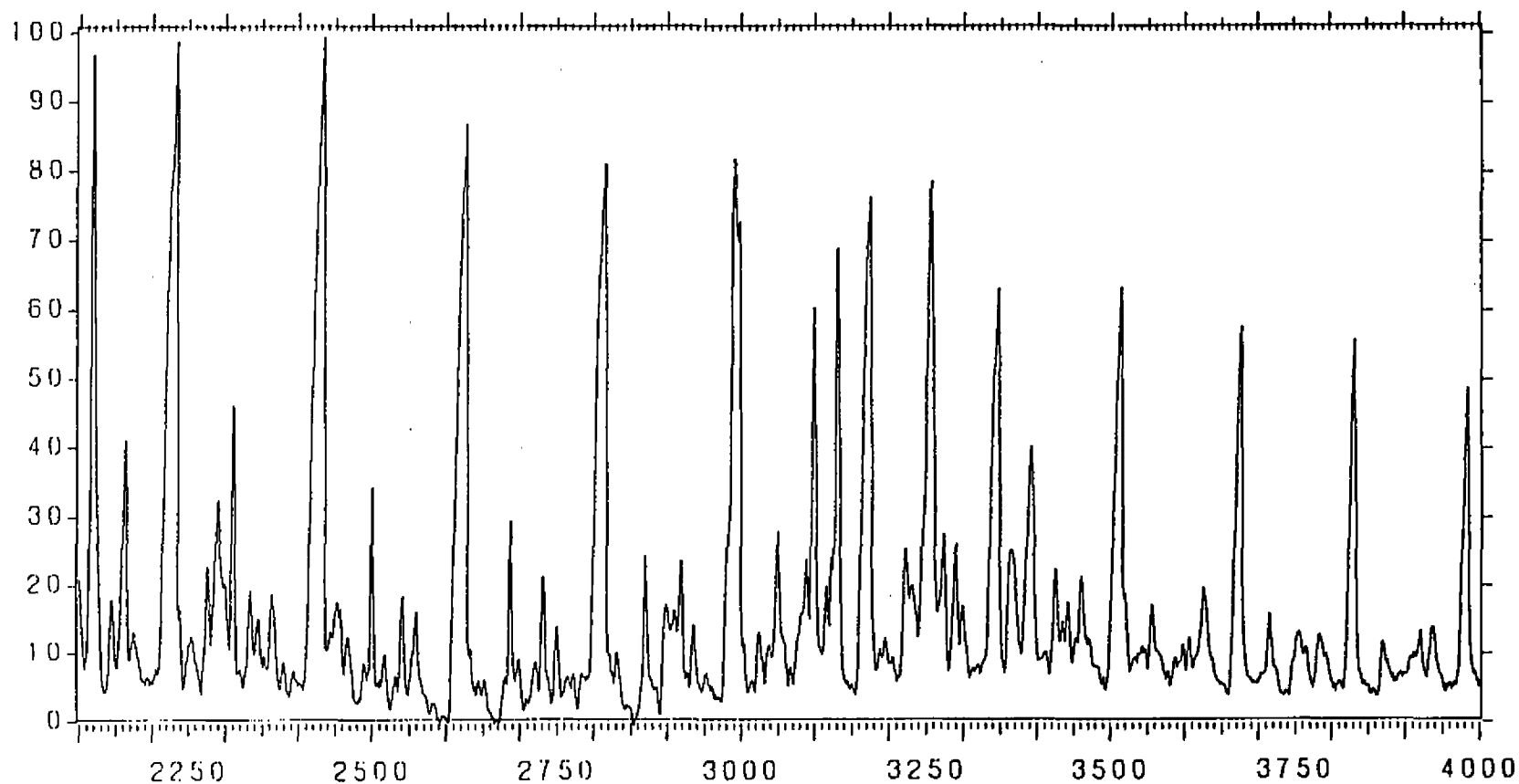
2880.10M, 7.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 253 • 14.7968: Min = 1085, Max = 5514, Delta = 4429



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53.. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

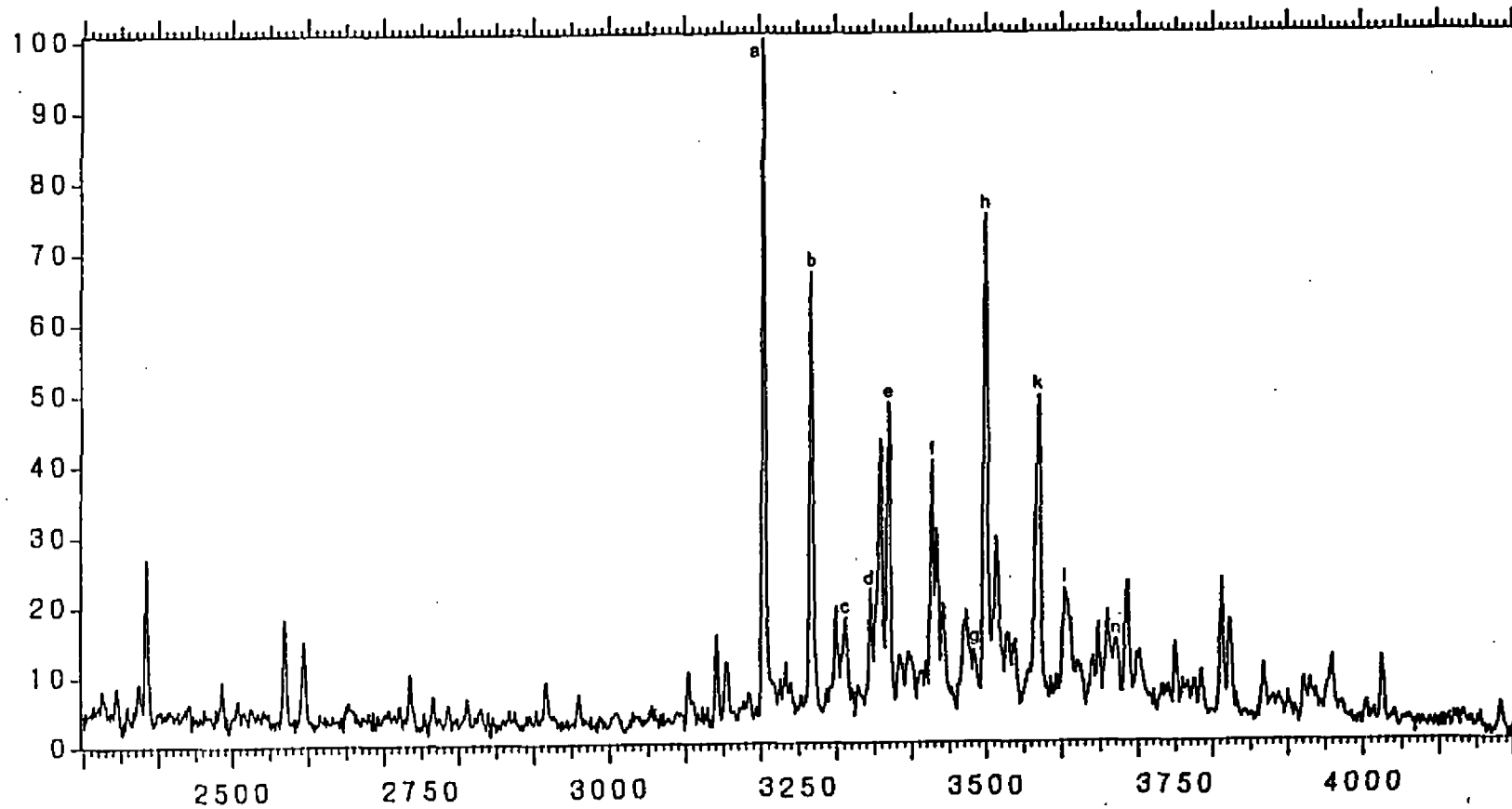
2884.60M, 6 9MG SAMPLE

Schlumberger

GECO-PRAKLA

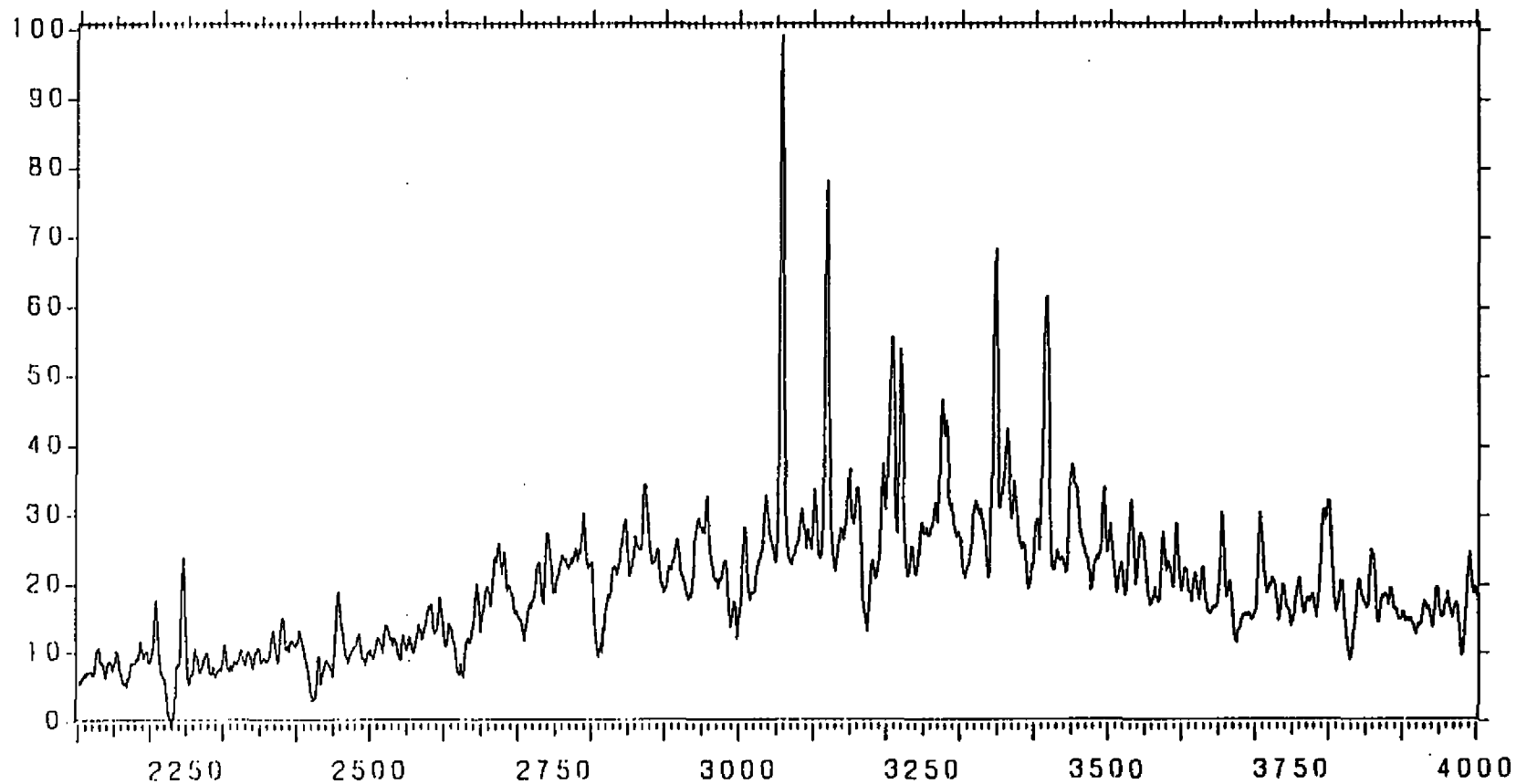
GEOLAB NOR

M/z 259 * 56.0128: Min = 254, Max = 1424, Delta = 1170



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 259 REARRANGED STERANES

M/z 259 + 21.4798: Min = 623, Max = 3674, Delta = 3051



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55... Rate = 1.414 seconds/scan

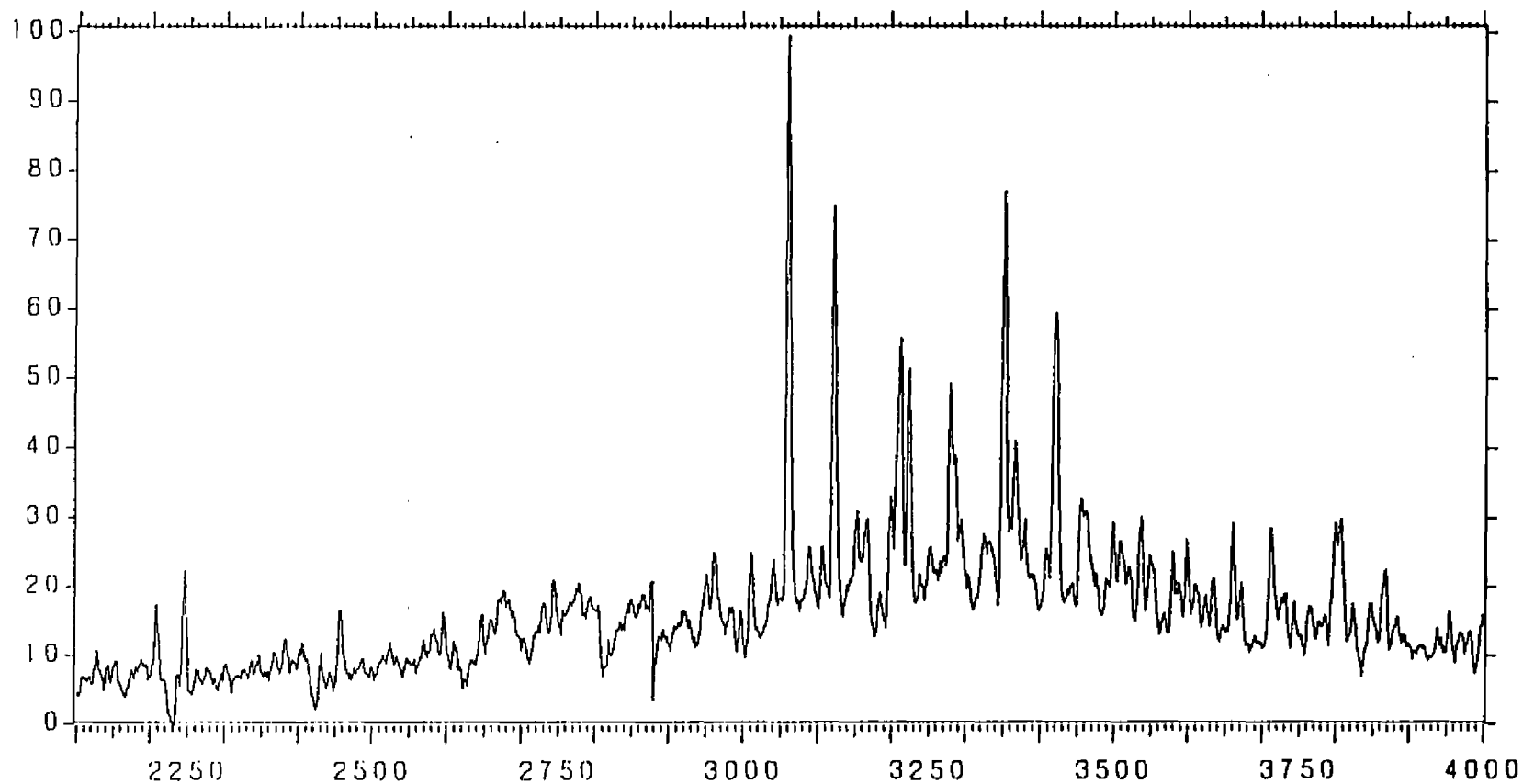
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2851.10M, 7 5MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 259 + 39.8147: Min = 431, Max = 2077, Delta = 1646



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45 Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

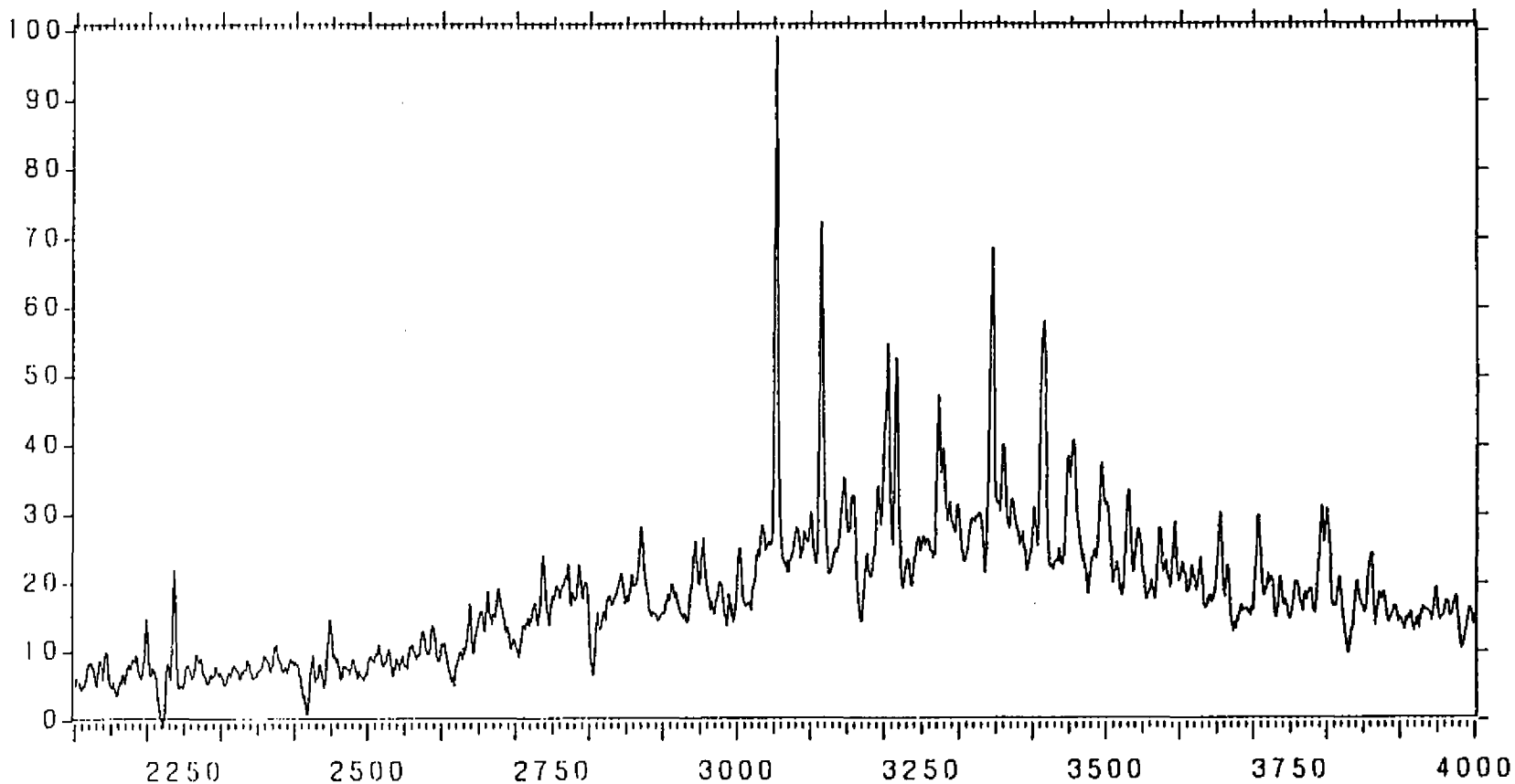
2855.70M, 7.1MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 259 • 26.4254: Min = 515, Max = 2995, Delta = 2480



E642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21... Rate = 1.414 seconds/scan

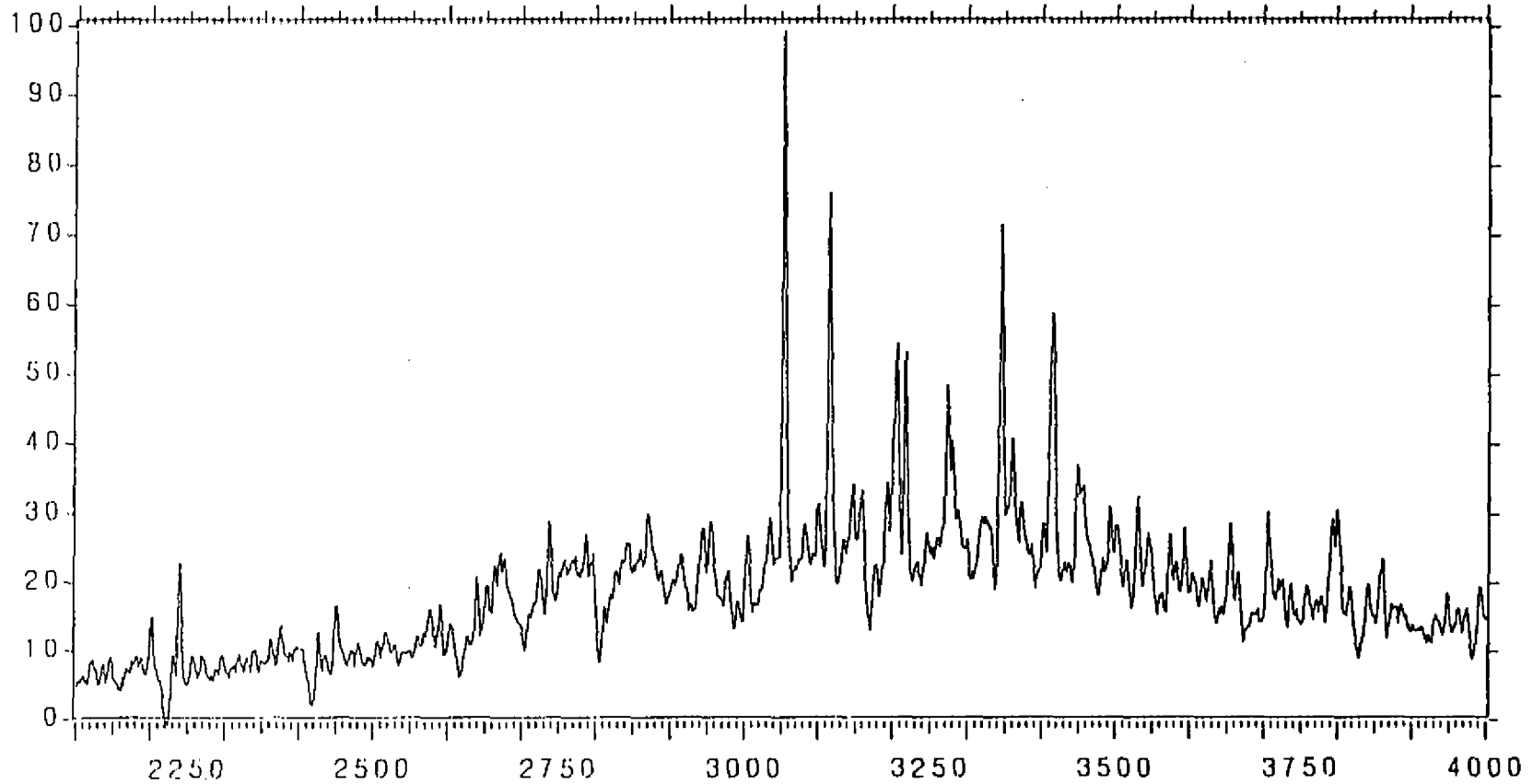
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2862.70M, 9.0MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 259 + 26.3299: Min = 549, Max = 3038, Delta = 2489



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

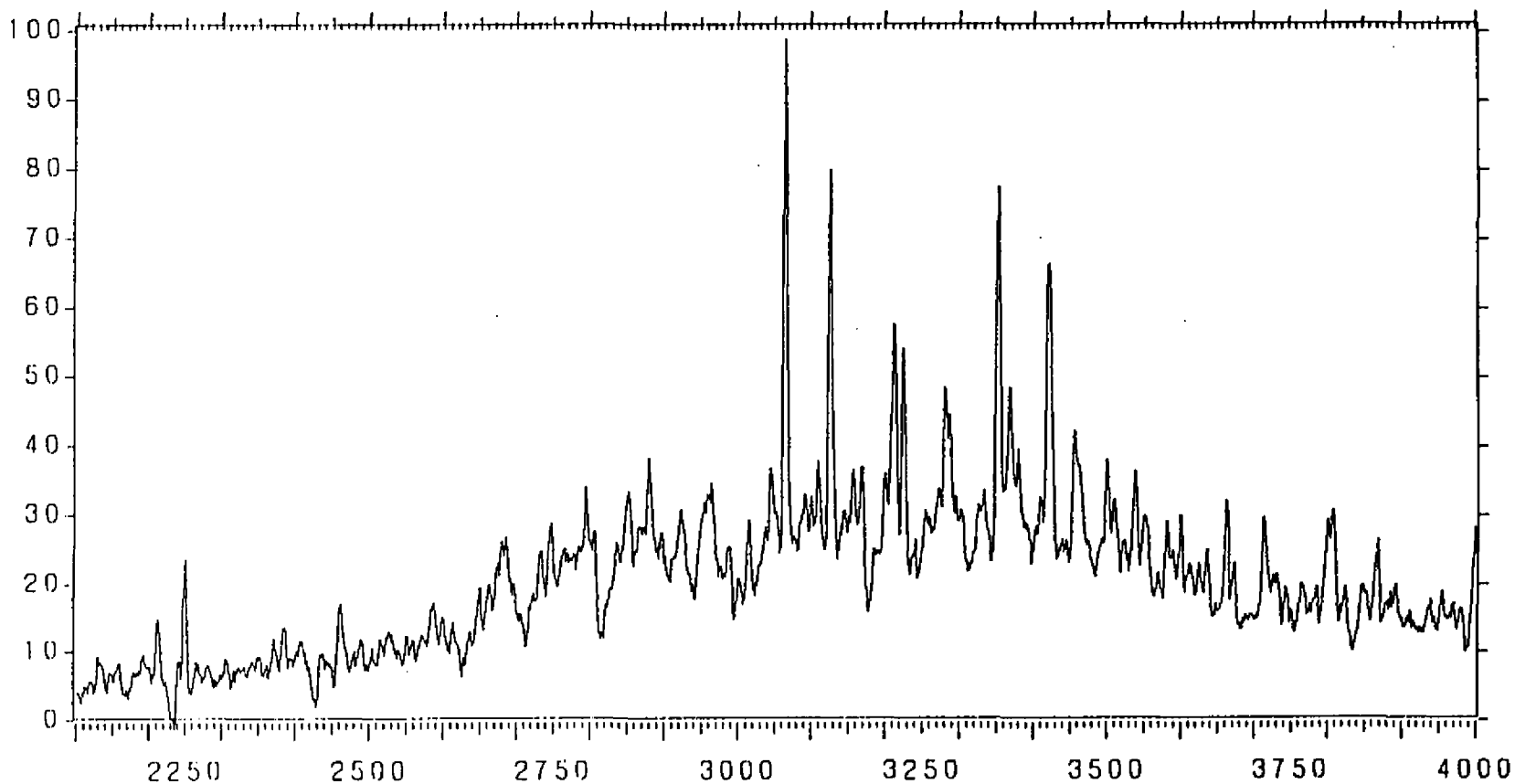
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 259 • 39.2896: Min = 459, Max = 2127, Delta = 1668



E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

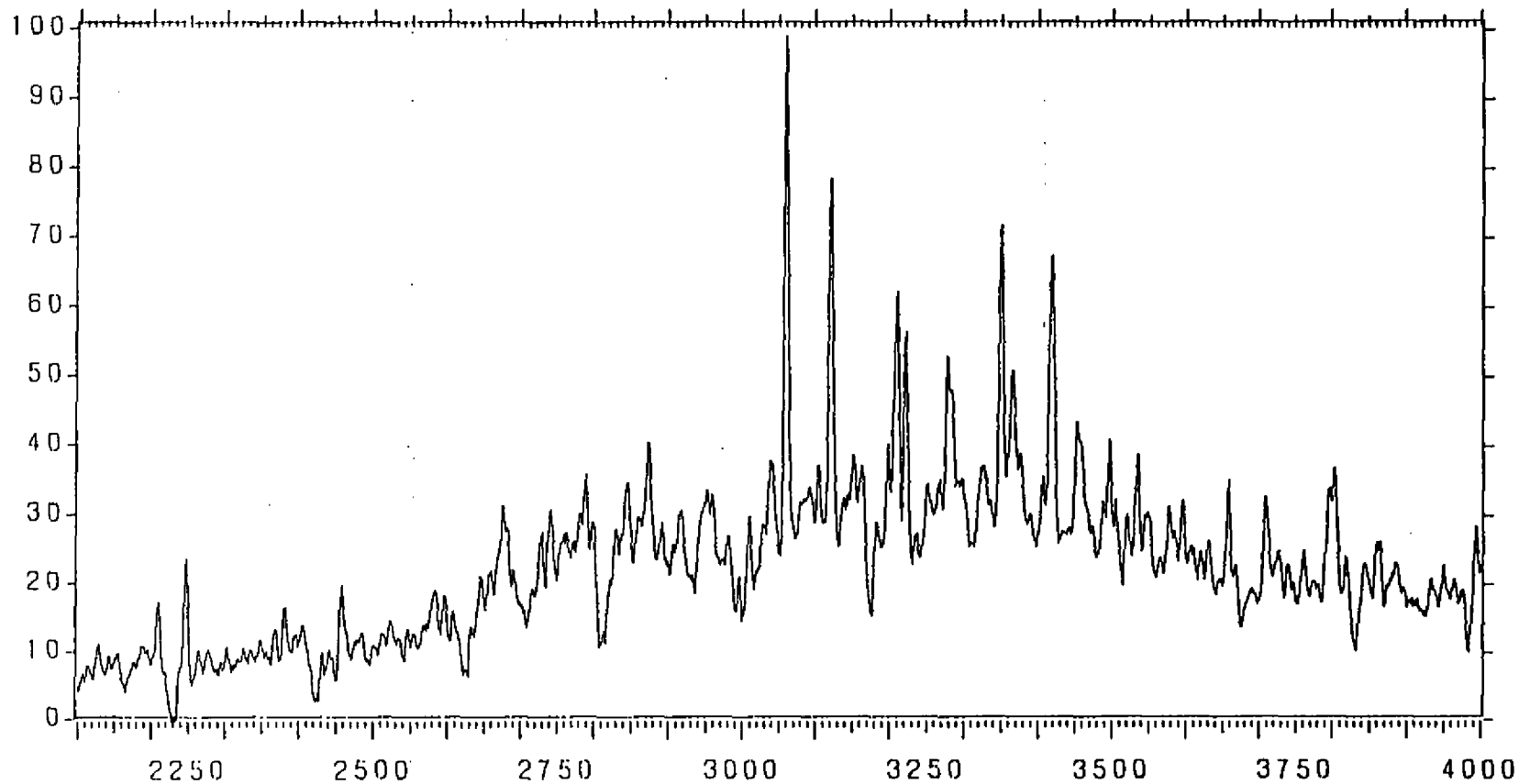
2880.10M, 7 0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 259 • 23.2641: Min = 666, Max = 3483, Delta = 2817



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

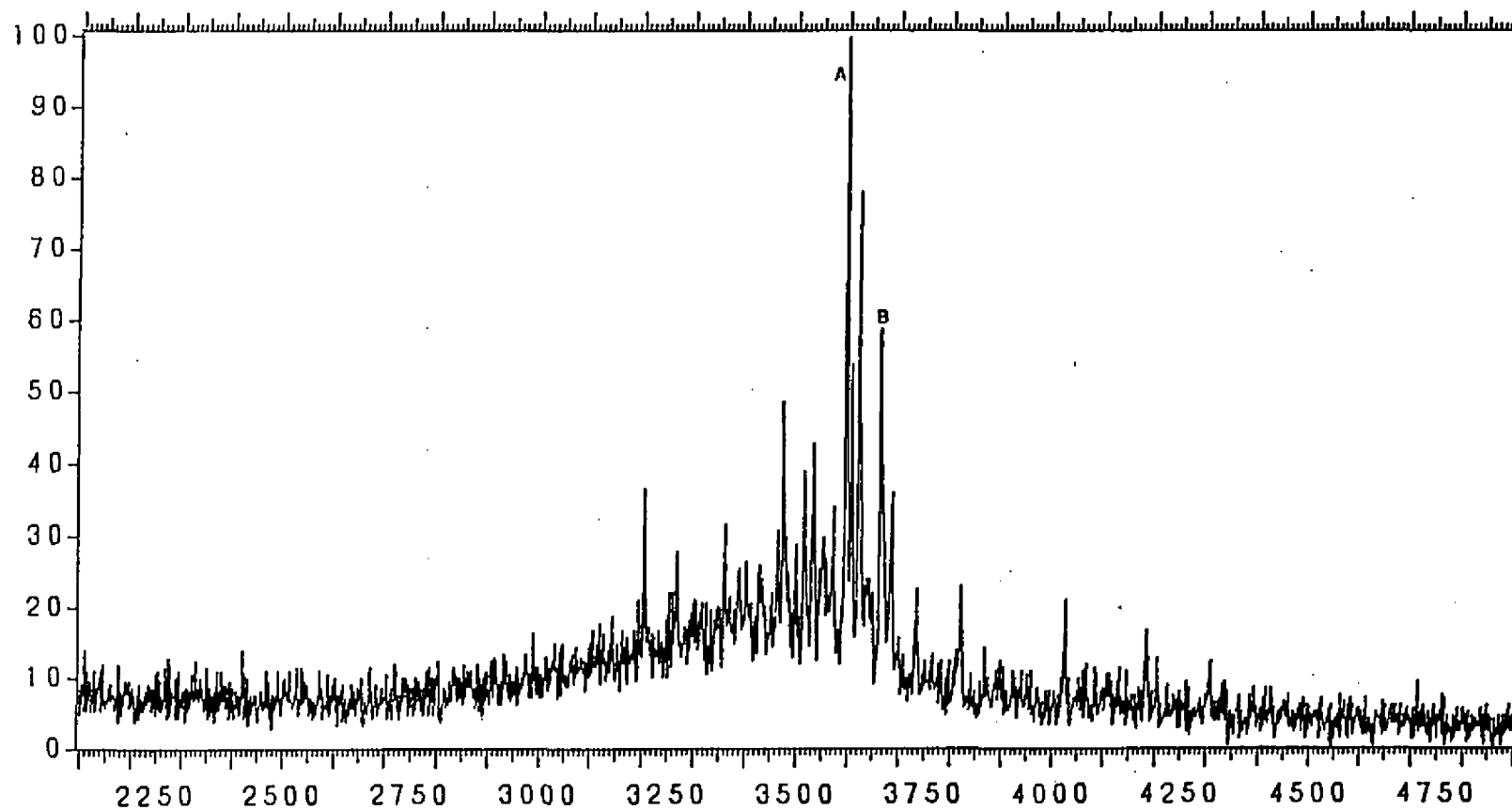
2884.60M, 6.9MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB  NOR

M/z 370 + 316.594: Min = 217, Max = 424, Delta = 207



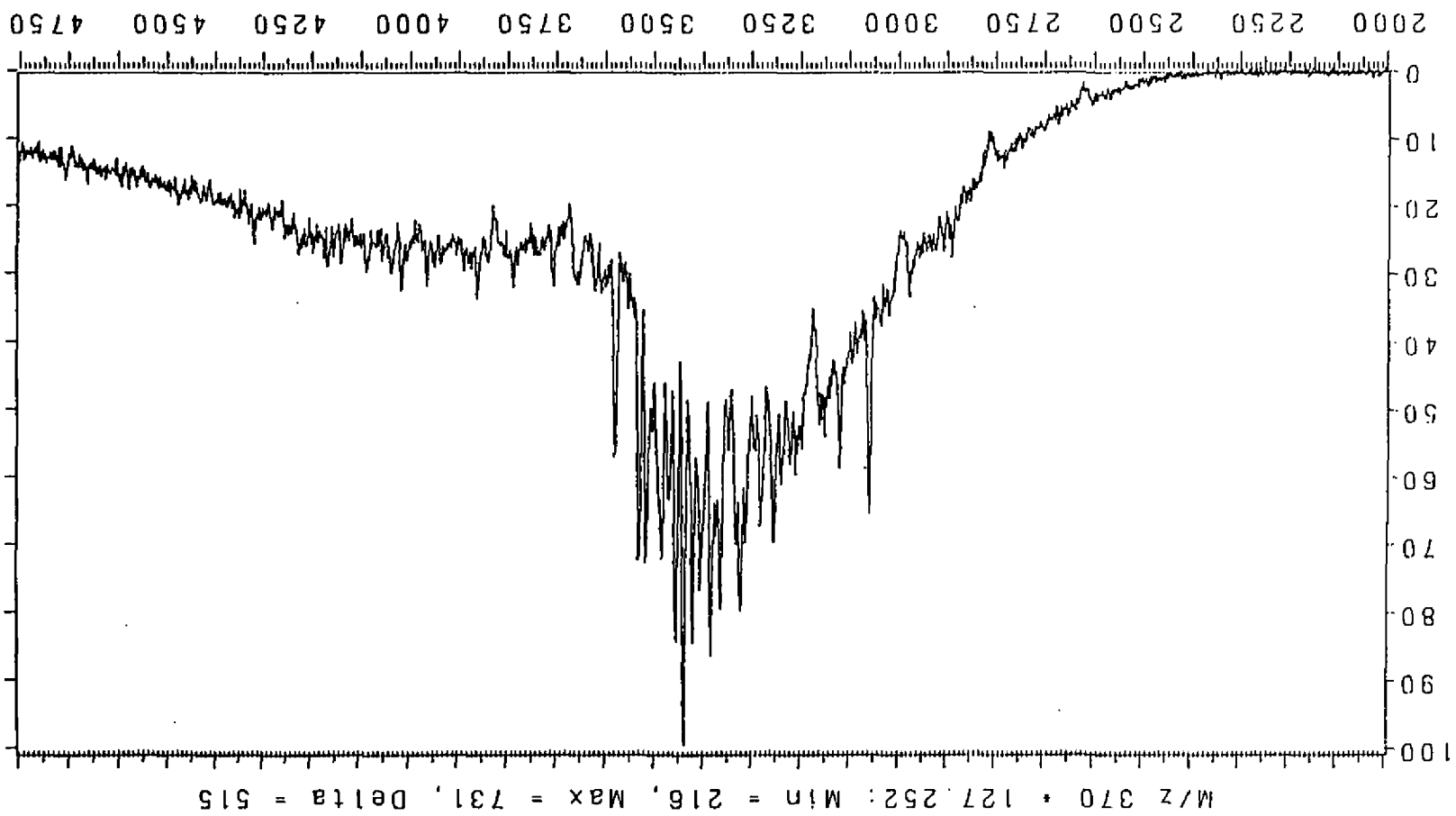
EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 370 C27 TRITERPANES

Schlumberger

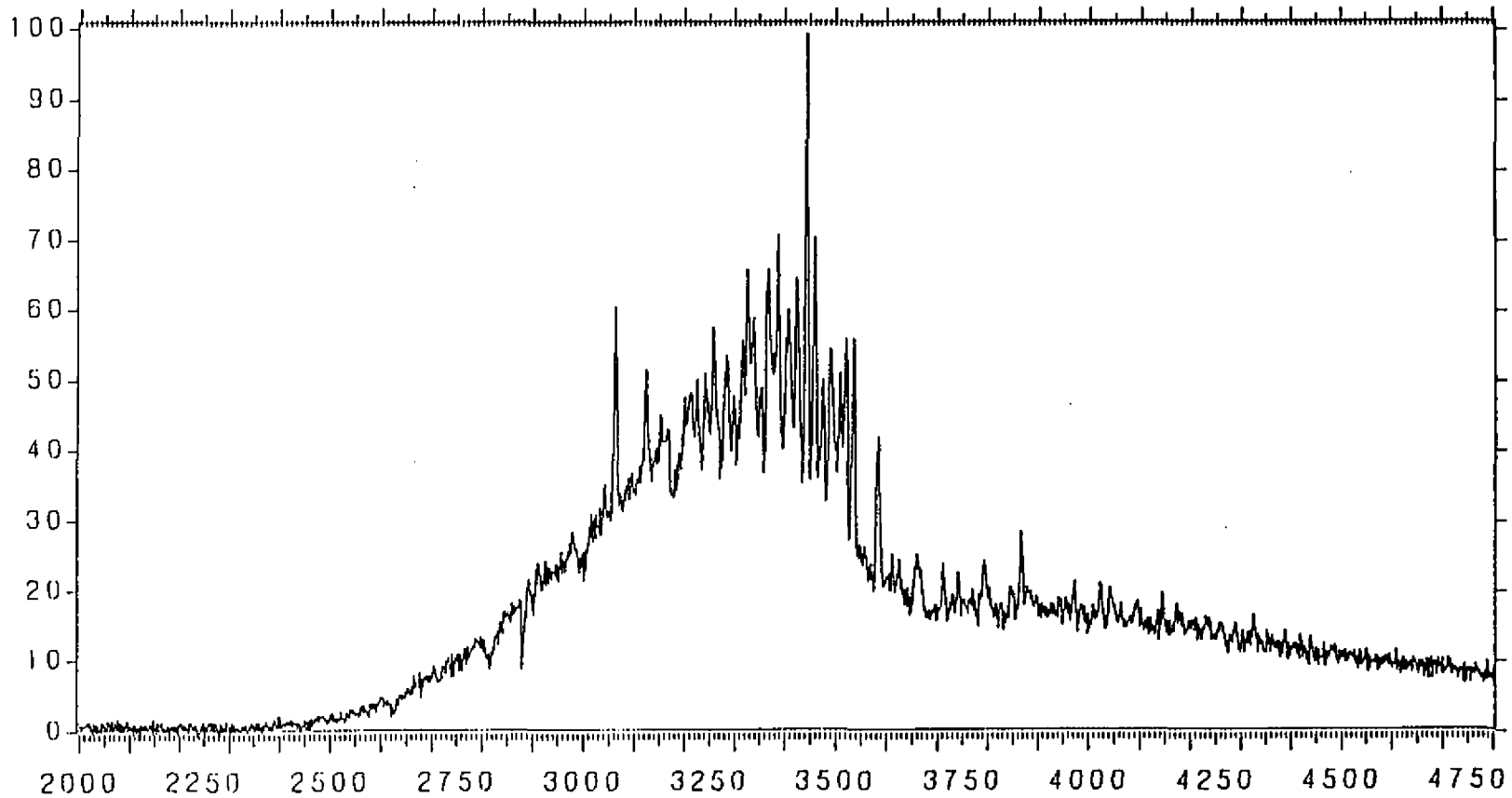
GECO-PRAKLA

GEOLAB NOR

E642851
3565 scans acquired on 28 Jan, 1992 at 15:30:55. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
2851.10M, 7.5MG SAMPLE



M/z 370 • 151.002: Min = 215, Max = 649, Delta = 434



E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

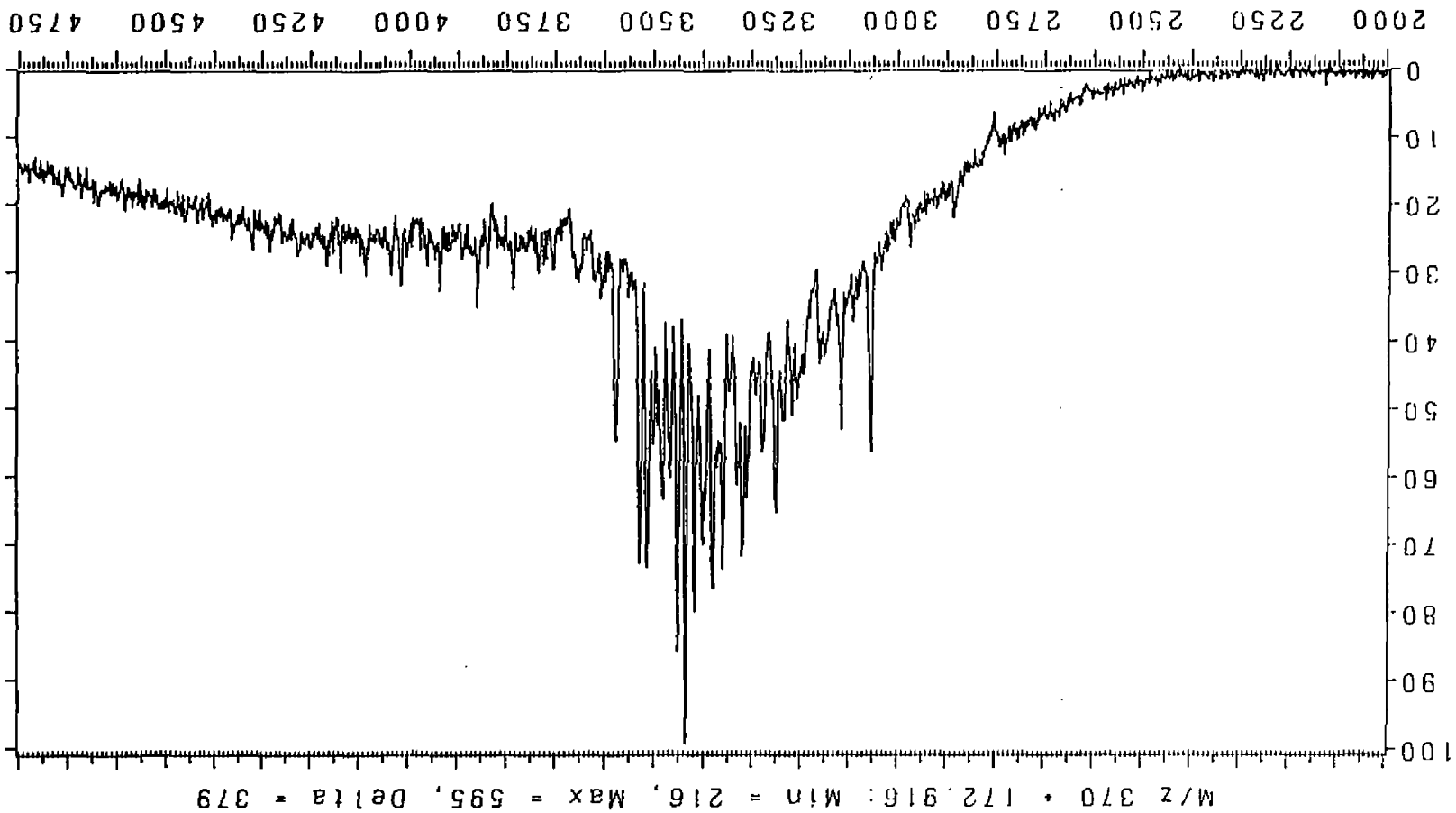
WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2855.70M, 7.1MG SAMPLE

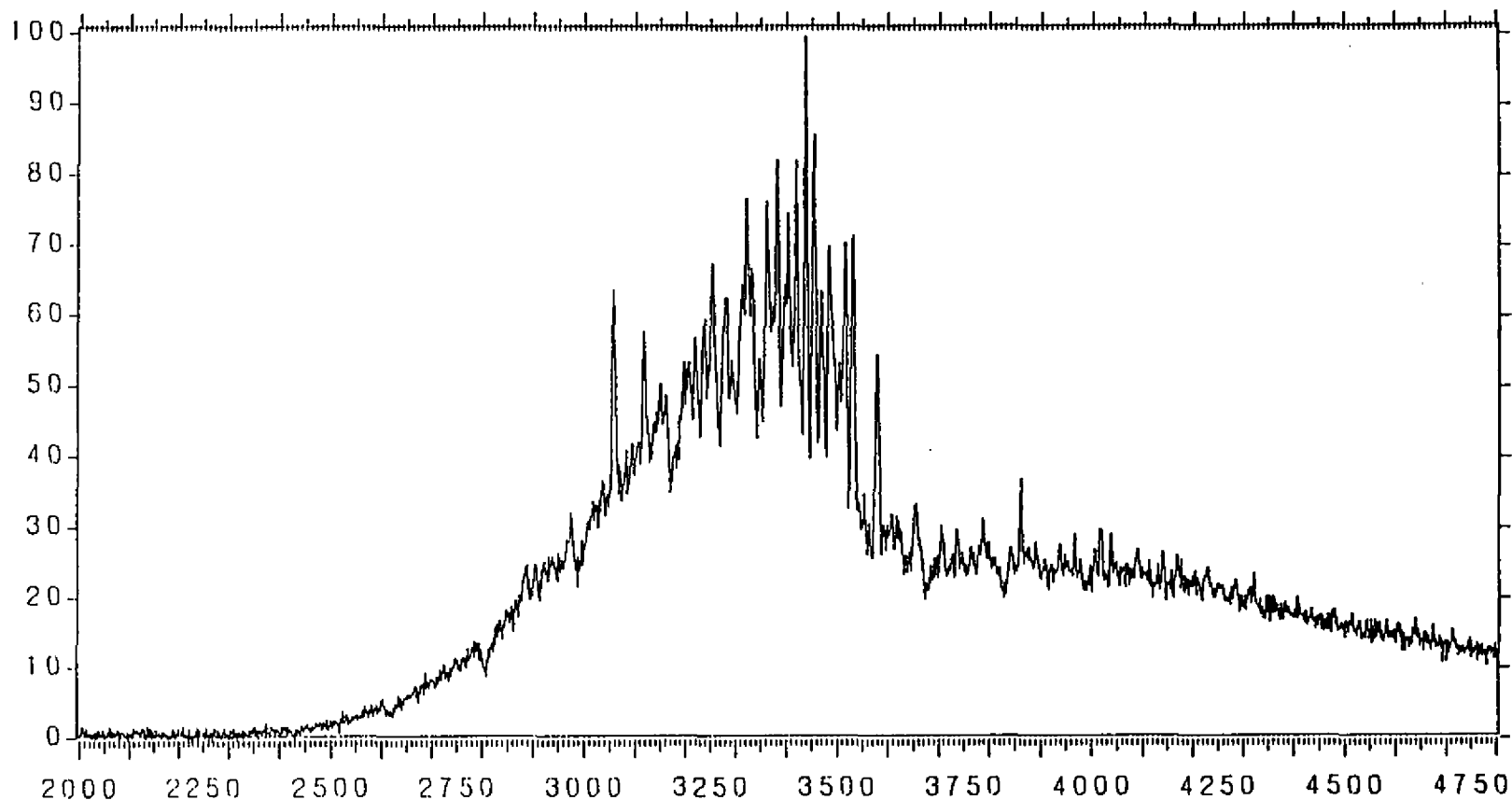
Schlumberger GECO-PRAKLA

GEOLAB NOR

E642862
3565 scans acquired on 29 Jan, 1992 at 10:26:21. Rate = 1.414 seconds/scan
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED
2862.70M, 9 0MG SAMPLE



M/z 370 + 155.296: Min = 216, Max = 638, Delta = 422



E642875

3565 scans acquired on 29 Jan, 1992 at 12:03:06. Rate = 1.414 seconds/scan

WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

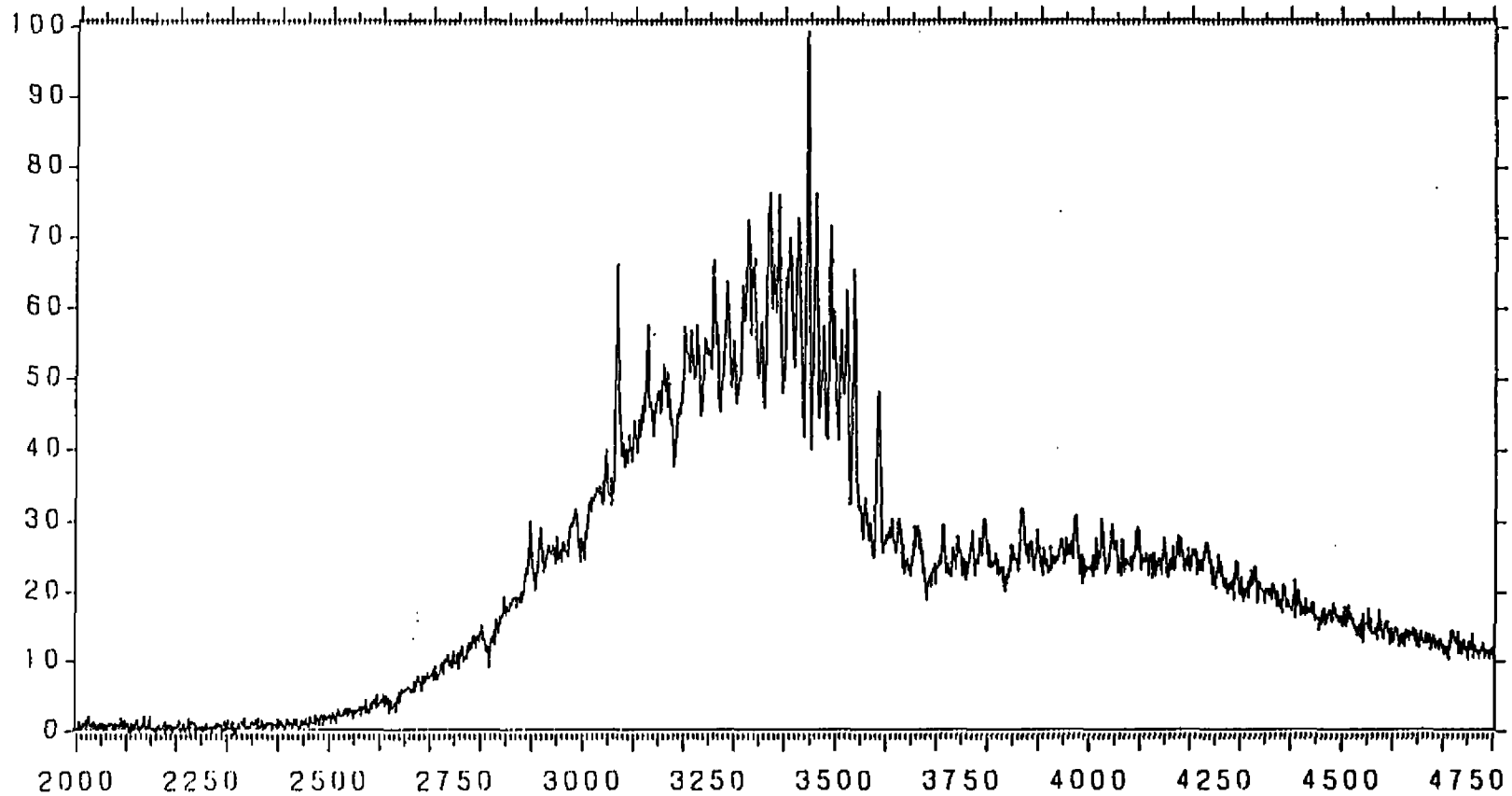
2875.50M, 5.2MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB  NOR

M/z 370 • 157.916: Min = 216, Max = 631, Delta = 415



F:642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28.. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

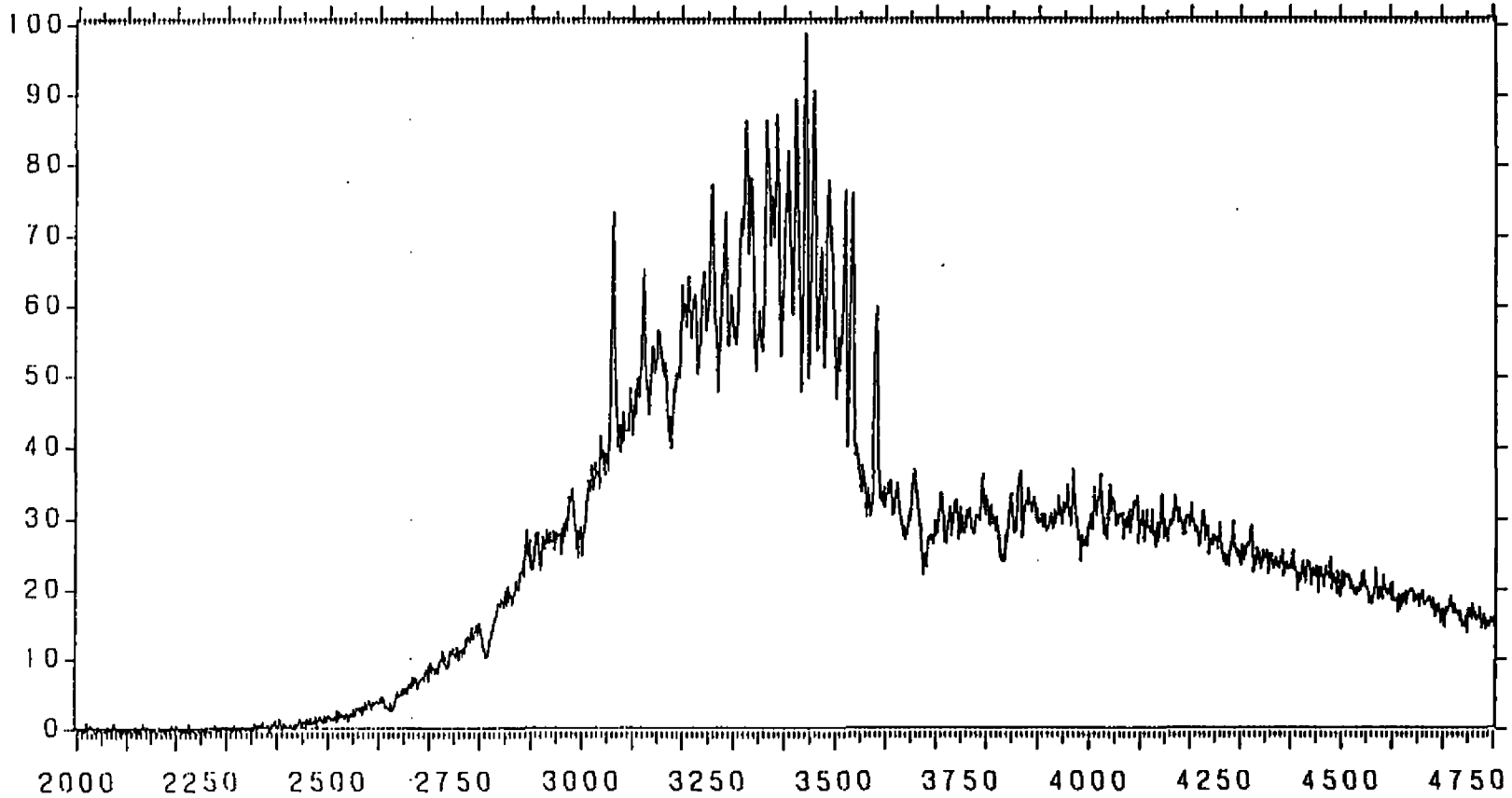
2880.10M, 7.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 370 • 135.683: Min = 216, Max = 699, Delta = 483



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

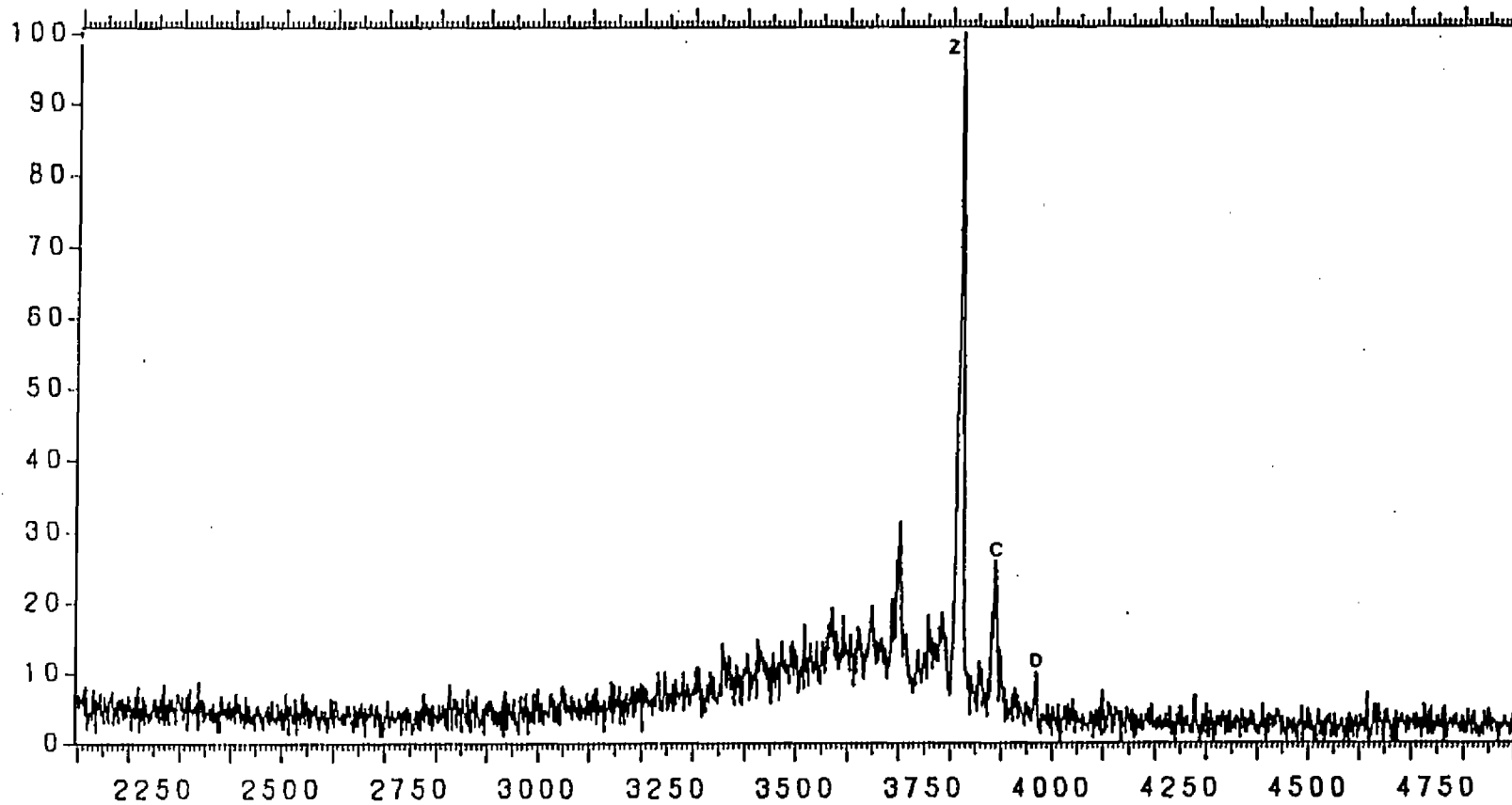
2884.60M, 6.9MG SAMPLE

Schlumberger

GECO-PRAKLA

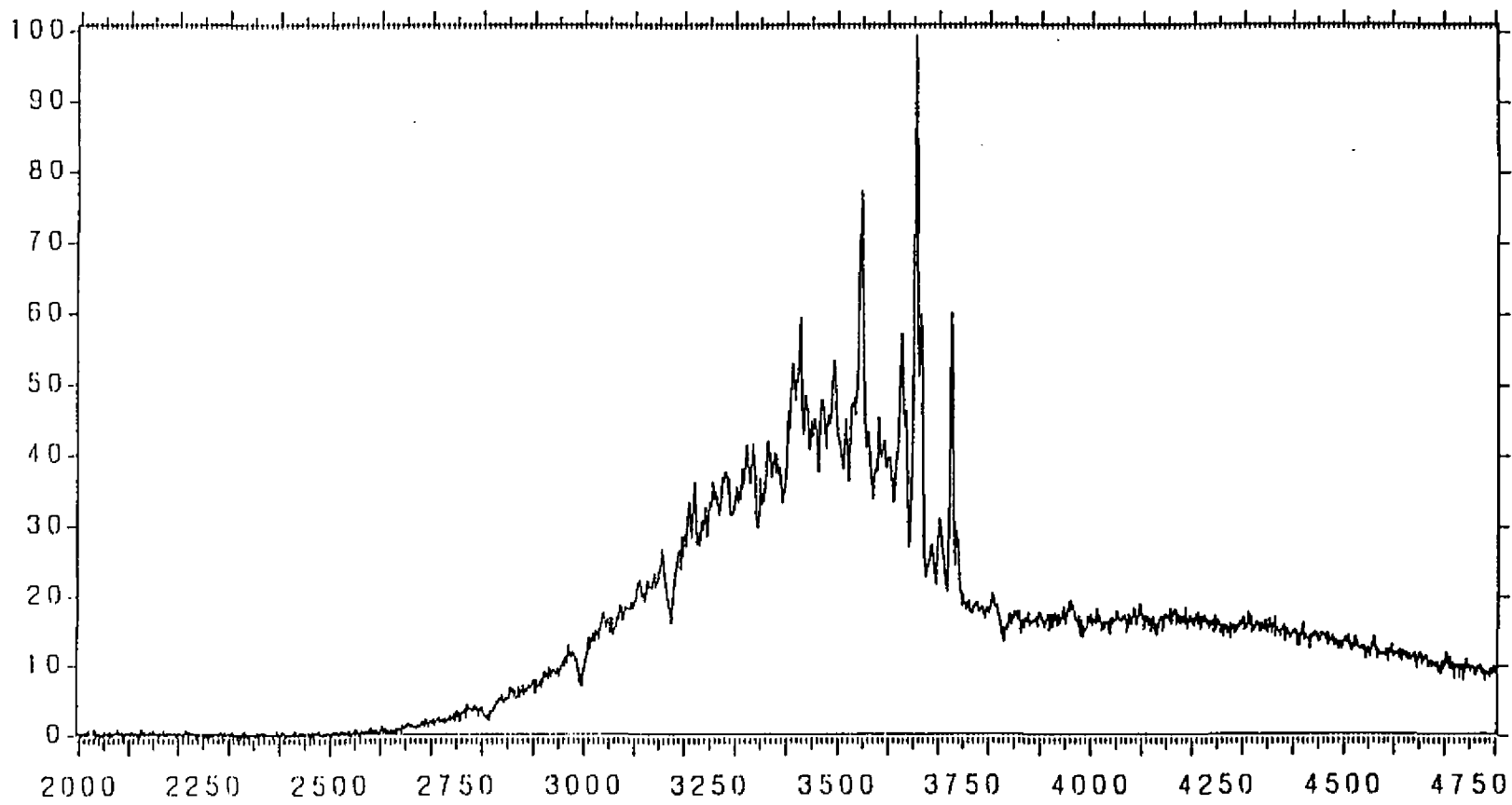
GEOLAB NOR

M/z 384 • 221.402: Min = 219, Max = 515, Delta = 296



EXAMPLE OF PEAK IDENTIFICATION FOR M/Z 384 C28 TRITERPANES

M/z 384 • 105.531: Min = 215, Max = 836, Delta = 621



E642851

3565 scans acquired on 28 Jan, 1992 at 15:30:55 Rate = 1.414 seconds/scan

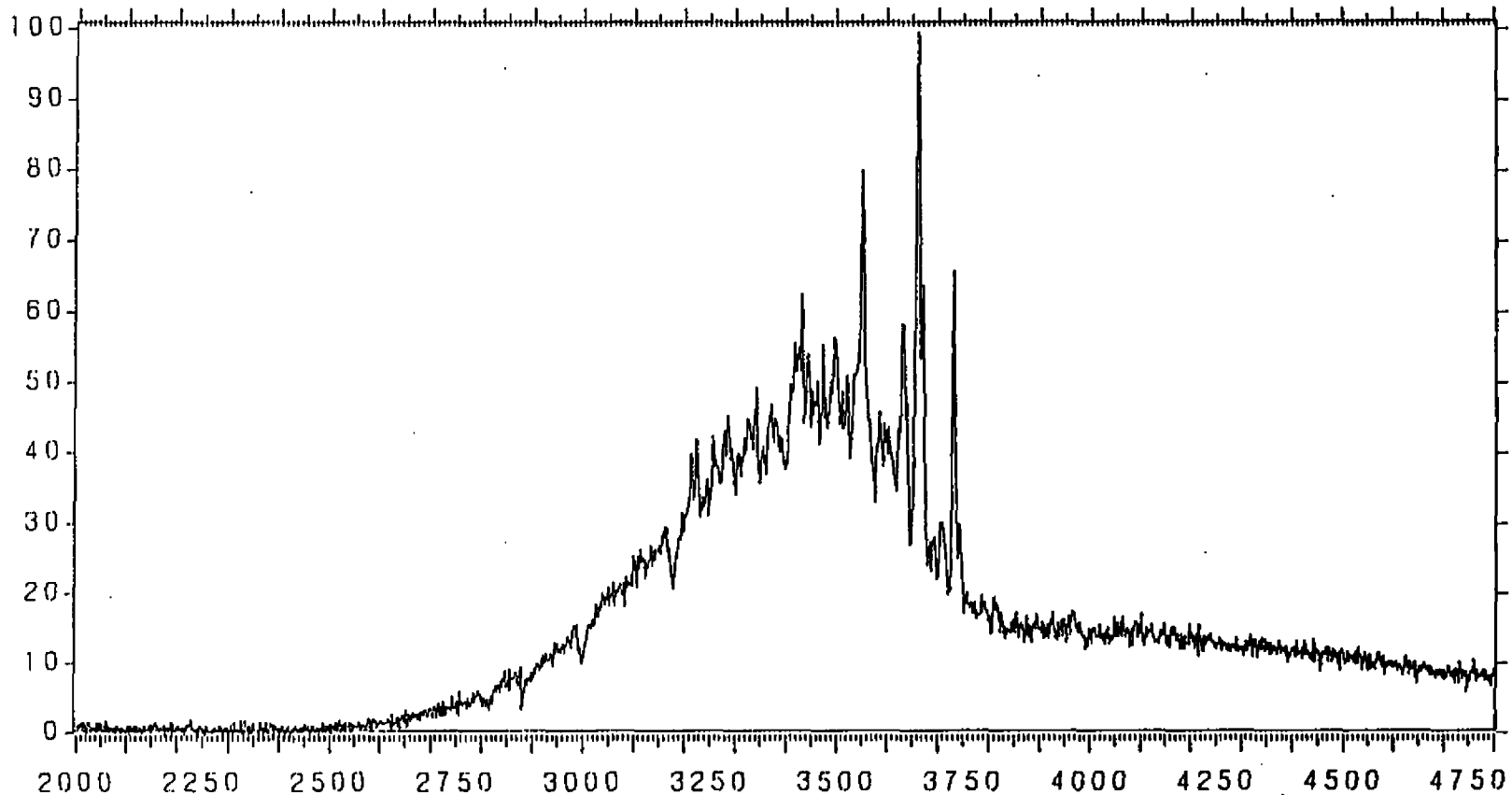
WELL 2/7-3X, IUL D4 3.4MG/100ML ADDED

2851.10M, 7 5MG SAMPLE

Schlumberger GECO-PRAKLA

GEOLAB NOR

M/z 384 • 161.02: Min = 216, Max = 623, Delta = 407



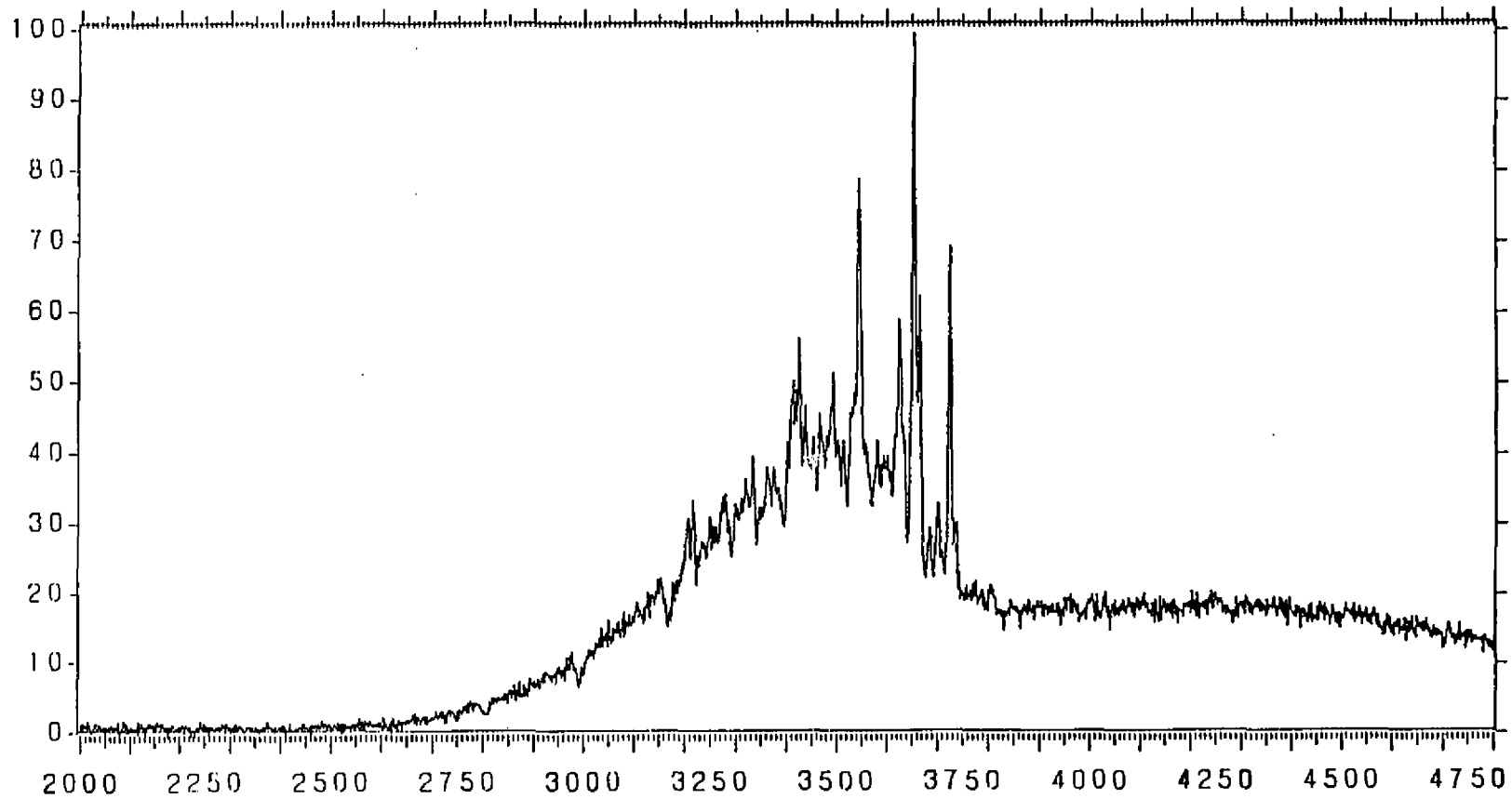
E642855

3565 scans acquired on 29 Jan, 1992 at 08:53:45. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2855.70M, 7.1MG SAMPLE

M/z 384 + 153.478: Min = 215, Max = 642, Delta = 427



E:642862

3565 scans acquired on 29 Jan, 1992 at 10:26:21... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

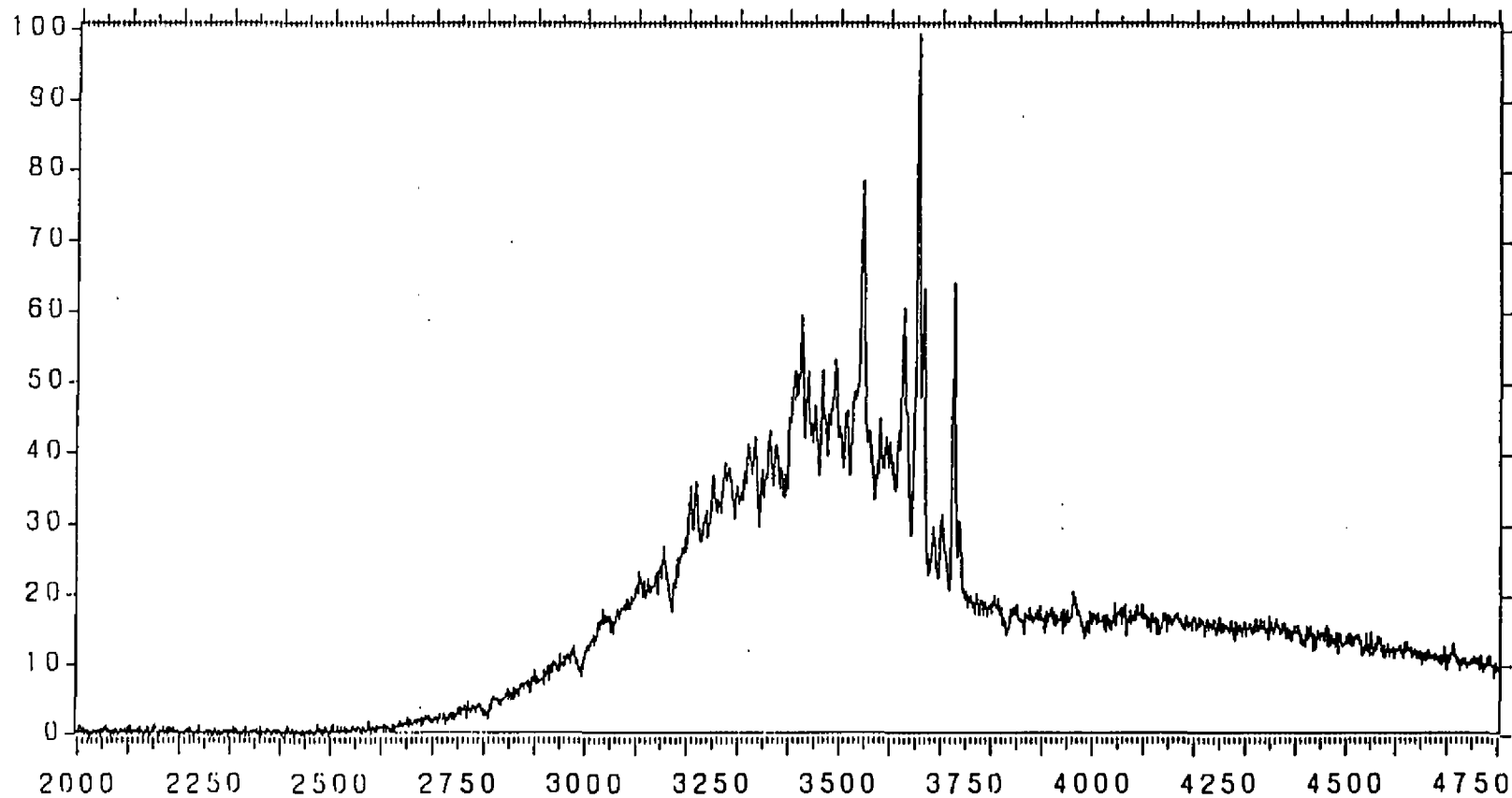
2862.70M, 9.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/z 384 • 137.103: Min = 216, Max = 694, Delta = 478



E642875

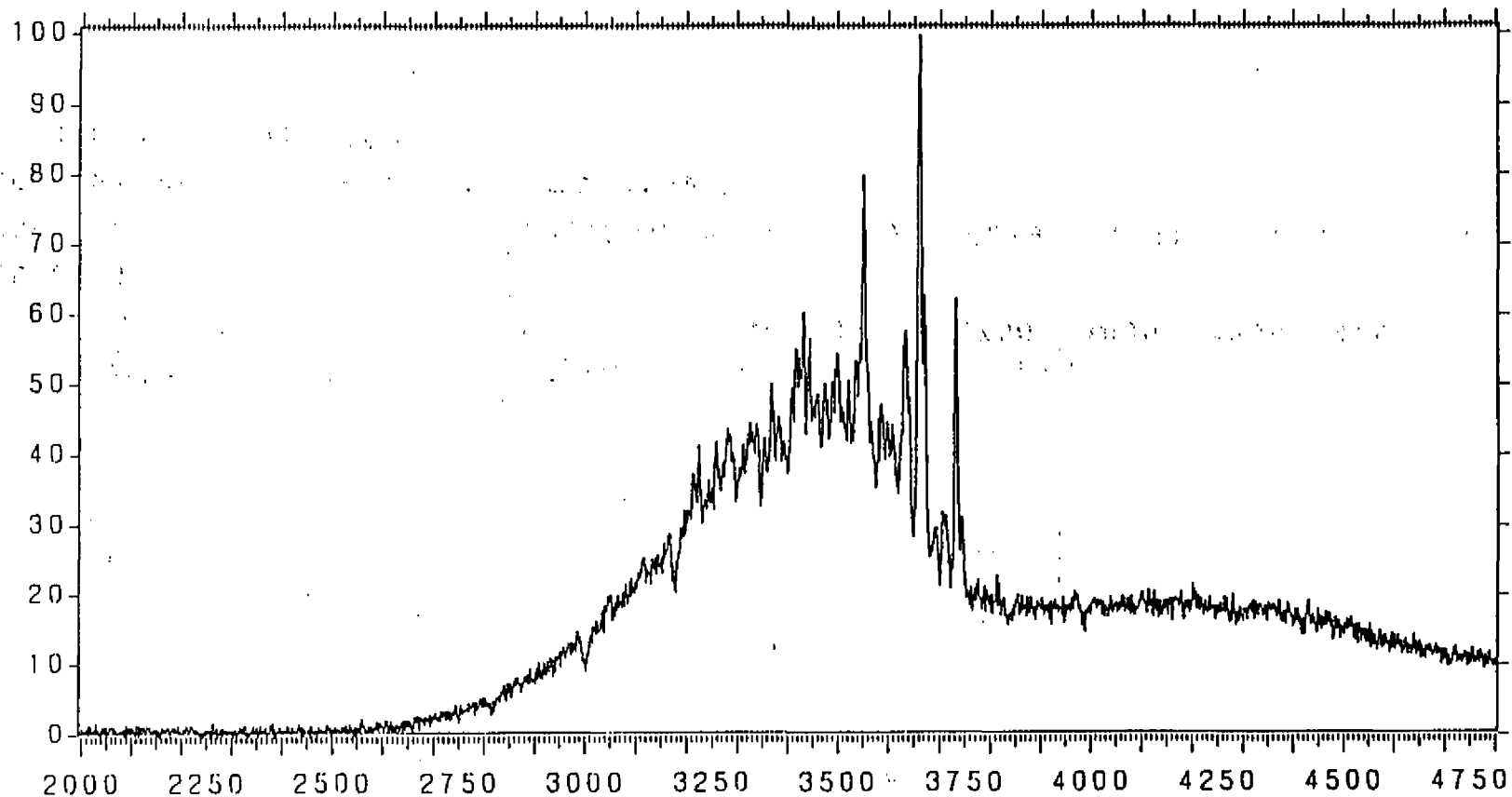
3565 scans acquired on 29 Jan, 1992 at 12:03:06... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2875.50M, 5.2MG SAMPLE

M/z 384 • 140.935: Min = 217, Max = 682, Delta = 465

0101 05 10GB



E642880

3565 scans acquired on 29 Jan, 1992 at 13:50:28... Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

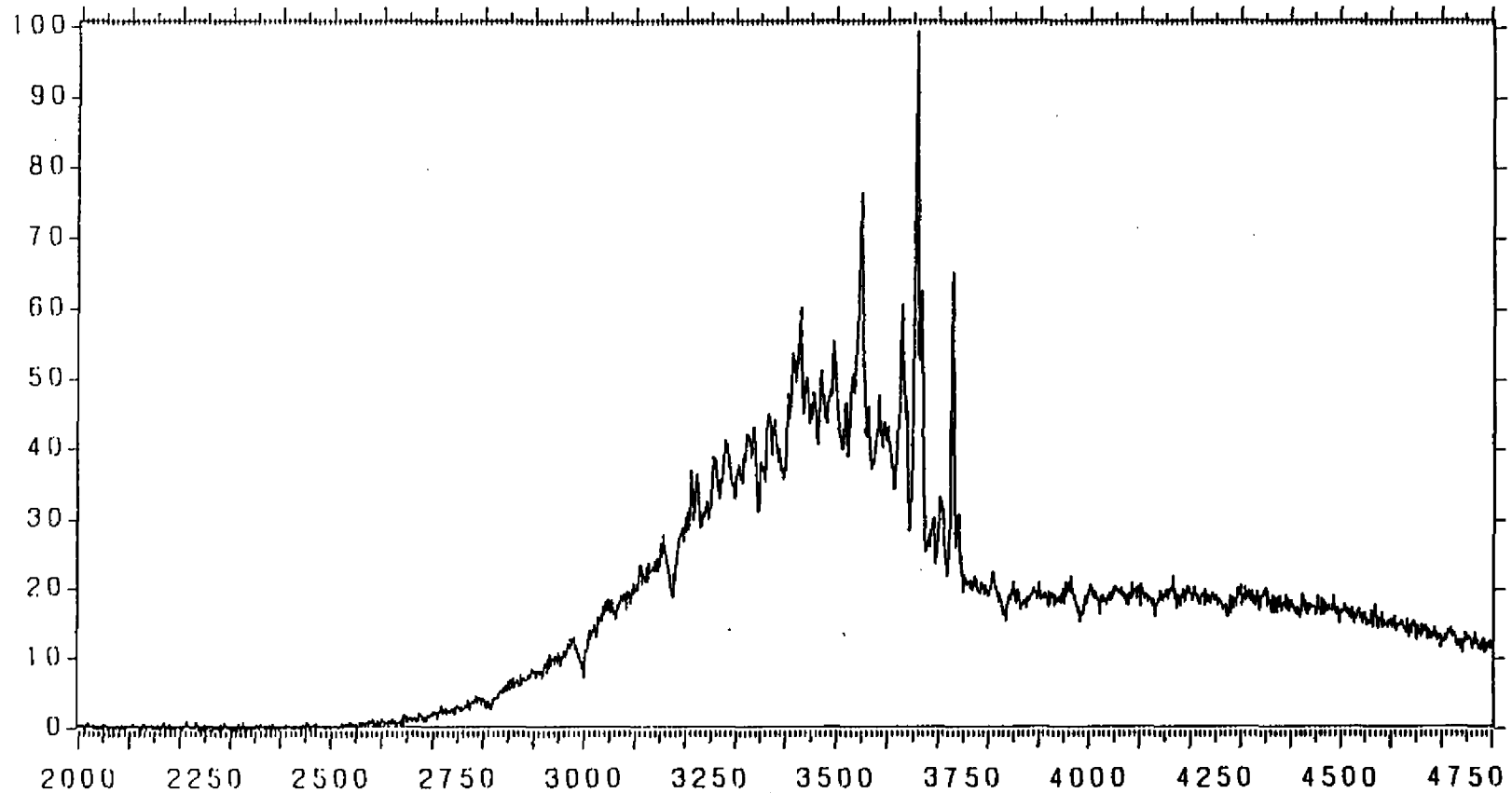
2880.10M, 7.0MG SAMPLE

Schlumberger

GECO-PRAKLA

GEOLAB NOR

M/Z 384 • 107.965: Min = 216, Max = 823, Delta = 607



E652884

3565 scans acquired on 29 Jan, 1992 at 15:24:53. Rate = 1.414 seconds/scan

WELL 2/7-3X, 1UL D4 3.4MG/100ML ADDED

2884.60M, 6 9MG SAMPLE