

RESULTS.

15-1. A GC-MS trace with the various peaks identified is included as Figure 1. Three isomers of dioctylphthalate are present.

15-2. The GC-MS trace (Figure 2) shows a mixed dialkyl phthalate. The most abundant components are a dioctylphthalate (MW 390) and an octyl-decyl-phthalate (MW 418). Minor amounts of decyl-undecyl (MW 432) and didecyl (MW 446) phthalates are also observed.

15-3. The GC-MS trace (Figure 3) shows a single isomer of dioctylphthalate (MW 390). This is almost certainly bis(2-ethylhexyl)phthalate. A much smaller amount of Santicizer 160 (benzyl butyl phthalate, MW 312) is also present in this sample.

15-4. The GC-MS trace (Figure 4) is rather complex; there appears to be a mixture of three separate plasticizers: (a) four principal isomers of dihexyl phthalate (MW 334), (b) one isomer of dioctylphthalate (MW 390), and (c) three principal isomers of dinonylphthalate (MW 418) which has some nonyl-decyl (MW 432) and didecyl (MW 446) impurity.

15-6. The GC-MS trace (Figure 5) shows one major isomer of dioctylphthalate (MW 390), plus a small amount of octyl-decyl phthalate (MW 418).

CONCLUSIONS.

1. All five wallcoverings contain volatile phthalate plasticizers.
2. The GC-MS runs give some indication of the relative volatility of the various phthalates (since the GC column used was of the "boiling point" variety--Dexsil 300). Thus, an approximate order of phthalate volatility would be: 15-4 > 15-3 = 15-6 > 15-1 > 15-2.

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Log Book Reference: Service Book 805, pp. 25-30; MS4815.

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REFERENCES.

1. R. P. Lattimer, "Volatiles Released During Heating of a PVC Wallcovering and Coatings," Project 6IF10D2, December 18, 1985.
2. R. P. Lattimer, "Further Studies of Volatiles Released During Heating of a PVC Wallcovering," Project 6IF10D2, January 20, 1986.

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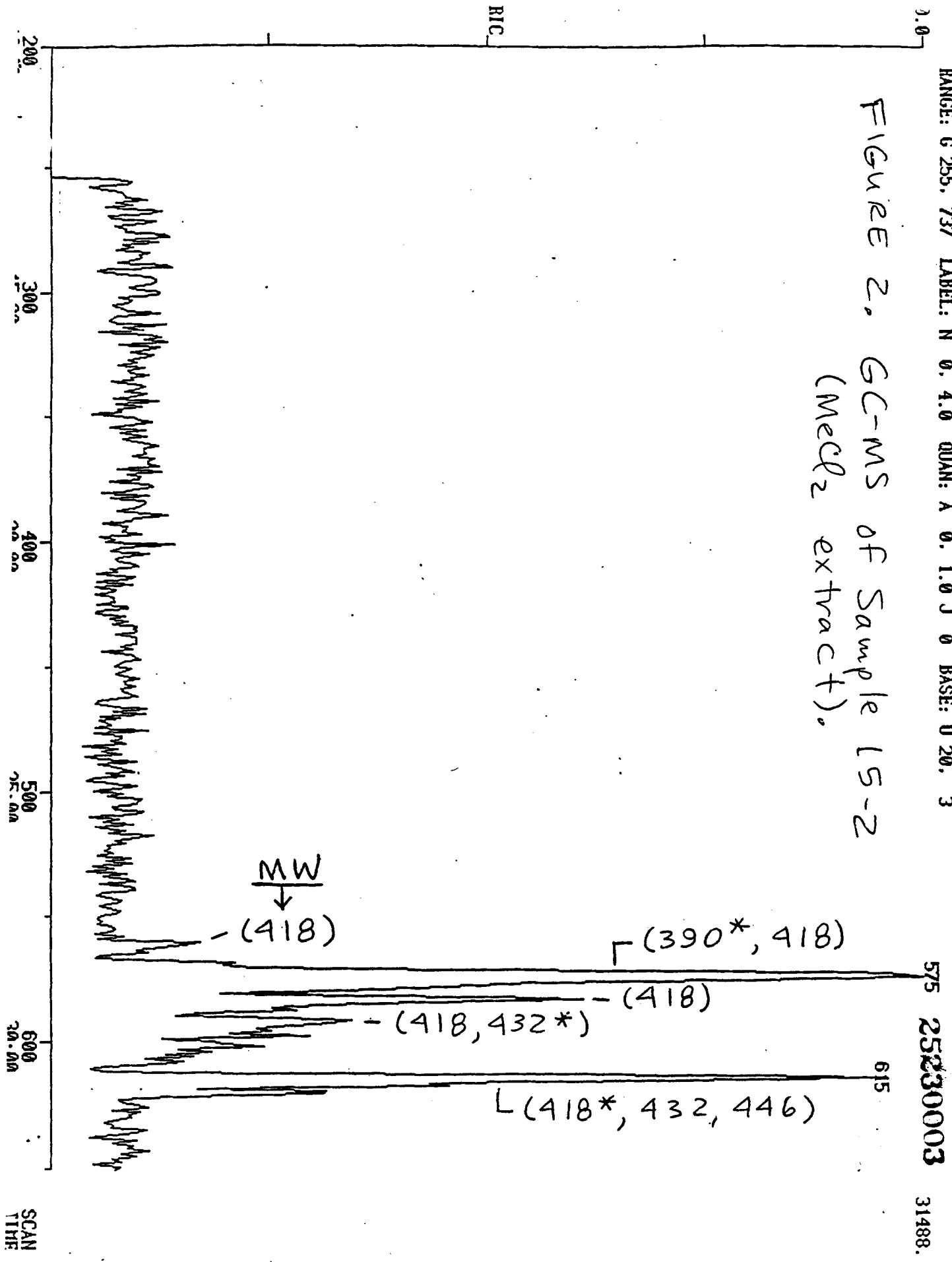
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FIGURE 2. GC-MS of Sample 15-2
(Methyl extract).



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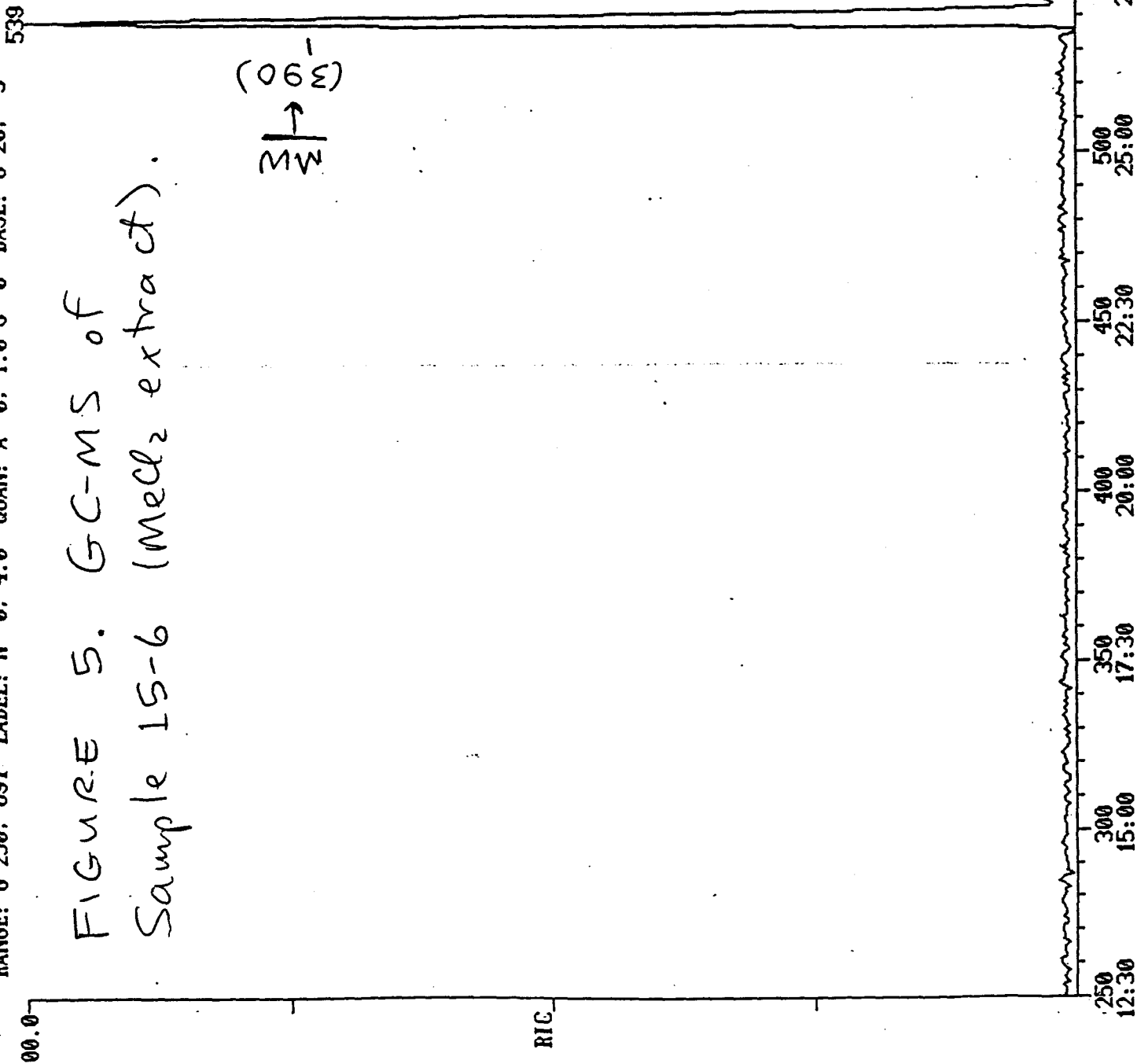
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CONDS.:

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FIGURE 5. GC-MS of
Sample 15-6 (MeCl₂ extract).



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