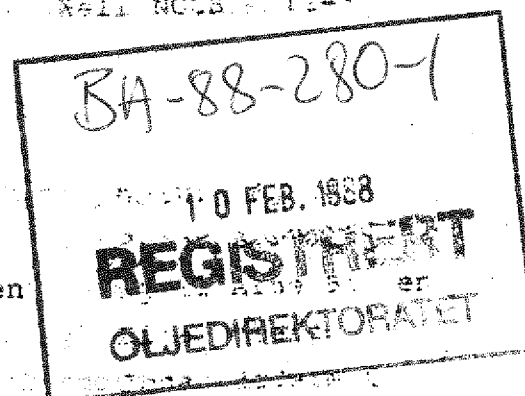


PRE-CRETACEOUS HYDROCARBON POTENTIAL WITH EMPHASIS ON THE
OF THE NORWEGIAN CENTRAL GRABEN AND CENTRAL GRABEN

GEOCHEMICAL ANALYSIS OF OIL SAMPLES
Well NOCS 7/12-5 and Well NOCS 7/12-6

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INTRODUCTION

This well from the Norwegian sector is located in the Northern part of the Central Graben and is within the Ula oil field. The total drilled depth was 4432 m and samples were collected from 180 m to TD from the Norwegian Petroleum Directorate. A total of 339 samples were collected, washed and described.

The samples from the upper part of the well were collected for stratigraphical analysis while samples from approximately 3400 m were used for geochemical analyses. Most of these samples have a sampling interval of 5 m. A careful selection of suitable samples was made for screening analysis. Two hundred and seven samples were selected for Rock-Eval with TOC analysis, and from the data obtained the samples were chosen for follow-up analysis. These were:

Thermal extraction - pyrolysis - gas chromatography	44 samples
Extraction, MPLC fractionation, saturated and aromatic hydrocarbon gas chromatography	5 samples
Vitrinite reflectance microscopy	19 samples
Visual kerogen examination	25 samples

Tables listing in detail which samples were analysed and the results and logs are given in the appendix. The logs were only available after most of the analyses were performed. NP'D's summary sheet no. 12 gives the following zonation:

Tyne Group	3731 m
Mandal Formation	3731 m
Farsund Formation	3763 m

Vestland Group	3825 m
Ula Formation	3825 m
Fjerrikslev Formation	3895 m
Skagerrak/Gassum Formation	3910 m
Smith Bank Formation	4145 m
Zechstein Group	4393 m

There are discrepancies between the depths shown on the log and those given in the table in the NPD report. We have used the depths given in the log.

LITHOLOGY AND TOTAL ORGANIC CARBON CONTENT

Figure 1 shows the variation in TOC over the analysed interval of the well plotted with a generalized litho-stratigraphic column.

Cretaceous (- 3731 m)

Cromer Knoll Group (3332 - 3731 m)

The samples from the upper part of the Cromer Knoll Group contain mainly carbonate, probably caved from the Chalk Group. A small percentage of green-grey to dusky yellow-brown and medium dark grey shale is also found in these samples. This increases with increasing depth and is probably the true lithology of this section. From approximately 3400 m the shale begins to develop a silty appearance and is also slightly darker. The shale has a TOC value of 1 - 1.5 % from 3400 m to 3470 m, then it drops to approximately 0.3 - 0.5 %.

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

Mandal Formation (3731 - 3763 m)

The Mandal Fm. consists mainly of a brown-black carbonaceous and micaceous shale with high TOC content (range 3.4 - 7.0 %, with most samples having approximately 5.5 %).

Smith Bank Formation (4145 - 4393 m)

The lithology of the Smith Bank Fm. is similar to the Skagerrak/Gassum Fm. The TOC of the shale is generally slightly higher than for the Skagerrak/Gassum Fm., mainly in the range 3.0 - 3.5 %, with a few as high as 4 %. The siltstone is almost barren of organic carbon.

Zechstein Group (4393 - 4432 m)

The lithology of the Zechstein Group is reported to be anhydrite in the log. This anhydrite was not found in the samples from NPD. The logs were not available during the analytical period and shale and siltstone found in these samples were analysed. These are probably all caved.

ROCK-EVAL ANALYSIS

1. Kerogen Type and Richness

(Hydrogen Index, Oxygen Index and Petroleum Potential)

Cretaceous (- 3731 m)

Cromer Knoll Group (3332 - 3731 m)

The variable coloured shale in the Cromer Knoll Group has low hydrogen indices (< 100 mg HC/g TOC) and high oxygen indices, indicating that the whole of the Cromer Knoll Group contains kerogen type IV. The petroleum potential is extremely low for all of the samples (mainly in the range 0.1 - 0.3 mg HC/g rock), showing that the Cromer Knoll Group has no potential as a source rock for hydrocarbons.

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

Mandal Formation (3731 - 3763 m)

The brown-black shale of the Mandal Fm. has an average hydrogen index of 330 mg HC/g TOC and low oxygen index, 6 mg CO₂/g TOC. Taking into the account that these samples have a relatively high maturity, with T_{max} over 440°C on average, the kerogen is clearly of type II. The petroleum potential is also high, varying from 13.1 to 27.4 mg HC/g rock, with an average of 20.4 mg HC/g rock. The whole of the Mandal Fm. has a rich potential as a source rock for oil.

Farsund Formation (3763 - 3825 m)

The shale in the Farsund Fm. has slightly lower hydrogen indices than the Mandal Fm. The values range from 169 to 298, with an average of 220 mg HC/g TOC. The oxygen indices are slightly higher than found for the Mandal Fm. The petroleum potential has decreased compared with the Mandal Fm. and ranges from 6.5 to 14.3, with an average of 9.0 mg HC/g rock. This indicates that the Farsund Fm., when taking into account the relatively high maturity, contains a mixture of kerogen type II/III, with a good/rich potential as a source rock for oil and gas.

Vestland Group (3825 - 3895 m)

Only one sandstone sample from this formation was analysed. The high S_1 indicates that this contains free hydrocarbons. The sandstone has no source rock potential.

Fjerritslev Formation (3895 - 3910 m)

The brown-black shale in this formation has slightly higher hydrogen indices than found for the Farsund Fm. (222 - 287 m, with an average of 262 mg HC/g TOC). The petroleum potential is of similar values as seen for the Farsund Fm. (7.2 - 10.5, with an average of 8.8 mg HC/g rock). This shows that the shale in the Fjerritslev Fm. contains a mixture of kerogen type II/III with a good/rich potential as a source rock for oil and gas. The siltstone is almost barren, containing only some kerogen type IV with no potential as a source rock for hydrocarbons.

Skagerrak/Gassum Formation (3910 - 4145 m)

The black to brown-black shale in the Skagerrak Fm. has similar hydrogen and oxygen indices as found for the Fjerritslev and Farsund Fms. The hydrogen indices vary from 199 to 279 with an average of 232 mg HC/g TOC. The petroleum indices are also of similar values as found for the formations above, varying from 7.1 - 13.0 with an average of 9.6 mg HC/g rock. These data clearly indicate that the Skagerrak Fm. contains a mixture of kerogen type II/III with a rich potential as a source rock for oil and gas.

Smith Bank Formation (4145 - 4393 m)

The black to brown-black shale in the Smith Bank Fm. shows similar values for the different measurements as found in the Skagerrak Fm. The hydrogen indices vary from 190 to 300, with most of the samples having values between 220 and 250 mg HC/g TOC and showing an average of 229 mg HC/g TOC. The petroleum potentials vary from 6.3 - 13.7, with an average of 9.2 mg HC/g rock. This will give the shale in the Smith Bank Fm. the same rating as the Skagerrak Fm., i.e. it contains a mixture of kerogen type II/III with a rich potential as a source rock for oil and gas. The siltstone in this formation is almost barren. It contains only some kerogen type IV, with no potential as a source rock for hydrocarbons.

Zechstein Group (4393 - 4432 m)

No in-situ material from this formation was found in the samples from NPD.

2. Generation and Migration

(Production Index $S_1/(S_1+S_2)$ and S_1/TOC)

The shale in the Cromer Knoll Group shows variable production indices ranging from 0.1 to 1.0. This could indicate that some of these samples contain free hydrocarbons, but when the S_1 data is studied, it is quite clear that there are no free hydrocarbons in this section. The high production indices for some of the samples are due to the very low S_2 values. There is therefore no indication of migrated hydrocarbons in the Cromer Knoll Group. The shale samples from the Mandal and Farsund Fms. show production indices of 0.15 - 0.20, indicating that these samples are generating hydrocarbons at present.

The one sandstone sample from the Ula Fm. clearly shows that this formation contains migrated hydrocarbons. The shale samples from the Fjerritslev, Skagerrak and Smith Bank Fms. show similar production indices as found for the Mandal and Farsund Fms., showing that these are generating hydrocarbons. The siltstone and sandstone samples from these formations all have high production indices. The S_1 values are, however, small for all these samples and show that the free hydrocarbons remaining in these samples are only minor.

3. Maturity (Tmax)

The Tmax varies throughout this well. Due to the very low S_2 values for the samples from the Cromer Knoll Group it is difficult to determine the Tmax values for these samples. A large number of the samples have values between 428 and 435°C, which could be the true range for the in-situ material. The Jurassic material has Tmax values in the range of 439 - 444°C. This also seems to be the average for the upper part of the Skagerrak Fm. increasing slightly (to 445°C) towards the lower part. Similar values are also seen for the Smith Bank Fm.. This gives an average maturity

gradient for the Jurassic/Triassic samples - approximately
7°C over 700 m.

EXTRACTION DATA

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

The logs for this well were not available before the analyses were performed and consequently there were some problems in the picking of the samples. There is, therefore, a possibility of mixing various formations.

This is particularly the situation for the Mandal and Farsund Fms., where samples from the lower part of the Mandal Fm. are mixed with samples from the Farsund Fm. The sample from 3836 - 3908 m is also a mixture of caved Farsund Fm. material and Fjerritslev Fm. material.

The composite sample of brown-black shale and silty shale from 3753 - 3806 m and the composite sample of brown-black to dark grey silty shale and brown-black shale from 3836 - 3908 m have EOM values of 6034 and 5488 ppm respectively. The extractable hydrocarbons are measured as 2304 and 1963 ppm respectively. When normalized to organic carbon these two samples have values of 211 and 223 mg EOM/g TOC and 85 and 75 mg HC/g TOC respectively. Based on these values the shales can be classified as rich source rocks. Even accounting for the possible problems from mixing of samples, there are slightly higher values for the uppermost samples, which might indicate a slightly higher extractability for the Mandal Fm.

Skagerrak/Gassum Formation (3910 - 4145 m)

Two samples, both black to brown-black shale, from 3932 - 3974 m and 4034 - 4070 m, were extracted. The samples have

EOM values of 6341 and 4985 ppm respectively, while the extractable hydrocarbons show values of 3374 and 2707 ppm respectively. When normalized to organic carbon, values of 155 and 178 mg EOM/g TOC and 82 and 97 mg HC/g TOC are found for the two samples. These samples have higher percentages of hydrocarbons (53/54), than the Upper Jurassic samples, (38/36). This would indicate either a different type of kerogen or, more likely, that the generation of hydrocarbons has progressed further here, due to the extra depth (and therefore higher maturity). Both samples indicate that the shale in this formation has a rich potential as a source rock for oil.

Smith Bank Formation (4145 - 4393 m)

None of the samples from this interval were extracted, due to the small amount of samples. The samples from 4427 - 4433 m contained good quantities of black to brown-black carbonaceous shale, believed to be caved from the Smith Bank Formation. This shale was extracted and produced 2860 ppm of EOM and 764 ppm of extractable HC. When normalized to organic carbon this sample gives 143 mg EOM/g TOC and 38 mg HC/g TOC. This is far lower than found for the samples higher up, indicating a kerogen with less hydrocarbon generating potential. These data indicate that this shale has a good potential as a source rock for oil.

Saturated Hydrocarbons

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

The two samples, one representing a mixture of shales from

the Mandal/Farsund Fms. (3753 - 3806 m) and one a mixture from the Farsund/Fjerrikslev Fms. (3836 - 3908 m) both show a smooth, front biased, n-alkane distribution typical for well mature hydrocarbons. There are two main differences between the two chromatograms. An unresolved envelope is registered in the lowermost sample, which is not seen for the first sample. It is presently not known what has caused this unresolved envelope, but it is probably an effect of the type of kerogen generating the hydrocarbons. The other difference is in the CPI values for the two samples. The uppermost sample has a CPI of 1.0 while the lowermost sample has a CPI of 1.1. This indicates a stronger input of terrestrial matter in the lowermost sample. The gas chromatograms are shown in Figures 4a, b.

Skagerrak/Gassum Formation (3910 - 4145 m)

The two samples from the Skagerrak/Gassum Fm. also have relatively smooth n-alkane distributions. The uppermost sample has a slight unresolved envelope similar to that found for the Farsund/Fjerrikslev Fms. sample. The CPI is also 1.1 for this sample, while the lowermost sample has a CPI of 1.0 and no unresolved envelope. On the whole, the four gas chromatograms are relatively similar and it would be misleading to read too much into the slight differences recorded here.

Smith Bank Formation (4145 - 4393 m)

The extracted sample shows a smooth front biased distribution similar to that seen for the samples higher up in the well. The amount of high molecular weight n-alkanes seen for all these samples indicate a terrestrial input and these data agree with the results from the Rock-Eval analysis, indicating a kerogen type II/III in the samples.

Aromatic Hydrocarbons

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

In the sample from the Mandal/Farsund Fms. the phenanthrenes are dominant while the naphthalenes are only minor. This could possibly be due to too heavy evaporation during the work up of the samples. Of the phenanthrenes, phenanthrene and 9 Methyl- and 1 Methyl-phenanthrenes are of approximately the same peak height, Figure 5a.

In the sample from the Farsund/Fjerritslev Fms. the dimethyl naphthalenes dominate the chromatogram with methyl naphthalenes and phenanthrenes of similar peak height but clearly less abundant than the dimethyl phenanthrenes, Figure 5b.

The FPD traces show almost identical patterns for the two samples, with 4 methyl dibenzothiophene completely dominating the chromatogram. The two other methyl dibenzothiophenes are less than 10 % of the 4 methyl dibenzothiophenes, Figure 6a.

Skagerrak/Gassum Formation (3910 - 4145 m)

The FID traces of the two samples from this formation are almost identical to the sample from the Farsund/Fjerritslev Fms., indicating the same type of kerogen in these samples. The same situation is also seen for the FPD traces, with the exception of the amount of 1 methyl dibenzothiophene which is even smaller in these samples (compared with 4 methyl dibenzothiophenes) than what was found for the samples higher up in the well, Figure 6b.

Smith Bank Formation (4145 - 4393 m)

The FID gas chromatogram of the aromatic hydrocarbon fraction shows that the phenanthrenes dominate the chromatograms (similar to what was found for the Mandal/Farsund Fms. sample). The FPD trace is similar to that found for the Skagerrak/Gassum Fm. sample.

The strong similarity between the samples from the various formations in this well, with the exception of the loss of naphthalenes (probably due to a too heavy evaporation during work up) indicates that the kerogen in these various samples is similar, which supports data from other analyses.

THERMAL EXTRACTION - GAS CHROMATOGRAPHY

Forty-four (44) samples were analysed by thermal extraction gas chromatography.

Cretaceous (- 3731 m)

Cromer Knoll Group (3332 - 3731 m)

No samples from this group were analysed by thermal extraction - gas chromatography.

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

Mandal Formation (3731 - 3763 m)

Three samples from this formation were analysed. The sample from 3735 m shows a bimodal distribution with maxima at nC_{13} and nC_{19} . This indicates an input from two types of kerogen or hydrocarbons with different maturity. If the hydrocarbons are generated in-situ, this indicates that the sample contains a mixture of kerogen types. This is not in agreement with other data and it is therefore more likely that the sample might be slightly contaminated either by mud additive or by migrated hydrocarbons.

The other two samples show a bimodal distribution with a maximum at nC_{14} . The percentage of heavier hydrocarbons is slightly higher in the sample from 3753 m than in the sample from 3740 m, indicating a larger input of non-marine kerogen

in the lowermost sample. Both chromatograms represent well mature hydrocarbons. An example of this is shown in Figure 7a.

Farsund Formation (3763 - 3825 m)

Three samples from this formation were analysed. The sample from 3764 m shows a large unresolved envelope between C_{19} and approximately C_{36} . This is probably a mud additive or pipedope and this could also have affected the rest of the data. The results are therefore not discussed further.

The two other samples show smooth alkane distributions, but the percentage of heavier components is far higher in the sample from 3818 m than in the sample from 3782 m. This is probably due to a variation in the kerogen. The lithology of the two samples are also different (the sample from 3782 m is a brown-black shale and the sample from 3818 m is a dark grey to brown-black shale). The data indicate a larger input of terrestrial material in the sample from 3818 m than in the sample from 3782 m.

Vestland Group (3825 - 3895 m)

Ula Formation (3825 - 3895 m)

As the logs were not available before the analysis, a number of samples of caved material were analysed. These basically show the same distribution as seen for samples from the Mandal and Farsund Fms.

Fjerritslev Formation (3895 - 3910 m)

One sample from this formation was analysed, showing a

bimodal distribution with maxima at nC_9 and nC_{20} . There is also a small unresolved envelope between C_{15} and C_{32} , Figure 7b. It is believed that the hydrocarbons are indigenous to the kerogen in the sample, probably representing a mixture of kerogen type II/III. The bimodal nature and the relatively large amount of light hydrocarbons, could be because the claystone has retained a larger amount of light hydrocarbon than what is normally found for samples which have been stored over such a long period.

Skagerrak/Gassum Formation (3910 - 4145 m)

Seventeen (17) samples from this formation were analysed. These are all black to brown-black claystone. The chromatograms vary considerably for the analysed samples. The samples from 3914 m, 3932 m, 3938 m, 3962 m, 3968 m, 3992 m and 4070 m have a front biased unimodal n-alkane distribution with a maximum between nC_{14} - nC_{17} , probably representing in-situ generated hydrocarbons, probably generated from a mixture of kerogen type II/III.

The samples from 4010 m, 4022 m, 4088 m, 4100 m, 4124 m and 4136 m show a bimodal distribution with maxima at approximately C_{10} and C_{22} . The higher molecular weight maximum decreases with increasing depth and could be classified as a shoulder from 4100 m. The samples from 4112 m, 4034 m, 4046 m and 4058 m can also be classified as having a bimodal distribution, but here the heavy molecular weight material is far more pronounced than the light molecular weight material. These data indicate that the hydrocarbons in the samples above 4000 m have been generated from a different type of kerogen than those below this depth.

The samples from above 4000 m have a hydrocarbon distribution typical for mature hydrocarbons from mainly a marine source, Figure 7c. From approximately 4000 m the

kerogen changes drastically to a more terrestrial input, probably kerogen type III/II, Figure 7d. The terrestrial input decreases with increasing depth, as seen by the high molecular weight material, Figure 7e.

Smith Bank Formation (4145 - 4393 m)

Fifteen (15) samples from this formation were analysed. The samples from the upper part of this formation (down to approximately 4200 m) have the same type of hydrocarbon distribution as seen for the lower part of the Skagerrak/Gassum Fm., i.e. a strong front end distribution with a shoulder at nC_{20} - nC_{26} , showing that the hydrocarbons have been generated from a mixture of kerogen type II/III. The shoulder increases with increasing depth, suggesting a corresponding increase in the input of terrestrial material with increasing depth. From approximately 4200 m the shoulder is so strong that the distribution is classified as a bimodal distribution with maxima at nC_{11} and nC_{22} . The high molecular weight material increases with increasing depth and the two modes are at approximately equal intensity at approximately 4370 m. These data would indicate an increase of the terrestrial input with increasing depth. Examples of thermal extraction chromatograms are given in Figures 7f,g.

Zechstein Group (4393 - 4432 m)

The lithology of this group is reported to be anhydrite. As the logs were not available, two shale samples over this depth interval were analysed. These show a similar distribution to the lower part of the Smith Bank Fm. samples and are probably caved material from this formation.

PYROLYSIS - GAS CHROMATOGRAPHY

Forty-four (44) samples were analysed by pyrolysis - gas chromatography.

Cretaceous (- 3731 m)

Cromer Knoll Group (3332 - 3731 m)

No samples from this group were analysed by pyrolysis - gas chromatography.

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

Mandal Formation (3731 - 3763 m)

Three samples from this formation were analysed. The alkene/alkane doublets are dominant in all three samples, Figure 8a. The aromatic components are slightly more prominent in the samples from 3740 m and 3783 m compared with the sample from 3735 m. The chromatograms clearly show that the kerogen is of type II, possibly with an input of kerogen type II/III in the two lowermost samples.

Farsund Formation (3763 - 3825 m)

Three samples from this formation were analysed. The sample from 3764 m shows an unresolved envelope similar to that found for the thermal extract and is probably caused by the

same contaminant. An unresolved envelope is also seen for the sample from 3818 m, but this is over a far narrower range than for the samples from 3764 m and could be an artefact from the analysis. Generally the pyrograms show a series of alkene/alkane doublets. The aromatic components are slightly more abundant than seen for the Mandal Fm. samples, indicating a larger input of terrestrial material, probably a mixture of kerogen type II/III, Figure 8b.

Vestland Group (3825 - 3895 m)

Ula Formation (3825 - 3895 m)

The two samples picked for analysis from this depth interval probably represent caved material. The pyrograms are similar to those for the Farsund Fm. samples.

Fjerritslev Formation (3895 - 3910 m)

The one sample which was analysed from this formation shows a similar pyrogram to those found for the Farsund Fm., i.e. a mixture of kerogen type II/III, Figure 8c.

Skagerrak/Gassum Formation (3910 - 4145 m)

Seventeen (17) samples from this formation were analysed. There is a slight difference in the pyrograms of the samples from above 4000 m and those below. The samples from above 4000 m contain proportionally more aromatic hydrocarbons than those below. The samples from the upper part show a similar distribution to those from the Fjerritslev Fm., indicating an input of kerogen type II/III, Figure 8d. From approximately 4000 m a slightly lower abundance of aromatic components is seen, whilst the alkene/alkane doublets are

more pronounced. This is only seen for a few samples and from approximately 4030 m to 4600 m the pyrograms are similar to those from the upper part of the sequence. From this depth the doublets are again more pronounced compared to the aromatic compounds, Figure 8e. These data indicate a slight variation in the kerogen in the samples in this formation, but on the whole it would be classified as a mixture of kerogen type II/III.

Smith Bank Formation (4145 - 4393 m)

Fifteen (15) samples from this formation were analysed. The pyrograms are quite similar throughout the formation and are similar to those for the samples from the lower part of the Skagerrak/Gassum Fm., (i.e. a mixture of kerogen type II/III) Figure 8f.

Zechstein Group (4393 - 4432 m)

The two samples from this depth interval which were pyrolysed have similar pyrograms to the samples from the Smith Bank Fm. and are probably caved.

VITRINITE REFLECTANCE ANALYSIS

Reflectance data can be found in Table 6.

A depth/reflectance profile appears in Figure 9.

Nineteen samples were analysed for vitrinite reflectance, covering the interval 1100 m to 4385 m. Eleven samples were analysed from the Tertiary section of the well. Lithologies are generally calcareous claystones often with high amounts of staining and liptinitic wisps and generally low amounts of phytoclasts, of which vitrinite often forms a good proportion. Reflectance values obtained from this interval are based on high numbers of individual readings and show a very smooth linear increase from approximately 0.25 % at 1000 m to approximately 0.48 % at 2900 m. The lowermost Tertiary sample (2960 m) is from the Ekofisk formation which is 100 % limestone, according to the NDP summary sheet. The sample contains a mixture of limestone and claystone cuttings, the claystone being the only lithology to contain vitrinite. A value of 0.46 % was obtained from this sample which is a little low considering the previous reflectance trend and verifies that the claystone is caved.

Spore fluorescence colour changes from yellow to yellow-orange with depth in the Tertiary, agreeing well with the increase in reflectance. The lowermost sample contains light orange and medium orange spores, indicating a maturity a little higher than expected.

Three samples were analysed from the Cretaceous section of the well. The uppermost sample (3170 m) has a 100 % chalk lithology with a trace of claystone. The claystone gives a low reflectance value of 0.46 % and is obviously caved from the Tertiary section of the well. A light orange spore fluorescence colour was found which is likely to come from caved cuttings. The second Cretaceous sample has a chalk lithology, which is barren of organic matter. In U.V. light

a few light orange spores were identified. Again, these are probably from the caved claystone lithology of which there is a trace in this sample. The lowermost Cretaceous sample (3540 m) contains a mixture of lithologies including chalk, oxidized claystone, siltstone and organic rich claystone. According to the summary sheet, the claystone is in-situ at this depth. The unoxidized claystone fraction has variable amounts of staining and liptinitic wisps but is often rich in both. The phytoclast content is generally low, with a very low amount of vitrinite. A reflectance value of 0.49 % was obtained from only eight readings and represents a depression in the gradient for the upper part of the well. Light orange to moderate orange spores are present and indicate a higher maturity than this, equivalent to approximately 0.55 % to 0.60 % Ro.

One sample (3740 m) was analysed from the Jurassic section of the well and it is from the Mandal Fm. The sample largely consists of organic rich claystone, with a high amount of bitumen staining, a high amount of liptinitic material forming laminae and a low to moderate amount of phytoclasts, with a good proportion of vitrinite to inertinite. The vitrinite is, however, stained and low reflecting and although an attempt was made to remove low reflecting values from the measured population, the average reflectance value of 0.51 %, obtained from 27 readings, indicates that no vitrinites have been left unaffected by staining. In U.V. light a high amount of fairly dull bituminite can be seen. There is also much semi-amorphous organic matter and liptodetrinite, often forming laminae. Fluorescing liquids are slowly expelled from the cuttings with exposure to U.V. light. A number of spores with light orange and moderate orange fluorescence colours are found. The light orange spores agree with the measured reflectance, but the presence of moderate orange spores suggests a maturity equivalent to 0.6 % Ro and above.

Two samples were analysed from the Skagerrak Fm.. Both have

siltstone and silty claystone lithologies with moderate to high amounts of bitumen staining and liptinite wisps. The uppermost sample has a low amount of phytoclasts and only a trace of vitrinite which has a very stained appearance. In U.V. light a moderate amount of fluorescing organic matter is present, mainly consisting of dully fluorescing bituminite, semi-amorphous organic matter and liptodetrinite. A number of well preserved tasmanites type algae are present and it is likely that much of the degraded fluorescing material is also from tasmanites algae. The algae have yellow-orange to light orange fluorescence colours. Fluorescing liquids pass from hairline cracks in the cuttings during U.V. irradiation. No spores were detected in this sample. The reflectance value of 0.51 % (23 readings), obtained for this sample, does not appear to reflect the maturity expected at this depth and, from the evidence of the high stain and presence of tasmanites algae, can be assumed to be highly depressed, even though low reflecting vitrinites were excluded from the measurements.

The lower Skagerrak Fm. sample (4082 m) has a mixed lithology of silty claystone/siltstone and oxidized claystone and sandstone. The silty claystone contains low to moderate amounts of bitumen stain and liptinitic material. The phytoclast content is low and a low amount of vitrinite is present, including some very low reflecting vitrinite. A reflectance value of 0.56 % was obtained from 16 readings and, again, appears to be depressed. A moderate to high amount of fluorescing organic matter is present, comprising bituminite, semi-amorphous material and liptodetrinite, often in laminae. A few spores are present and these have a moderate orange fluorescence colour.

Two samples were analysed from the Smith Bank Fm. The upper sample contains much oxidized claystone and sandstone but also non-oxidized silty claystone, as in the previous sample. This lithology was measured, as the oxidized lithology is barren of vitrinite, and a reflectance value of

0.57 % was obtained. This is exactly the same as the previous value and indicates that the non-oxidized lithology is caved. The lowermost sample (4385 m) is completely oxidized and barren of organic matter.

From the depth/reflectance profile, a smooth and steadily increasing gradient can be seen for the upper part of the well, down to a depth of 3000 m. Below this, data is poor and shows a very slight increasing trend which is not compatible with the upper gradient. Cretaceous values are caved, whereas Jurassic and Triassic values have been depressed by high amounts of staining and liptinites (including algae) in the host-rocks. The profile in Figure 9 shows that the well becomes moderately mature at approximately 2450 m and fails to reach maturity, even at a depth of 4200 m. By extrapolating the upper part of the profile, where values are confident, it is possible that maturity is reached at approximately 3550 m (agrees well with spore fluorescence colour) and that peak oil generation maturity is reached at about 4300 m.

VISUAL KEROGEN COMPOSITION

Twenty-five samples from this well were examined in transmitted light. All of the samples are shale/claystone and are generally dark coloured (mainly brown-black). The samples range in depth from 3740 m (Mandal Fm.) to 4070 m (Skagerrak/Gassum Fm.) The data is plotted in Figure 10.

The three Mandal Fm. samples (3740 m, 3753 m and 3758 m) have the highest proportion of liptinites of the samples analysed (45 %, 40 % and 40 % respectively). In the uppermost sample liptinite is the dominant component and comprises amorphinite L, liptodetrinite, spores/pollen, algae and dinoflagellates), vitrinite is secondary (40 %, both detrital and amorphous) and inertinite relatively minor (15 % - both detrital and semi-fusinite). The samples from 3753 m and 3758 m contain equal amounts of liptinites (40 %, dominantly liptodetrinite but also amorphous, spore/pollen material and algae) but 3753 m contains more vitrinite (55 %, compared to 50 %, but both are mainly amorphous).

Eight samples from the Farsund Fm. were analysed. These contain less liptinite and more vitrinite than the Mandal Fm. samples. The liptinite content has an approximate decrease with depth from 30 % in the uppermost samples (3764 m, 3770 m) to 10 % at the bottom (3806 m, 3818 m and 3824 m). The vitrinite content increases correspondingly from approximately 60/65 % to 75/80 %. In general the vitrinite component comprises vitrodetrinite and amorphinite V with the amorphous material occasionally dominating. The liptinite material is generally dominated by liptodetrinite with the amorphous content decreasing with depth. Spore/pollen material is present throughout and algae and dinoflagellates occasionally recognized. The inertinite content ranges from 5 to 15 % but is mainly 10 %.

The four Ula Fm. samples have quite varied composition, but

are generally dominated by vitrinite (50 - 75 %, mainly 70 - 75 %) which is mixed detrital and amorphous. The inertinite content increases in these samples and ranges from 10 to 25 %. The liptinite content ranges from 5 to 30 % but is mainly liptodetrinite and spore/pollen material. However, as suggested above it is probable that this material is cavings from the Mandal and/or Farsund Fms. (most probably the latter).

One sample from the Fjerrikslev Fm. was analysed (3899 m). The kerogen is almost identical to the sample above (3881 m) and hence a similar origin for the material (i.e. cavings) must be suspected. The sample is dominated by vitrinite (70 %, mixed amorphinite V and vitrodetrinite) with secondary inertinite (20 %, mainly inertodetrinite and semifusinite).

Nine samples from the Skagerrak/Gassum Fm. were analysed. All are black to brown-black claystone and all contain 70 - 80 % vitrinite (mainly amorphinite V but also vitrodetrinite). The inertinite content is generally secondary (mainly 15 or 20 % and mainly inertodetrinite). The liptinite content is generally detrital but includes more spore/pollen material towards the base.

The composition of the kerogen in this well is difficult to evaluate. There is little fluorescent material below the Mandal Fm. and top Farsund Fm. and little recognizable liptinitic debris. However, it may be that depending on the maturity, the liptinite component is simply difficult to observe/differentiate and that it is underestimated. The similarity of the samples suggests that large scale caving could have been a problem. Kerogen compositions of the Skagerrak/Gassum Fm. appear to be sufficiently different to those above to suggest that at least some of the material is in-situ.

The spore colour indices (SCI's) are difficult to evaluate

confidently but appear to suggest that the sequence analysed ranges from SCI 6 to SCI 7 (early oil window to peak oil generation). However, the data is very questionable and this together the mixture and low variability may be due to caving.

GAS CHROMATOGRAPHY - MASS SPECTROMETRY

Three samples in this well were analysed by GC - MS. These were one from Farsund Fm., one from Skagerrak/Gassum Fm. and one from the Zechstein Group.

Saturated Hydrocarbons

Terpanes

The M/Z 163 fragmentograms show mainly noise peaks. The compound signals are so weak that it is impossible to evaluate them. A similar situation is also found for the M/Z 177 fragmentograms. The only peak that can be identified is the C₂₉ αβ hopane peak. The M/Z 191 fragmentograms show the tricyclic terpanes to be minor compounds for all the three samples. The pattern for the triterpanes varies considerably for the three samples, showing that the hydrocarbons are generated from different types of kerogen. The M/Z 205 fragmentograms show almost entirely noise peaks. The fragmentograms of the molecular ions are not very clear due to the low signal to noise ratio, but verify what has been discussed above, i.e. the hydrocarbons in the three samples have different origins.

Steranes

The M/Z 149 fragmentograms show very low signal to noise ratio and discussion is therefore not undertaken. The M/Z 189 and 259 fragmentograms show that the C₂₇ rearranged steranes are most abundant in all the three samples. Significant variation is found between the three samples, in agreement with the results from the terpane analyses. The M/Z 217 and M/Z 218 fragmentograms show the same as the

other sterane fragmentograms, i.e. the C_{27} rearranged steranes are most abundant. It is also noticed that the C_{29} regular steranes are more abundant in the Zechstein sample than in the others. The fragmentograms show clear differences between the three samples. The fragmentograms of the molecular ions verify what has been discussed above, i.e. the C_{27} rearranged steranes are the most abundant compounds in all the three samples, which show completely different patterns. The hydrocarbons in the three samples therefore originate from different types of kerogen.

Bicyclanes

The M/Z 123, 179 and 193 fragmentograms show a certain degree of loss due to evaporation, but different patterns are seen for the three samples showing the same as the rest of the saturated hydrocarbon analyses, i.e. they originate from different types of kerogen.

Aromatic Hydrocarbons

Alkyl Benzenes

The M/Z 106 and 134 fragmentograms for the C_2 - and C_4 -substituted benzenes show a series of doublets for C_2 -substituted benzenes for all the three samples, together with a single peak at approximately 41 minutes retention time. The sample from 4070 m (Skagerrak/Gassum Fm.) is slightly different from the other two samples. The M/Z 134 fragmentograms show a large number of unidentified peaks and no further evaluation is undertaken.

Naphthalenes

The M/Z 142 fragmentograms show that in the samples from 3806 m and 4070 m the methyl naphthalenes have been lost (probably due to evaporation), while in the sample from 4070 m the 2 methyl naphthalene is slightly smaller than the 1 methyl naphthalene. The M/Z 156 and M/Z 170 fragmentograms show only minor differences for the three samples for the C₂ and C₃ naphthalenes.

Phenanthrenes

The M/Z 178, 192, 206 and 220 fragmentograms (for phenanthrene, methyl phenanthrenes, C₂ phenanthrenes and C₃ phenanthrenes respectively) show only minor variation between the three samples.

Dibenzothiophenes

The M/Z 198 and 212 fragmentograms, for the methyl dibenzothiophenes, show that the three samples have similar patterns, typical for well mature samples.

Aromatic Steranes

In the M/Z 231 fragmentograms, the C₂₀ and C₂₁ components are dominant for all the three samples. There are only minor differences between the samples. In the M/Z 253 fragmentograms, for the monoaromatic steranes, the C₂₁ and C₂₂ components are large compared with the C₂₇ - C₂₉ components. There is a slight difference between the sample from 4433 m (Zechstein) and the two others.

CONCLUSIONS

Based on the various analyses undertaken on samples from this well the following conclusions were made:

1. Source Rock Potential

Cretaceous (- 3731 m)

Cromer Knoll Group (3332 - 3731 m)

The Cromer Knoll Group consists mainly of green-grey to dusky yellow-brown and medium dark grey shale with a low TOC content. There is some variation in the TOC data, but the analysed samples have an average value of 0.4 %. The petroleum potential is very low for all of the samples, which contain kerogen type IV. This data implies that the Cromer Knoll Group does not have any potential as a source rock for hydrocarbons.

Jurassic (3731 - 3895 m)

Tyne Group (3731 - 3825 m)

Mandal Formation (3731 - 3763 m)

The interval consists mainly of a brown-black carbonaceous and micaceous shale with TOC contents varying between 3.4 and 7.0 %, with an average of 5.5 %.

The petroleum potential is high for the analysed samples,

(13.1 to 27.4 mg HC/g rock, with an average of 20.4 mg HC/g rock). The hydrogen indices are high for most of the samples, taking into account the relatively high maturity (see below), indicating that the samples contain kerogen type II. These data are verified by other data such as pyrolysis - gas chromatography and extraction data. As the logs were not available during analysis, mixing of material from Mandal Fm. and Farsund Fm. has taken place. The gas chromatogram of the uppermost analysed sample shows a smooth n-alkane distribution with a CPI of 1.0. The data indicates that the formation is in the oil window, having a rich potential as a source rock for oil.

Farsund Formation (3763 - 3825 m)

The interval consists mainly of a dark grey to brown-black, carbonaceous, micaceous, silty shale. The TOC contents are lower than for the Mandal Fm. (2.2 - 3.5 % with an average of 3.0 %). The petroleum potential is also lower than for the Mandal Fm. (6.5 - 14.3 with an average of 9.0 mg HC/g rock). These data indicate a poorer generation potential than for the Mandal Fm. The kerogen is also of a poorer quality with an average hydrogen index of 220 mg HC/g TOC, indicating a mixture of kerogen type II/III at this maturity level. This agrees with the thermal extraction pyrolysis gas chromatography data, which clearly indicate a mixture of kerogen type II/III. The extraction data show a slightly lower extractability for the sample from the Farsund Fm. than for the sample which contained some material from the Mandal Fm. This, together with the slightly higher CPI value, agrees with the suggestion of some input of terrestrial matter. Based on the different analytical data, the Farsund Fm. is rated as having a good/rich potential as a source rock for oil and gas.

Vestland Group (3825 - 3895 m)

Ula Formation (3825 - 3895 m)

A sandstone formation with no source rock potential.

Fjerrikslev Formation (3895 - 3910 m)

This is another shale formation consisting mainly of black to brown-black, carbonaceous and micaceous shale, with TOC contents of 2.0 - 2.5 %. The petroleum potential varies from 7.2 - 10.5, with an average of 8.8 mg HC/g rock. The hydrogen indices are slightly higher than for the Farsund Fm., but indicate a mixture of kerogen type II/III. This agrees with data from thermal extraction - pyrolysis - gas chromatography. Based on various analyses, this formation is rated as having a good to rich potential as a source rock for oil and gas.

Some siltstone samples from this formation were also analysed. These do not have any potential as a source rock for hydrocarbons.

Skagerrak/Gassum Formation (3910 - 4145 m)

This interval consists mainly of a black to brown-black, carbonaceous, micaceous, silty shale together with some interbedded brown-grey to green-grey siltstone. The shale has TOC contents between 2.5 and 3.5 % and a petroleum potential varying between 7.1 and 13.0, with an average value of 9.6 mg HC/g rock. The hydrogen index shows an average value of 232 for the shale samples in this formation, indicating a mixture of kerogen type II/III. These data agree with the data from the thermal extraction - pyrolysis - gas chromatography data which also show a

mixture of kerogen type II/III. There are some small variations between the samples above 4000 m and those below, but the differences are too small to be significant. The extraction data also agree with the rest of the data, showing that the samples have a high extractability. The percentage of hydrocarbons is higher for these samples than for the Jurassic samples. This might be due to a higher maturity. The gas chromatograms of the saturated hydrocarbon fractions show a smooth, unimodal, distribution typical for well mature hydrocarbons. Based on the analytical data, the shale in the Skagerrak/Gassum Fm. has a rich potential as a source rock for oil and gas.

The siltstone in this formation does not have any potential as a source rock for hydrocarbons.

Smith Bank Formation (4145 - 4393 m)

The lithology and the analytical data of the samples from the Smith Bank Fm. are similar to those for the Skagerrak/Gassum Fm. and the rating is therefore the same, i.e. the shale has a rich potential for oil and gas, whilst the siltstone does not have any potential as a source rock for hydrocarbons.

Zechstein Group (4393 - 4432 m)

The anhydrite in this group does not have any source rock potential.

2. Generation and Migration

The analyses of the different shale sequences of Jurassic and older, in this well, show that all of these are generating well mature hydrocarbons. Migrated hydrocarbons

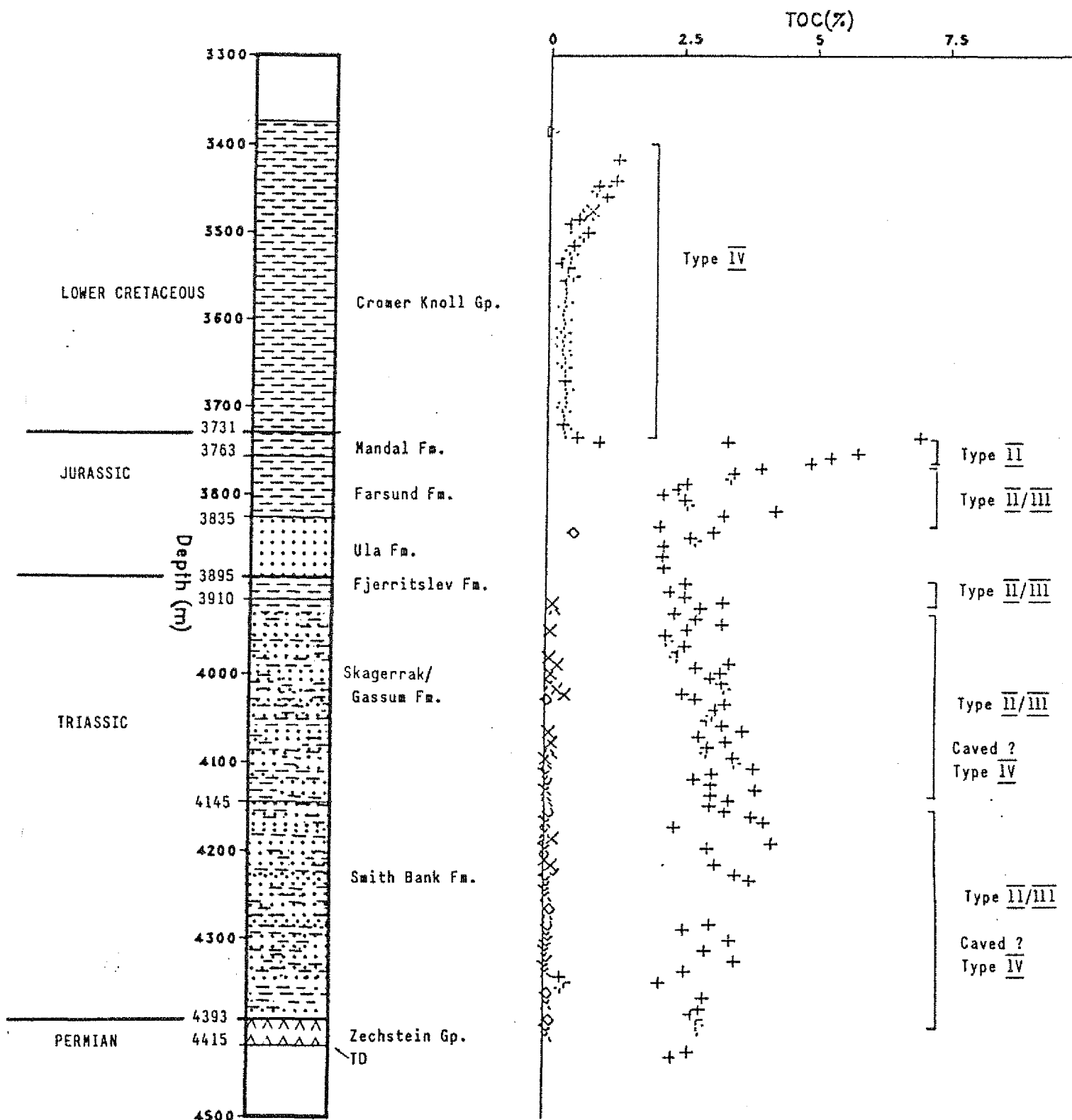
are detected in the one sandstone sample analysed from the Ula Fm.

3. Maturity

There are some discrepancies between the different maturity parameters. The Tmax indicates that the Jurassic and older samples have an oil window maturity where the samples from the Skagerrak/Gassum Fm. and Smith Bank Fm. are probably at peak oil generation. This agrees with the extraction data and the gas chromatographic data, (both the saturated and aromatic hydrocarbons). It also agrees with the spore fluorescence colour, which is 5 to 6 for this depth. It does not, however, agree with the vitrinite reflectance data. The measured samples contain large amounts of liptinite. This, and the hydrocarbon staining, might have decreased the vitrinite results somewhat, so the measurements of approximately 0.6 % should probably be 0.7 - 0.8 %.

Figure: 1

TOC Data for Well NOCS 7/12-5



- + Shales
- X Siltstones
- O Coals
- ▷ Carbonates
- ◊ Sandstones
- ⊠ Anhydrite

Figure: 2

Production Index Data for Well NOCS 7/12-5

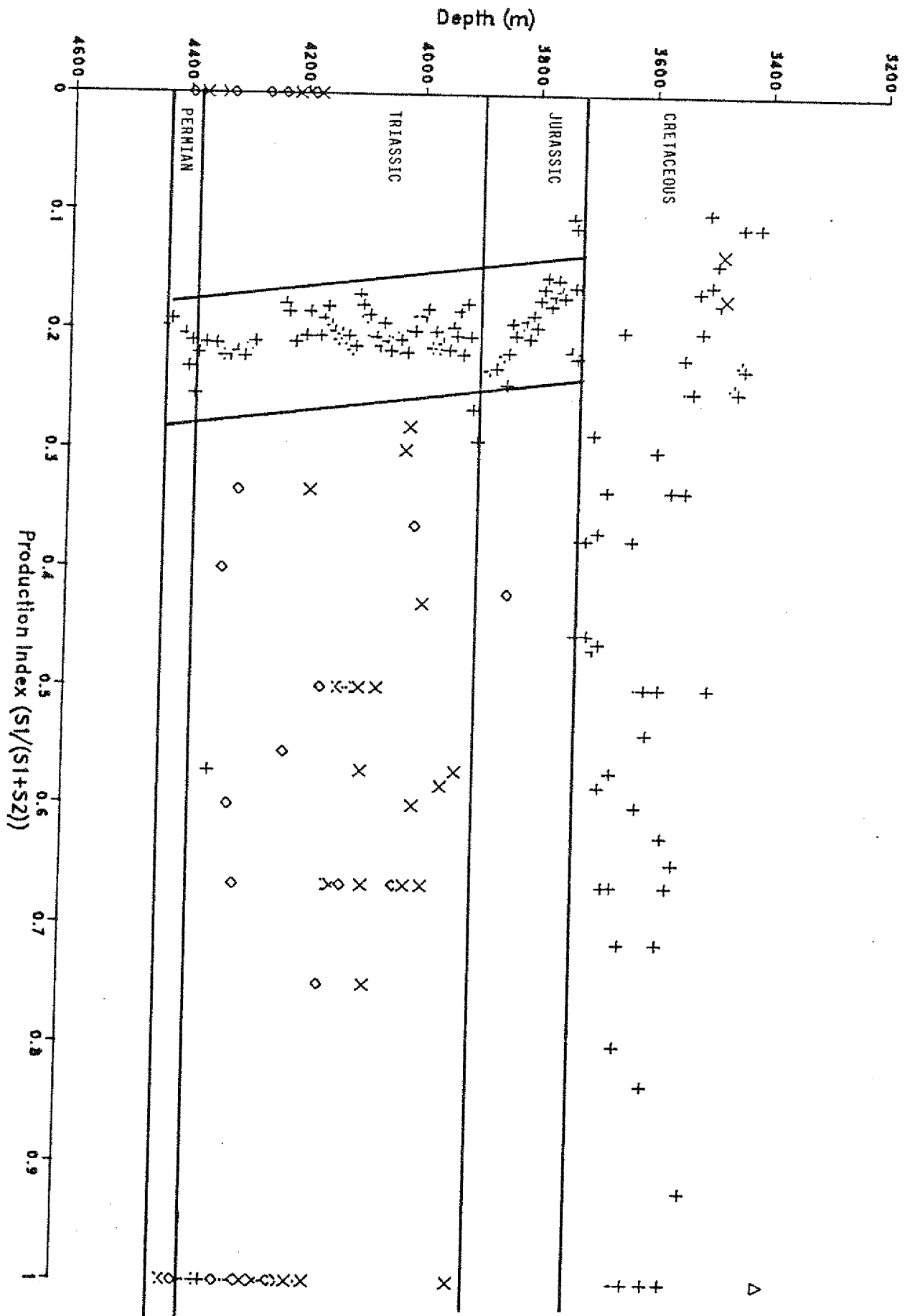
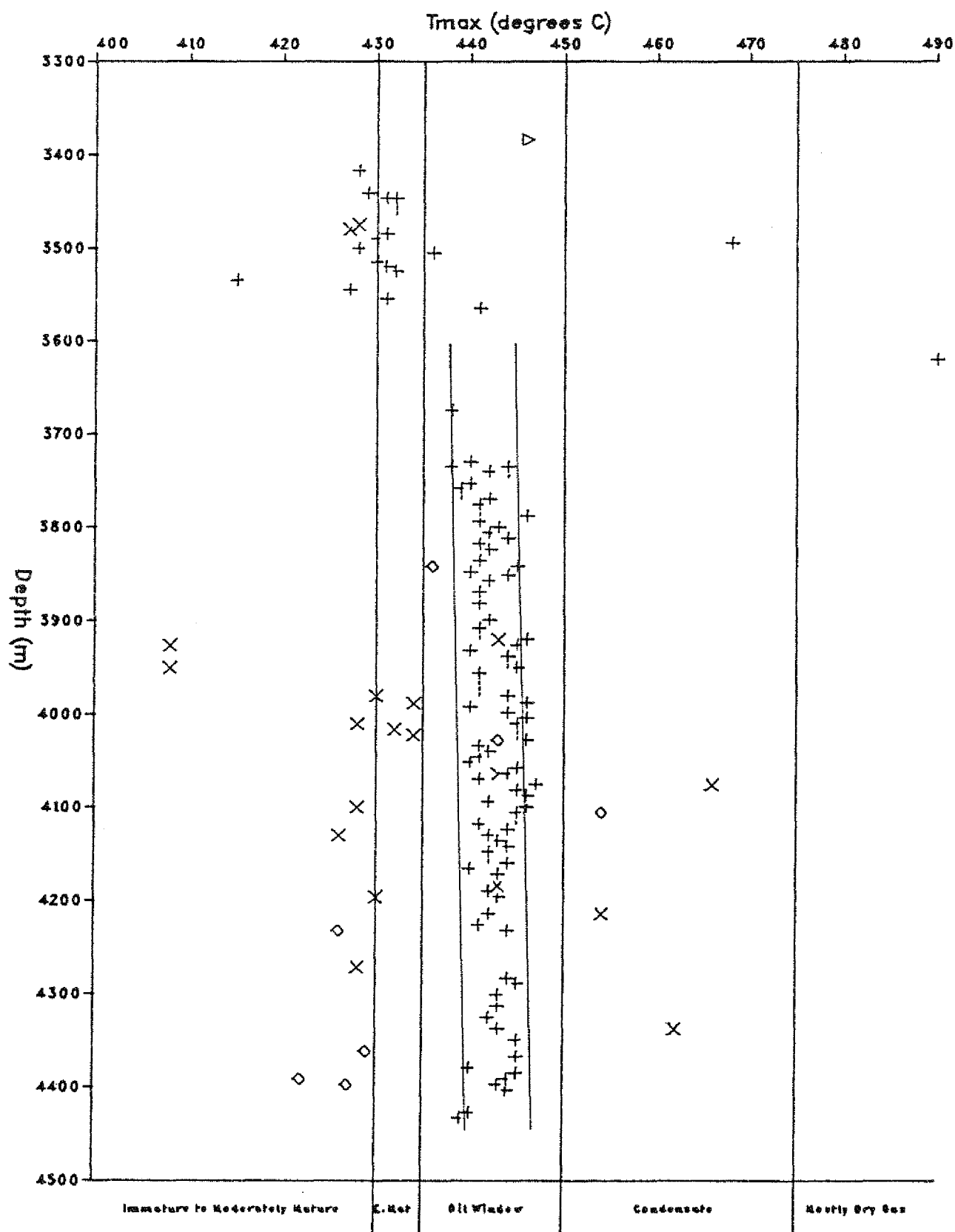


Figure: 3

Client: VARIOUS

Tmax Data for Well NOCS 7/12-5



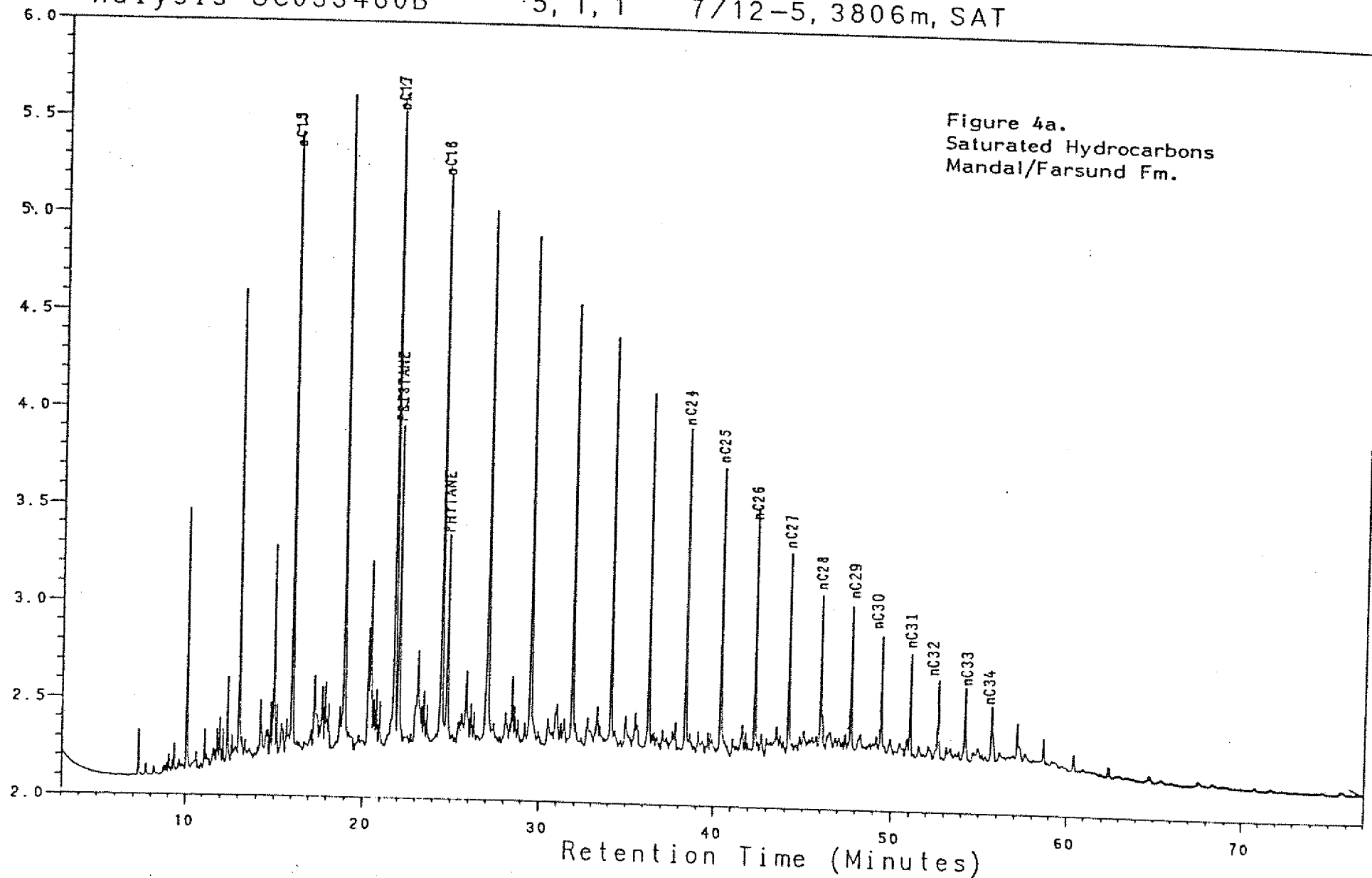
analysis SC033460B

5, 1, 1

7/12-5, 3806m, SAT

Intensity (mV)

Figure 4a.
Saturated Hydrocarbons
Mandal/Farsund Fm.

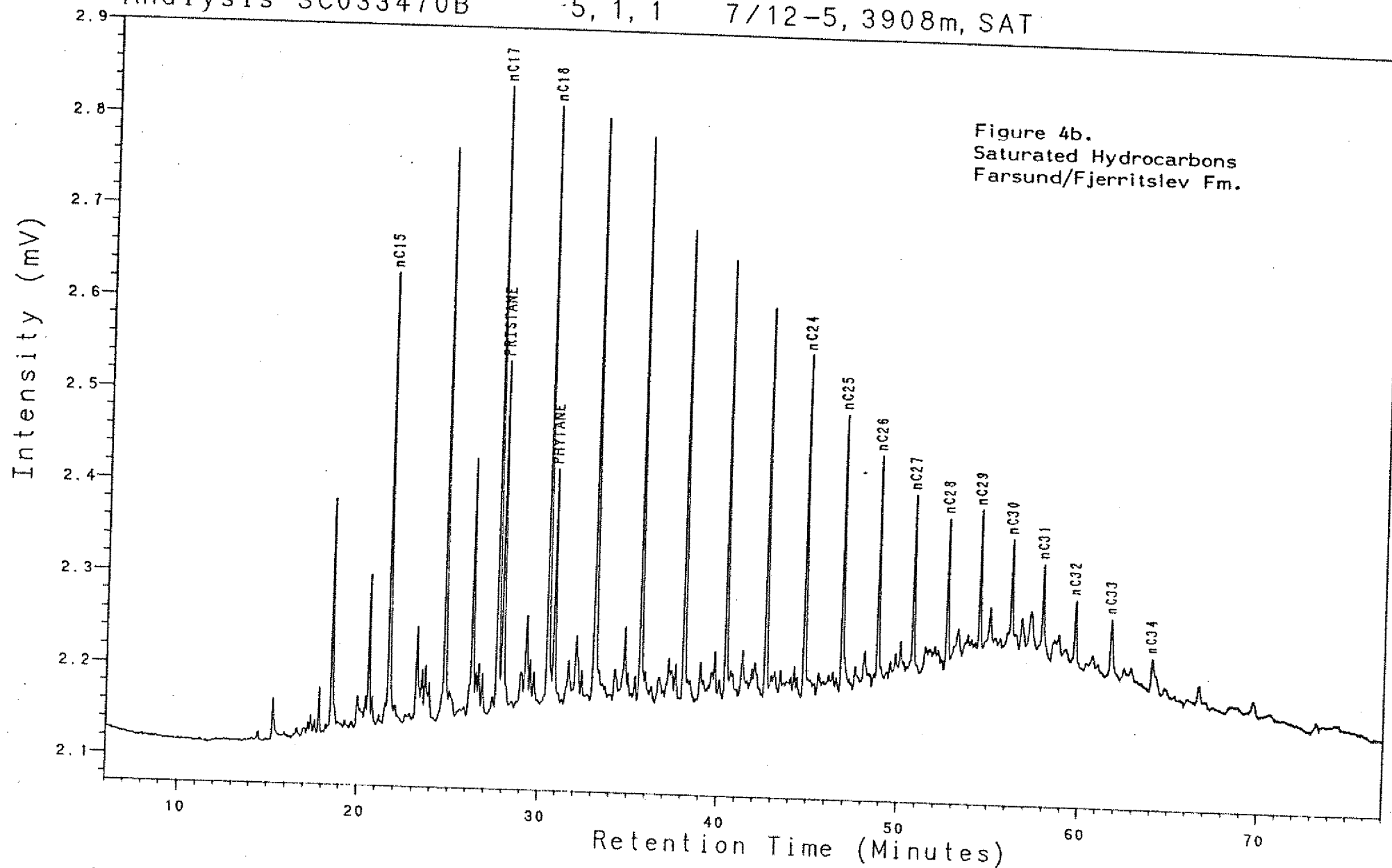


NOCS 7/12-b 3806m
SATURATED GC
Composite sample

Analysis SC033470B

5, 1, 1

7/12-5, 3908m, SAT

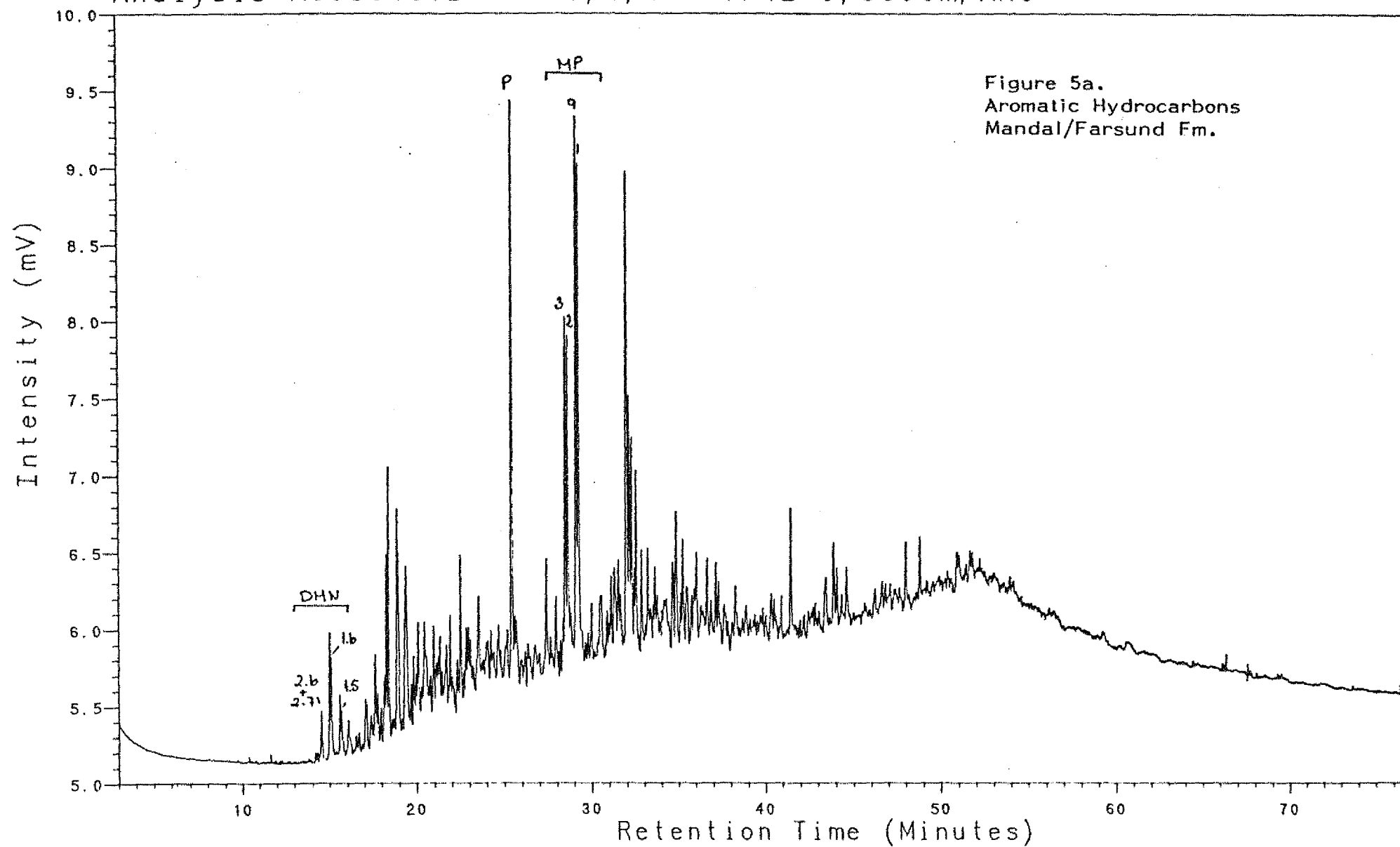


NOCS 7/12-5 3908m
SATURATED GC
Composite sample

Analysis AC033460B

8, 1, 1

7/12-5, 3806m, ARO



NOCS 7/12-5 3806m
AROMATIC GC (FID)
Composite sample

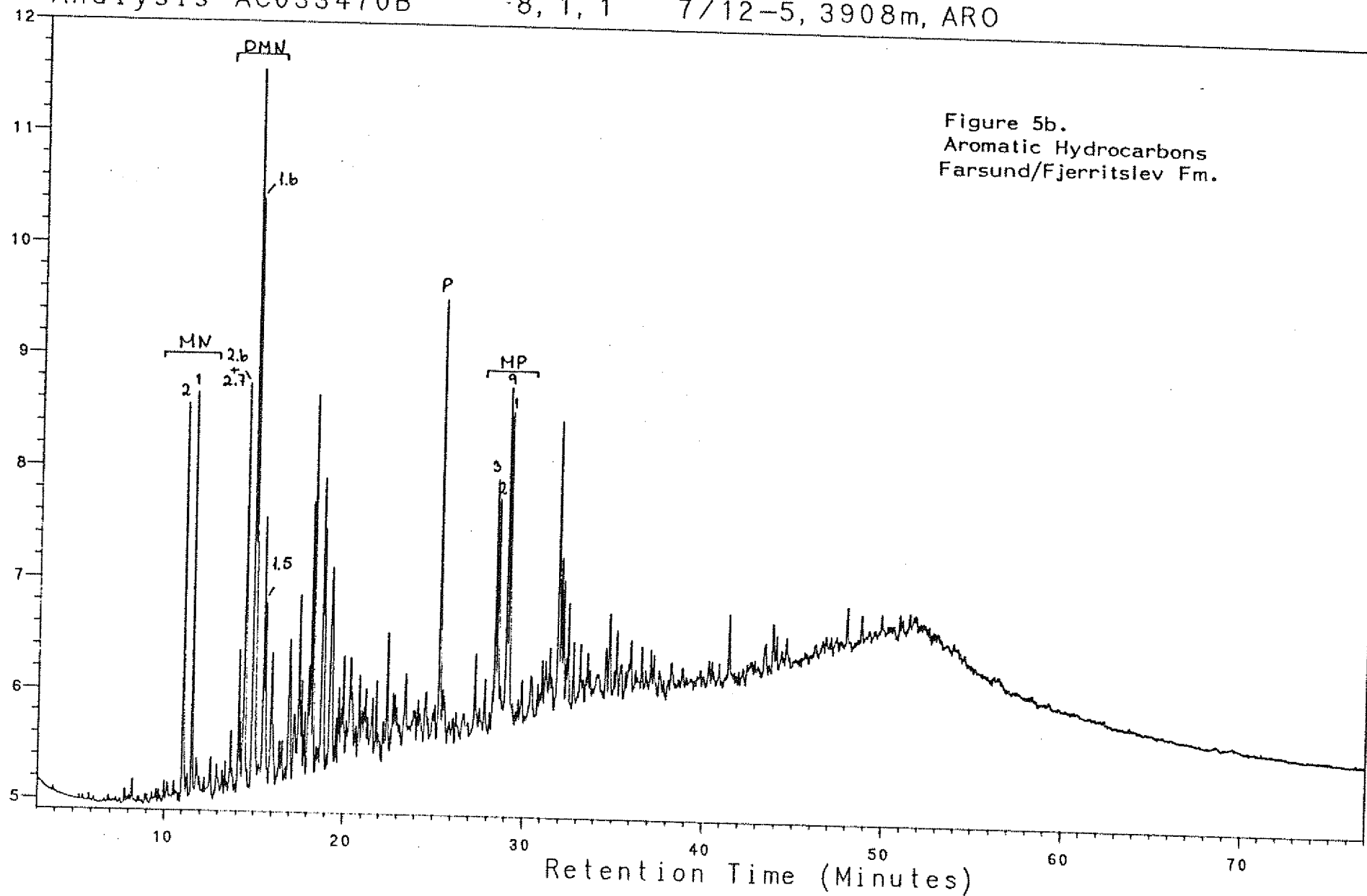
Analysis AC033470B

-8, 1, 1

7/12-5, 3908m, ARO

Intensity (mV)

Figure 5b.
Aromatic Hydrocarbons
Farsund/Fjerrikslev Fm.

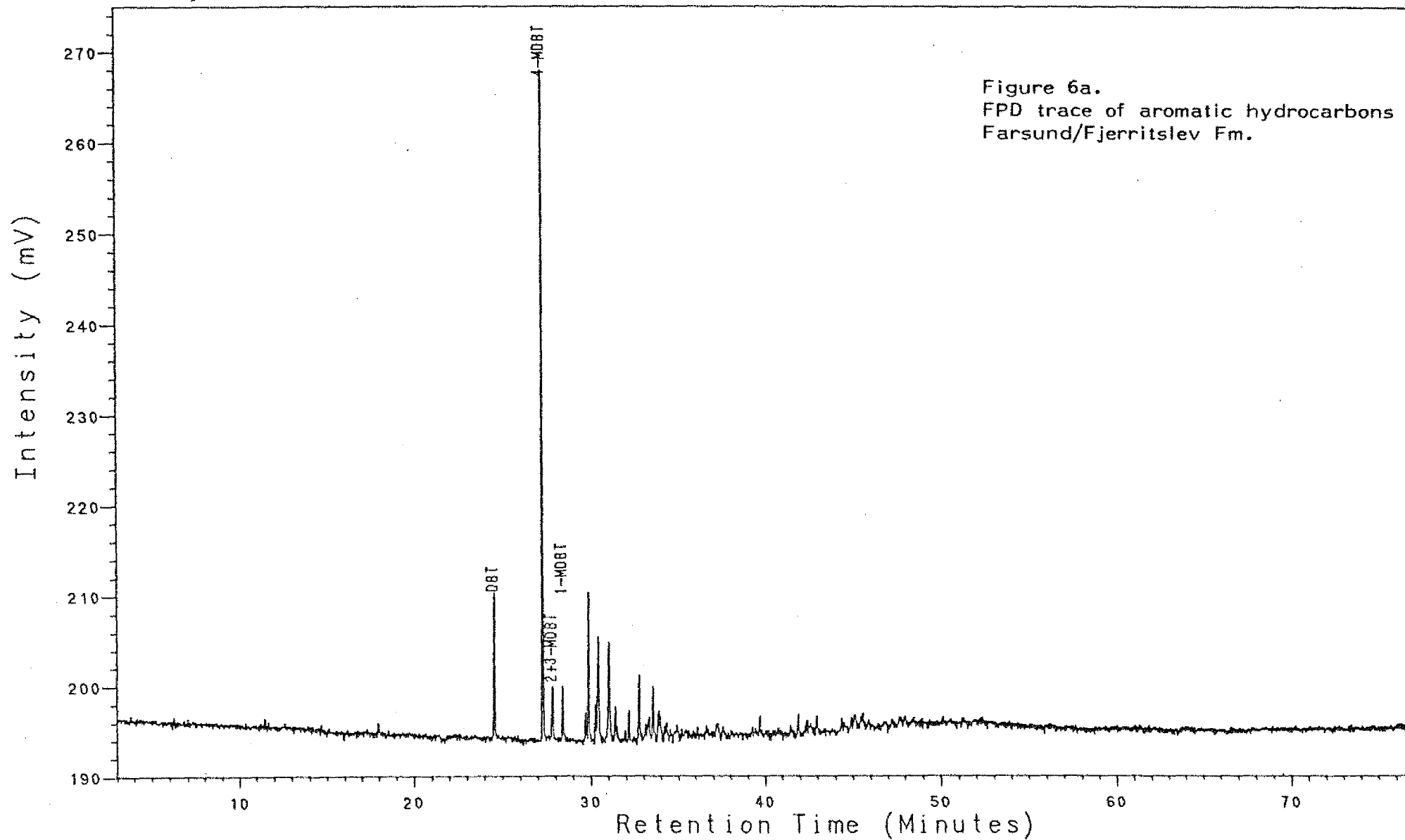


NOCS 7/12-5 3908m
AROMATIC GC (FID)
Composite sample

Analysis AC033470B

-9, 1, 1

7/12-5, 3908m, ARO

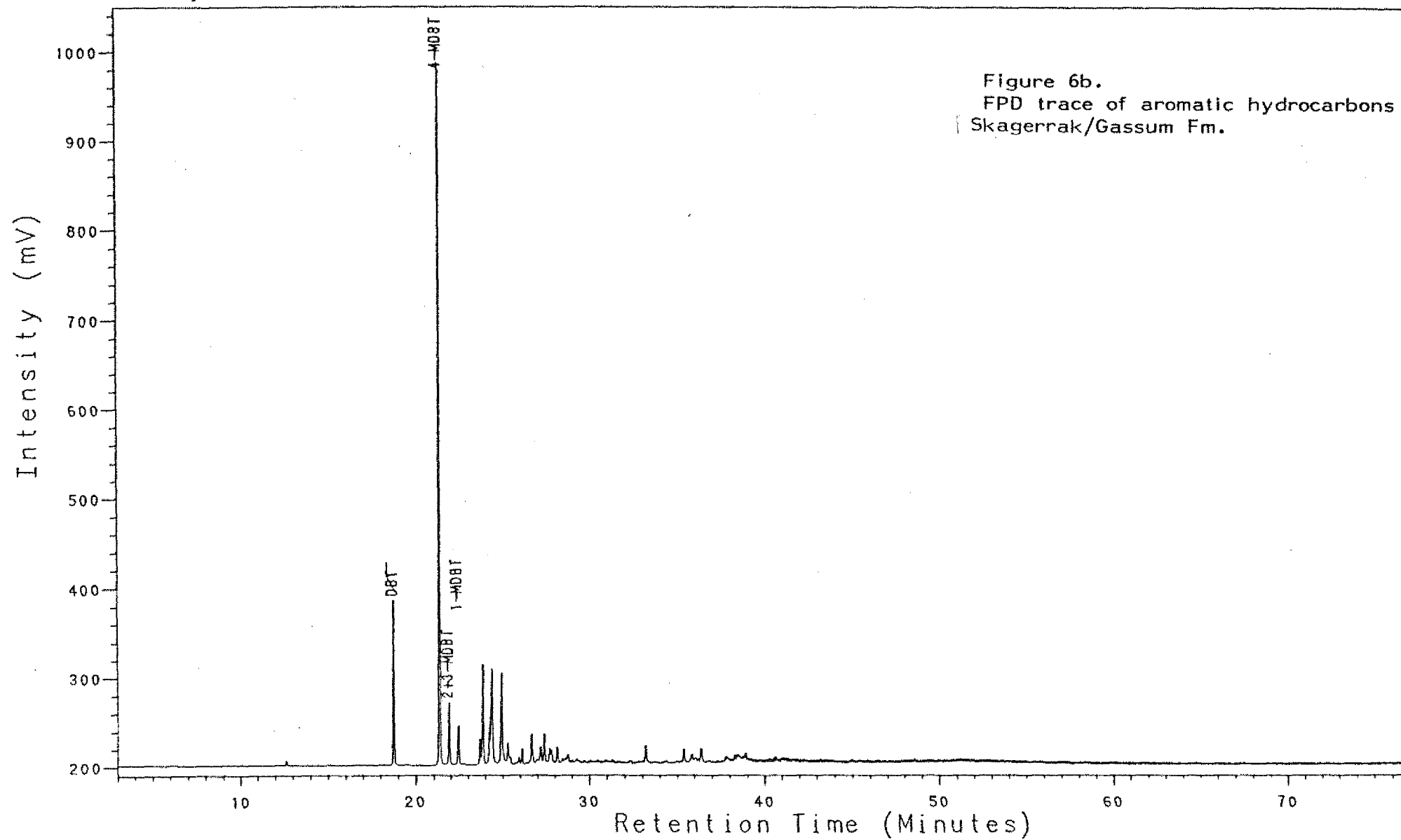


NOCS 7/12-5 3908m
AROMATIC GC (FPD)
Composite sample

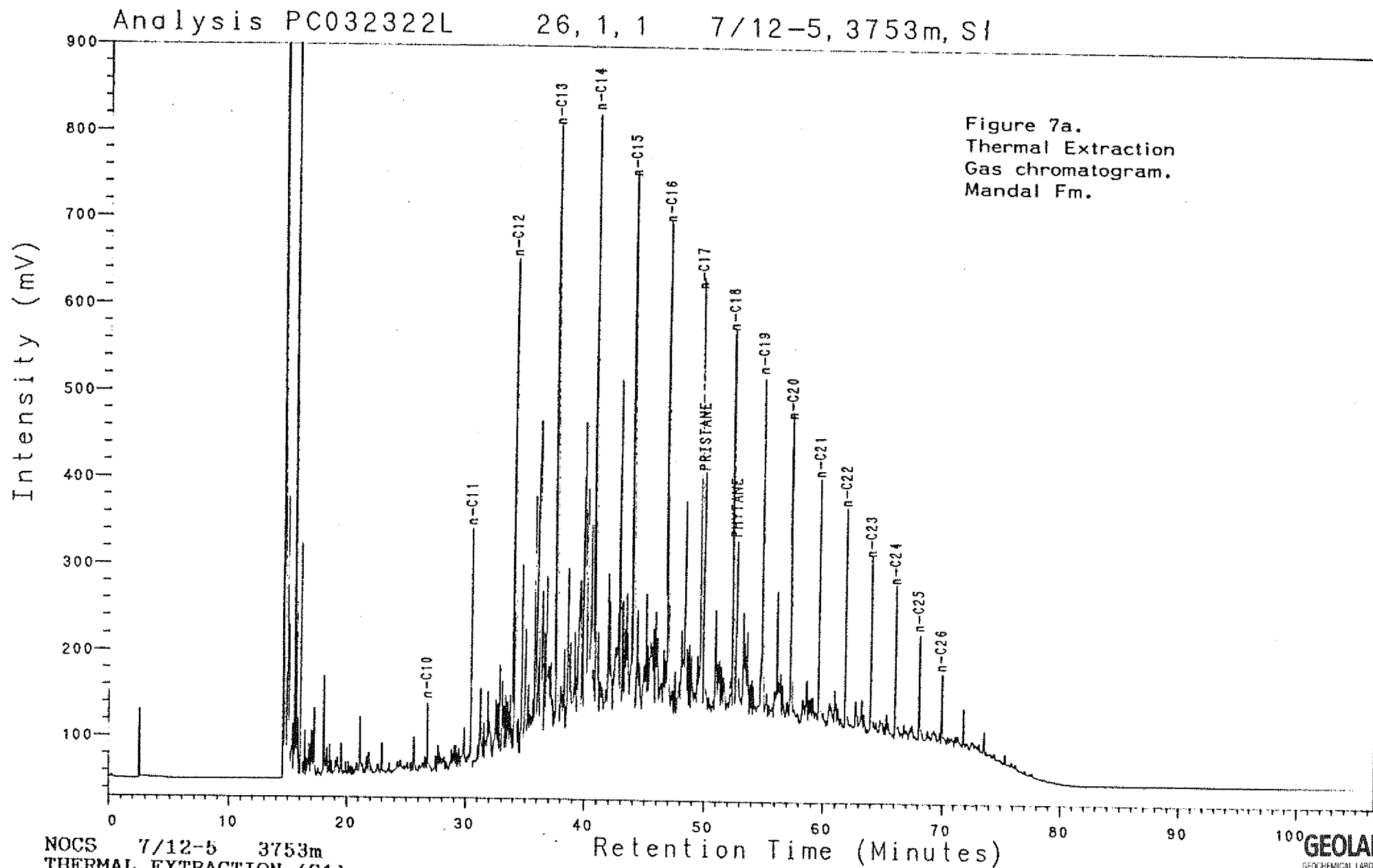
Analysis AC033490B

9, 1, 1

7/12-5, 4070m, ARO



NOCS 7/12-5 4070m
AROMATIC GC (FPD)
Composite sample

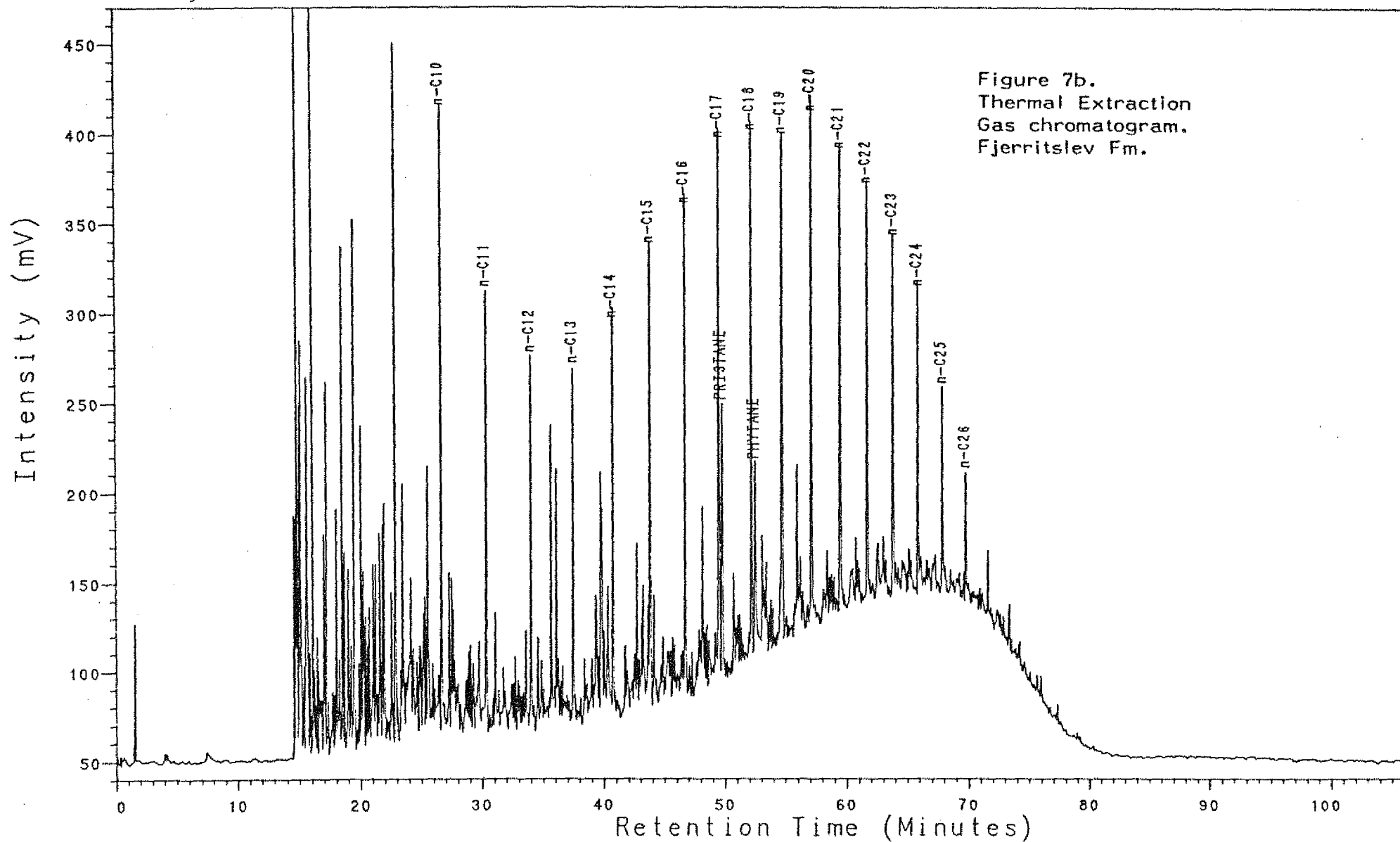


NOCS 7/12-5 3753m
THERMAL EXTRACTION (S1)
CLST:brn blk

Analysis PC032542L

26, 1, 1

7/12-5, 3908m, S1

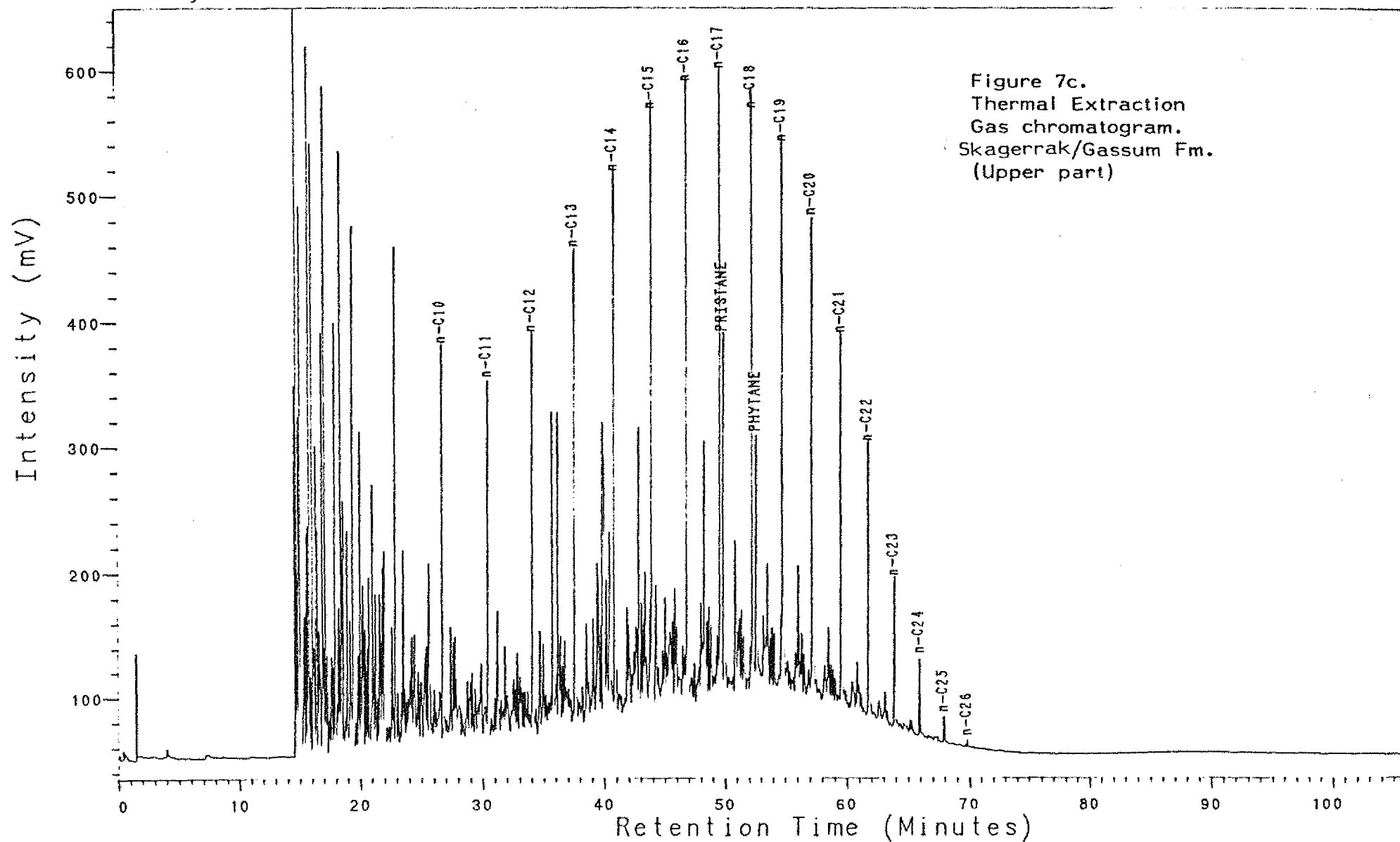


NOCS 7/12-5 3908m
THERMAL EXTRACTION GC (S1)
CLST:brn blk

Analysis PC032552L

26, 1, 1

7/12-5, 3914m, S1

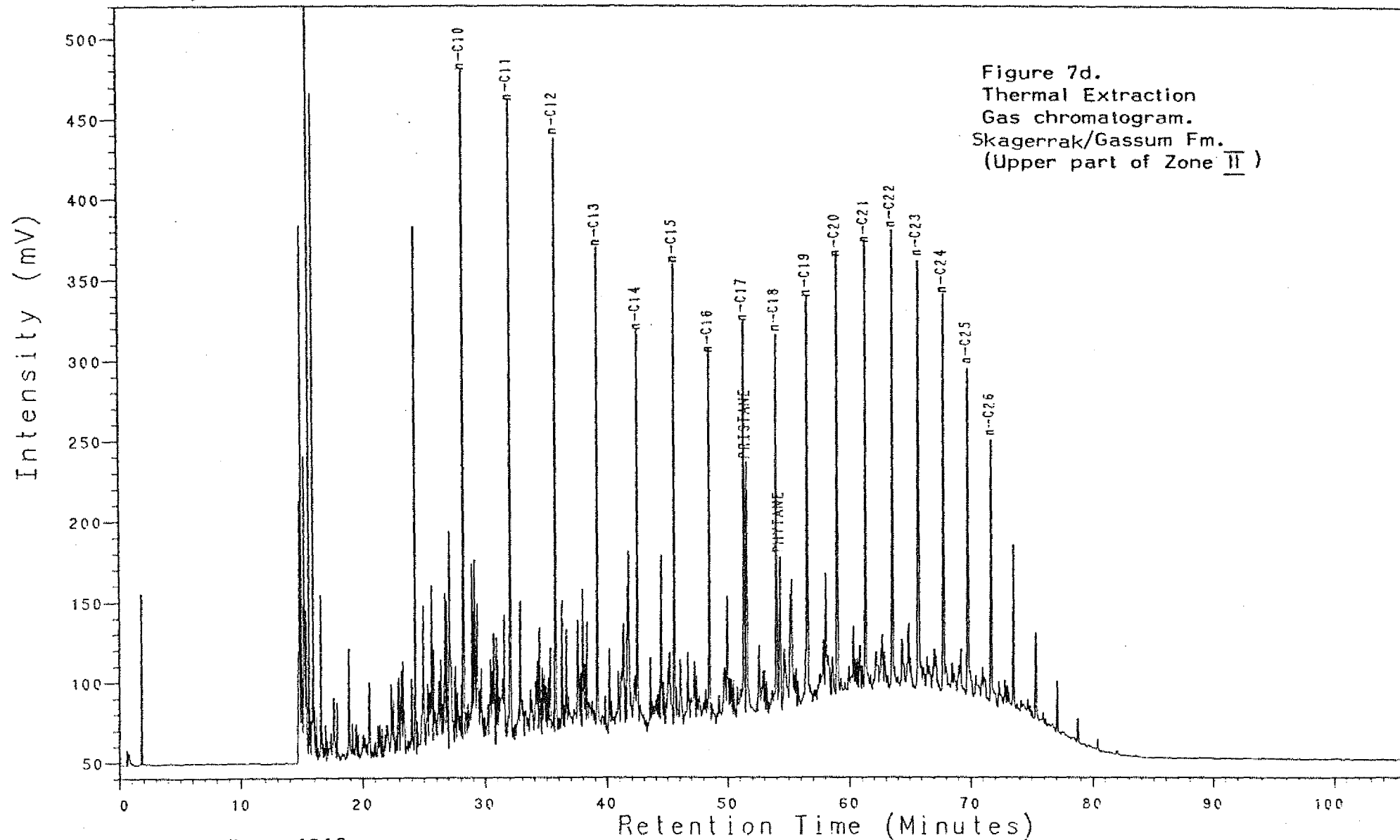


NOCS 7/12-5 3914m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032714L

24, 1, 1

7/12-5, 4010m, S1

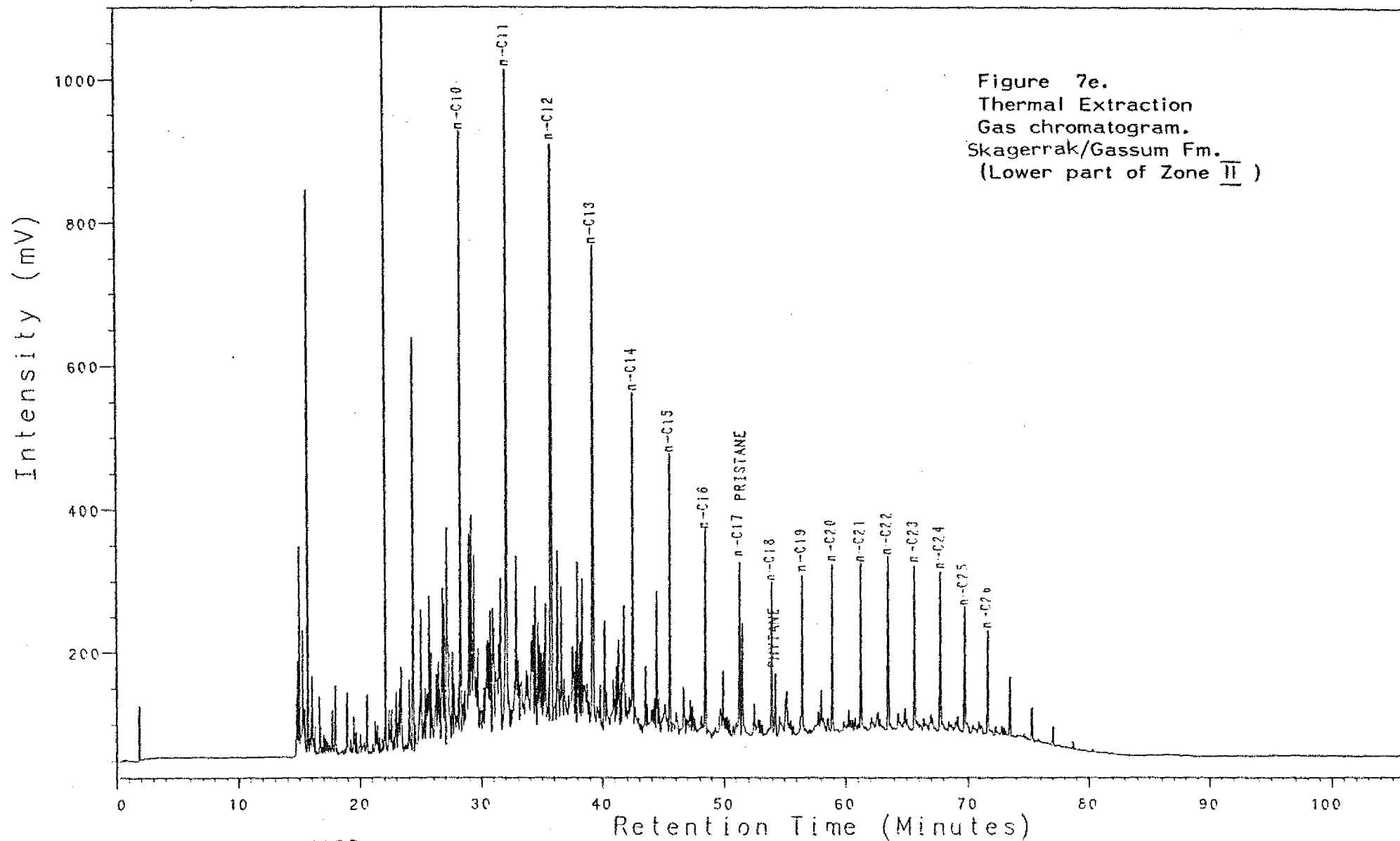


NOCS 7/12-5 4010m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032922L

24, 1, 1

7/12-5, 4136m, S1

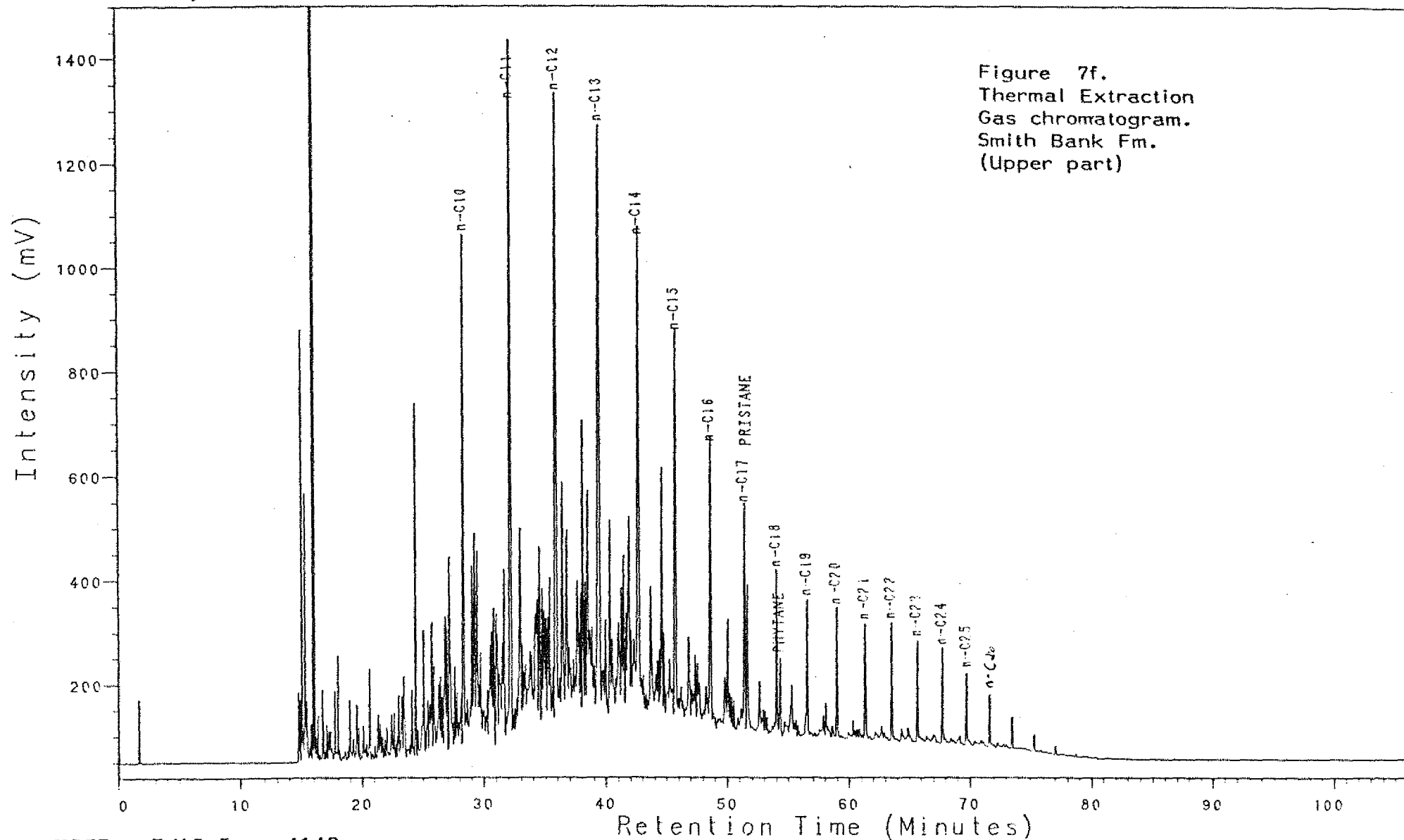


NOCS 7/12-5 4136m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032941L

24, 1, 1

7/12-5, 4148m, S1

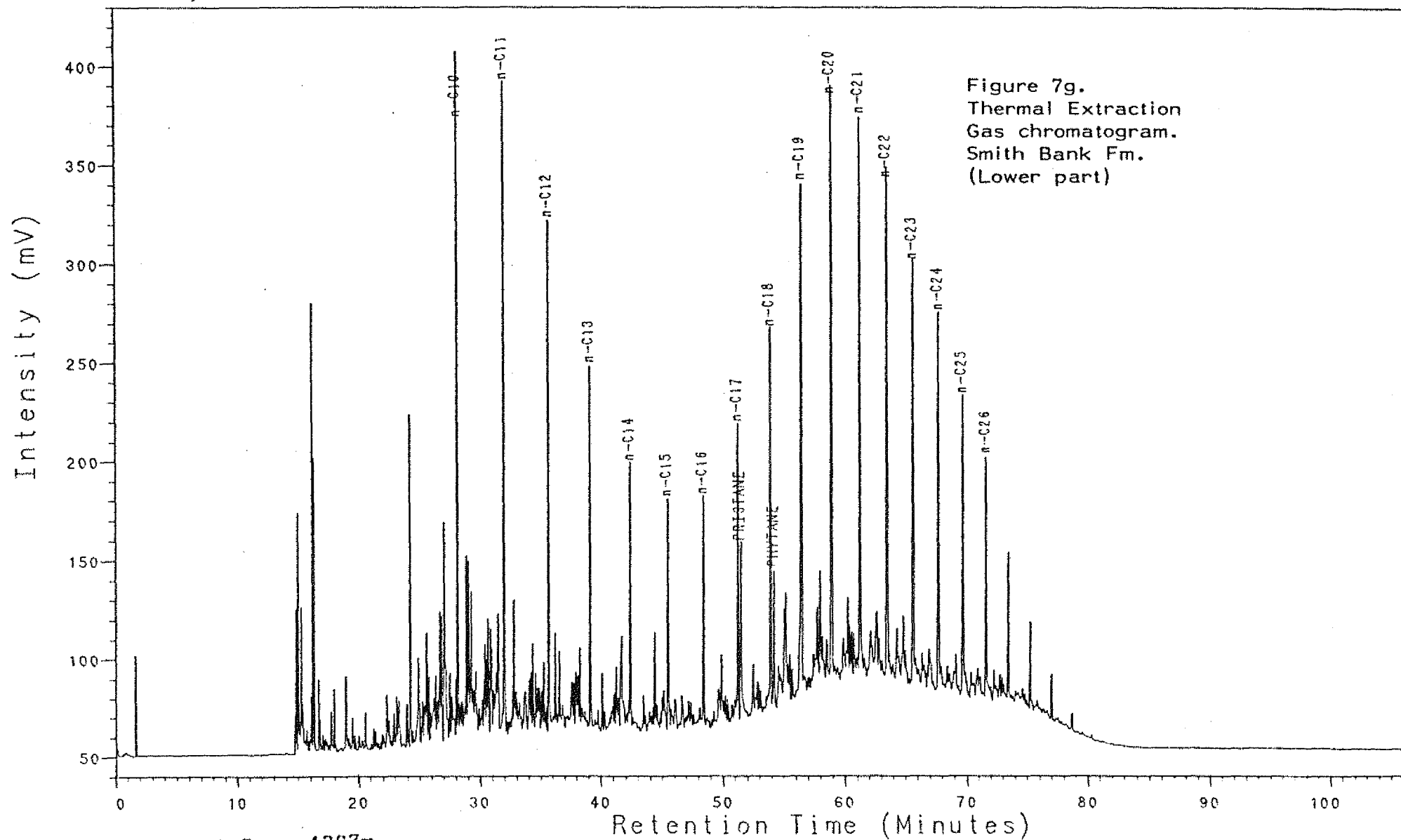


NOCS 7/12-5 4148m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033314L

24, 1, 1

7/12-5, 4367m, S1

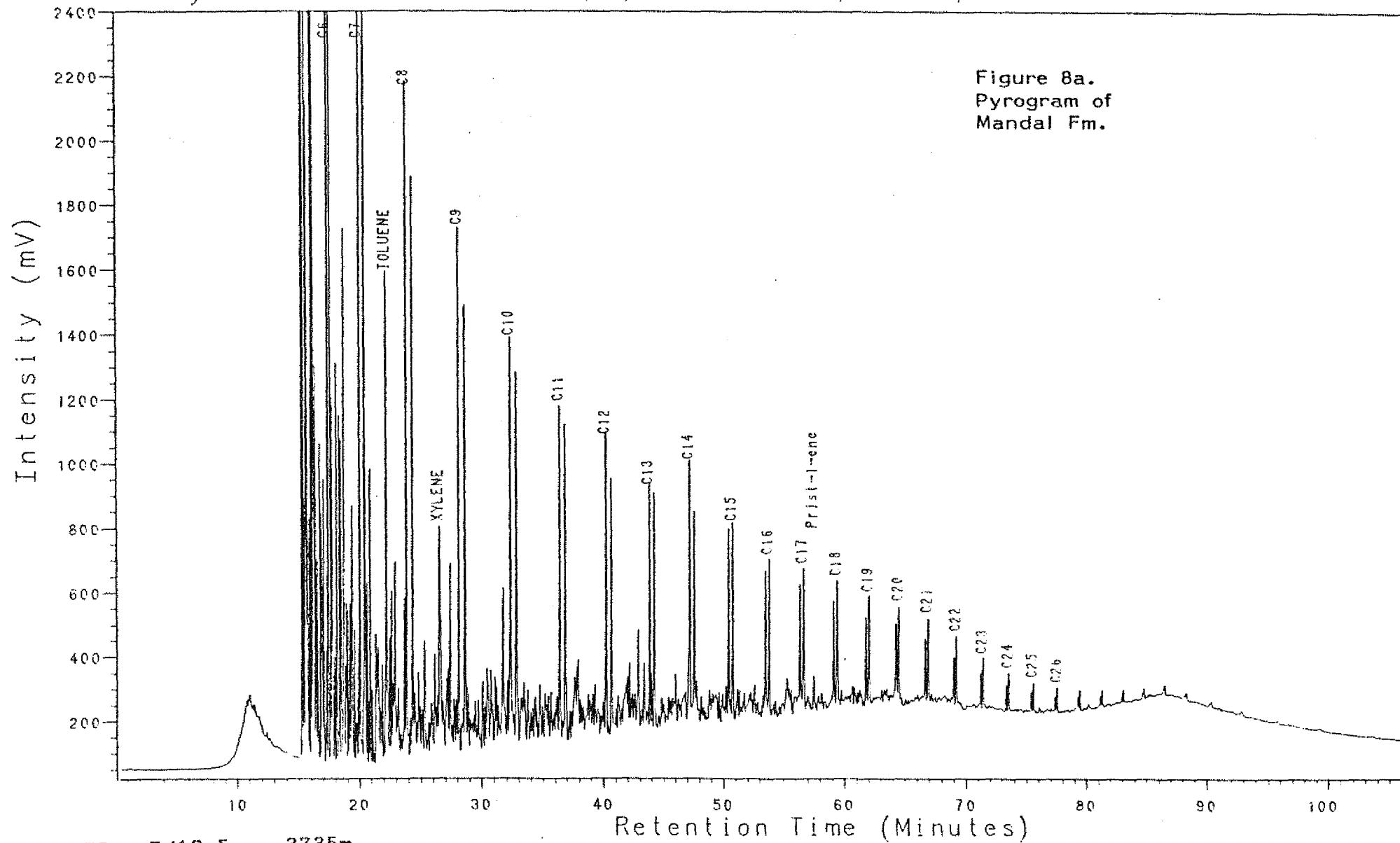


NOCS 7/12-5 4367m
THERMAL EXTRACTION GC (S1)
CLST: ol gy to blk

Analysis PC032301L

23, 1, 1

7/12-5, 3735m, S2

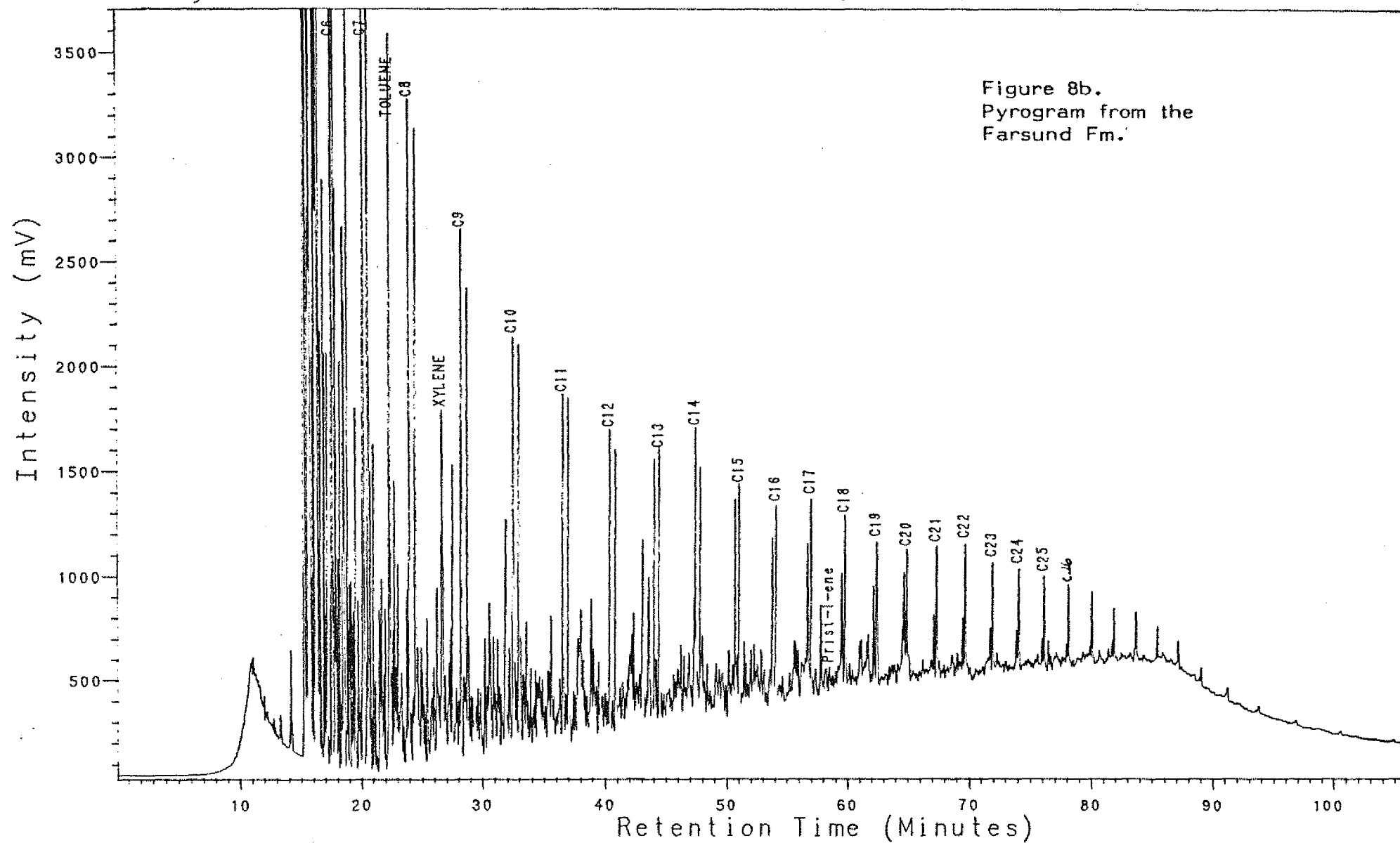


NOCS 7/12-5 3735m
PYROLYSIS GC (S2)
CLST: brn blk

Analysis PC032372L

25, 1, 1

7/12-5, 3782m, S2

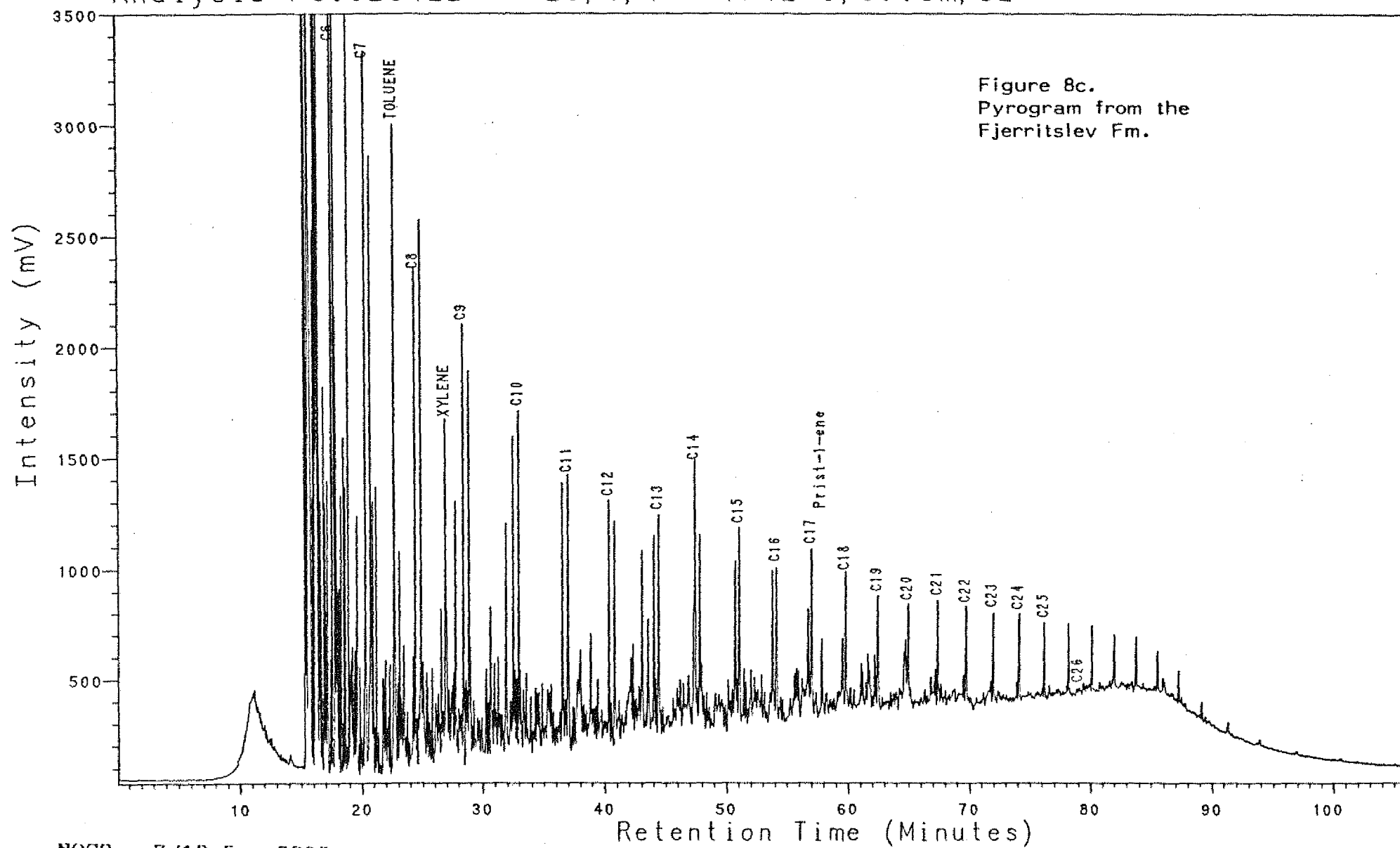


NOCS 7/12-5 3782m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032542L

25, 1, 1

7/12-5, 3908m, S2

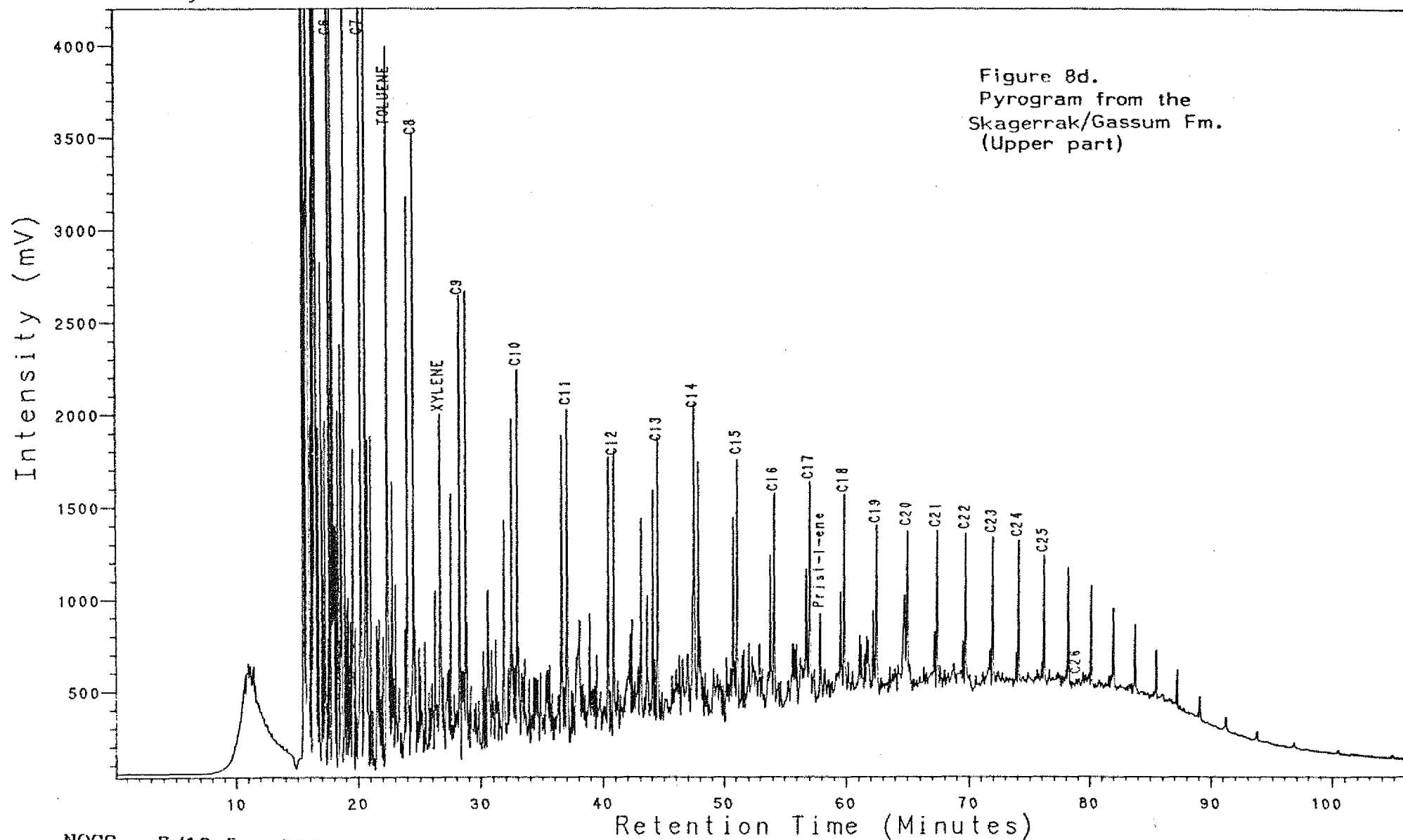


NOCS 7/12-5 3908m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032593L

25, 1, 1

7/12-5, 3938m, S2

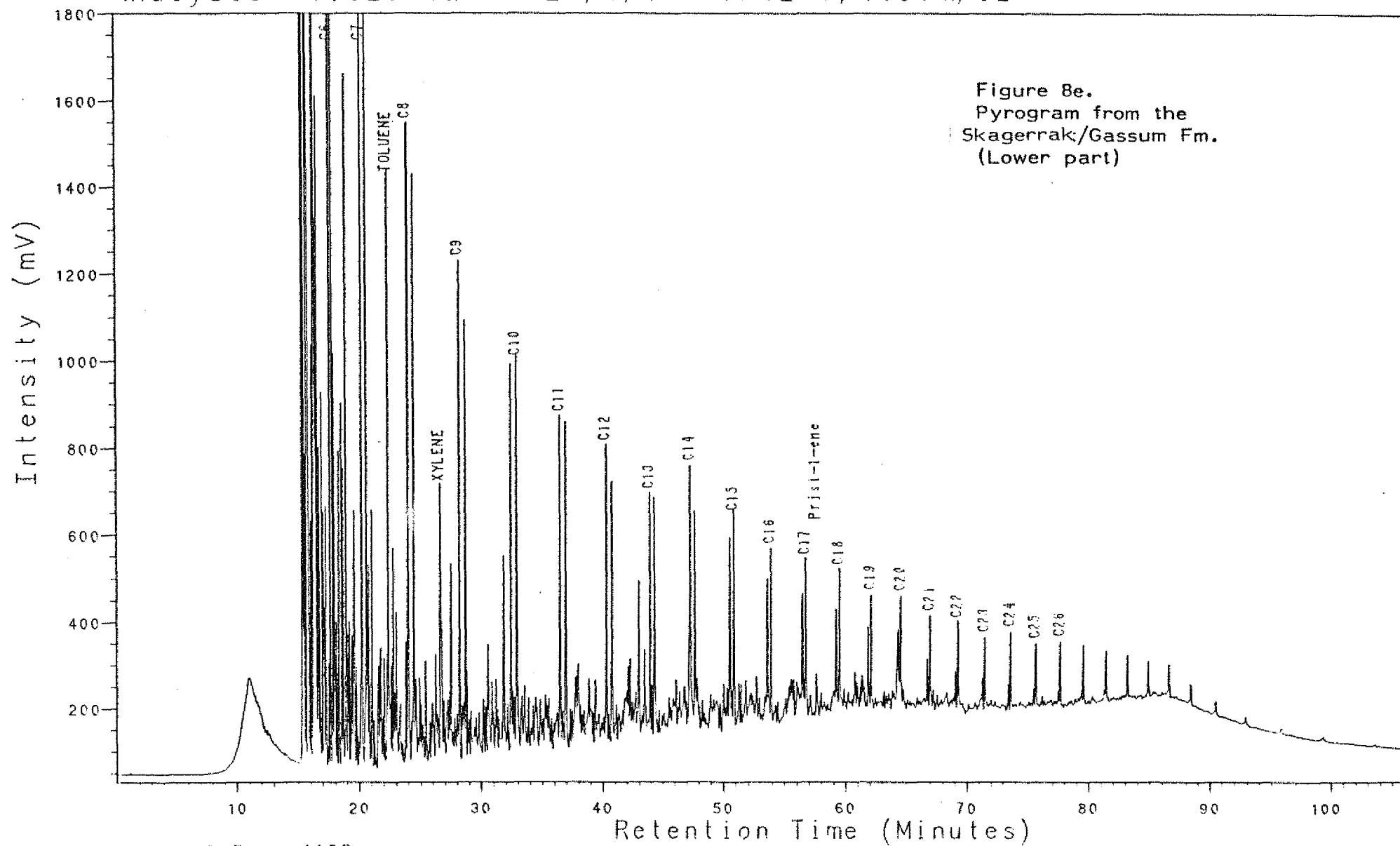


NOCS 7/12-5 3938m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032863L

23, 1, 1

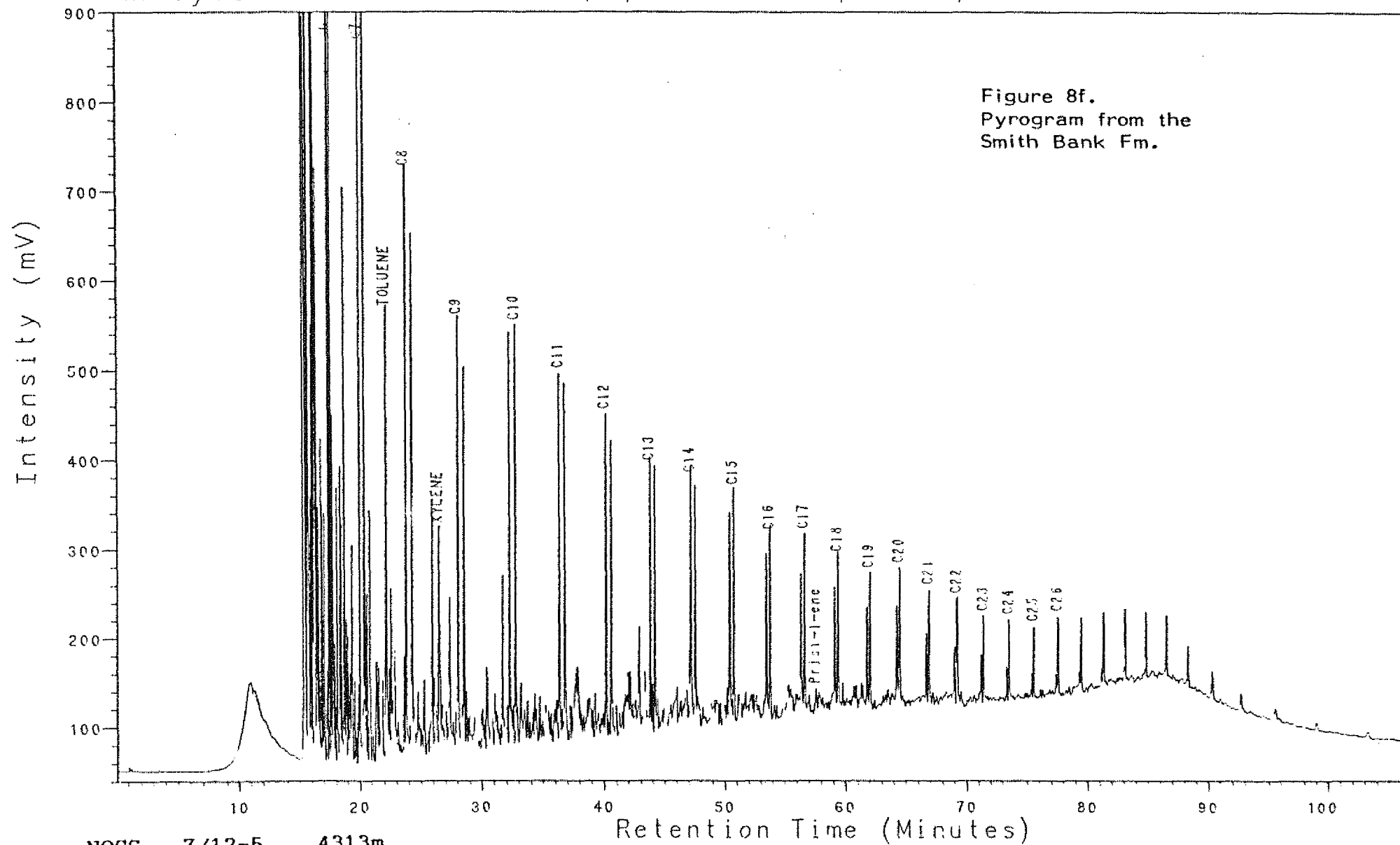
7/12-5, 4100m, S2



Analysis PC033223L

23, 1, 1

7/12-5, 4313m, S2



NOCS 7/12-5 4313m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Figure 9: Vitrinite Reflectance versus Depth
Well NOCS 7/12-5

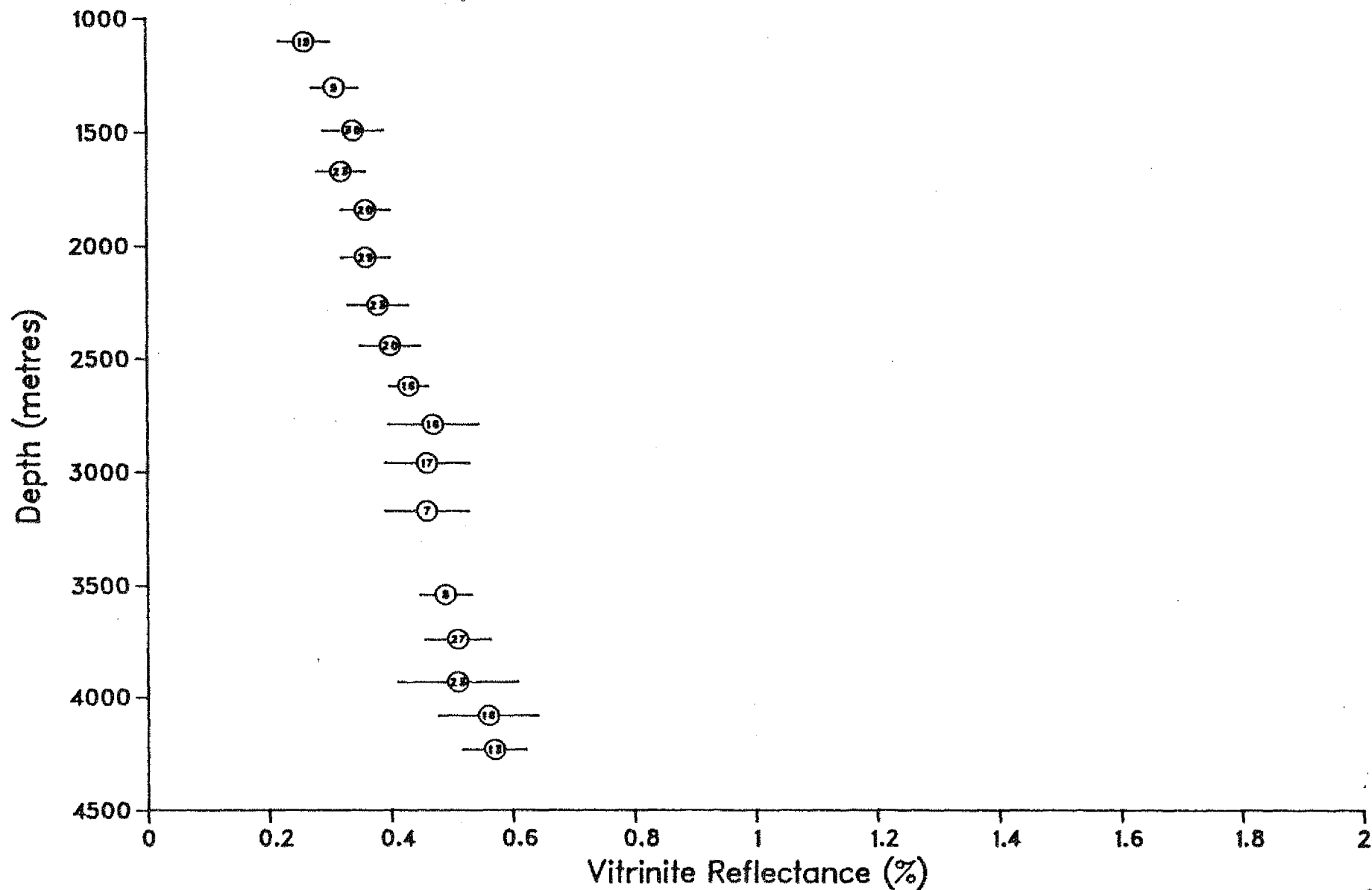


Figure 10: Kerogen Composition and Potential Hydrocarbon Products

Well NOCS 7/12-5

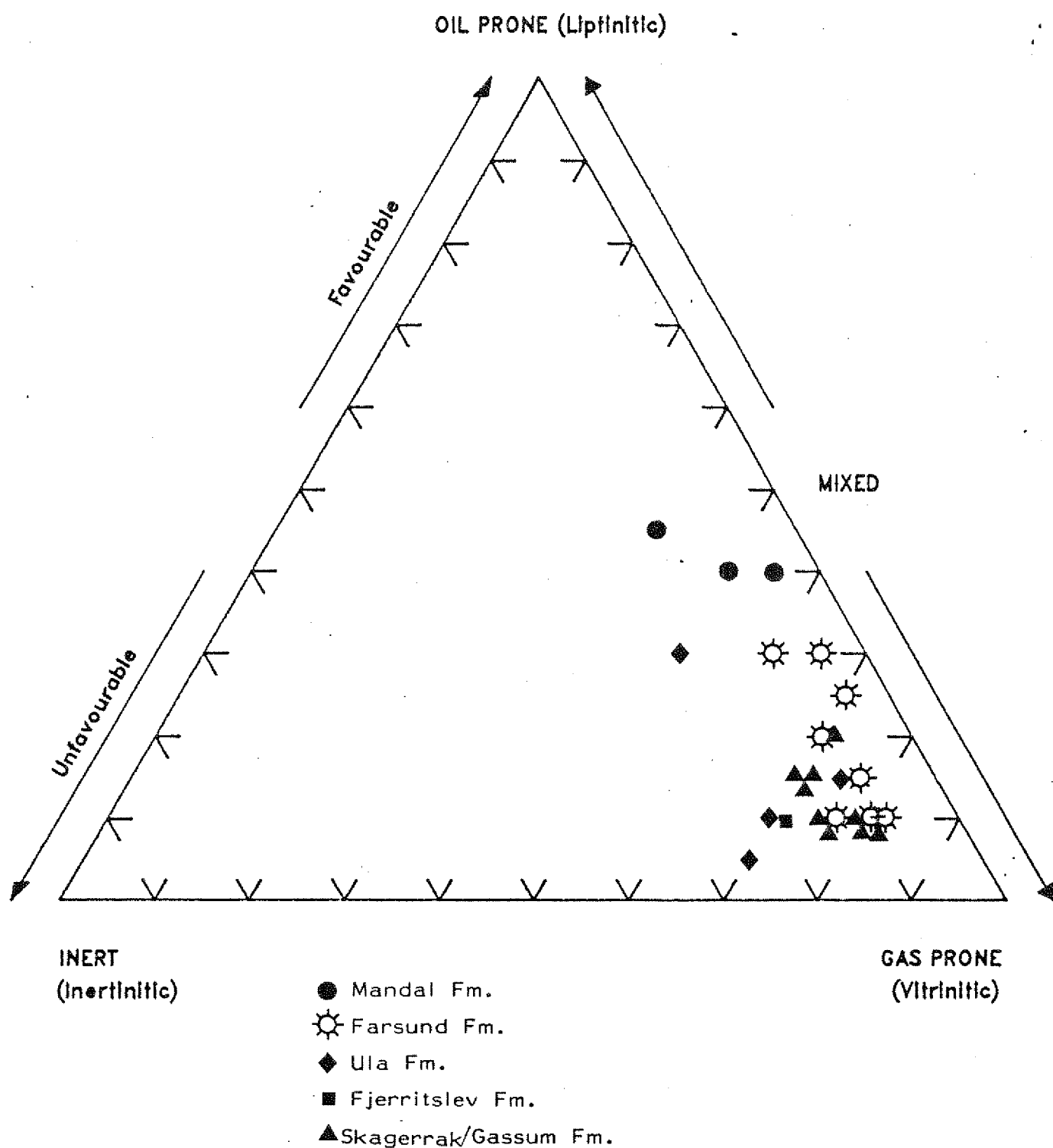


Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		----	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
180.00				001
		90 Sltst : y gy to lt gy, calc, carb		001-1L
		10 S/Sst : w to red gy to m gy		001-2L
280.00				002
		95 S/Sst : w to y gy to m gy		002-2L
		5 Ca : w to y gy, carb		002-1L
		tr Sh/Clst: drk gy, mic		002-3L
400.00				003
		50 Cont : dd, fib		003-1L
		50 S/Sst : w to y gy, carb		003-2L
480.00				004
		100 Cont : prp, dd, fib		004-1L
540.00				005
		70 Cont : prp, dd		005-3L
		15 Sltst : y gy, carb		005-1L
		15 S/Sst : w to y gy, carb		005-2L
800.00				006
		80 Sh/Clst: ol gy, slt, mic		006-1L
		10 Ca : y gy		006-2L
		10 Cont : prp, dd		006-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
1100.00				007
		80 Sh/Clst: ol gy, slt, mic		007-7L
		10 S/Sst : lt ol gy, calc		007-5L
		10 Sh/Clst: drk gy to dsk y brn, carb		007-6L
1150.00				343
		65 Sh/Clst: ol gy, slt, mic		343-4L
		20 Cont : prp, dd		343-1L
		10 Ca : lt brn		343-3L
		5 Sh/Clst: drk gy to dsk y brn, carb		343-2L
1300.00				344
		100 Sh/Clst: ol gy, slt, mic		344-1L
1400.00				008
		100 Sh/Clst: lt ol gy to ol gy		008-1L
1490.00				009
		70 Sh/Clst: lt ol gy to ol gy, mic		009-2L
		30 Sh/Clst: brn blk, mic		009-1L
1670.00				010
		90 Sh/Clst: lt ol gy to ol gy		010-2L
		10 Sltst : y gy, calc, carb		010-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
1760.00				011
		90 Sh/Clst: brn gy, mic		011-5L
		10 Ca : brn gy, dol		011-4L
		tr Ca : y gy, slt		011-6L
1840.00				012
		65 Sh/Clst: brn gy, mic		012-3L
		30 Ca : brn gy, dol		012-1L
		5 Ca : y gy, carb, slt		012-2L
1950.00				013
		100 Sh/Clst: brn gy, mic		013-1L
2050.00				014
		90 Sh/Clst: brn blk, mic		014-2L
		10 Ca : brn gy to brn blk, dol		014-1L
2160.00				015
		100 Sh/Clst: brn blk, slt, mic		015-1L
2250.00				016
		100 Sh/Clst: brn gy to brn blk, slt, mic		016-1L
2260.00				017
		100 Sh/Clst: brn gy to brn blk, slt, mic		017-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
-----	-----	----	-----
Int Cvd	TOC% % Lithology description		
----	-----		
2270.00			018
	95 Sh/Clst: brn gy to brn blk, slt, mic		018-2L
	5 S/Sst : lt gy, carb, mic		018-1L
	tr Cont : prp		018-3L
2280.00			019
	100 Sh/Clst: brn gy to brn blk, slt, mic		019-1L
2290.00			020
	50 Sh/Clst: ol gy, slt, mic		020-1L
	50 Sh/Clst: brn blk, slt, mic		020-2L
2300.00			021
	50 Sh/Clst: ol gy, slt, mic		021-1L
	50 Sh/Clst: brn blk, slt, mic		021-2L
2310.00			022
	90 Sh/Clst: ol gy, slt, mic		022-2L
	10 Sh/Clst: brn blk, slt, mic		022-1L
2320.00			023
	100 Sh/Clst: brn gy to ol gy, mic		023-1L
	tr S/Sst : y gy, carb, mic		023-2L
2340.00			024
	90 Sh/Clst: lt ol gy to ol gy, carb		024-3L
	5 Ca : y gy		024-1L
	5 Sh/Clst: brn blk, slt, mic		024-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
2350.00			025
	90 Sh/Clst: lt ol gy to ol gy, carb		025-3L
	5 Ca : y gy		025-1L
	5 Sh/Clst: brn blk, slt, mic		025-2L
2360.00			026
	100 Sh/Clst: ol gy to lt ol gy, mic		026-1L
	tr Sh/Clst: brn blk, slt, mic		026-2L
	tr Ca : y gy		026-3L
2370.00			027
	100 Sh/Clst: ol gy to lt ol gy, mic		027-1L
	tr Sh/Clst: brn blk, slt, mic		027-2L
	tr Ca : y gy		027-3L
2380.00			028
	90 Sh/Clst: ol gy to lt ol gy, slt, mic		028-3L
	10 Ca : pl y brn, dol		028-1L
	tr S/Sst : brn blk, slt, mic		028-2L
2390.00			029
	90 Sh/Clst: ol gy to lt ol gy, slt, mic		029-3L
	10 Ca : pl y brn, dol		029-1L
	tr S/Sst : brn blk, slt, mic		029-2L
2400.00			030
	90 Sh/Clst: ol gy to lt ol gy, slt, mic		030-3L
	10 Ca : pl y brn, dol		030-1L
	tr S/Sst : brn blk, slt, mic		030-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
2410.00				031
		90 Sh/Clst: ol gy to lt ol gy, mic		031-2L
		10 Sh/Clst: pl y brn, slt, mic		031-1L
2420.00				032
		100 Sh/Clst: ol gy to lt ol gy, mic		032-3L
		tr Ca : or gy, carb, slt		032-1L
		tr Sh/Clst: brn blk, slt, mic		032-2L
2430.00				033
		100 Sh/Clst: ol gy to lt ol gy, mic		033-3L
		tr Ca : or gy, carb, slt		033-1L
		tr Sh/Clst: brn blk, slt, mic		033-2L
2440.00				034
		90 Sh/Clst: ol gy to lt ol gy, mic		034-3L
		5 Sh/Clst: brn blk, slt, mic		034-1L
		5 Ca : or gy, slt		034-2L
2450.00				035
		90 Sh/Clst: ol gy to lt ol gy, mic		035-3L
		5 Sh/Clst: brn blk, slt, mic		035-1L
		5 Ca : or gy, slt		035-2L
2460.00				036
		90 Sh/Clst: ol gy to lt ol gy, mic		036-3L
		5 Sh/Clst: brn blk, slt, mic		036-1L
		5 Ca : or gy, slt		036-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
2470.00				037
		90 Sh/Clst: ol gy to lt ol gy, mic		037-3L
		5 Sh/Clst: brn blk, slt, mic		037-1L
		5 Ca : or gy, slt		037-2L
2480.00				038
		90 Sh/Clst: ol gy to lt ol gy, mic		038-3L
		5 Sh/Clst: brn blk, slt, mic		038-1L
		5 Ca : or gy, slt		038-2L
2490.00				039
		90 Sh/Clst: ol gy to lt ol gy, mic		039-3L
		5 Sh/Clst: brn blk, slt, mic		039-1L
		5 Ca : or gy, slt		039-2L
2500.00				040
		80 Sh/Clst: ol gy to lt ol gy, mic		040-2L
		20 Ca : or gy to pl y brn, dol		040-1L
		tr Sh/Clst: brn blk, slt, mic		040-3L
2510.00				041
		80 Sh/Clst: ol gy to lt ol gy, mic		041-2L
		20 Ca : or gy to pl y brn, dol		041-1L
		tr Sh/Clst: brn blk, slt, mic		041-3L
2520.00				042
		90 Sh/Clst: ol gy to lt ol gy, mic		042-2L
		10 Ca : or gy to pl y brn, dol		042-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC%		
	%		Lithology description
2530.00			043
	90		Sh/Clst: ol gy to lt ol gy, mic
	10		Ca : or gy to pl y brn, dol
			043-2L
			043-1L
2530.00			044
	90		Sh/Clst: ol gy to lt ol gy, mic
	10		Ca : or gy to pl y brn, dol
			044-2L
			044-1L
2540.00			045
	80		Sh/Clst: ol gy to lt ol gy, mic
	20		Ca : y gy to pl y brn, carb, slt
	tr		Cont : prp
			045-2L
			045-1L
			045-3L
2550.00			047
	95		Sh/Clst: ol gy to lt ol gy, mic
	5		Ca : y gy to pl y brn, carb, slt, dol
			047-2L
			047-1L
2560.00			048
	100		Sh/Clst: ol gy to lt ol gy, mic
	tr		Cont : dd
			048-1L
			048-2L
2570.00			049
	80		Sh/Clst: ol gy to lt ol gy, mic
	20		Sh/Clst: gn gy, mic
	tr		Ca : y gy to pl y brn, slt
	tr		Coal : blk
			049-3L
			049-4L
			049-1L
			049-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
2580.00			050
	50 Sh/Clst: gn gy, mic		050-1L
	50 Sh/Clst: ol gy to lt ol gy, mic		050-2L
2590.00			051
	80 Sh/Clst: ol gy, mic		051-2L
	20 Sh/Clst: gn gy, mic		051-1L
	tr Ca : gn gy to ol gy, dol		051-3L
2600.00			052
	80 Sh/Clst: gn gy, mic		052-2L
	20 Sh/Clst: brn gy to ol gy to lt ol gy, mic		052-1L
	tr Ca : gn gy to ol gy, dol		052-3L
2610.00			053
	80 Sh/Clst: gn gy, mic		053-2L
	20 Sh/Clst: brn gy to ol gy to lt ol gy, mic		053-1L
	tr Ca : gn gy to ol gy, dol		053-3L
2620.00			054
	70 Sh/Clst: gn gy, mic		054-2L
	30 Sh/Clst: ol gy to lt ol gy, mic		054-1L
	tr Ca : ol gy to dsk y brn, slt, dol		054-3L
	tr Sh/Clst: brn blk, mic		054-4L
2630.00			055
	70 Sh/Clst: gn gy, mic		055-2L
	30 Sh/Clst: ol gy to lt ol gy, mic		055-1L
	tr Ca : ol gy to dsk y brn, slt, dol		055-3L
	tr Sh/Clst: brn blk, mic		055-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
2640.00				056
		70 Sh/Clst: gn gy, mic		056-2L
		30 Sh/Clst: ol gy to lt ol gy, mic		056-1L
		tr Ca : ol gy to dsk y brn, slt, dol		056-3L
		tr Sh/Clst: brn blk, mic		056-4L
2650.00				057
		80 Sh/Clst: gn gy, mic		057-3L
		10 Ca : brn gy to gn gy to dsk y brn, dol		057-1L
		10 Sh/Clst: ol gy to lt ol gy, mic		057-2L
		tr Coal : blk		057-4L
2660.00				058
		60 Sh/Clst: gn gy, mic		058-3L
		30 Sh/Clst: ol gy to lt ol gy, mic		058-2L
		10 Sh/Clst: brn blk, slt, mic		058-1L
		tr Ca : brn gy to gn gy to dsk y brn, dol		058-4L
2670.00				059
		50 Sh/Clst: ol gy to lt ol gy, mic		059-1L
		50 Sh/Clst: gn gy, mic		059-2L
		tr Coal : blk		059-3L
2680.00				060
		55 Sh/Clst: ol gy, mic		060-2L
		40 Sh/Clst: gn gy, mic		060-3L
		5 Ca : w to gn gy to ol gy to dsk y brn, dol		060-1L
		tr Other : pyr		060-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
2690.00			061
	55 Sh/Clst: ol gy, mic		061-2L
	40 Sh/Clst: gn gy, mic		061-3L
	5 Ca : w to gn gy to ol gy to dsk y brn, dol		061-1L
	tr Other : pyr		061-4L
	tr Coal : blk		061-5L
2700.00			062
	55 Sh/Clst: ol gy, mic		062-2L
	40 Sh/Clst: gn gy, mic		062-3L
	5 Ca : w to gn gy to ol gy to dsk y brn, dol		062-1L
	tr Other : pyr		062-4L
	tr Coal : blk		062-5L
2710.00			063
	55 Sh/Clst: ol gy, mic		063-2L
	40 Sh/Clst: gn gy, mic		063-3L
	5 Ca : w to gn gy to ol gy to dsk y brn, dol		063-1L
	tr Other : pyr		063-4L
	tr Coal : blk		063-5L
2720.00			064
	55 Sh/Clst: ol gy, mic		064-2L
	40 Sh/Clst: gn gy, mic		064-3L
	5 Ca : w to gn gy to ol gy to dsk y brn, dol		064-1L
	tr Other : pyr		064-4L
	tr Coal : blk		064-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		---	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
2730.00				065
		55 Sh/Clst: ol gy, mic		065-2L
		40 Sh/Clst: gn gy, mic		065-3L
		5 Ca : w to gn gy to ol gy to dsk y brn, dol		065-1L
		tr Other : pyr		065-4L
		tr Coal : blk		065-5L
2740.00				066
		65 Sh/Clst: gn gy, mic		066-3L
		30 Sh/Clst: ol gy, mic		066-2L
		5 Ca : w		066-1L
2750.00				067
		90 Sh/Clst: gn gy to lt ol gy, calc, pyr		067-3L
		5 Sh/Clst: red gy, calc		067-1L
		5 Sh/Clst: ol gy		067-2L
2760.00				068
		55 Sh/Clst: gn gy to lt ol gy, calc, pyr		068-3L
		40 Sh/Clst: ol gy, calc		068-2L
		5 Sh/Clst: red gy, calc		068-1L
		tr Ca : y gy		068-4L
		tr Cont : dd		068-5L
2770.00				069
		50 Sh/Clst: gn gy to lt ol gy, calc		069-5L
		20 Sh/Clst: m gy		069-2L
		20 Sh/Clst: ol gy		069-4L
		10 Sh/Clst: brn gy, mic		069-3L
		tr Sh/Clst: red gy, calc		069-1L
		tr Other : pyr		069-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
2780.00				070
		50 Sh/Clst: gn gy to lt ol gy, calc		070-5L
		20 Sh/Clst: m gy		070-2L
		20 Sh/Clst: ol gy		070-4L
		10 Sh/Clst: brn gy, mic		070-3L
		tr Sh/Clst: red gy, calc		070-1L
		tr Other : pyr		070-6L
2790.00				071
		50 Sh/Clst: brn gy, slt, mic		071-2L
		30 Sh/Clst: gn gy to ol gy, calc		071-3L
		20 Sh/Clst: m drk gy		071-1L
		tr Ca : w to gn gy		071-4L
		tr Sh/Clst: red gy, calc		071-5L
2800.00				072
		50 Sh/Clst: brn gy, slt, mic		072-2L
		30 Sh/Clst: gn gy to ol gy, calc		072-3L
		20 Sh/Clst: m drk gy		072-1L
		tr Ca : w to gn gy		072-4L
		tr Sh/Clst: red gy, calc		072-5L
2810.00				073
		50 Sh/Clst: brn gy, slt, mic		073-2L
		30 Sh/Clst: gn gy to ol gy, calc		073-3L
		20 Sh/Clst: m drk gy		073-1L
		tr Ca : w to gn gy		073-4L
		tr Sh/Clst: red gy, calc		073-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
2820.00				074
		50 Sh/Clst: brn gy, slt, mic		074-2L
		30 Sh/Clst: gn gy to ol gy, calc		074-3L
		20 Sh/Clst: m drk gy		074-1L
		tr Ca : w to gn gy		074-4L
		tr Sh/Clst: red gy, calc		074-5L
2830.00				075
		50 Sh/Clst: brn gy, slt, mic		075-2L
		30 Sh/Clst: gn gy to ol gy, calc		075-3L
		20 Sh/Clst: m drk gy		075-1L
		tr Ca : w to gn gy		075-4L
		tr Sh/Clst: red gy, calc		075-5L
2840.00				076
		50 Sh/Clst: brn gy, slt, mic		076-2L
		30 Sh/Clst: gn gy to ol gy, calc		076-3L
		20 Sh/Clst: m drk gy		076-1L
		tr Ca : w to gn gy		076-4L
		tr Sh/Clst: red gy, calc		076-5L
2850.00				077
		50 Sh/Clst: brn gy, calc, mic		077-2L
		30 Sh/Clst: m drk gy, mic		077-1L
		20 Sh/Clst: gn gy to lt ol gy		077-3L
		tr S/Sst : w, pyr		077-4L
2860.00				078
		50 Sh/Clst: m drk gy		078-1L
		30 Sh/Clst: gn gy to lt ol gy, calc		078-2L
		20 Sh/Clst: brn gy, mic		078-3L
		tr Ca : w to brn gy to dsk y brn, dol		078-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
2870.00				079
		50 Sh/Clst: m drk gy		079-1L
		50 Sh/Clst: brn gy to gn gy to lt gy to lt ol gy, pyr		079-2L
2880.00				080
		40 Sh/Clst: dsk y brn, mic		080-2L
		30 Sh/Clst: m drk gy		080-1L
		30 Sh/Clst: brn gy to lt gy to lt ol gy, pyr		080-3L
		tr Ca : w to m gy, pyr		080-4L
2890.00				081
		50 Sh/Clst: m drk gy, mic		081-2L
		40 Sh/Clst: brn gy to gn gy to red gy to lt gy to lt ol gy, calc, pyr		081-4L
		10 Sh/Clst: dsk y brn, mic		081-1L
		tr Other : pyr		081-3L
2900.00				082
		60 Sh/Clst: m drk gy, mic		082-4L
		20 Sh/Clst: red gy		082-1L
		10 Sh/Clst: gn gy to lt gy		082-2L
		10 Sh/Clst: brn gy		082-3L
2910.00				083
		40 Sh/Clst: m gy		083-5L
		20 Sh/Clst: gn gy to red gy		083-2L
		20 Sh/Clst: ol gy, calc		083-3L
		10 Ca : w to y gy		083-1L
		10 Sh/Clst: m drk gy, mic		083-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
2920.00				084
		50 Sh/Clst: gn gy to ol gy to lt ol gy to m drk gy, mic		084-3L
		30 Sh/Clst: red gy		084-2L
		20 Ca : w		084-1L
2930.00				085
		50 Sh/Clst: gn gy to ol gy to lt ol gy to m drk gy, mic		085-3L
		30 Sh/Clst: red gy		085-2L
		20 Ca : w		085-1L
2940.00				086
		55 Sh/Clst: gn gy to m gy to m drk gy, mic		086-4L
		20 Sh/Clst: ol gy, mic		086-1L
		20 Sh/Clst: w		086-3L
		5 Sh/Clst: red gy		086-2L
2950.00				087
		55 Sh/Clst: gn gy to m gy to m drk gy, mic		087-4L
		20 Sh/Clst: ol gy, mic		087-1L
		20 Sh/Clst: w		087-3L
		5 Sh/Clst: red gy		087-2L
2960.00				088
		60 Sh/Clst: brn gy to gn gy to m gy to m drk gy, mic		088-3L
		30 Ca : w to m gy		088-1L
		10 Sh/Clst: red gy		088-2L

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC%	%	Lithology description
2970.00			089
		60 Sh/Clst:	brn gy to gn gy to m gy to m drk gy, mic 089-3L
		30 Ca	: w to m gy 089-1L
		10 Sh/Clst:	red gy 089-2L
2980.00			090
		60 Sh/Clst:	brn gy to gn gy to m gy to m drk gy, mic 090-3L
		30 Ca	: w to m gy 090-1L
		10 Sh/Clst:	red gy 090-2L
2990.00			091
		60 Ca	: w 091-1L
		40 Sh/Clst:	brn gy to gn gy to red gy to lt ol gy to m drk gy, mic 091-2L
3000.00			092
		70 Sh/Clst:	lt ol gy to dsk y brn to m drk gy, mic 092-2L
		30 Ca	: w 092-1L
3010.00			093
		50 Sh/Clst:	m drk gy 093-5L
		20 Sh/Clst:	brn gy to ol gy, mic 093-3L
		10 Ca	: w 093-1L
		10 Sh/Clst:	red gy 093-2L
		10 Sh/Clst:	gn gy 093-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
3015.00				094
		50 Sh/Clst: m drk gy		094-5L
		20 Sh/Clst: brn gy to ol gy, mic		094-3L
		10 Ca : w		094-1L
		10 Sh/Clst: red gy		094-2L
		10 Sh/Clst: gn gy		094-4L
3020.00				095
		40 Sh/Clst: brn gy to ol gy, slt, mic		095-2L
		40 Sh/Clst: gn gy to m drk gy, mic		095-3L
		20 Sh/Clst: w		095-1L
3025.00				096
		60 Ca : w		096-1L
		30 Sh/Clst: gn gy to m gy to m drk gy, mic		096-3L
		10 Sh/Clst: brn gy to ol gy		096-2L
3030.00				097
		60 Ca : w		097-1L
		30 Sh/Clst: gn gy to m gy to m drk gy, mic		097-3L
		10 Sh/Clst: brn gy to ol gy		097-2L
3035.00				098
		40 Sh/Clst: brn gy to ol gy, mic, st		098-4L
		30 Ca : w		098-1L
		20 Sh/Clst: m gy to m drk gy		098-3L
		10 Sh/Clst: red gy		098-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
3040.00				099
		80 Ca : w		099-1L
		20 Sh/Clst: brn gy to gn gy to red gy to lt ol gy to m drk gy		099-2L
3045.00				100
		50 Ca : w		100-1L
		40 Sh/Clst: gn gy to red gy to lt ol gy to m drk gy		100-3L
		10 Sh/Clst: dsk y brn, slt, mic		100-2L
3050.00				101
		70 Ca : w		101-1L
		20 Sh/Clst: m drk gy		101-2L
		10 Sh/Clst: gn gy to red gy to lt ol gy to dsk y brn		101-3L
3055.00				102
		70 Ca : w		102-1L
		20 Sh/Clst: gn gy		102-2L
		10 Sh/Clst: brn gy to red gy to lt ol gy to m drk gy		102-3L
		tr S/Sst : gn gy		102-4L
3060.00				103
		60 Ca : w		103-1L
		20 Sh/Clst: m drk gy		103-2L
		20 Sh/Clst: gn gy to red gy to lt ol gy to dsk y brn, mic		103-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3065.00				104
		70 Ca : w		104-1L
		30 Sh/Clst: brn gy to gn gy to ol gy to dsk y brn to m drk gy, slt, mic		104-2L
3070.00				105
		50 Ca : w		105-1L
		30 Sh/Clst: brn gy to gn gy to ol gy to m drk gy		105-3L
		20 Sh/Clst: dsk y brn, slt, mic		105-2L
3075.00				106
		50 Ca : w		106-1L
		30 Sh/Clst: brn gy to gn gy to ol gy to m drk gy		106-3L
		20 Sh/Clst: dsk y brn, slt, mic		106-2L
3080.00				107
		50 Ca : w		107-1L
		30 Sh/Clst: brn gy to gn gy to ol gy to m drk gy		107-3L
		20 Sh/Clst: dsk y brn, slt, mic		107-2L
3085.00				108
		70 Ca : w		108-1L
		30 Sh/Clst: gn gy to red gy to ol gy to m drk gy		108-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3090.00						109
			90	Ca : w		109-2L
			10	Sh/Clst: gn gy to red gy to ol gy to m drk gy		109-1L
3095.00						110
			90	Ca : w		110-2L
			10	Sh/Clst: gn gy to red gy to ol gy to m drk gy		110-1L
3100.00						111
			90	Ca : w		111-2L
			10	Sh/Clst: gn gy to red gy to ol gy to m drk gy		111-1L
3105.00						112
			95	Ca : w		112-2L
			5	Sh/Clst: gn gy to red gy to ol gy to m drk gy		112-1L
3110.00						113
			95	Ca : w		113-2L
			5	Sh/Clst: gn gy to red gy to ol gy to m drk gy		113-1L
3115.00						114
			95	Ca : w		114-2L
			5	Sh/Clst: gn gy to red gy to ol gy to m drk gy		114-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
3120.00			115
	95 Ca : w		115-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		115-1L
3125.00			116
	95 Ca : w		116-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		116-1L
3130.00			117
	95 Ca : w		117-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		117-1L
3135.00			118
	95 Ca : w		118-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		118-1L
3140.00			120
	95 Ca : w		120-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		120-1L
3145.00			121
	95 Ca : w		121-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		121-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
3150.00			122
	95 Ca : w		122-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		122-1L
3155.00			123
	95 Ca : w		123-2L
	5 Sh/Clst: gn gy to red gy to ol gy to m drk gy		123-1L
3160.00			124
	90 Ca : w		124-2L
	10 Sh/Clst: gn gy to red gy to ol gy to m drk gy		124-1L
3165.00			125
	90 Ca : w		125-2L
	10 Sh/Clst: gn gy to red gy to ol gy to m drk gy		125-1L
3170.00			126
	90 Ca : w		126-2L
	10 Sh/Clst: gn gy to red gy to ol gy to m drk gy		126-1L
3175.00			127
	90 Ca : w		127-2L
	10 Sh/Clst: gn gy to red gy to ol gy to m drk gy		127-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		----	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
3180.00				128
		90 Ca : w		128-2L
		10 Sh/Clst: gn gy to red gy to ol gy to m drk		128-1L
		gy		
3185.00				129
		90 Ca : w		129-2L
		10 Sh/Clst: gn gy to red gy to ol gy to m drk		129-1L
		gy		
3190.00				130
		90 Ca : w		130-2L
		10 Sh/Clst: gn gy to red gy to ol gy to m drk		130-1L
		gy		
3195.00				131
		90 Ca : w		131-2L
		10 Sh/Clst: gn gy to red gy to ol gy to m drk		131-1L
		gy		
3200.00				132
		90 Ca : w		132-2L
		10 Sh/Clst: gn gy to red gy to ol gy to m drk		132-1L
		gy		
3205.00				133
		50 Ca : w		133-1L
		30 Sh/Clst: gn gy to red gy to m gy to m drk		133-3L
		gy		
		20 Sh/Clst: ol gy, slt, mic		133-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			---	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
3210.00					134
		85 Ca	: w		134-2L
		15 Sh/Clst:	gn gy to m drk gy		134-1L
3215.00					135
		85 Ca	: w		135-2L
		15 Sh/Clst:	gn gy to m drk gy		135-1L
3220.00					136
		85 Ca	: w		136-2L
		15 Sh/Clst:	gn gy to m drk gy		136-1L
3225.00					137
		85 Ca	: w		137-2L
		15 Sh/Clst:	gn gy to m drk gy		137-1L
3230.00					138
		85 Ca	: w		138-2L
		15 Sh/Clst:	gn gy to m drk gy		138-1L
3235.00					139
		85 Ca	: w		139-2L
		15 Sh/Clst:	gn gy to m drk gy		139-1L
3240.00					140
		85 Ca	: w		140-2L
		15 Sh/Clst:	gn gy to m drk gy		140-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3250.00				141
		85 Ca : w		141-2L
		15 Sh/Clst: gn gy to m drk gy		141-1L
3255.00				142
		85 Ca : w		142-2L
		15 Sh/Clst: gn gy to m drk gy		142-1L
3260.00				143
		85 Ca : w		143-2L
		15 Sh/Clst: gn gy to m drk gy		143-1L
3265.00				144
		85 Ca : w		144-2L
		15 Sh/Clst: gn gy to m drk gy		144-1L
3270.00				145
		80 Ca : w		145-2L
		20 Sh/Clst: brn gy to gn gy to m drk gy, mic		145-1L
3275.00				146
		80 Ca : w		146-2L
		20 Sh/Clst: brn gy to gn gy to m drk gy, mic		146-1L
3280.00				147
		80 Ca : w		147-2L
		20 Sh/Clst: brn gy to gn gy to m drk gy, mic		147-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
3285.00			148
	80 Ca : w		148-2L
	20 Sh/Clst: brn gy to gn gy to m drk gy, mic		148-1L
3290.00			149
	90 Ca : w		149-2L
	10 Sh/Clst: gn gy to red gy to ol gy to m drk gy, mic		149-1L
3295.00			150
	65 Ca : w		150-3L
	30 Sh/Clst: gn gy to red gy to ol gy to m drk gy		150-1L
	5 Sh/Clst: dsk y brn, slt, mic, fis		150-2L
3300.00			151
	70 Ca : w		151-1L
	30 Sh/Clst: gn gy to dsk y brn to m drk gy		151-2L
3305.00			152
	50 Ca : w to gy pi to gn gy, pyr		152-1L
	50 Sh/Clst: gn gy to dsk y brn to m drk gy, mic		152-2L
3310.00			153
	50 Ca : w to gy pi to gn gy, pyr		153-1L
	50 Sh/Clst: gn gy to dsk y brn to m drk gy, mic		153-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC% % Lithology description	---	-----
3315.00			154
	80 Ca : w to gy pi to gn gy, pyr		154-1L
	20 Sh/Clst: gn gy to dsk y brn to m drk gy		154-2L
3320.00			155
	80 Ca : w to gy pi to gn gy, pyr		155-1L
	20 Sh/Clst: gn gy to dsk y brn to m drk gy		155-2L
3325.00			156
	80 Ca : w to gy pi to gn gy, pyr		156-1L
	20 Sh/Clst: gn gy to dsk y brn to m drk gy		156-2L
	tr S/Sst : gn gy to red gy		156-3L
3330.00			157
	80 Ca : w to gy pi to gn gy, pyr		157-1L
	20 Sh/Clst: gn gy to dsk y brn to m drk gy		157-2L
	tr S/Sst : gn gy to red gy		157-3L
3335.00			158
	80 Ca : w to gy pi to gn gy, pyr		158-1L
	20 Sh/Clst: gn gy to ol gy to pl red to m drk gy, slt		158-2L
3340.00			159
	80 Ca : w to gy pi to gn gy, pyr		159-1L
	20 Sh/Clst: gn gy to ol gy to pl red to m drk gy, slt		159-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type	Trb	Sample
Int Cvd	TOC%		
Lithology description			
3345.00			160
50 Ca			160-2L
30 Sh/Clst:			160-1L
20 Sh/Clst:			160-3L
tr S/Sst			160-4L
3350.00			161
65 Sh/Clst:			161-3L
30 Ca			161-2L
5 S/Sst			161-1L
3355.00			162
65 Sh/Clst:			162-3L
30 Ca			162-2L
5 S/Sst			162-1L
3360.00			163
50 Ca			163-2L
40 Sh/Clst:			163-3L
10 S/Sst			163-1L
3366.00			164
80 Ca			164-3L
10 S/Sst			164-1L
10 Sh/Clst:			164-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		---	-----
Int Cvd	TOC%	% Lithology description		
---	-----	-----		
3372.00				165
		80 Ca : w to gy pi to gn gy, pyr		165-3L
		10 S/Sst : w to gn gy to m gy, carb, slt, mic		165-1L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt, mic		165-2L
3384.00				166
	0.03	80 Ca : w to gy pi to gn gy, pyr		166-3L
		10 S/Sst : w to gn gy to m gy, carb, slt, mic		166-1L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt, mic		166-2L
3390.00				167
		80 Ca : w to gy pi to gn gy, pyr		167-3L
		10 S/Sst : w to gn gy to m gy, carb, slt, mic		167-1L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt, mic		167-2L
3399.00				168
		80 Ca : w to gy pi to gn gy, pyr		168-3L
		10 S/Sst : w to gn gy to m gy, carb, slt, mic		168-1L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt, mic		168-2L
3405.00				169
		70 Ca : w to gy pi to gn gy, pyr		169-3L
		20 S/Sst : w to gn gy to m gy, carb, mic		169-1L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt		169-2L
		tr Cont : prp		169-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		---	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
3411.00				170
		55 Ca : w to gy pi to gn gy, pyr		170-4L
		30 S/Sst : w to gn gy to drk gy, carb, mic		170-2L
		10 Sh/Clst: gn gy to ol gy to m drk gy, slt		170-1L
		5 Sh/Clst: drk gy, slt, mic		170-3L
3417.00				171
	1.28	70 Sh/Clst: v col, slt, mic		171-1L
		30 Ca : w to gy pi to gn gy		171-2L
		tr S/Sst : w to gn gy to m gy, carb, mic		171-3L
3423.00				172
		70 Ca : w to gy pi to gn gy, pyr		172-2L
		20 Sh/Clst: v col, slt, mic		172-3L
		10 S/Sst : w to gn gy to drk gy, carb, slt, mic		172-1L
3429.00				173
		70 Ca : w to gy pi to gn gy, pyr		173-2L
		20 Sh/Clst: v col, slt, mic		173-3L
		10 S/Sst : w to gn gy to drk gy, carb, slt, mic		173-1L
3435.00				174
		70 Ca : w to gy pi to gn gy, pyr		174-2L
		20 Sh/Clst: v col, slt, mic		174-3L
		10 S/Sst : w to gn gy to drk gy, carb, slt, mic		174-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			---	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
3441.00					175
		70 Ca	: w to gy pi to gn gy		175-2L
		20 Sh/Clst:	v col, slt, mic		175-3L
	1.24	10 Sh/Clst:	drk gy, slt, s, mic		175-1L
		tr S/Sst	: w to gn gy to drk gy, carb, mic		175-4L
3447.00					176
		70 Ca	: w to gy pi to gn gy		176-2L
	1.02	20 Sh/Clst:	v col, slt, mic		176-3L
	0.92	10 Sh/Clst:	drk gy, slt, s, mic		176-1L
		tr S/Sst	: w to gn gy to drk gy, carb, mic		176-4L
3453.00					177
		70 Ca	: w to gy pi to gn gy		177-2L
		20 Sh/Clst:	v col, slt, mic		177-3L
	0.86	10 Sh/Clst:	drk gy, slt, s, mic		177-1L
		tr S/Sst	: w to gn gy to drk gy, carb, mic		177-4L
3459.00					223
		80 Ca	: w to gy pi to gn gy, pyr		223-3L
	1.06	10 Sh/Clst:	drk gy, slt, s, mic		223-1L
		10 Sh/Clst:	v col, slt, mic		223-2L
		tr S/Sst	: w to gn gy to drk gy, carb, slt, mic		223-4L
3465.00					224
		70 Ca	: w to gy pi to gn gy, pyr		224-3L
		20 Sh/Clst:	v col, slt, mic		224-2L
		10 S/Sst	: w to gn gy to drk gy, carb, slt, mic		224-1L
		tr Sh/Clst:	drk gy, slt, mic		224-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3470.00				225
		70 Ca : w to gy pi to gn gy, pyr		225-3L
		20 Sh/Clst: v col, slt, mic		225-2L
		10 S/Sst : w to gn gy to drk gy, carb, slt, mic		225-1L
		tr Sh/Clst: drk gy, slt, mic		225-4L
3475.00				178
		70 Ca : w to gy pi to gn gy, pyr		178-3L
		20 Sh/Clst: v col, slt, mic		178-2L
0.80		10 Sltst : drk gy, mic		178-1L
		tr S/Sst : w to gn gy to drk gy, carb, mic		178-4L
3480.00				179
		70 Ca : w to gy pi to gn gy, pyr		179-3L
		20 Sh/Clst: v col, slt, mic		179-2L
0.71		10 Sltst : drk gy, mic		179-1L
		tr S/Sst : w to gn gy to drk gy, carb, mic		179-4L
3485.00				180
		50 Sh/Clst: v col, mic		180-3L
0.54		30 Sh/Clst: drk gy, slt, mic		180-1L
		20 Ca : w to gy pi to gn gy, pyr		180-2L
3490.00				181
		70 Sh/Clst: drk gy, slt, mic		181-1L
0.38		20 Sh/Clst: v col, mic		181-3L
		10 Ca : w to gy pi to gn gy, pyr		181-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		----	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
3495.00				182
	0.37	70 Sh/Clst: drk gy, slt, mic		182-1L
		20 Sh/Clst: v col, mic		182-3L
		10 Ca : w to gy pi to gn gy, pyr		182-2L
3500.00				183
	0.71	70 Sh/Clst: drk gy, slt, mic		183-1L
		20 Sh/Clst: v col, mic		183-3L
		10 Ca : w to gy pi to gn gy, pyr		183-2L
3505.00				184
	0.62	70 Sh/Clst: drk gy, slt, mic		184-1L
		20 Sh/Clst: v col, mic		184-3L
		10 Ca : w to gy pi to gn gy, pyr		184-2L
3515.00				185
	0.44	70 Sh/Clst: drk gy, slt, mic		185-1L
		20 Sh/Clst: v col, mic		185-3L
		10 Ca : w to gy pi to gn gy, pyr		185-2L
3520.00				186
	0.36	80 Sh/Clst: drk gy, slt, mic		186-1L
		10 Ca : w to gy pi to gn gy		186-2L
		10 Sh/Clst: v col, mic		186-3L
3525.00				187
	0.40	80 Sh/Clst: drk gy, slt, mic		187-1L
		10 Ca : w to gy pi to gn gy		187-2L
		10 Sh/Clst: v col, mic		187-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3530.00					188
	0.37	80	Sh/Clst: drk gy, slt, mic		188-1L
		10	Ca : w to gy pi to gn gy		188-2L
		10	Sh/Clst: v col, mic		188-3L
3535.00					189
	0.21	80	Sh/Clst: drk gy, slt, mic		189-1L
		10	Ca : w to gy pi to gn gy		189-2L
		10	Sh/Clst: v col, mic		189-3L
3540.00					190
	0.34	80	Sh/Clst: drk gy, slt, mic		190-1L
		10	Ca : w to gy pi to gn gy		190-2L
		10	Sh/Clst: v col, mic		190-3L
3545.00					191
	0.35	90	Sh/Clst: drk gy, mic		191-1L
		5	Ca : w		191-2L
		5	Sh/Clst: v col, mic		191-3L
3550.00					192
	0.43	90	Sh/Clst: drk gy, mic		192-1L
		5	Ca : w		192-2L
		5	Sh/Clst: v col, mic		192-3L
3555.00					193
	0.29	100	Sh/Clst: drk gy, mic		193-1L
		tr	Sltst : drk gy, mic		193-2L
		tr	S/Sst : w to gn gy to m gy, carb, mic		193-3L
		tr	Ca : w to gy pi		193-4L
		tr	Sh/Clst: red gy to pl red, mic		193-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			----	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
3560.00					194
	0.29	100	Sh/Clst: drk gy, mic		194-1L
			tr Sltst : drk gy, mic		194-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		194-3L
			tr Ca : w to gy pi		194-4L
			tr Sh/Clst: red gy to pl red, mic		194-5L
3565.00					195
	0.30	100	Sh/Clst: drk gy, mic		195-1L
			tr Sltst : drk gy, mic		195-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		195-3L
			tr Ca : w to gy pi		195-4L
			tr Sh/Clst: red gy to pl red, mic		195-5L
3570.00					196
	0.29	100	Sh/Clst: drk gy, mic		196-1L
			tr Sltst : drk gy, mic		196-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		196-3L
			tr Ca : w to gy pi		196-4L
			tr Sh/Clst: red gy to pl red, mic		196-5L
3575.00					197
	0.27	100	Sh/Clst: drk gy, mic		197-1L
			tr Sltst : drk gy, mic		197-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		197-3L
			tr Ca : w to gy pi		197-4L
			tr Sh/Clst: red gy to pl red, mic		197-5L
3580.00					198
	0.31	100	Sh/Clst: drk gy, mic		198-1L
			tr Sltst : drk gy, mic		198-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		198-3L
			tr Ca : w to gy pi		198-4L
			tr Sh/Clst: red gy to pl red, mic		198-5L
			tr Ca : brn gy, dol		198-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3585.00					199
	0.26	100	Sh/Clst: drk gy, mic		199-1L
			tr Sltst : drk gy, mic		199-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		199-3L
			tr Ca : w to gy pi		199-4L
			tr Sh/Clst: red gy to pl red, mic		199-5L
			tr Ca : brn gy, dol		199-6L
3590.00					200
	0.24	100	Sh/Clst: drk gy, mic		200-1L
			tr Sltst : drk gy, mic		200-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		200-3L
			tr Ca : w to gy pi		200-4L
			tr Sh/Clst: red gy to pl red, mic		200-5L
			tr Ca : brn gy, dol		200-6L
3595.00					201
	0.26	100	Sh/Clst: drk gy, mic		201-1L
			tr Sltst : drk gy, mic		201-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		201-3L
			tr Ca : w to gy pi		201-4L
			tr Sh/Clst: red gy to pl red, mic		201-5L
			tr Ca : brn gy, dol		201-6L
3600.00					202
	0.29	100	Sh/Clst: drk gy, mic		202-1L
			tr Sltst : drk gy, mic		202-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		202-3L
			tr Ca : w to gy pi		202-4L
			tr Sh/Clst: red gy to pl red, mic		202-5L
			tr Ca : brn gy, dol		202-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		---	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
3605.00				203
	0.27	100 Sh/Clst: drk gy, mic		203-1L
		tr Sltst : drk gy, mic		203-2L
		tr S/Sst : w to gn gy to m gy, carb, mic		203-3L
		tr Ca : w to gy pi		203-4L
		tr Sh/Clst: red gy to pl red, mic		203-5L
		tr Ca : brn gy, dol		203-6L
3610.00				204
	0.20	100 Sh/Clst: drk gy, mic		204-1L
		tr Sltst : drk gy, mic		204-2L
		tr S/Sst : w to gn gy to m gy, carb, mic		204-3L
		tr Ca : w to gy pi		204-4L
		tr Sh/Clst: red gy to pl red, mic		204-5L
		tr Ca : brn gy, dol		204-6L
3615.00				205
	0.28	100 Sh/Clst: drk gy, mic		205-1L
		tr Sltst : drk gy, mic		205-2L
		tr S/Sst : w to gn gy to m gy, carb, mic		205-3L
		tr Ca : w to gy pi		205-4L
		tr Sh/Clst: red gy to pl red, mic		205-5L
		tr Ca : brn gy, dol		205-6L
3620.00				206
	0.24	100 Sh/Clst: drk gy, mic		206-1L
		tr Sltst : drk gy, mic		206-2L
		tr S/Sst : w to gn gy to m gy, carb, mic		206-3L
		tr Ca : w to gy pi		206-4L
		tr Sh/Clst: red gy to pl red, mic		206-5L
		tr Ca : brn gy, dol		206-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3625.00					207
	0.28	100	Sh/Clst: drk gy, mic		207-1L
			tr Sltst : drk gy, mic		207-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		207-3L
			tr Ca : w to gy pi		207-4L
			tr Sh/Clst: red gy to pl red, mic		207-5L
			tr Ca : brn gy, dol		207-6L
3630.00					208
	0.23	100	Sh/Clst: drk gy, mic		208-1L
			tr Sltst : drk gy, mic		208-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		208-3L
			tr Ca : w to gy pi		208-4L
			tr Sh/Clst: red gy to pl red, mic		208-5L
			tr Ca : brn gy, dol		208-6L
3635.00					209
	0.26	100	Sh/Clst: drk gy, mic		209-1L
			tr Sltst : drk gy, mic		209-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		209-3L
			tr Ca : w to gy pi		209-4L
			tr Sh/Clst: red gy to pl red, mic		209-5L
			tr Ca : brn gy, dol		209-6L
3640.00					210
	0.29	100	Sh/Clst: drk gy, mic		210-1L
			tr Sltst : drk gy, mic		210-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		210-3L
			tr Ca : w to gy pi		210-4L
			tr Sh/Clst: red gy to pl red, mic		210-5L
			tr Ca : brn gy, dol		210-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description	---	-----
3645.00					211
	0.30	100	Sh/Clst: drk gy, mic		211-1L
			tr Sltst : drk gy, mic		211-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		211-3L
			tr Ca : w to gy pi		211-4L
			tr Sh/Clst: red gy to pl red, mic		211-5L
			tr Ca : brn gy, dol		211-6L
3650.00					212
	0.22	100	Sh/Clst: drk gy, mic		212-1L
			tr Sltst : drk gy, mic		212-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		212-3L
			tr Ca : w to gy pi		212-4L
			tr Sh/Clst: red gy to pl red, mic		212-5L
			tr Ca : brn gy, dol		212-6L
3655.00					213
	0.29	100	Sh/Clst: drk gy, mic		213-1L
			tr Sltst : drk gy, mic		213-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		213-3L
			tr Ca : w to gy pi		213-4L
			tr Sh/Clst: red gy to pl red, mic		213-5L
			tr Ca : brn gy, dol		213-6L
3660.00					214
	0.29	100	Sh/Clst: drk gy, mic		214-1L
			tr Sltst : drk gy, mic		214-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		214-3L
			tr Ca : w to gy pi		214-4L
			tr Sh/Clst: red gy to pl red, mic		214-5L
			tr Ca : brn gy, dol		214-6L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3670.00					215
	0.29	100	Sh/Clst: drk gy, mic		215-1L
			tr Sltst : drk gy, mic		215-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		215-3L
			tr Ca : w to gy pi		215-4L
			tr Sh/Clst: red gy to pl red, mic		215-5L
			tr Ca : brn gy, dol		215-6L
3675.00					216
	0.31	100	Sh/Clst: drk gy, mic		216-1L
			tr Sltst : drk gy, mic		216-2L
			tr S/Sst : w to gn gy to m gy, carb, mic		216-3L
			tr Ca : w to gy pi		216-4L
			tr Sh/Clst: red gy to pl red, mic		216-5L
			tr Ca : brn gy, dol		216-6L
3680.00					217
	0.34	95	Sh/Clst: drk gy, mic		217-7L
		5	Sltst : brn gy to drk gy, mic		217-8L
			tr S/Sst : brn gy		217-10L
			tr Ca : w to gy pi to gn gy		217-9L
3685.00					218
	0.32	95	Sh/Clst: drk gy, mic		218-7L
		5	Sltst : brn gy to drk gy, mic		218-8L
			tr S/Sst : brn gy		218-10L
			tr Ca : w to gy pi to gn gy		218-9L
3690.00					219
	0.34	100	Sh/Clst: drk gy, mic		219-2L
			tr Sh/Clst: red gy to pl red, mic		219-1L
			tr Ca : brn gy, dol		219-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			---	-----
Int Cvd	TOC%	%	Lithology description		
-----	-----	-----	-----		
3695.00					220
	0.31	100	Sh/Clst: drk gy, mic		220-2L
			tr Sh/Clst: red gy to pl red, mic		220-1L
			tr Ca : brn gy, dol		220-3L
3700.00					221
	0.25	100	Sh/Clst: drk gy, mic		221-2L
			tr Sh/Clst: red gy to pl red, mic		221-1L
			tr Ca : brn gy, dol		221-3L
3705.00					222
	0.29	100	Sh/Clst: drk gy, mic		222-2L
			tr Sh/Clst: red gy to pl red, mic		222-1L
			tr Ca : brn gy, dol		222-3L
3710.00					226
	0.30	100	Sh/Clst: drk gy, mic		226-1L
			tr S/Sst : gn gy		226-2L
			tr Ca : brn gy to dsk y brn, dol		226-3L
			tr Ca : w		226-4L
			tr Sh/Clst: red gy to pl red, mic		226-5L
3720.00					227
	0.27	100	Sh/Clst: drk gy, mic		227-1L
			tr S/Sst : gn gy		227-2L
			tr Ca : brn gy to dsk y brn, dol		227-3L
			tr Ca : w		227-4L
			tr Sh/Clst: red gy to pl red, mic		227-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			----	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
3725.00					228
	0.31	100	Sh/Clst: drk gy, mic		228-1L
			tr Sh/Clst: gn gy		228-2L
			tr Sh/Clst: ol gy, calc		228-3L
			tr S/Sst : m gy, mic, glauc		228-4L
3730.00					229
	0.33	100	Sh/Clst: drk gy, mic		229-1L
			tr Sh/Clst: gn gy		229-2L
			tr Sh/Clst: ol gy, calc		229-3L
			tr S/Sst : m gy, mic, glauc		229-4L
3735.00					230
cvd	0.54	95	Sh/Clst: drk gy, mic		230-2L
	6.99	5	Sh/Clst: brn blk, carb, fis		230-1L
			tr Sh/Clst: ol gy, calc, mic		230-3L
			tr Sh/Clst: gn gy		230-4L
3740.00					231
	0.97	65	Sh/Clst: gy blk, m gy to drk gy, calc, carb, mic		231-2L
		30	Cont : cem		231-1L
	3.36	5	Sh/Clst: gn gy to ol gy, calc		231-3L
3753.00					232
	5.82	70	Sh/Clst: brn blk, carb, mic, fis		232-2L
		30	Cont : prp, dd, fib		232-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Lithology description	Trb	Sample
Int Cvd	TOC%	%		---	-----
3758.00					233
	5.31	70	Sh/Clst: brn blk, carb, mic, fis		233-2L
		30	Cont : prp, dd, fib		233-1L
3764.00					234
	4.94	90	Sh/Clst: brn blk, carb, slt, mic, fis		234-2L
		10	Cont : prp, dd, fib		234-1L
3770.00					235
	4.00	90	Sh/Clst: brn blk, carb, slt, mic, fis		235-2L
		10	Cont : prp, dd, fib		235-1L
3776.00					236
	3.49	90	Sh/Clst: brn blk, carb, slt, mic, fis		236-2L
		10	Cont : prp, dd, fib		236-1L
3782.00					237
	3.42	90	Sh/Clst: brn blk, carb, slt, mic, fis		237-2L
		10	Cont : prp, dd, fib		237-1L
3788.00					238
	2.61	90	Sh/Clst: brn blk, carb, slt, mic, fis		238-2L
		10	Cont : prp, dd, fib		238-1L
3794.00					239
	2.44	90	Sh/Clst: brn blk, carb, slt, mic, fis		239-2L
		10	Cont : prp, dd, fib		239-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3800.00					240
	2.17	90	Sh/Clst: brn blk, carb, slt, mic, fis		240-2L
		10	Cont : prp, dd, fib		240-1L
3806.00					241
	2.57	90	Sh/Clst: brn blk, carb, slt, mic, fis		241-2L
		10	Cont : prp, dd, fib		241-1L
3812.00					242
	2.62	80	Sh/Clst: drk gy to brn blk, mic		242-2L
		20	Cont : prp, dd, fib		242-1L
3818.00					243
		50	Cont : prp, fib		243-2L
	4.27	50	Sh/Clst: drk gy to brn blk, carb, mic, fis		243-3L
		tr	Coal : blk		243-1L
3824.00					244
		50	Cont : prp, fib		244-2L
	3.30	50	Sh/Clst: drk gy to brn blk, carb, mic, fis		244-3L
		tr	Coal : blk		244-1L
3830.00					245
		100	Cont : prp, dd, fib		245-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type				Trb	Sample
Int Cvd	TOC%	%	Lithology description			
3836.00						246
cvd	2.11	80	Cont	: prp, fib		246-2L
		20	Sh/Clst:	brn blk to drk gy, carb, slt, mic, fis		246-1L
3842.00						247
cvd	3.10	70	Sh/Clst:	brn blk to drk gy, carb, slt, mic, fis		247-3L
		20	Cont	: prp, fib		247-2L
	0.50	10	S/Sst	: ol gy to lt ol gy, mic, glauc		247-1L
3848.00						248
cvd	2.67	80	Sh/Clst:	brn blk to drk gy, carb, slt, mic, fis		248-3L
		20	Cont	: prp, fib		248-2L
		tr	S/Sst	: ol gy to lt ol gy, mic, glauc		248-1L
3851.00						249
cvd	2.76	80	Sh/Clst:	brn blk to drk gy, carb, slt, mic, fis		249-3L
		20	Cont	: prp, fib		249-2L
		tr	S/Sst	: ol gy to lt ol gy, mic, glauc		249-1L
3857.00						250
cvd	2.18	80	Sh/Clst:	brn blk to drk gy, carb, slt, mic, fis		250-3L
		20	Cont	: prp, fib		250-2L
		tr	S/Sst	: ol gy to lt ol gy, mic, glauc		250-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3869.00					251
cvd	2.16	80	Sh/Clst: brn blk to drk gy, carb, slt, mic, fis		251-3L
		20	Cont : prp, fib		251-2L
		tr	S/Sst : ol gy to lt ol gy, mic, glauc		251-1L
3881.00					252
cvd	2.18	100	Sh/Clst: brn blk, carb, mic		252-1L
		tr	Cont : prp		252-2L
3893.00					253
		100	Cont : prp, fib		253-1L
3899.00					345
cvd	2.59	80	Sh/Clst: brn blk, carb, mic		345-2L
		20	Cont : prp, dd		345-1L
3908.00					254
	2.31	80	Sh/Clst: brn blk, carb, mic		254-2L
		20	Cont : prp, fib		254-1L
3914.00					255
		70	Cont : prp, dd, fib		255-1L
	2.58	30	Sh/Clst: blk to brn blk, carb, mic		255-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
3920.00					256
	3.29	65	Sh/Clst: blk to brn blk, carb, mic		256-4L
		20	Cont : prp, dd, fib		256-3L
	0.11	10	Sltst : ol gy, calc		256-1L
		5	Ca : w to y gy		256-2L
3926.00					257
	2.87	65	Sh/Clst: blk to brn blk, carb, mic		257-3L
		20	Cont : prp, dd, fib		257-2L
	0.16	15	Sltst : ol gy, calc, s		257-1L
		tr	Coal : blk		257-4L
3932.00					258
	2.40	80	Sh/Clst: blk to brn blk, carb, slt, mic		258-1L
		20	Cont : prp, dd, fib		258-3L
		tr	S/Sst : ol gy, mic, glauc		258-2L
3938.00					259
	2.80	90	Sh/Clst: blk to brn blk, carb, slt, mic		259-3L
		10	Cont : prp, dd, fib		259-2L
		tr	Sltst : ol gy, calc		259-1L
3944.00					260
		90	Cont : prp, dd, fib		260-2L
	3.29	10	Sh/Clst: blk to brn blk, carb, mic		260-1L
3950.00					261
	2.64	85	Sh/Clst: blk to brn blk, carb, mic		261-3L
	0.08	10	Sltst : brn gy to gn gy to ol gy, calc, mic		261-2L
		5	S/Sst : gn gy to ol gy to lt ol gy, mic, glauc		261-1L
		tr	Cont : prp, dd, fib		261-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3956.00				262
	2.23	80 Sh/Clst: blk to brn blk, carb, mic		262-4L
		20 Cont : prp, dd, fib		262-1L
		tr S/Sst : gn gy to ol gy to lt ol gy, mic, glauc		262-2L
		tr Sltst : brn gy to gn gy to ol gy, calc, mic		262-3L
3962.00				263
	2.26	80 Sh/Clst: blk to brn blk, carb, mic		263-4L
		20 Cont : prp, dd, fib		263-1L
		tr S/Sst : gn gy to ol gy to lt ol gy, mic, glauc		263-2L
		tr Sltst : brn gy to gn gy to ol gy, calc, mic		263-3L
3968.00				264
	2.59	80 Sh/Clst: blk to brn blk, carb, mic		264-4L
		20 Cont : prp, dd, fib		264-1L
		tr S/Sst : gn gy to ol gy to lt ol gy, mic, glauc		264-2L
		tr Sltst : brn gy to gn gy to ol gy, calc, mic		264-3L
3974.00				265
	2.46	80 Sh/Clst: blk to brn blk, carb, mic		265-4L
		20 Cont : prp, dd, fib		265-1L
		tr S/Sst : gn gy to ol gy to lt ol gy, mic, glauc		265-2L
		tr Sltst : brn gy to gn gy to ol gy, calc, mic		265-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description	---	-----
3980.00					266
	2.44	60	Sh/Clst: blk to brn blk, carb, mic		266-2L
		30	Cont : prp, dd, fib		266-1L
	0.06	10	Sltst : brn gy to gn gy to ol gy, calc, mic		266-4L
			tr S/Sst : y gy to ol gy to lt ol gy, mic		266-3L
			tr Ca : w to y gy to ol gy		266-5L
3988.00					267
	3.42	60	Sh/Clst: blk to brn blk, carb, mic		267-2L
		30	Cont : prp, dd, fib		267-1L
	0.22	10	Sltst : brn gy to gn gy to ol gy, calc, mic		267-4L
			tr S/Sst : y gy to ol gy to lt ol gy, mic		267-3L
			tr Ca : w to y gy to ol gy		267-5L
3992.00					268
		50	Cont : prp, dd, fib		268-1L
	2.80	50	Sh/Clst: blk to brn blk, carb, mic		268-2L
			tr Sltst : brn gy to gn gy to ol gy, calc, mic		268-3L
			tr S/Sst : w to y gy to ol gy, calc, mic		268-4L
3998.00					269
	3.26	65	Sh/Clst: blk to brn blk, carb, mic		269-4L
		20	Cont : prp, dd, fib		269-3L
	0.10	10	Sltst : brn gy to gn gy to ol gy, calc, mic		269-2L
		5	S/Sst : w to y gy to ol gy, calc, mic, glauc		269-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			----	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
4004.00					270
	3.08	65	Sh/Clst: blk to brn blk, carb, mic		270-4L
		20	Cont : prp, dd, fib		270-3L
		10	Sltst : brn gy to gn gy to ol gy, calc, mic		270-2L
	0.09	5	S/Sst : w to y gy to ol gy, calc, mic, glauc		270-1L
4010.00					271
	3.29	65	Sh/Clst: blk to brn blk, carb, mic		271-4L
		20	Cont : prp, dd, fib		271-3L
	0.11	10	Sltst : brn gy to gn gy to ol gy, calc, mic		271-2L
		5	S/Sst : w to y gy to ol gy, calc, mic, glauc		271-1L
4016.00					272
	3.34	65	Sh/Clst: blk to brn blk, carb, mic		272-4L
		20	Cont : prp, dd, fib		272-3L
	0.21	10	Sltst : brn gy to gn gy to ol gy, calc, mic		272-2L
		5	S/Sst : w to y gy to ol gy, calc, mic, glauc		272-1L
4022.00					273
	2.56	65	Sh/Clst: blk to brn blk, carb, mic		273-4L
		20	Cont : prp, dd, fib		273-3L
	0.36	10	Sltst : brn gy to gn gy to ol gy, calc, mic		273-2L
		5	S/Sst : w to y gy to ol gy, calc, mic, glauc		273-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			----	-----
Int Cvd	TOC%	%	Lithology description		
----	-----	----	-----		
4028.00					274
	2.80	70	Sh/Clst: blk to brn blk, carb, mic		274-3L
		20	Cont : prp, dd, fib		274-2L
	0.03	10	S/Sst : gn gy to red gy to ol gy, calc, carb, mic		274-1L
			tr Sh/Clst: brn gy to gn gy to ol gy, slt, mic		274-4L
			tr Ca : red gy		274-5L
4034.00					275
	3.35	75	Sh/Clst: blk to brn blk, carb, mic		275-3L
		20	Cont : prp, dd, fib		275-2L
		5	S/Sst : w to y gy to gn gy to red gy to ol gy, calc, mic		275-1L
4040.00					276
	3.17	100	Sh/Clst: blk to brn blk, carb, mic		276-1L
			tr S/Sst : w to y gy to red gy, calc, carb, mic		276-2L
			tr Sltst : red gy, mic		276-3L
			tr Ca : lt gy		276-4L
			tr Cont : prp, dd		276-5L
4046.00					277
	3.11	85	Sh/Clst: blk to brn blk, carb, mic		277-2L
		10	Cont : prp, dd		277-1L
		5	S/Sst : y gy to red gy to m gy, carb, mic		277-3L
			tr Sltst : brn gy to gn gy to red gy, mic		277-4L
			tr Ca : y gy to red gy to m gy, carb, mic		277-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description	---	-----
4052.00					278
	3.01	85	Sh/Clst: blk to brn blk, carb, mic		278-2L
		10	Cont : prp, dd		278-1L
		5	S/Sst : y gy to red gy to m gy, carb, mic		278-3L
		tr	Sltst : brn gy to gn gy to red gy, mic		278-4L
		tr	Ca : y gy to red gy to m gy, carb, mic		278-5L
4058.00					279
		70	Cont : prp, dd, fib		279-2L
	3.30	30	Sh/Clst: blk to brn blk, carb, mic		279-1L
		tr	Sh/Clst: gn gy		279-3L
		tr	S/Sst : w to gn gy		279-4L
		tr	Ca : w		279-5L
		tr	Sltst : brn gy to red gy, mic		279-6L
4064.00					280
	0.07	60	Sltst : brn gy to gn gy to red gy, mic		280-3L
	3.68	40	Sh/Clst: blk to brn blk, carb, mic		280-2L
		tr	S/Sst : gn gy to red gy to y gy, carb, mic		280-1L
4070.00					281
	2.87	60	Sh/Clst: blk to brn blk, carb, mic, st		281-2L
		30	Sltst : brn gy to gn gy to red gy, mic, st		281-3L
		10	Cont : prp, dd, fib		281-1L
4076.00					282
	3.37	75	Sh/Clst: blk to brn blk, carb, mic, st		282-3L
	0.12	20	Sltst : brn gy to gn gy to red gy, mic, st		282-2L
		5	S/Sst : gn gy to red gy to y gy, carb, mic, st		282-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
4082.00				283
	3.03	70 Sh/Clst: blk to brn blk, carb, mic, st		283-3L
	0.08	30 Sltst : brn gy to gn gy to red gy, mic, st		283-2L
		tr S/Sst : gn gy to red gy to y red, carb, mic, st		283-1L
		tr Coal : blk		283-4L
4088.00				284
	3.00	75 Sh/Clst: blk to brn blk, mic		284-3L
	0.13	20 Sltst : brn gy to gn gy to red gy, mic		284-2L
		5 S/Sst : w to gn gy to red gy, carb, mic		284-1L
		tr Cont : dd		284-4L
4094.00				285
	3.50	75 Sh/Clst: blk to brn blk, mic		285-3L
	0.01	20 Sltst : brn gy to gn gy to red gy, mic		285-2L
		5 S/Sst : w to gn gy to red gy, carb, mic		285-1L
		tr Cont : dd		285-4L
4100.00				286
	3.54	75 Sh/Clst: blk to brn blk, mic		286-3L
	0.04	20 Sltst : brn gy to gn gy to red gy, mic		286-2L
		5 S/Sst : w to gn gy to red gy, carb, mic		286-1L
		tr Cont : dd		286-4L
4106.00				287
	3.89	75 Sh/Clst: blk to brn blk, carb, mic		287-3L
		15 Sltst : brn gy to gn gy to red gy, mic		287-2L
	0.01	10 S/Sst : w to gn gy to red gy, calc, carb, mic		287-1L
		tr Ca : w to gn gy		287-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			----	-----
Int Cvd	TOC%	%	Lithology description		
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4112.00					288
	3.11	75	Sh/Clst: blk to brn blk, carb, mic		288-3L
		15	Sltst : brn gy to gn gy to red gy, mic		288-2L
	0.01	10	S/Sst : w to gn gy to red gy, calc, carb, mic		288-1L
			tr Ca : w to gn gy		288-4L
4118.00					289
		60	Sltst : brn gy to gn gy to red gy, calc, mic		289-3L
	2.78	30	Sh/Clst: blk to brn blk, carb, mic		289-2L
	0.05	10	S/Sst : w to gn gy to red gy, calc, carb, mic		289-1L
4124.00					290
		60	Sltst : brn gy to gn gy to red gy, calc, mic		290-3L
	3.09	30	Sh/Clst: blk to brn blk, carb, mic		290-2L
	0.01	10	S/Sst : w to gn gy to red gy, calc, carb, mic		290-1L
4130.00					291
		50	Cont : prp, dd, fib		291-1L
	3.93	30	Sh/Clst: blk to brn blk, carb, mic		291-2L
	0.03	20	Sltst : gn gy to red gy, calc, mic		291-3L
		tr	S/Sst : w to red gy, calc, carb, mic		291-4L
4136.00					292
	3.09	70	Sh/Clst: blk to brn blk, carb, mic		292-2L
	0.03	25	Sltst : brn gy to gn gy to red gy, calc, mic		292-3L
		5	S/Sst : w to gn gy to red gy, calc, carb, mic		292-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
4142.00				293
	3.42	60 Sh/Clst: blk to brn blk, carb, mic		293-1L
	0.06	30 Sltst : brn gy to gn gy to red gy, calc, mic		293-3L
		10 S/Sst : w to gn gy to m gy, calc, carb, mic		293-2L
4148.00				294
	3.07	60 Sh/Clst: blk to brn blk, carb, mic		294-1L
		30 Sltst : brn gy to gn gy to red gy, calc, mic		294-3L
		10 S/Sst : w to gn gy to m gy, calc, carb, mic		294-2L
4154.00				296
	3.36	60 Sh/Clst: blk to brn blk, carb, mic		296-3L
		20 Sltst : brn gy to gn gy to red gy, calc, mic		296-4L
		10 Cont : prp, dd, fib		296-1L
	0.08	10 S/Sst : w to gn gy to red gy, calc, carb, mic		296-2L
4160.00				297
	3.85	60 Sh/Clst: blk to brn blk, carb, mic		297-3L
		20 Sltst : brn gy to gn gy to red gy, calc, mic		297-4L
		10 Cont : prp, dd, fib		297-1L
	0.02	10 S/Sst : w to gn gy to red gy, calc, carb, mic		297-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
-----	-----			---	-----
Int Cvd	TOC%	%	Lithology description		
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4166.00					298
	4.09	60	Sh/Clst: blk to brn blk, carb, mic		298-3L
	0.02	20	Sltst : brn gy to gn gy to red gy, calc, mic		298-4L
		10	Cont : prp, dd, fib		298-1L
		10	S/Sst : w to gn gy to red gy, calc, carb, mic		298-2L
4172.00					299
	2.41	60	Sh/Clst: blk to brn blk, carb, mic		299-3L
		20	Sltst : brn gy to gn gy to red gy, calc, mic		299-4L
		10	Cont : prp, dd, fib		299-1L
	0.01	10	S/Sst : w to gn gy to red gy, calc, carb, mic		299-2L
4178.00					300
	0.01	85	Sltst : brn gy to gn gy to red gy, calc, mic		300-3L
		10	Sh/Clst: blk to brn blk, carb, mic		300-2L
		5	S/Sst : w to gn gy to red gy, calc, carb, mic		300-1L
4184.00					301
		40	Cont : prp, dd, fib		301-1L
	0.15	40	Sltst : brn gy to gn gy to red gy, calc, mic, st		301-3L
		20	Sh/Clst: blk to brn blk, carb, mic, st		301-2L
		tr	S/Sst : w to y gy, calc, carb, mic, st		301-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
4190.00				302
		50 Sltst : brn gy to gn gy to red gy, calc, mic, st		302-4L
	4.24	30 Sh/Clst: blk to brn blk, carb, mic, st		302-3L
		10 Cont : prp, dd, fib		302-1L
	0.01	10 S/Sst : w to gn gy to red gy, carb, mic, st		302-2L
4196.00				303
	0.01	50 Sltst : brn gy to gn gy to red gy, calc, mic, st		303-4L
	3.04	30 Sh/Clst: blk to brn blk, carb, mic, st		303-3L
		10 Cont : prp, dd, fib		303-1L
		10 S/Sst : w to gn gy to red gy, carb, mic, st		303-2L
4202.00				304
		50 Cont : prp, dd, fib		304-2L
		30 Sh/Clst: blk to brn blk, carb, mic		304-1L
		20 Sltst : brn gy to gn gy to red gy, calc, mic		304-3L
		tr S/Sst : w to gn gy to red gy, calc, carb, mic		304-4L
4208.00				305
	0.01	60 Sltst : brn gy to gn gy to red gy, calc, mic		305-4L
		20 Sh/Clst: blk to brn blk, carb, mic		305-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic		305-1L
		10 Cont : prp, dd, fib		305-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
4214.00					306
	0.13	60	Sltst : brn gy to gn gy to red gy, calc, mic		306-3L
	0.03	20	S/Sst : w to gn gy to red gy, calc, carb, mic		306-1L
	3.18	20	Sh/Clst: blk to brn blk, carb, mic		306-2L
4220.00					307
		50	Cont : prp, dd, fib		307-1L
		20	Sh/Clst: blk to brn blk, carb, mic		307-3L
	0.17	20	S/Sst : w to gn gy to red gy, calc, carb, mic		307-4L
		10	Sltst : gn gy to red gy, calc, mic		307-2L
4226.00					308
	3.56	30	Sh/Clst: blk to brn blk, carb, mic		308-1L
	0.03	30	S/Sst : w to gn gy to red gy, calc, carb, mic		308-2L
		30	Sltst : brn gy to gn gy to red gy, calc, mic		308-4L
		10	Cont : prp, dd, fib		308-3L
4232.00					309
	3.83	30	Sh/Clst: blk to brn blk, carb, mic		309-1L
	0.04	30	S/Sst : w to gn gy to red gy, calc, carb, mic		309-2L
		30	Sltst : brn gy to gn gy to red gy, calc, mic		309-4L
		10	Cont : prp, dd, fib		309-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
4238.00				310
	0.02	30 S/Sst : w to gn gy to red gy, calc, carb, mic		310-3L
		30 Sltst : gn gy to red gy, calc, mic		310-4L
		20 Cont : prp, dd, fib		310-1L
		20 Sh/Clst: blk to brn blk, carb, mic		310-2L
4244.00				311
	0.02	30 S/Sst : w to gn gy to red gy, calc, carb, mic		311-3L
		30 Sltst : gn gy to red gy, calc, mic		311-4L
		20 Cont : prp, dd, fib		311-1L
		20 Sh/Clst: blk to brn blk, carb, mic		311-2L
4250.00				312
	0.04	60 Sltst : gn gy to red gy, calc, mic		312-4L
		20 Sh/Clst: blk to brn blk, carb, mic		312-1L
		10 Cont : prp, dd, fib		312-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic		312-3L
4259.00				313
		60 Sltst : gn gy to red gy, calc, mic		313-4L
		20 Sh/Clst: blk to brn blk, carb, mic		313-1L
		10 Cont : prp, dd, fib		313-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic		313-3L
4265.00				314
	0.11	35 Sltst : gn gy to red gy, calc, mic, st		314-4L
		30 S/Sst : w to gn gy to red gy, calc, carb, mic, st		314-1L
		20 Cont : prp, dd, fib		314-2L
		15 Sh/Clst: blk to brn blk, carb, mic, st		314-3L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		----	-----
Int Cvd	TOC%	% Lithology description		
----	-----	-----		
4271.00				315
	0.07	50 Sltst : gn gy to red gy, calc, mic, st		315-4L
		20 S/Sst : w to gn gy to red gy, calc, carb, mic, st		315-1L
		20 Sh/Clst: blk to brn blk, carb, mic, st		315-3L
		10 Cont : prp, dd, fib		315-2L
4277.00				316
		50 Sltst : gn gy to red gy, calc, mic, st		316-4L
		20 S/Sst : w to gn gy to red gy, calc, carb, mic, st		316-1L
		20 Sh/Clst: blk to brn blk, carb, mic, st		316-3L
		10 Cont : prp, dd, fib		316-2L
4283.00				317
	0.07	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		317-1L
		30 Sltst : gn gy to red gy, calc, mic, st		317-4L
	3.08	20 Sh/Clst: blk to brn blk, carb, mic		317-3L
		10 Cont : prp, dd, fib		317-2L
4289.00				318
	0.06	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		318-1L
		30 Sltst : gn gy to red gy, calc, mic, st		318-4L
	2.59	20 Sh/Clst: blk to brn blk, carb, mic		318-3L
		10 Cont : prp, dd, fib		318-2L
4295.00				319
	0.07	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		319-1L
		30 Sltst : gn gy to red gy, calc, mic, st		319-4L
		20 Sh/Clst: blk to brn blk, carb, mic		319-3L
		10 Cont : prp, dd, fib		319-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
4301.00				320
	0.05	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		320-1L
		30 Sltst : gn gy to red gy, calc, mic, st		320-4L
	3.45	20 Sh/Clst: blk to brn blk, carb, mic		320-3L
		10 Cont : prp, dd, fib		320-2L
4307.00				321
	0.01	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		321-1L
		30 Sltst : gn gy to red gy, calc, mic, st		321-4L
		20 Sh/Clst: blk to brn blk, carb, mic		321-3L
		10 Cont : prp, dd, fib		321-2L
4313.00				322
	0.01	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		322-1L
		30 Sltst : gn gy to red gy, calc, mic, st		322-4L
	2.99	20 Sh/Clst: blk to brn blk, carb, mic		322-3L
		10 Cont : prp, dd, fib		322-2L
4319.00				323
	0.04	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		323-1L
		30 Sltst : gn gy to red gy, calc, mic, st		323-4L
		20 Sh/Clst: blk to brn blk, carb, mic		323-3L
		10 Cont : prp, dd, fib		323-2L
4325.00				324
	0.01	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		324-1L
		30 Sltst : gn gy to red gy, calc, mic, st		324-4L
	3.54	20 Sh/Clst: blk to brn blk, carb, mic		324-3L
		10 Cont : prp, dd, fib		324-2L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
4331.00				325
	0.01	40 S/Sst : w to gn gy to red gy, calc, carb, mic, st		325-1L
		30 Sltst : gn gy to red gy, calc, mic, st		325-4L
		20 Sh/Clst: blk to brn blk, carb, mic		325-3L
		10 Cont : prp, dd, fib		325-2L
4337.00				326
	0.05	60 Sltst : gn gy to red gy, calc, mic		326-3L
		20 S/Sst : w to gn gy to red gy, calc, carb, mic		326-1L
	2.61	20 Sh/Clst: blk to brn blk, carb, mic		326-2L
4343.00				327
	0.29	30 Sh/Clst: ol gy		327-2L
		30 S/Sst : w to gn gy to red gy, calc, carb, mic, st		327-3L
		30 Sltst : gn gy to red gy, calc, mic		327-4L
		10 Sh/Clst: blk to brn blk, carb, mic, st		327-1L
		tr Cont : prp, dd, fib		327-5L
4349.00				328
	0.38	30 Sh/Clst: ol gy		328-2L
		30 S/Sst : w to gn gy to red gy, calc, carb, mic, st		328-3L
		30 Sltst : gn gy to red gy, calc, mic		328-4L
	2.14	10 Sh/Clst: blk to brn blk, carb, mic, st		328-1L
		tr Cont : prp, dd, fib		328-5L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
4355.00				329
	0.30	30 Sh/Clst: ol gy		329-2L
		30 S/Sst : w to gn gy to red gy, calc, carb, mic, st		329-3L
		30 Sltst : gn gy to red gy, calc, mic		329-4L
		10 Sh/Clst: blk to brn blk, carb, mic, st		329-1L
		tr Cont : prp, dd, fib		329-5L
4361.00				330
	0.06	50 S/Sst : w to gn gy to red gy, calc, carb, mic		330-2L
		20 Cont : prp, dd, fib		330-1L
		20 Sltst : gn gy to red gy, calc, mic		330-3L
		10 Sh/Clst: ol gy to blk, mic		330-4L
4367.00				331
	0.06	50 S/Sst : w to gn gy to red gy, calc, carb, mic		331-2L
		20 Cont : prp, dd, fib		331-1L
		20 Sltst : gn gy to red gy, calc, mic		331-3L
	2.96	10 Sh/Clst: ol gy to blk, mic		331-4L
4373.00				332
	0.05	70 Sltst : gn gy to red gy, calc, mic, st		332-3L
		20 Sh/Clst: ol gy to blk, carb, mic		332-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic, st		332-1L
4379.00				333
		60 Sltst : gn gy to red gy, calc, mic, st		333-3L
	2.89	30 Sh/Clst: blk to brn blk, carb, mic, st		333-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic, st		333-1L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type		Trb	Sample
-----	-----		----	-----
Int Cvd	TOC%	% Lithology description		
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4385.00				334
	2.74	60 Sltst : gn gy to red gy, calc, mic, st		334-3L
		30 Sh/Clst: blk to brn blk, carb, mic, st		334-2L
		10 S/Sst : w to gn gy to red gy, calc, carb, mic, st		334-1L
4391.00				335
	2.84	50 Sltst : gn gy to red gy, calc, mic, st		335-3L
		30 Sh/Clst: blk to brn blk, carb, mic, st		335-2L
	0.10	20 S/Sst : w to gn gy to red gy, calc, carb, mic, st		335-1L
4397.00				336
	0.05	50 S/Sst : w to gn gy to red gy, calc, carb, mic, st		336-1L
	2.86	30 Sh/Clst: blk to ol gy, mic		336-2L
		20 Sltst : gn gy to red gy, mic		336-3L
4403.00				337
	0.04	50 S/Sst : w to gn gy to red gy, calc, carb, mic, st		337-1L
	2.87	30 Sh/Clst: blk to ol gy, mic		337-2L
		20 Sltst : gn gy to red gy, calc, mic		337-3L
		tr Ca : w		337-4L
4409.00				338
	0.07	85 Sltst : gn gy to red gy, calc, mic		338-3L
		10 Sh/Clst: blk to ol gy, mic		338-2L
		5 Ca : blk		338-1L
		tr Cont : prp, dd, fib		338-4L

Table 1 : Lithology description for well NOCS 7/12-5

Depth unit of measure: m

Depth	Type			Trb	Sample
Int Cvd	TOC%	%	Lithology description		
4415.00					339
		85	Sltst : gn gy to red gy, calc, mic		339-3L
		10	Sh/Clst: blk to ol gy, mic		339-2L
		5	Ca : blk		339-1L
		tr	Cont : prp, dd, fib		339-4L
4421.00					340
		85	Sltst : gn gy to red gy, calc, mic		340-3L
		10	Sh/Clst: blk to ol gy, mic		340-2L
		5	Ca : blk		340-1L
		tr	Cont : prp, dd, fib		340-4L
4427.00					341
	2.68	70	Sltst : gn gy to red gy, calc, mic		341-4L
		30	Sh/Clst: blk to brn blk, carb		341-3L
		tr	Ca : w		341-1L
		tr	S/Sst : w to gn gy to red gy, calc, carb, mic		341-2L
4433.00					342
	2.37	70	Sltst : gn gy to red gy, calc, mic		342-4L
		30	Sh/Clst: blk to brn blk, carb		342-3L
		tr	Ca : w		342-1L
		tr	S/Sst : w to gn gy to red gy, calc, carb, mic		342-2L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3384.00	cut	Ca : w to gy pi to gn gy	0.02	-	0.22	-	0.03	-	733	-	1.00	446	166-3L
3417.00	cut	Sh/Clst: v col	0.11	0.87	0.65	1.34	1.28	68	51	1.0	0.11	428	171-1L
3441.00	cut	Sh/Clst: drk gy	0.15	0.50	0.34	1.47	1.24	40	27	0.7	0.23	429	175-1L
3447.00	cut	Sh/Clst: drk gy	0.05	0.17	0.28	0.61	0.92	18	30	0.2	0.23	432	176-1L
3447.00	cut	Sh/Clst: v col	0.09	0.71	0.47	1.51	1.02	70	46	0.8	0.11	431	176-3L
3453.00	cut	Sh/Clst: drk gy	0.04	0.12	0.21	0.57	0.86	14	24	0.2	0.25	432	177-1L
3459.00	cut	Sh/Clst: drk gy	0.18	0.55	0.32	1.72	1.06	52	30	0.7	0.25	432	223-1L
3475.00	cut	Sltst : drk gy	0.05	0.24	0.35	0.69	0.80	30	44	0.3	0.17	428	178-1L
3480.00	cut	Sltst : drk gy	0.05	0.32	0.44	0.73	0.71	45	62	0.4	0.14	427	179-1L
3485.00	cut	Sh/Clst: drk gy	0.03	0.14	0.33	0.42	0.54	26	61	0.2	0.18	431	180-1L
3490.00	cut	Sh/Clst: drk gy	0.01	0.06	0.25	0.24	0.38	16	66	0.1	0.14	430	181-1L
3495.00	cut	Sh/Clst: drk gy	0.01	0.01	0.25	0.04	0.37	3	68	-	0.50	468	182-1L
3500.00	cut	Sh/Clst: drk gy	0.05	0.26	0.38	0.68	0.71	37	54	0.3	0.16	428	183-1L
3505.00	cut	Sh/Clst: drk gy	0.01	0.09	0.22	0.41	0.62	15	35	0.1	0.10	436	184-1L
3515.00	cut	Sh/Clst: drk gy	0.02	0.08	0.34	0.24	0.44	18	77	0.1	0.20	430	185-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3520.00	cut	Sh/Clst: drk gy	0.01	0.05	0.31	0.16	0.36	14	86	0.1	0.17	431	186-1L
3525.00	cut	Sh/Clst: drk gy	0.12	0.01	0.27	0.04	0.40	3	68	0.1	0.92	432	187-1L
3530.00	cut	Sh/Clst: drk gy	0.01	0.03	0.28	0.11	0.37	8	76	-	0.25	367	188-1L
3535.00	cut	Sh/Clst: drk gy	0.01	0.03	0.14	0.21	0.21	14	67	-	0.25	415	189-1L
3540.00	cut	Sh/Clst: drk gy	0.01	0.02	0.33	0.06	0.34	6	97	-	0.33	320	190-1L
3545.00	cut	Sh/Clst: drk gy	0.02	0.07	0.21	0.33	0.35	20	60	0.1	0.22	427	191-1L
3550.00	cut	Sh/Clst: drk gy	0.68	0.37	0.20	1.85	0.43	86	47	1.1	0.65	353	192-1L
3555.00	cut	Sh/Clst: drk gy	0.04	-	0.14	-	0.29	-	48	-	1.00	431	193-1L
3560.00	cut	Sh/Clst: drk gy	0.04	0.02	0.16	0.13	0.29	7	55	0.1	0.67	384	194-1L
3565.00	cut	Sh/Clst: drk gy	0.03	0.06	0.08	0.75	0.30	20	27	0.1	0.33	441	195-1L
3570.00	cut	Sh/Clst: drk gy	0.05	0.03	0.19	0.16	0.29	10	66	0.1	0.63	289	196-1L
3575.00	cut	Sh/Clst: drk gy	0.05	0.02	0.14	0.14	0.27	7	52	0.1	0.71	250	197-1L
3580.00	cut	Sh/Clst: drk gy	0.03	0.03	0.18	0.17	0.31	10	58	0.1	0.50	272	198-1L
3585.00	cut	Sh/Clst: drk gy	0.05	-	0.16	-	0.26	-	62	0.1	1.00	393	199-1L
3590.00	cut	Sh/Clst: drk gy	0.03	0.07	0.10	0.70	0.24	29	42	0.1	0.30	336	200-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3595.00	cut	Sh/Clst: drk gy	0.05	0.01	0.25	0.04	0.26	4	96	0.1	0.83	251	201-1L
3600.00	cut	Sh/Clst: drk gy	0.14	0.12	0.18	0.67	0.29	41	62	0.3	0.54	300	202-1L
3605.00	cut	Sh/Clst: drk gy	0.05	0.05	0.14	0.36	0.27	19	52	0.1	0.50	273	203-1L
3610.00	cut	Sh/Clst: drk gy	0.02	0.02	0.07	0.29	0.20	10	35	-	0.50	-	204-1L
3615.00	cut	Sh/Clst: drk gy	0.06	0.04	0.12	0.33	0.28	14	43	0.1	0.60	245	205-1L
3620.00	cut	Sh/Clst: drk gy	0.03	-	0.17	-	0.24	-	71	-	1.00	490	206-1L
3625.00	cut	Sh/Clst: drk gy	0.05	-	0.17	-	0.28	-	61	0.1	1.00	398	207-1L
3630.00	cut	Sh/Clst: drk gy	0.03	0.05	0.05	1.00	0.23	22	22	0.1	0.38	341	208-1L
3635.00	cut	Sh/Clst: drk gy	0.01	-	0.17	-	0.26	-	65	-	1.00	355	209-1L
3640.00	cut	Sh/Clst: drk gy	0.05	0.02	0.18	0.11	0.29	7	62	0.1	0.71	298	210-1L
3645.00	cut	Sh/Clst: drk gy	0.04	0.01	0.20	0.05	0.30	3	67	0.1	0.80	346	211-1L
3650.00	cut	Sh/Clst: drk gy	0.01	0.04	0.07	0.57	0.22	18	32	0.1	0.20	-	212-1L
3655.00	cut	Sh/Clst: drk gy	0.04	0.02	0.16	0.13	0.29	7	55	0.1	0.67	298	213-1L
3660.00	cut	Sh/Clst: drk gy	0.04	0.03	0.13	0.23	0.29	10	45	0.1	0.57	358	214-1L
3670.00	cut	Sh/Clst: drk gy	0.02	0.01	0.15	0.07	0.29	3	52	-	0.67	298	215-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3675.00	cut	Sh/Clst: drk gy	0.03	0.06	0.13	0.46	0.31	19	42	0.1	0.33	438	216-1L
3680.00	cut	Sh/Clst: drk gy	0.07	0.05	0.29	0.17	0.34	15	85	0.1	0.58	272	217-7L
3685.00	cut	Sh/Clst: drk gy	0.06	0.07	0.22	0.32	0.32	22	69	0.1	0.46	345	218-7L
3690.00	cut	Sh/Clst: drk gy	0.07	0.12	0.16	0.75	0.34	35	47	0.2	0.37	389	219-2L
3695.00	cut	Sh/Clst: drk gy	0.07	0.08	0.10	0.80	0.31	26	32	0.2	0.47	338	220-2L
3700.00	cut	Sh/Clst: drk gy	0.02	0.05	0.12	0.42	0.25	20	48	0.1	0.29	341	221-2L
3705.00	cut	Sh/Clst: drk gy	0.05	0.06	0.19	0.32	0.29	21	66	0.1	0.45	298	222-2L
3710.00	cut	Sh/Clst: drk gy	0.03	0.05	0.16	0.31	0.30	17	53	0.1	0.38	298	226-1L
3720.00	cut	Sh/Clst: drk gy	0.03	0.05	0.22	0.23	0.27	19	81	0.1	0.38	298	227-1L
3725.00	cut	Sh/Clst: drk gy	0.05	0.06	0.17	0.35	0.31	19	55	0.1	0.45	342	228-1L
3730.00	cut	Sh/Clst: drk gy	0.02	0.07	0.09	0.78	0.33	21	27	0.1	0.22	440	229-1L
3735.00	cut	Sh/Clst: brn blk	3.10	24.28	0.35	69.37	6.99	347	5	27.4	0.11	444	230-1L
3735.00	cut	Sh/Clst: drk gy	0.08	0.41	0.16	2.56	0.54	76	30	0.5	0.16	438	230-2L
3740.00	cut	Sh/Clst: gy blk, m gy to drk gy	0.28	1.01	0.30	3.37	0.97	104	31	1.3	0.22	442	231-2L
3740.00	cut	Sh/Clst: gn gy to ol gy	1.37	11.70	0.21	55.71	3.36	348	6	13.1	0.10	444	231-3L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3753.00	cut	Sh/Clst: brn blk	3.80	18.31	0.39	46.95	5.82	315	7	22.1	0.17	440	232-2L
3758.00	cut	Sh/Clst: brn blk	3.39	16.99	0.28	60.68	5.31	320	5	20.4	0.17	439	233-2L
3764.00	cut	Sh/Clst: brn blk	2.97	15.94	0.31	51.42	4.94	323	6	18.9	0.16	439	234-2L
3770.00	cut	Sh/Clst: brn blk	2.45	11.90	0.36	33.06	4.00	298	9	14.3	0.17	442	235-2L
3776.00	cut	Sh/Clst: brn blk	2.04	9.35	0.30	31.17	3.49	268	9	11.4	0.18	441	236-2L
3782.00	cut	Sh/Clst: brn blk	1.77	9.66	0.41	23.56	3.42	282	12	11.4	0.15	441	237-2L
3788.00	cut	Sh/Clst: brn blk	1.19	6.04	0.36	16.78	2.61	231	14	7.2	0.16	446	238-2L
3794.00	cut	Sh/Clst: brn blk	1.14	5.41	0.40	13.52	2.44	222	16	6.5	0.17	441	239-2L
3800.00	cut	Sh/Clst: brn blk	1.30	5.30	0.20	26.50	2.17	244	9	6.6	0.20	443	240-2L
3806.00	cut	Sh/Clst: brn blk	1.62	7.04	0.26	27.08	2.57	274	10	8.7	0.19	442	241-2L
3812.00	cut	Sh/Clst: drk gy to brn blk	1.28	4.93	0.43	11.47	2.62	188	16	6.2	0.21	444	242-2L
3818.00	cut	Sh/Clst: drk gy to brn blk	1.71	7.22	1.73	4.17	4.27	169	41	8.9	0.19	441	243-3L
3824.00	cut	Sh/Clst: drk gy to brn blk	1.68	7.01	1.01	6.94	3.30	212	31	8.7	0.19	442	244-3L
3836.00	cut	Sh/Clst: brn blk to drk gy	1.24	4.84	0.26	18.62	2.11	229	12	6.1	0.20	441	246-1L
3842.00	cut	S/Sst : ol gy to lt ol gy	0.21	0.29	0.84	0.35	0.50	58	168	0.5	0.42	436	247-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3842.00	cut	Sh/Clst: brn blk to drk gy	1.48	6.16	0.44	14.00	3.10	199	14	7.6	0.19	445	247-3L
3848.00	cut	Sh/Clst: brn blk to drk gy	2.13	7.63	0.28	27.25	2.67	286	10	9.8	0.22	440	248-3L
3851.00	cut	Sh/Clst: brn blk to drk gy	1.89	5.84	0.58	10.07	2.76	212	21	7.7	0.24	444	249-3L
3857.00	cut	Sh/Clst: brn blk to drk gy	1.60	5.66	0.24	23.58	2.18	260	11	7.3	0.22	442	250-3L
3869.00	cut	Sh/Clst: brn blk to drk gy	1.46	4.85	0.32	15.16	2.16	225	15	6.3	0.23	441	251-3L
3881.00	cut	Sh/Clst: brn blk	1.61	5.31	0.21	25.29	2.18	244	10	6.9	0.23	441	252-1L
3899.00	cut	Sh/Clst: brn blk	3.07	7.44	0.26	28.62	2.59	287	10	10.5	0.29	442	345-2L
3908.00	cut	Sh/Clst: brn blk	2.27	6.29	0.19	33.11	2.31	272	8	8.6	0.27	441	254-2L
3914.00	cut	Sh/Clst: blk to brn blk	1.48	5.74	0.49	11.71	2.58	222	19	7.2	0.20	441	255-2L
3920.00	cut	Sltst : ol gy	0.04	-	0.27	-	0.11	-	245	-	1.00	443	256-1L
3920.00	cut	Sh/Clst: blk to brn blk	1.65	7.65	0.21	36.43	3.29	233	6	9.3	0.18	446	256-4L
3926.00	cut	Sltst : ol gy	0.04	0.03	0.28	0.11	0.16	19	175	0.1	0.57	408	257-1L
3926.00	cut	Sh/Clst: blk to brn blk	1.61	5.72	0.38	15.05	2.87	199	13	7.3	0.22	445	257-3L
3932.00	cut	Sh/Clst: blk to brn blk	1.45	6.45	0.17	37.94	2.40	269	7	7.9	0.18	440	258-1L
3938.00	cut	Sh/Clst: blk to brn blk	2.01	7.82	0.15	52.13	2.80	279	5	9.8	0.20	444	259-3L

Table 2 : Rock-Eval table for well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3944.00	cut	Sh/Clst: blk to brn blk	1.76	7.16	0.51	14.04	3.29	218	16	8.9	0.20	444	260-1L
3950.00	cut	Sltst : brn gy to gn gy to ol gy	0.07	0.05	0.17	0.29	0.08	63	213	0.1	0.58	408	261-2L
3950.00	cut	Sh/Clst: blk to brn blk	1.36	4.94	0.48	10.29	2.64	187	18	6.3	0.22	445	261-3L
3956.00	cut	Sh/Clst: blk to brn blk	1.39	5.06	0.26	19.46	2.23	227	12	6.4	0.22	441	262-4L
3962.00	cut	Sh/Clst: blk to brn blk	1.46	5.47	0.34	16.09	2.26	242	15	6.9	0.21	441	263-4L
3968.00	cut	Sh/Clst: blk to brn blk	1.59	5.81	0.29	20.03	2.59	224	11	7.4	0.21	441	264-4L
3974.00	cut	Sh/Clst: blk to brn blk	1.45	5.77	0.22	26.23	2.46	235	9	7.2	0.20	441	265-4L
3980.00	cut	Sh/Clst: blk to brn blk	1.14	4.18	0.56	7.46	2.44	171	23	5.3	0.21	444	266-2L
3980.00	cut	Sltst : brn gy to gn gy to ol gy	0.02	0.01	0.26	0.04	0.06	17	433	-	0.67	430	266-4L
3988.00	cut	Sh/Clst: blk to brn blk	1.70	7.64	0.61	12.52	3.42	223	18	9.3	0.18	446	267-2L
3988.00	cut	Sltst : brn gy to gn gy to ol gy	0.06	0.08	0.43	0.19	0.22	36	195	0.1	0.43	434	267-4L
3992.00	cut	Sh/Clst: blk to brn blk	1.51	6.52	0.33	19.76	2.80	233	12	8.0	0.19	440	268-2L
3998.00	cut	Sltst : brn gy to gn gy to ol gy	0.03	0.02	0.41	0.05	0.10	20	410	0.1	0.60	444	269-2L
3998.00	cut	Sh/Clst: blk to brn blk	1.57	6.79	0.80	8.49	3.26	208	25	8.4	0.19	444	269-4L
4004.00	cut	S/Sst : w to y gy to ol gy	0.04	0.07	0.48	0.15	0.09	78	533	0.1	0.36	362	270-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4004.00	cut	Sh/Clst: blk to brn blk	1.49	6.41	0.70	9.16	3.08	208	23	7.9	0.19	446	270-4L
4010.00	cut	Sltst : brn gy to gn gy to ol gy	0.02	0.01	0.29	0.03	0.11	9	264	-	0.67	428	271-2L
4010.00	cut	Sh/Clst: blk to brn blk	1.92	7.65	0.77	9.94	3.29	233	23	9.6	0.20	445	271-4L
4016.00	cut	Sltst : brn gy to gn gy to ol gy	0.07	0.18	0.35	0.51	0.21	86	167	0.3	0.28	432	272-2L
4016.00	cut	Sh/Clst: blk to brn blk	1.79	7.15	0.79	9.05	3.34	214	24	8.9	0.20	445	272-4L
4022.00	cut	Sltst : brn gy to gn gy to ol gy	0.12	0.28	0.33	0.85	0.36	78	92	0.4	0.30	434	273-2L
4022.00	cut	Sh/Clst: blk to brn blk	1.54	5.51	0.78	7.06	2.56	215	30	7.1	0.22	445	273-4L
4028.00	cut	S/Sst : gn gy to red gy to ol gy	0.02	0.01	0.21	0.05	0.03	33	700	-	0.67	443	274-1L
4028.00	cut	Sh/Clst: blk to brn blk	1.61	5.74	0.48	11.96	2.80	205	17	7.3	0.22	446	274-3L
4034.00	cut	Sh/Clst: blk to brn blk	2.26	8.61	0.24	35.88	3.35	257	7	10.9	0.21	441	275-3L
4040.00	cut	Sh/Clst: blk to brn blk	2.06	7.94	0.29	27.38	3.17	250	9	10.0	0.21	442	276-1L
4046.00	cut	Sh/Clst: blk to brn blk	2.04	7.94	0.18	44.11	3.11	255	6	10.0	0.20	441	277-2L
4052.00	cut	Sh/Clst: blk to brn blk	1.93	6.96	0.25	27.84	3.01	231	8	8.9	0.22	440	278-2L
4058.00	cut	Sh/Clst: blk to brn blk	1.85	7.00	0.76	9.21	3.30	212	23	8.9	0.21	445	279-1L
4064.00	cut	Sh/Clst: blk to brn blk	2.15	8.93	0.89	10.03	3.68	243	24	11.1	0.19	444	280-2L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4064.00	cut	Sltst : brn gy to gn gy to red gy	0.01	0.01	0.20	0.05	0.07	14	286	-	0.50	443	280-3L
4070.00	cut	Sh/Clst: blk to brn blk	1.83	6.76	0.32	21.13	2.87	236	11	8.6	0.21	441	281-2L
4076.00	cut	Sltst : brn gy to gn gy to red gy	0.03	0.01	0.12	0.08	0.12	8	100	-	0.75	466	282-2L
4076.00	cut	Sh/Clst: blk to brn blk	1.87	7.23	0.84	8.61	3.37	215	25	9.1	0.21	447	282-3L
4082.00	cut	Sltst : brn gy to gn gy to red gy	0.02	0.01	0.21	0.05	0.08	13	263	-	0.67	297	283-2L
4082.00	cut	Sh/Clst: blk to brn blk	1.72	6.68	0.85	7.86	3.03	220	28	8.4	0.20	445	283-3L
4088.00	cut	Sltst : brn gy to gn gy to red gy	0.04	0.03	0.32	0.09	0.13	23	246	0.1	0.57	336	284-2L
4088.00	cut	Sh/Clst: blk to brn blk	1.55	6.73	0.91	7.40	3.00	224	30	8.3	0.19	446	284-3L
4094.00	cut	Sltst : brn gy to gn gy to red gy	0.01	0.01	0.18	0.06	0.01	100	1800	-	0.50	296	285-2L
4094.00	cut	Sh/Clst: blk to brn blk	1.85	7.94	0.84	9.45	3.50	227	24	9.8	0.19	442	285-3L
4100.00	cut	Sltst : brn gy to gn gy to red gy	0.01	0.01	0.18	0.06	0.04	25	450	-	0.50	428	286-2L
4100.00	cut	Sh/Clst: blk to brn blk	1.70	7.80	0.78	10.00	3.54	220	22	9.5	0.18	446	286-3L
4106.00	cut	S/Sst : w to gn gy to red gy	0.01	0.01	0.18	0.06	0.01	100	1800	-	0.50	454	287-1L
4106.00	cut	Sh/Clst: blk to brn blk	2.21	10.78	0.38	28.37	3.89	277	10	13.0	0.17	445	287-3L
4112.00	cut	S/Sst : w to gn gy to red gy	0.01	0.01	0.12	0.08	0.01	100	1200	-	0.50	261	288-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4112.00	cut	Sh/Clst: blk to brn blk	1.90	7.00	0.66	10.61	3.11	225	21	8.9	0.21	445	288-3L
4118.00	cut	S/Sst : w to gn gy to red gy	0.02	0.01	0.47	0.02	0.05	20	940	-	0.67	214	289-1L
4118.00	cut	Sh/Clst: blk to brn blk	1.56	5.64	0.61	9.25	2.78	203	22	7.2	0.22	441	289-2L
4124.00	cut	S/Sst : w to gn gy to red gy	0.01	0.01	0.09	0.11	0.01	100	900	-	0.50	321	290-1L
4124.00	cut	Sh/Clst: blk to brn blk	1.88	7.30	0.65	11.23	3.09	236	21	9.2	0.20	444	290-2L
4130.00	cut	Sh/Clst: blk to brn blk	2.52	9.64	0.81	11.90	3.93	245	21	12.2	0.21	442	291-2L
4130.00	cut	Sltst : gn gy to red gy	0.01	0.01	0.27	0.04	0.03	33	900	-	0.50	426	291-3L
4136.00	cut	Sh/Clst: blk to brn blk	1.84	7.21	0.65	11.09	3.09	233	21	9.1	0.20	443	292-2L
4136.00	cut	Sltst : brn gy to gn gy to red gy	0.02	0.01	0.20	0.05	0.03	33	667	-	0.67	297	292-3L
4142.00	cut	Sh/Clst: blk to brn blk	2.08	7.91	0.62	12.76	3.42	231	18	10.0	0.21	444	293-1L
4142.00	cut	Sltst : brn gy to gn gy to red gy	0.02	0.01	0.16	0.06	0.06	17	267	-	0.67	246	293-3L
4148.00	cut	Sh/Clst: blk to brn blk	1.69	6.72	0.70	9.60	3.07	219	23	8.4	0.20	442	294-1L
4154.00	cut	S/Sst : w to gn gy to red gy	0.03	0.01	0.85	0.01	0.08	13	1063	-	0.75	263	296-2L
4154.00	cut	Sh/Clst: blk to brn blk	1.83	7.50	0.86	8.72	3.36	223	26	9.3	0.20	442	296-3L
4160.00	cut	S/Sst : w to gn gy to red gy	0.01	0.01	0.12	0.08	0.02	50	600	-	0.50	254	297-2L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4160.00	cut	Sh/Clst: blk to brn blk	2.29	10.39	0.73	14.23	3.85	270	19	12.7	0.18	444	297-3L
4166.00	cut	Sh/Clst: blk to brn blk	2.52	10.72	0.67	16.00	4.09	262	16	13.2	0.19	440	298-3L
4166.00	cut	Sltst : brn gy to gn gy to red gy	0.02	-	0.17	-	0.02	-	850	-	1.00	221	298-4L
4172.00	cut	S/Sst : w to gn gy to red gy	0.02	-	0.23	-	0.01	-	2300	-	1.00	333	299-2L
4172.00	cut	Sh/Clst: blk to brn blk	1.29	5.00	0.58	8.62	2.41	207	24	6.3	0.21	443	299-3L
4178.00	cut	Sltst : brn gy to gn gy to red gy	-	-	0.13	-	0.01	-	1300	-	-	330	300-3L
4184.00	cut	Sltst : brn gy to gn gy to red gy	0.03	0.06	0.28	0.21	0.15	40	187	0.1	0.33	443	301-3L
4190.00	cut	S/Sst : w to gn gy to red gy	-	-	0.21	-	0.01	-	2100	-	-	221	302-2L
4190.00	cut	Sh/Clst: blk to brn blk	2.53	11.15	0.69	16.16	4.24	263	16	13.7	0.18	442	302-3L
4196.00	cut	Sh/Clst: blk to brn blk	1.67	6.47	0.98	6.60	3.04	213	32	8.1	0.21	443	303-3L
4196.00	cut	Sltst : brn gy to gn gy to red gy	0.02	-	0.19	-	0.01	-	1900	-	1.00	430	303-4L
4208.00	cut	Sltst : brn gy to gn gy to red gy	0.01	-	0.24	-	0.01	-	2400	-	1.00	296	305-4L
4214.00	cut	S/Sst : w to gn gy to red gy	-	-	0.23	-	0.03	-	767	-	-	238	306-1L
4214.00	cut	Sh/Clst: blk to brn blk	1.71	6.42	0.98	6.55	3.18	202	31	8.1	0.21	442	306-2L
4214.00	cut	Sltst : brn gy to gn gy to red gy	-	0.02	0.28	0.07	0.13	15	215	-	-	454	306-3L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4220.00	cut	S/Sst : w to gn gy to red gy	0.05	0.04	1.73	0.02	0.17	24	1018	0.1	0.56	296	307-4L
4226.00	cut	Sh/Clst: blk to brn blk	2.03	8.93	0.58	15.40	3.56	251	16	11.0	0.19	441	308-1L
4226.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.20	-	0.03	-	667	-	1.00	236	308-2L
4232.00	cut	Sh/Clst: blk to brn blk	2.13	9.83	0.62	15.85	3.83	257	16	12.0	0.18	444	309-1L
4232.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.37	-	0.04	-	925	-	1.00	426	309-2L
4238.00	cut	S/Sst : w to gn gy to red gy	-	-	0.27	-	0.02	-	1350	-	-	296	310-3L
4244.00	cut	S/Sst : w to gn gy to red gy	-	-	0.25	-	0.02	-	1250	-	-	245	311-3L
4250.00	cut	Sltst : gn gy to red gy	0.02	-	0.28	-	0.04	-	700	-	1.00	244	312-4L
4265.00	cut	S/Sst : w to gn gy to red gy	-	-	0.33	-	0.11	-	300	-	-	214	314-1L
4271.00	cut	Sltst : gn gy to red gy	0.01	-	0.18	-	0.07	-	257	-	1.00	428	315-4L
4283.00	cut	S/Sst : w to gn gy to red gy	0.02	-	0.28	-	0.07	-	400	-	1.00	367	317-1L
4283.00	cut	Sh/Clst: blk to brn blk	1.85	6.96	0.68	10.24	3.08	226	22	8.8	0.21	444	317-3L
4289.00	cut	S/Sst : w to gn gy to red gy	0.02	-	0.20	-	0.06	-	333	-	1.00	213	318-1L
4289.00	cut	Sh/Clst: blk to brn blk	1.49	5.53	0.77	7.18	2.59	214	30	7.0	0.21	445	318-3L
4295.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.17	-	0.07	-	243	-	1.00	296	319-1L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4301.00	cut	S/Sst : w to gn gy to red gy	0.02	0.01	0.17	0.06	0.05	20	340	-	0.67	279	320-1L
4301.00	cut	Sh/Clst: blk to brn blk	2.51	8.78	0.49	17.92	3.45	254	14	11.3	0.22	443	320-3L
4307.00	cut	S/Sst : w to gn gy to red gy	0.01	0.02	0.17	0.12	0.01	200	1700	-	0.33	373	321-1L
4313.00	cut	S/Sst : w to gn gy to red gy	0.03	0.02	0.21	0.10	0.01	200	2100	0.1	0.60	361	322-1L
4313.00	cut	Sh/Clst: blk to brn blk	1.92	6.88	0.54	12.74	2.99	230	18	8.8	0.22	443	322-3L
4319.00	cut	S/Sst : w to gn gy to red gy	0.02	-	0.24	-	0.04	-	600	-	1.00	368	323-1L
4325.00	cut	S/Sst : w to gn gy to red gy	-	-	0.21	-	0.01	-	2100	-	-	318	324-1L
4325.00	cut	Sh/Clst: blk to brn blk	2.53	8.88	0.70	12.69	3.54	251	20	11.4	0.22	442	324-3L
4331.00	cut	S/Sst : w to gn gy to red gy	0.02	0.03	0.04	0.75	0.01	300	400	0.1	0.40	298	325-1L
4337.00	cut	Sh/Clst: blk to brn blk	1.44	5.05	0.61	8.28	2.61	193	23	6.5	0.22	443	326-2L
4337.00	cut	Sltst : gn gy to red gy	-	-	0.26	-	0.05	-	520	-	-	462	326-3L
4343.00	cut	Sh/Clst: ol gy	0.02	-	0.30	-	0.29	-	103	-	1.00	337	327-2L
4349.00	cut	Sh/Clst: blk to brn blk	1.42	5.29	0.43	12.30	2.14	247	20	6.7	0.21	445	328-1L
4349.00	cut	Sh/Clst: ol gy	0.08	0.06	0.15	0.40	0.38	16	39	0.1	0.57	330	328-2L
4355.00	cut	Sh/Clst: ol gy	0.01	-	0.49	-	0.30	-	163	-	1.00	298	329-2L

Table 2 : Rock-Eval table for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4361.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.24	-	0.06	-	400	-	1.00	429	330-2L
4367.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.19	-	0.06	-	317	-	1.00	330	331-2L
4367.00	cut	Sh/Clst: ol gy to blk	1.76	6.58	0.66	9.97	2.96	222	22	8.3	0.21	445	331-4L
4373.00	cut	Sltst : gn gy to red gy	-	-	0.28	-	0.05	-	560	-	-	214	332-3L
4379.00	cut	Sh/Clst: blk to brn blk	1.82	6.46	0.35	18.46	2.89	224	12	8.3	0.22	440	333-2L
4385.00	cut	Sh/Clst: blk to brn blk	1.91	5.62	0.84	6.69	2.74	205	31	7.5	0.25	445	334-2L
4391.00	cut	S/Sst : w to gn gy to red gy	0.01	-	0.25	-	0.10	-	250	-	1.00	422	335-1L
4391.00	cut	Sh/Clst: blk to brn blk	1.43	5.40	0.98	5.51	2.84	190	35	6.8	0.21	444	335-2L
4397.00	cut	S/Sst : w to gn gy to red gy	-	-	0.19	-	0.05	-	380	-	-	427	336-1L
4397.00	cut	Sh/Clst: blk to ol gy	1.71	5.69	1.00	5.69	2.86	199	35	7.4	0.23	443	336-2L
4403.00	cut	S/Sst : w to gn gy to red gy	0.02	-	0.16	-	0.04	-	400	-	1.00	350	337-1L
4403.00	cut	Sh/Clst: blk to ol gy	1.99	7.76	0.71	10.93	2.87	270	25	9.8	0.20	444	337-2L
4409.00	cut	Sltst : gn gy to red gy	0.01	-	0.40	-	0.07	-	571	-	1.00	256	338-3L
4427.00	cut	Sh/Clst: blk to brn blk	1.60	6.74	0.25	26.96	2.68	251	9	8.3	0.19	440	341-3L
4433.00	cut	Sh/Clst: blk to brn blk	1.26	5.12	0.26	19.69	2.37	216	11	6.4	0.20	439	342-3L

Table 3 a: Weight of EOM and Chromatographic Fraction for well NOCS 7/12-5

Page: 1

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
3806.00	com	Composite sample - see table 3 e	6.4	38.5	10.7	4.0	1.5	22.3	14.7	23.8	2.70	346-0B
3908.00	com	Composite sample - see table 3 e	9.9	54.5	13.4	6.1	2.1	32.9	19.5	35.0	2.60	347-0B
3974.00	com	Composite sample - see table 3 e	10.6	66.9	23.4	12.2	5.8	25.5	35.6	31.3	4.10	348-0B
4070.00	com	Composite sample - see table 3 e	7.0	34.8	14.8	4.1	1.5	14.4	18.9	15.9	2.80	349-0B
4433.00	com	Composite sample - see table 3 e	1.6	4.5	1.0	0.2	0.1	3.2	1.2	3.3	2.00	350-0B

Table 3 b: Concentration of EOM and Chromatographic Fraction (wt ppm rock) for well NOCS 7/12-5

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
3806.00	com	Composite sample - see table 3 e	6034	1677	626	235	3495	2304	3730	346-0B
3908.00	com	Composite sample - see table 3 e	5488	1349	614	211	3313	1963	3524	347-0B
3974.00	com	Composite sample - see table 3 e	6341	2218	1156	549	2417	3374	2966	348-0B
4070.00	com	Composite sample - see table 3 e	4985	2120	587	214	2063	2707	2277	349-0B
4433.00	com	Composite sample - see table 3 e	2866	636	127	63	2038	764	2101	350-0B

Table 3 c: Concentration of EOM and Chromatographic Fraction (mg/g TOC(e)) for well NOCS 7/12-5

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
3806.00	com	Composite sample - see table 3 e	223.50	62.12	23.22	8.71	129.46	85.34	138.16	346-0B
3908.00	com	Composite sample - see table 3 e	211.09	51.90	23.63	8.13	127.43	75.53	135.56	347-0B
3974.00	com	Composite sample - see table 3 e	154.66	54.10	28.20	13.41	58.95	82.30	72.36	348-0B
4070.00	com	Composite sample - see table 3 e	178.06	75.73	20.98	7.67	73.68	96.70	81.35	349-0B
4433.00	com	Composite sample - see table 3 e	143.31	31.85	6.37	3.18	101.91	38.22	105.10	350-0B

Table 3 d: Composition of material extracted from the rock (%) for well NOCS 7/12-5

Page: 1

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	
3806.00	com	Composite sample - see table 3 e	27.79	10.39	3.90	57.92	38.18	61.82	267.50	61.76	346-0B
3908.00	com	Composite sample - see table 3 e	24.59	11.19	3.85	60.37	35.78	64.22	219.67	55.71	347-0B
3974.00	com	Composite sample - see table 3 e	34.98	18.24	8.67	38.12	53.21	46.79	191.80	113.74	348-0B
4070.00	com	Composite sample - see table 3 e	42.53	11.78	4.31	41.38	54.31	45.69	360.98	118.87	349-0B
4433.00	com	Composite sample - see table 3 e	22.22	4.44	2.22	71.11	26.67	73.33	500.00	36.36	350-0B

Table 3 e: List of composite samples appearing in the extraction tables for well NOCS 7/12-5

Page: 1

Depth unit of measure: m

NOTE: Depths shown in tables 3 a to d correspond to the composite samples' lower depth.

<u>Upper depth</u>	<u>Lower depth</u>	<u>Typ</u>	<u>Sample</u>		<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>Sample</u>
3753.00	3806.00	com	346-0B	is composed of:	3753.00	cut	Sh/Clst: brn blk, carb, mic, fis	232-2L
					3758.00	cut	Sh/Clst: brn blk, carb, mic, fis	233-2L
					3764.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	234-2L
					3770.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	235-2L
					3776.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	236-2L
					3782.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	237-2L
					3794.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	239-2L
					3800.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	240-2L
					3806.00	cut	Sh/Clst: brn blk, carb, slt, mic, fis	241-2L
3836.00	3908.00	com	347-0B	is composed of:	3836.00	cut	Sh/Clst: brn blk to drk gy, carb, slt, mic, fis	246-1L
					3848.00	cut	Sh/Clst: brn blk to drk gy, carb, slt, mic, fis	248-3L
					3857.00	cut	Sh/Clst: brn blk to drk gy, carb, slt, mic, fis	250-3L
					3869.00	cut	Sh/Clst: brn blk to drk gy, carb, slt, mic, fis	251-3L
					3881.00	cut	Sh/Clst: brn blk, carb, mic	252-1L
					3899.00	cut	Sh/Clst: brn blk, carb, mic	345-2L
					3908.00	cut	Sh/Clst: brn blk, carb, mic	254-2L

Table 3 e: List of composite samples appearing in the extraction tables for well NOCS 7/12-5

Depth unit of measure: m

NOTE: Depths shown in tables 3 a to d correspond to the composite samples' lower depth.

<u>Upper depth</u>	<u>Lower depth</u>	<u>Typ</u>	<u>Sample</u>		<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>Sample</u>
3932.00	3974.00	com	348-0B	is composed of:	3932.00	cut	Sh/Clst: blk to brn blk, carb, slt, mic	258-1L
					3938.00	cut	Sh/Clst: blk to brn blk, carb, slt, mic	259-3L
					3956.00	cut	Sh/Clst: blk to brn blk, carb, mic	262-4L
					3962.00	cut	Sh/Clst: blk to brn blk, carb, mic	263-4L
					3968.00	cut	Sh/Clst: blk to brn blk, carb, mic	264-4L
					3974.00	cut	Sh/Clst: blk to brn blk, carb, mic	265-4L
4034.00	4070.00	com	349-0B	is composed of:	4034.00	cut	Sh/Clst: blk to brn blk, carb, mic	275-3L
					4040.00	cut	Sh/Clst: blk to brn blk, carb, mic	276-1L
					4046.00	cut	Sh/Clst: blk to brn blk, carb, mic	277-2L
					4052.00	cut	Sh/Clst: blk to brn blk, carb, mic	278-2L
					4070.00	cut	Sh/Clst: blk to brn blk, carb, mic, st	281-2L
4427.00	4433.00	com	350-0B	is composed of:	4427.00	cut	Sh/Clst: blk to brn blk, carb	341-3L
					4433.00	cut	Sh/Clst: blk to brn blk, carb	342-3L

Table 4 : Saturated Hydrocarbon Ratios for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	Pristane	Pristane	Pristane + Phytane	Phytane	CPI	Sample
			nC17	Phytane	nC17 + nC18	nC18		
3806.00	com	bulk	0.51	1.51	0.45	0.38	0.98	346-0B
3908.00	com	bulk	0.56	1.50	0.47	0.39	1.12	347-0B
3974.00	com	bulk	0.52	1.48	0.45	0.38	1.12	348-0B
4070.00	com	bulk	0.50	1.40	0.45	0.39	1.04	349-0B
4433.00	com	bulk	0.54	1.36	0.48	0.42	1.11	350-0B

Table 5 : Aromatic Hydrocarbon Ratios for well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	DBT/P	4/1MDBT	(3+2)/1MDBT	Sample
3806.00	com	bulk	-	1.04	-	0.69	0.66	0.64	0.17	13.20	0.90	346-0B
3908.00	com	bulk	0.98	2.19	0.11	0.74	0.66	0.64	0.13	11.60	0.98	347-0B
3974.00	com	bulk	0.95	1.41	0.13	0.76	0.70	0.69	0.25	18.10	1.57	348-0B
4070.00	com	bulk	0.82	1.33	0.09	0.74	0.67	0.67	0.23	17.60	1.58	349-0B
4433.00	com	bulk	-	-	-	0.76	0.72	0.73	0.23	14.10	1.56	350-0B

Table 6 : Thermal Maturity Data for well NOCS 7/12-5

Page: 1

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
1100.00	cut bulk	0.26	15	0.04	3	-	-	007-0B
1300.00	cut bulk	0.31	5	0.04	3	-	-	344-0B
1490.00	cut bulk	0.34	30	0.05	3+4	-	-	009-0B
1670.00	cut bulk	0.32	23	0.04	3	-	-	010-0B
1840.00	cut bulk	0.36	20	0.04	3+4	-	-	012-0B
2050.00	cut bulk	0.36	29	0.04	4	-	-	014-0B
2260.00	cut bulk	0.38	23	0.05	4	-	-	017-0B
2440.00	cut bulk	0.40	20	0.05	4	-	-	034-0B
2620.00	cut bulk	0.43	16	0.03	0	-	-	054-0B
2790.00	cut bulk	0.47	16	0.07	4	-	-	071-0B
2960.00	cut bulk	0.46	17	0.07	5+6	-	-	088-0B
3170.00	cut bulk	0.46	7	0.07	-	-	-	126-0B
3390.00	cut bulk	NDP	-	-	5	-	-	167-0B
3540.00	cut bulk	0.49	8	0.04	5+6	-	-	190-0B

Table 6 : Thermal Maturity Data for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
3740.00	cut bulk	0.51	27	0.05	5+6	-	-	231-0B
3740.00	cut Sh/Clst: gn gy to ol gy	-	-	-	-	6	444	231-3L
3753.00	cut Sh/Clst: brn blk	-	-	-	-	6 - 7	440	232-2L
3758.00	cut Sh/Clst: brn blk	-	-	-	-	6 - 6.5	439	233-2L
3764.00	cut Sh/Clst: brn blk	-	-	-	-	6? 7?	439	234-2L
3770.00	cut Sh/Clst: brn blk	-	-	-	-	6 - 6.5?	442	235-2L
3776.00	cut Sh/Clst: brn blk	-	-	-	-	6.5?	441	236-2L
3782.00	cut Sh/Clst: brn blk	-	-	-	-	6.5?	441	237-2L
3794.00	cut Sh/Clst: brn blk	-	-	-	-	NDP	441	239-2L
3806.00	cut Sh/Clst: brn blk	-	-	-	-	6 - 6.5?	442	241-2L
3818.00	cut Sh/Clst: drk gy to brn blk	-	-	-	-	NDP	441	243-3L
3824.00	cut Sh/Clst: drk gy to brn blk	-	-	-	-	6.5 (7?)	442	244-3L
3836.00	cut Sh/Clst: brn blk to drk gy	-	-	-	-	7	441	246-1L
3848.00	cut Sh/Clst: brn blk to drk gy	-	-	-	-	6.5 - 7	440	248-3L

Table 6 : Thermal Maturity Data for well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
3857.00	cut	Sh/Clst: brn blk to drk gy	-	-	-	-	7	442	250-3L
3881.00	cut	Sh/Clst: brn blk	-	-	-	-	6.5 - 7	441	252-1L
3899.00	cut	Sh/Clst: brn blk	-	-	-	-	6.5 - 7	442	345-2L
3932.00	cut	bulk	0.51	23	0.10	0	-	-	258-0B
3932.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5? 7?	440	258-1L
3938.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5 - 7	444	259-3L
3956.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5 - 7?	441	262-4L
3962.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5 - 7?	441	263-4L
3974.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5 - 7?	441	265-4L
3992.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	6.5?	440	268-2L
4034.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	7	441	275-3L
4046.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	7	441	277-2L
4070.00	cut	Sh/Clst: blk to brn blk	-	-	-	-	7	441	281-2L
4082.00	cut	bulk	0.56	16	0.08	6	-	-	283-0B

Table 6 : Thermal Maturity Data for well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
4232.00	cut	bulk	0.57	13	0.05	5+6	-	-	309-0B
4385.00	cut	bulk	NDP	-	-	0	-	-	334-0B

Table 7 : Visual Kerogen Composition Data for well NOCS 7/12-5

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	L	A	L	S	C		D	A	B	I	S	I	M	S		V	C	V	A	
			I	m	i	p	u	R	i	n	c	N	F	e	n	i	B	I	T	o	i	B
			P	r	D	P	i	s	g	o	r	E	u	m	d	c	I	T	e	l	d	r
			T	e	o	c	i	a	f	i	t	R	s	f	r	r	t	R	i	i	e	t
			%	L	t	l	l	n	e	l	t	L	%	n	s	t	n	I	%	n	n	t
																						Sample
3740.00	cut	Sh/Clst: gn gy to ol gy	45	*	*	*		*	*			15	*	*				40	*	*		231-3L
3753.00	cut	Sh/Clst: brn blk	40	*	**	*		?				5	*	*				55	*	**		232-2L
3758.00	cut	Sh/Clst: brn blk	40	*	**	*		?				10	*	*				50	*	**		233-2L
3764.00	cut	Sh/Clst: brn blk	30	*	*	*		*				5	*	*	**			65	*	**		234-2L
3770.00	cut	Sh/Clst: brn blk	30	*	**	*		*				10	*	*				60	*	*		235-2L
3776.00	cut	Sh/Clst: brn blk	20	*	**	*		?	*			10	*	*				70	*	**		236-2L
3782.00	cut	Sh/Clst: brn blk	25	*	**	*		?	*			5	*	*				70	*	**		237-2L
3794.00	cut	Sh/Clst: brn blk	15		**	*		?				10	*		*			75	*	**		239-2L
3806.00	cut	Sh/Clst: brn blk	10		**	*						10			*			80	*	*		241-2L
3818.00	cut	Sh/Clst: drk gy to brn blk	10		*							10	*	**				80	**	**	*	243-3L
3824.00	cut	Sh/Clst: drk gy to brn blk	10		*	*						15	*	*				75	*	*		244-3L
3836.00	cut	Sh/Clst: brn blk to drk gy	15		*	*						10		*				75	*	*		246-1L
3848.00	cut	Sh/Clst: brn blk to drk gy	30	*	**	*						20	*	*				50	*	**		248-3L

Table 7 : Visual Kerogen Composition Data for well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	L I P T %	A m o r L	L i p / D e t	S p o l	C u t P i c l	R e s i n	A l g a e	D i n o f l	A c r i t L	B i t L	I N E R T %	F u s i n	S e m F u e s	I n D r e i n	M i c r o n	S c l e r o I	B i t I	V I T R %	T e l l i n	C o l l i n	V i t D r e t V	A m o r t V	B i t V	Sample	
3857.00	cut	Sh/Clst: brn blk to drk gy	5		*	*							25	*	**	**					70		*	*			250-3L
3881.00	cut	Sh/Clst: brn blk	10		*	*							20	*	**	**					70		*	*			252-1L
3899.00	cut	Sh/Clst: brn blk	10		*	*							20	*	**	**					70		*	*			345-2L
3932.00	cut	Sh/Clst: blk to brn blk	10		*	*							15			*					75		*	**			258-1L
3938.00	cut	Sh/Clst: blk to brn blk	10		*	*							15			*					75		*	**			259-3L
3956.00	cut	Sh/Clst: blk to brn blk	10		*								20		*	*					80		*	**			262-4L
3962.00	cut	Sh/Clst: blk to brn blk	10		*								20		*	*					80		*	**			263-4L
3974.00	cut	Sh/Clst: blk to brn blk	10		*								20		*	*					80		*	**			265-4L
3992.00	cut	Sh/Clst: blk to brn blk	20		**	*							10			*					70		*	**			268-2L
4034.00	cut	Sh/Clst: blk to brn blk	15		**	*							15		*	*					70		*	**			275-3L
4046.00	cut	Sh/Clst: blk to brn blk	15		**	*							15		*	*					70		*	**			277-2L
4070.00	cut	Sh/Clst: blk to brn blk	15		**	*							15		*	*					70		*	**			281-2L

Table 8 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 7/12-5

Page: 1

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
3735.00	cut	Sh/Clst: brn blk	3.26	13.54	37.46	45.75	24.28	230-1L
3740.00	cut	Sh/Clst: gn gy to ol gy	3.39	16.38	37.48	42.74	11.70	231-3L
3753.00	cut	Sh/Clst: brn blk	3.39	14.25	34.84	47.52	18.31	232-2L
3764.00	cut	Sh/Clst: brn blk	2.55	10.70	29.67	57.09	15.94	234-2L
3782.00	cut	Sh/Clst: brn blk	3.14	11.14	35.06	50.67	9.66	237-2L
3818.00	cut	Sh/Clst: drk gy to brn blk	4.91	12.85	32.50	49.74	7.22	243-3L
3836.00	cut	Sh/Clst: brn blk to drk gy	3.14	13.04	37.40	46.42	4.84	246-1L
3869.00	cut	Sh/Clst: brn blk to drk gy	3.67	13.57	41.28	41.49	4.85	251-3L
3881.00	cut	Sh/Clst: brn blk	3.60	13.37	37.03	46.00	5.31	252-1L
3908.00	cut	Sh/Clst: brn blk	2.85	9.82	35.47	51.85	6.29	254-2L
3914.00	cut	Sh/Clst: blk to brn blk	3.46	12.70	39.76	44.07	5.74	255-2L
3932.00	cut	Sh/Clst: blk to brn blk	3.30	14.86	37.89	43.96	6.45	258-1L
3938.00	cut	Sh/Clst: blk to brn blk	3.30	10.54	36.76	49.40	7.82	259-3L
3962.00	cut	Sh/Clst: blk to brn blk	3.25	13.01	36.53	47.21	5.47	263-4L
3968.00	cut	Sh/Clst: blk to brn blk	3.49	13.92	39.83	42.77	5.81	264-4L

Table 8 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 7/12-5

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
3992.00	cut	Sh/Clst: blk to brn blk	3.06	13.95	35.00	47.98	6.52	268-2L
4010.00	cut	Sh/Clst: blk to brn blk	3.59	15.81	33.12	47.48	7.65	271-4L
4022.00	cut	Sh/Clst: blk to brn blk	3.91	15.62	33.66	46.80	5.51	273-4L
4034.00	cut	Sh/Clst: blk to brn blk	3.27	11.08	34.89	50.77	8.61	275-3L
4046.00	cut	Sh/Clst: blk to brn blk	3.14	11.30	36.50	49.06	7.94	277-2L
4058.00	cut	Sh/Clst: blk to brn blk	3.69	15.45	33.77	47.10	7.00	279-1L
4070.00	cut	Sh/Clst: blk to brn blk	3.04	12.08	34.74	50.14	6.76	281-2L
4088.00	cut	Sh/Clst: blk to brn blk	3.59	14.98	34.40	47.04	6.73	284-3L
4100.00	cut	Sh/Clst: blk to brn blk	3.85	14.90	34.27	46.98	7.80	286-3L
4112.00	cut	Sh/Clst: blk to brn blk	3.70	15.13	33.59	47.58	7.00	288-3L
4124.00	cut	Sh/Clst: blk to brn blk	3.69	15.07	32.62	48.62	7.30	290-2L
4136.00	cut	Sh/Clst: blk to brn blk	3.51	14.92	33.38	48.19	7.21	292-2L
4148.00	cut	Sh/Clst: blk to brn blk	3.50	15.94	33.47	47.10	6.72	294-1L
4160.00	cut	Sh/Clst: blk to brn blk	3.51	15.48	32.05	48.96	10.39	297-3L
4172.00	cut	Sh/Clst: blk to brn blk	3.32	16.20	31.40	49.08	5.00	299-3L

Table 8 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 7/12-5

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Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
4190.00	cut	Sh/Clst: blk to brn blk	3.50	13.87	33.63	49.00	11.15	302-3L
4214.00	cut	Sh/Clst: blk to brn blk	3.36	14.84	32.34	49.46	6.42	306-2L
4226.00	cut	Sh/Clst: blk to brn blk	3.50	15.40	31.63	49.47	8.93	308-1L
4283.00	cut	Sh/Clst: blk to brn blk	3.36	14.55	33.09	49.00	6.96	317-3L
4301.00	cut	Sh/Clst: blk to brn blk	3.77	16.01	33.07	47.15	8.78	320-3L
4313.00	cut	Sh/Clst: blk to brn blk	3.63	16.10	32.12	48.15	6.88	322-3L
4325.00	cut	Sh/Clst: blk to brn blk	3.52	15.38	30.79	50.31	8.88	324-3L
4337.00	cut	Sh/Clst: blk to brn blk	3.56	15.85	32.26	48.33	5.05	326-2L
4349.00	cut	Sh/Clst: blk to brn blk	3.75	15.94	32.96	47.35	5.29	328-1L
4367.00	cut	Sh/Clst: ol gy to blk	3.65	15.88	32.61	47.86	6.58	331-4L
4379.00	cut	Sh/Clst: blk to brn blk	2.63	10.83	36.29	50.25	6.46	333-2L
4391.00	cut	Sh/Clst: blk to brn blk	3.59	15.82	34.60	45.99	5.40	335-2L
4403.00	cut	Sh/Clst: blk to ol gy	3.41	15.52	32.44	48.63	7.76	337-2L
4427.00	cut	Sh/Clst: blk to brn blk	3.10	11.26	37.32	48.32	6.74	341-3L

Table 9: Variation in Triterpane Distribution for Well NOCS 7/12-5

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	E/E+F	C+D		J1		Sample
				B+E+F										C+D+E+F	D+F/C+E	J1+J2%		
3806.00	Sh/Clst	1.50	0.60	0.25	0.48	0.32	0.37	0.12	0.25	0.11	0.15	0.90	0.32	0.10	60.66			346-0
4070.00	Sh/Clst	1.32	0.57	0.26	0.47	0.32	0.36	0.12	0.26	0.11	0.15	0.90	0.32	0.11	56.14			349-0
4433.00	Sh/Clst	1.61	0.62	0.25	0.63	0.39	0.21	0.09	0.14	0.08	0.14	0.90	0.37	0.09	59.26			350-0

Table 10: Variation in Sterane Distribution for Well NOCS 7/12-5

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Ratio6</u>	<u>Ratio7</u>	<u>Sample</u>
3806.00	Sh/Clst	0.81	58.33	70.49	1.32	0.67	0.40	0.33	346-0
4070.00	Sh/Clst	0.81	50.00	73.33	1.57	0.73	0.44	0.33	349-0
4433.00	Sh/Clst	0.71	44.83	71.84	1.13	0.74	0.27	0.21	350-0

Ratio1: $a / a + j$ Ratio2: $q / q + t * 100\%$ Ratio3: $2(r + s) / (q + t + 2(r + s)) * 100\%$ Ratio4: $a + b + c + d / h + k + l + n$ Ratio5: $r + s / r + s + q$ Ratio6: $u + v / u + v + q + r + s + t$ Ratio7: $u + v / u + v + i + m + n + q + r + s + t$

Table 11: Aromatisation of Steranes for Well NOCS 7/12-5

Page: 1

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Sample</u>
3806.00	Sh/Clst	0.33	0.86	346-0
4070.00	Sh/Clst	0.27	0.88	349-0
4433.00	Sh/Clst	0.29	0.86	350-0

Ratio1:
$$\frac{C1+D1+E1+F1+G1+H1+I1}{C1+D1+E1+F1+G1+H1+I1 + c1+d1+e1+f1+g1}$$

Ratio2: $g1 / g1 + I1$

Table 12: Variation in Triaromatic Sterane Distribution for Well NOCS 7/12-5

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Sample</u>
3806.00	Sh/Clst	0.90	0.88	0.74	0.75	0.83	346-0
4070.00	Sh/Clst	0.86	0.81	0.66	0.67	0.79	349-0
4433.00	Sh/Clst	0.84	0.81	0.62	0.62	0.73	350-0

Ratio1: $a1 / a1 + g1$ Ratio2: $b1 / b1 + g1$ Ratio3: $a1 + b1 / a1 + b1 + c1 + d1 + e1 + f1 + g1$ Ratio4: $a1 / a1 + e1 + f1 + g1$ Ratio5: $a1 / a1 + d1$

Table 13: Variation in Monoaromatic Sterane Distribution for Well NOCS 7/12-5

Page: 1

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Sample</u>
3806.00	Sh/Clst	0.59	0.52	0.41	0.32	346-0
4070.00	Sh/Clst	0.57	0.32	0.41	0.29	349-0
4433.00	Sh/Clst	0.62	0.48	0.40	0.31	350-0

Ratio1: A1 / A1 + E1

Ratio2: B1 / B1 + E1

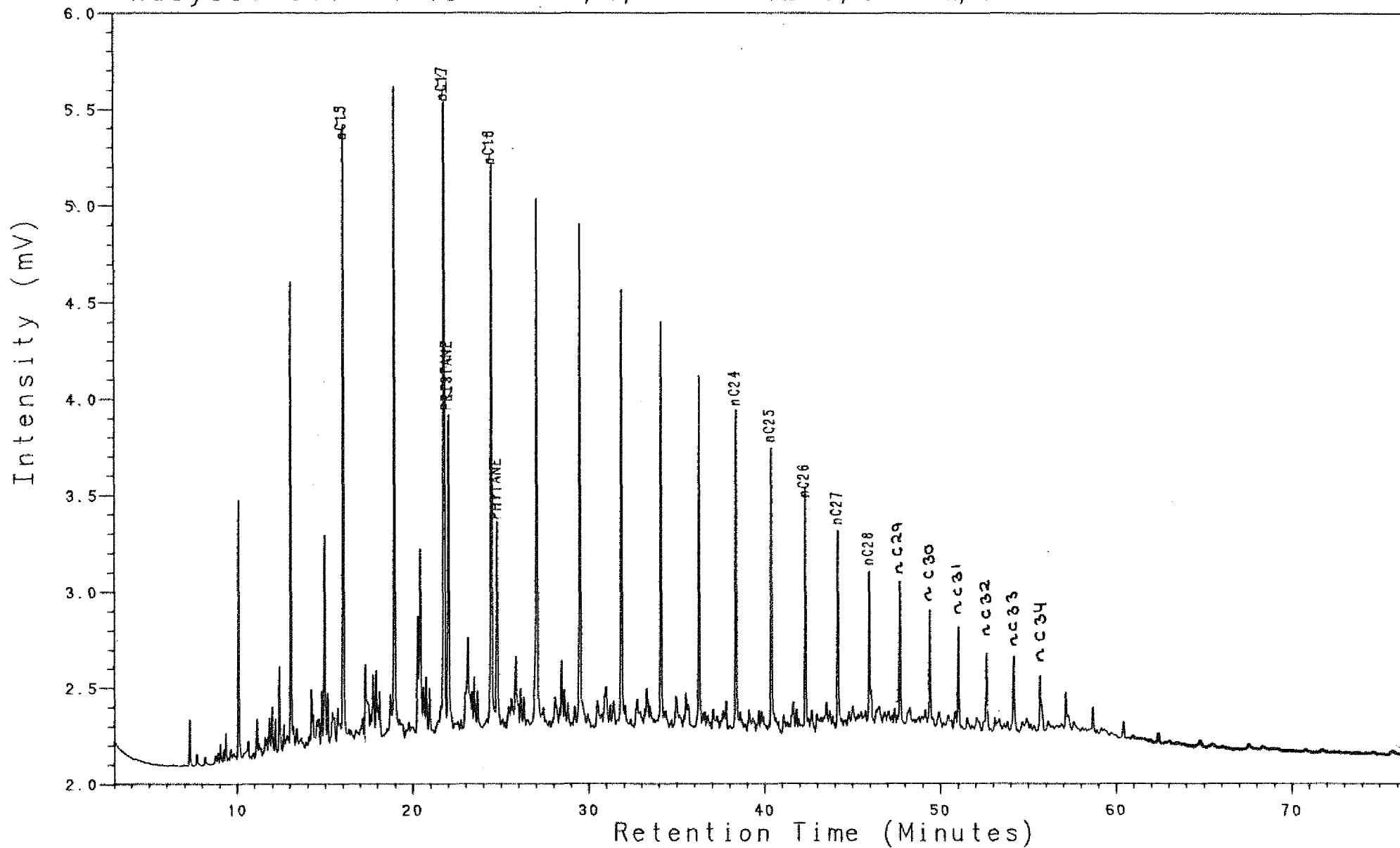
Ratio3: A1 / A1 + E1 + G1

Ratio4: A1+B1 / A1+B1+C1+D1+E1+F1+G1+H1+I1

analysis SC033460B

5, 1, 1

7/12-5, 3806m, SAT

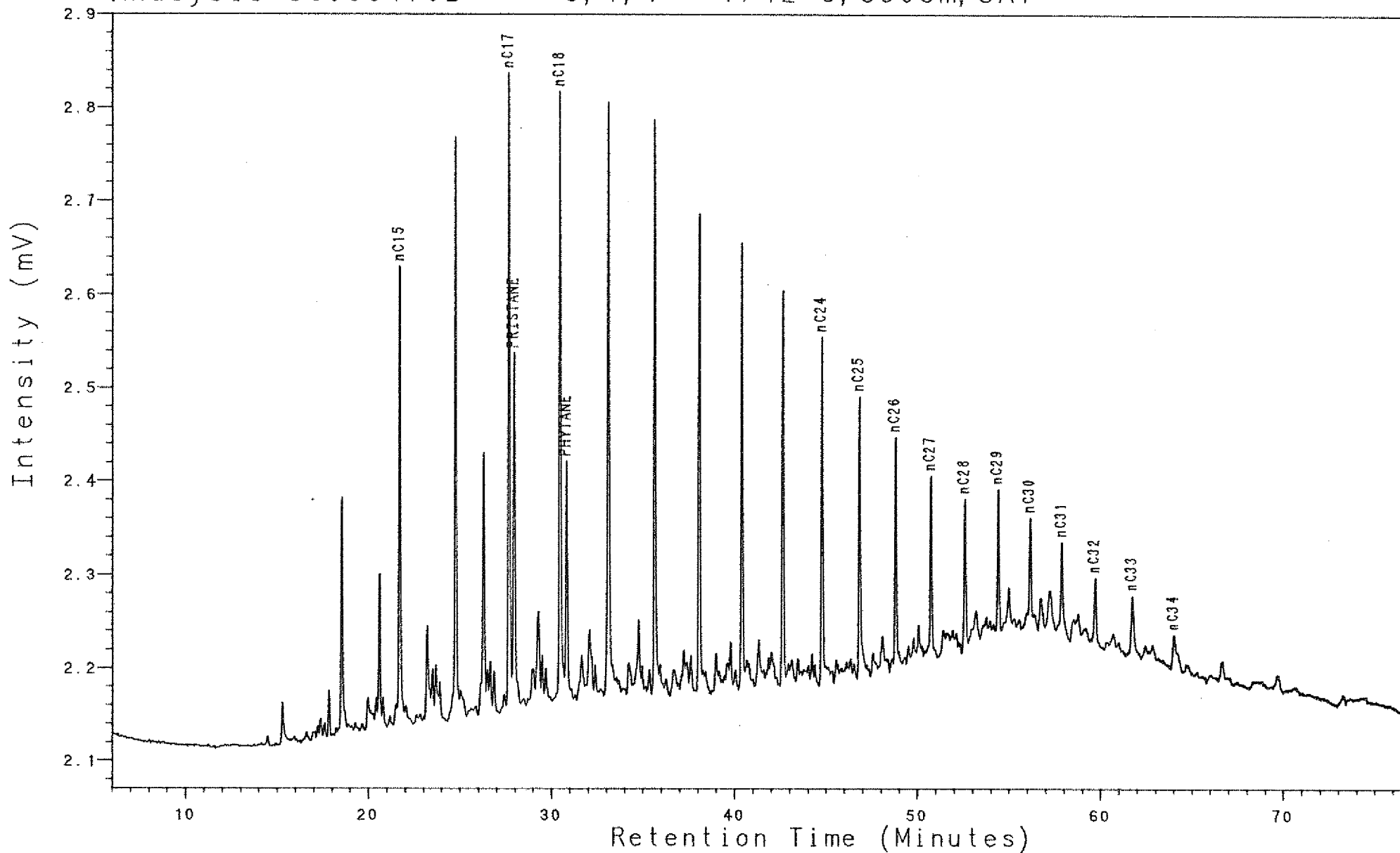


NOCS 7/12-5 3806m
SATURATED GC
Composite sample

Analysis SC033470B

5, 1, 1

7/12-5, 3908m, SAT

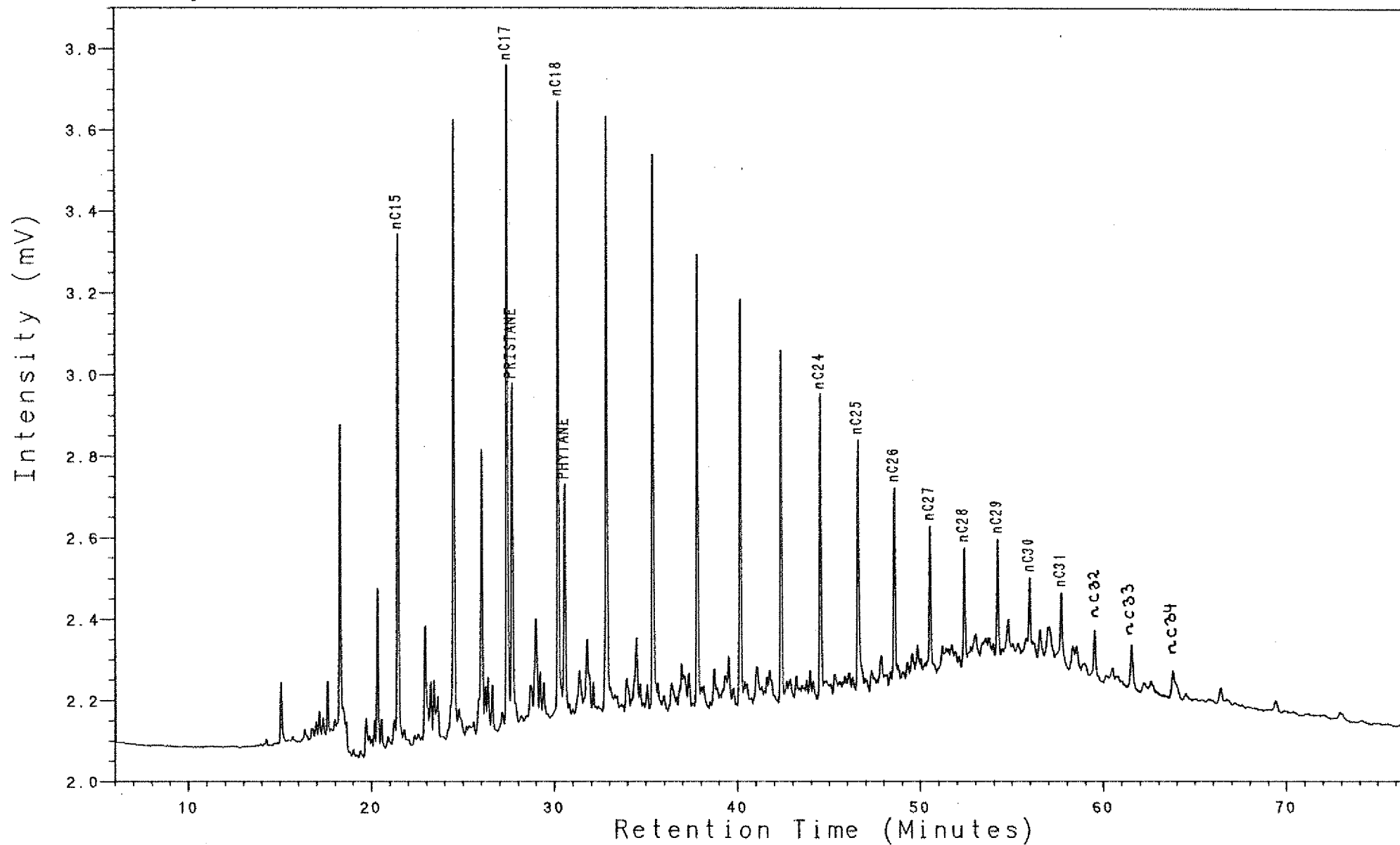


NOCS 7/12-5 3908m
SATURATED GC
Composite sample

Analysis SC033480B

5, 1, 1

7/12-5, 3974m, SAT

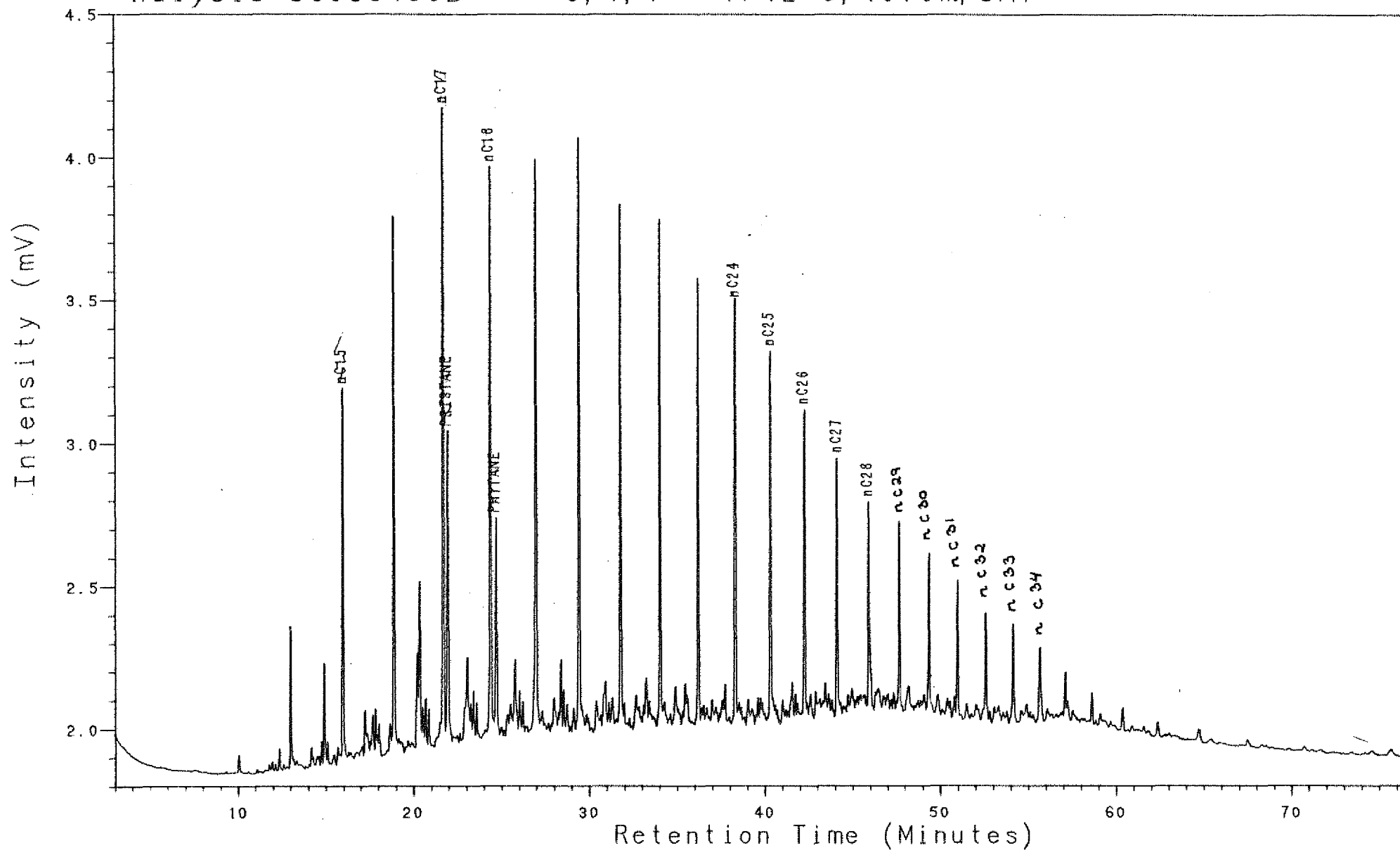


NOCS 7/12-5 3974m
SATURATED GC
Composite sample

analysis SC033490B

5, 1, 1

7/12-5, 4070m, SAT

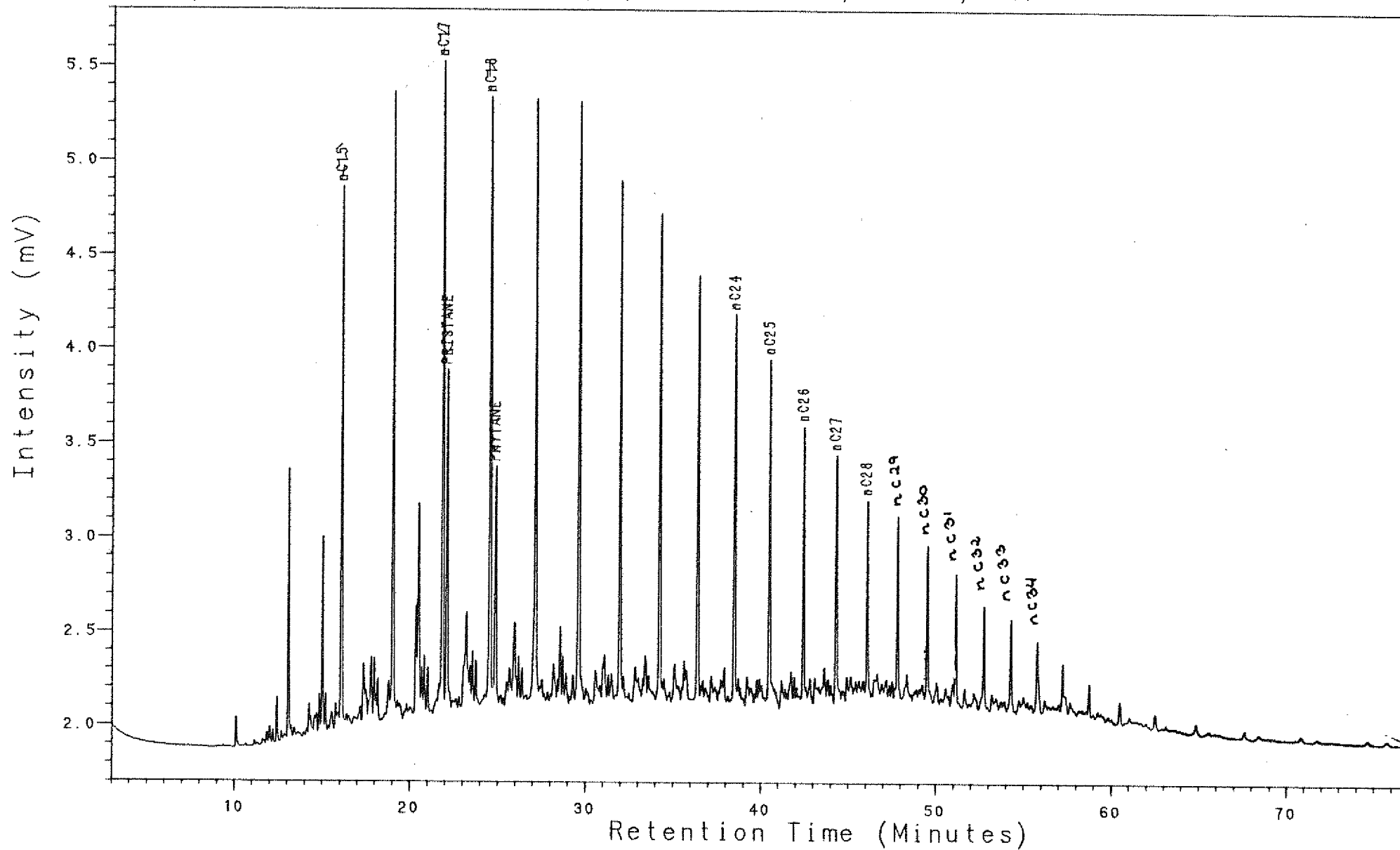


NOCS 7/12-5 4070m
SATURATED GC
Composite sample

Analysis SC033500B

5, 1, 1

7/12-5, 4433m, SAT

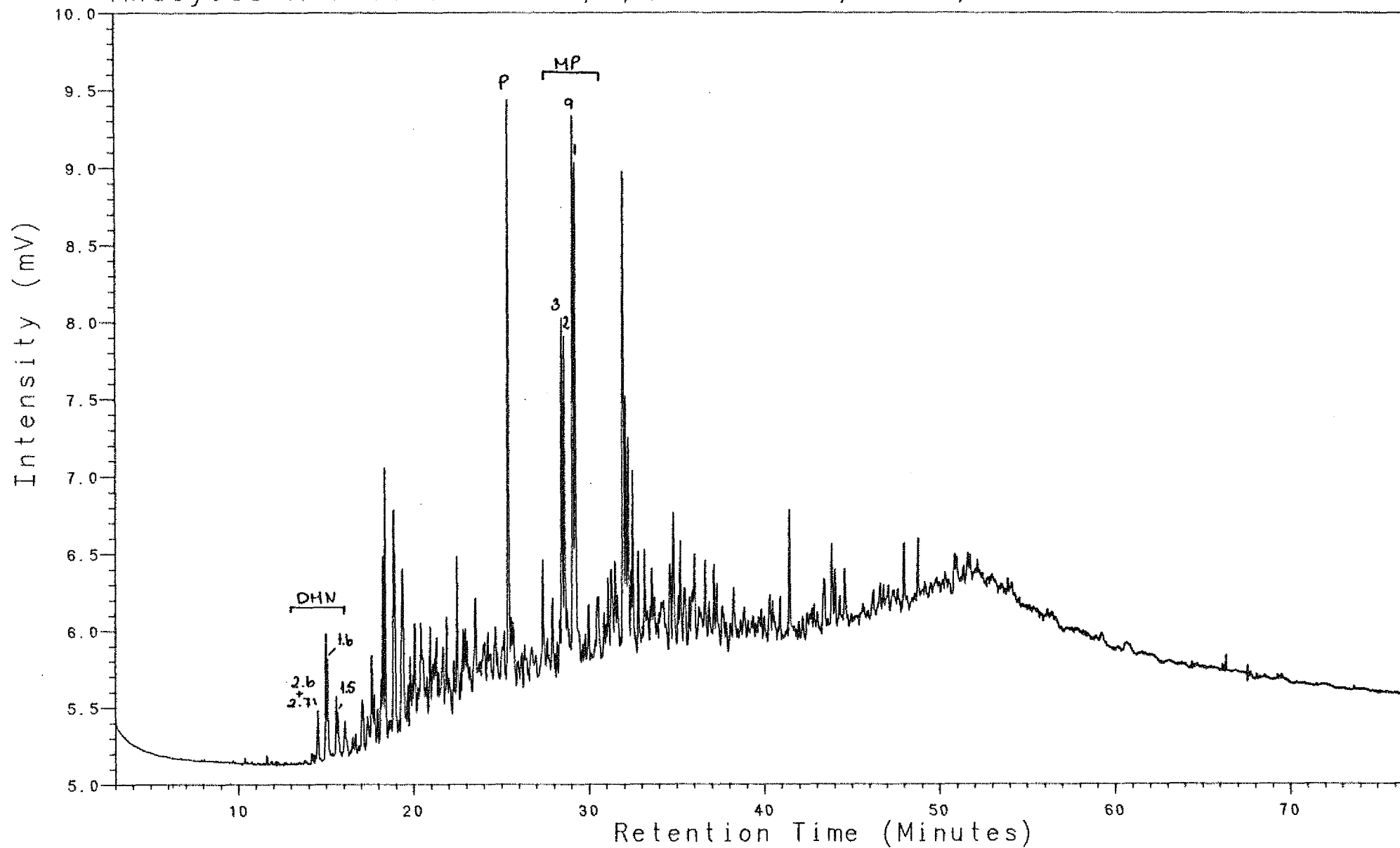


NOCS 7/12-5 4433m
SATURATED GC
Composite sample

Analysis AC033460B

8, 1, 1

7/12-5, 3806m, ARO

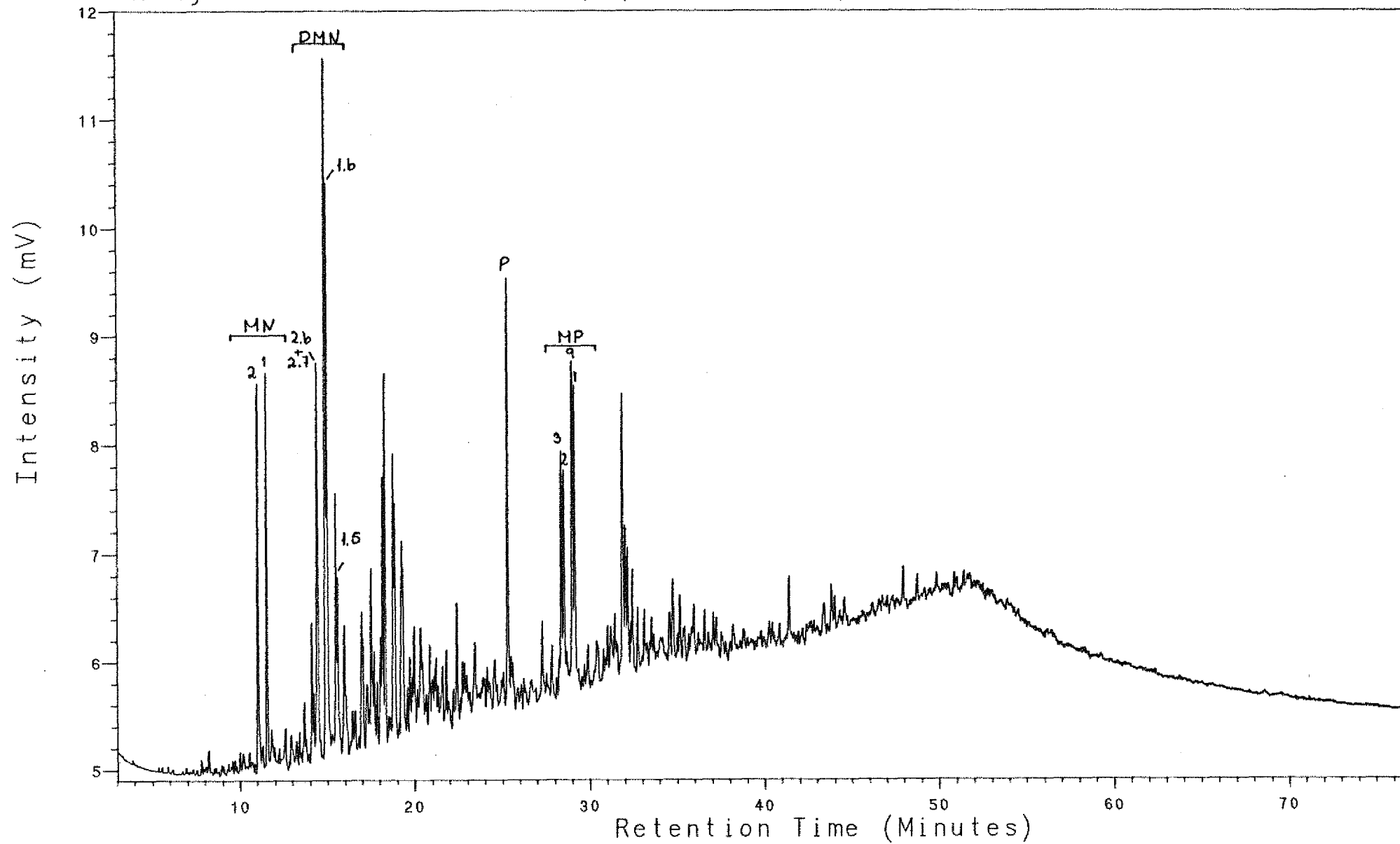


NOCS 7/12-5 3806m
AROMATIC GC (FID)
Composite sample

Analysis AC033470B

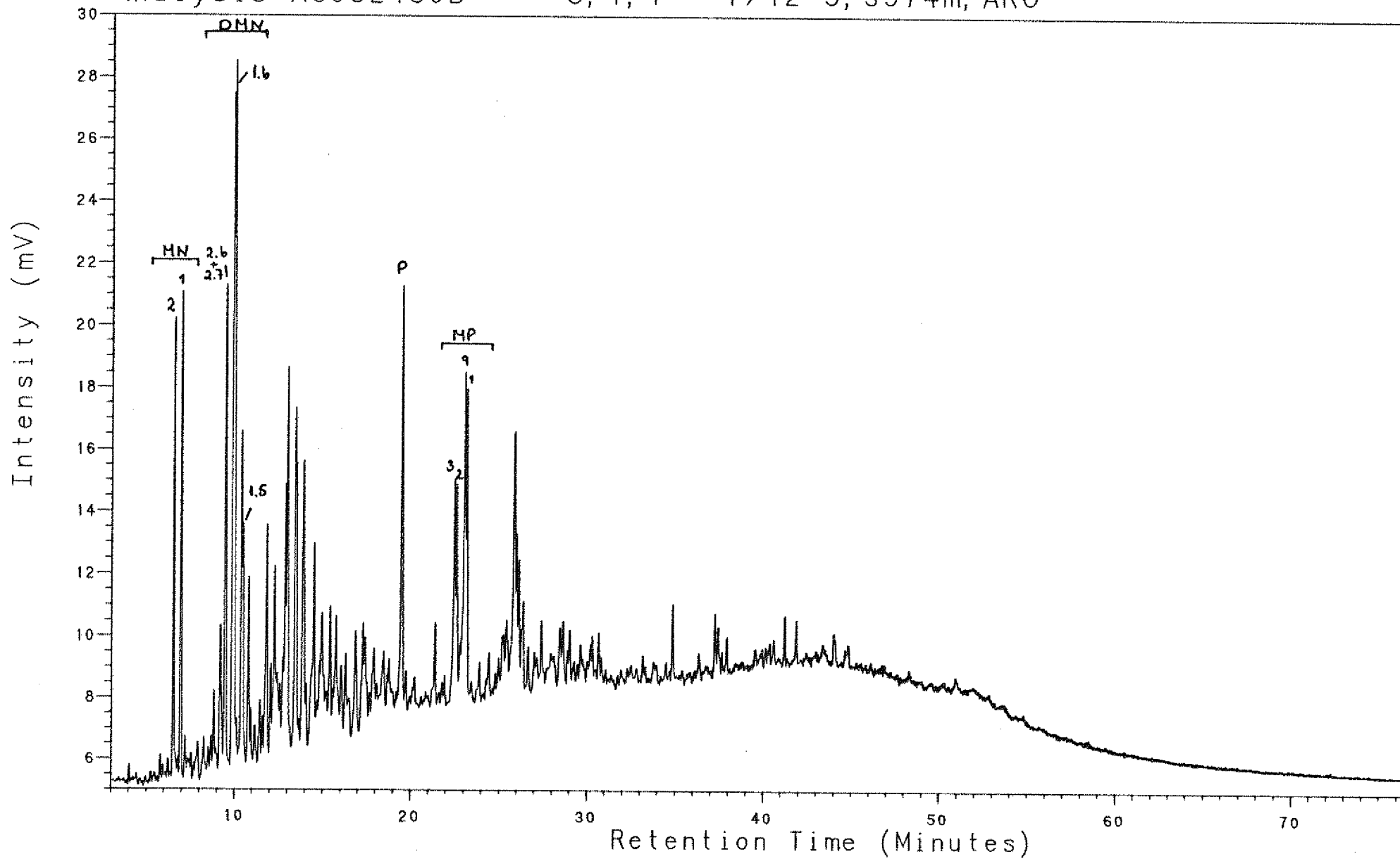
8, 1, 1

7/12-5, 3908m, ARO



NOCS 7/12-5 3908m
AROMATIC GC (FID)
Composite sample

7/12-5, 3974m, ARO

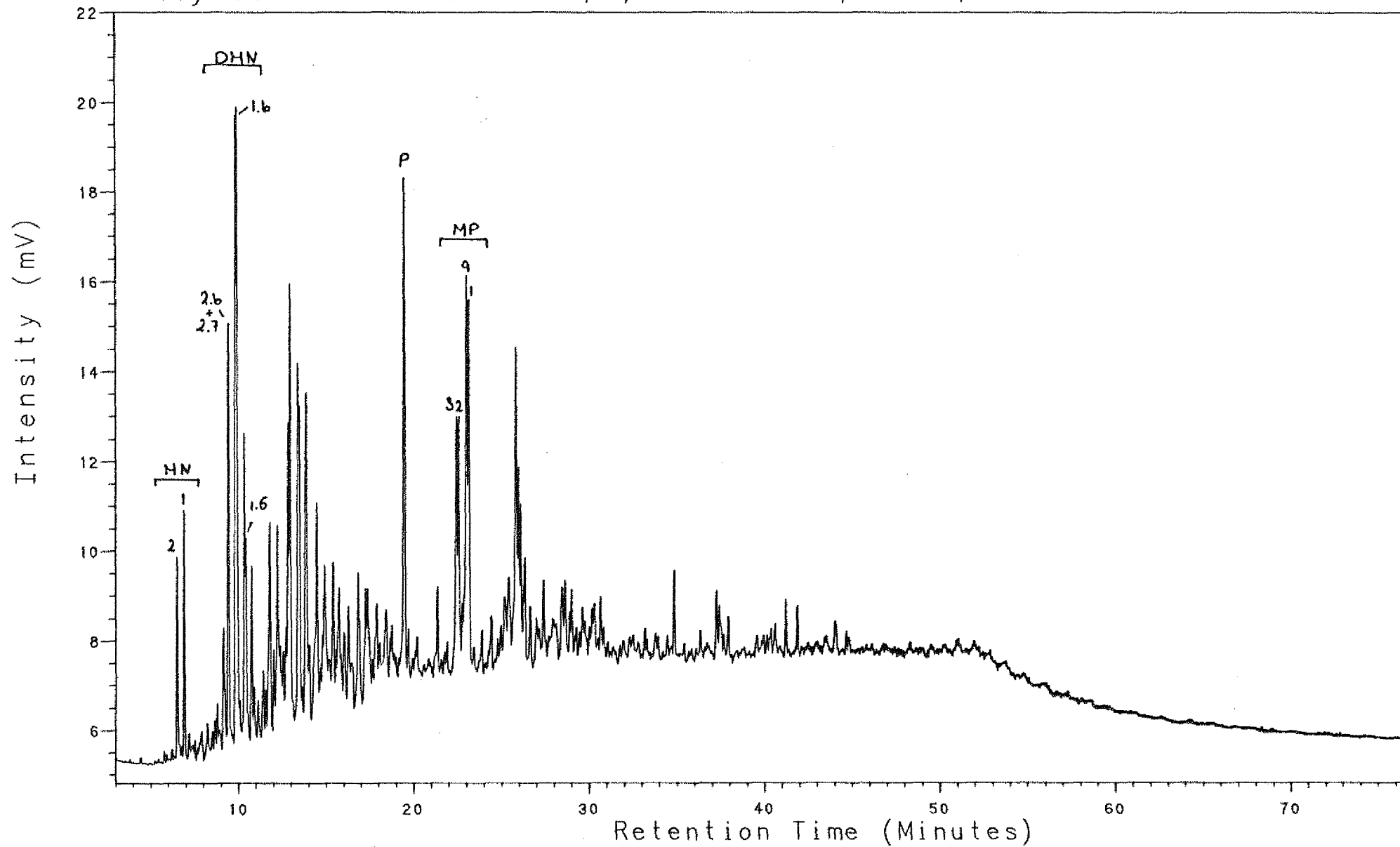


NOCS 7/12-5 3974m
AROMATIC GC (FID)
Composite sample

-analysis AC033490B

8, 1, 1

7/12-5, 4070m, ARO

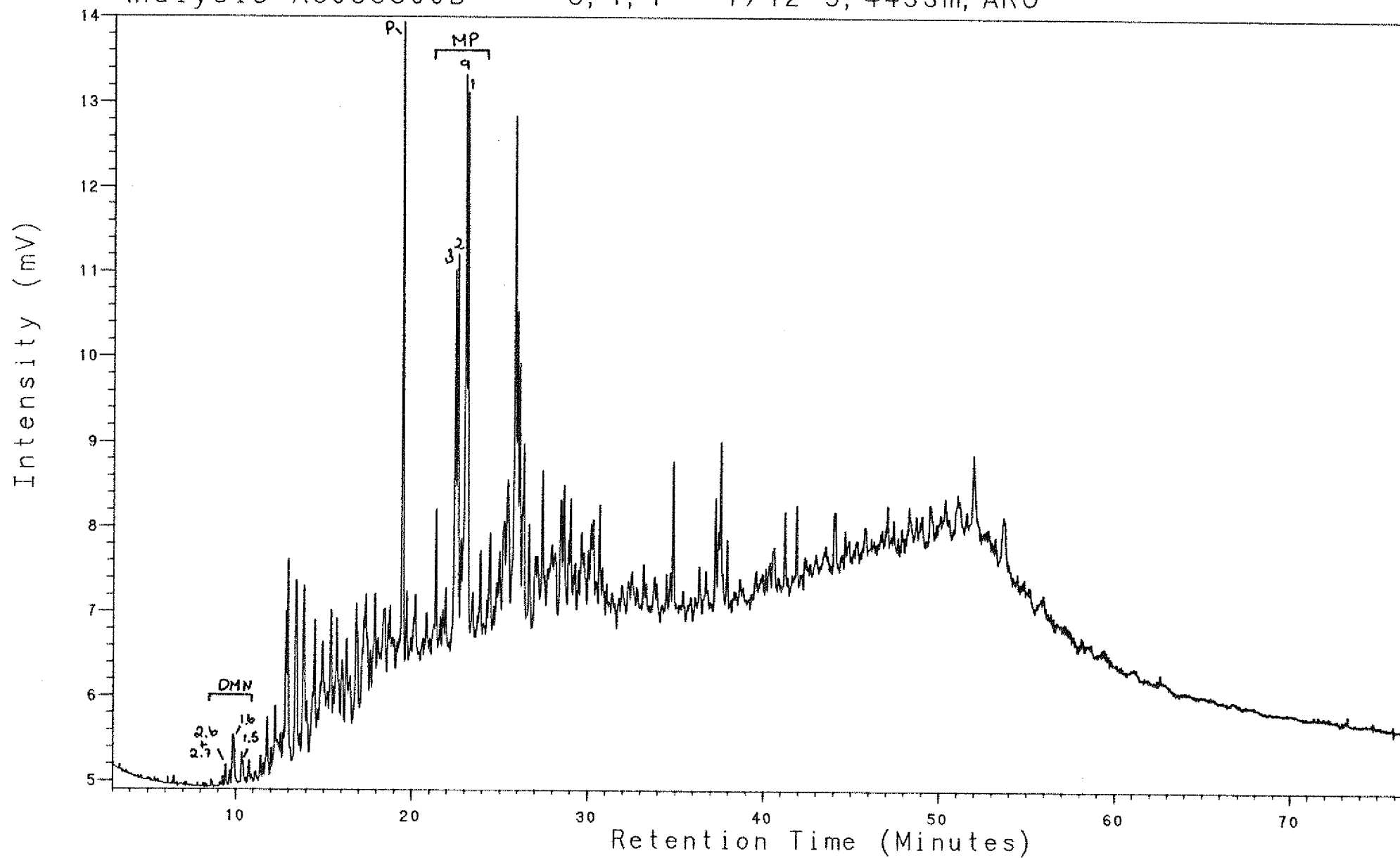


NOCS 7/12-5 4070m
AROMATIC GC (FID)
Composite sample

analysis AC033500B

8, 1, 1

7/12-5, 4433m, ARO

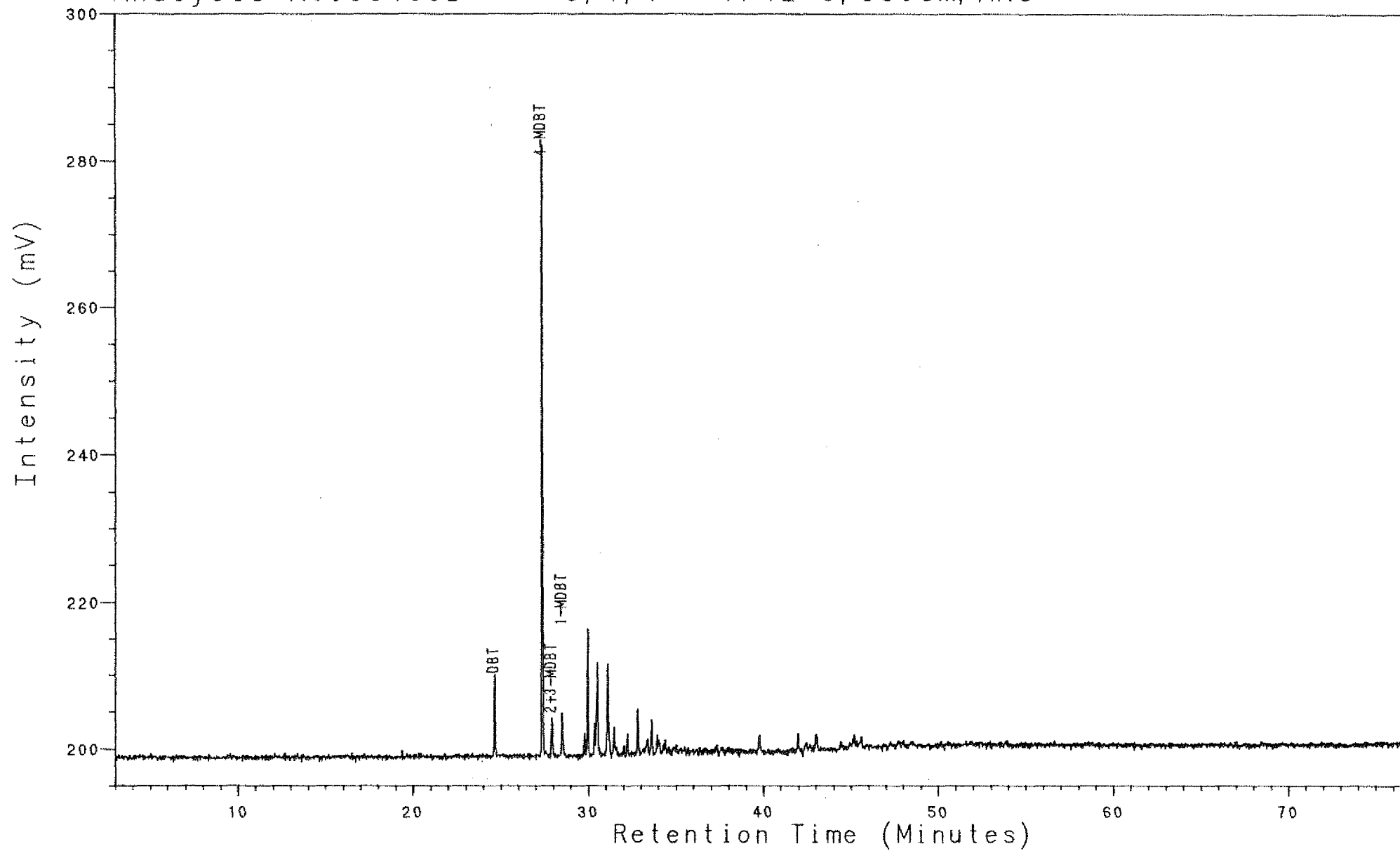


NOCS 7/12-5 4433m
AROMATIC GC (FID)
Composite sample

Analysis AC033460B

9, 1, 1

7/12-5, 3806m, ARO

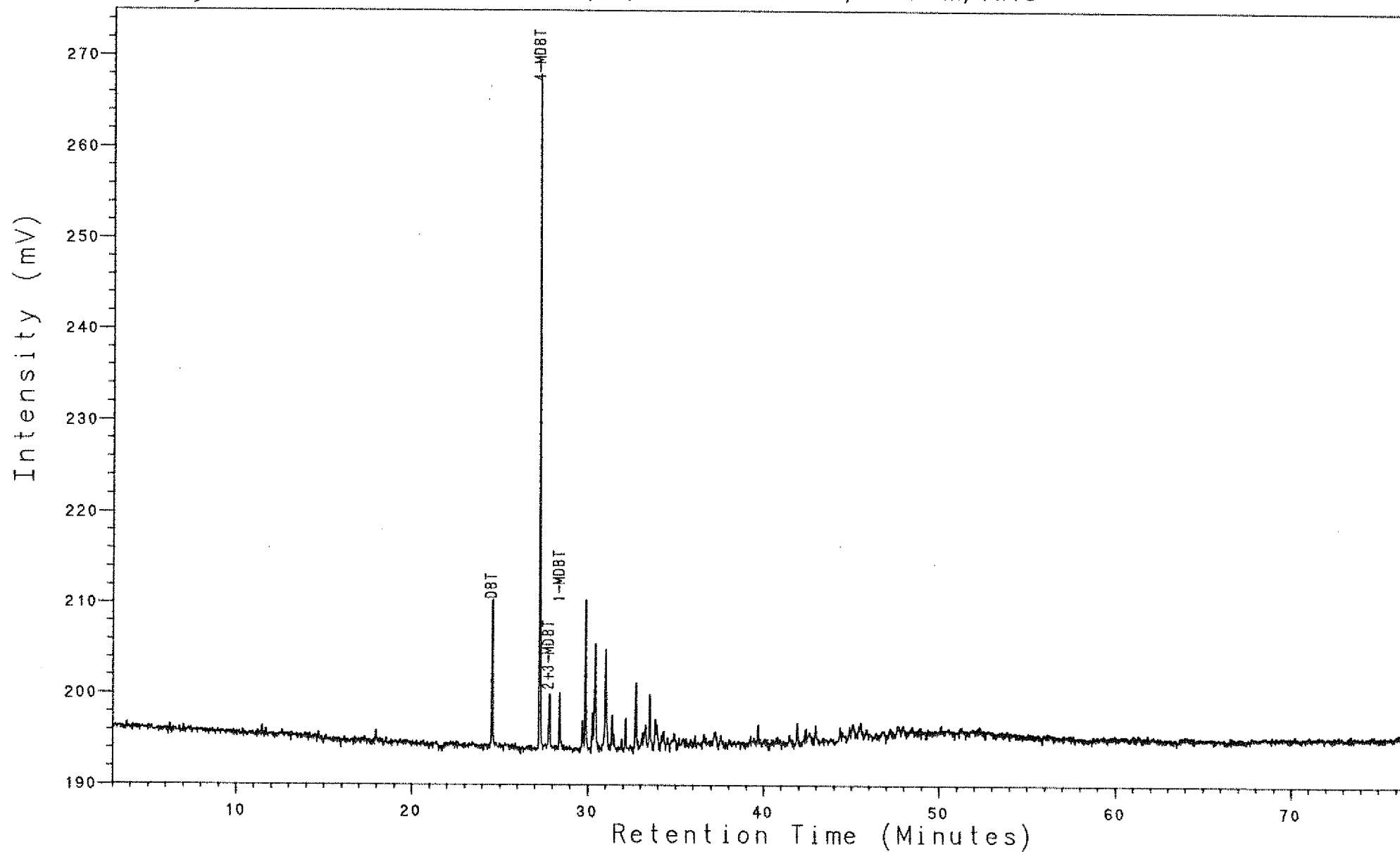


NOCS 7/12-5 3806m
AROMATIC GC (FPD)
Composite sample

Analysis AC033470B

9, 1, 1

7/12-5, 3908m, ARO

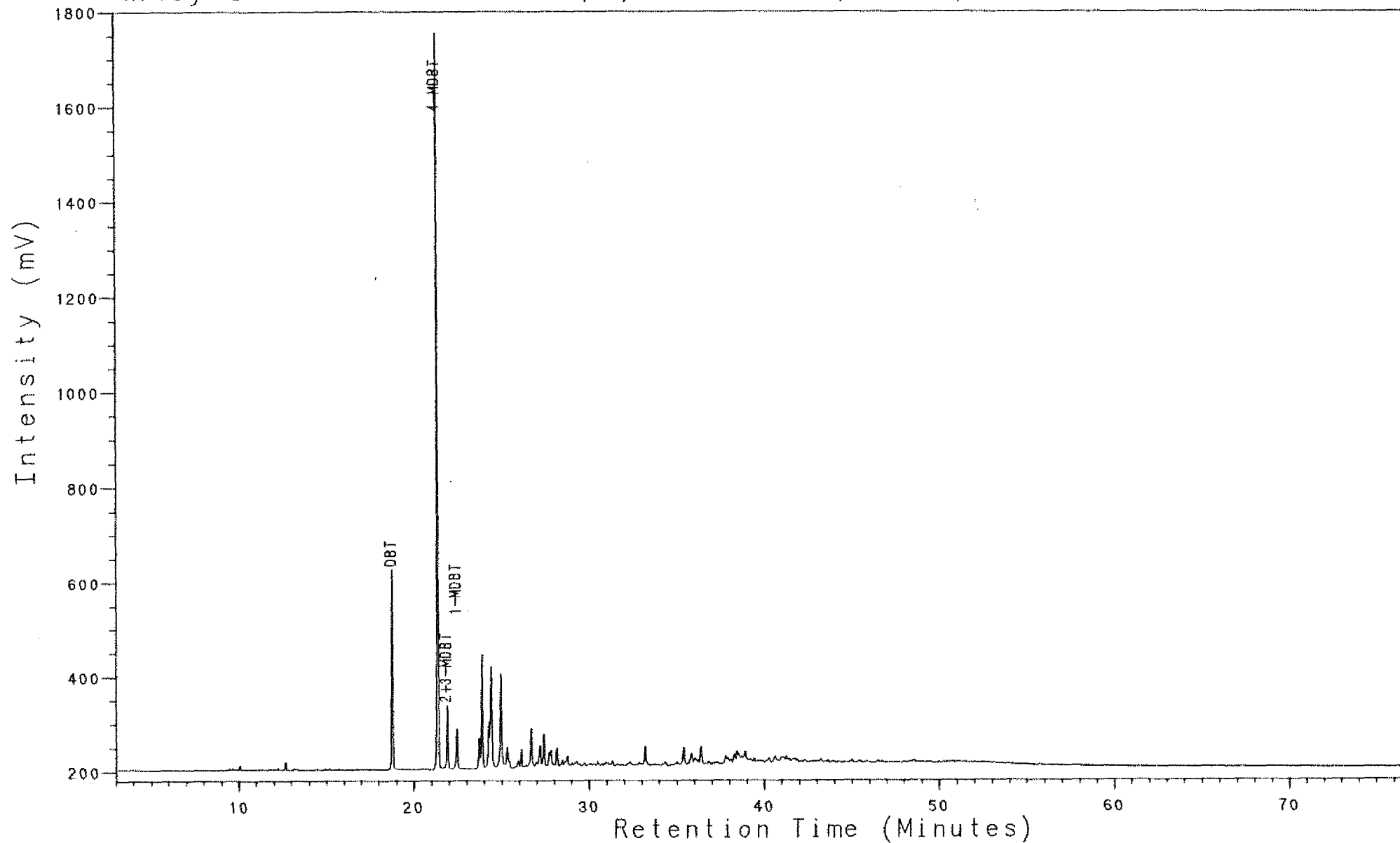


NOCS 7/12-5 3908m
AROMATIC GC (FPD)
Composite sample

Analysis AC032480B

9, 1, 1

7/12-5, 3974m, ARO

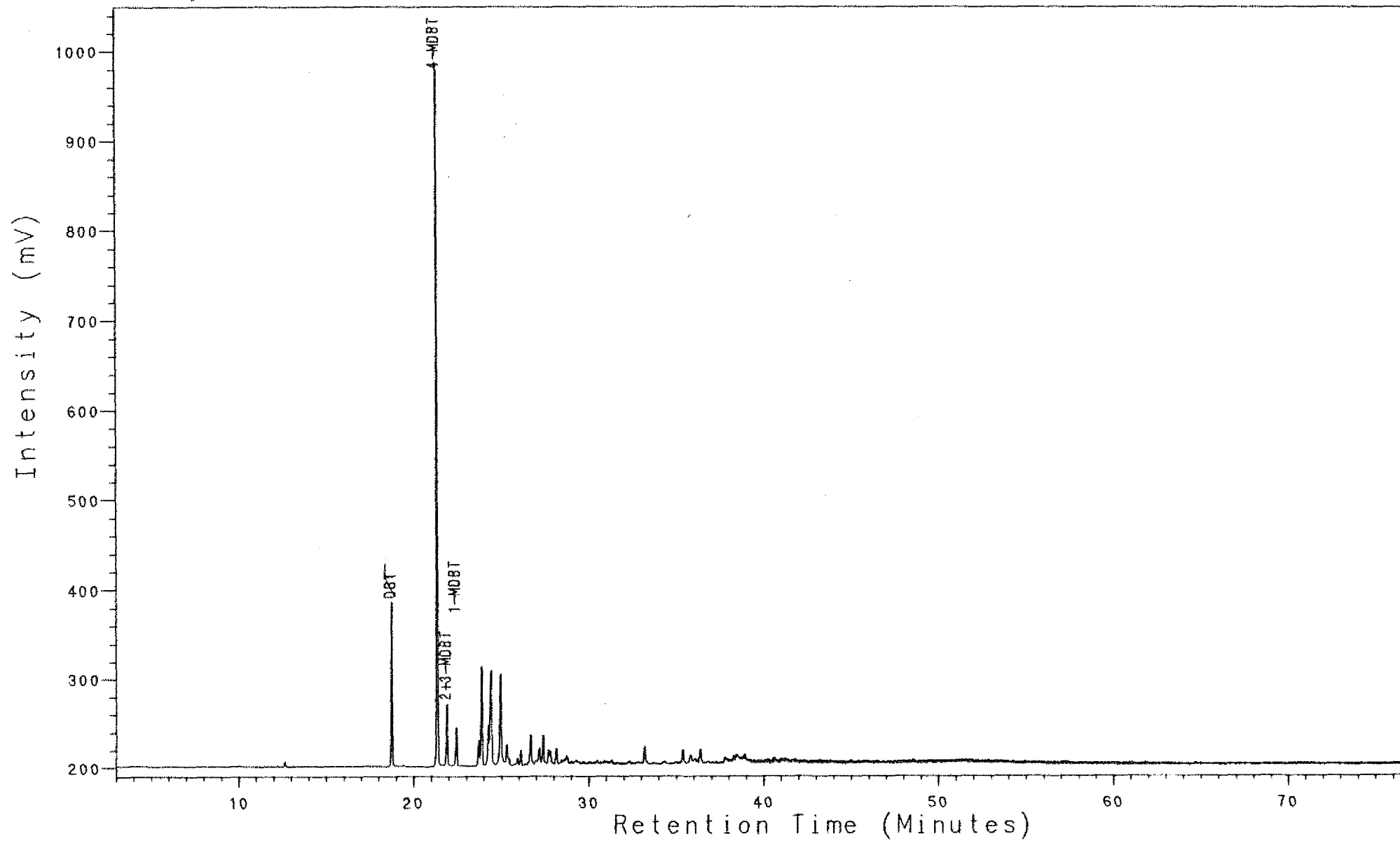


NOCS 7/12-5 3974m
AROMATIC GC (FPD)
Composite sample

Analysis AC033490B

9, 1, 1

7/12-5, 4070m, ARO

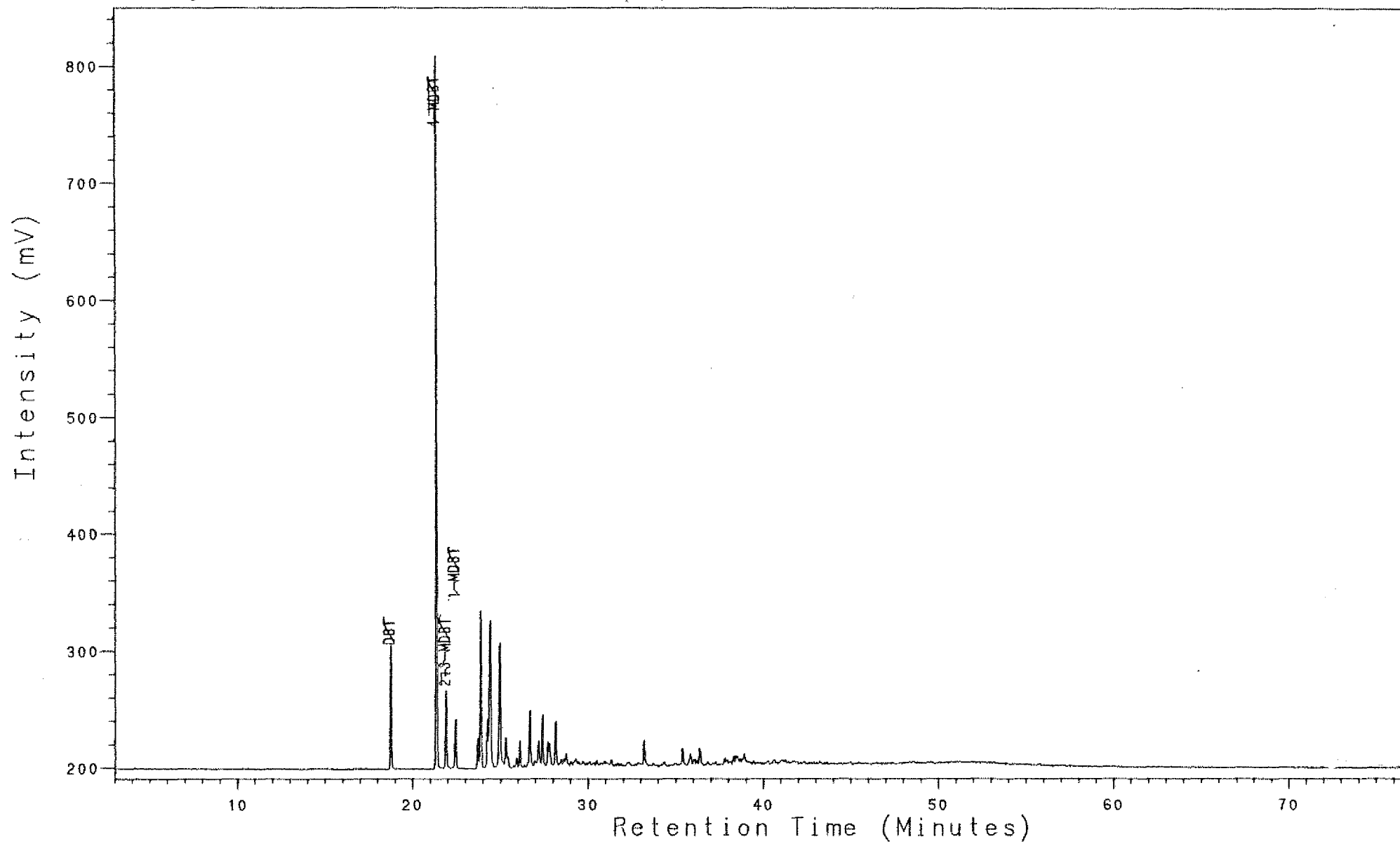


NOCS 7/12-5 4070m
AROMATIC GC (FPD)
Composite sample

Analysis AC033500B

9, 1, 1

7/12-5, 4433m, ARO

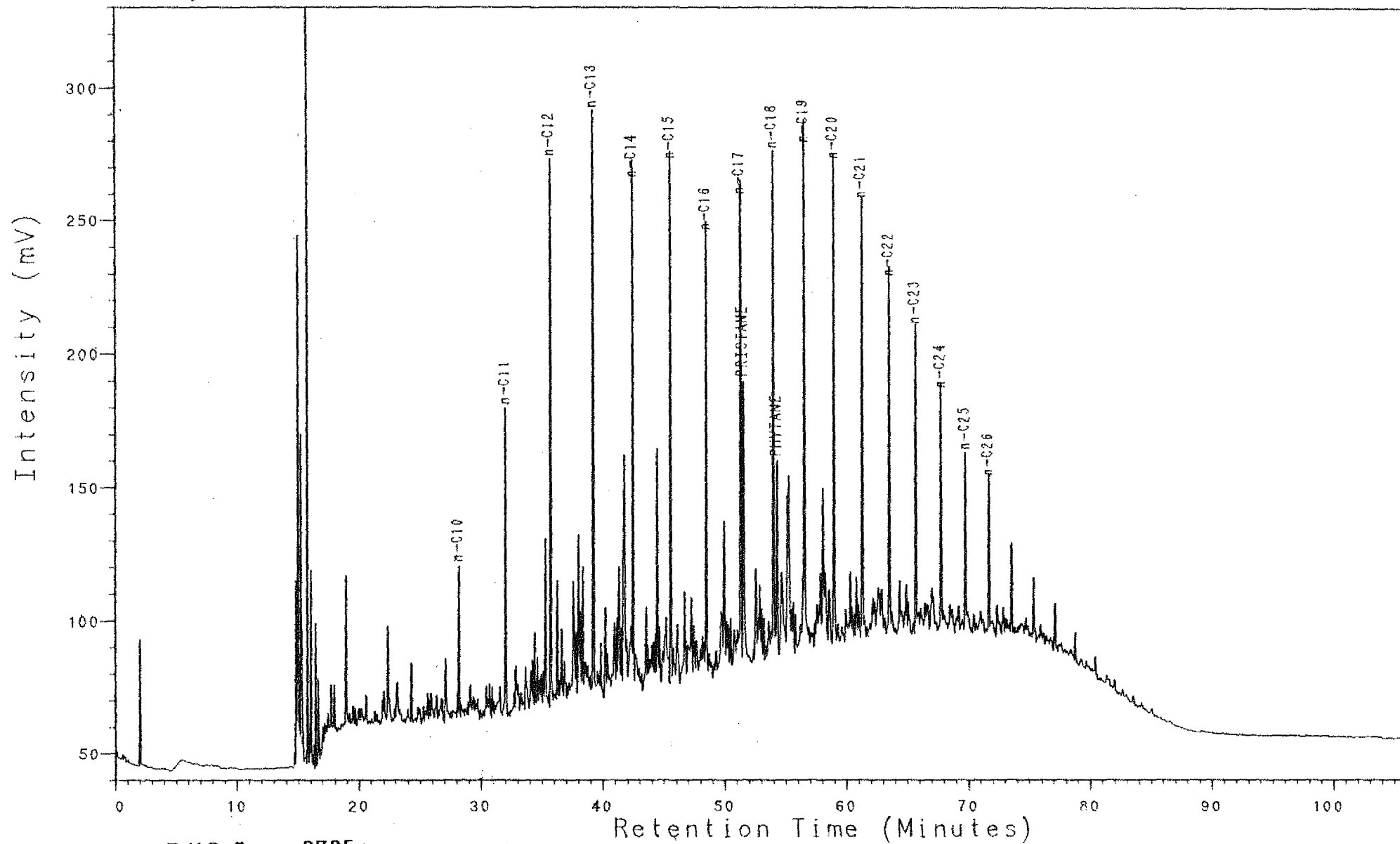


NOCS 7/12-5 4433m
AROMATIC GC (FPD)
Composite sample

Analysis PC032301L

24, 1, 1

7/12-5, 3735m, S1

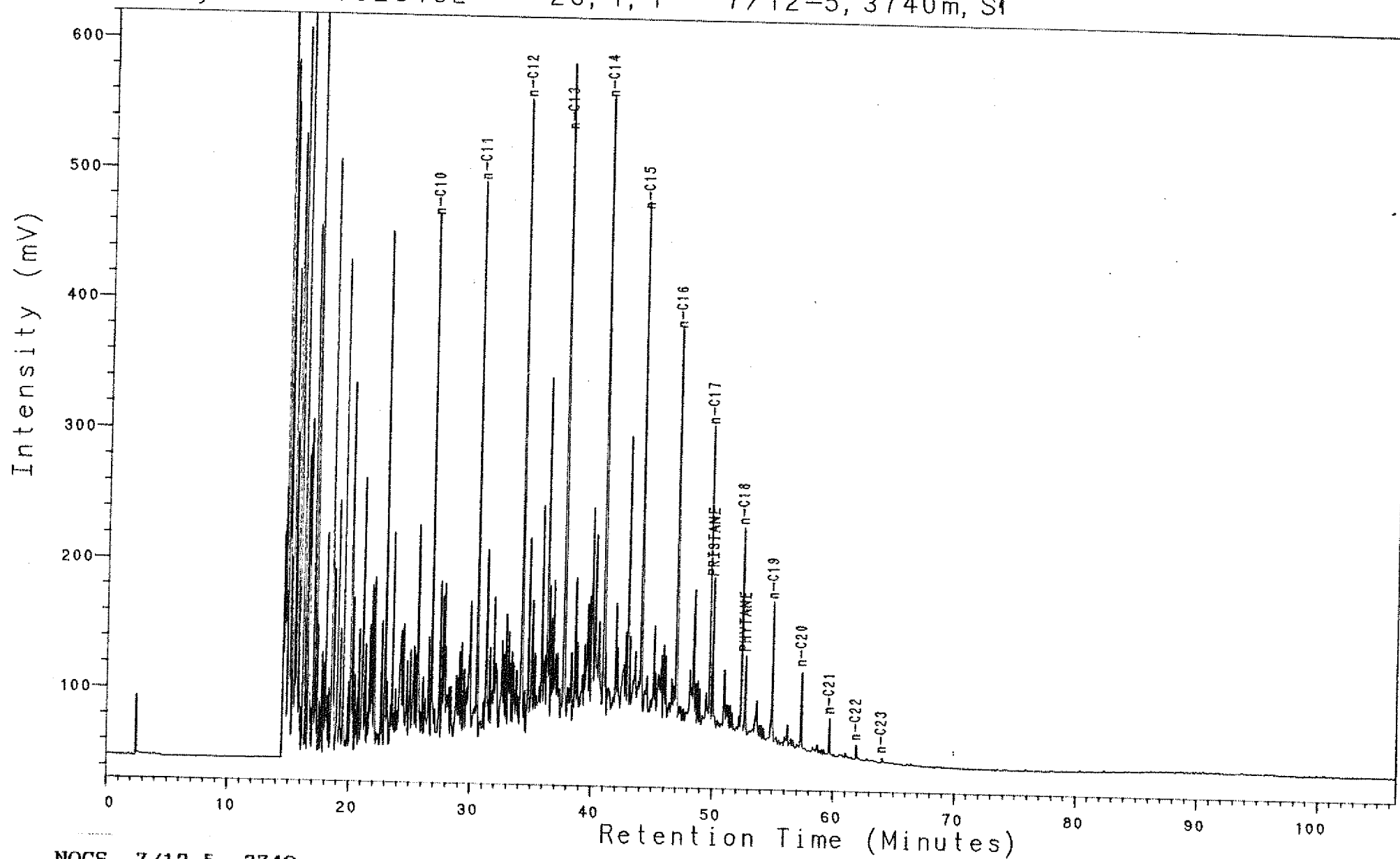


NOCS 7/12-5 3735m
THERMAL EXTRACTION GC (S1)
CLST: brn blk

Analysis PC032313L

26, 1, 1

7/12-5, 3740m, S1

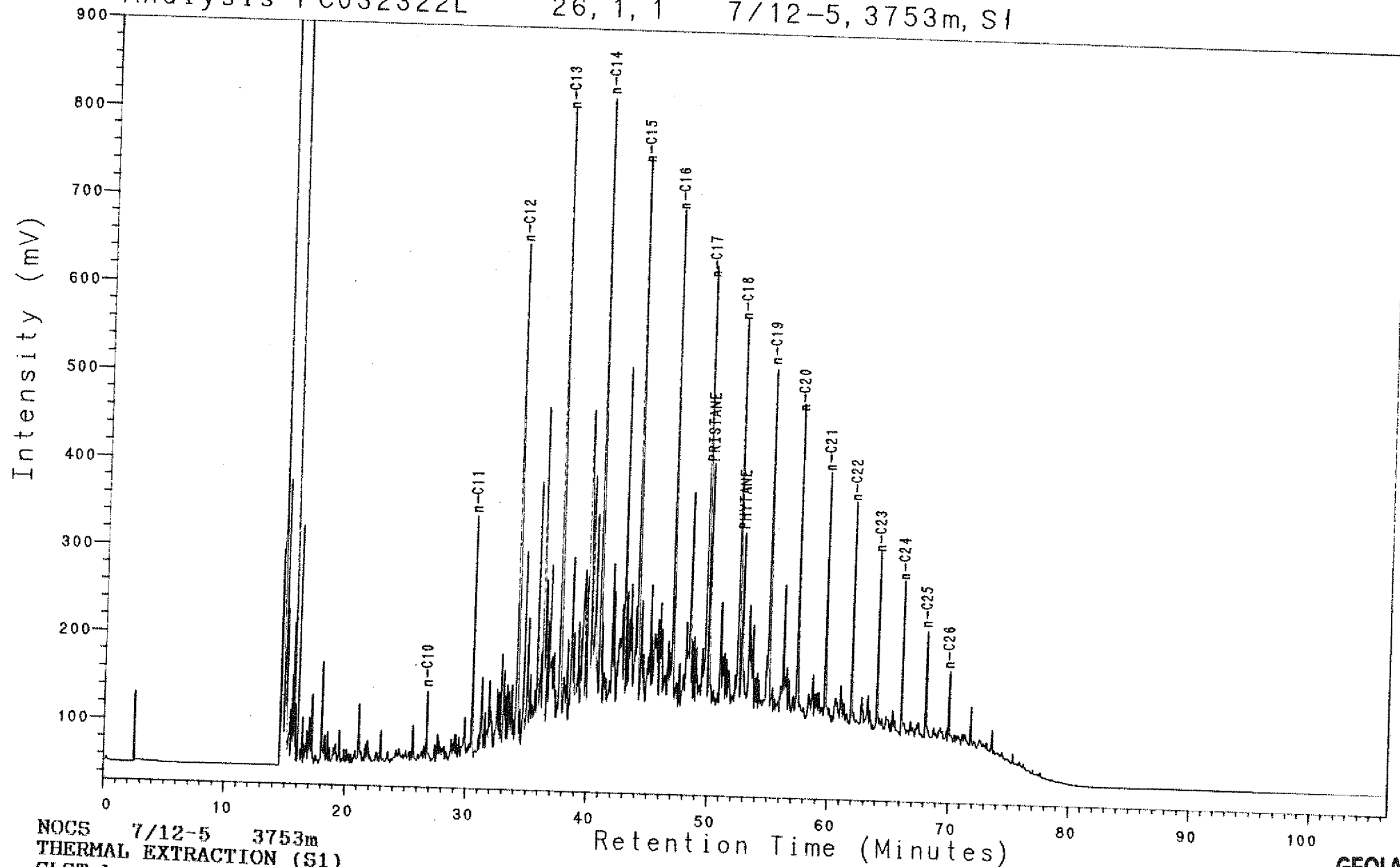


NOCS 7/12-5 3740m
THERMAL EXTRACTION (S1)
CLST:gn gy to ol gy

Analysis PC032322L

26, 1, 1

7/12-5, 3753m, S1

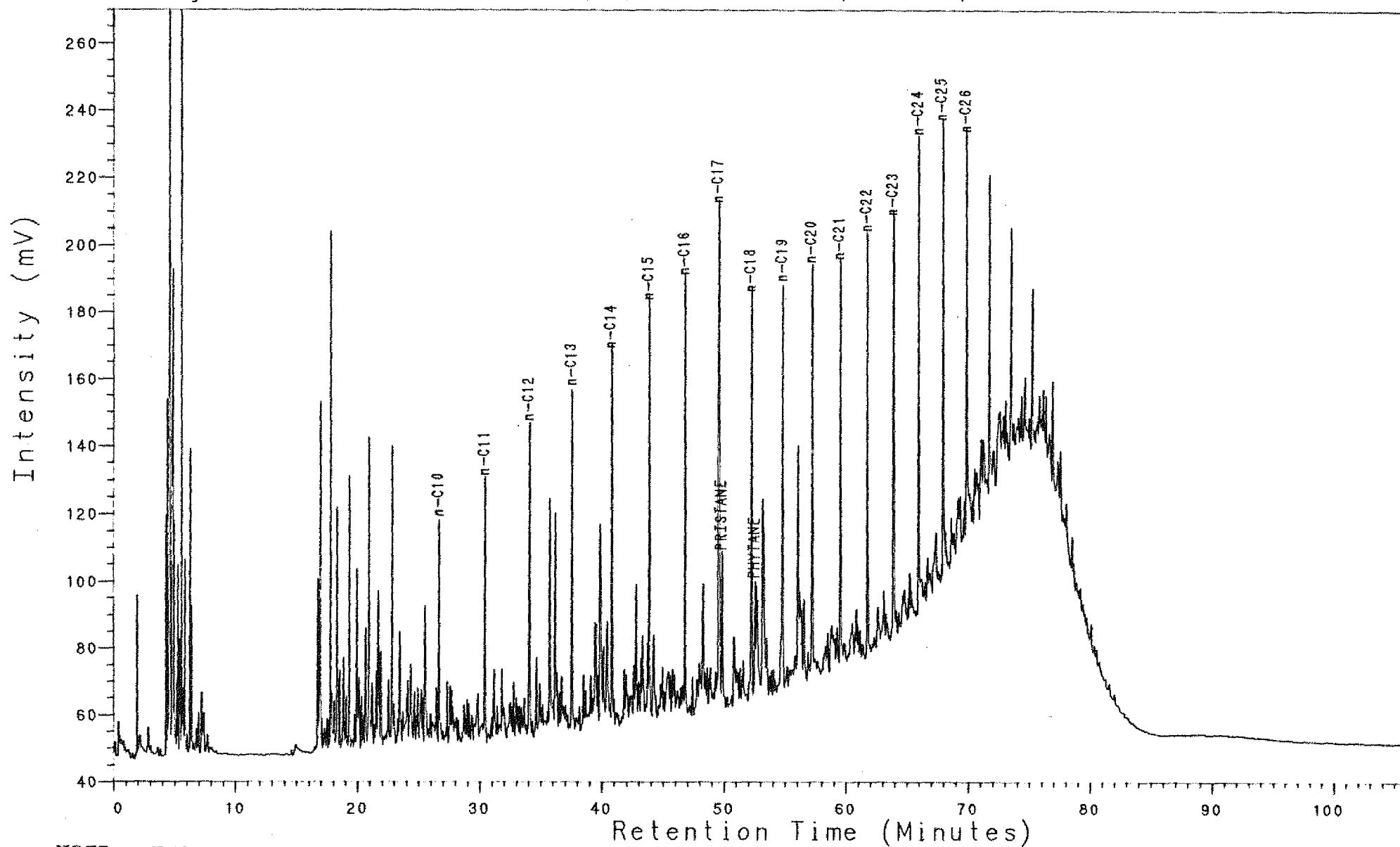


NOCS 7/12-5 3753m
THERMAL EXTRACTION (S1)
CLST:brn blk

Analysis PC032342L

26, 1, 1

7/12-5, 3764m, S1

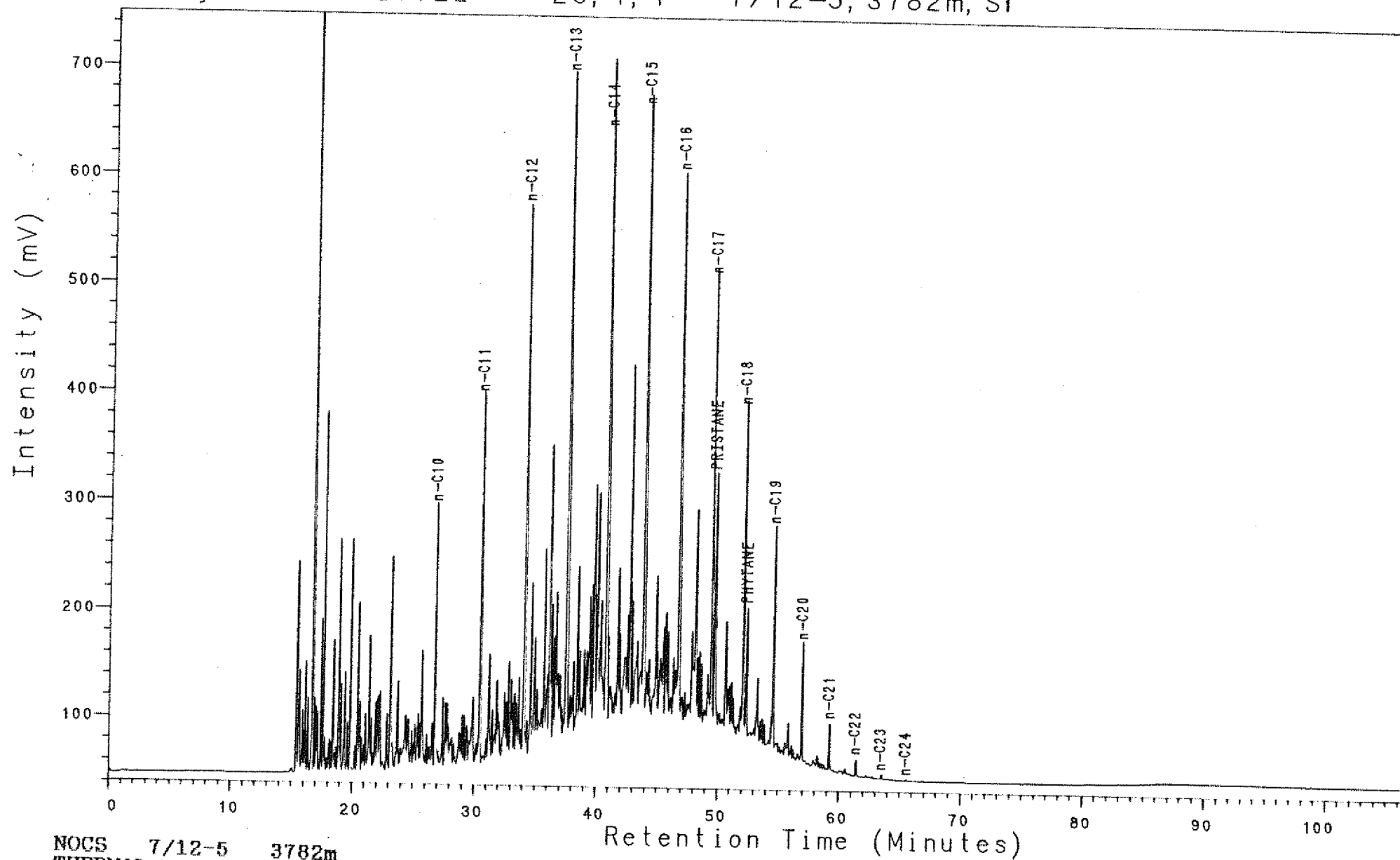


NOCS 7/12-5 3764m
THERMAL EXTRACTION (S1)
CLST:brn blk

Analysis PC032372L

26, 1, 1

7/12-5, 3782m, S1

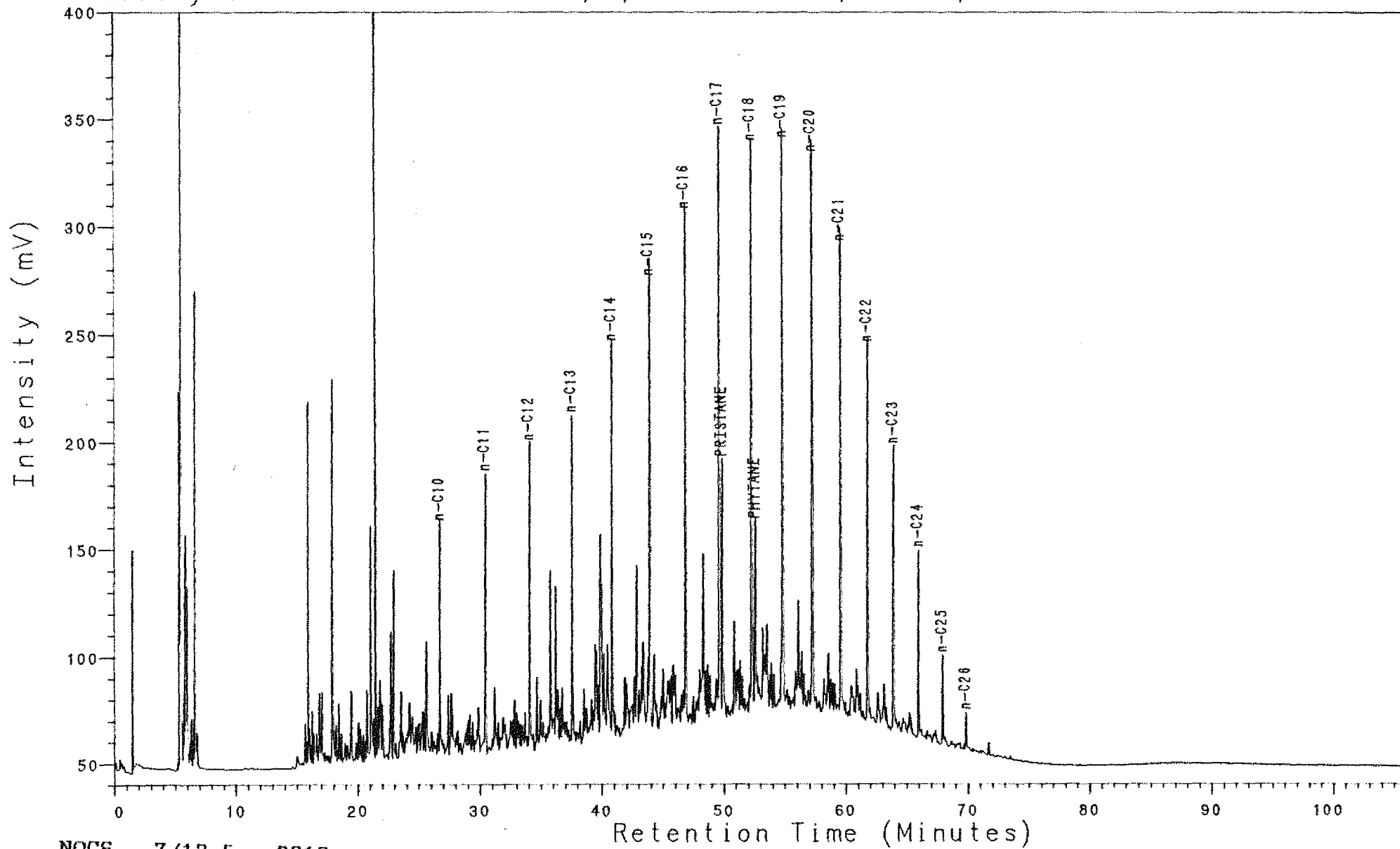


NOCS 7/12-5 3782m
THERMAL EXTRACTION (S1)
CLST:brn blk

Analysis PC032433L

26, 1, 1

7/12-5, 3818m, S1

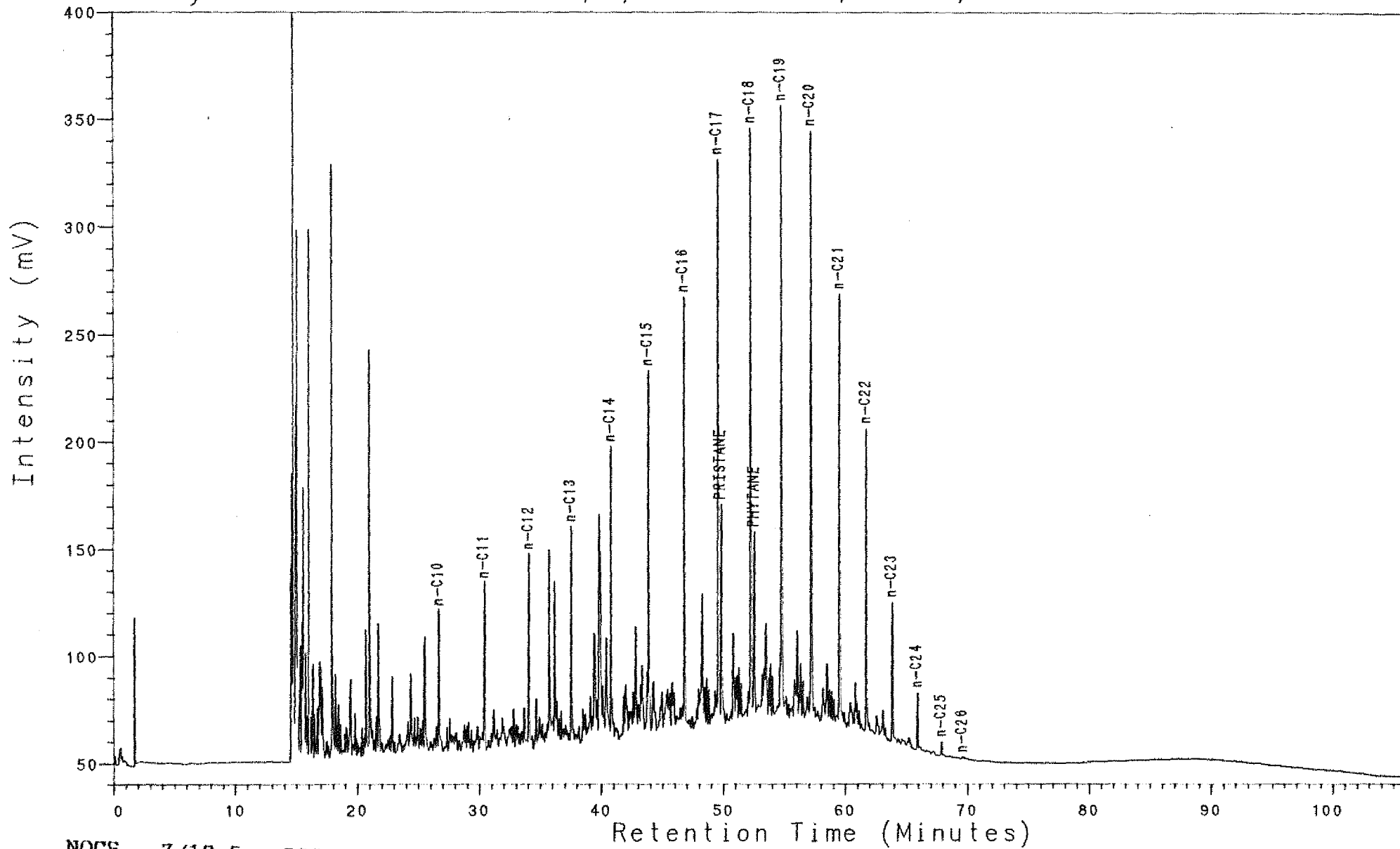


NOCS 7/12-5 3818m
THERMAL EXTRACTION (S1)
CLST:drk gy to brn blk

Analysis PC032461L

26, 1, 1

7/12-5, 3836m, S1

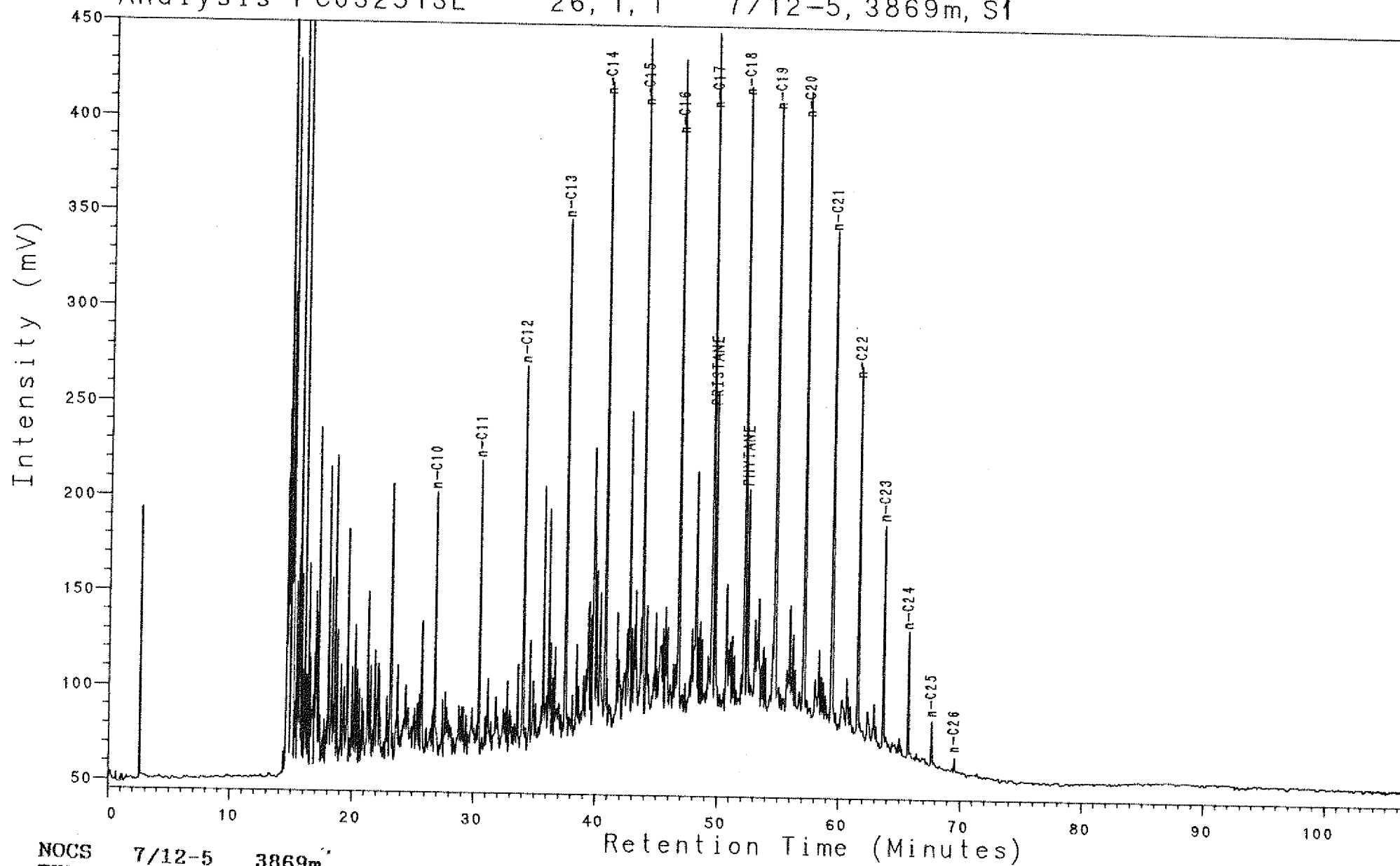


NOCS 7/12-5 3836m
THERMAL EXTRACTION (S1)
CLST:drk gy to brn blk

Analysis PC032513L

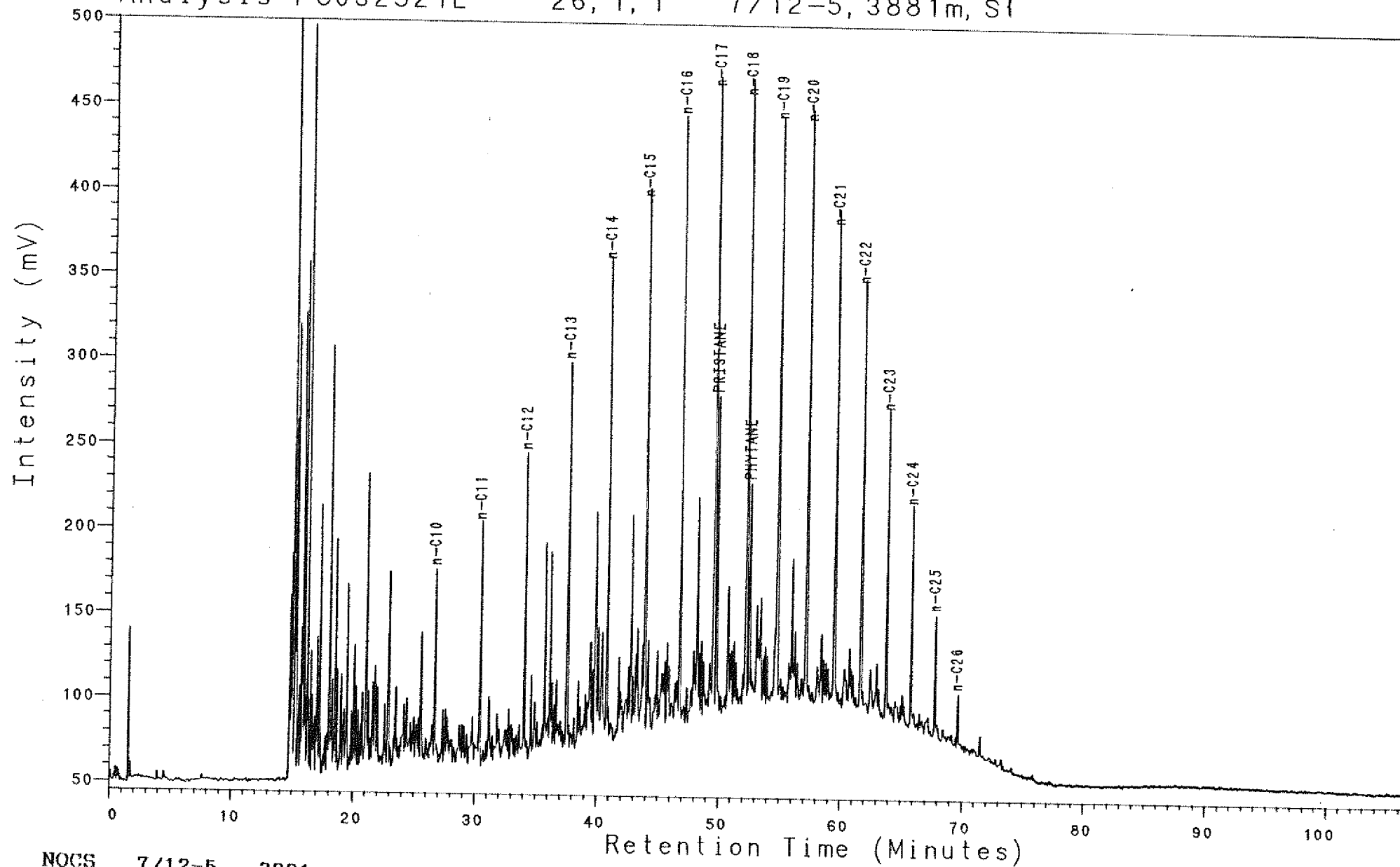
26, 1, 1

7/12-5, 3869m, S1



NOCS 7/12-5 3869m
THERMAL EXTRACTION GC (S1)
CLST:brn blk to drk gy

Analysis PC032521L 26, 1, 1 7/12-5, 3881m, S1

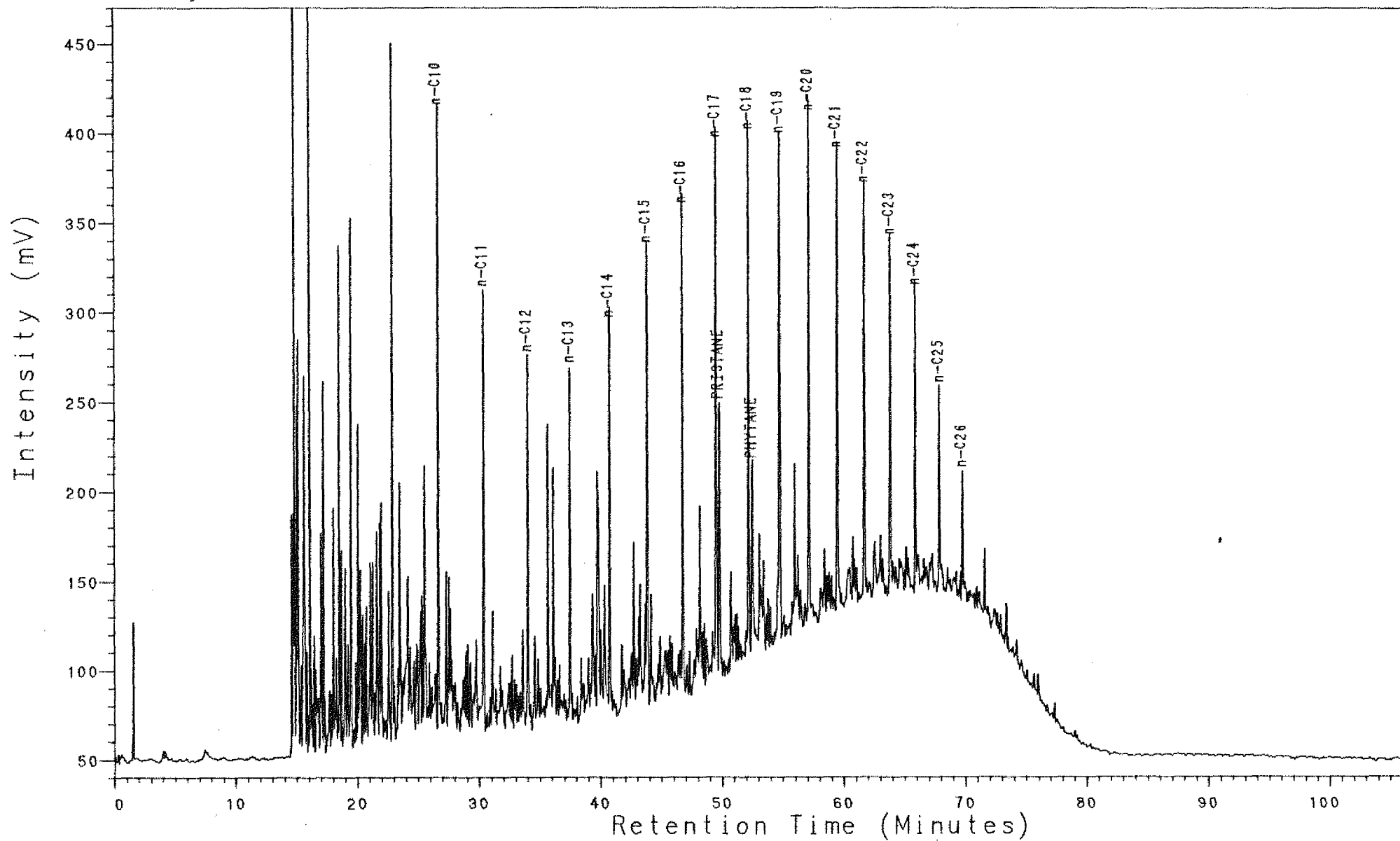


NOCS 7/12-5 3881m
THERMAL EXTRACTION (S1)
CLST:brn blk

Analysis PC032542L

26, 1, 1

7/12-5, 3908m, S1

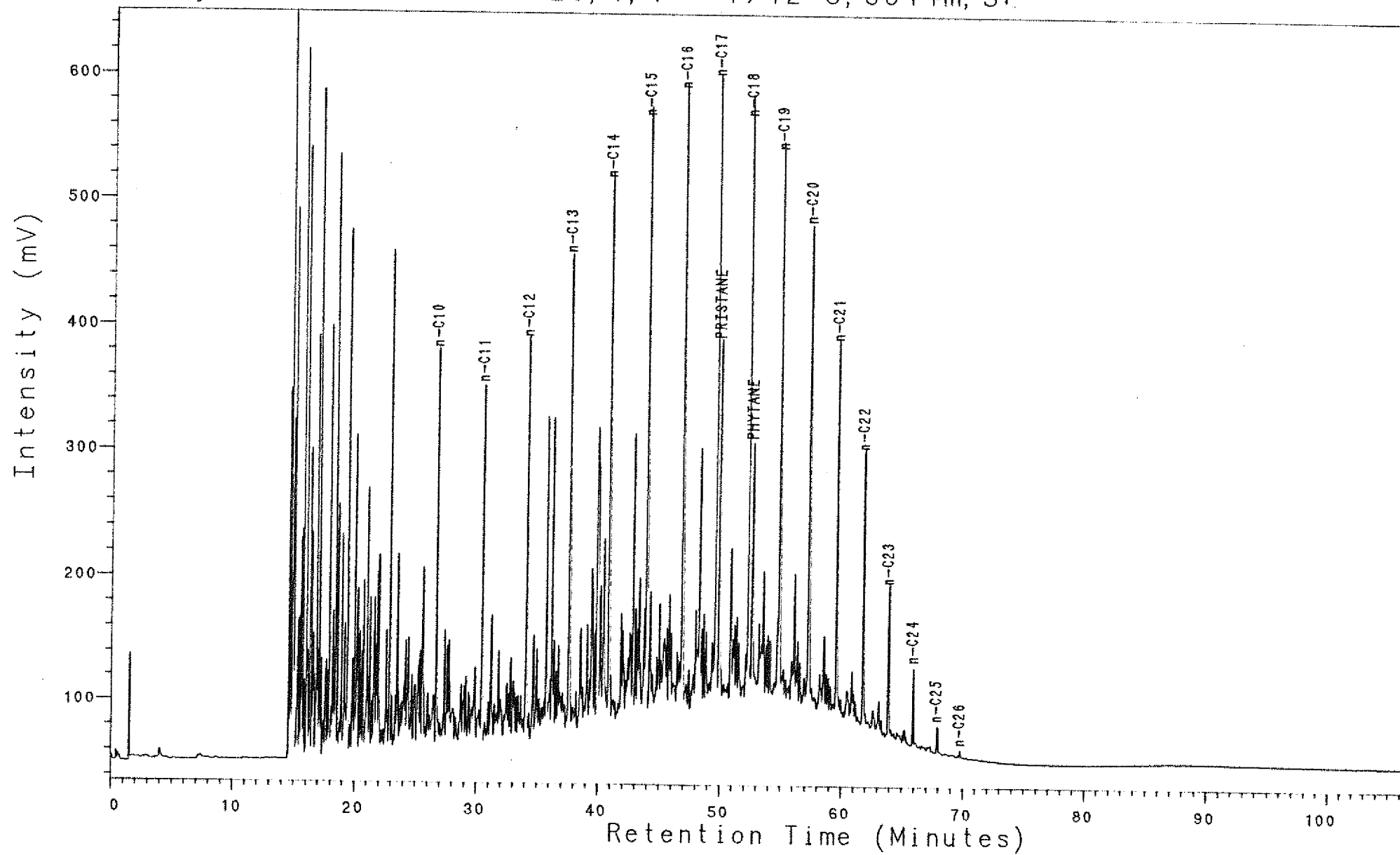


NOCS 7/12-5 3908m
THERMAL EXTRACTION GC (S1)
CLST:brn blk

Analysis PC032552L

26, 1, 1

7/12-5, 3914m, S1

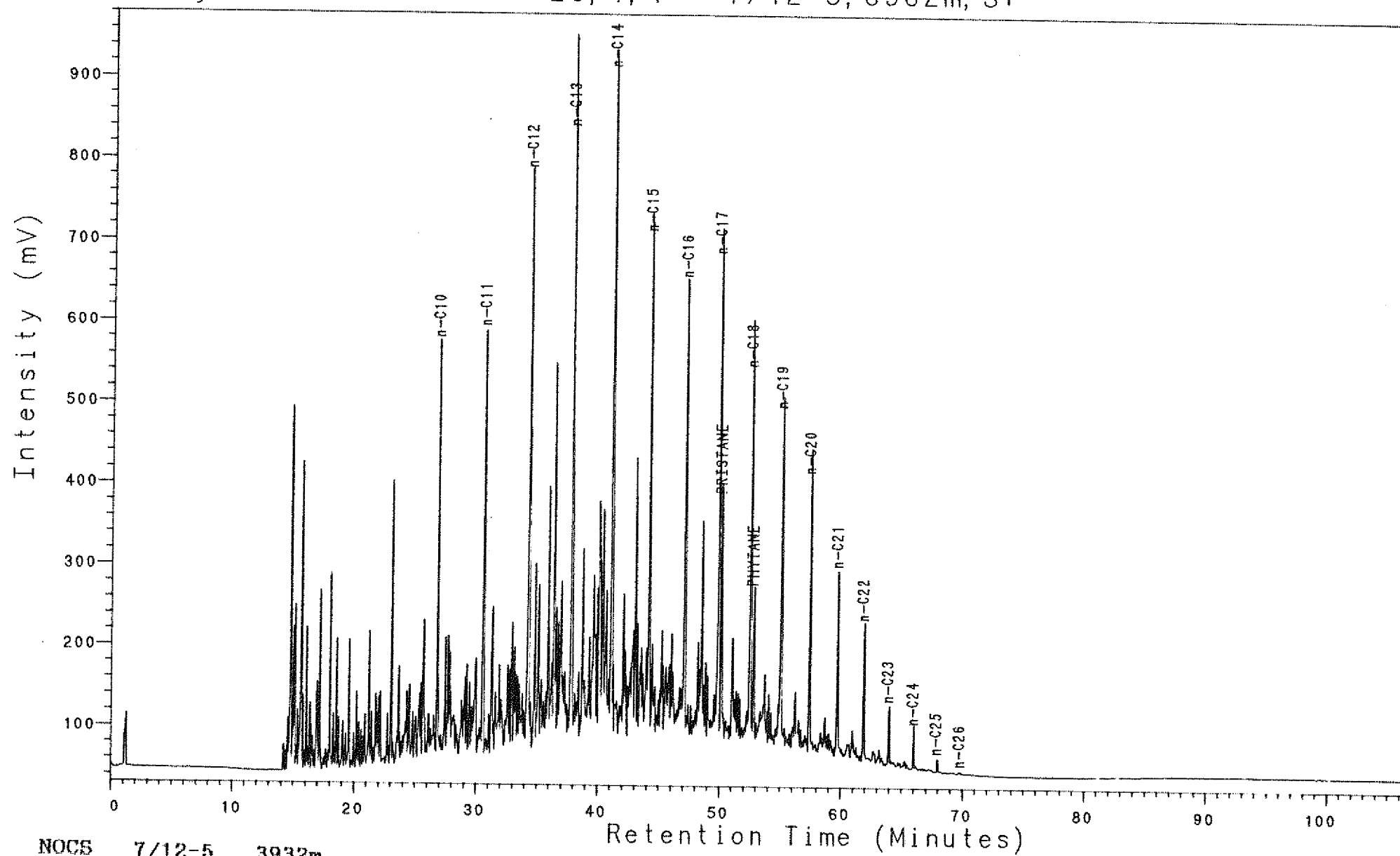


NOCS 7/12-5 3914m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032581L

26, 1, 1

7/12-5, 3932m, S1

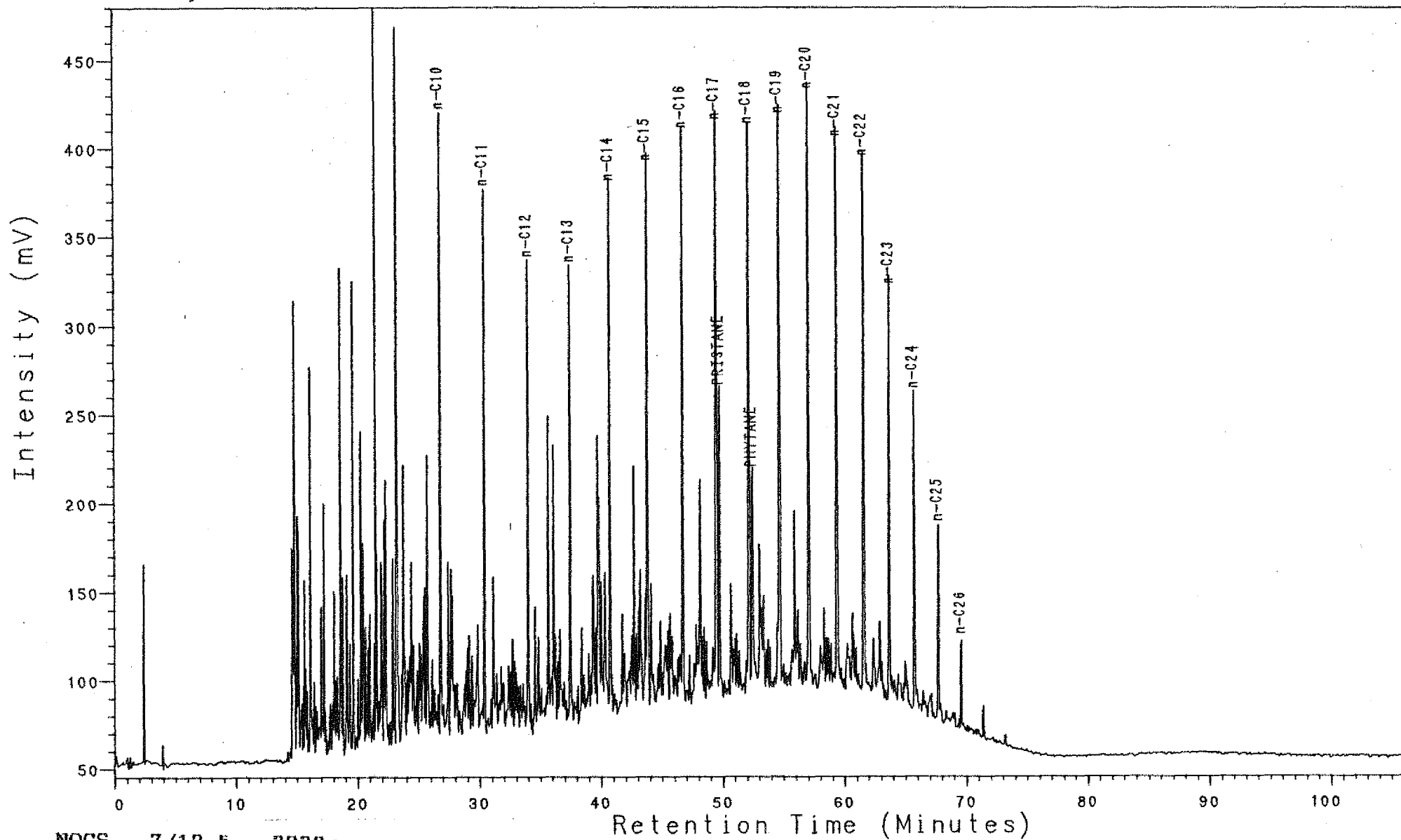


NOCS 7/12-5 3932m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032593L

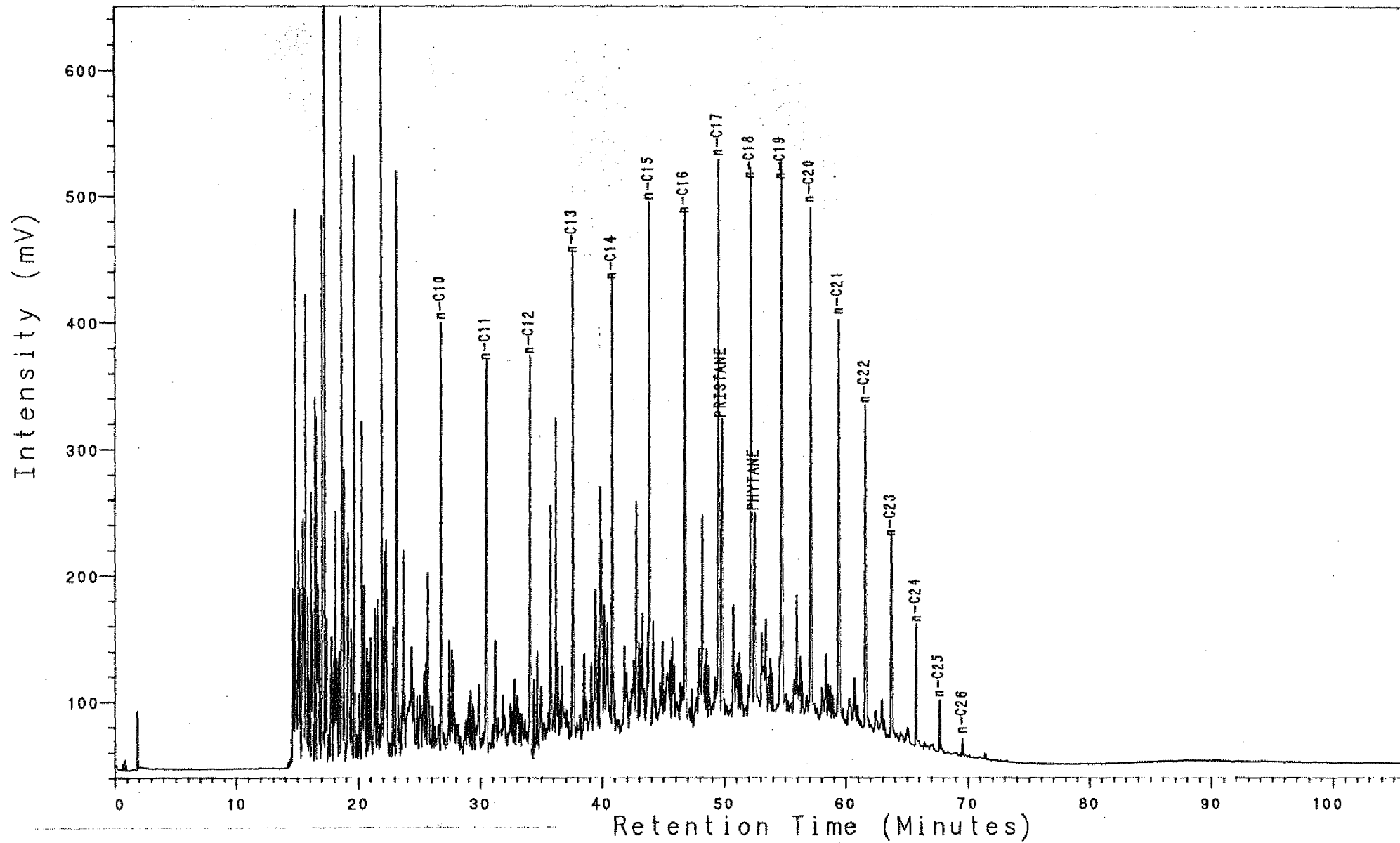
26, 1, 1

7/12-5, 3938m, S1



NOCS 7/12-5 3938m
THERMAL EXTRACTION GC (S1)
CLST:blk to brn blk

Analysis PC032634L 26, 1, 1 7/12-5, 3962m, S1

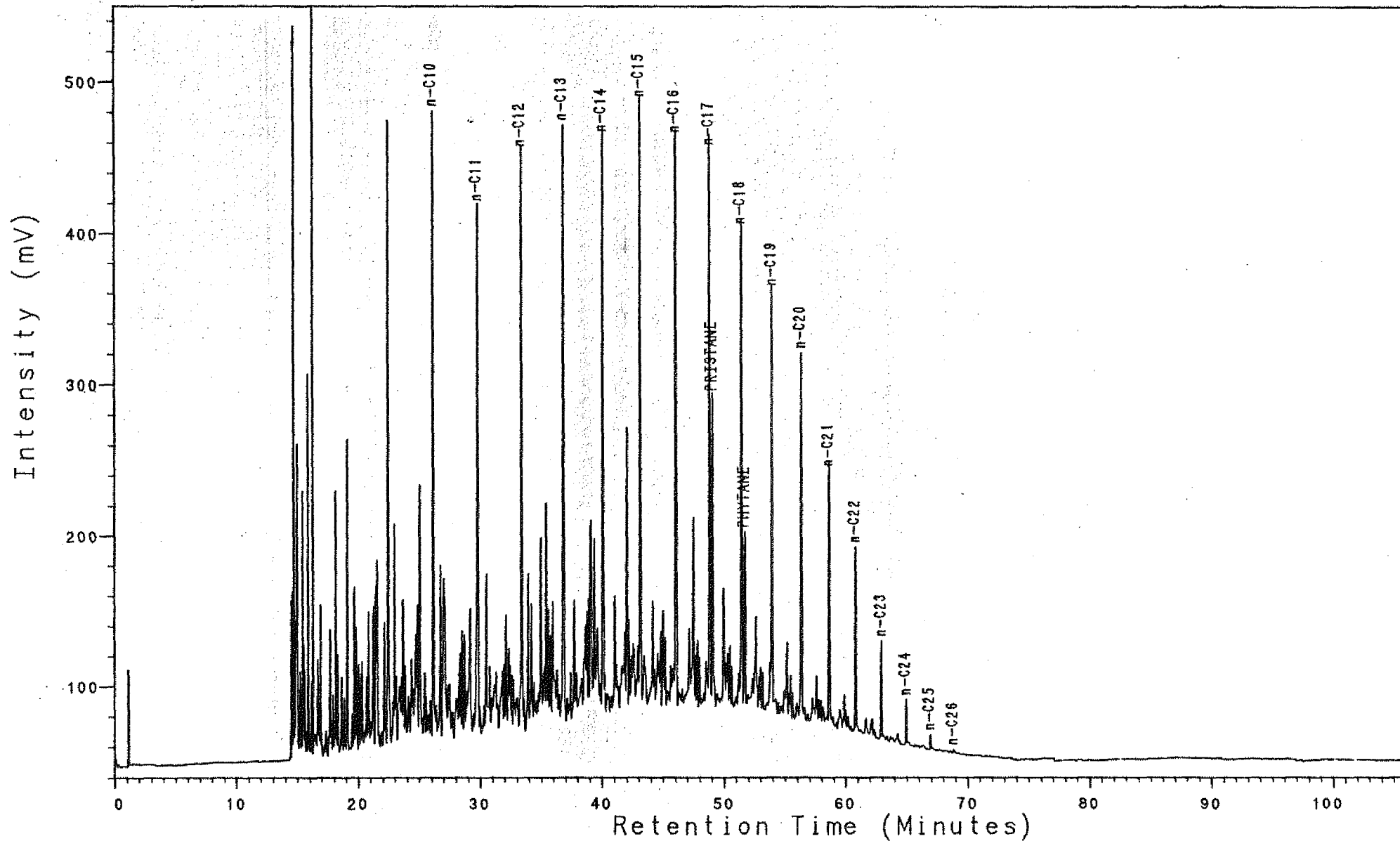


NOCS 7/12-5 3962m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032644L

26, 1, 1

7/12-5, 3968m, S1

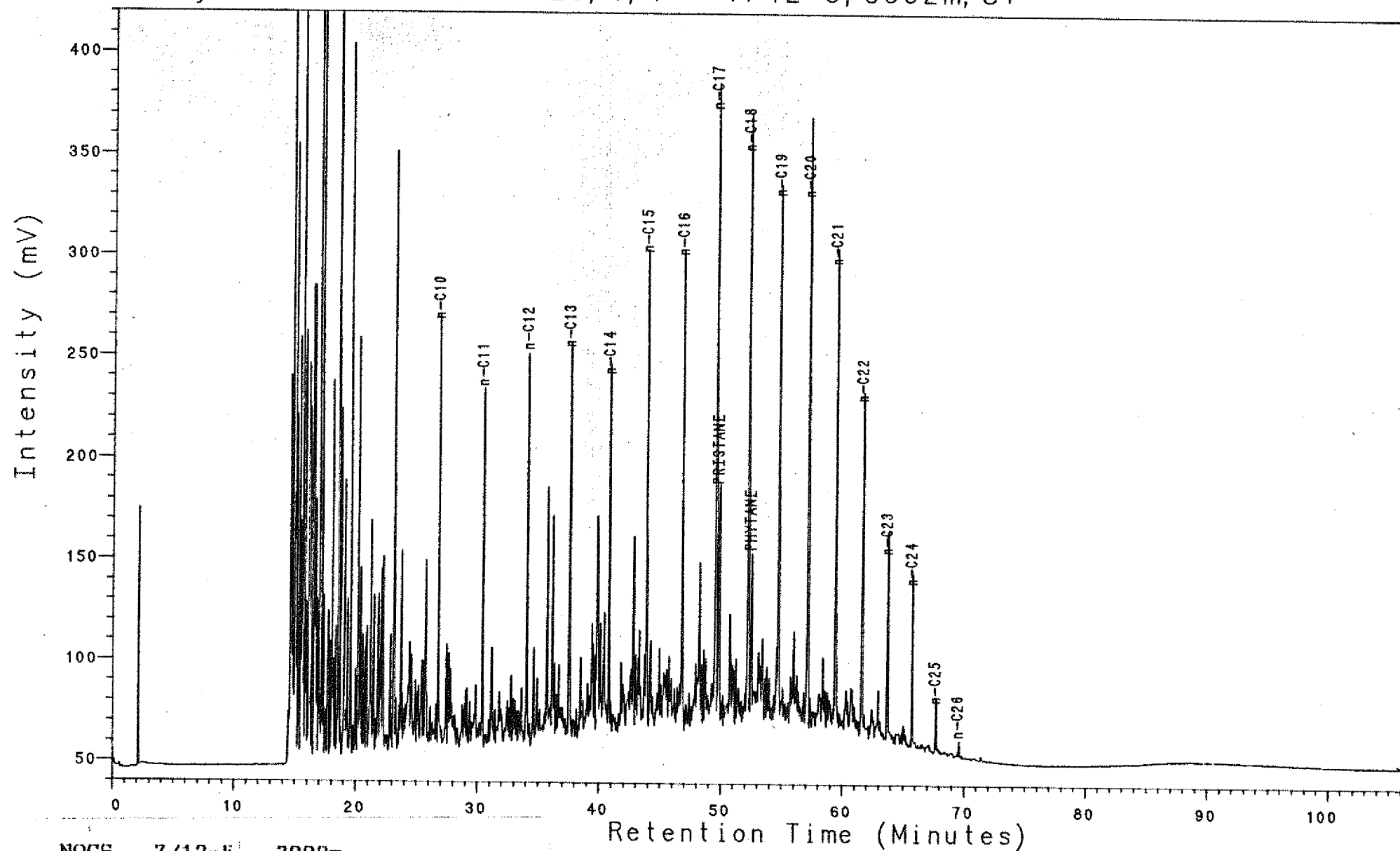


NOC5 7/12-5 3968m
THERMAL EXTRACTION GC (S1)
CLST:blk to brn blk

analysis PC032682L

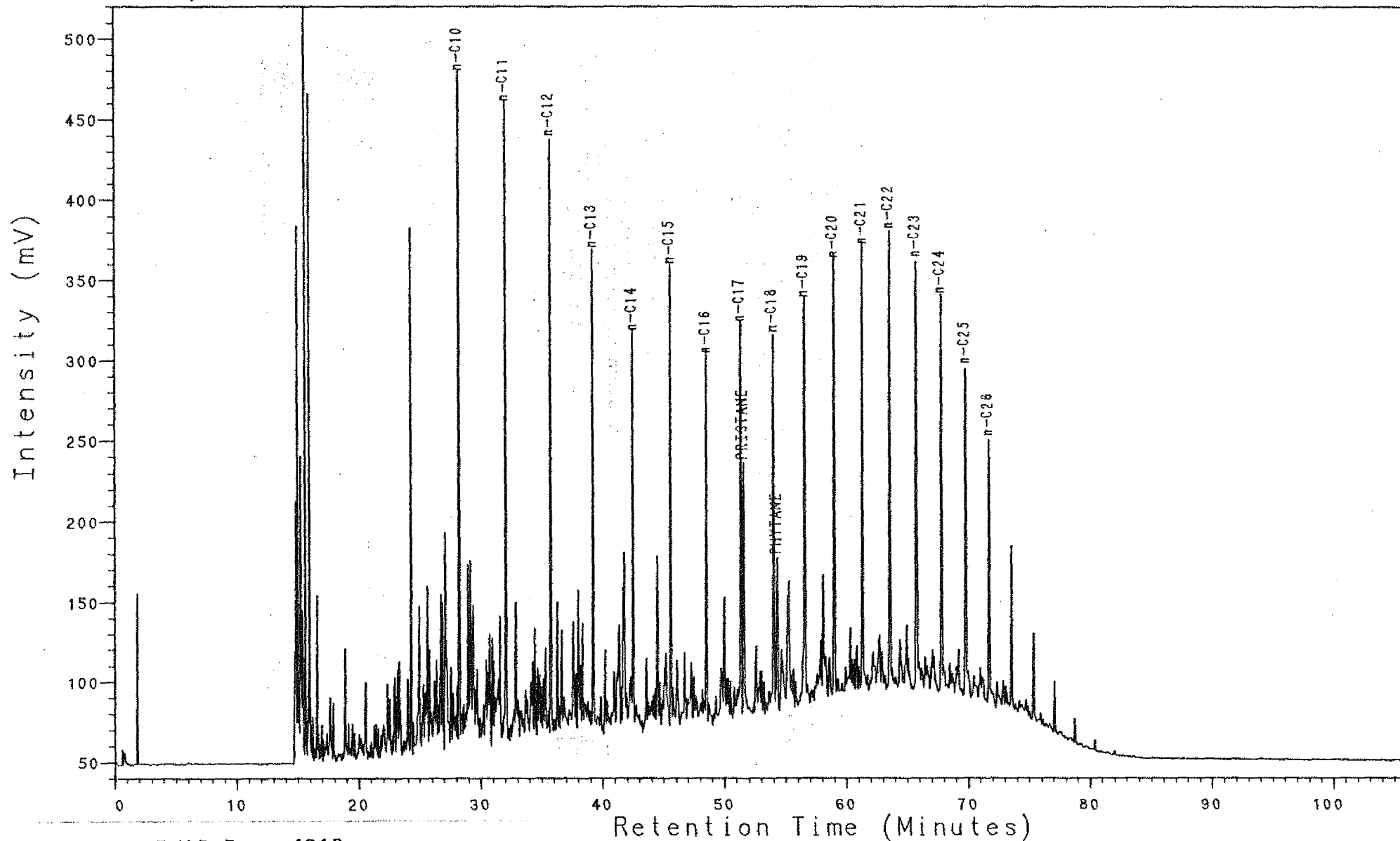
26, 1, 1

7/12-5, 3992m, S1



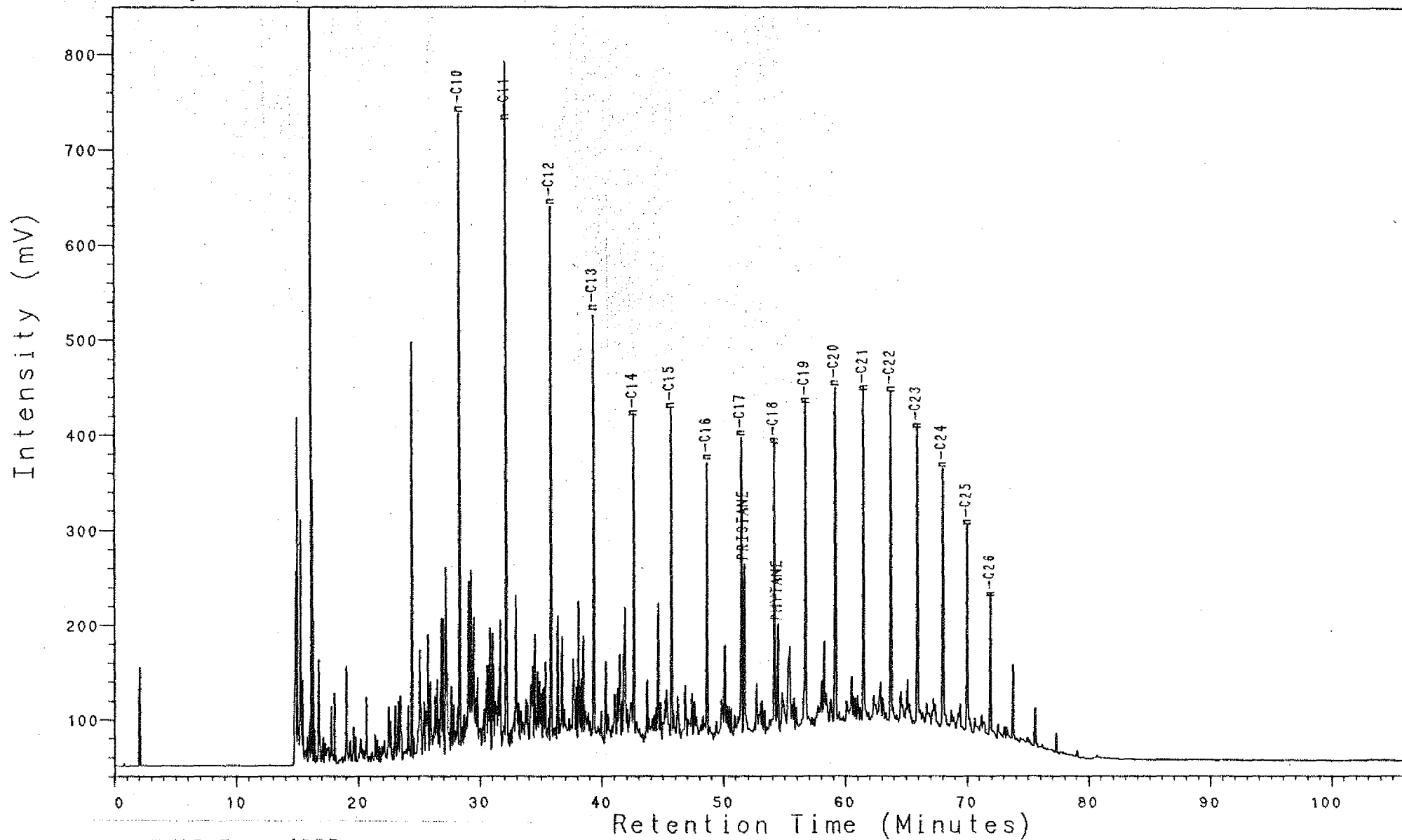
NOCS 7/12-5 3992m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032714L 24, 1, 1 7/12-5, 4010m, S1



NOCS 7/12-5 4010m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

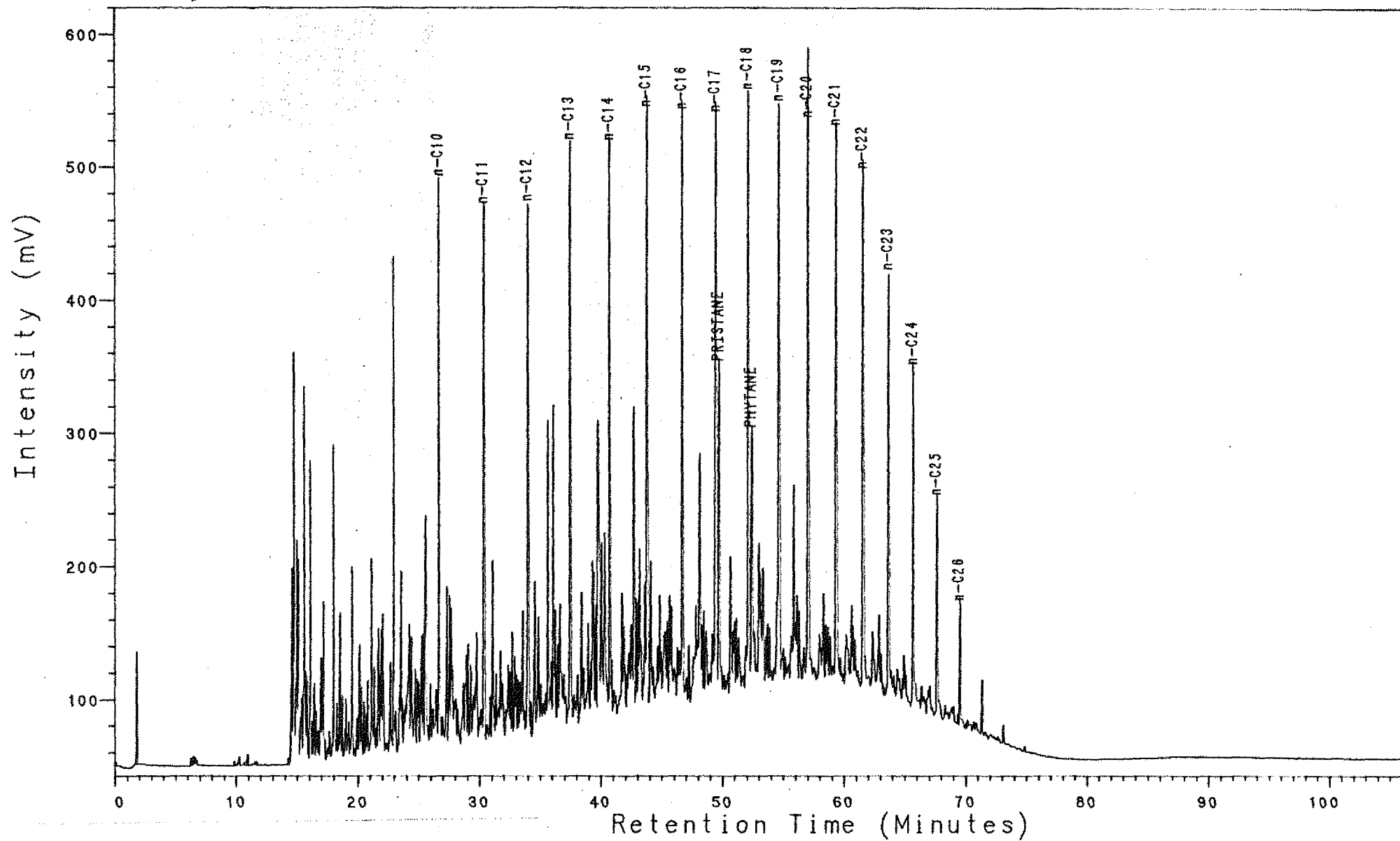
Analysis PC032734L 24, 1, 1 7/12-5, 4022m, S1



NOCS 7/12-5 4022m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032753L

26, 1, 1 7/12-5, 4034m, S1

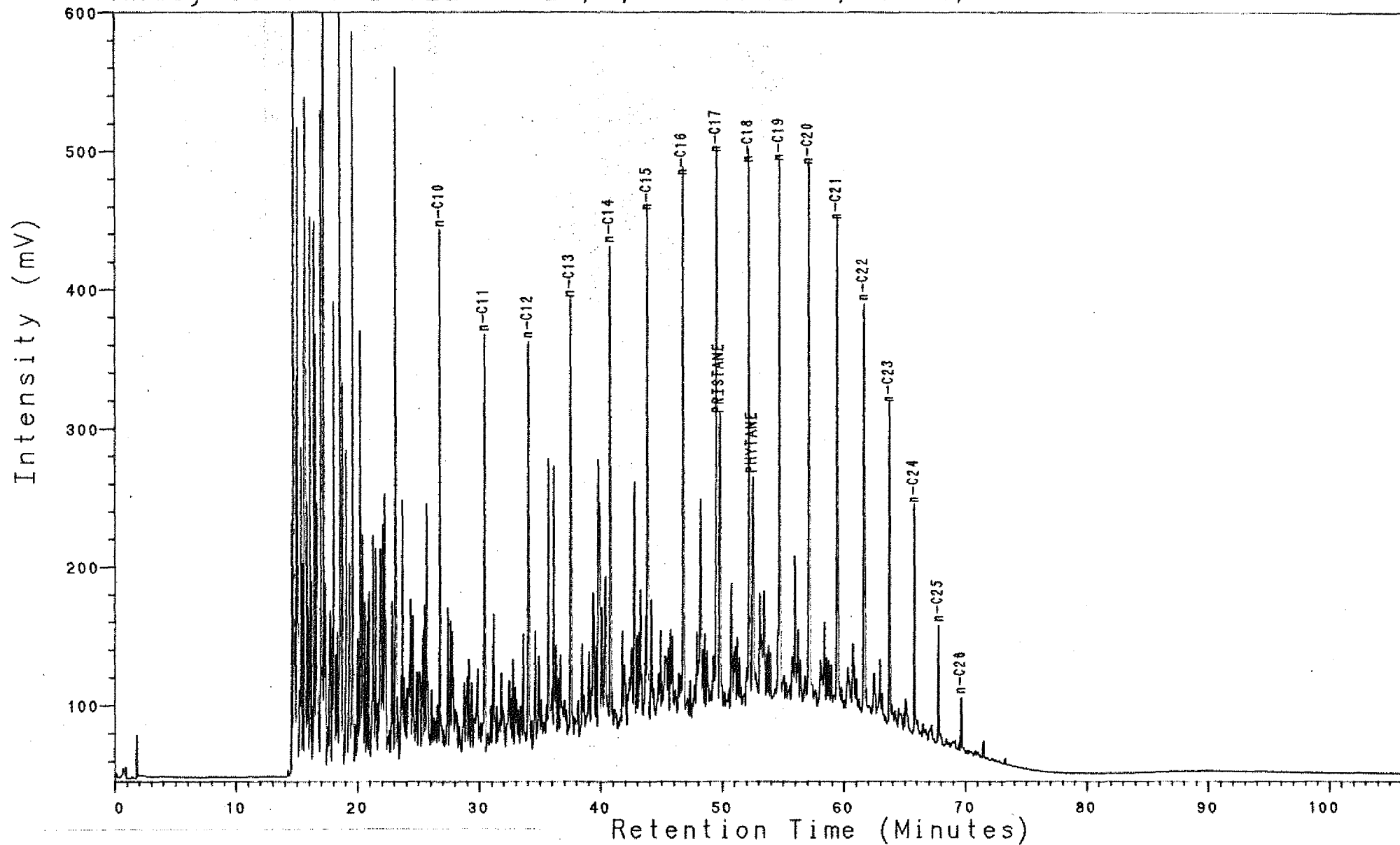


NOCS 7/12-5 4034m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032772L

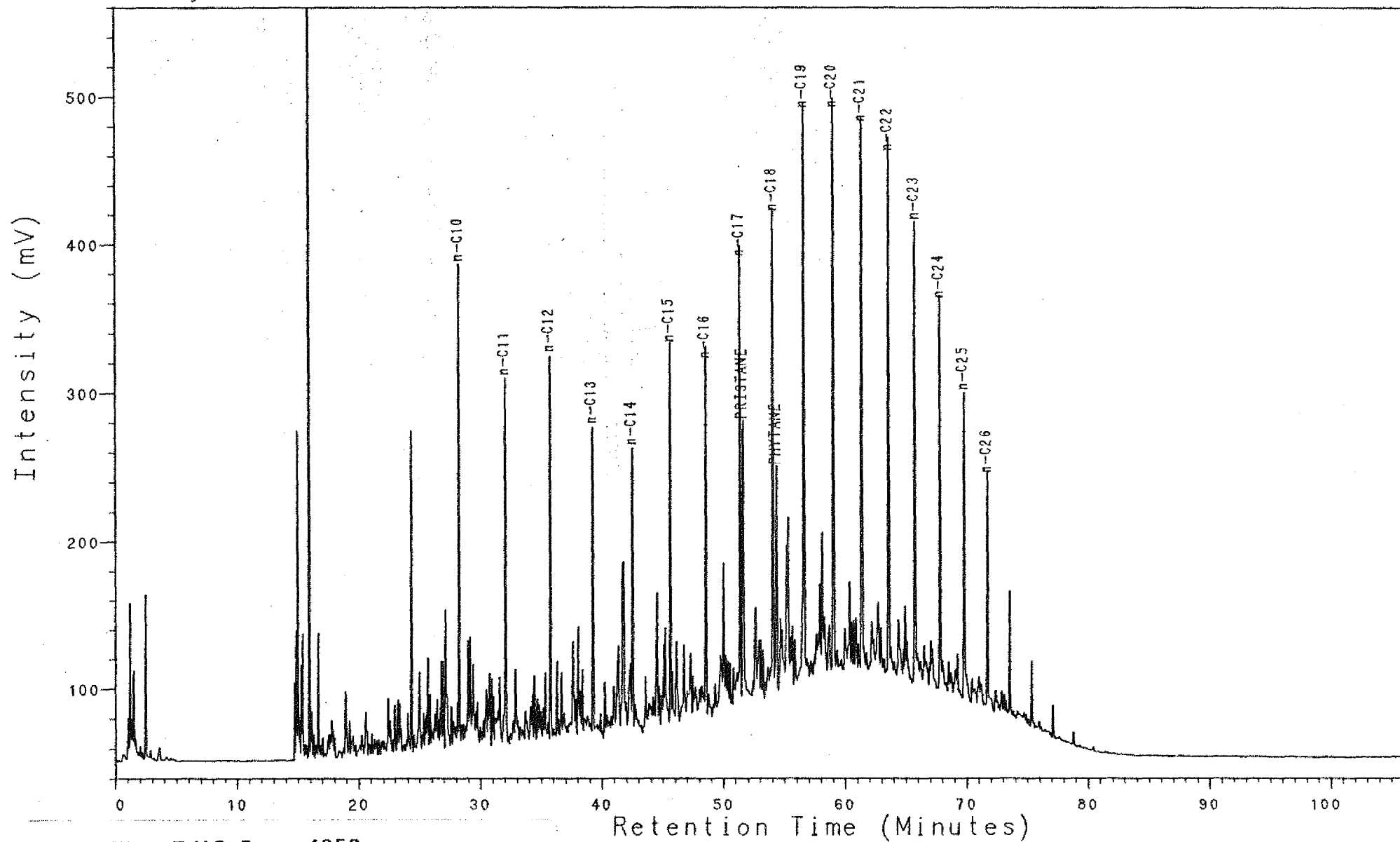
26, 1, 1

7/12-5, 4046m, S1



NOCS 7/12-5 4046m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032791L 24, 1, 1 7/12-5, 4058m, S1

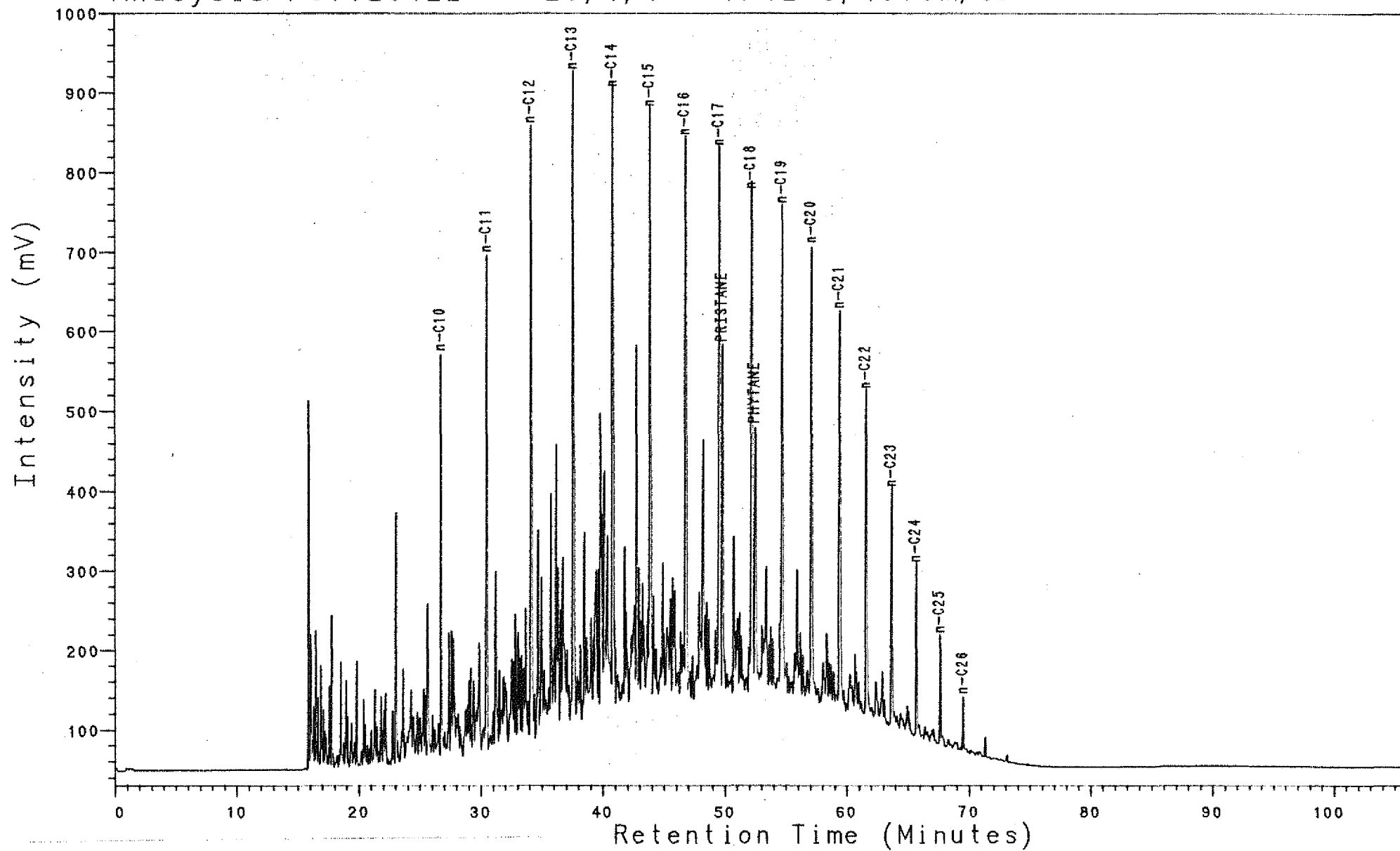


NOCS 7/12-5 4058m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032812L

26, 1, 1

7/12-5, 4070m, S1

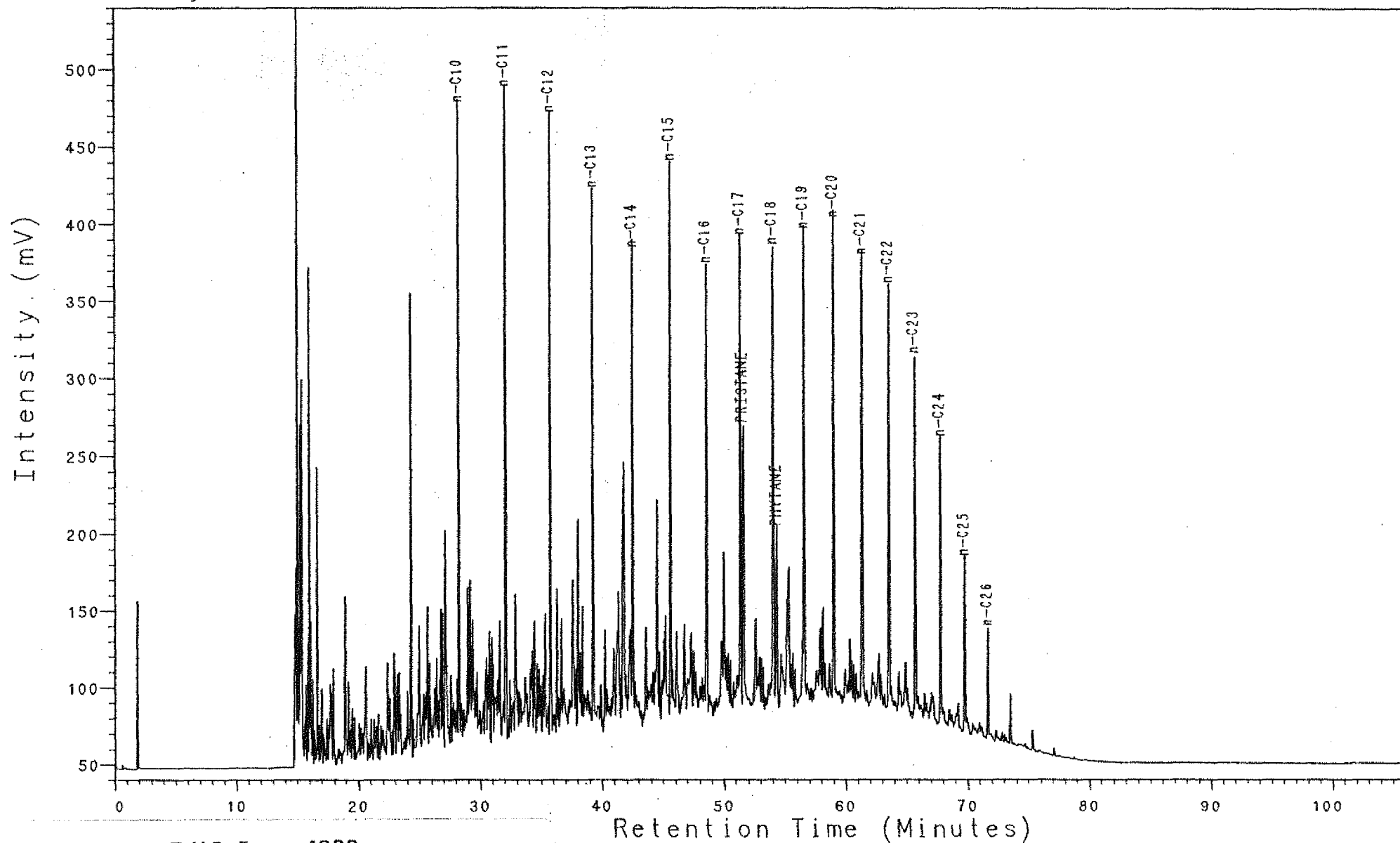


NOCS 7/12-5 4070m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032843L

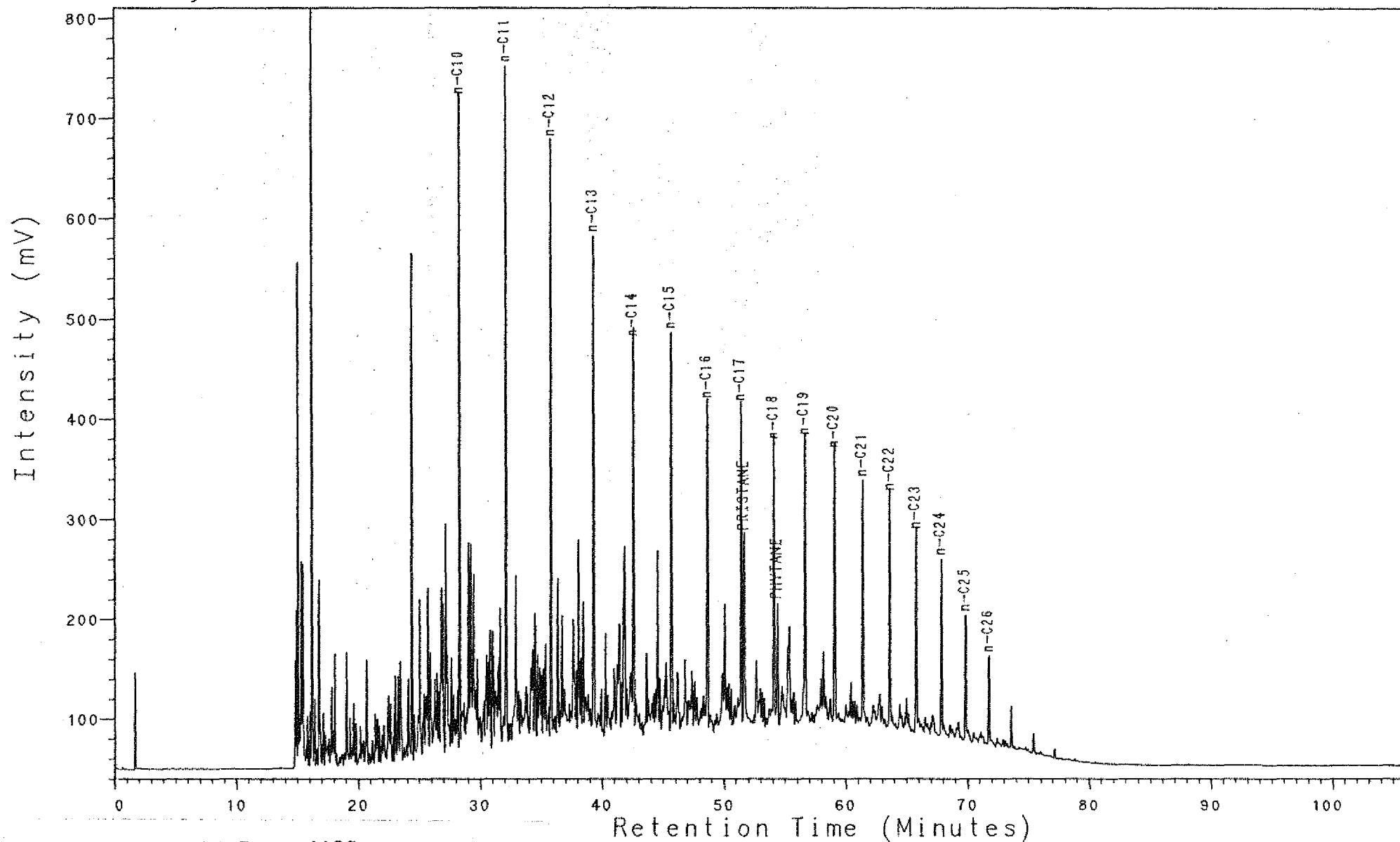
24, 1, 1

7/12-5, 4088m, S1



NOCS 7/12-5 4088m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032863L 24, 1, 1 7/12-5, 4100m, S1

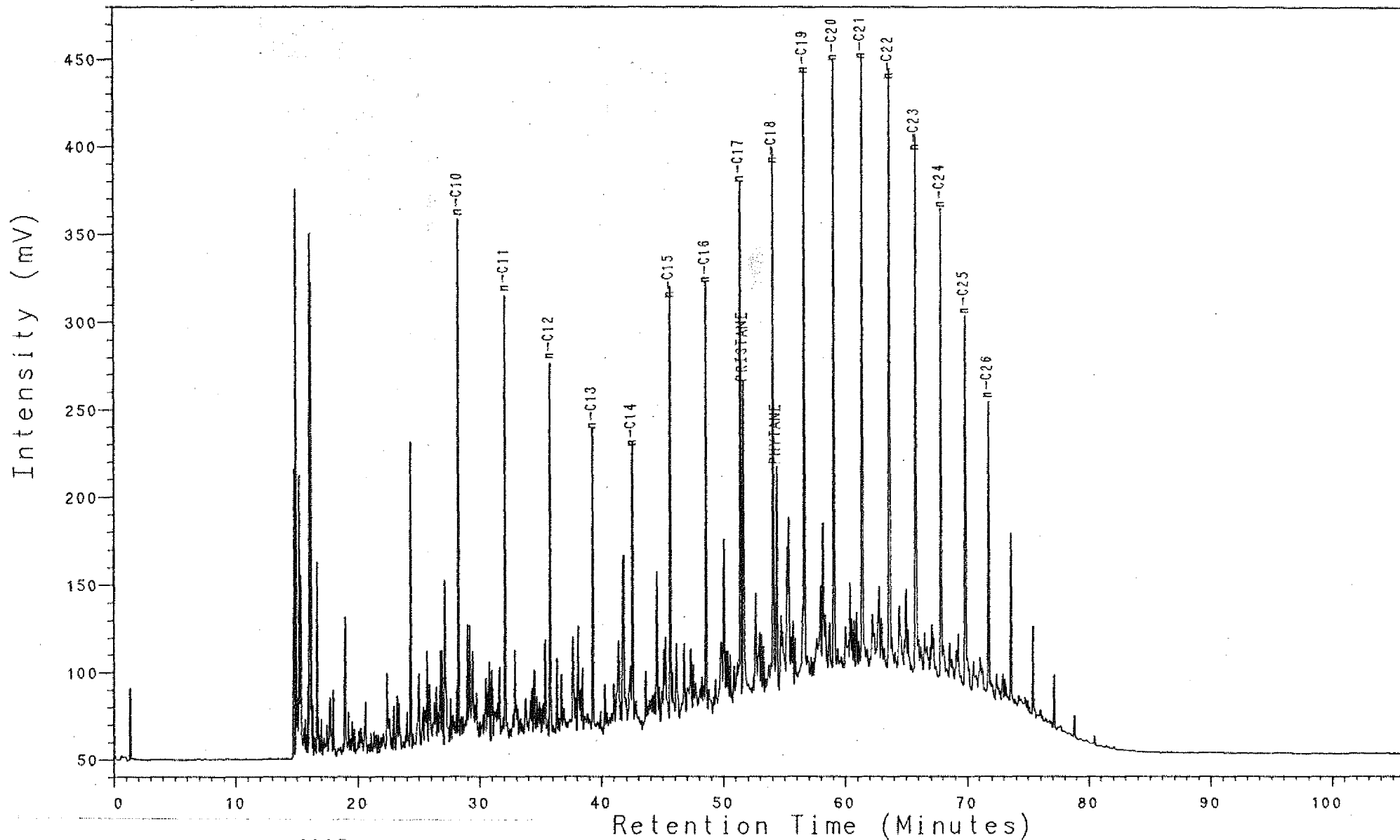


NOCS 7/12-5 4100m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032883L

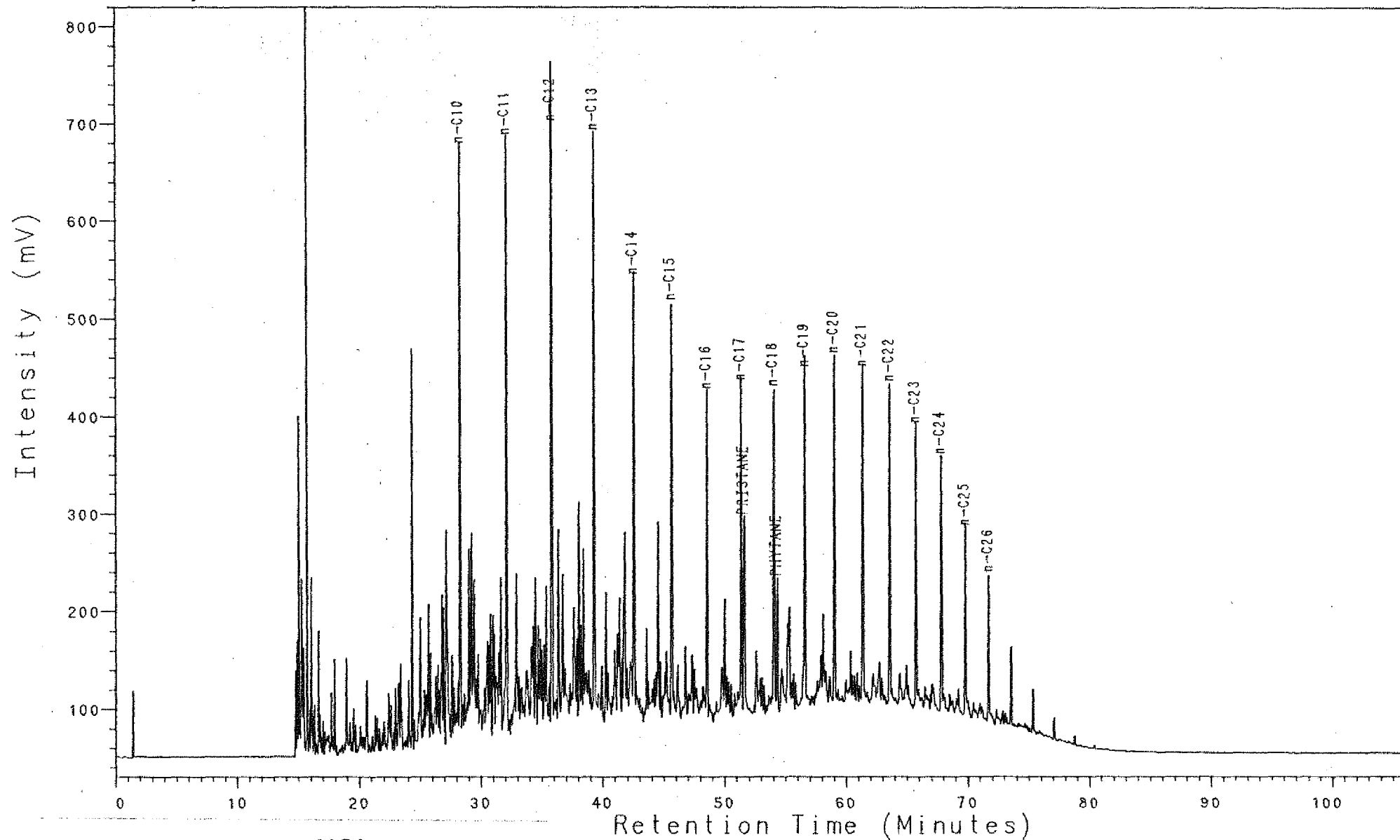
24, 1, 1

7/12-5, 4112m, S1



NOCS 7/12-5 4112m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032902L 24, 1, 1 7/12-5, 4124m, S1

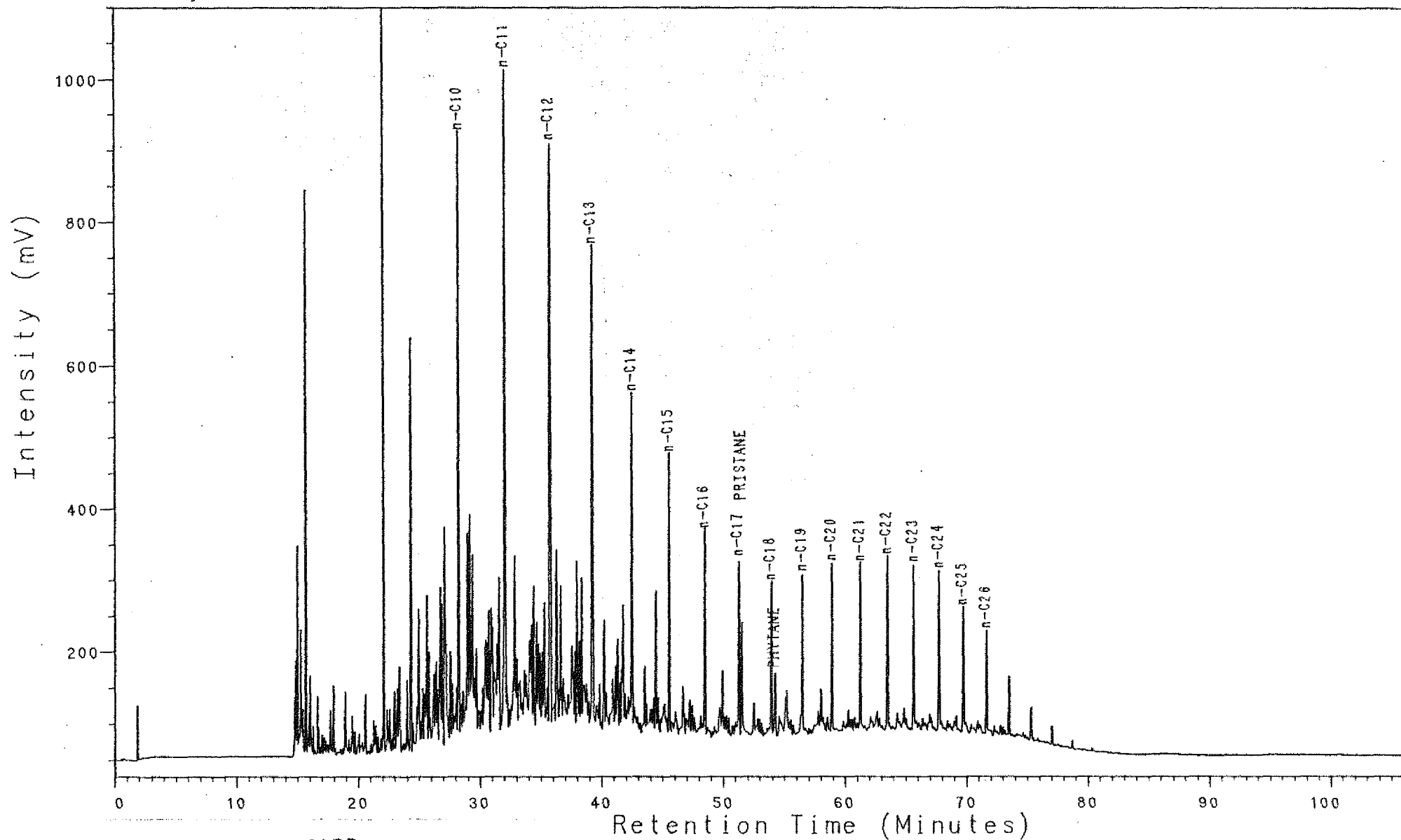


NOCS 7/12-5 4124m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032922L

24, 1, 1

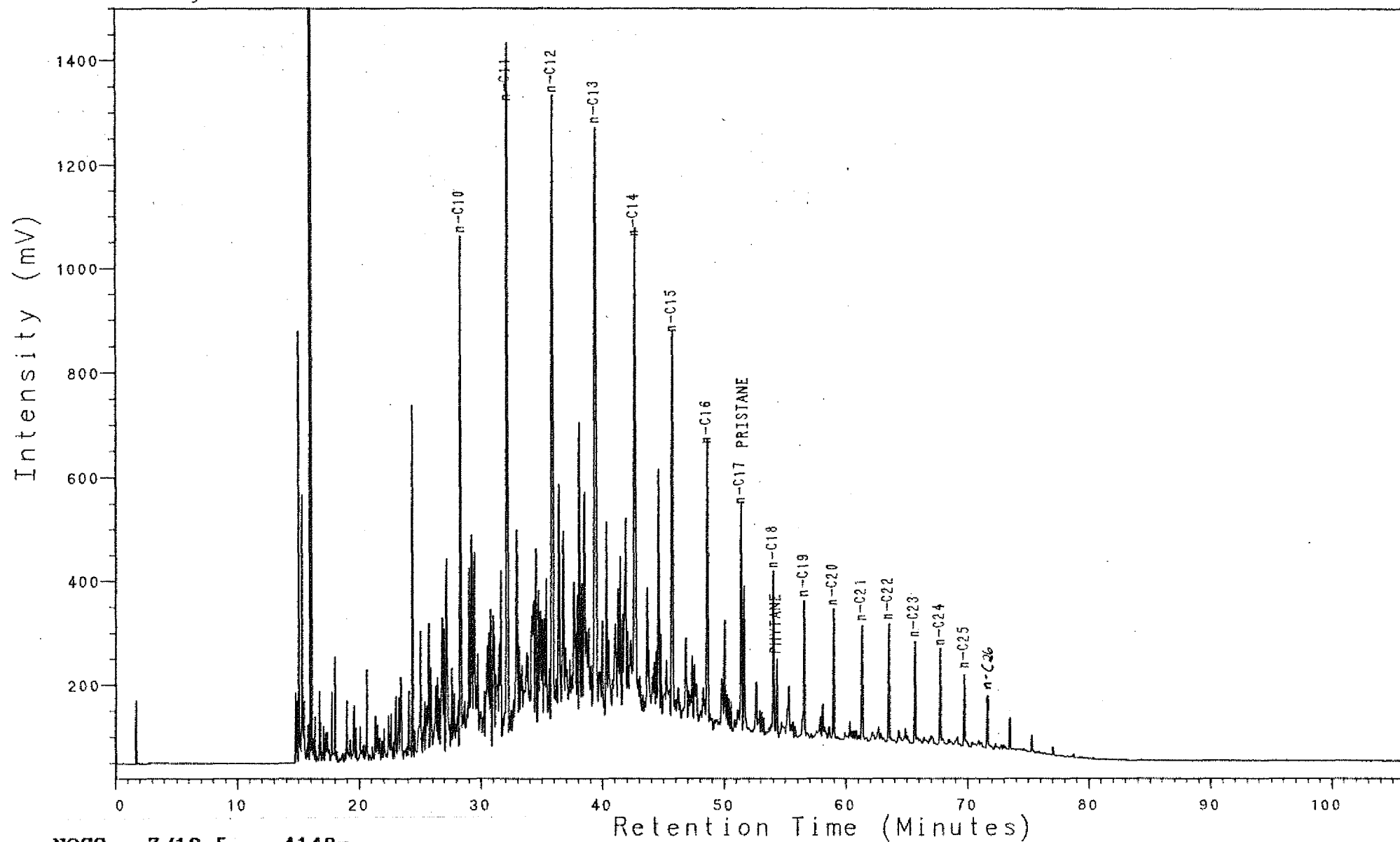
7/12-5, 4136m, S1



NOCS 7/12-5 4136m
THERMAL EXTRACTION GC (S1)
CLST: blk to prn blk

Analysis PC032941L

24, 1, 1 7/12-5, 4148m, S1

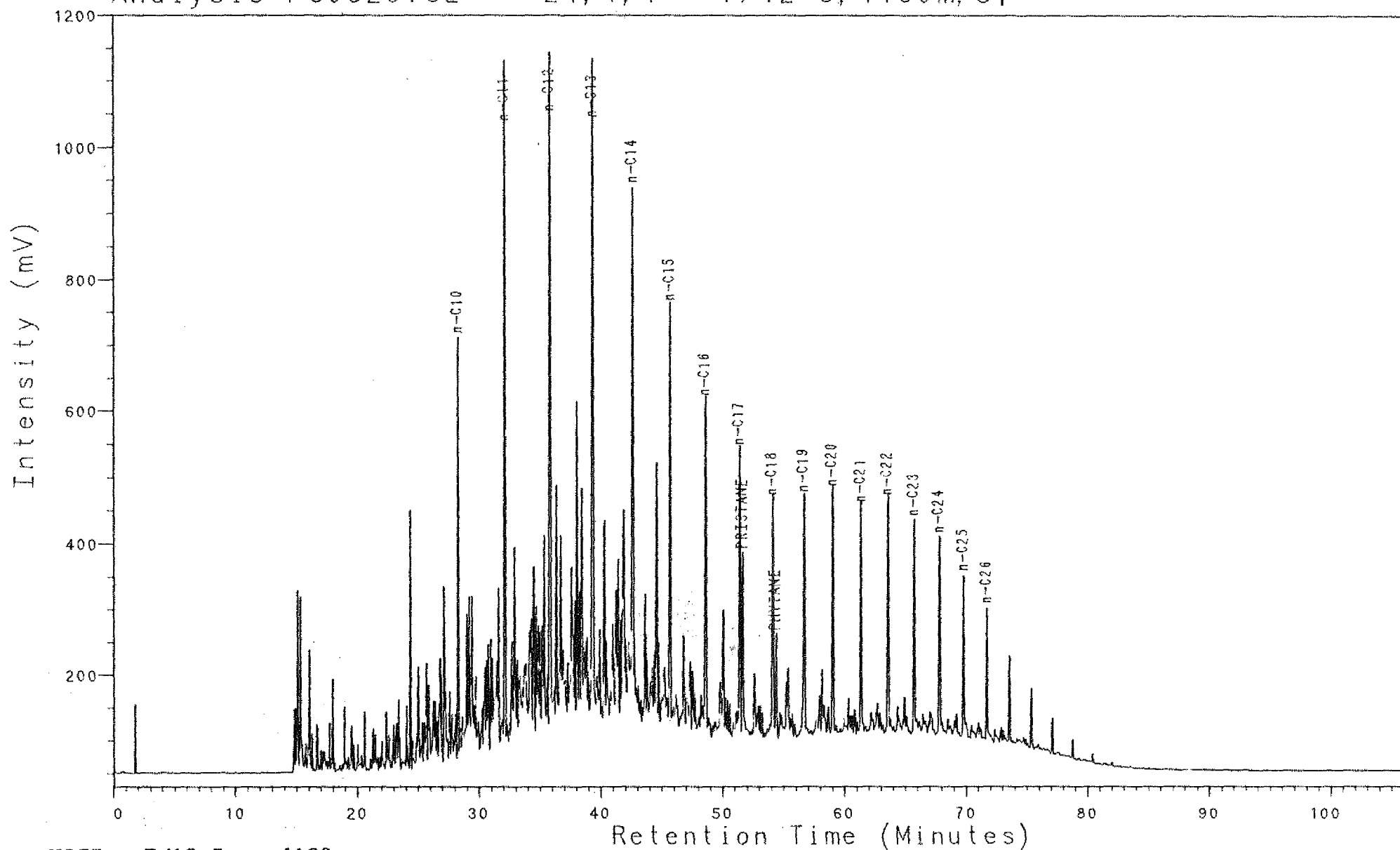


NOCS 7/12-5 4148m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032973L

24, 1, 1

7/12-5, 4160m, S1

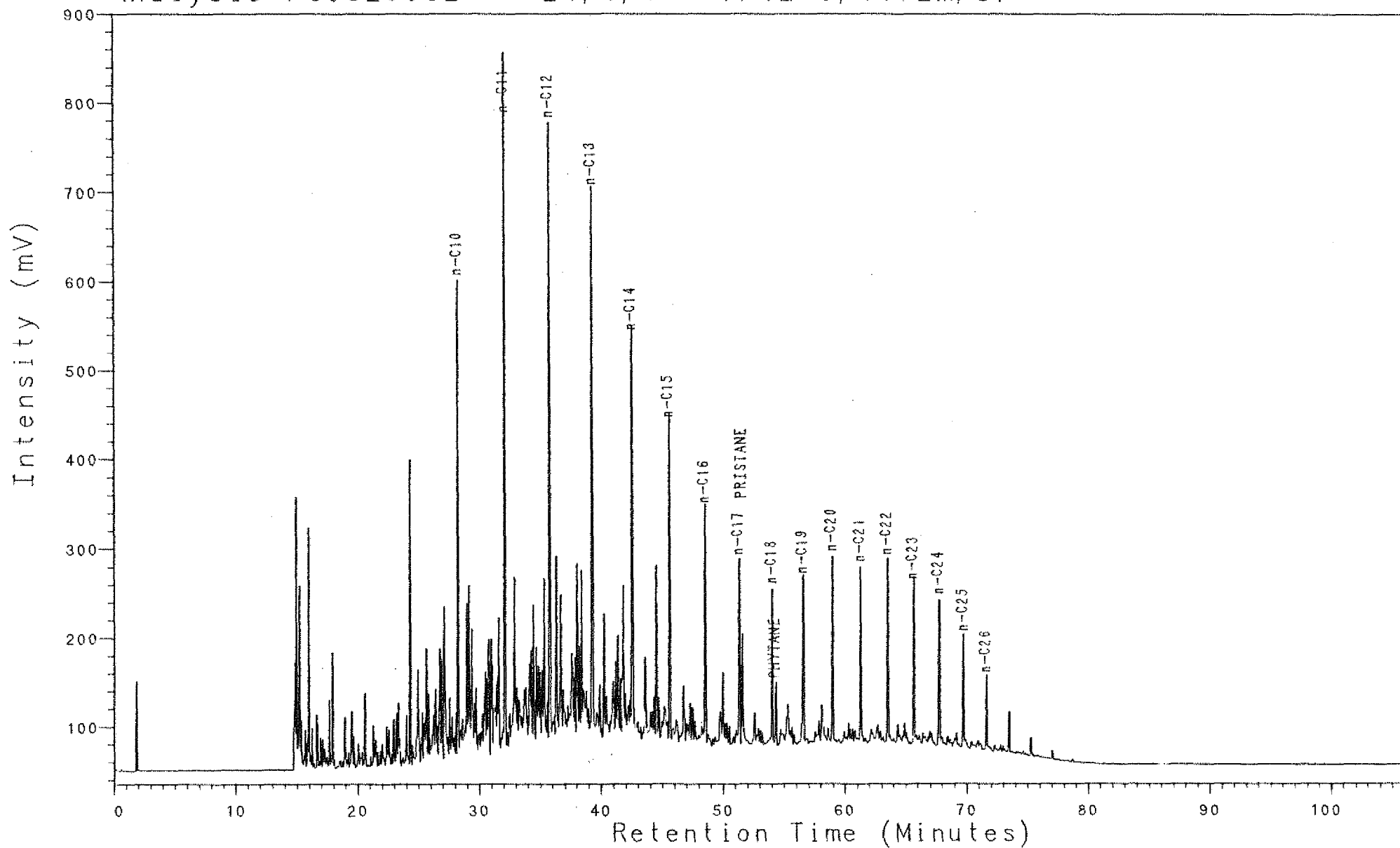


NOCS 7/12-5 4160m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC032993L

24, 1, 1

7/12-5, 4172m, S1

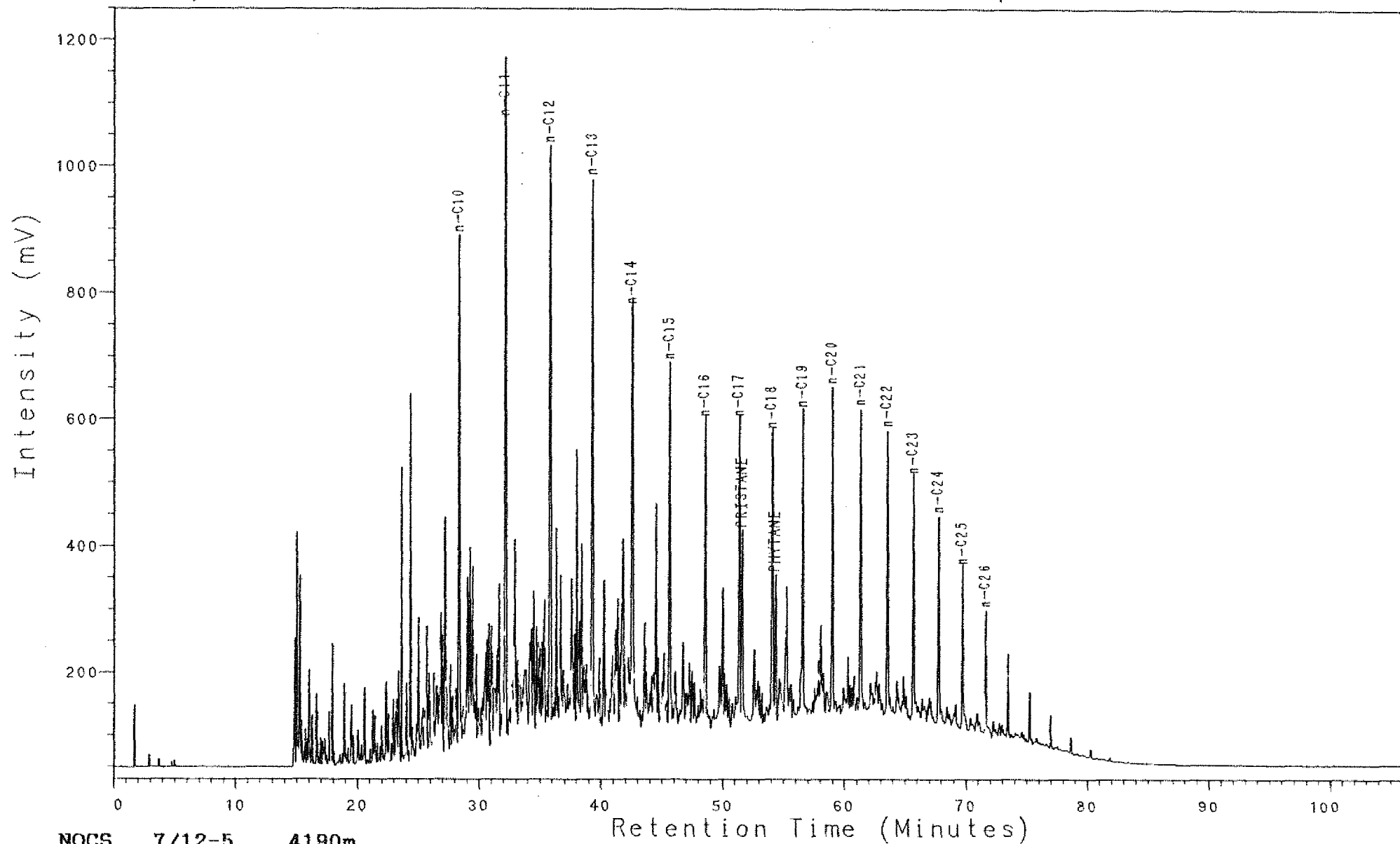


NOCS 7/12-5 4172m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033023L

24, 1, 1

7/12-5, 4190m, S1

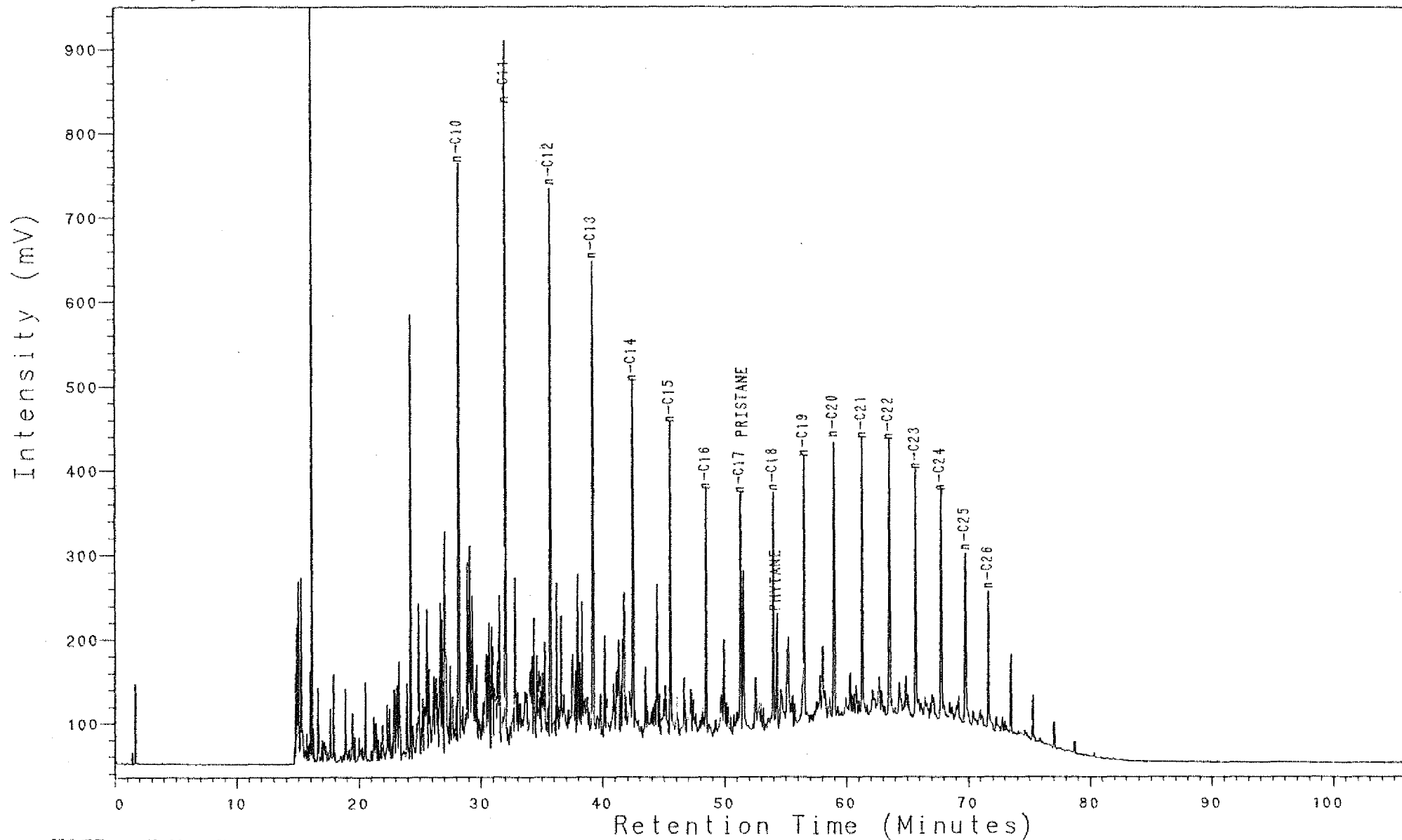


NOCS 7/12-5 4190m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033062L

24, 1, 1

7/12-5, 4214m, S1

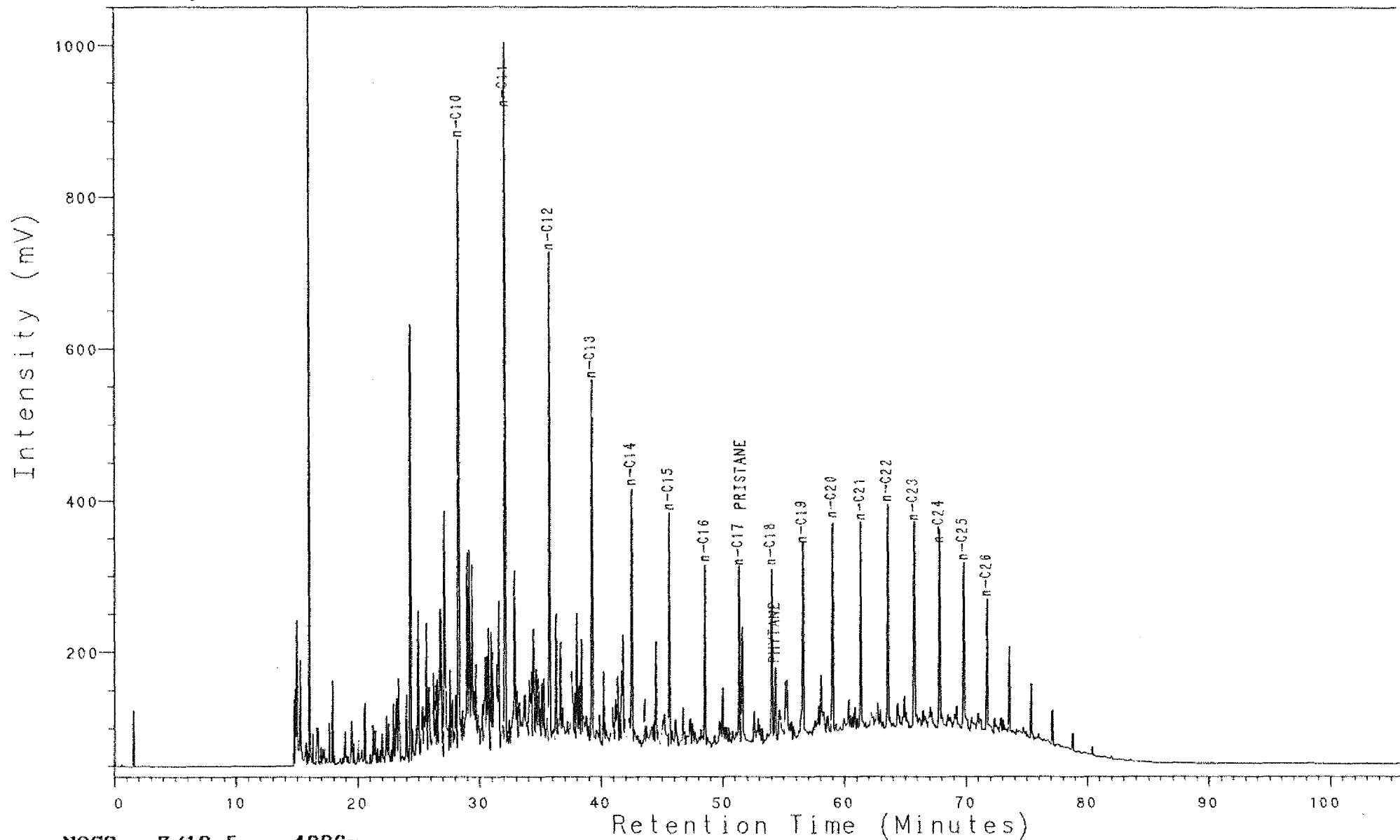


NOCS 7/12-5 4214m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033081L

24, 1, 1

7/12-5, 4226m, S1

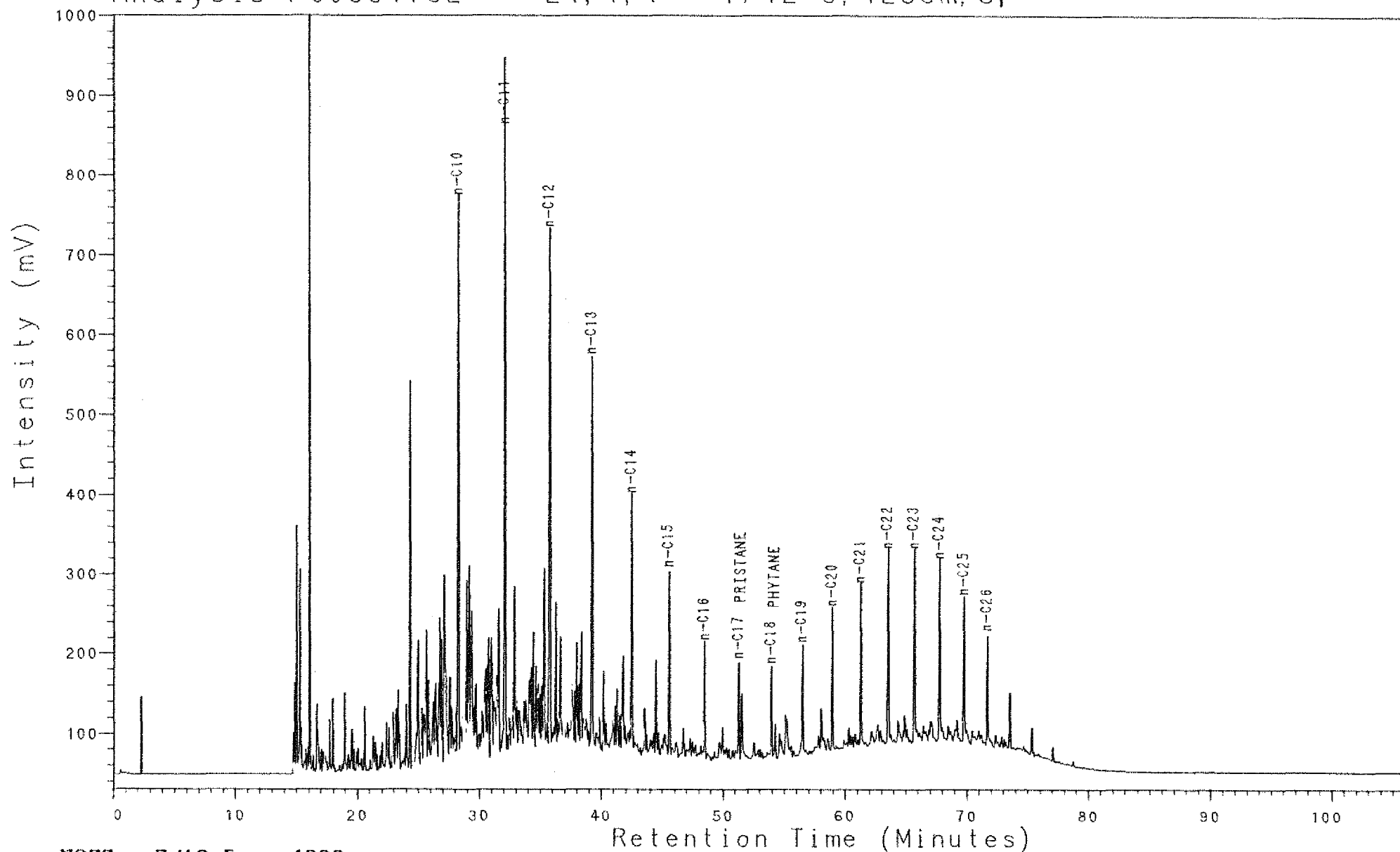


NOCS 7/12-5 4226m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033173L

24, 1, 1

7/12-5, 4283m, S1

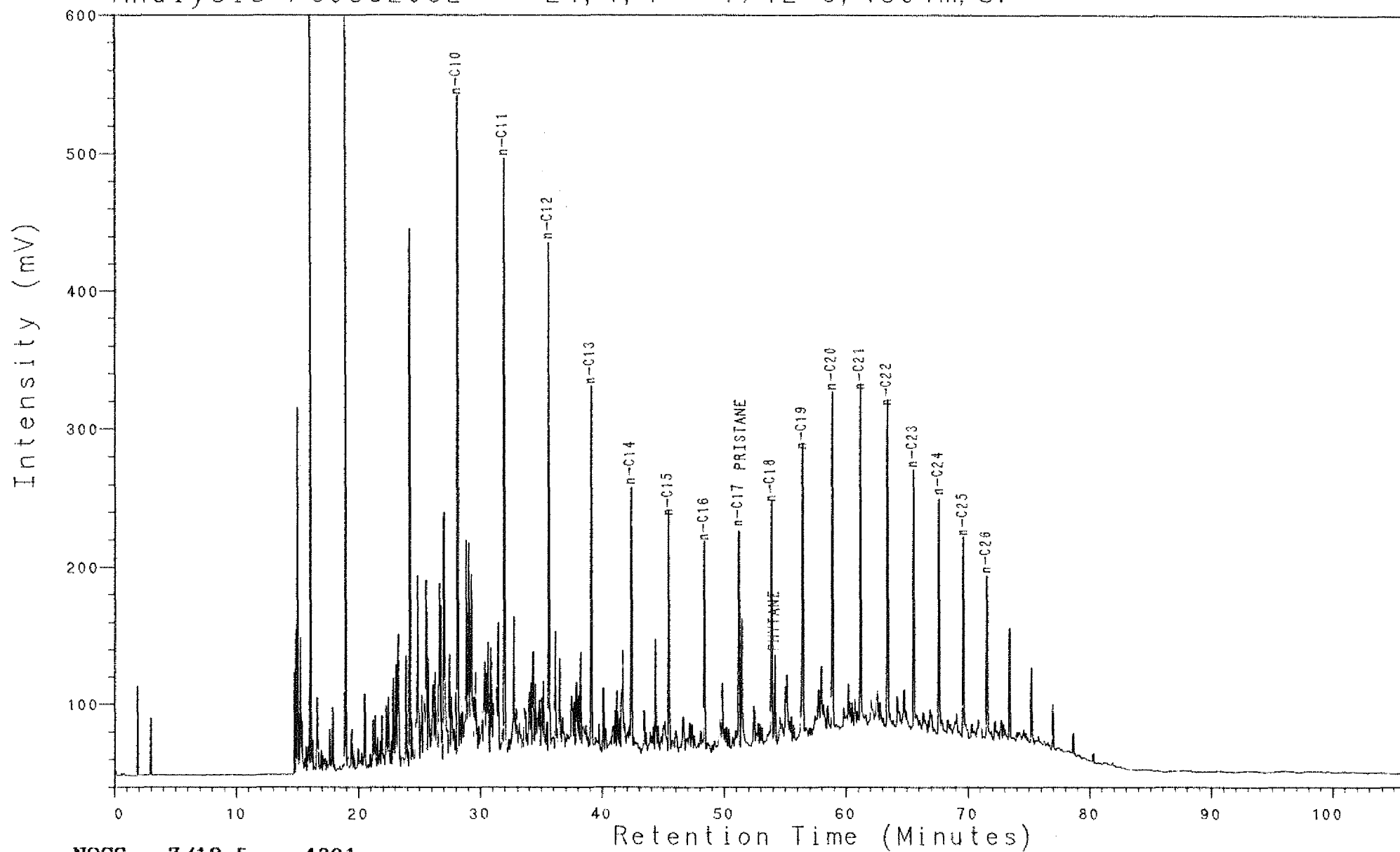


NOCS 7/12-5 4283m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033203L

24, 1, 1

7/12-5, 4301m, S1

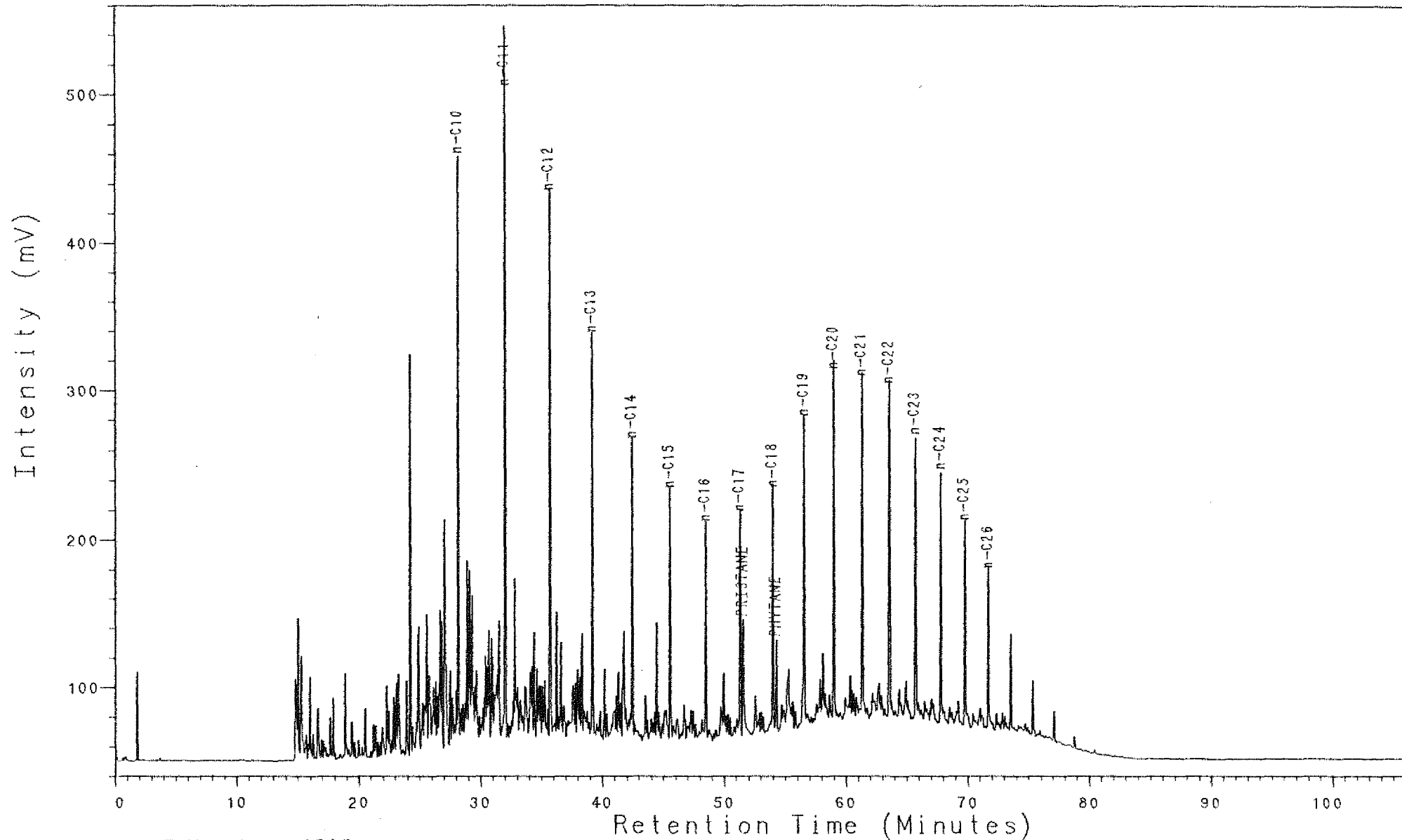


NOCS 7/12-5 4301m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033223L

24, 1, 1

7/12-5, 4313m, S1

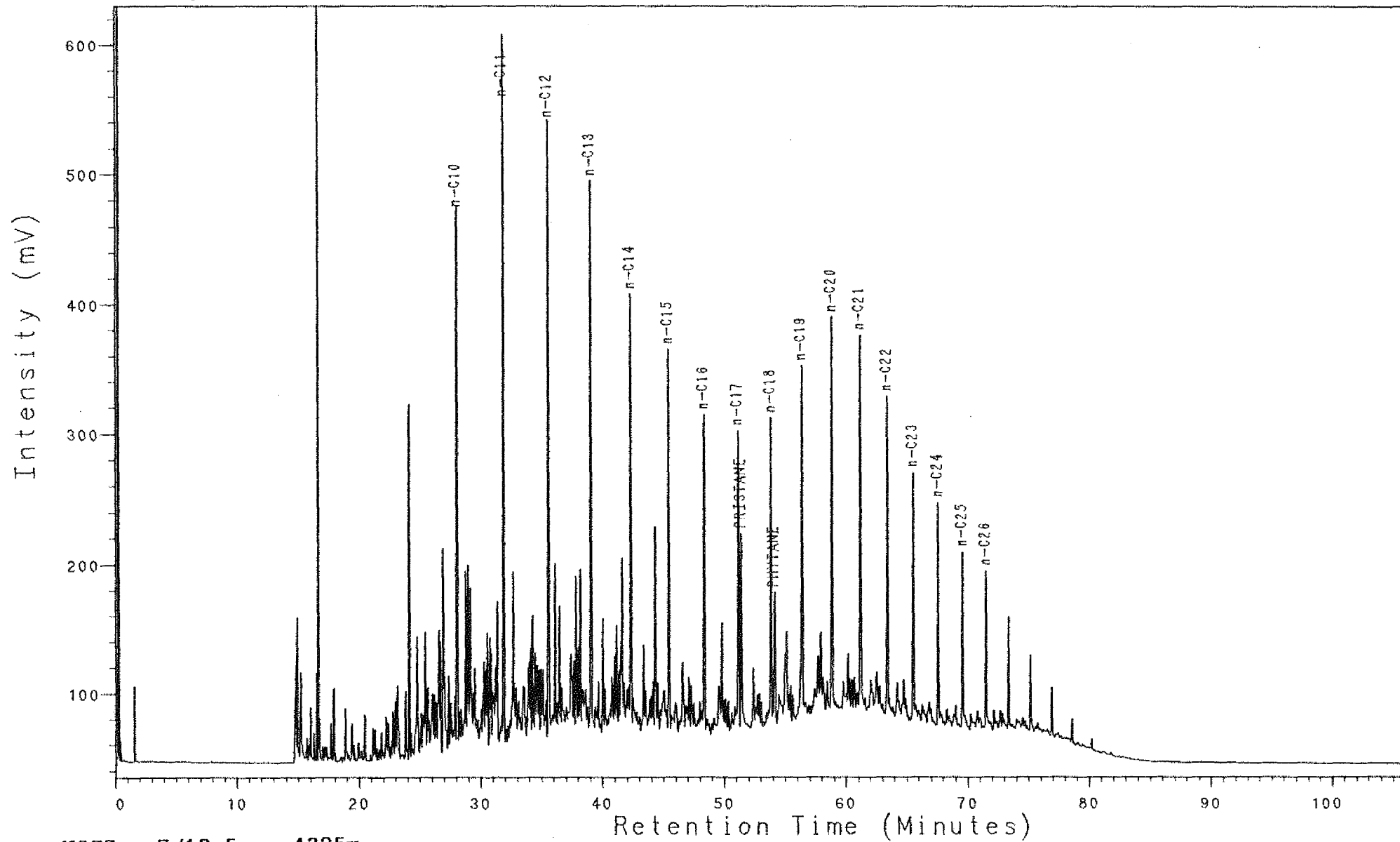


NOCS 7/12-5 4313m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033243L

24, 1, 1

7/12-5, 4325m, S1

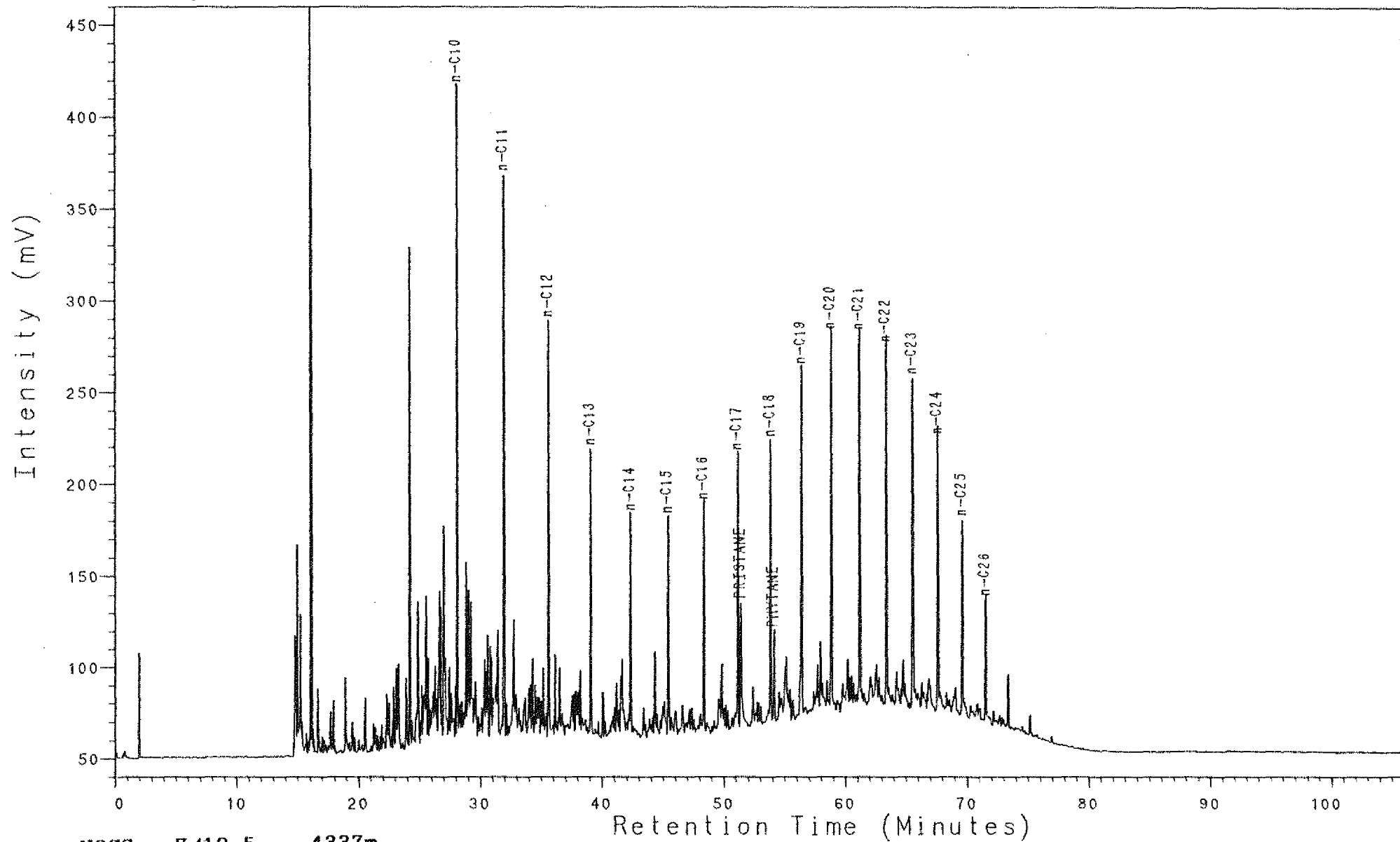


NOCS 7/12-5 4325m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033262L

24, 1, 1

7/12-5, 4337m, S1

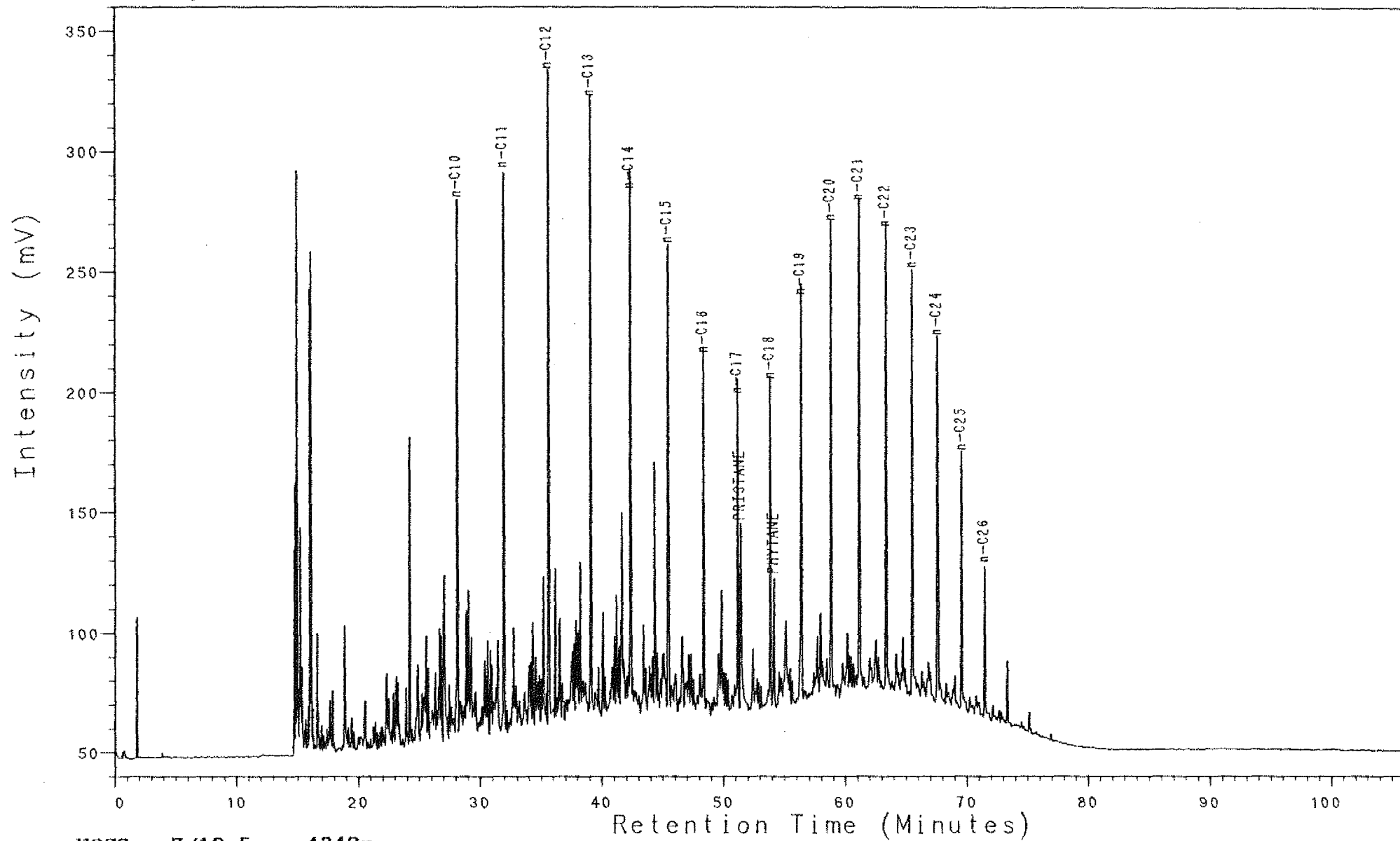


NOCS 7/12-5 4337m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033281L

24, 1, 1

7/12-5, 4349m, S1

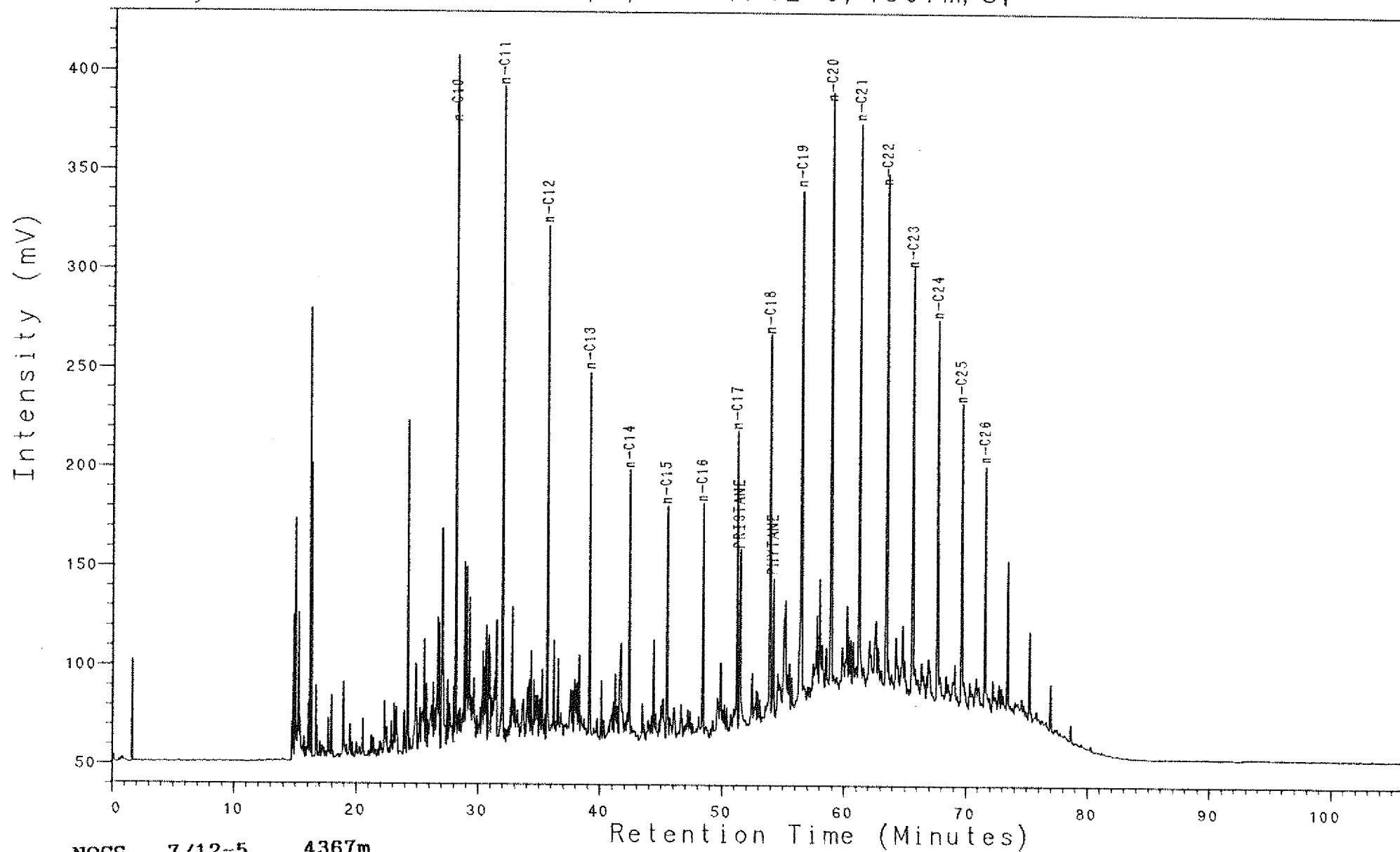


NOCS 7/12-5 4349m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033314L

24, 1, 1

7/12-5, 4367m, S1

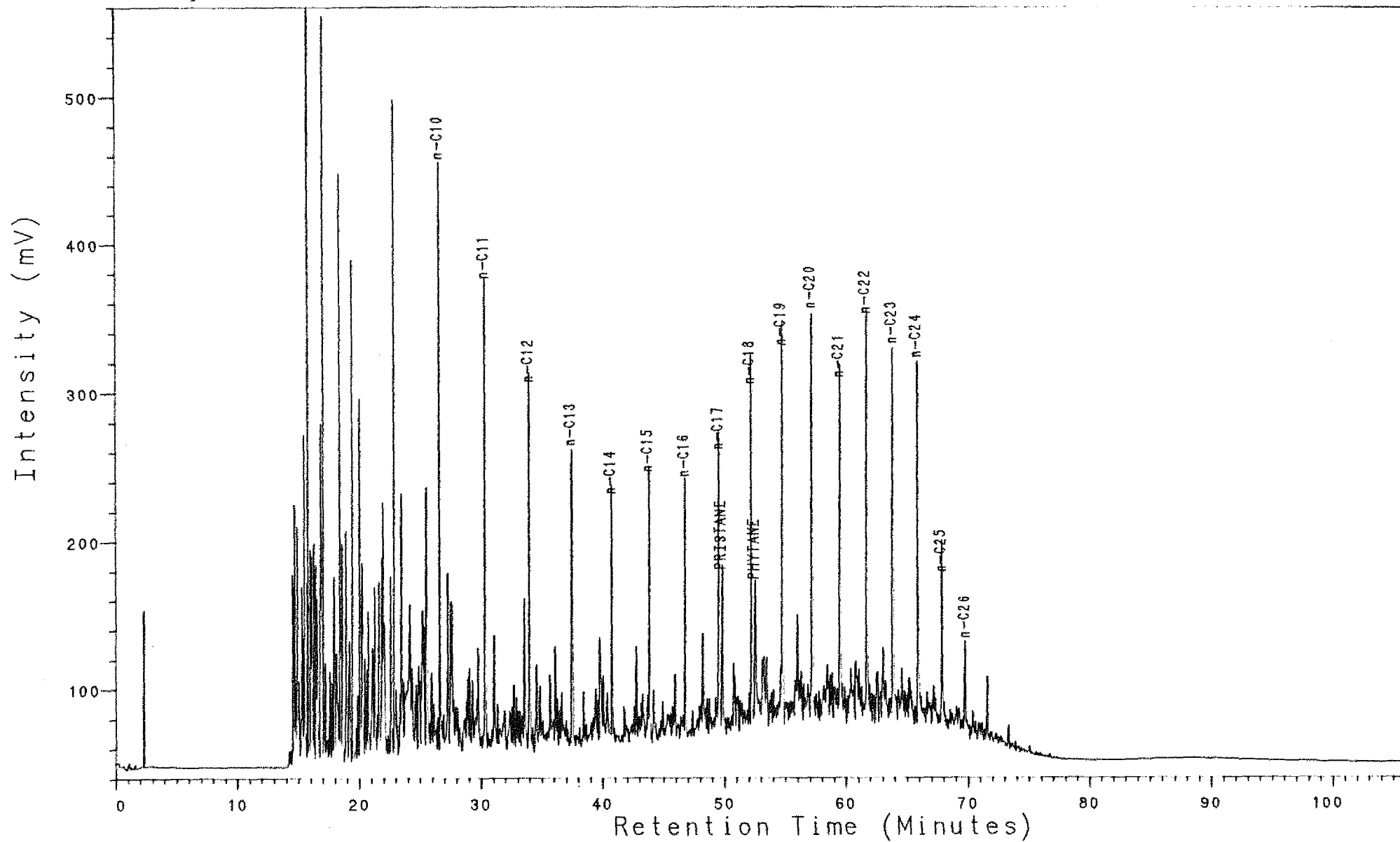


NOCS 7/12-5 4367m
THERMAL EXTRACTION GC (S1)
CLST: ol gy to blk

Analysis PC03332L

26, 1, 1

7/12-5, 4379m, S1

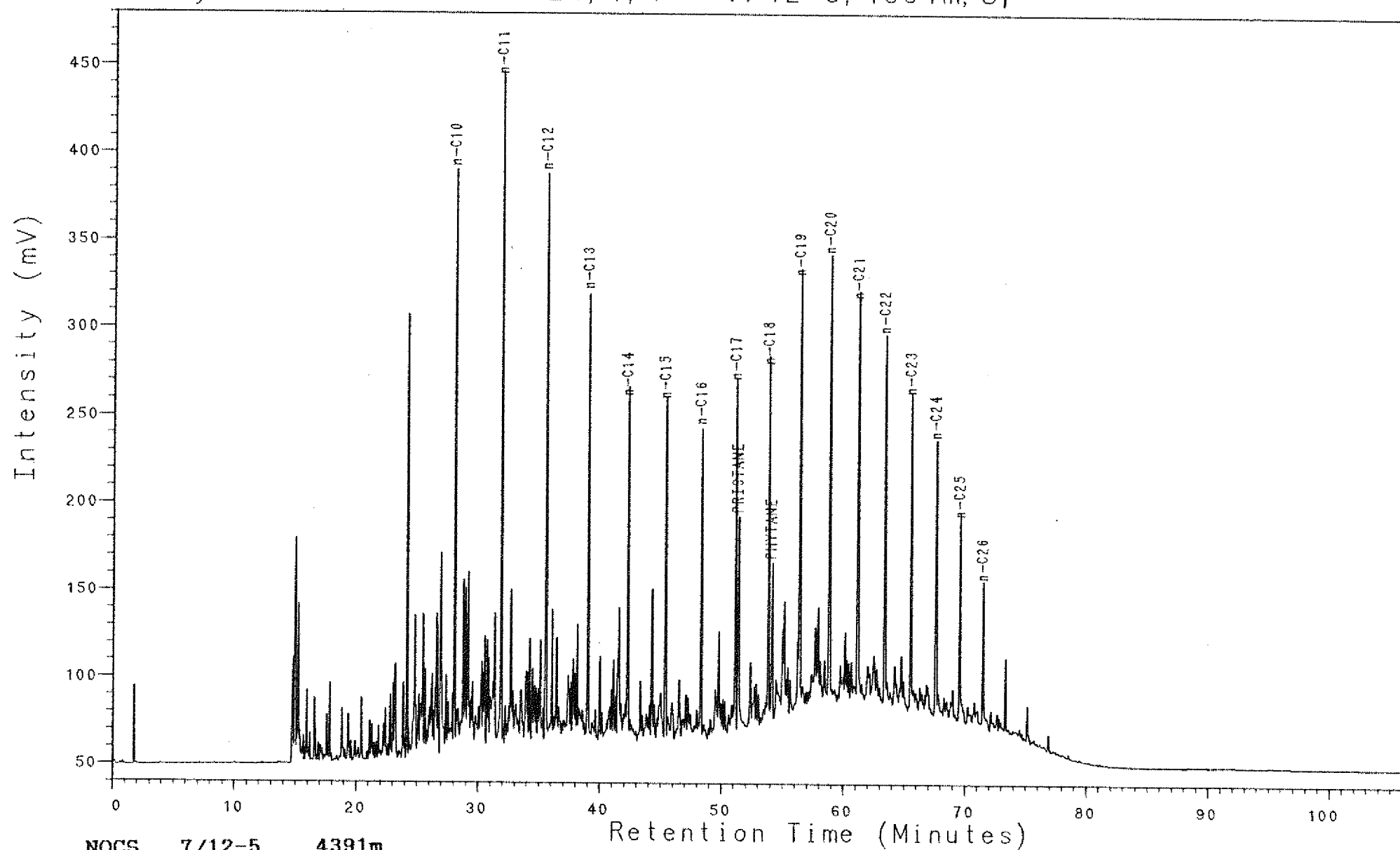


NOCS 7/12-5 4379m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC033352L

24, 1, 1

7/12-5, 4391m, S1

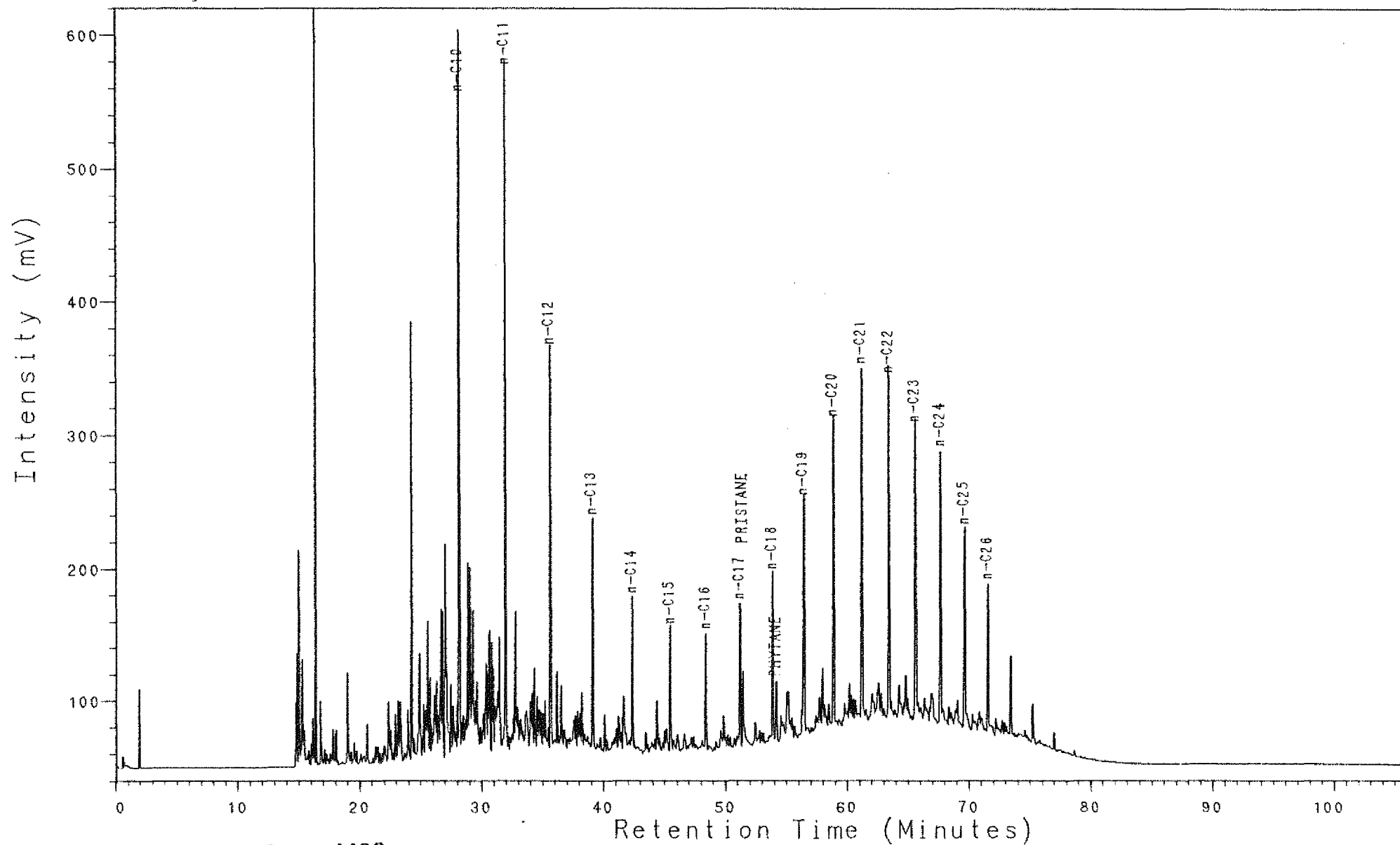


NOCS 7/12-5 4391m
THERMAL EXTRACTION GC (S1)
CLST: blk to brn blk

Analysis PC033372L

24, 1, 1

7/12-5, 4403m, S1

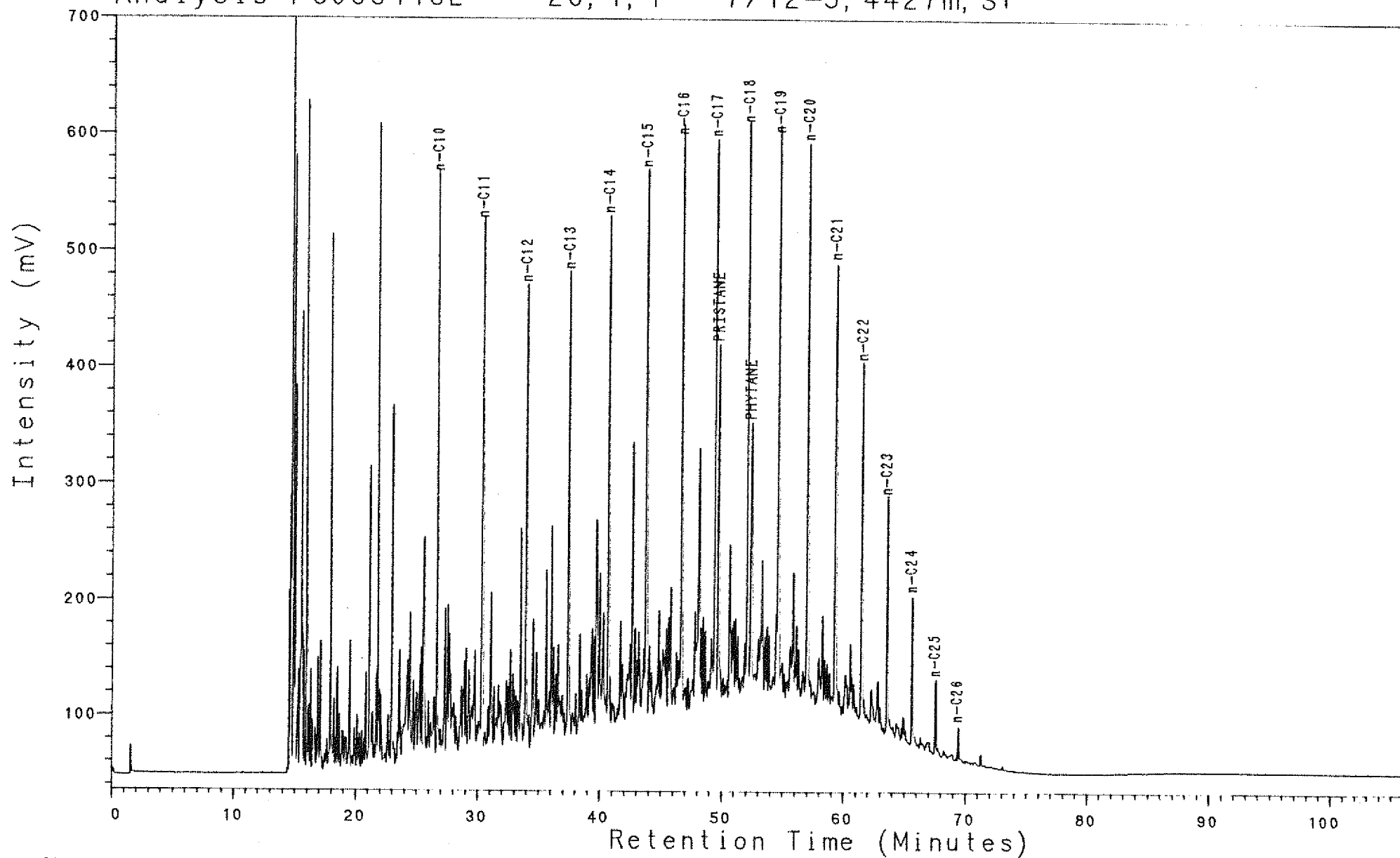


NOCS 7/12-5 4403m
THERMAL EXTRACTION GC (S1)
CLST: blk to pl gy

Analysis PC033413L

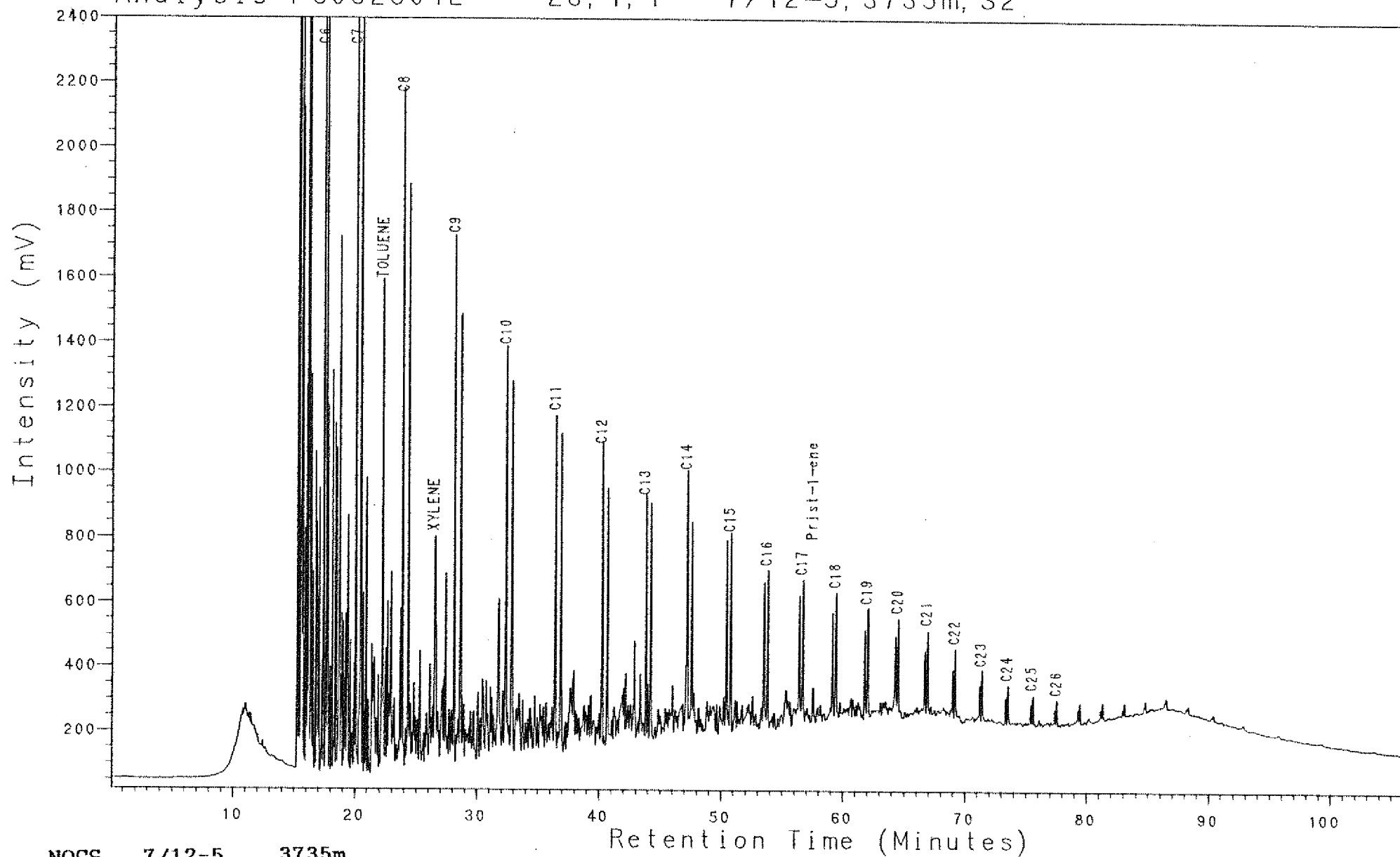
26, 1, 1

7/12-5, 4427m, S1



NOCS 7/12-5 4427m
THERMAL EXTRACTION (S1)
CLST:blk to brn blk

Analysis PC032301L 23, 1, 1 7/12-5, 3735m, S2

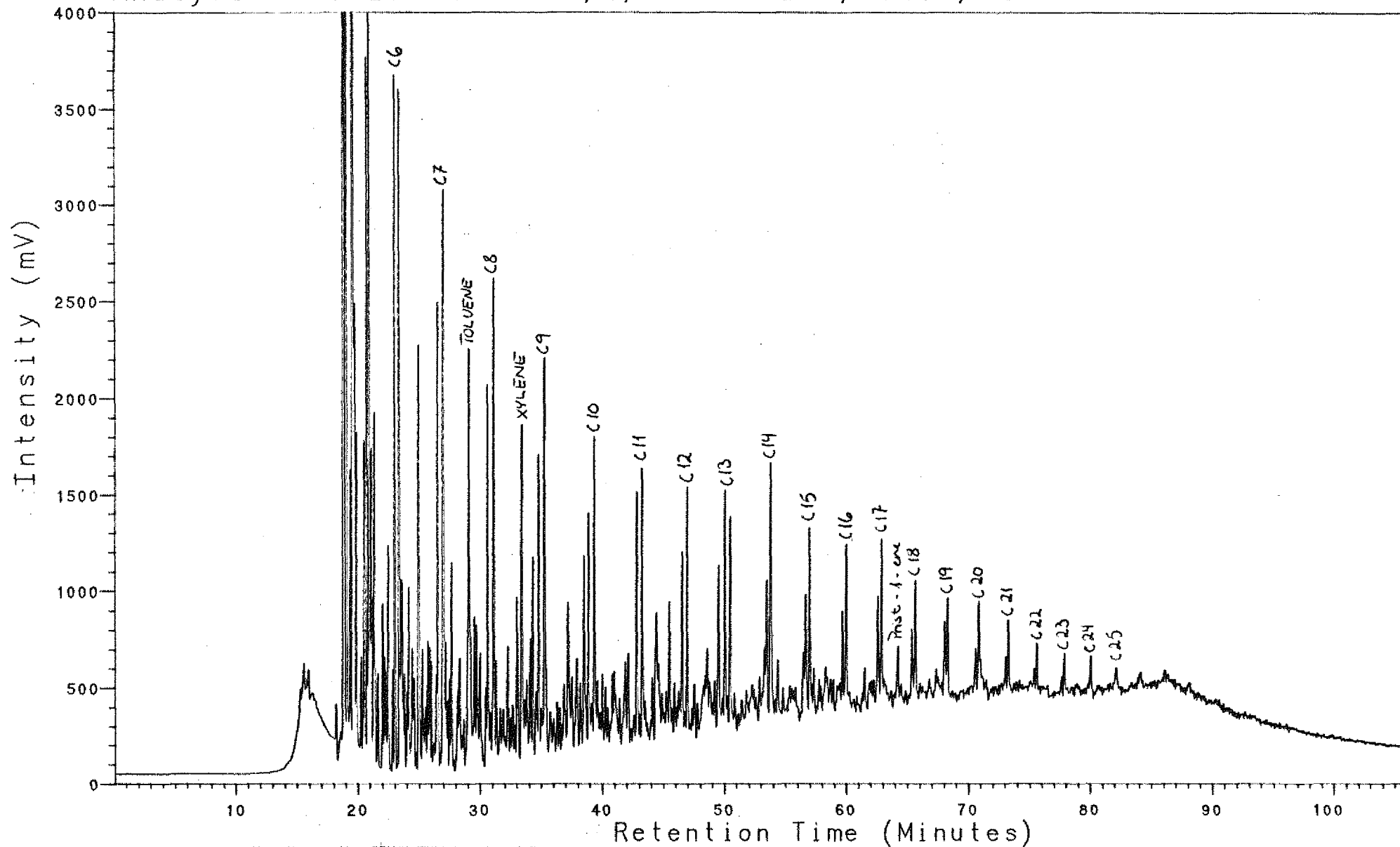


NOCS 7/12-5 3735m
PYROLYSIS GC (S2)
CLST: brn blk

Analysis PC032313L

25, 1, 1

7/12-5, 3740m, S2

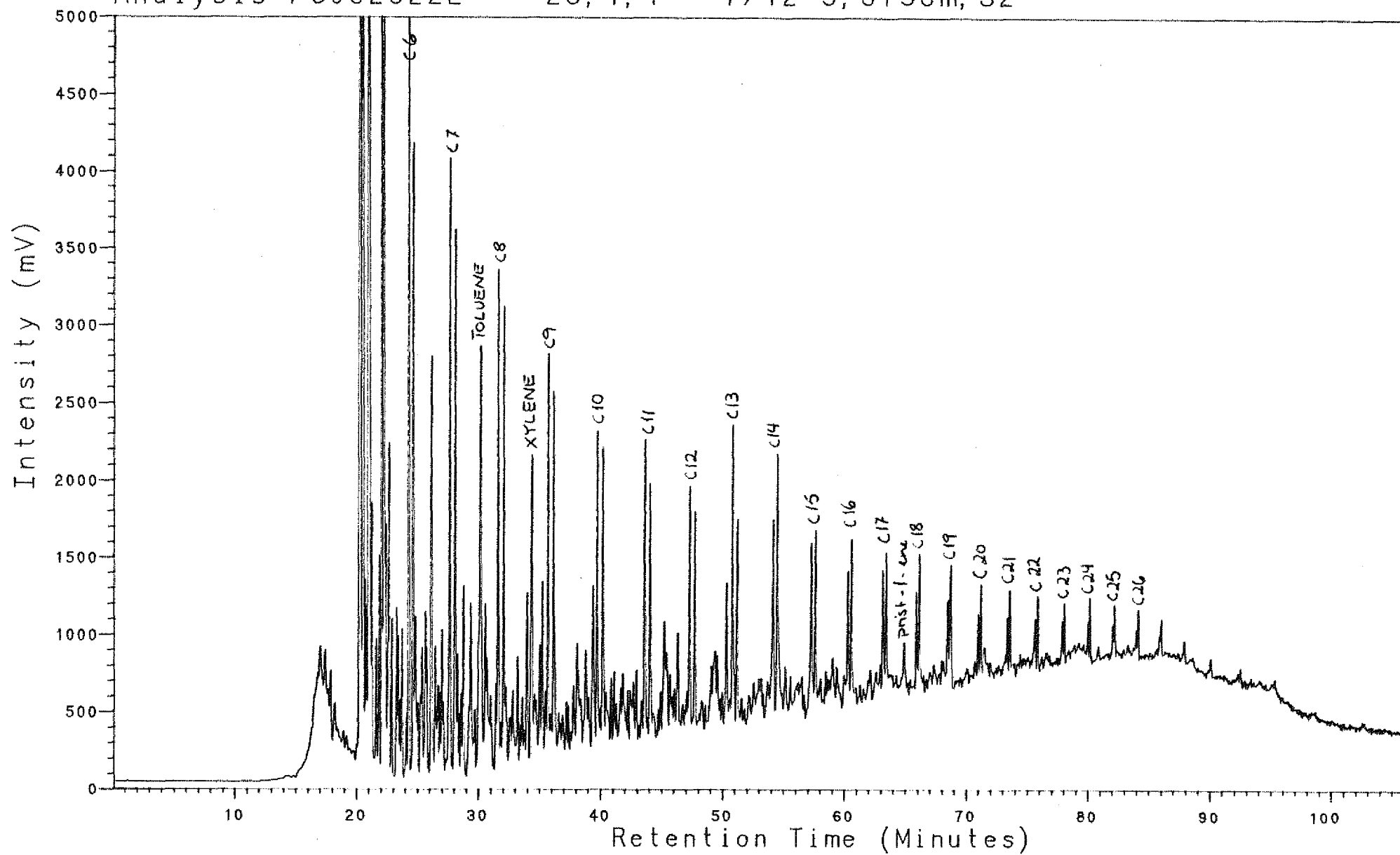


NOCS 7/12-5 3740m
 PYROLYSIS GC (S2)
 CLST:gn gy to ol gy

Analysis PC032322L

25, 1, 1

7/12-5, 3753m, S2

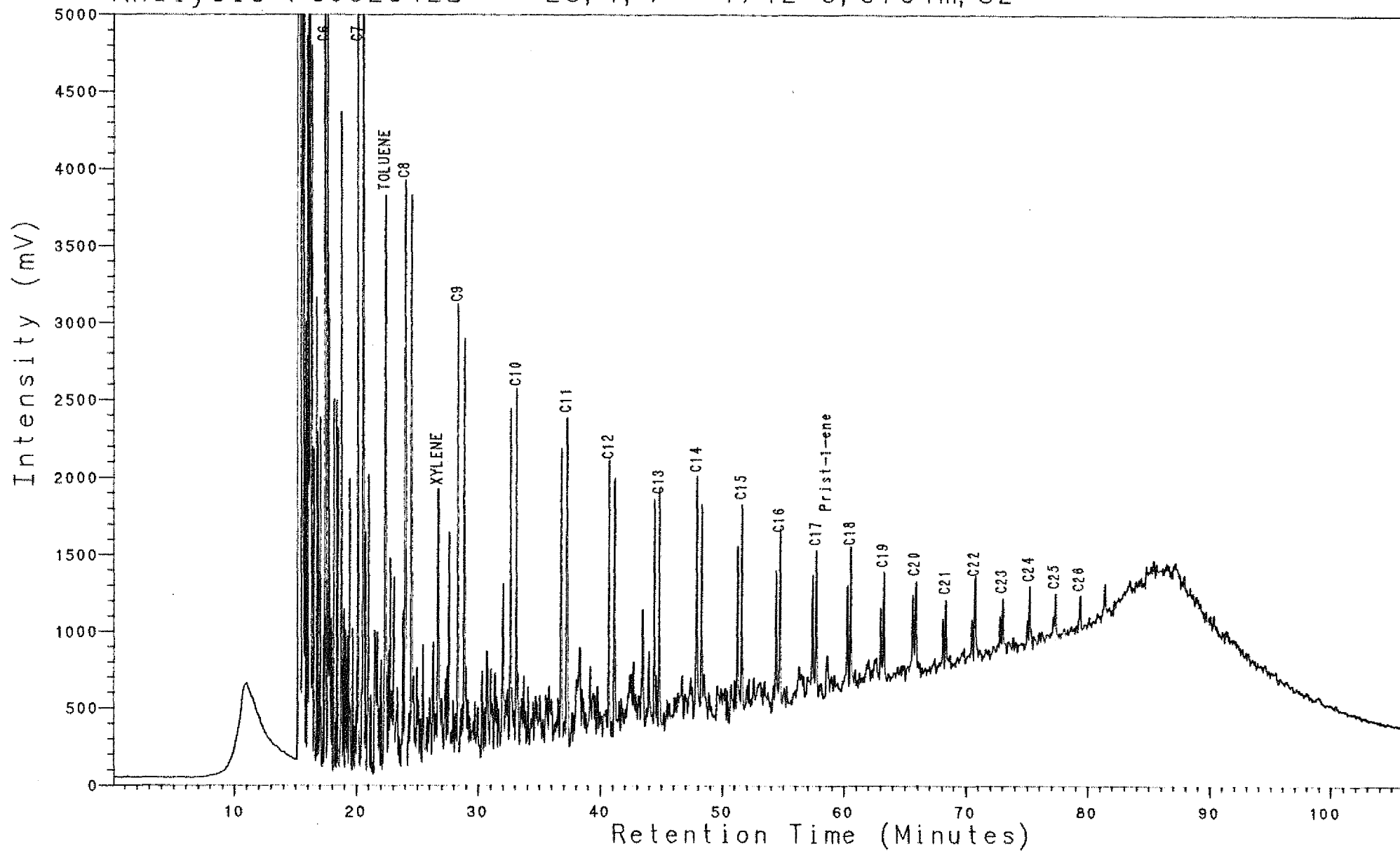


NOCS 7/12-5 3753m
 PYROLYSIS GC (S2)
 CLST:brn blk

Analysis PC032342L

25, 1, 1

7/12-5, 3764m, S2

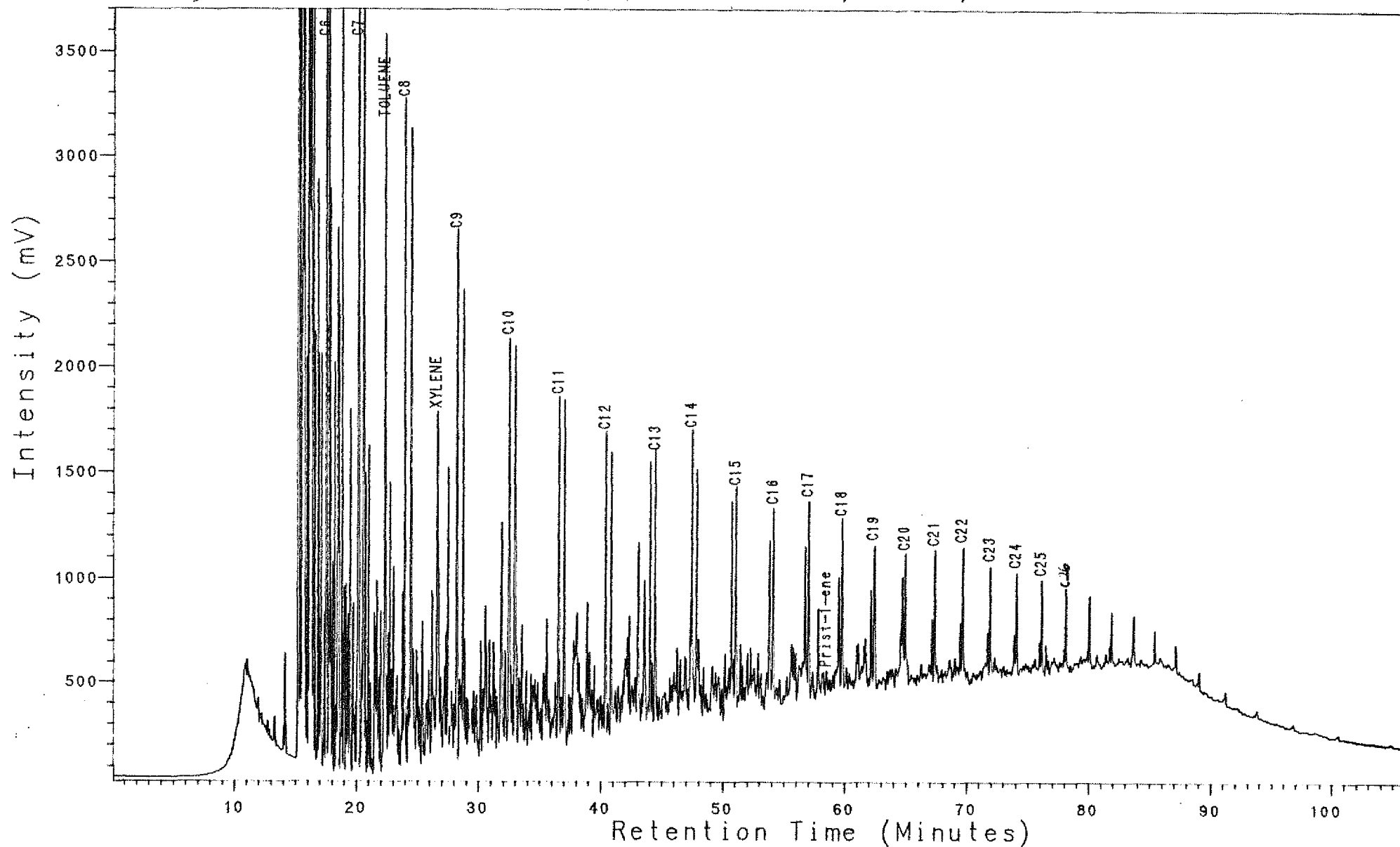


NOCS 7/12-5 3764m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032372L

25, 1, 1

7/12-5, 3782m, S2

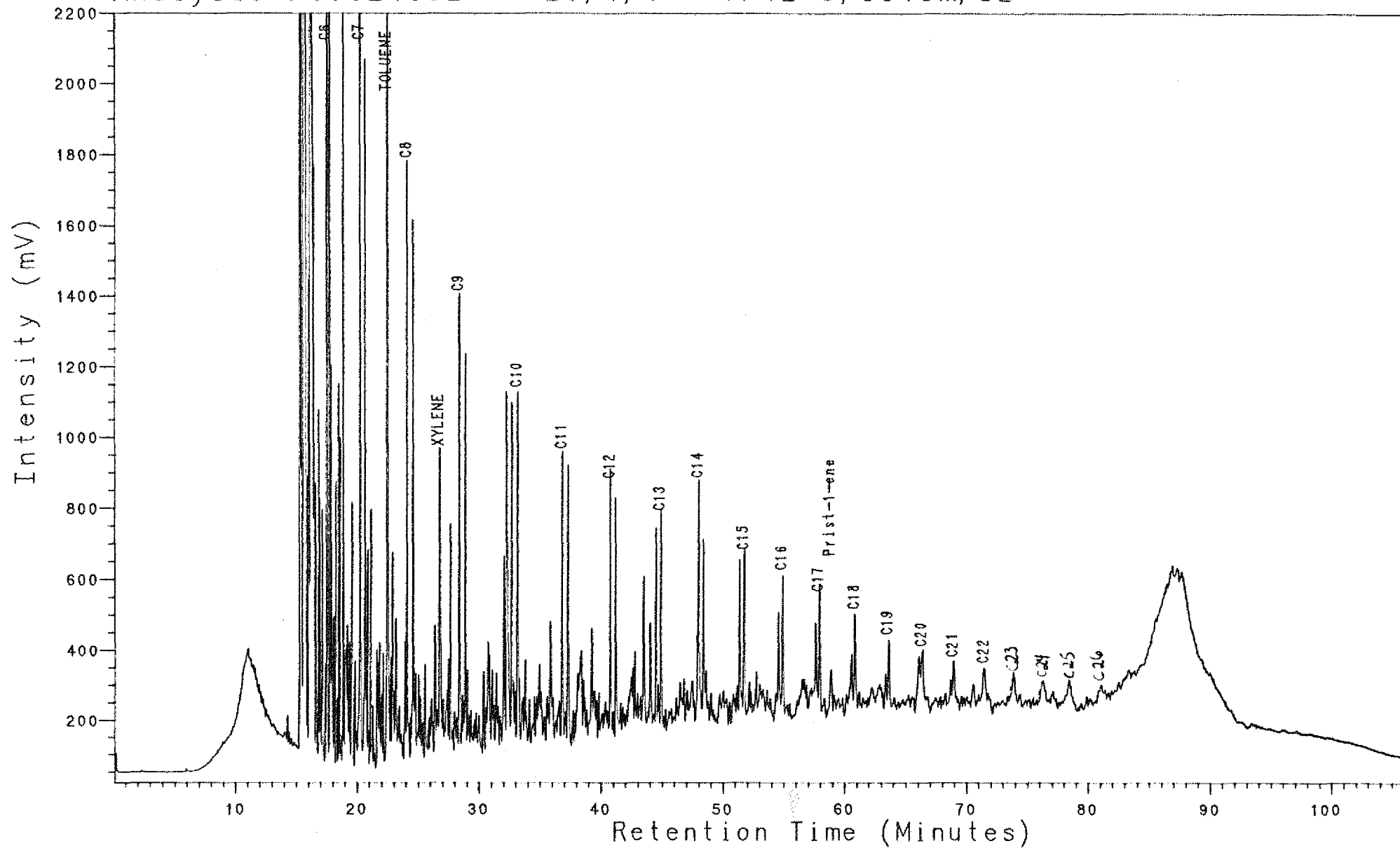


NOCS 7/12-5 3782m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032433L

25, 1, 1

7/12-5, 3818m, S2

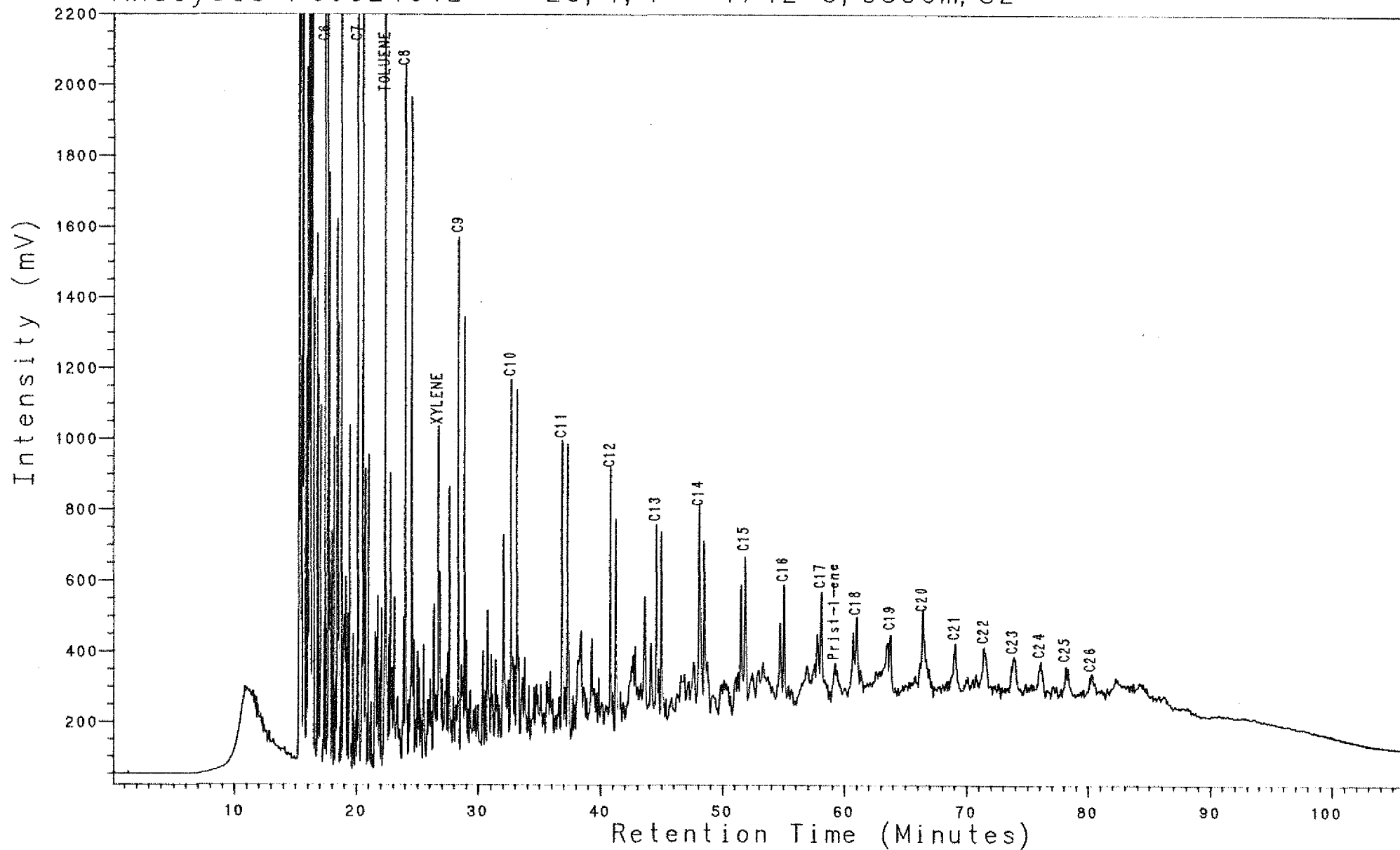


NOCS 7/12-5 3818m
PYROLYSIS GC (S2)
CLST:drk gy to brn blk

Analysis PC032461L

25, 1, 1

7/12-5, 3836m, S2

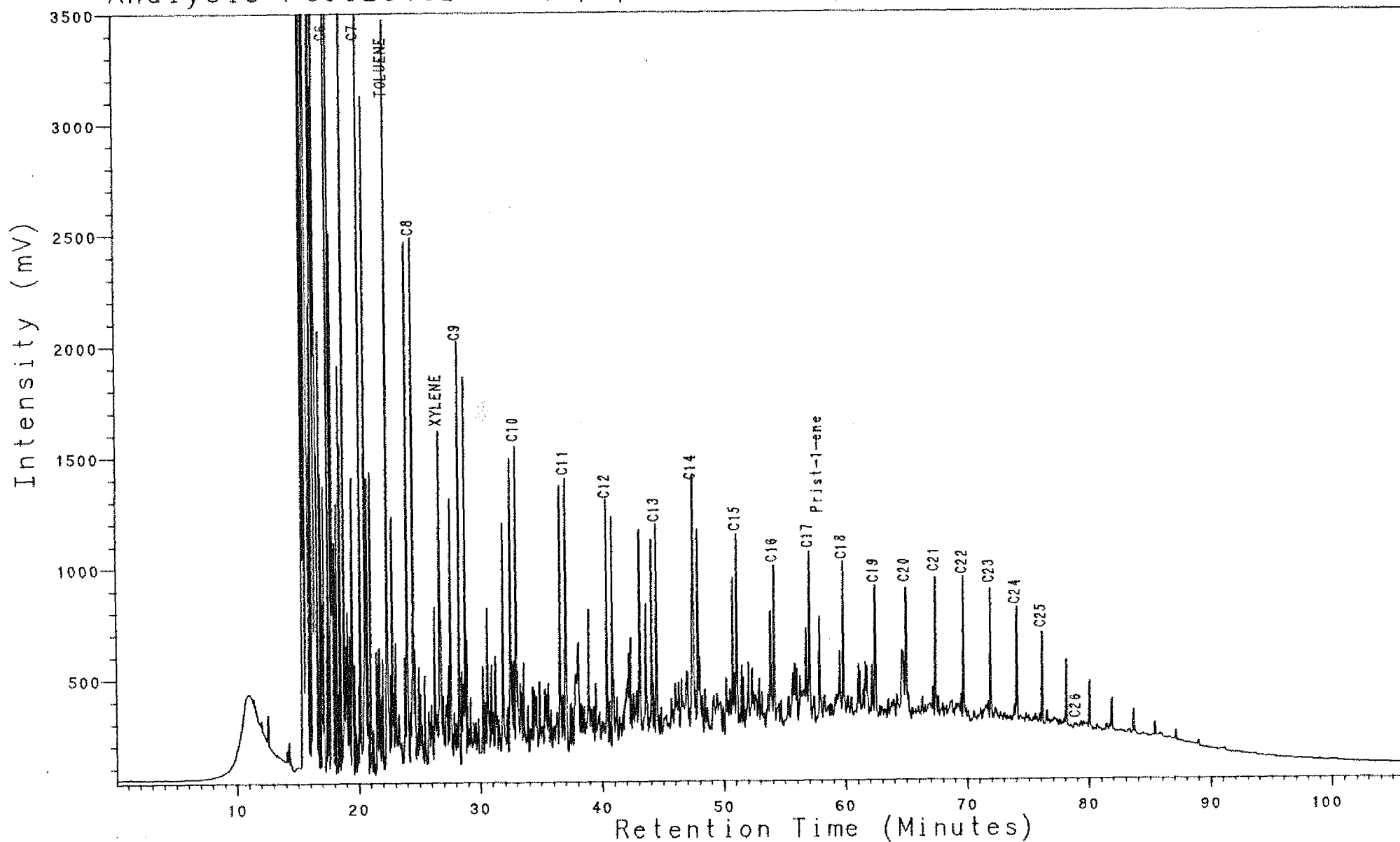


NOCS 7/12-5 3836m
PYROLYSIS GC (S2)
CLST:drk gy to brn blk

Analysis PC032513L

25, 1, 1

7/12-5, 3869m, S2

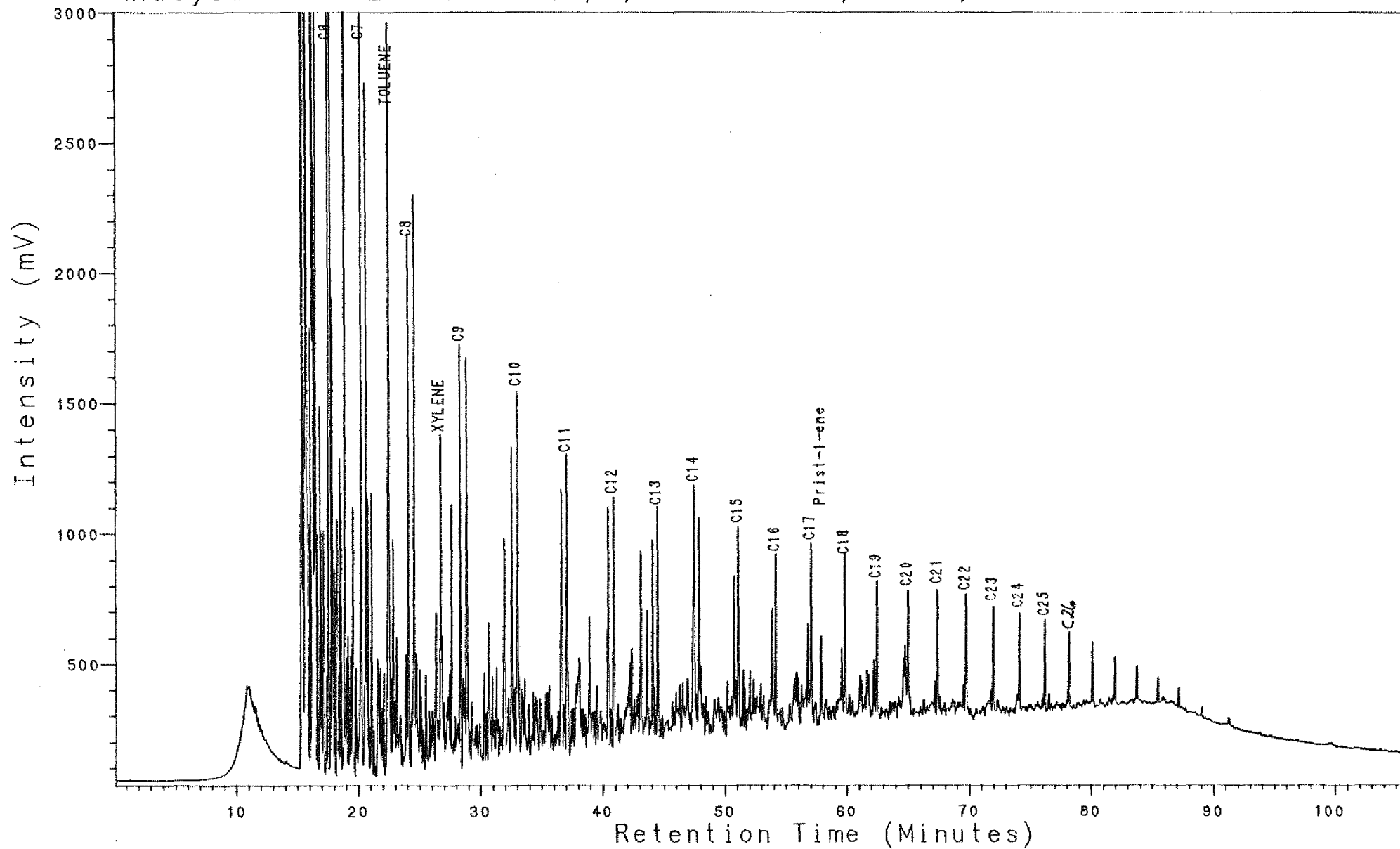


NOCS 7/12-5 3869m
PYROLYSIS GC (S2)
CLST:brn blk to drk gy

Analysis PC032521L

25, 1, 1

7/12-5, 3881m, S2

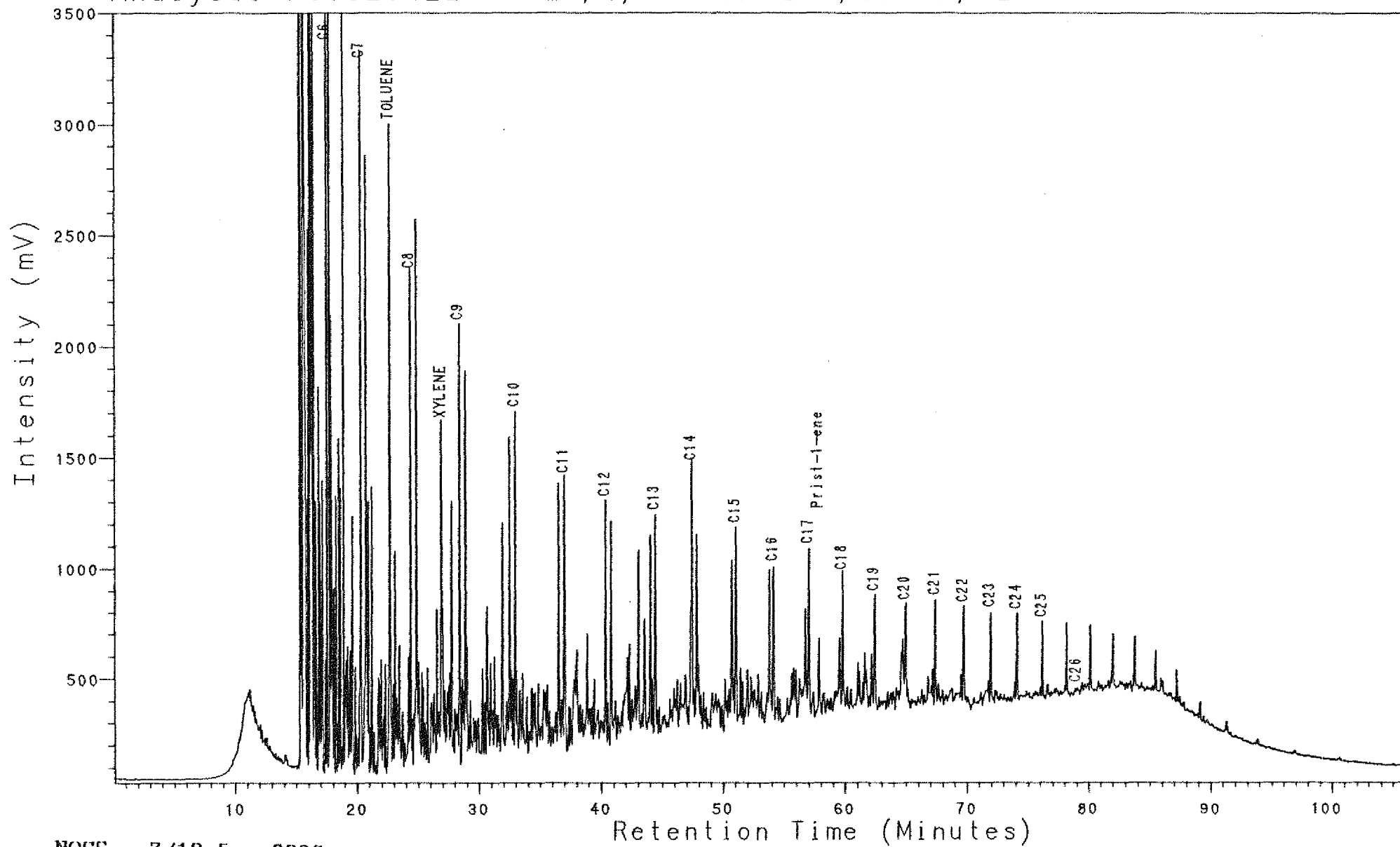


NOCS 7/12-5 3881m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032542L

25, 1, 1

7/12-5, 3908m, S2

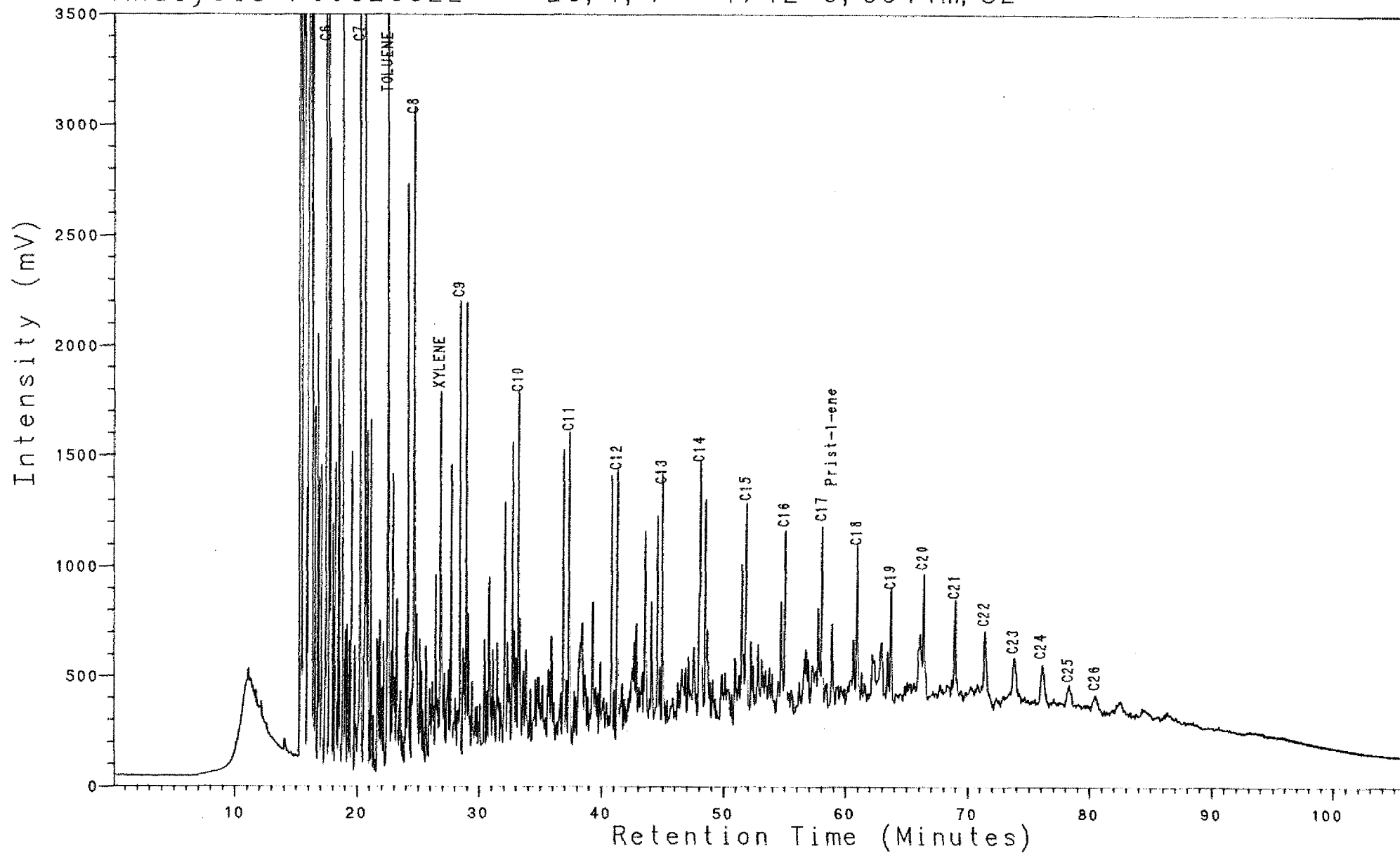


NOCS 7/12-5 3908m
PYROLYSIS GC (S2)
CLST:brn blk

Analysis PC032552L

25, 1, 1

7/12-5, 3914m, S2

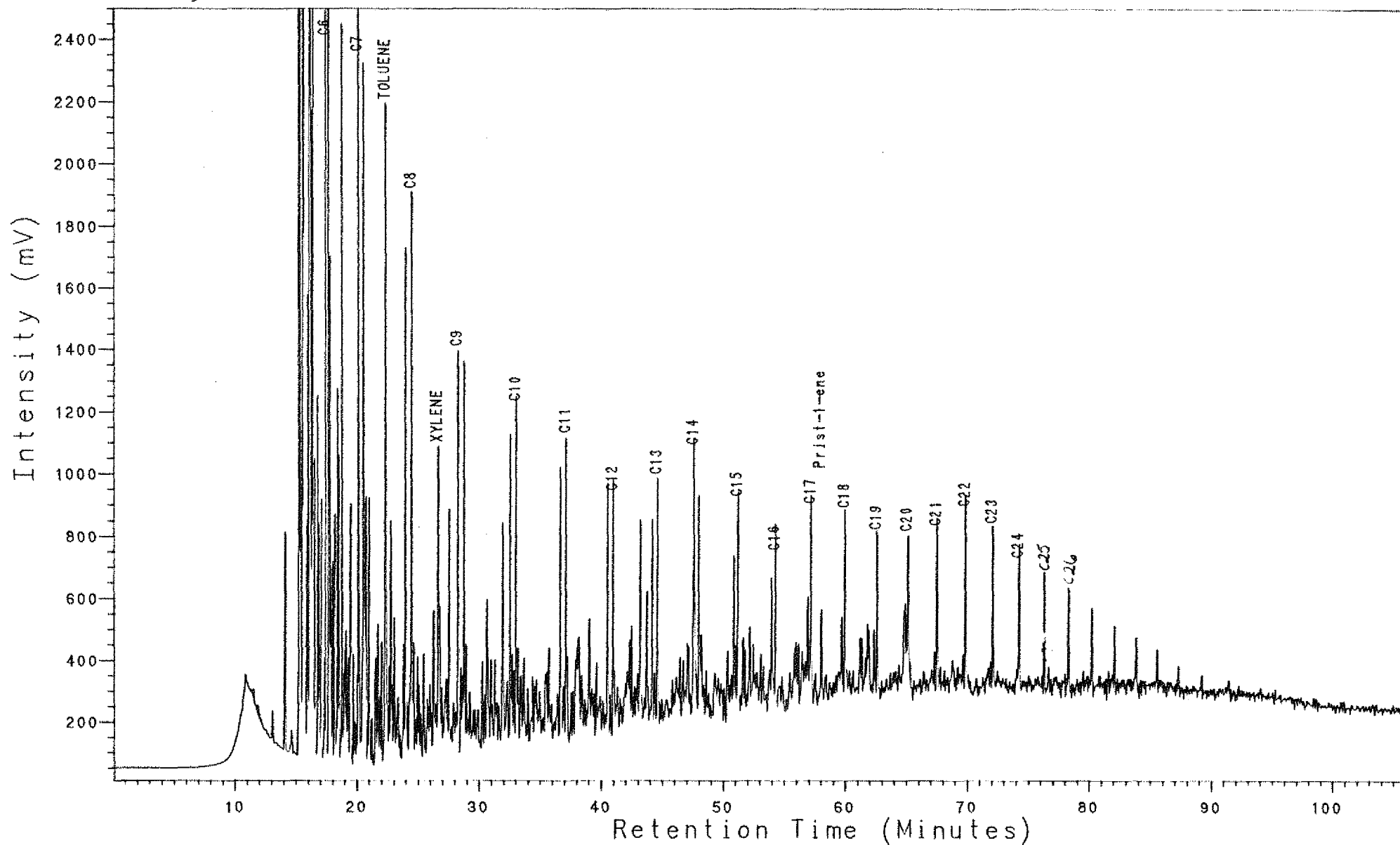


NOCS 7/12-5 3914m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032581L

25, 1, 1

7/12-5, 3932m, S2

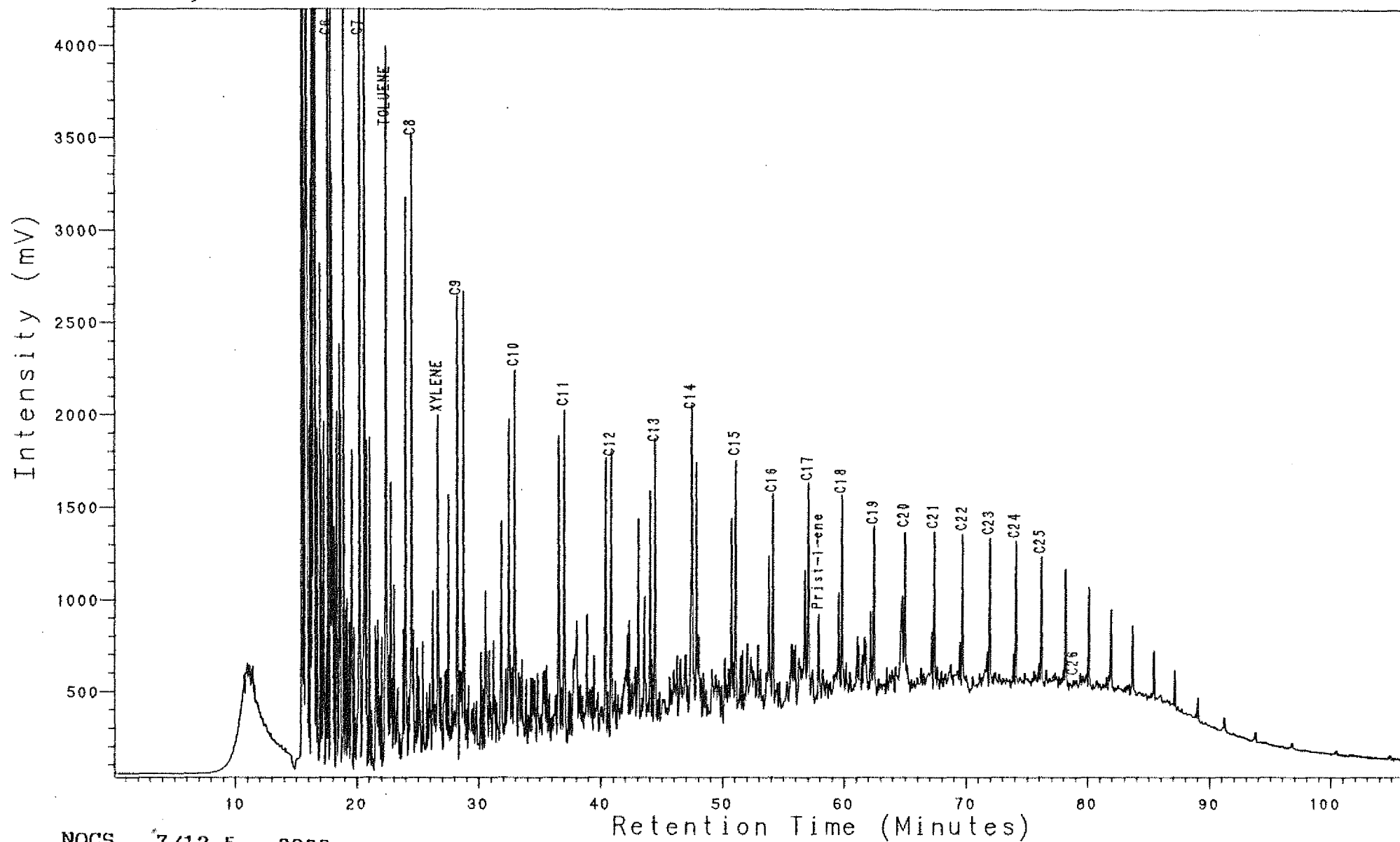


NOCS 7/12-5 3932m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032593L

25, 1, 1

7/12-5, 3938m, S2

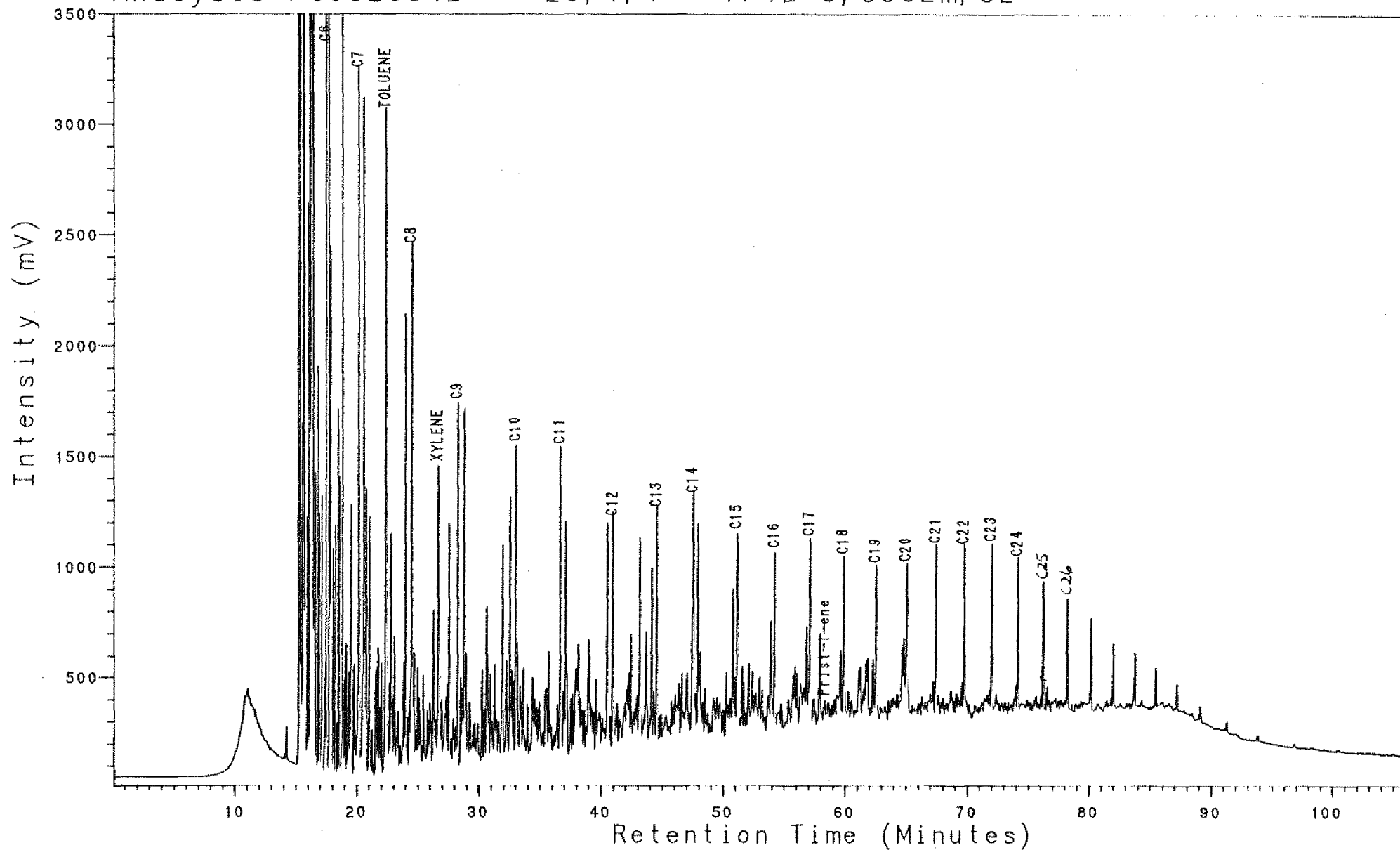


NOCS 7/12-5 3938m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032634L

25, 1, 1

7/12-5, 3962m, S2

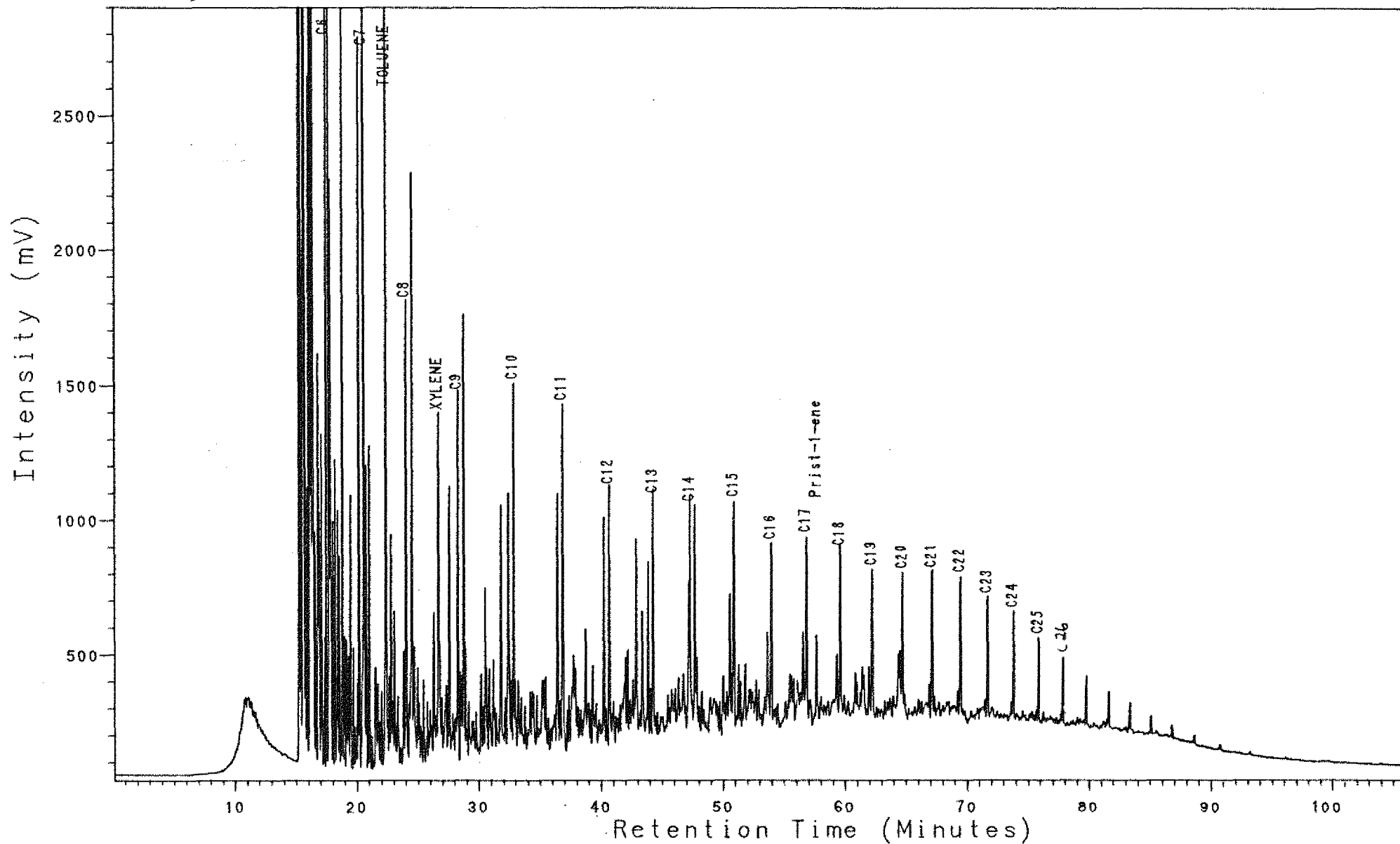


NOCS 7/12-5 3962m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032644L

25, 1, 1

7/12-5, 3968m, S2

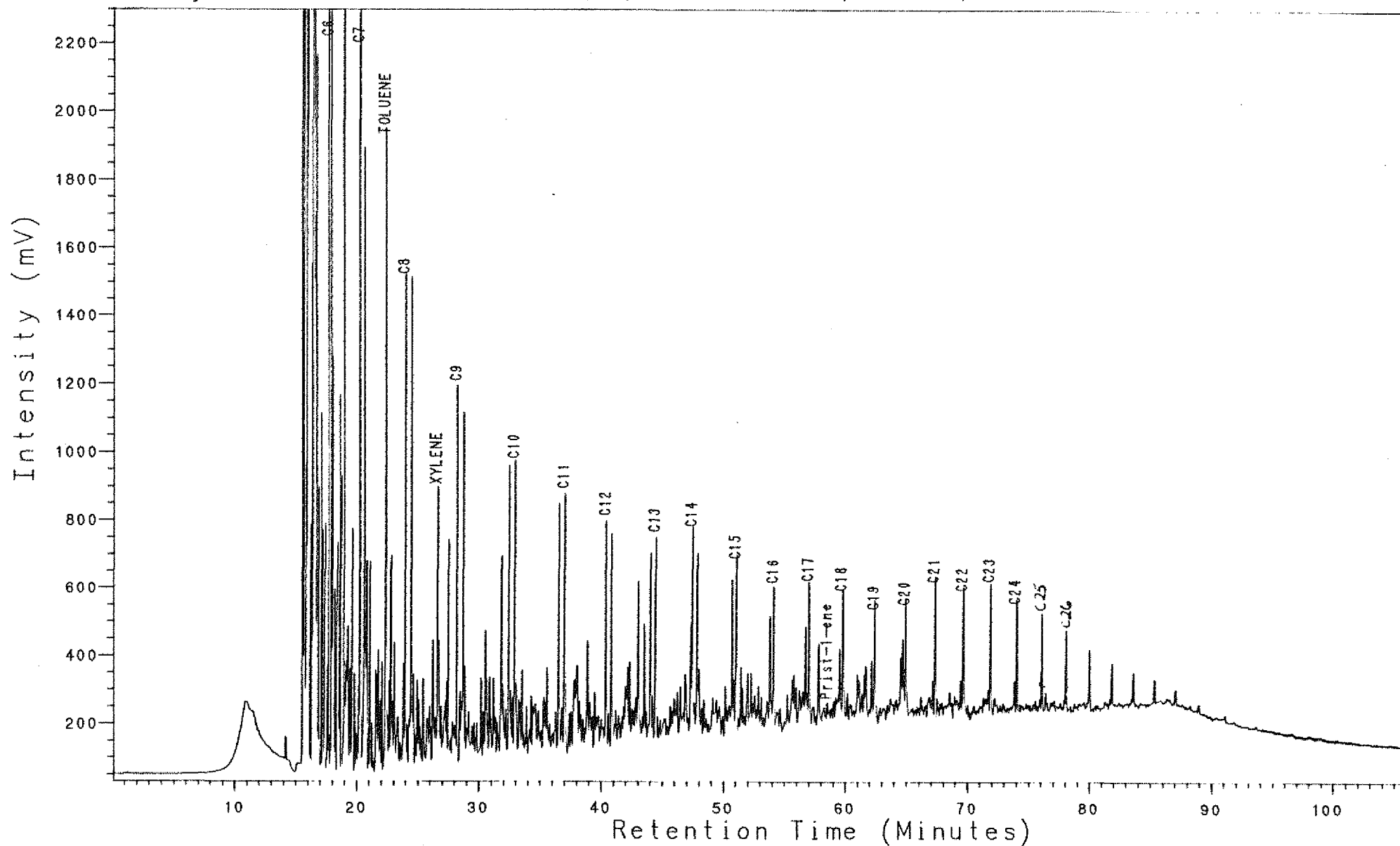


NOCS, 7/12-5 3968m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032682L

25, 1, 1

7/12-5, 3992m, S2

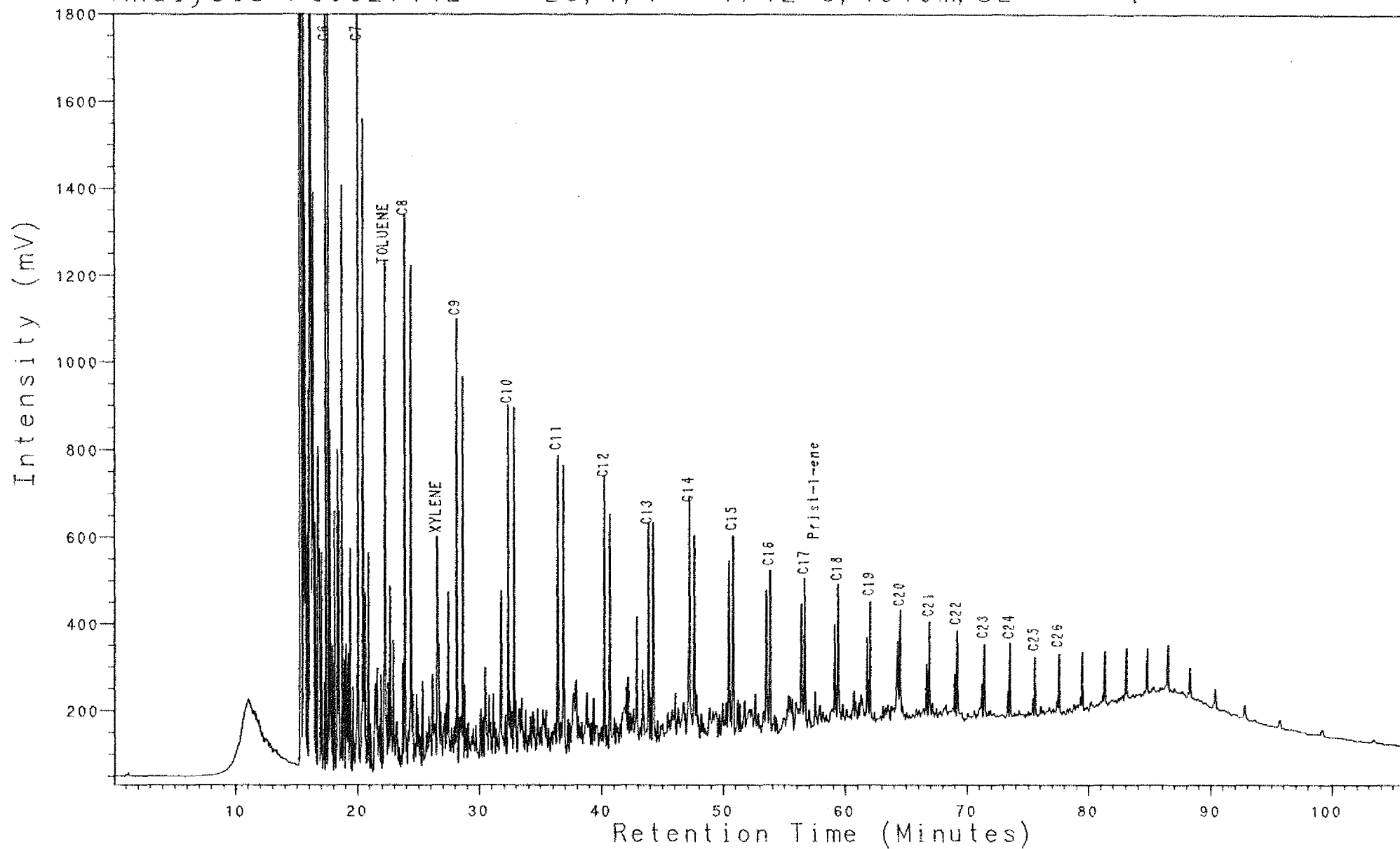


NOCS 7/12-5 3992m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032714L

23, 1, 1

7/12-5, 4010m, S2

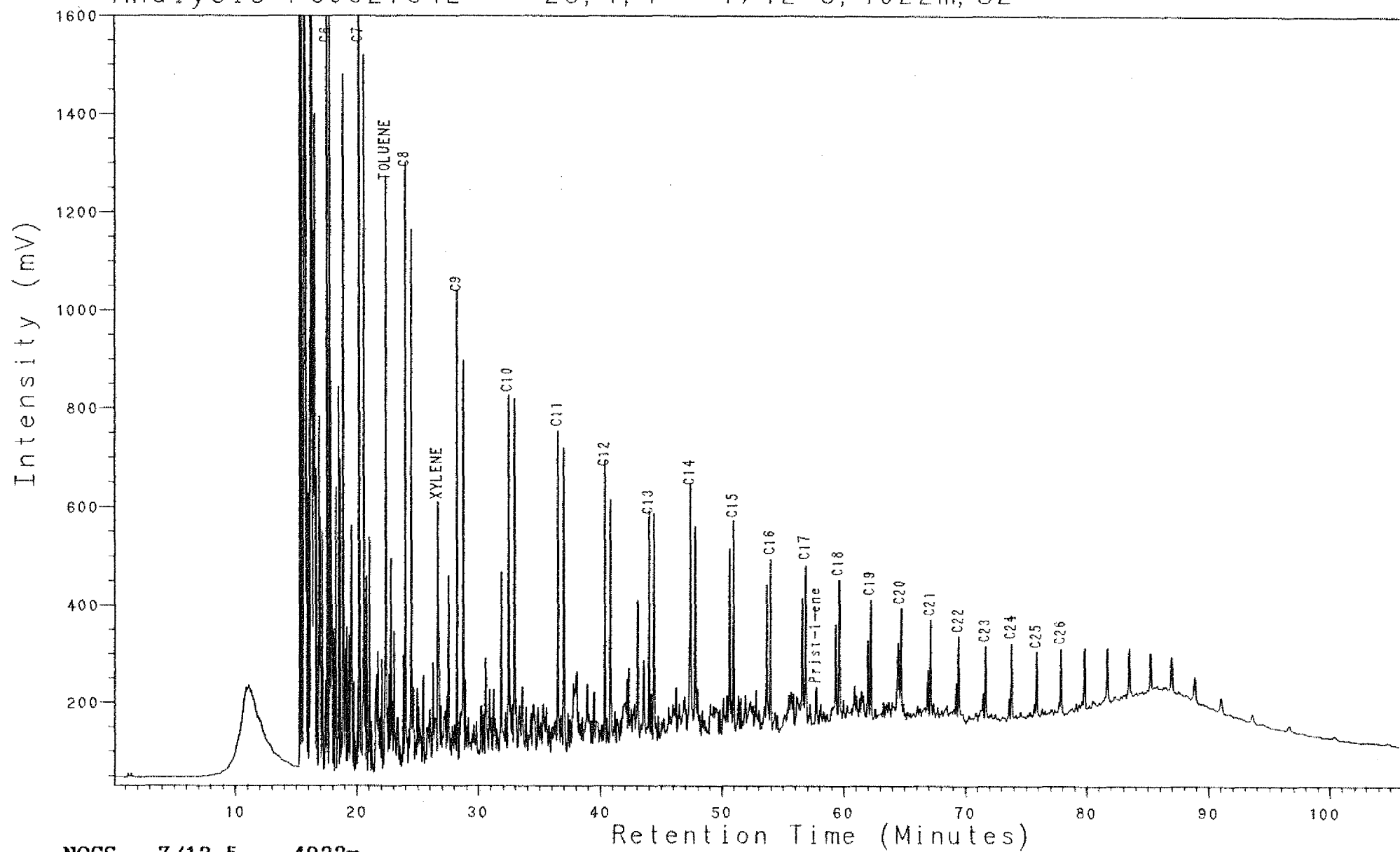


NOCS 7/12-5 4010m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032734L

23, 1, 1

7/12-5, 4022m, S2

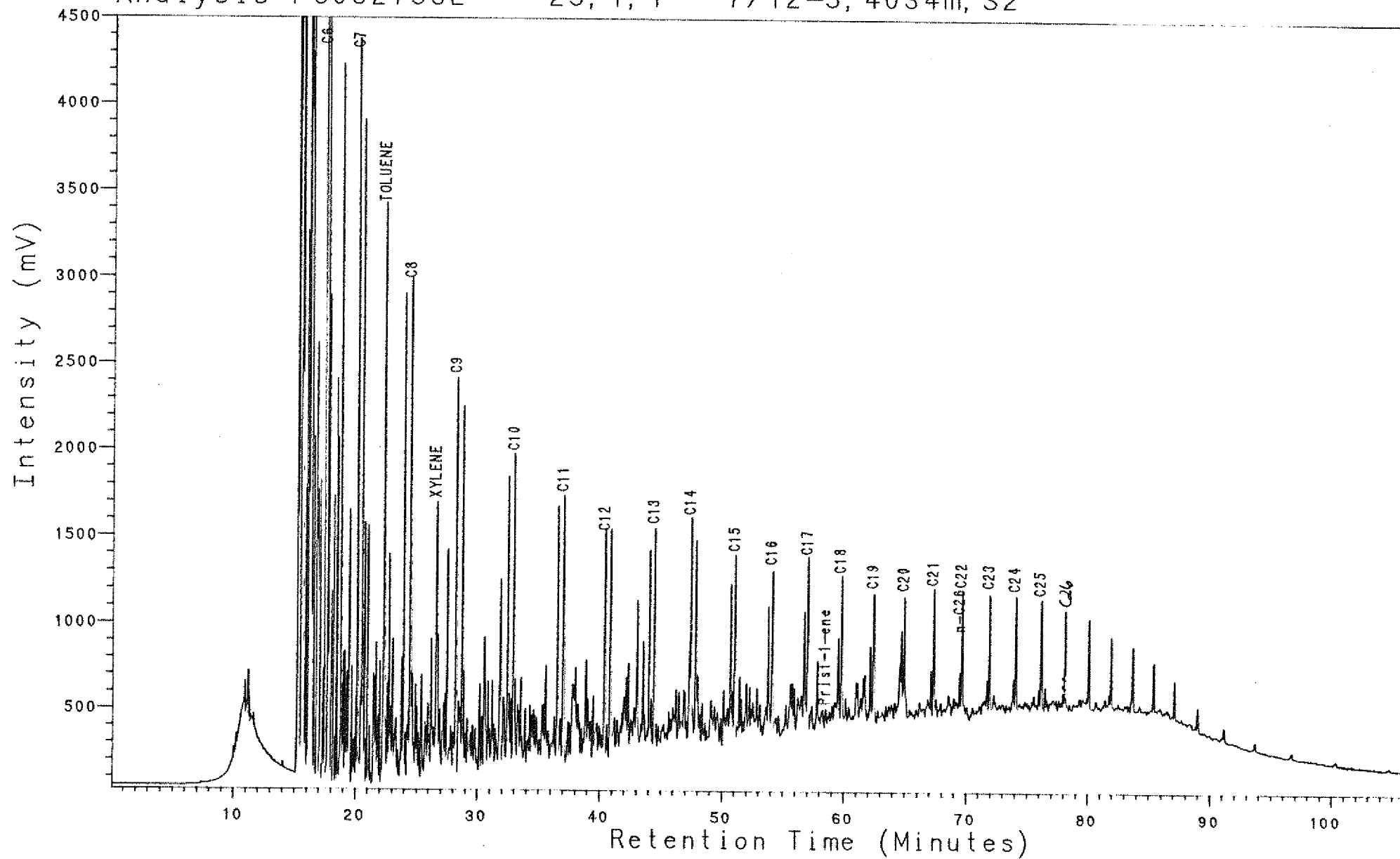


NOCS 7/12-5 4022m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032753L

25, 1, 1

7/12-5, 4034m, S2

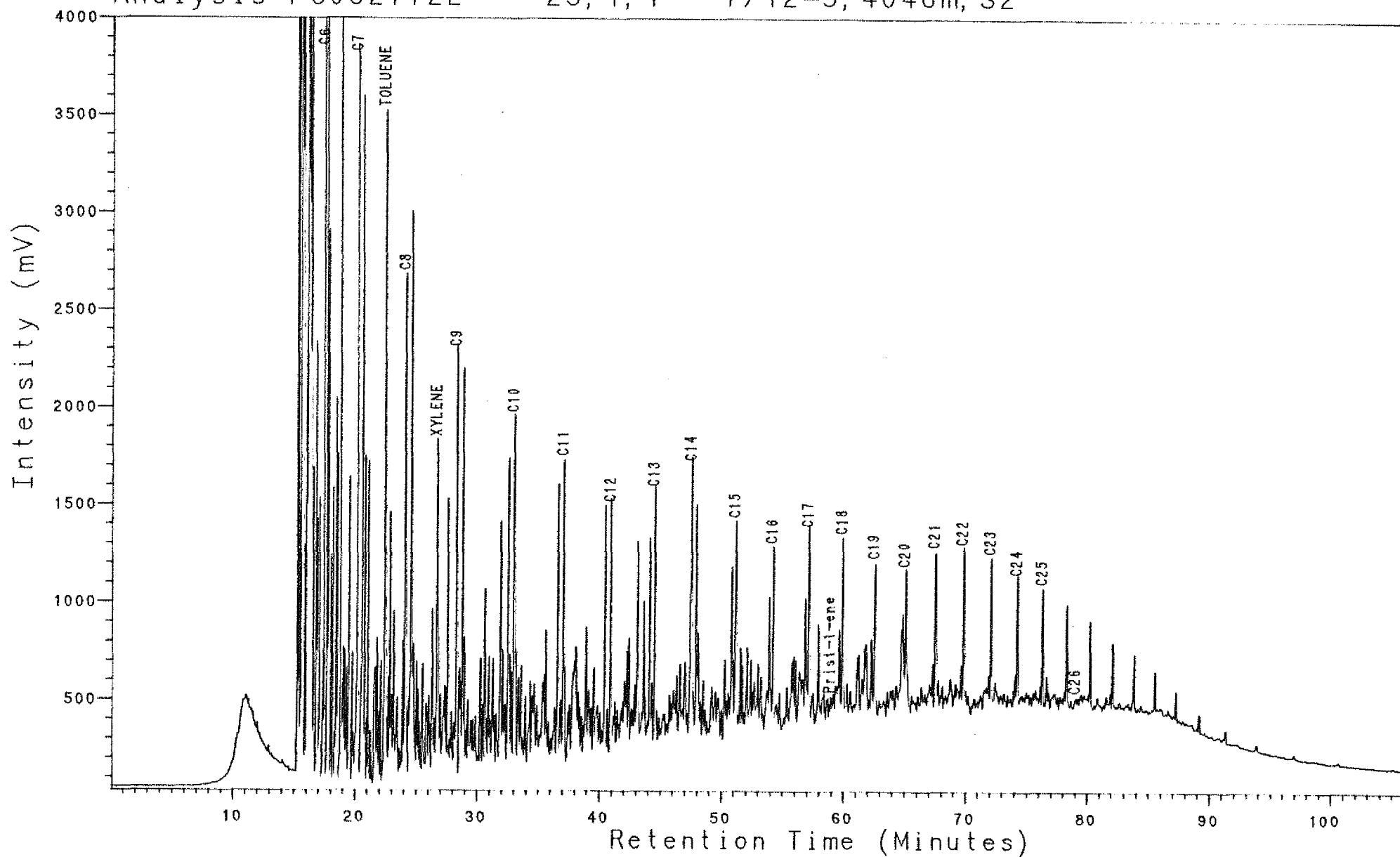


NOCS 7/12-5 4034m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032772L

25, 1, 1

7/12-5, 4046m, S2

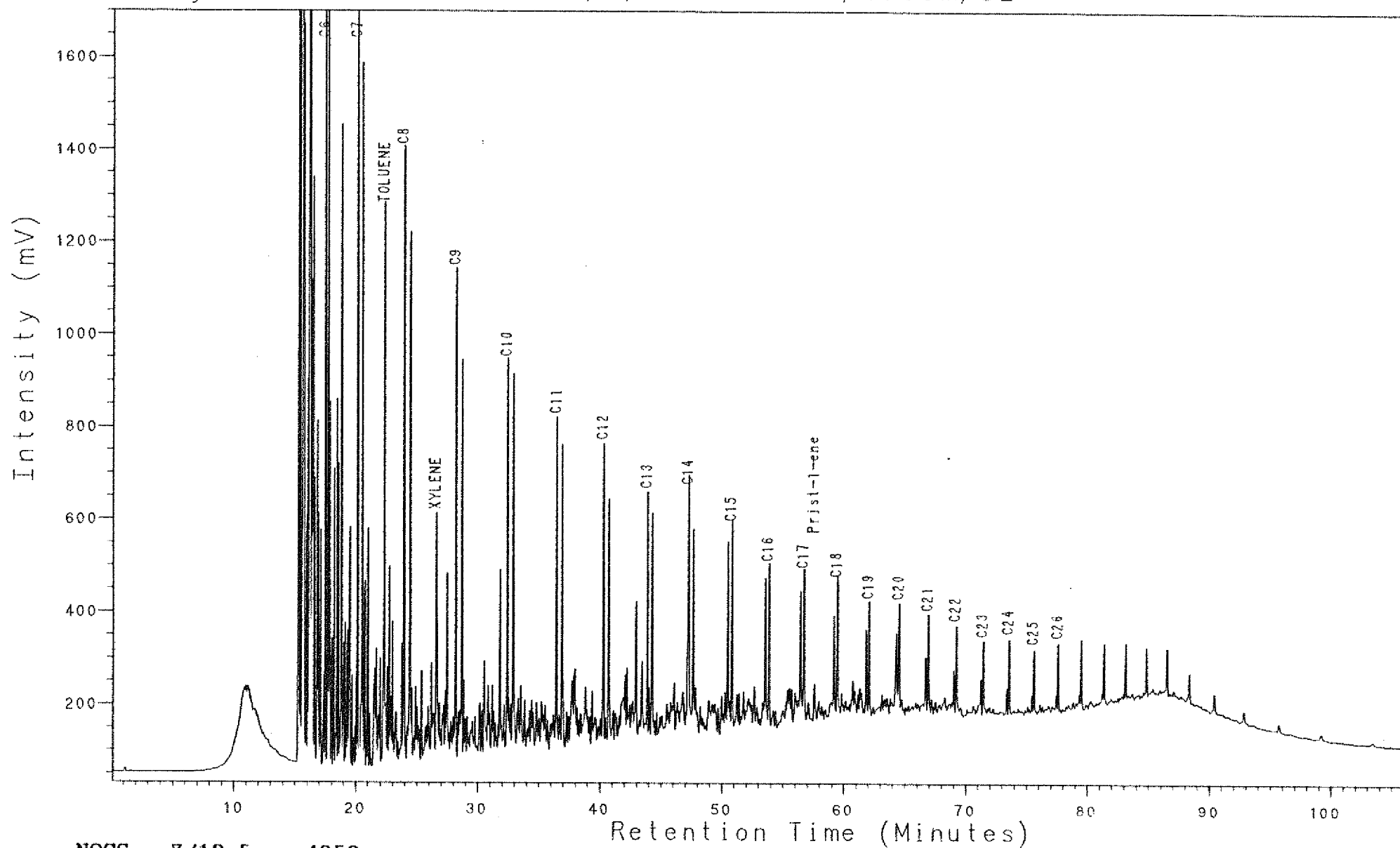


NOCS 7/12-5 4046m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC032791L

23, 1, 1

7/12-5, 4058m, S2

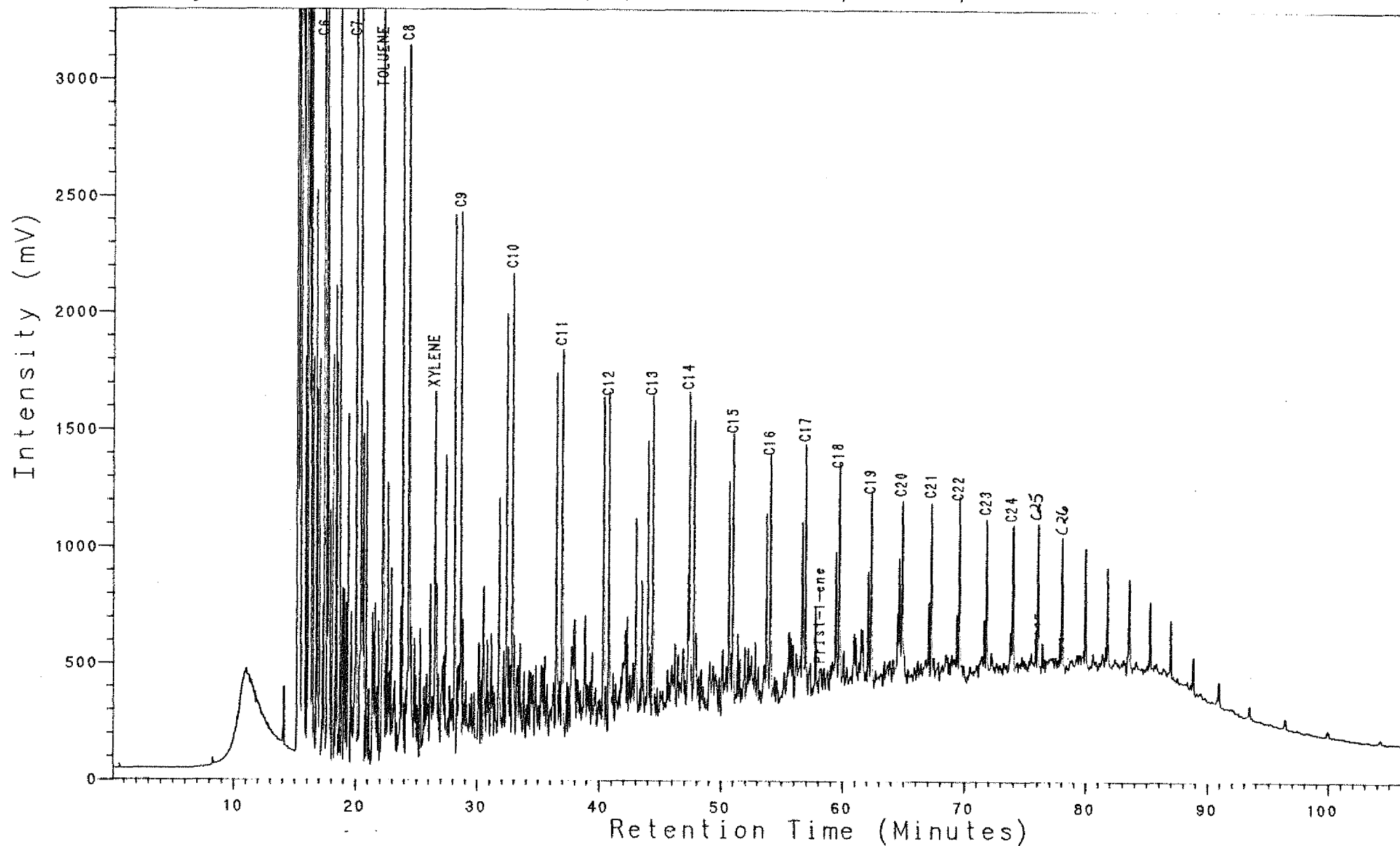


NOCS 7/12-5 4058m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032812L

25, 1, 1

7/12-5, 4070m, S2

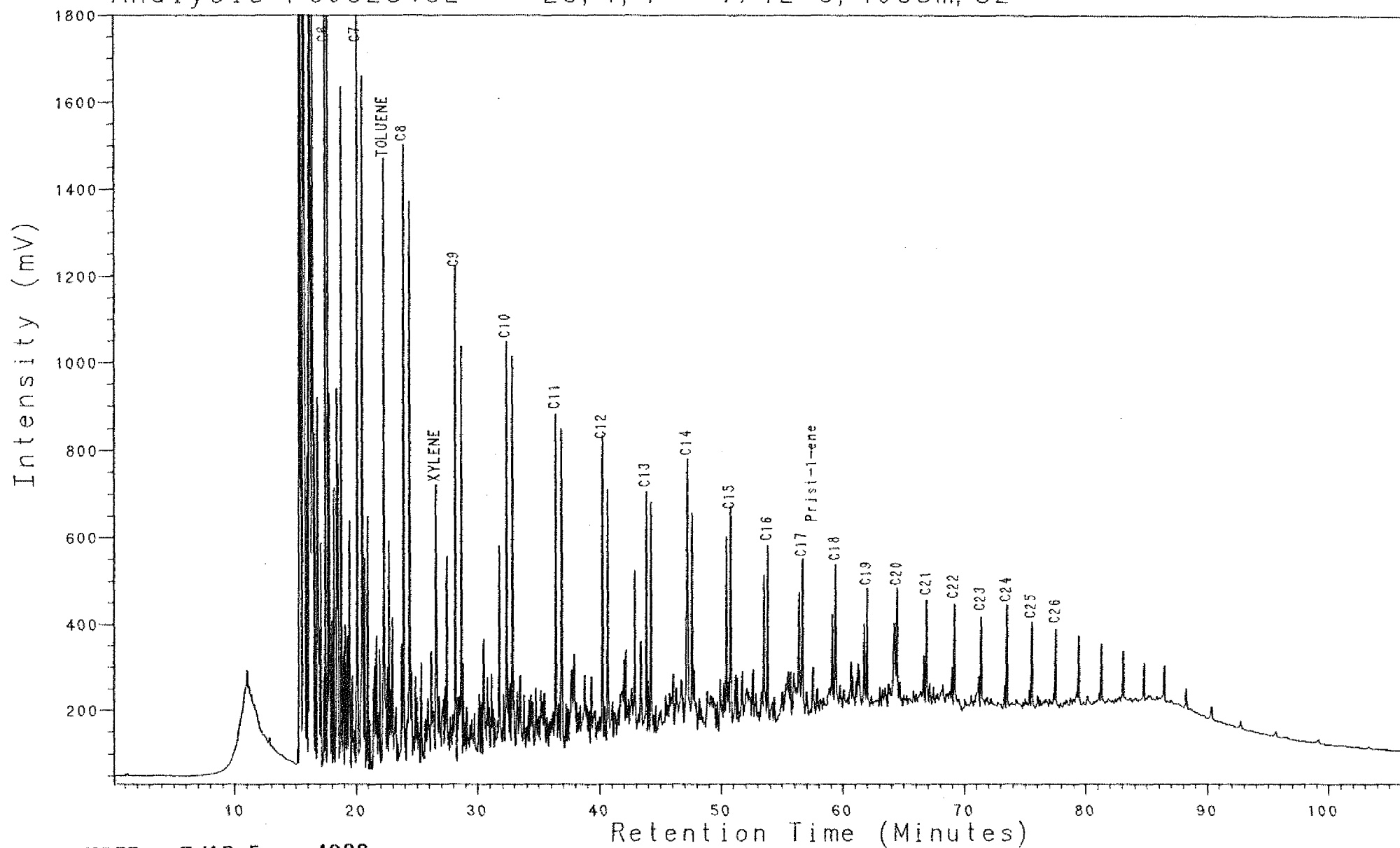


NOCS 7/12-5 4070m
 PYROLYSIS GC (S2)
 CLST:blk to brn blk

Analysis PC032843L

23, 1, 1

7/12-5, 4088m, S2

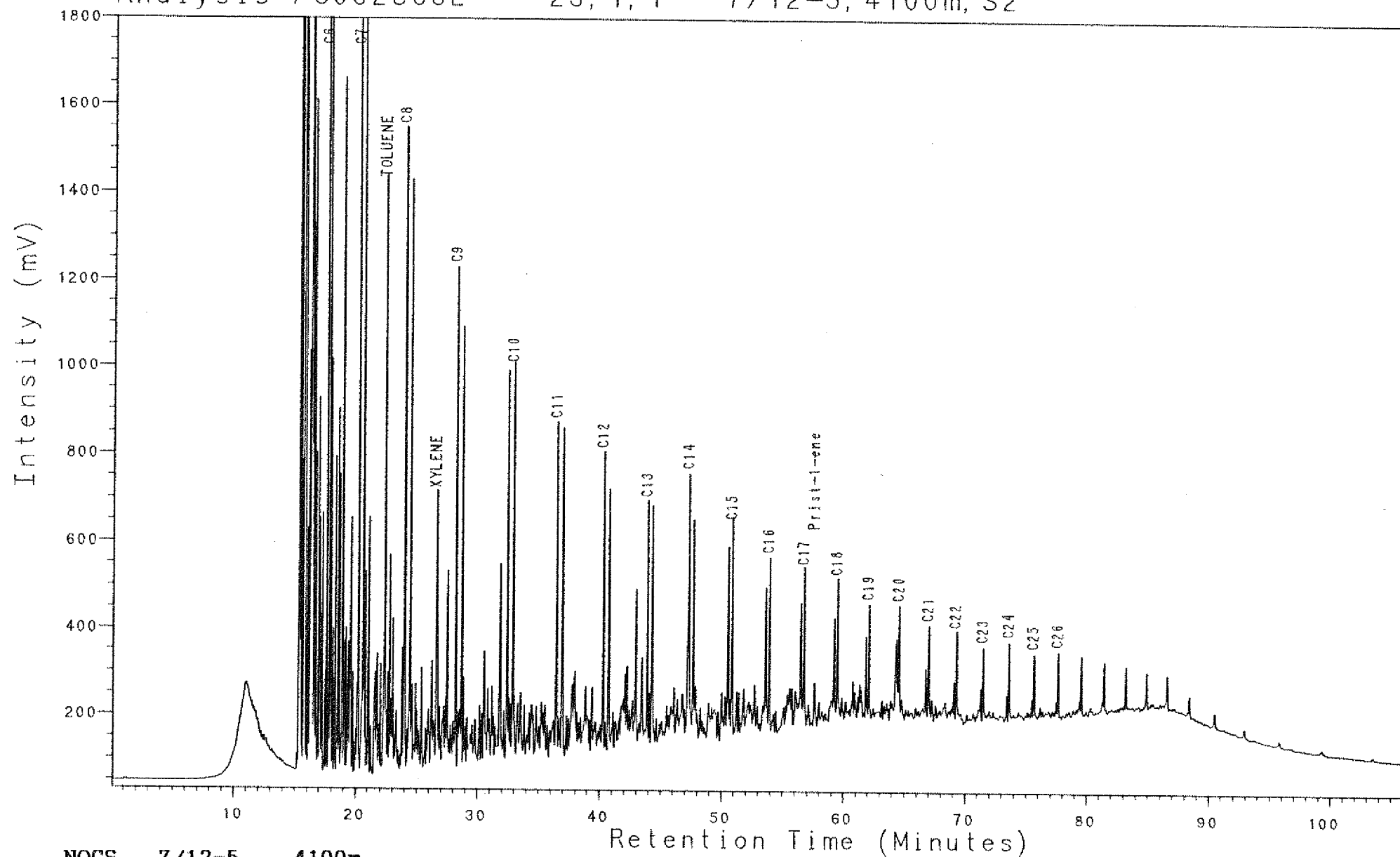


NOCS 7/12-5 4088m
PYROLYSIS GC (S2)
CLST: blk to prn blk

Analysis PC032863L

23, 1, 1

7/12-5, 4100m, S2

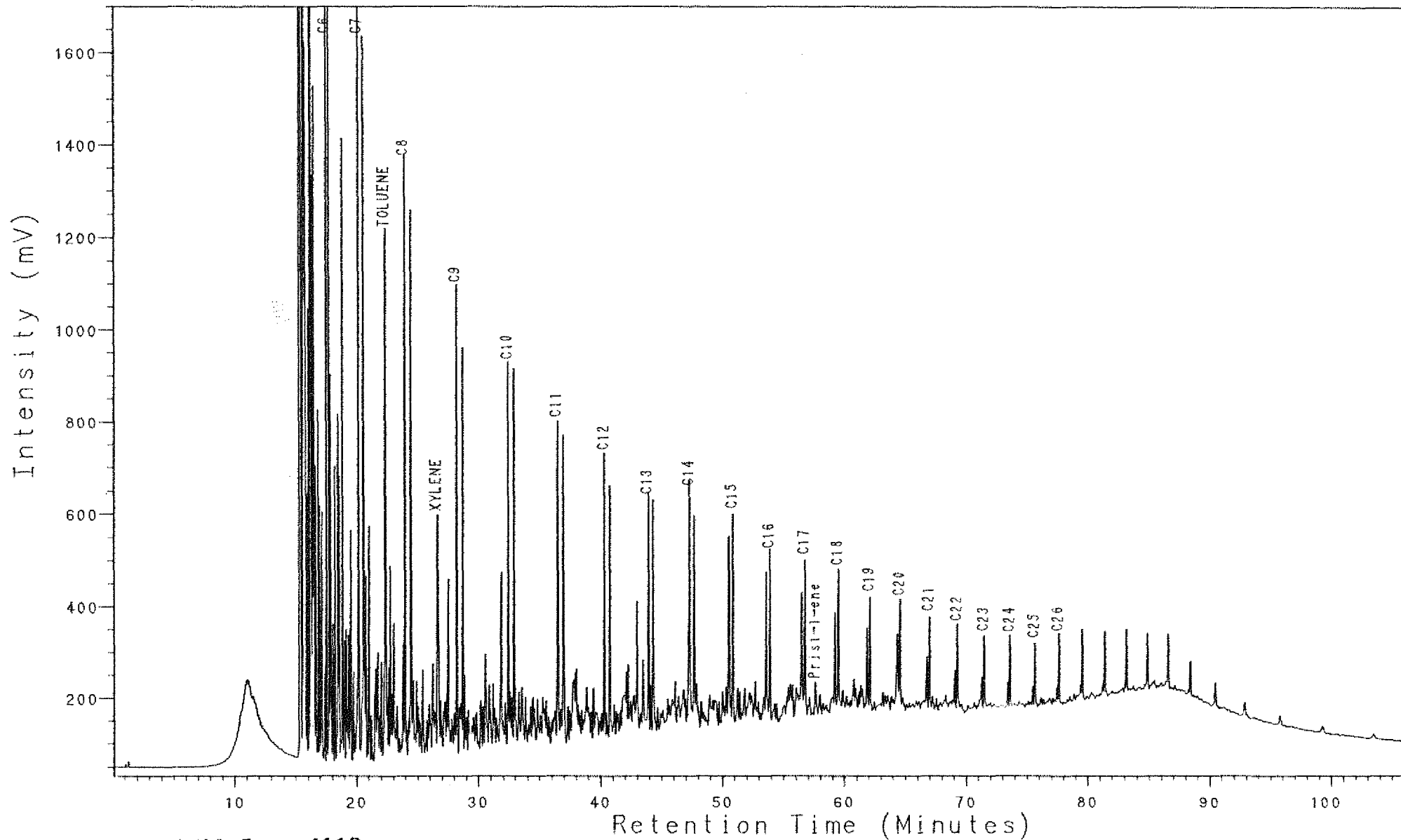


NOCS 7/12-5 4100m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032883L

23, 1, 1

7/12-5, 4112m, S2

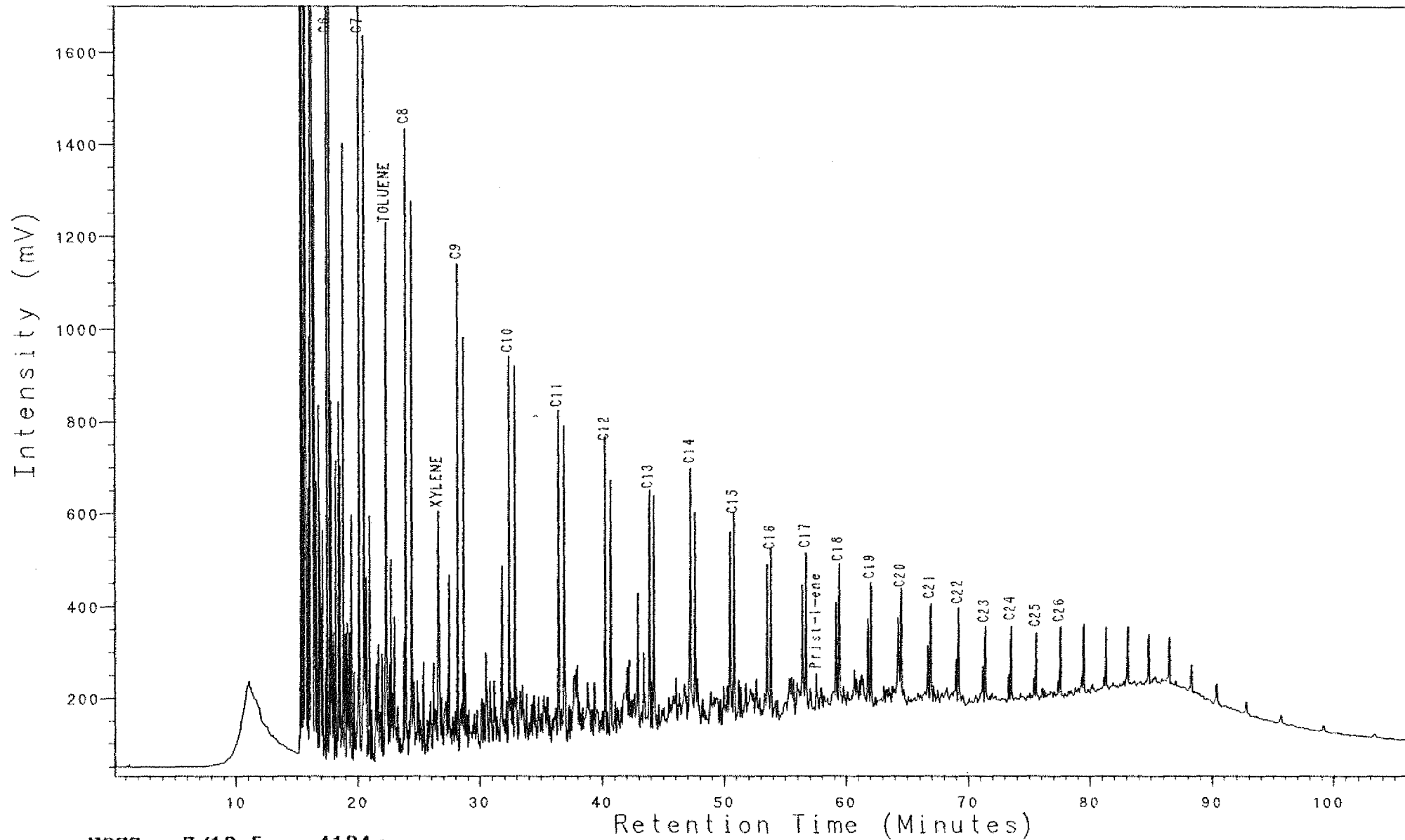


NOCS 7/12-5 4112m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032902L

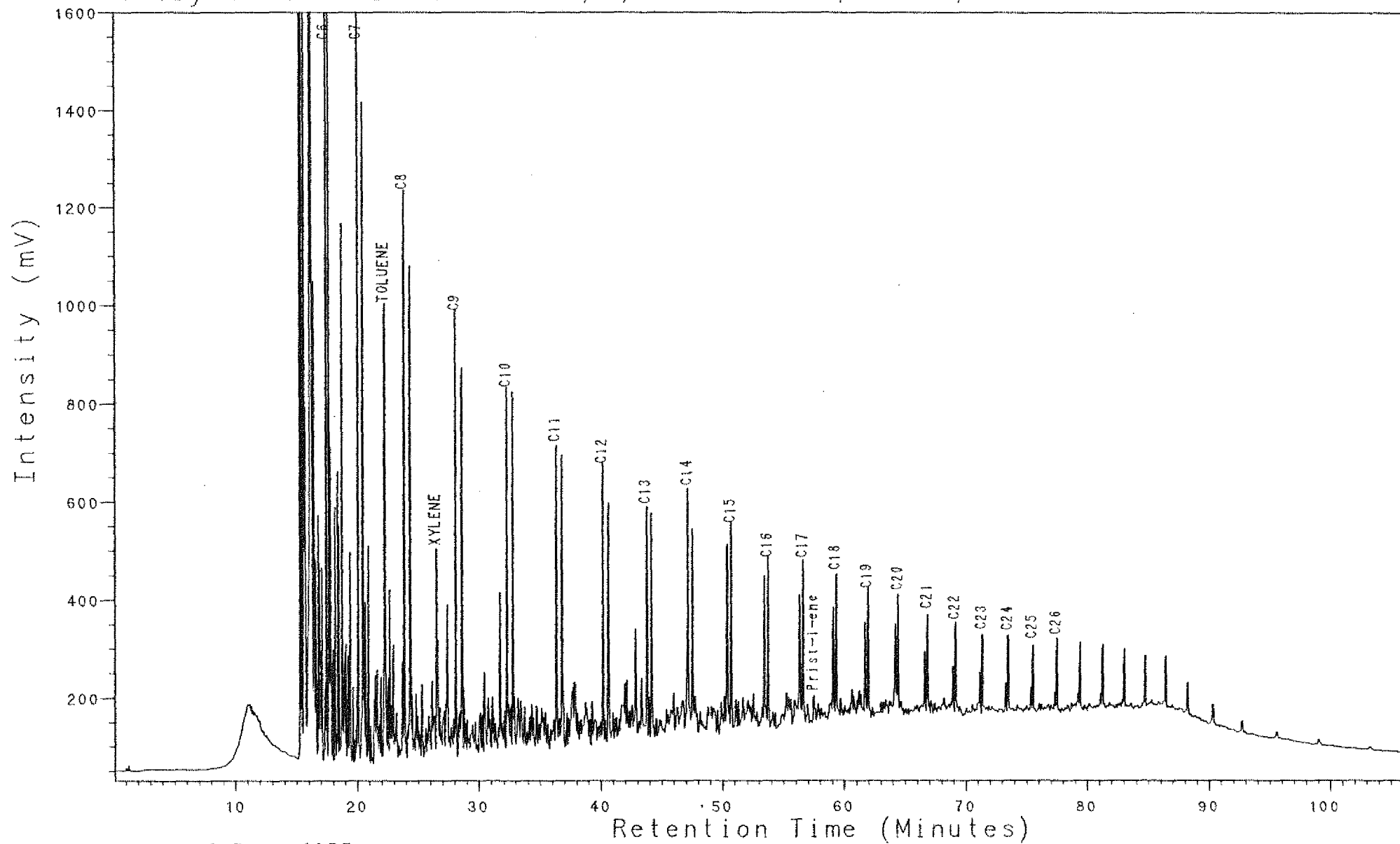
23, 1, 1

7/12-5, 4124m, S2



NOCS 7/12-5 4124m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032922L 23, 1, 1 7/12-5, 4136m, S2

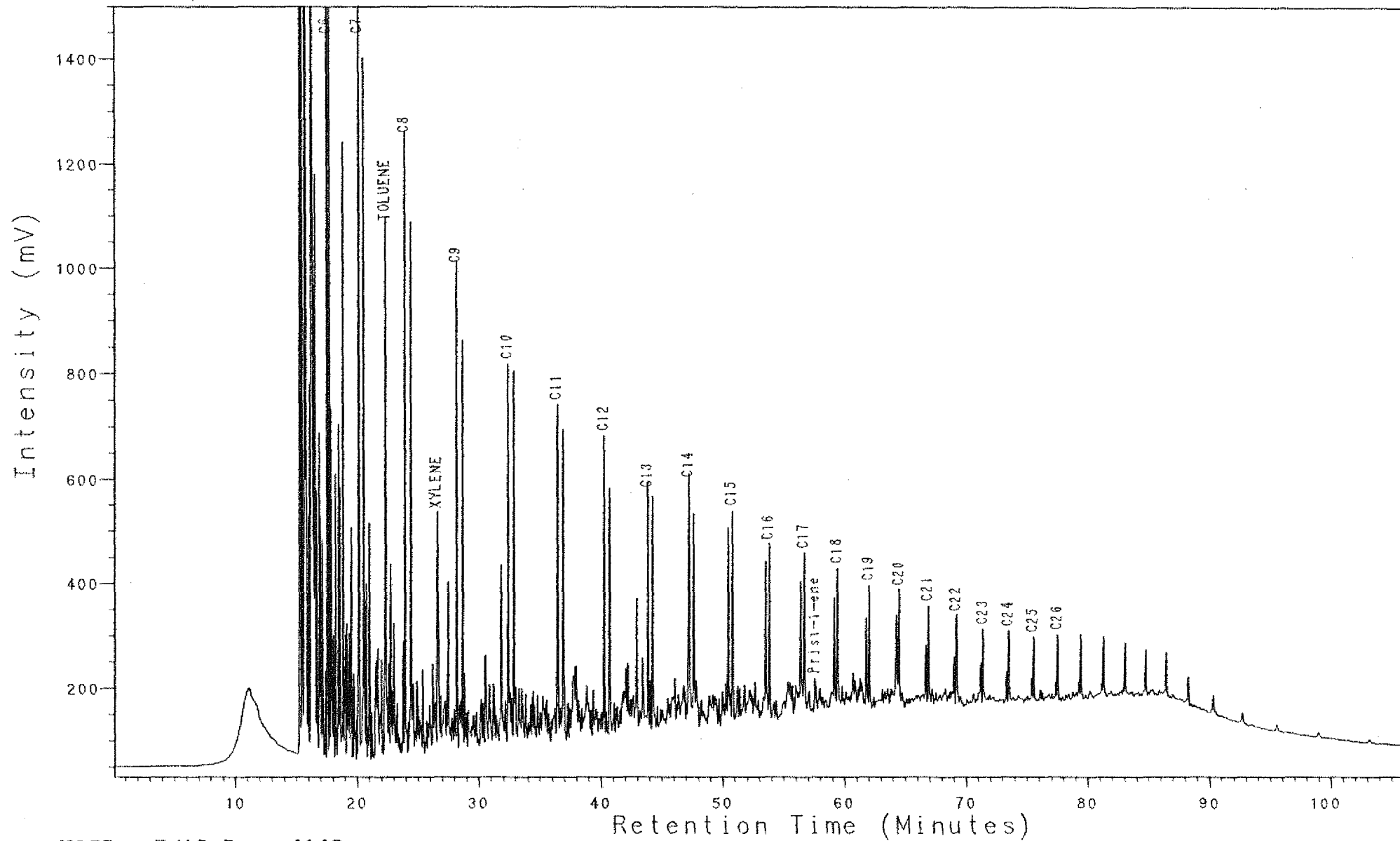


NOCS 7/12-5 4136m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032941L

23, 1, 1

7/12-5, 4148m, S2

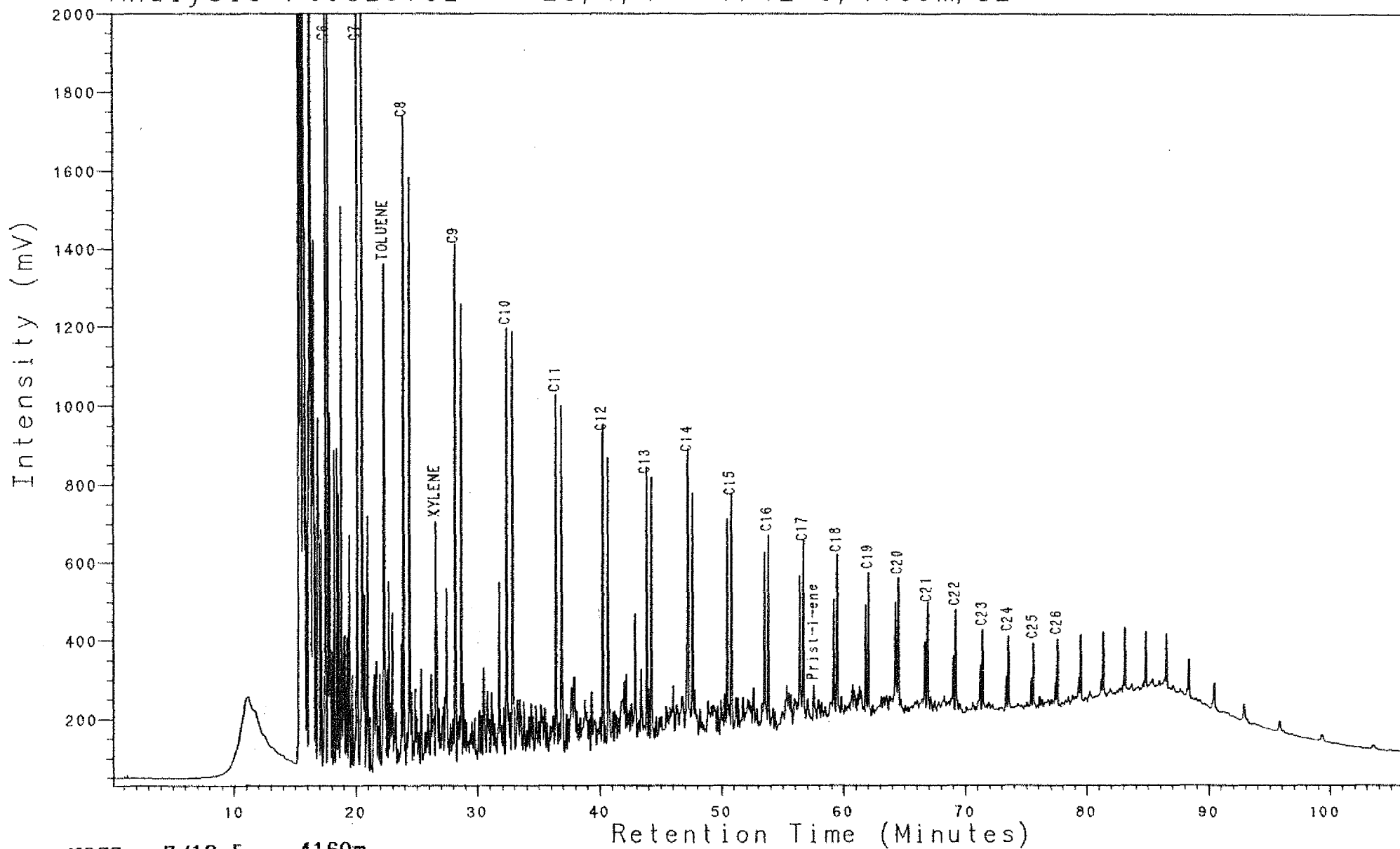


NOCS 7/12-5 4148m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032973L

23, 1, 1

7/12-5, 4160m, S2

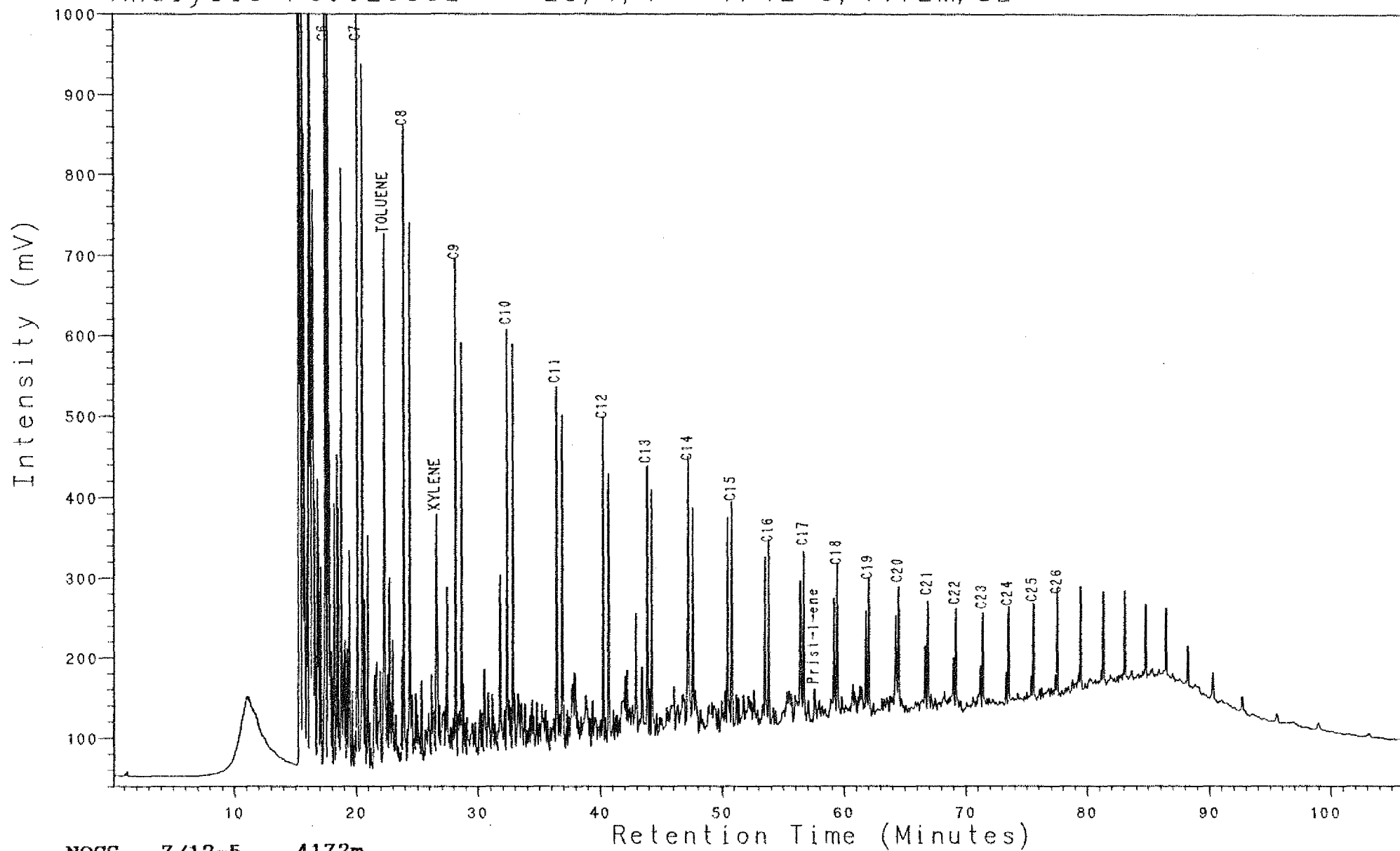


NOCS 7/12-5 4160m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC032993L

23, 1, 1

7/12-5, 4172m, S2

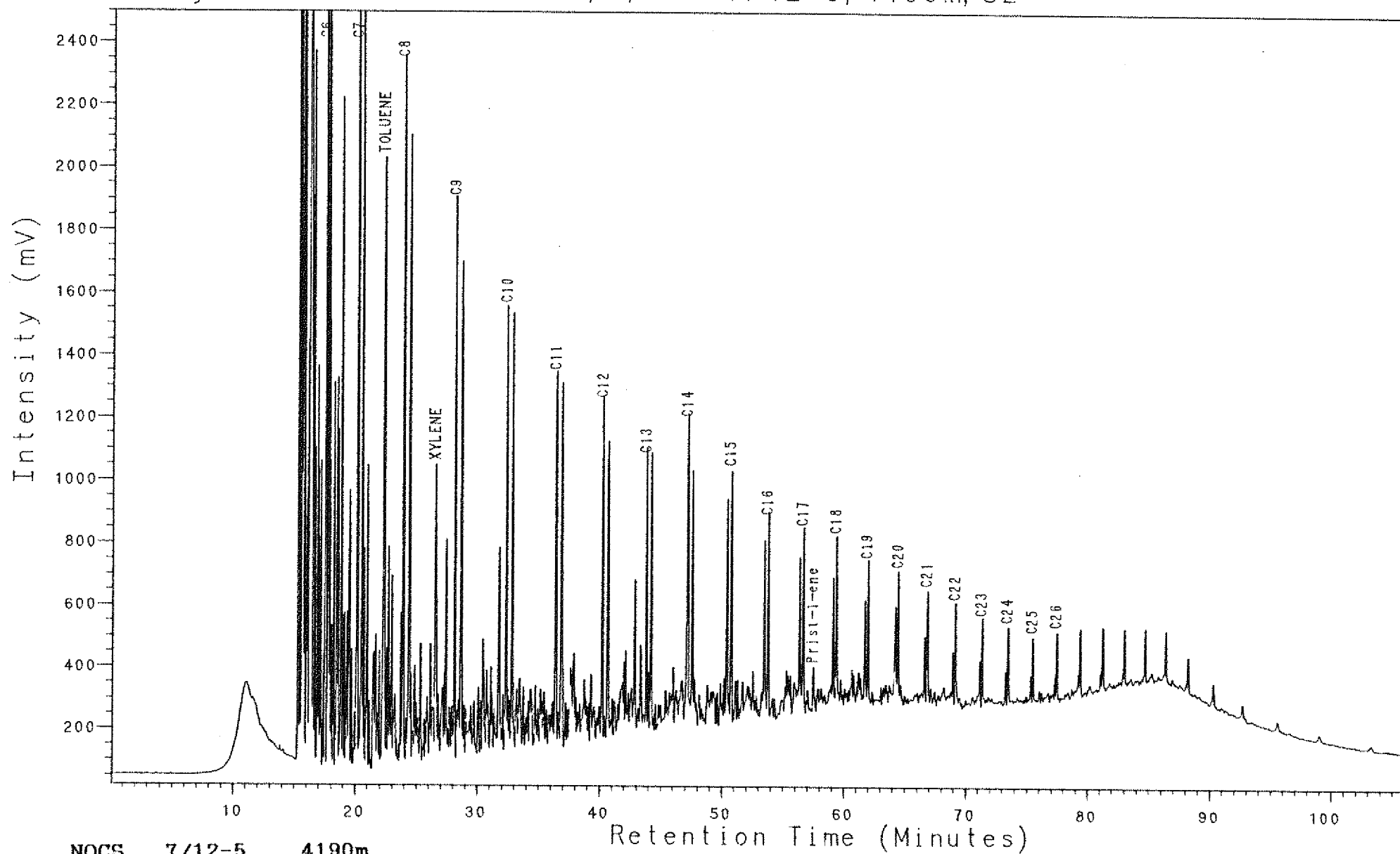


NOCS 7/12-5 4172m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033023L

23, 1, 1

7/12-5, 4190m, S2

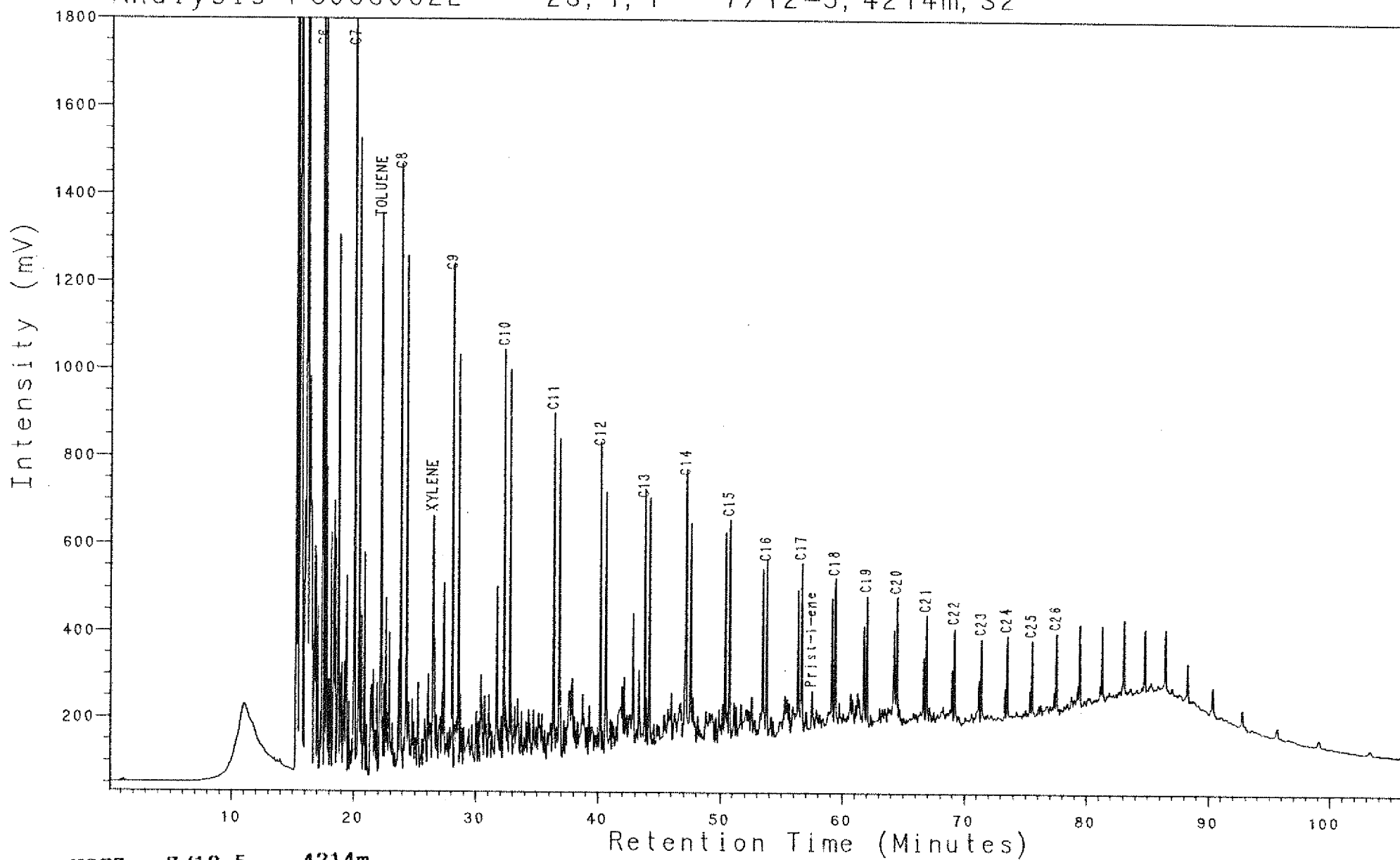


NOCS 7/12-5 4190m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033062L

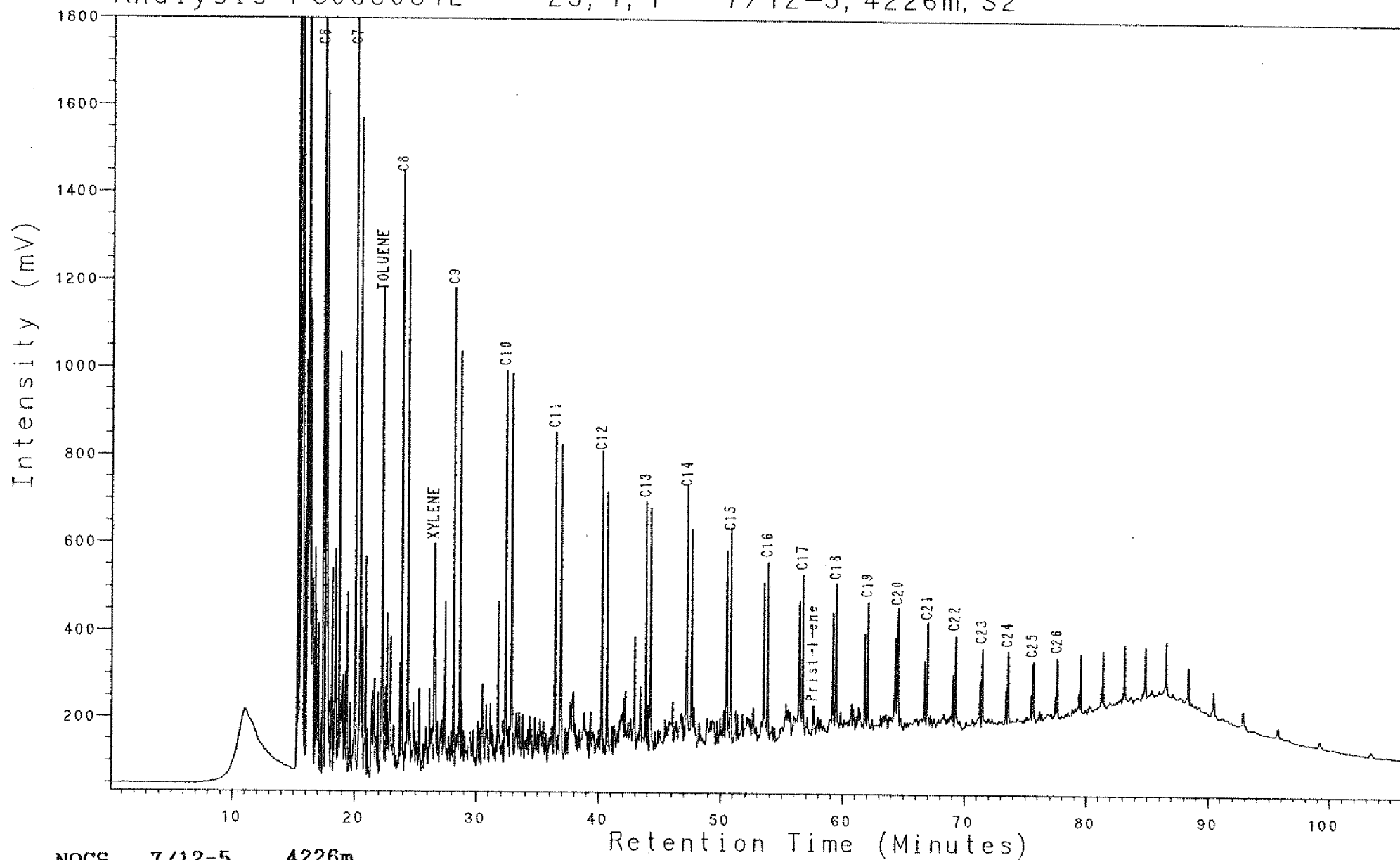
23, 1, 1

7/12-5, 4214m, S2



NOCS 7/12-5 4214m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033081L 23, 1, 1 7/12-5, 4226m, S2

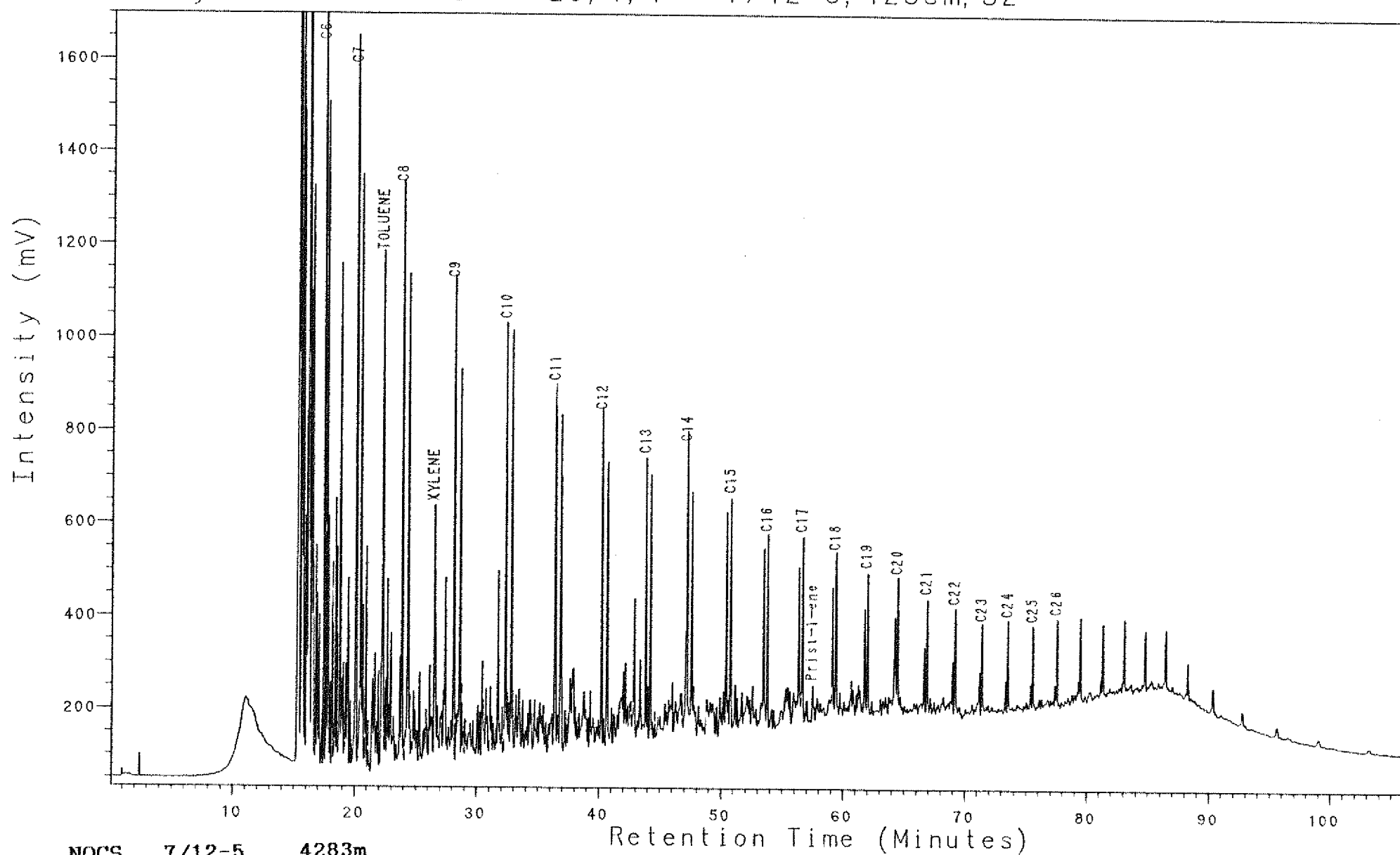


NOCS 7/12-5 4226m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033173L

23, 1, 1

7/12-5, 4283m, S2

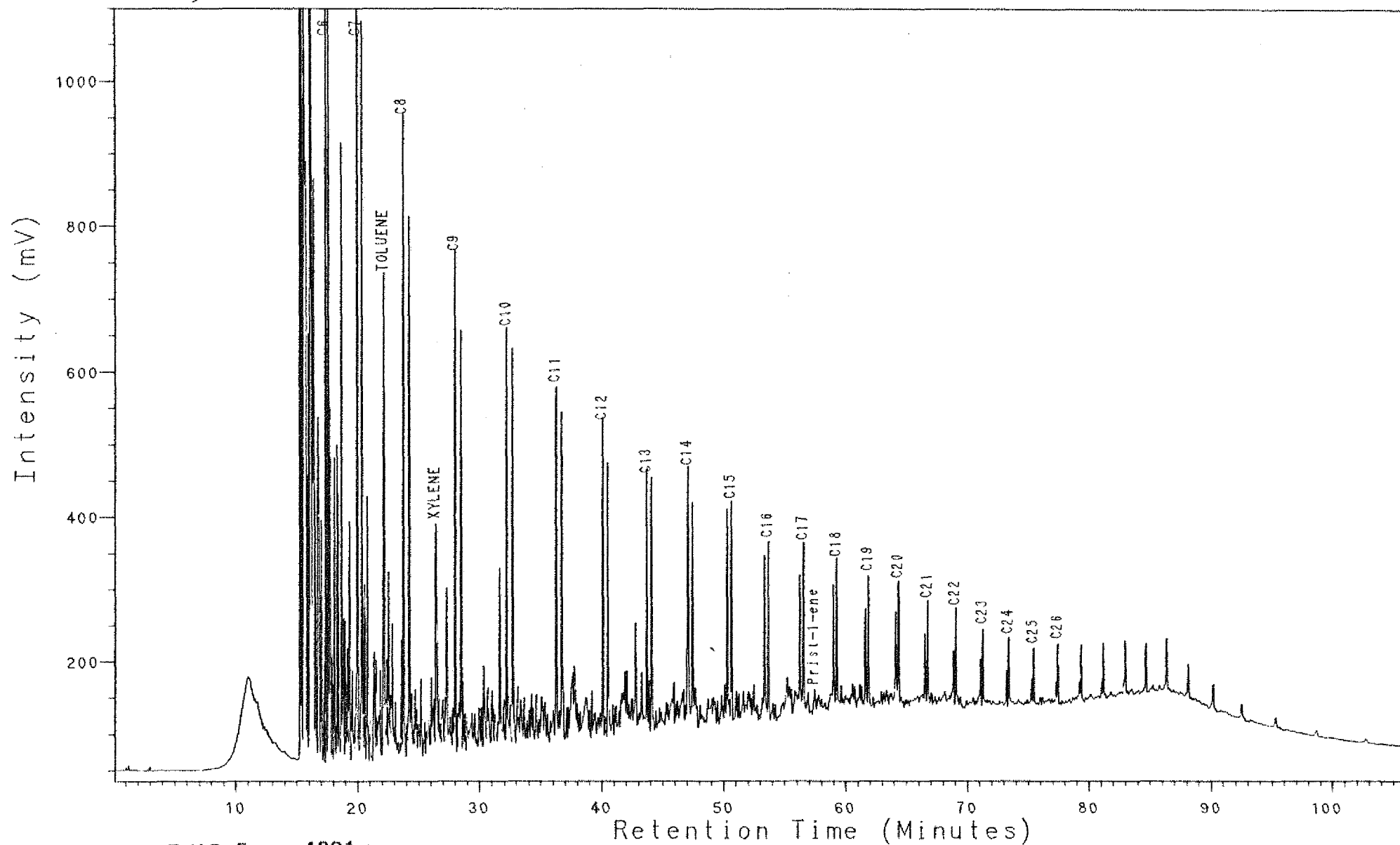


NOCS 7/12-5 4283m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033203L

23, 1, 1

7/12-5, 4301m, S2

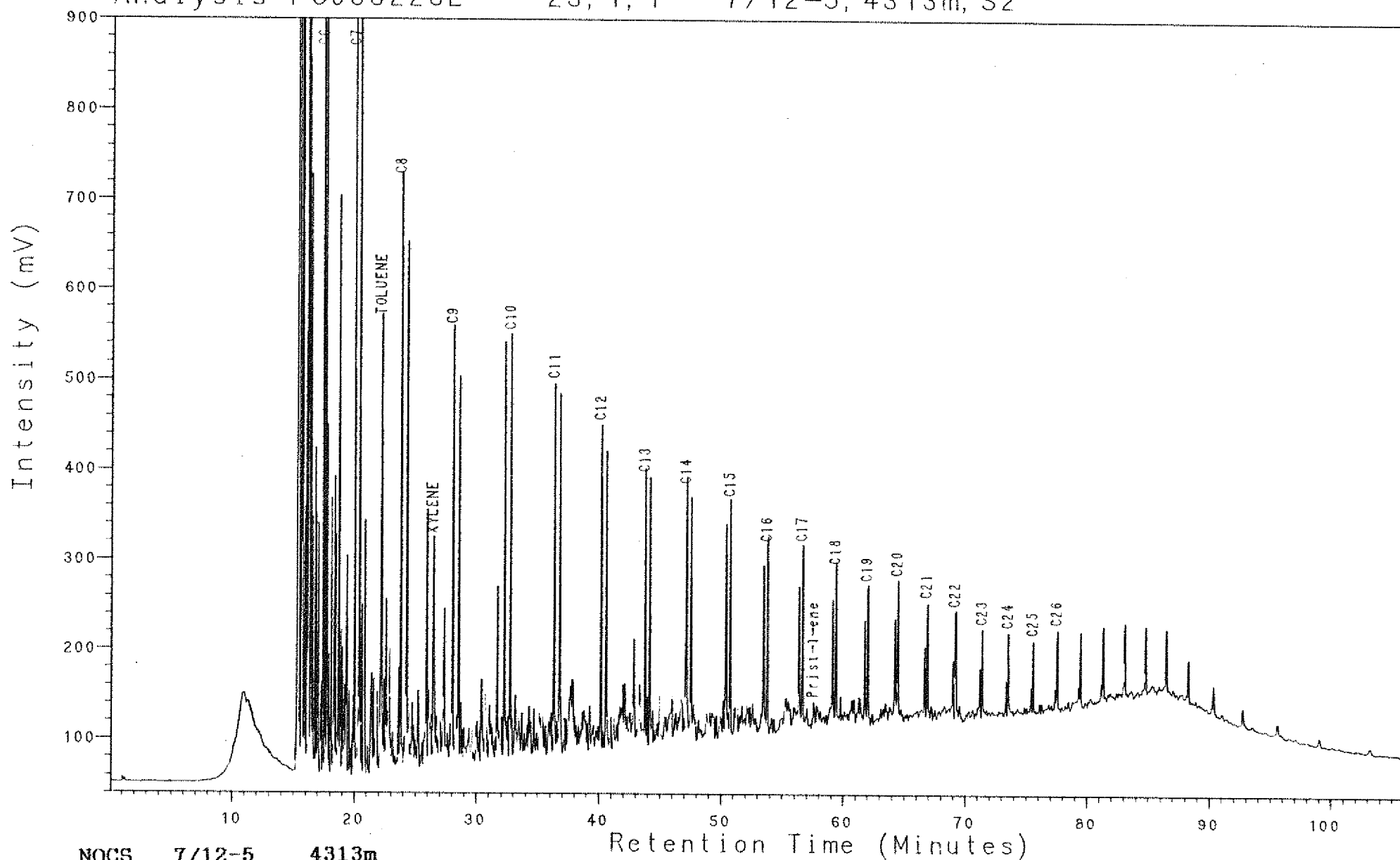


NOCS 7/12-5 4301m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033223L

23, 1, 1

7/12-5, 4313m, S2

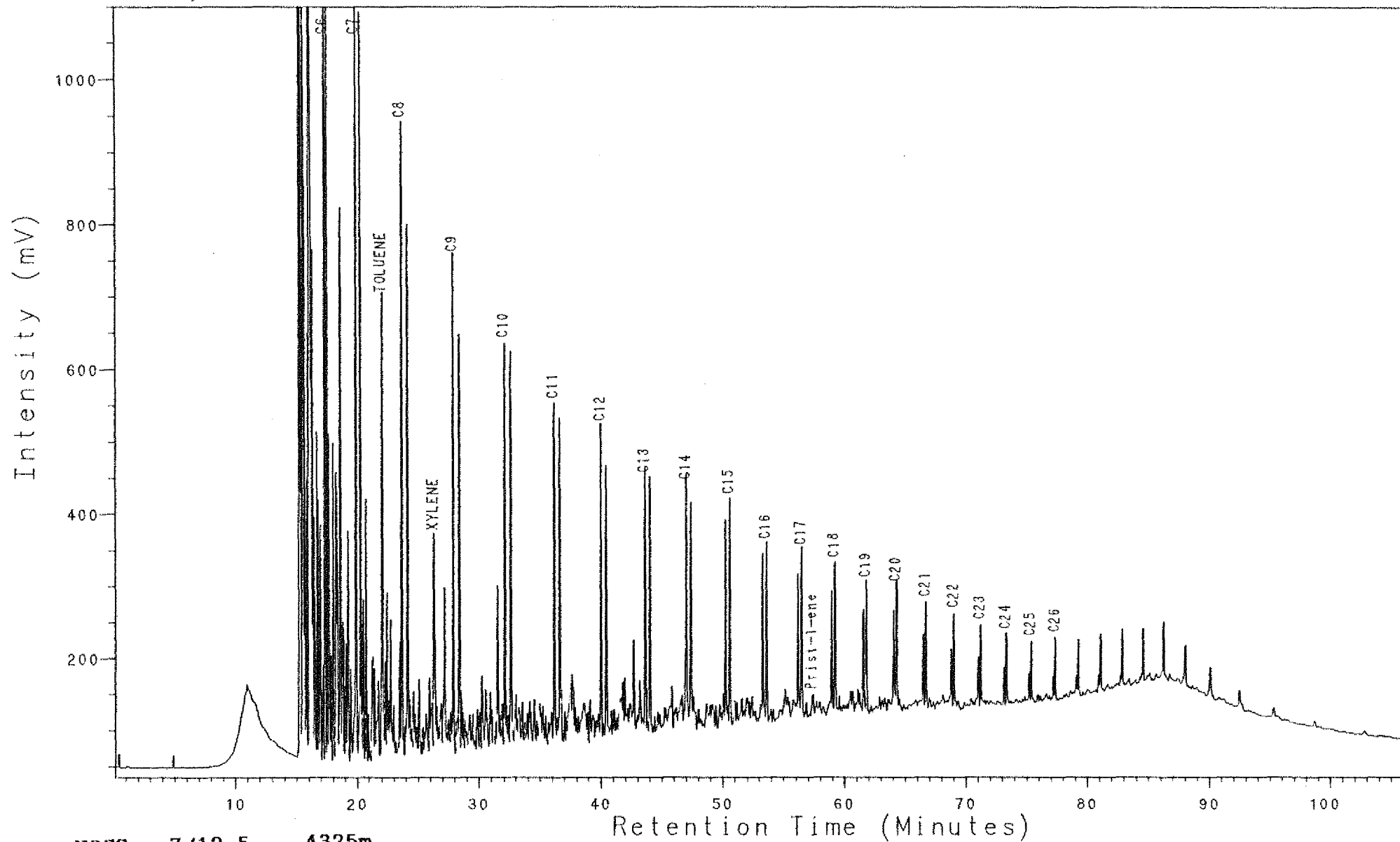


NOCS 7/12-5 4313m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033243L

23, 1, 1

7/12-5, 4325m, S2

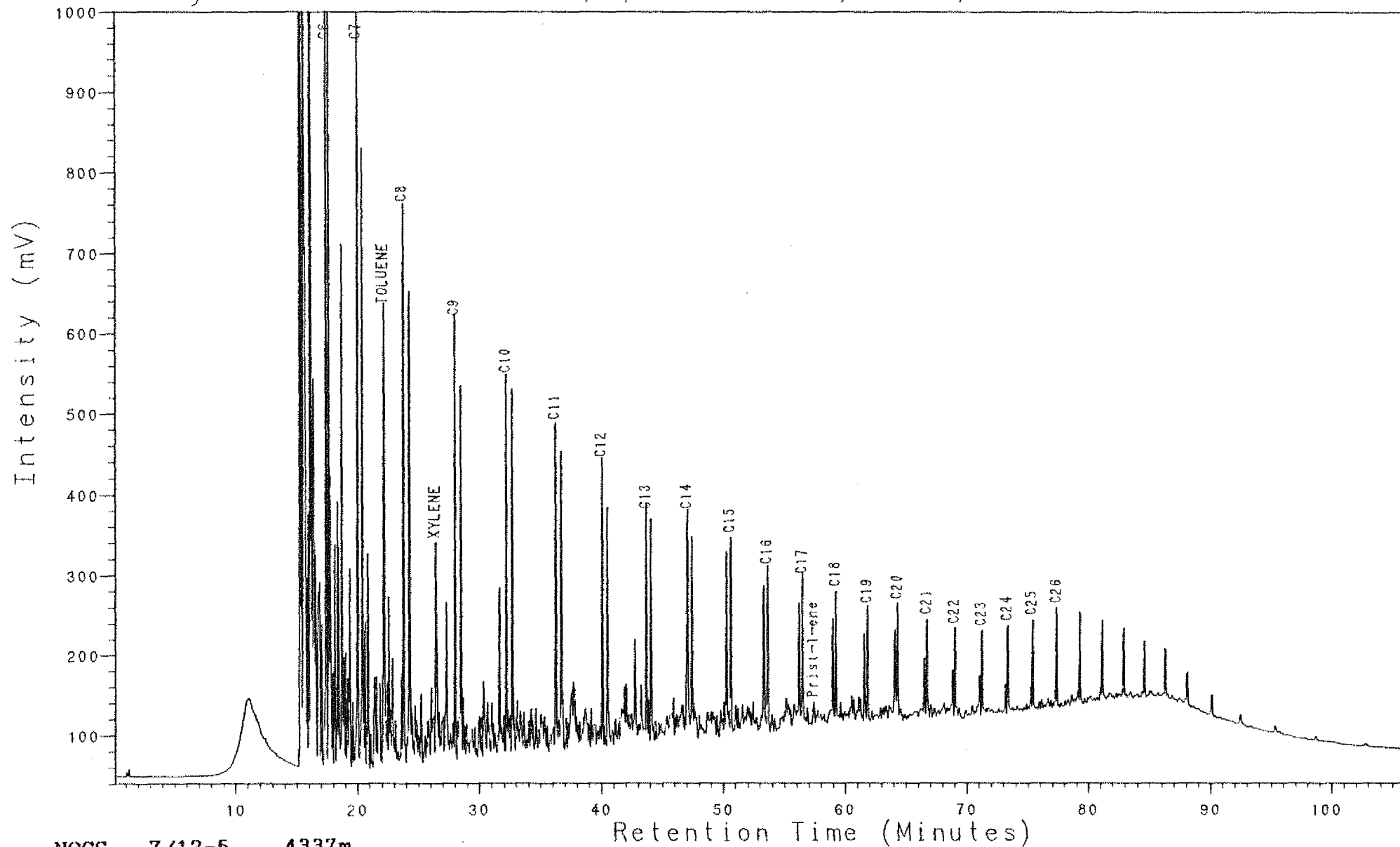


NOCS 7/12-5 4325m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033262L

23, 1, 1

7/12-5, 4337m, S2

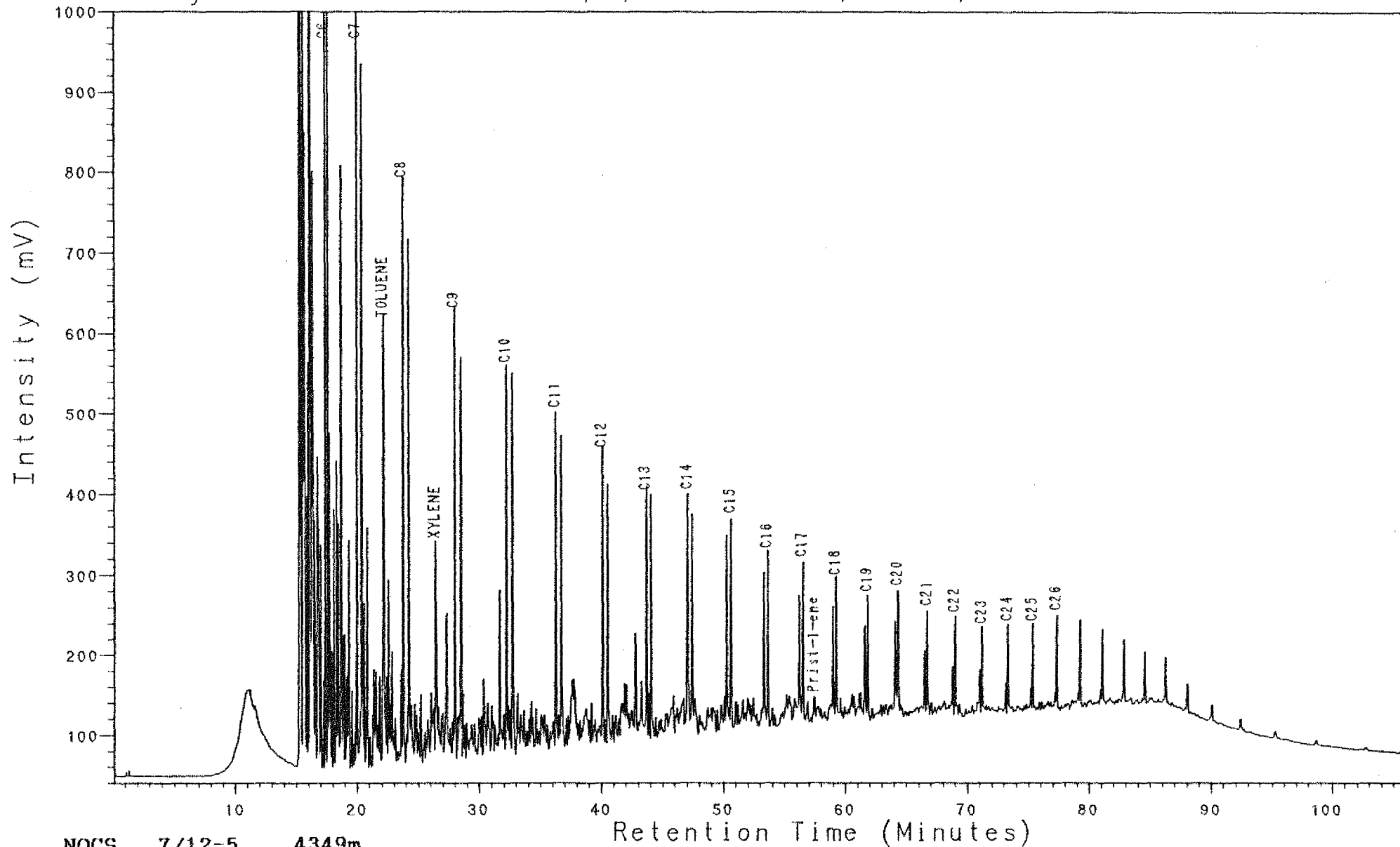


NOCS 7/12-5 4337m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033281L

23, 1, 1

7/12-5, 4349m, S2

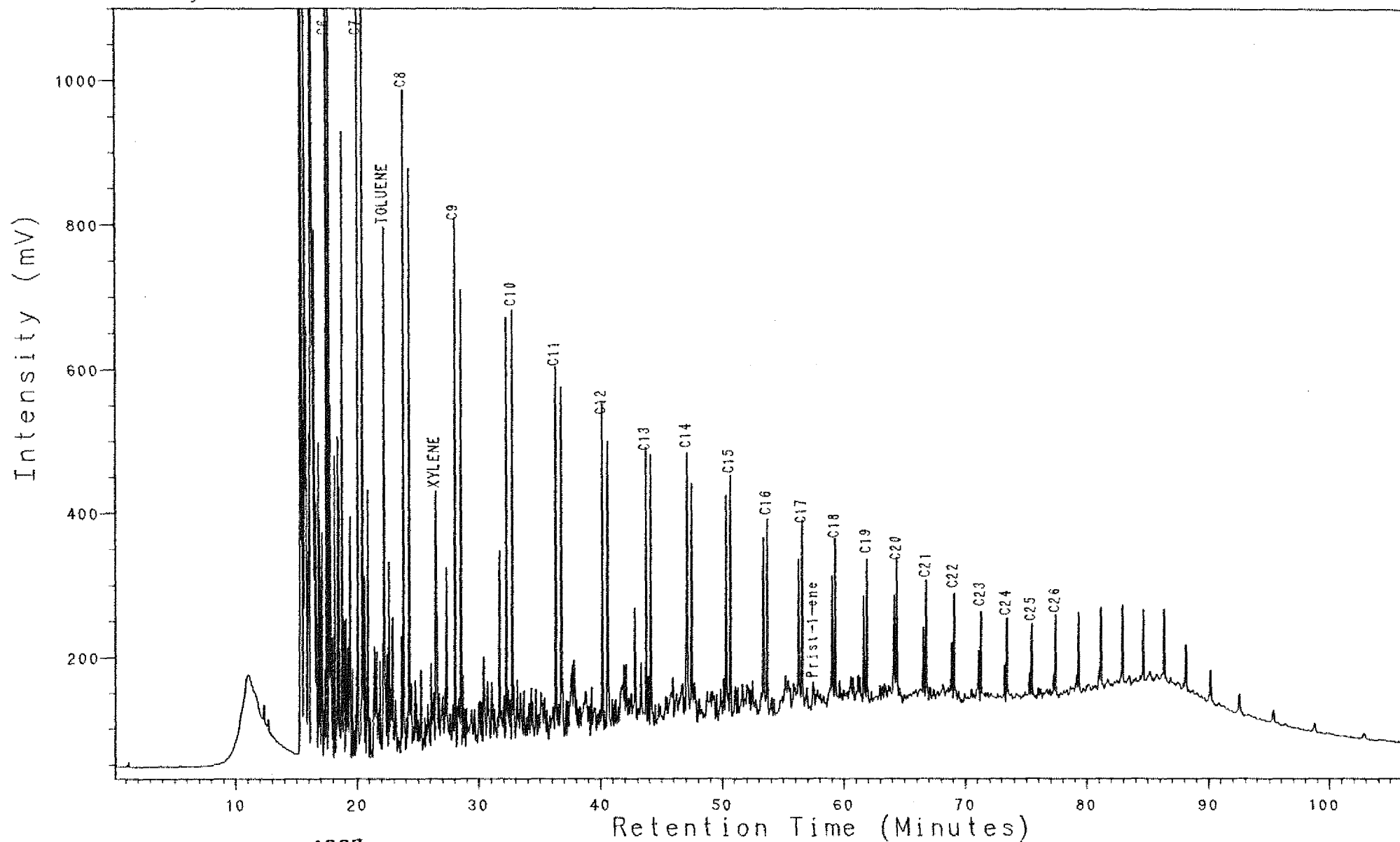


NOCS 7/12-5 4349m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033314L

23, 1, 1

7/12-5, 4367m, S2

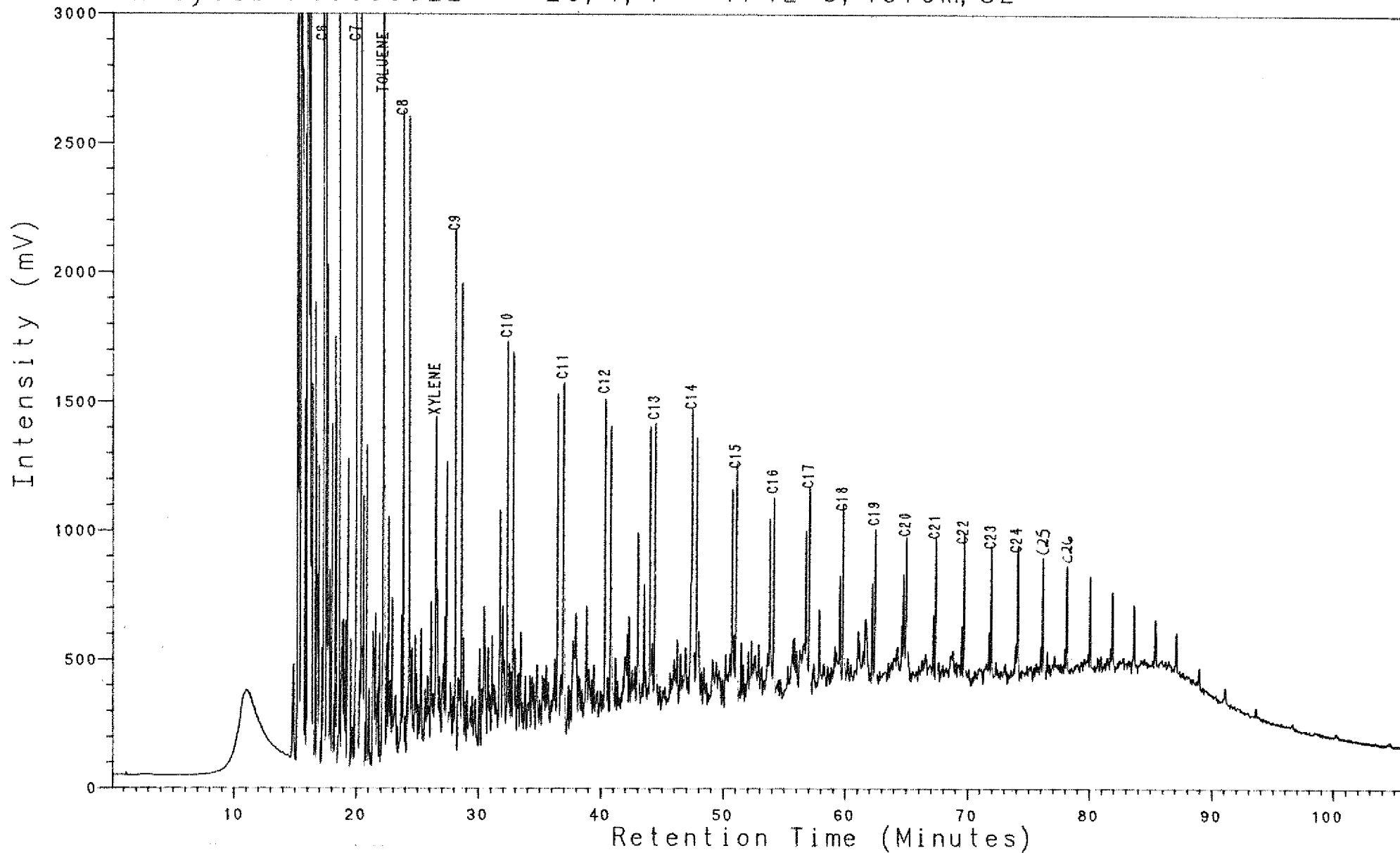


NOCS 7/12-5 4367m
PYROLYSIS GC (S2)
CLST: ol gy to blk

Analysis PC033332L

25, 1, 1

7/12-5, 4379m, S2

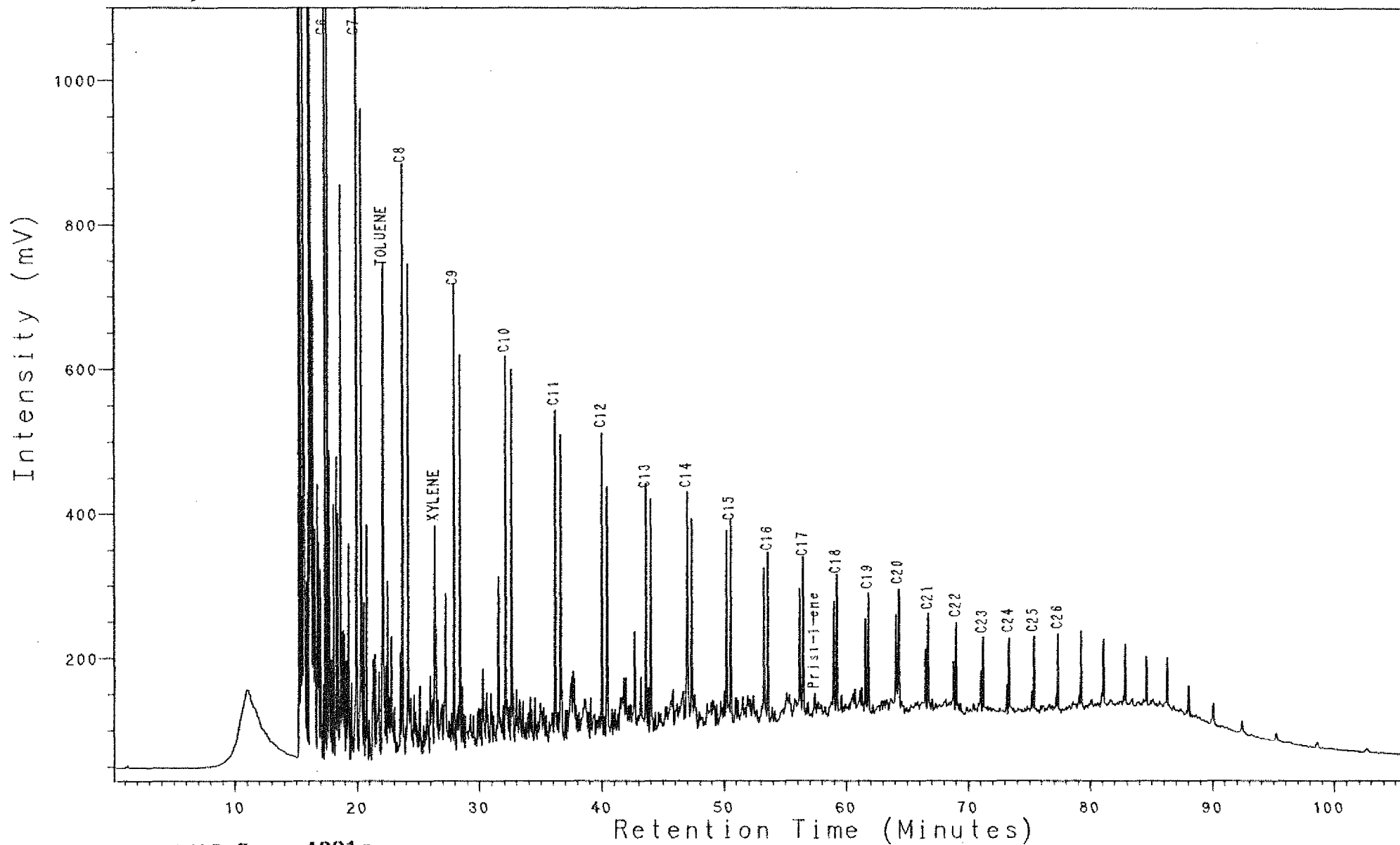


NOCS 7/12-5 4379m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Analysis PC033352L

23, 1, 1

7/12-5, 4391m, S2

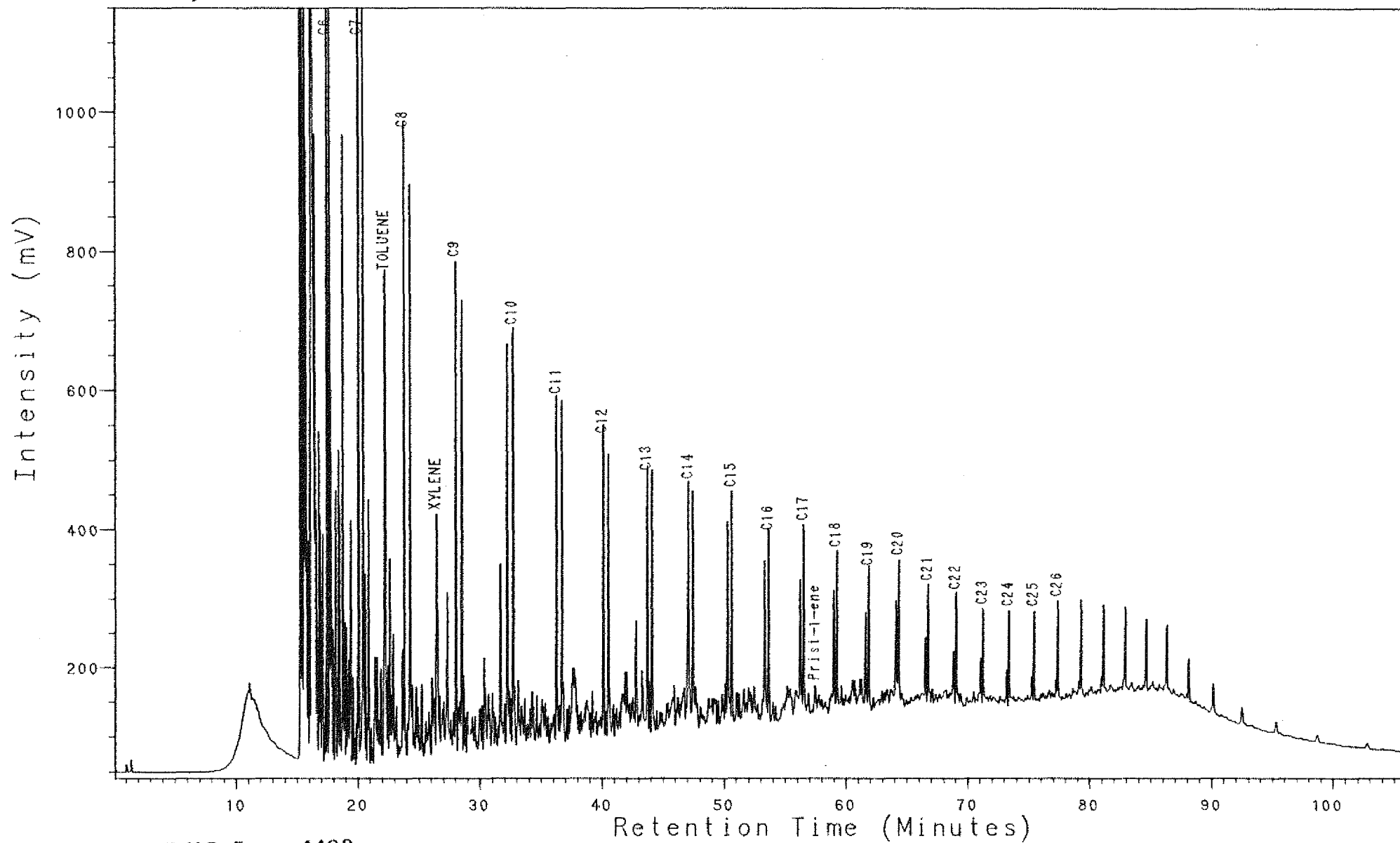


NOCS 7/12-5 4391m
PYROLYSIS GC (S2)
CLST: blk to brn blk

Analysis PC033372L

23, 1, 1

7/12-5, 4403m, S2

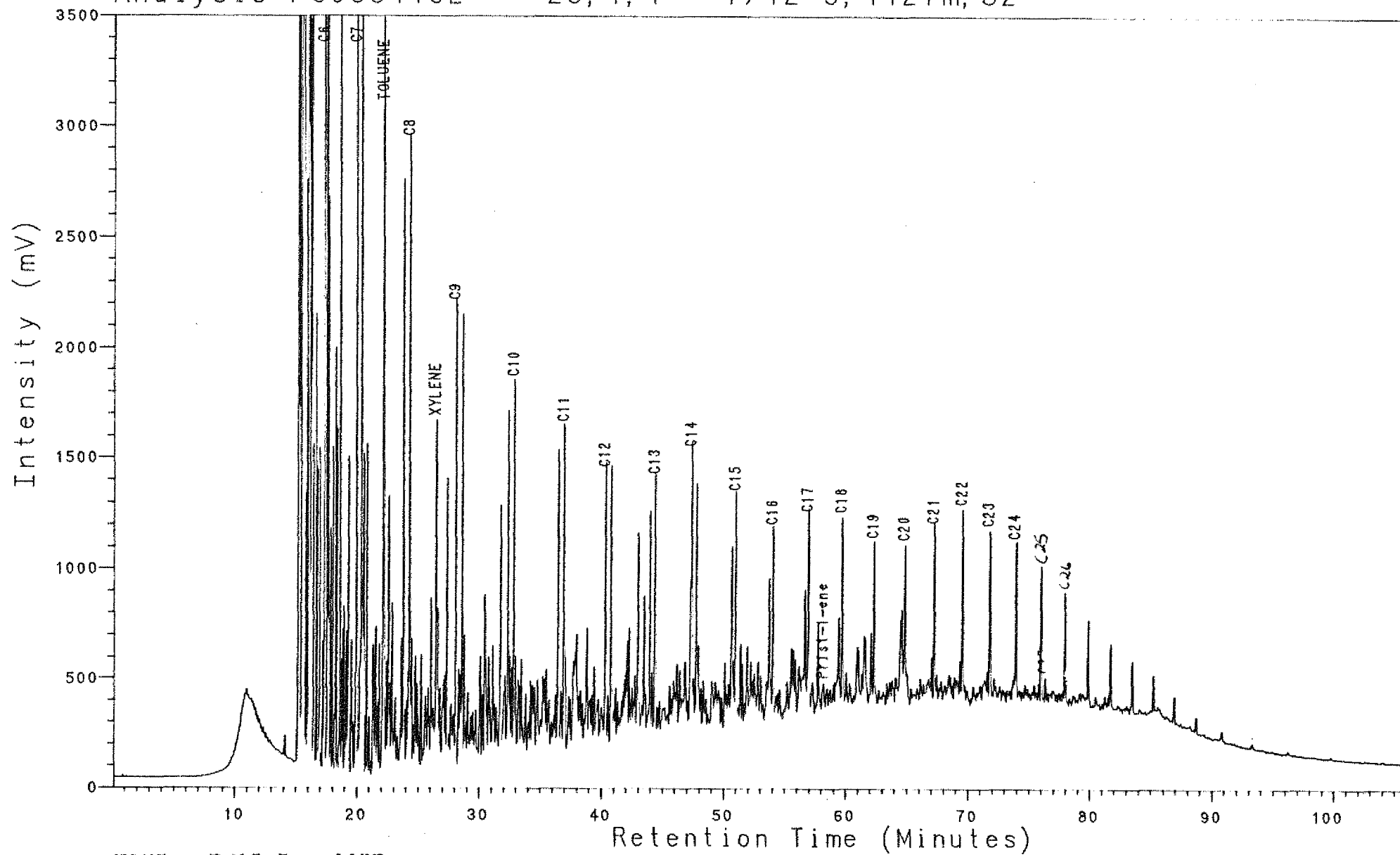


NOCS 7/12-5 4403m
PYROLYSIS GC (S2)
CLST: blk to ol gy

Analysis PC033413L

25, 1, 1

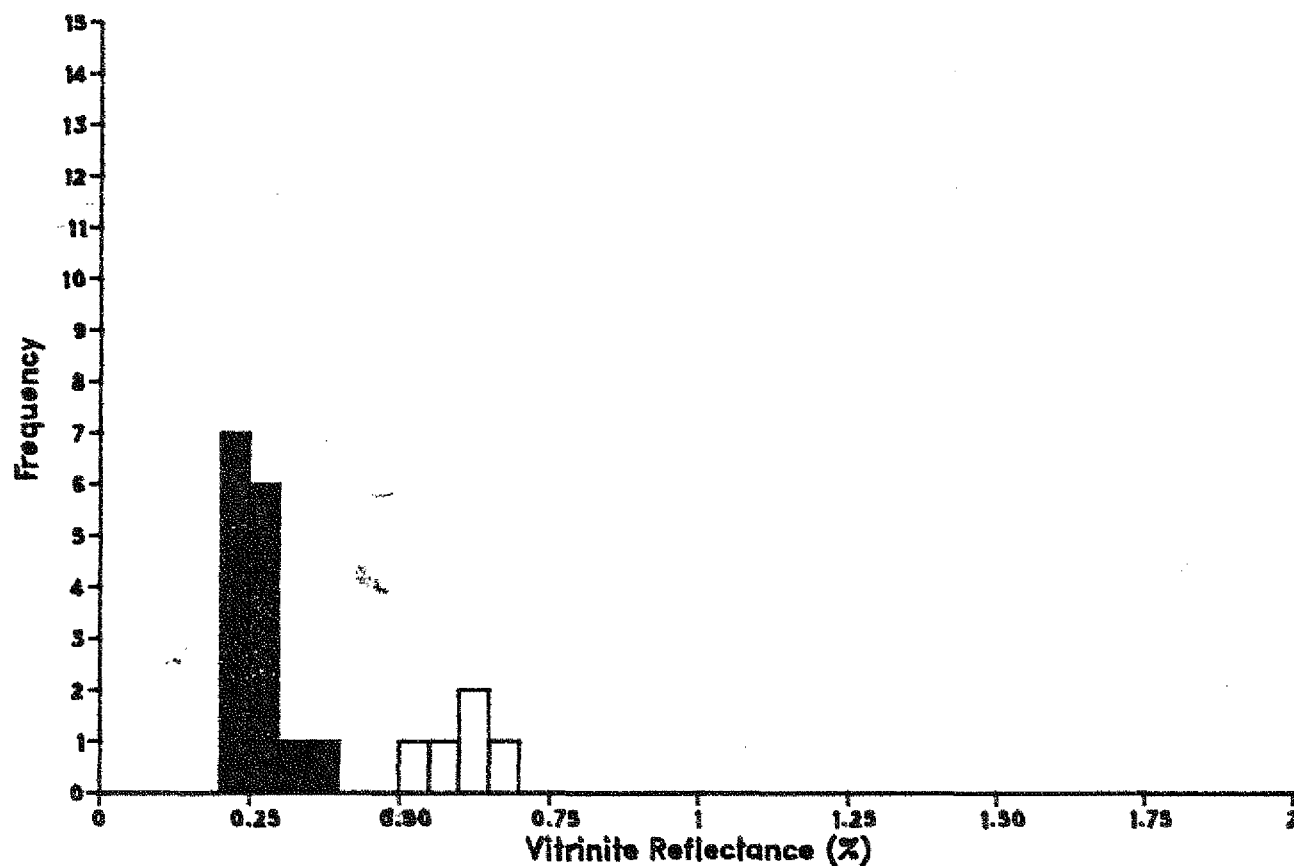
7/12-5, 4427m, S2



NOCS 7/12-5 4427m
PYROLYSIS GC (S2)
CLST:blk to brn blk

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 1100.00(m)
Sample: 7- 0b



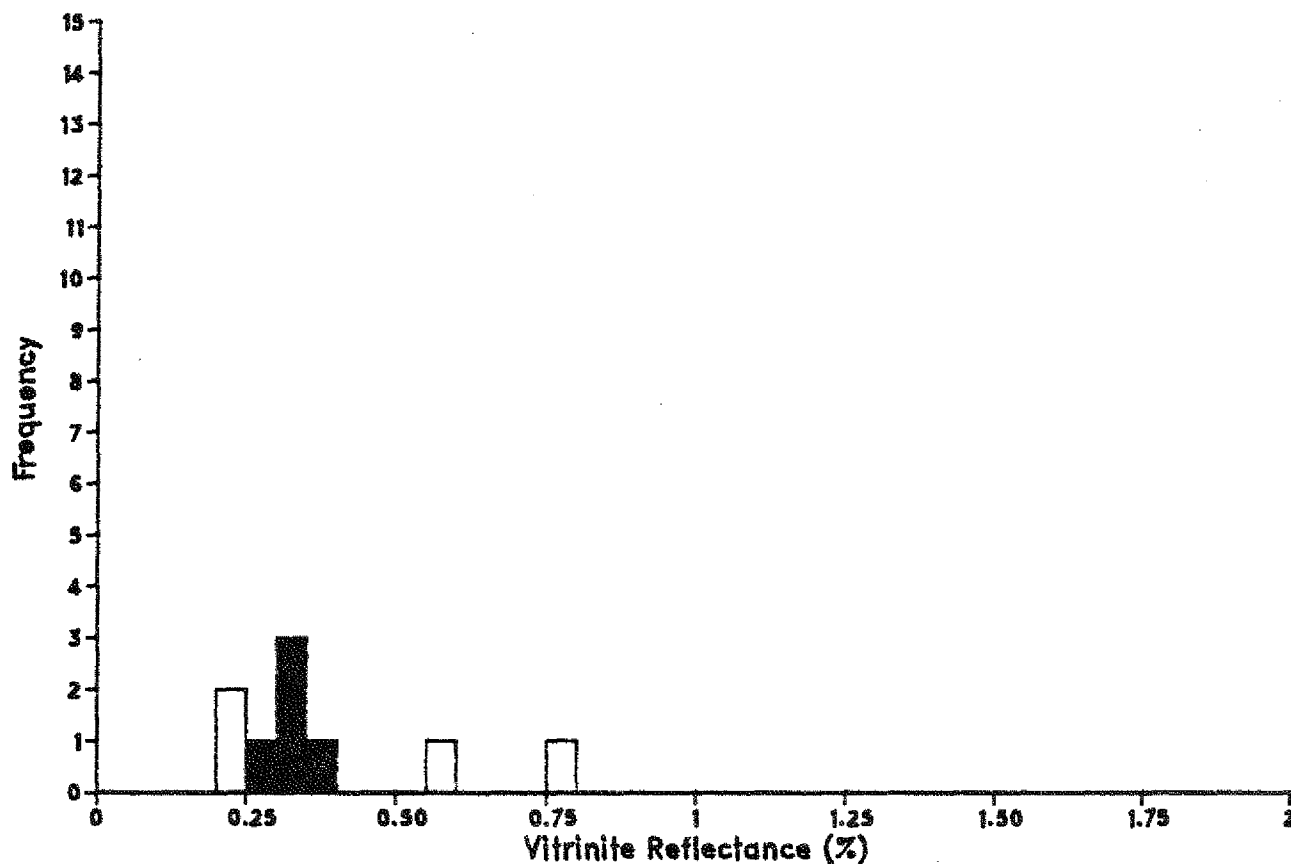
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.200 to 0.399):	0.26	0.04	15
Population Two (from 0.500 to 0.699):	0.61	0.05	5

Readings:									
0.213	0.215	0.219	0.225	0.230	0.236	0.243	0.253	0.262	0.271
0.276	0.291	0.291	0.326	0.357	0.549	0.599	0.606	0.630	0.680

Vitrinite Reflectance Histogram

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Well: NOCS 7/12-5
Depth: 1300.00(m)
Sample: 344- 0b

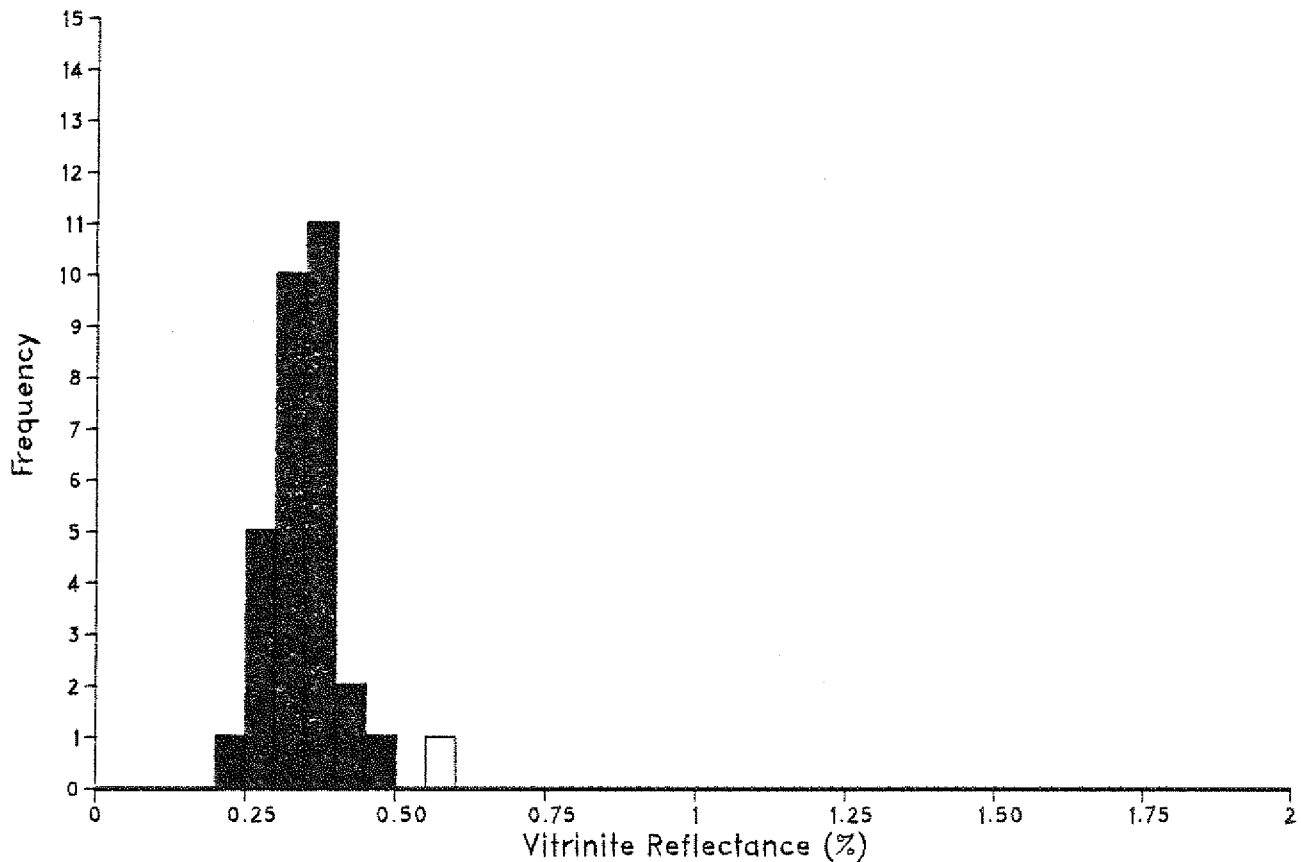


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.250 to 0.400):	0.31	0.04	5
Population Two (from 0.200 to 0.249):	0.24	0.02	2
Population Three (from 0.500 to 0.800):	0.66	0.14	2

Readings:									
0.222	0.248	0.259	0.307	0.311	0.324	0.366	0.412	0.419	0.436
0.451	0.485	0.558	0.761						

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 1490.00(m)
Sample: 9- 0b

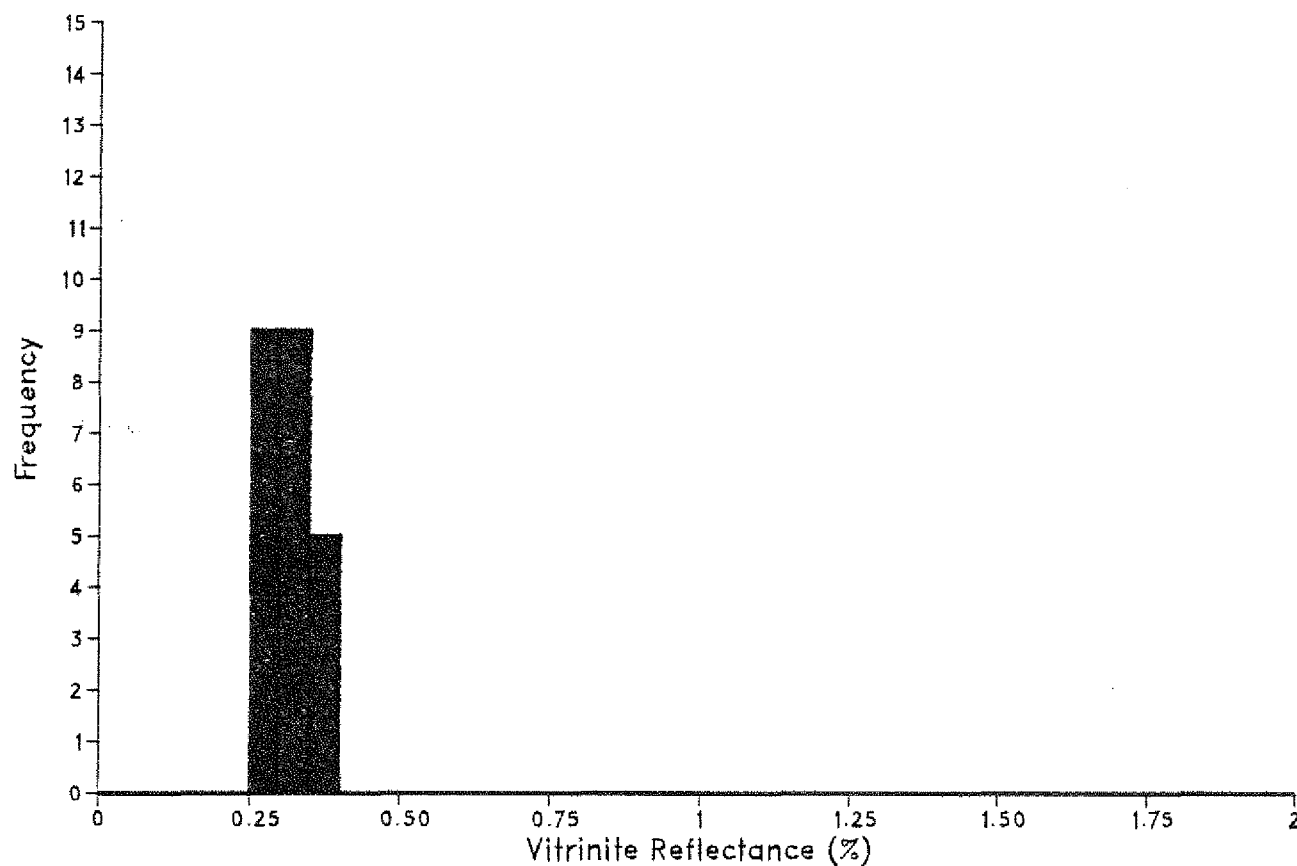


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.200 to 0.500):	0.34	0.05	30
Population Two (from 0.550 to 0.600):	0.58	0.00	1

Readings:									
0.235	0.274	0.274	0.285	0.289	0.294	0.302	0.305	0.306	0.309
0.312	0.313	0.315	0.335	0.344	0.346	0.351	0.355	0.359	0.365
0.369	0.372	0.375	0.375	0.383	0.385	0.394	0.405	0.431	0.456
0.577									

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 1670.00(m)
Sample: 10-0b



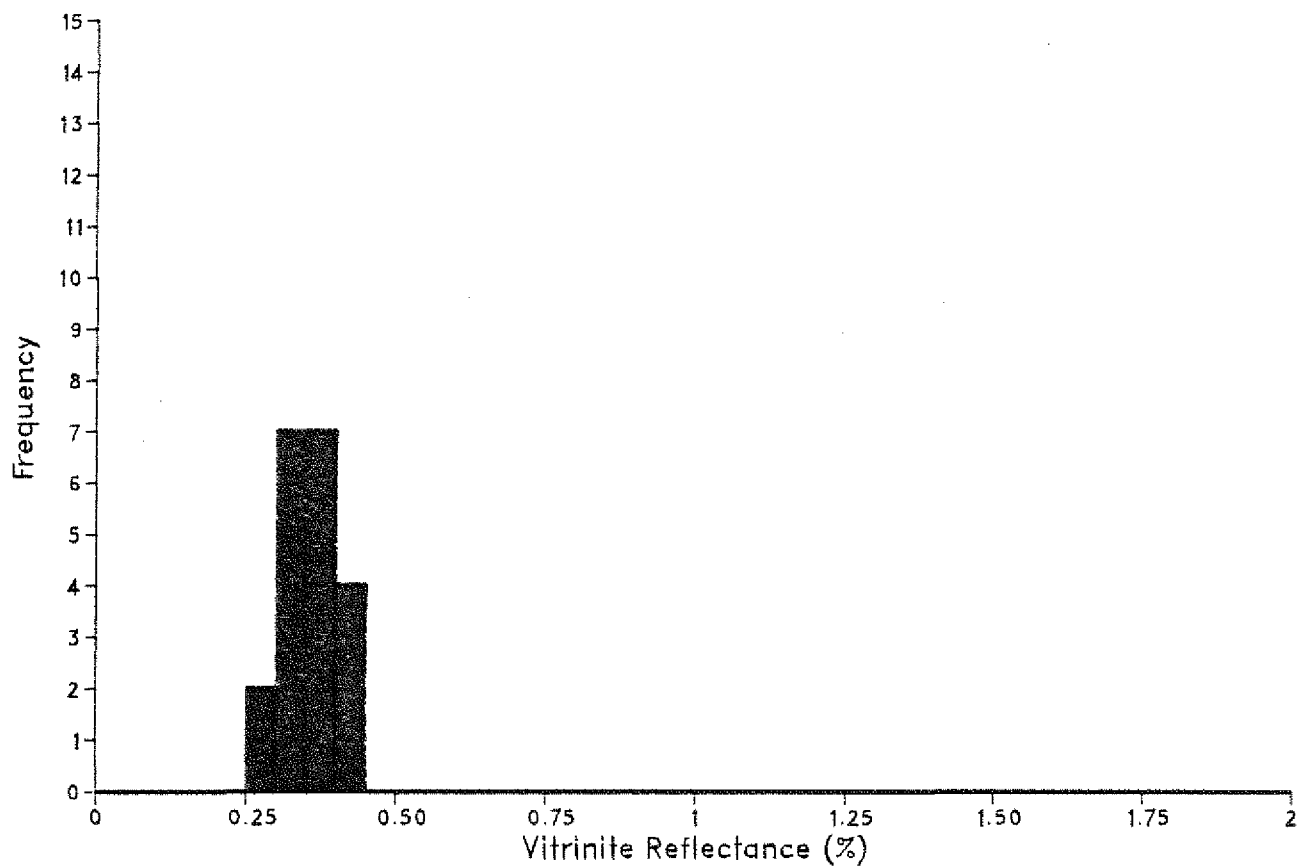
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.200 to 0.400):	0.32	0.04	23

Readings:

0.250	0.263	0.276	0.281	0.286	0.289	0.296	0.299	0.300	0.301
0.306	0.306	0.315	0.317	0.329	0.343	0.347	0.347	0.360	0.363
0.366	0.370	0.377							

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 1840.00(m)
Sample: 12- 0b



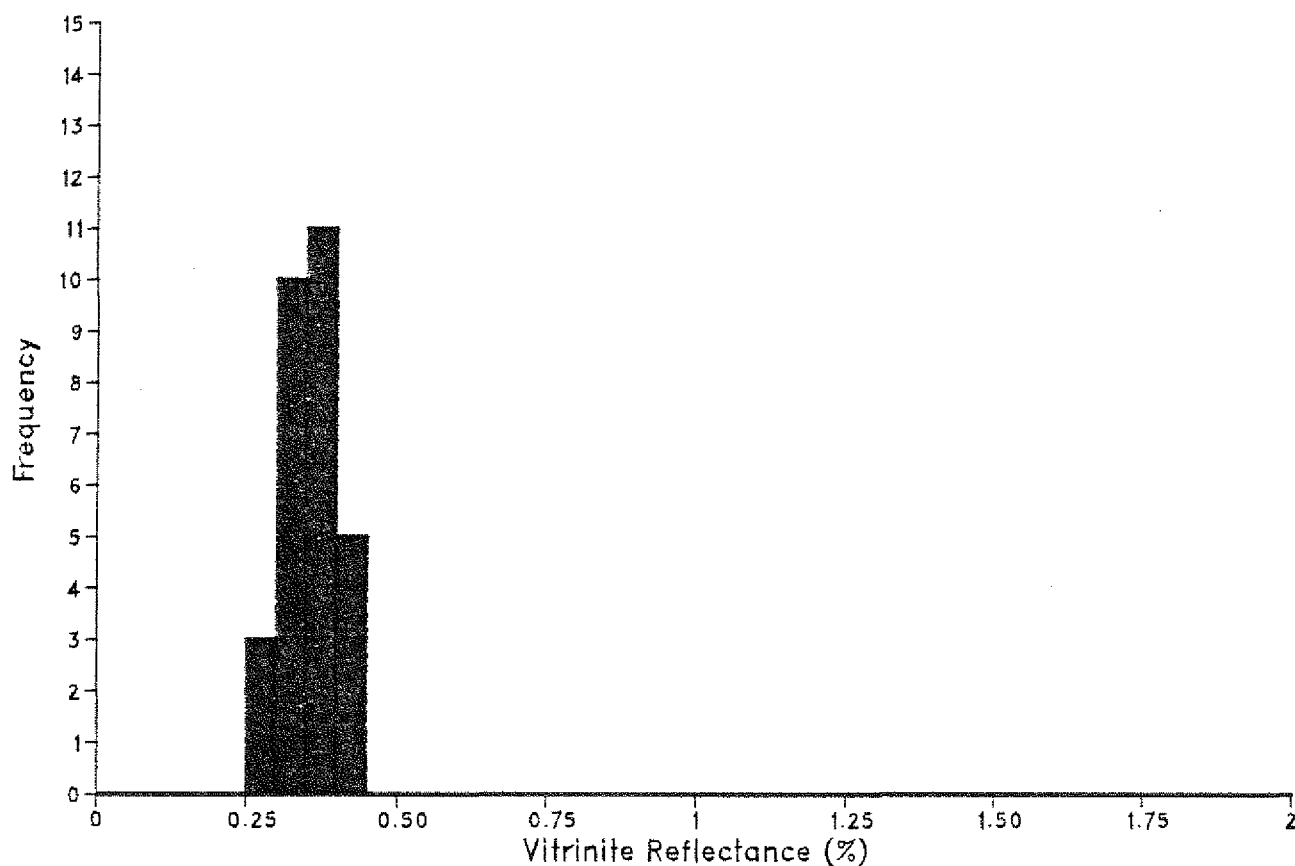
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.250 to 0.450):	0.36	0.04	20

Readings:

0.275	0.294	0.306	0.311	0.327	0.332	0.334	0.345	0.345	0.355
0.356	0.359	0.377	0.378	0.391	0.398	0.402	0.405	0.407	0.422

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2050.00(m)
Sample: 14-0b



Statistics:

Mean

St.Dev.

n

Indigenous Population (from 0.250 to 0.450):

0.36

0.04

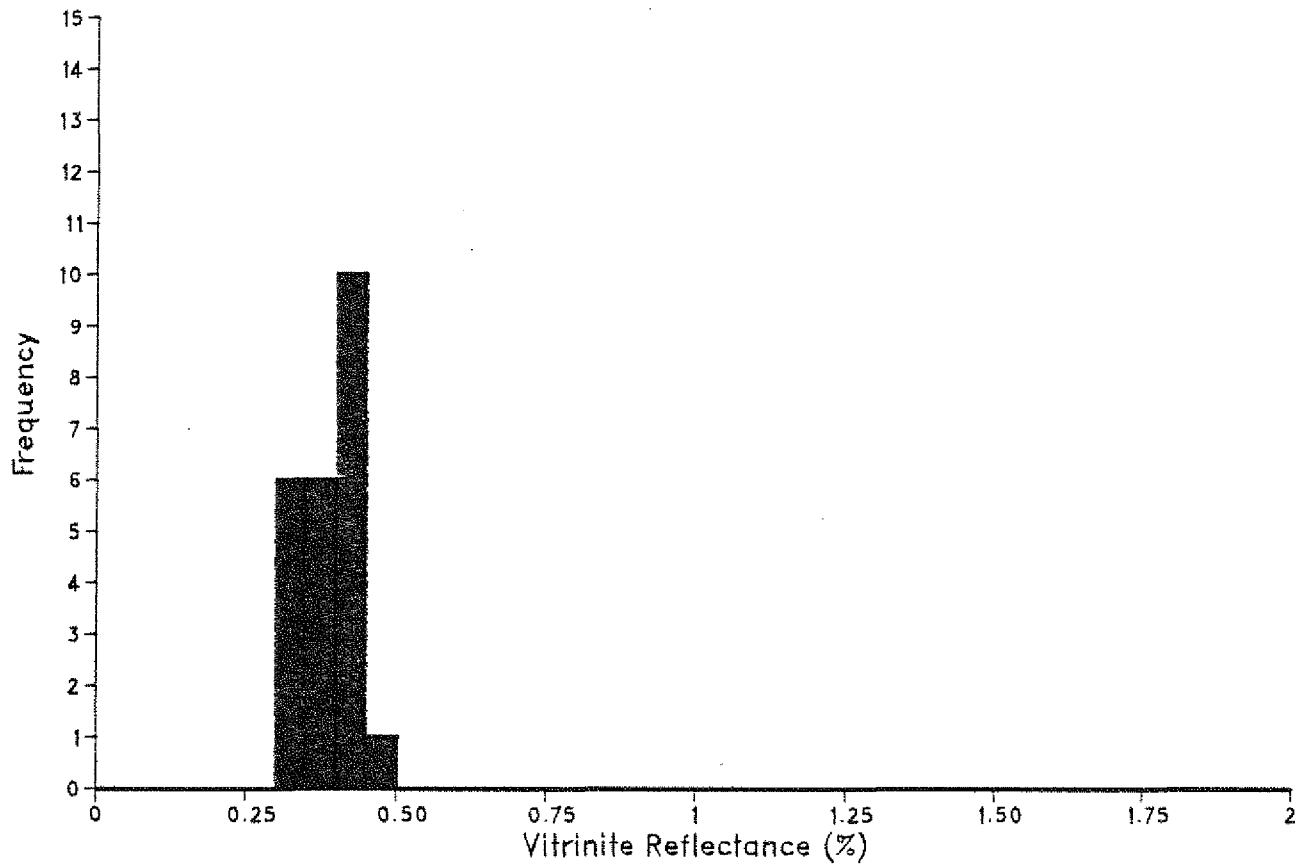
29

Readings:

0.282	0.283	0.284	0.309	0.311	0.320	0.326	0.330	0.332	0.338
0.339	0.340	0.343	0.350	0.351	0.356	0.359	0.366	0.367	0.372
0.373	0.376	0.381	0.395	0.407	0.410	0.423	0.437	0.442	

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2260.00(m)
Sample: 17- 0b

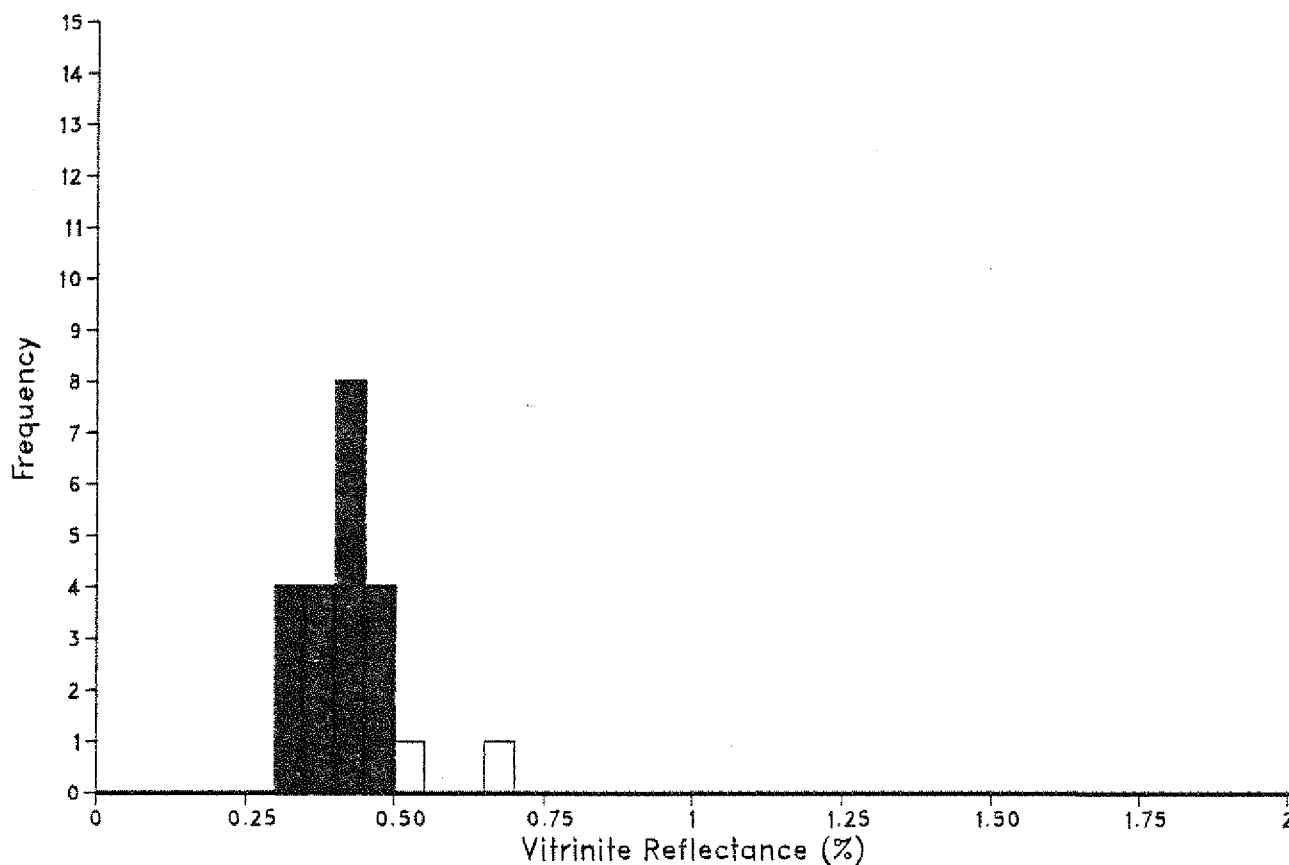


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.300 to 0.500):	0.38	0.05	23

Readings:									
0.306	0.307	0.310	0.312	0.317	0.338	0.354	0.360	0.363	0.366
0.373	0.378	0.403	0.404	0.406	0.409	0.418	0.422	0.431	0.432
0.444	0.445	0.457							

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2440.00(m)
Sample: 34- 0b



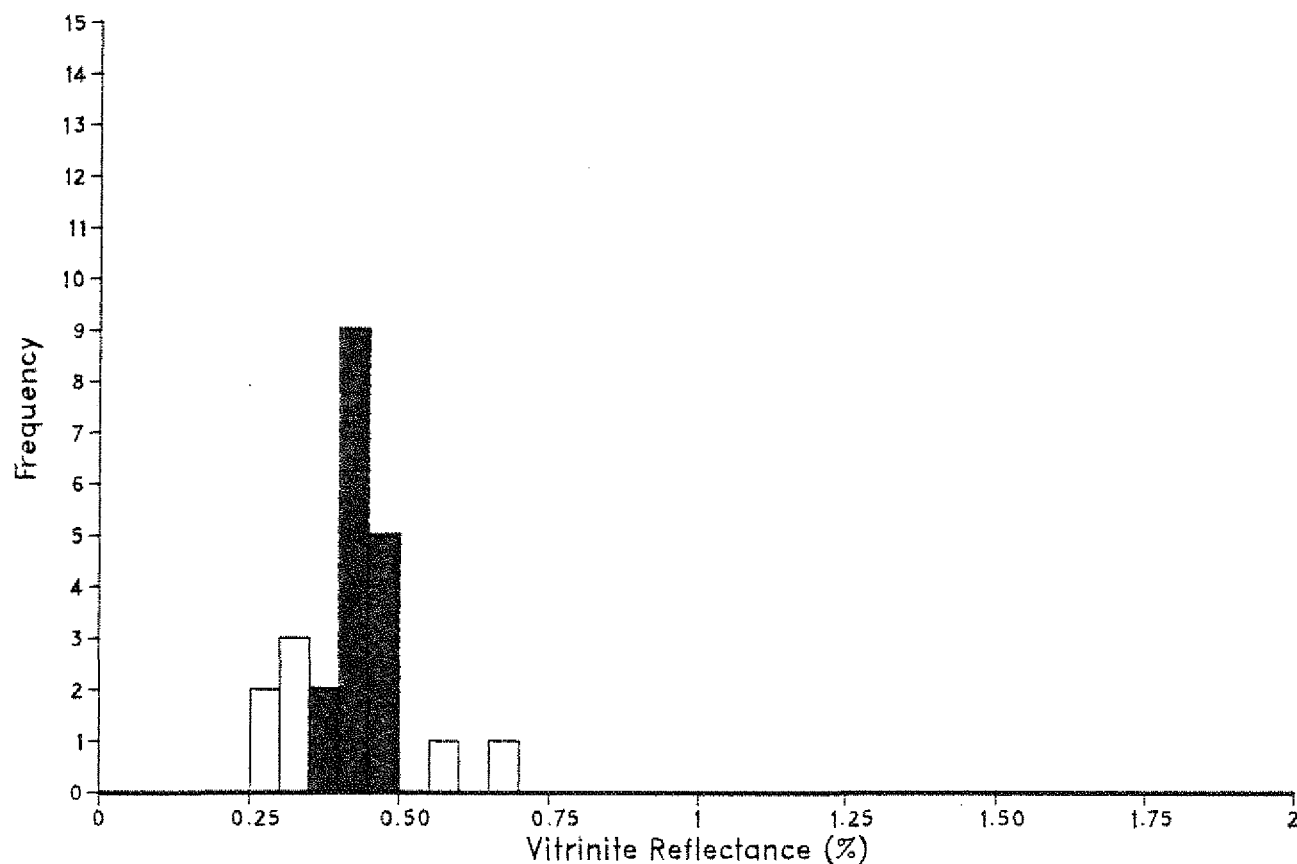
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.300 to 0.500):	0.40	0.05	20
Population Two (from 0.500 to 0.700):	0.61	0.09	2

Readings:

0.308	0.317	0.339	0.345	0.372	0.392	0.392	0.394	0.402	0.411
0.412	0.415	0.422	0.431	0.432	0.436	0.455	0.458	0.465	0.494
0.545	0.673								

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2620.00(m)
Sample: 54- 0b



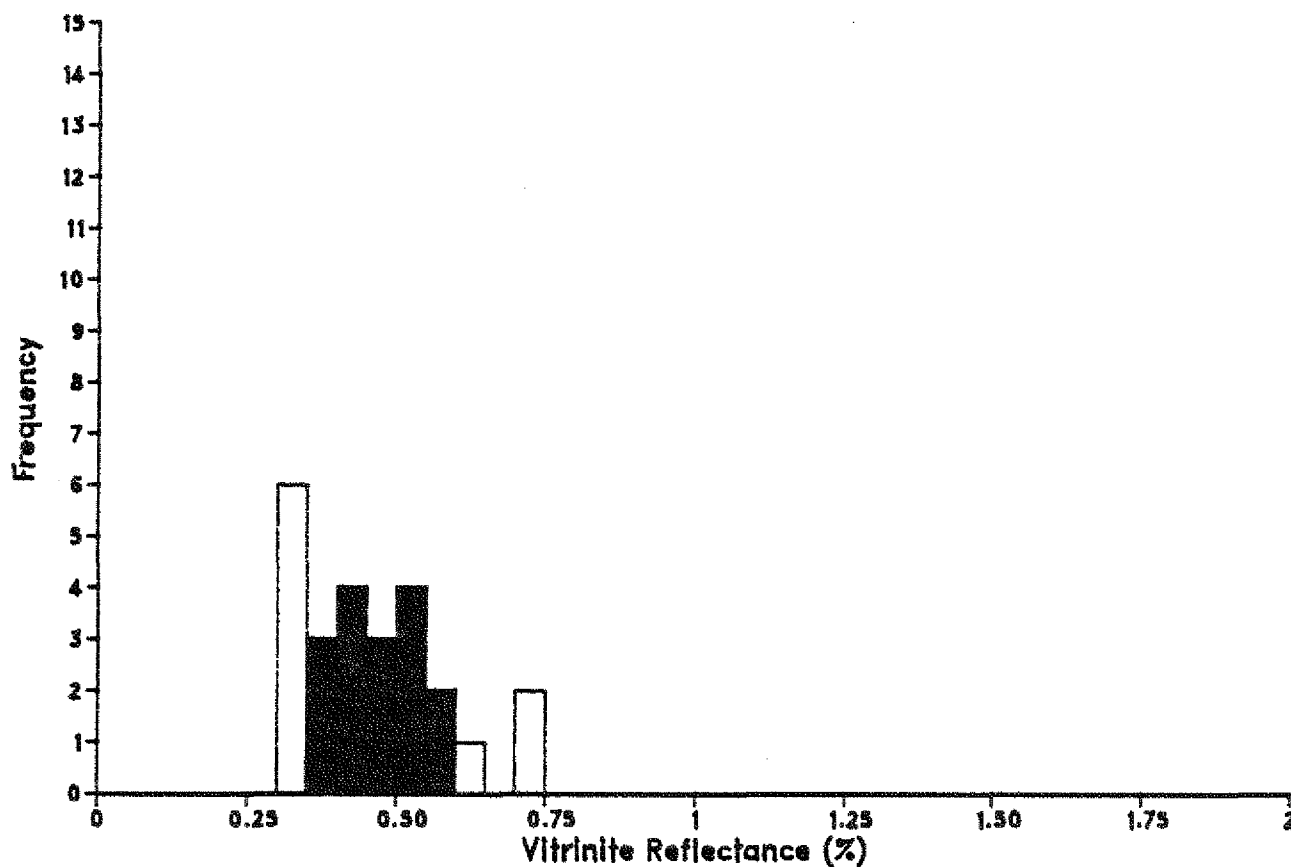
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.350 to 0.500):	0.43	0.03	16
Population Two (from 0.250 to 0.350):	0.31	0.03	5
Population Three (from 0.550 to 0.700):	0.62	0.09	2

Readings:

0.267	0.285	0.322	0.335	0.342	0.371	0.373	0.413	0.415	0.418
0.420	0.423	0.423	0.426	0.440	0.448	0.450	0.451	0.458	0.474
0.494	0.557	0.681							

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2790.00(m)
Sample: 71- 0b



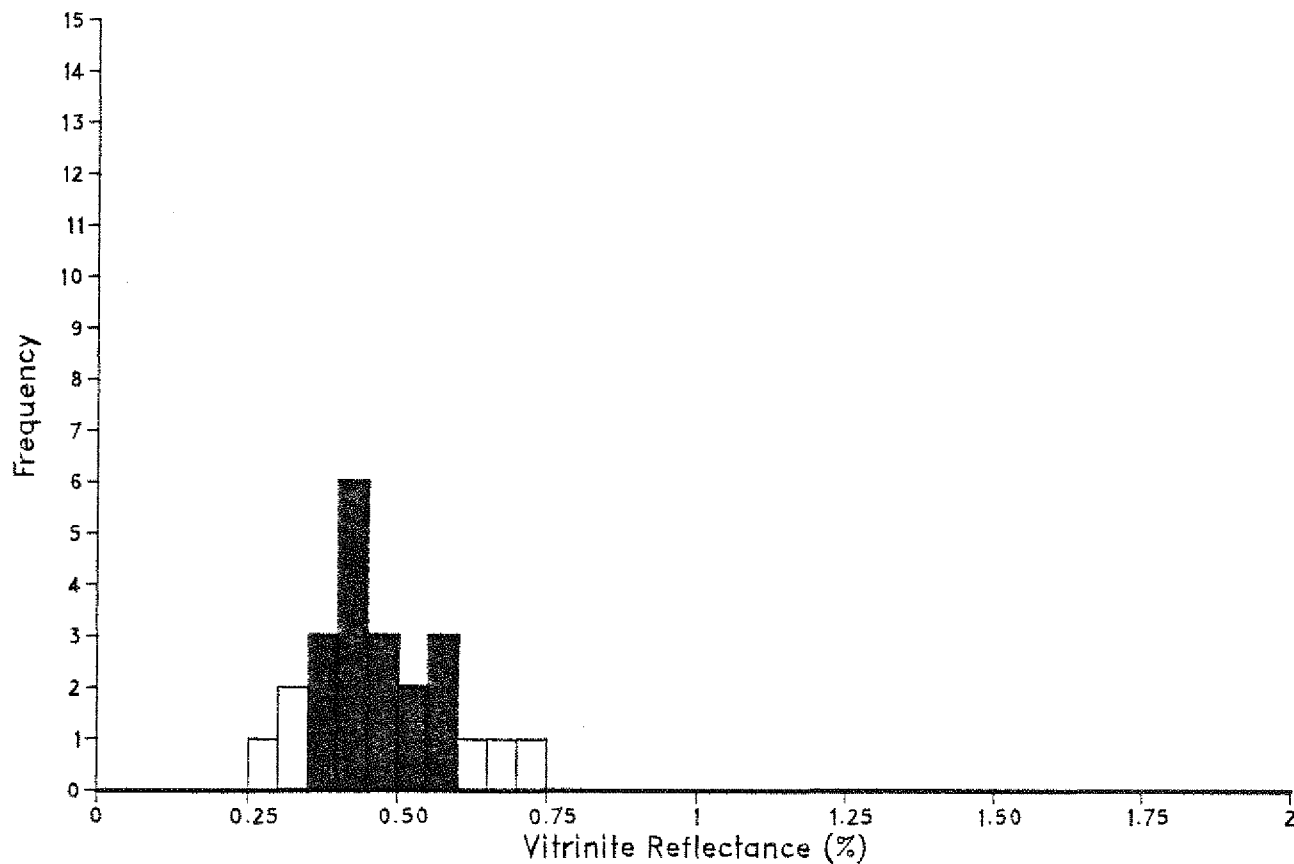
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.351 to 0.600):	0.47	0.07	16
Population Two (from 0.300 to 0.350):	0.33	0.01	7
Population Three (from 0.600 to 0.750):	0.68	0.06	3

Readings:

0.313	0.320	0.322	0.324	0.332	0.345	0.350	0.353	0.366	0.400
0.409	0.409	0.416	0.422	0.484	0.485	0.487	0.507	0.510	0.515
0.534	0.589	0.597	0.610	0.700	0.729				

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 2960.00(m)
Sample: 88-0b



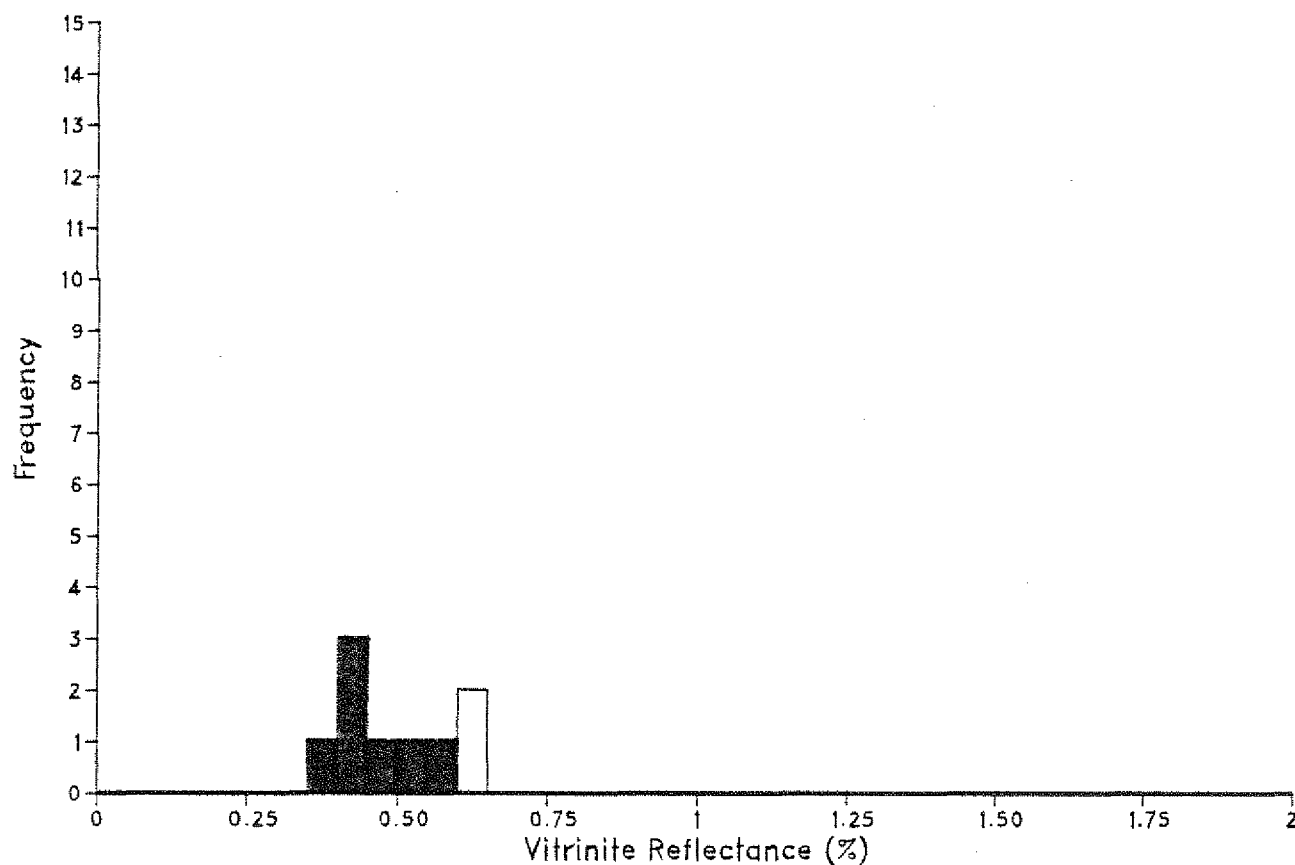
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.350 to 0.600):	0.46	0.07	17
Population Two (from 0.250 to 0.350):	0.31	0.02	3
Population Three (from 0.600 to 0.750):	0.68	0.05	3

Readings:

0.295	0.302	0.326	0.391	0.392	0.393	0.403	0.406	0.416	0.418
0.419	0.440	0.454	0.477	0.491	0.530	0.543	0.560	0.568	0.588
0.645	0.651	0.734							

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 3170.00(m)
Sample: 126- 0b



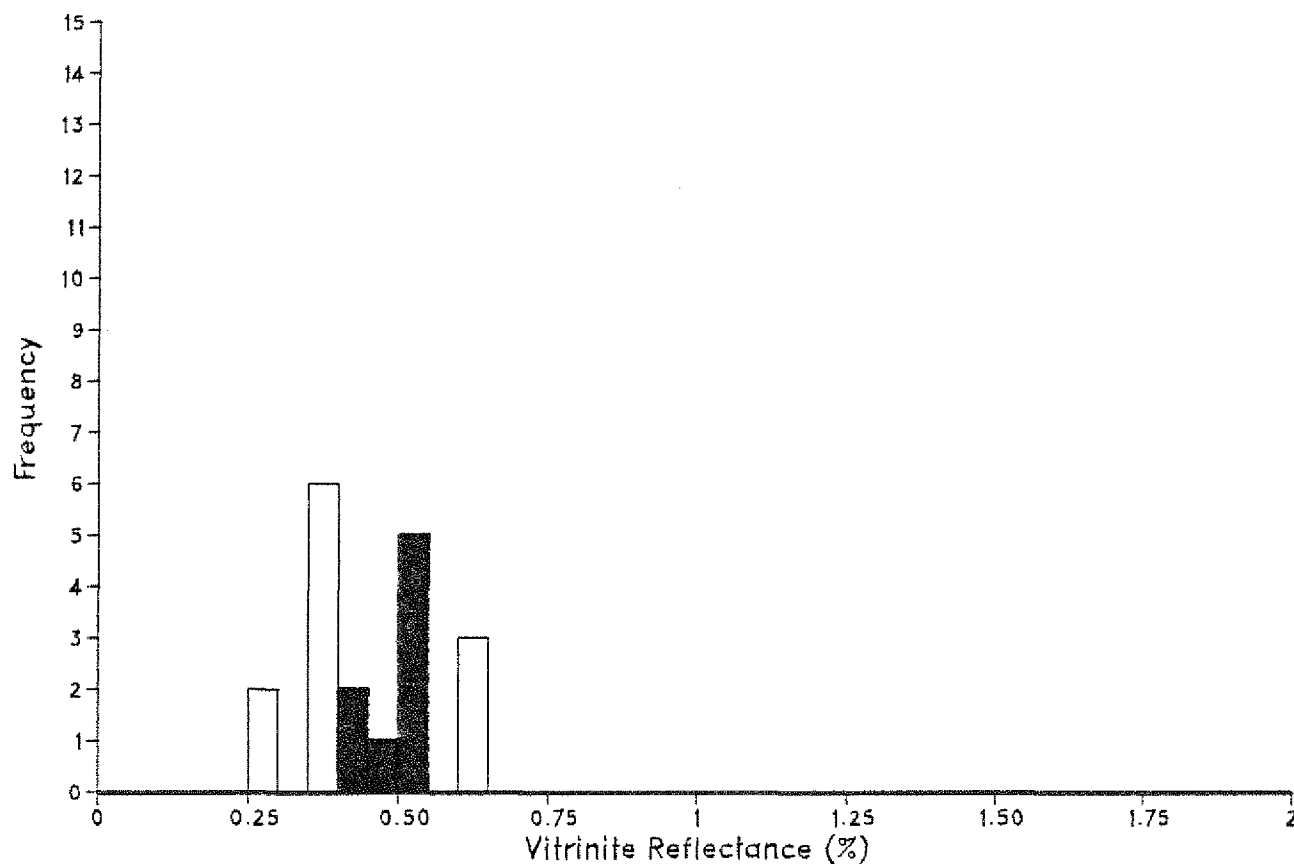
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.350 to 0.600):	0.46	0.07	7
Population Two (from 0.600 to 0.650):	0.61	0.02	2

Readings:

0.381 0.411 0.443 0.447 0.457 0.543 0.572 0.603 0.626

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 3540.00(m)
Sample: 190-0b

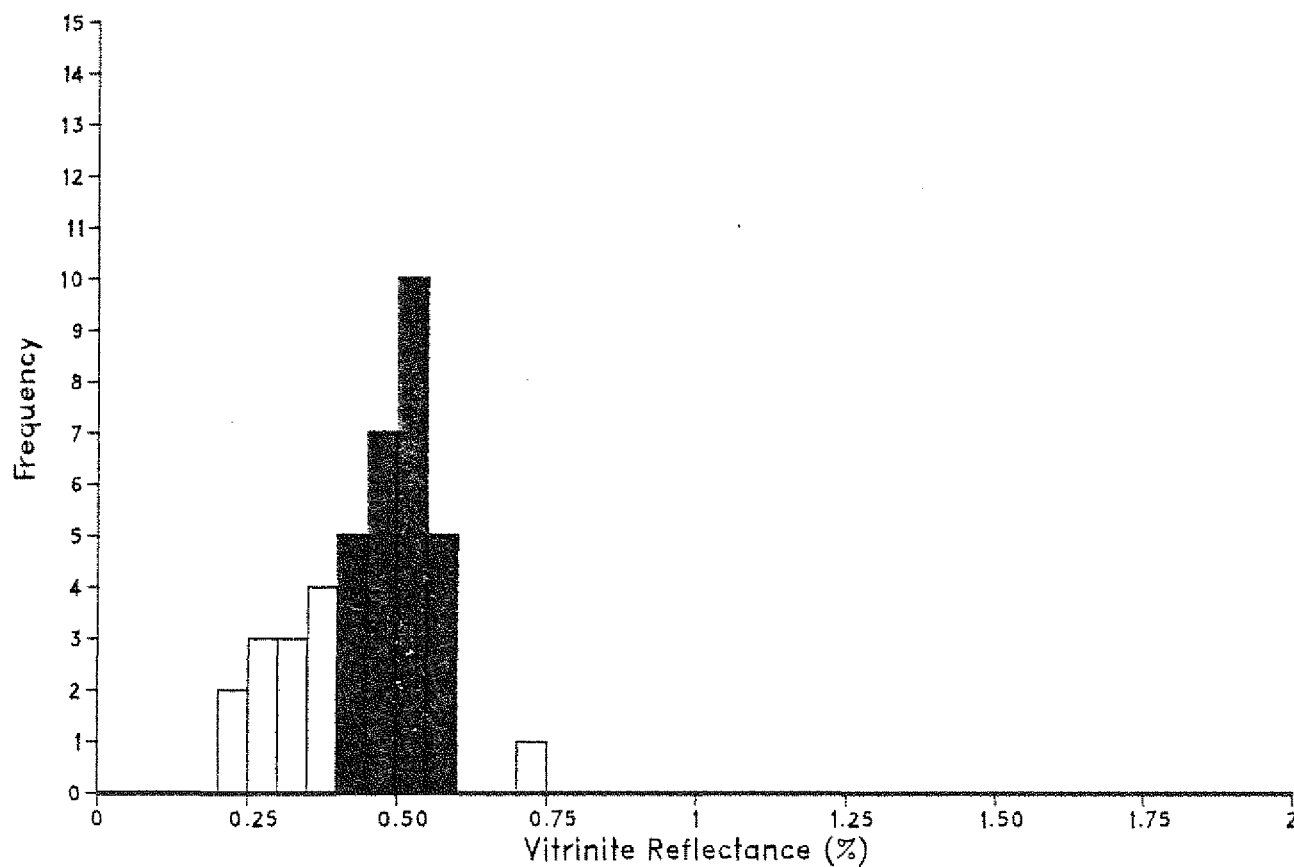


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.400 to 0.550):	0.49	0.04	8
Population Two (from 0.250 to 0.400):	0.35	0.04	8
Population Three (from 0.600 to 0.650):	0.62	0.00	3

Readings:									
0.281	0.288	0.350	0.357	0.358	0.375	0.377	0.386	0.437	0.444
0.458	0.505	0.505	0.514	0.538	0.548	0.614	0.620	0.629	

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 3740.00(m)
Sample: 231- 0b



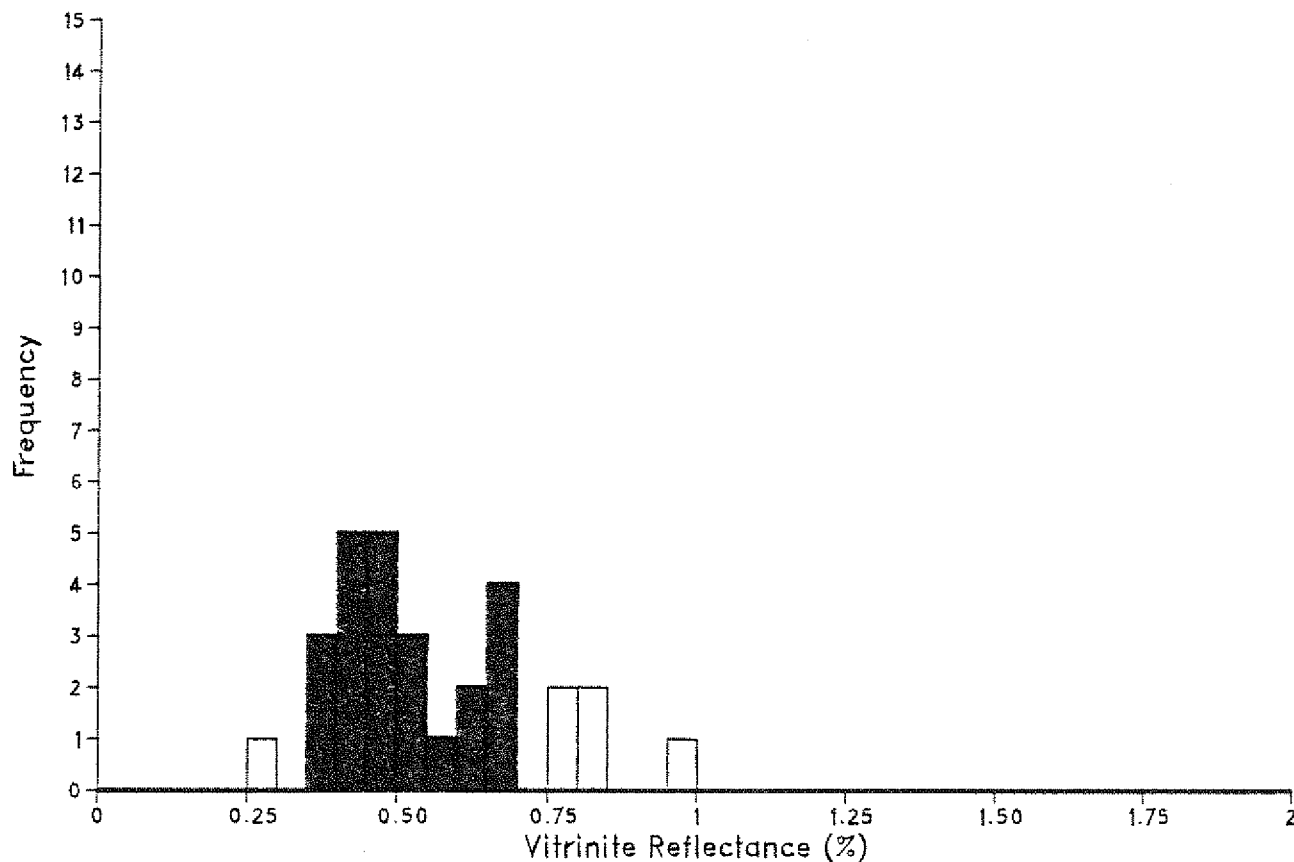
Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.400 to 0.600):	0.51	0.05	27
Population Two (from 0.200 to 0.400):	0.31	0.06	12
Population Three (from 0.700 to 0.750):	0.74	0.00	1

Readings:

0.218	0.243	0.252	0.299	0.300	0.301	0.312	0.337	0.357	0.360
0.387	0.388	0.420	0.423	0.425	0.431	0.435	0.458	0.459	0.467
0.475	0.485	0.498	0.498	0.504	0.510	0.513	0.517	0.519	0.532
0.547	0.549	0.550	0.550	0.553	0.576	0.577	0.585	0.595	0.735

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 3932.00(m)
Sample: 258- 0b

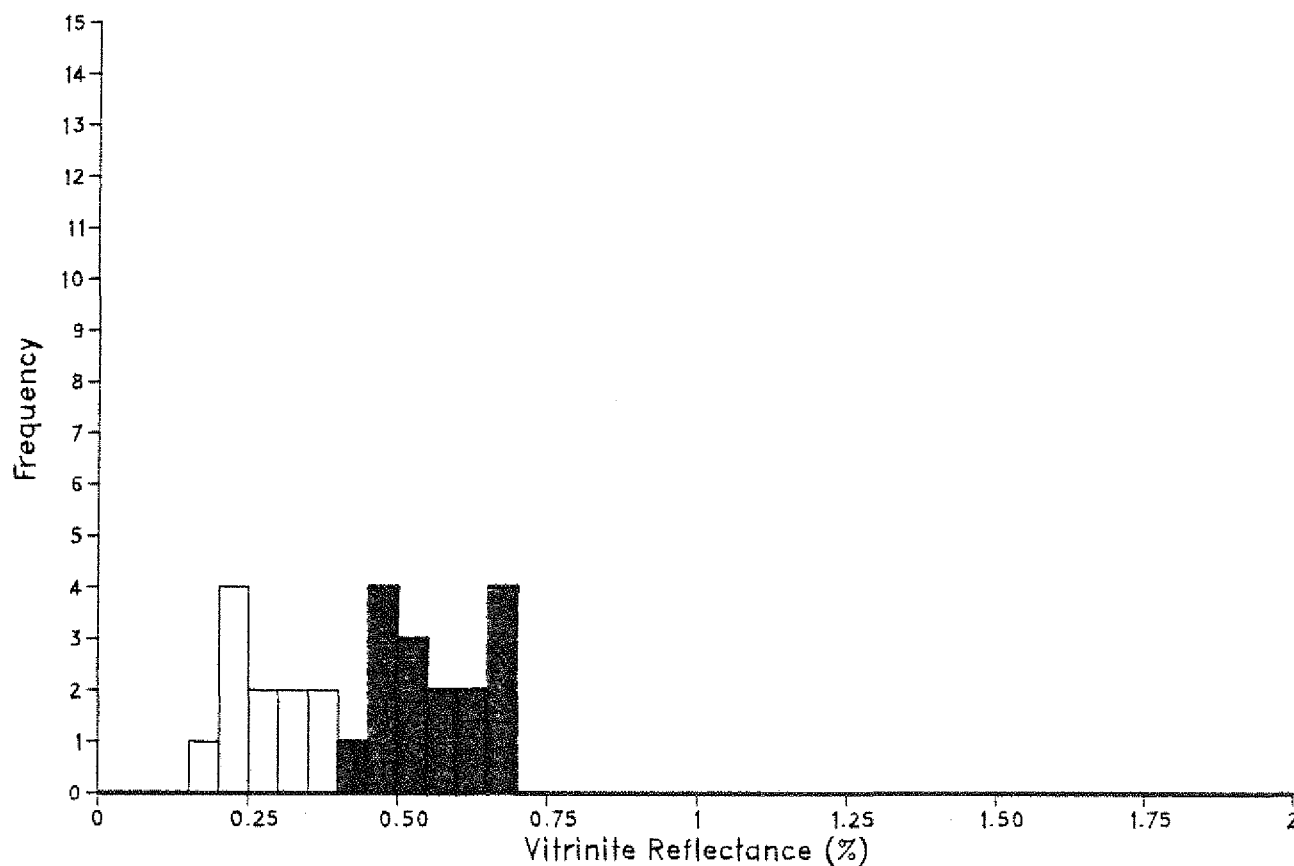


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.350 to 0.700):	0.51	0.10	23
Population Two (from 0.250 to 0.300):	0.30	0.00	1
Population Three (from 0.750 to 1.000):	0.83	0.09	5

Readings:									
0.295	0.370	0.389	0.392	0.416	0.420	0.422	0.434	0.444	0.450
0.451	0.456	0.481	0.488	0.503	0.522	0.536	0.555	0.622	0.631
0.652	0.654	0.667	0.668	0.754	0.798	0.807	0.812	0.995	

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 4082.00(m)
Sample: 283- 0b

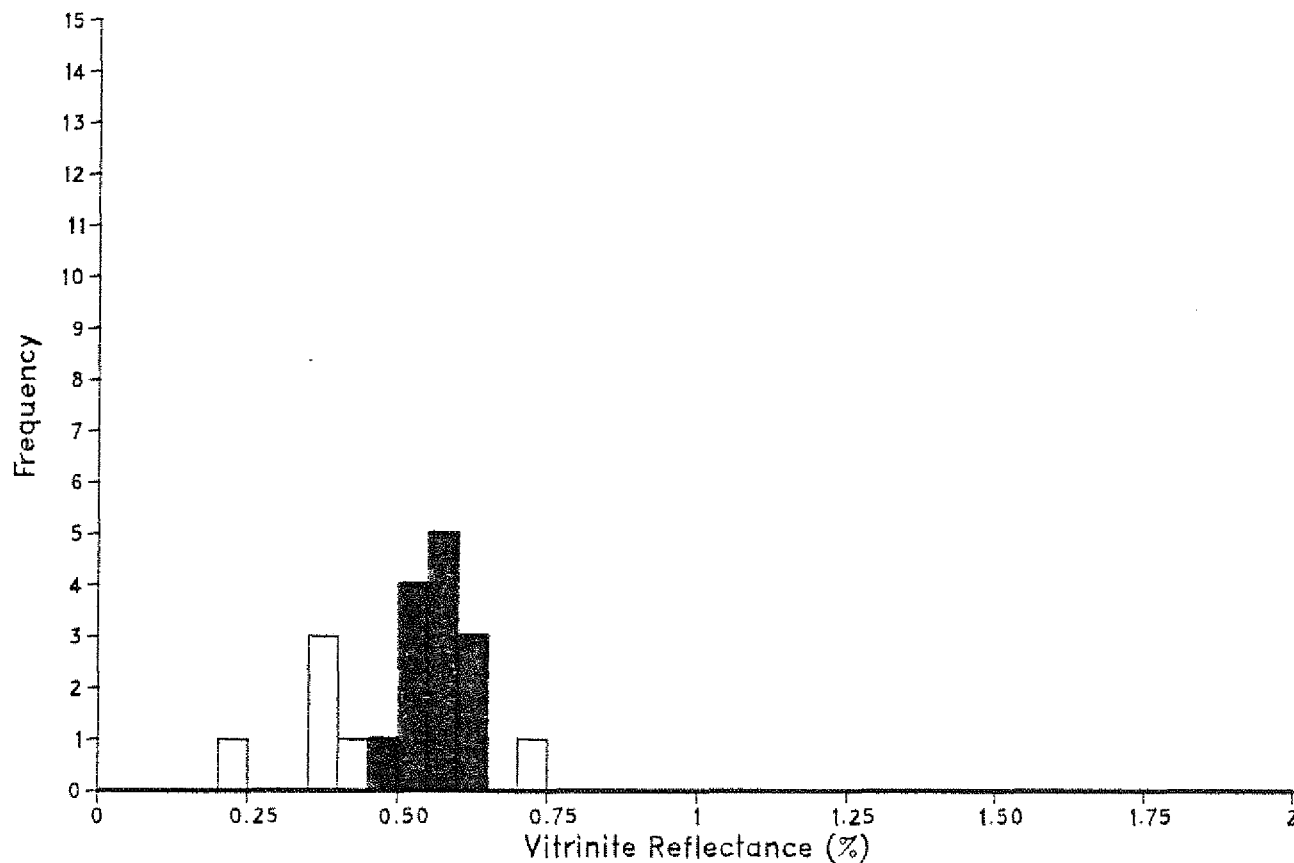


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.400 to 0.700):	0.56	0.08	16
Population Two (from 0.150 to 0.400):	0.27	0.06	11

Readings:									
0.198	0.206	0.209	0.228	0.230	0.253	0.258	0.321	0.333	0.356
0.365	0.404	0.468	0.486	0.493	0.499	0.515	0.536	0.536	0.555
0.563	0.627	0.649	0.655	0.657	0.658	0.661			

Vitrinite Reflectance Histogram

Well: NOCS 7/12-5
Depth: 4232.00(m)
Sample: 309-0b



Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.450 to 0.650):	0.57	0.05	13
Population Two (from 0.200 to 0.450):	0.36	0.09	5
Population Three (from 0.700 to 0.750):	0.73	0.00	1

Readings:									
0.211	0.368	0.392	0.394	0.431	0.460	0.503	0.528	0.535	0.538
0.551	0.584	0.593	0.597	0.600	0.610	0.633	0.637	0.729	