Interoffice Memo

To: L. A. Lyerly, C. B. Simpson, B. T. Hodge, R. A. Heckman
From: Bert M. Gordon
Date: March 23, 1989
Subject: Nicotine Analyses

As you are aware, I have been working (with Brent Simpson) on the development of methods to determine nicotine in smoke. Basically there are three different methods: 1) an updated replacement for the present FTC determination of nicotine in smoke; 2) a method to measure ultra low levels of nicotine while simultaneously determining high levels of glycerol in a PREMIER type product; and 3) the determination of trace levels of nicotine in tobacco burning "no nicotine" products. Included in this memo is data on the present state of these methods. This is a preamble to a meeting I want to schedule in the near future.

Please review the attached chromatograms(Figures 1-6). The peaks are identified as follows:

Retention Time (minutes)	Component
1.96	Nicotine
2.26	Quinoline (I.S.)
3.31	n-C_{22} (I.S.)
4.7	Glycerol
0.90	Ethanol (I.S. for water)
0.5	Water

The Figures are:

Figure 1. Low Level Nicotine Standard, Premier configuration
Nicotine = 0.0016mg/ml
Glycerol = 3.0mg/ml
Figure 2. Low Level Nicotine Premier Sample
n-C_{22} not present
Figure 3. FTC Nicotine Determination Standard
Nicotine = 0.4mg/ml
Figure 4. FTC Nicotine Determination Standard
Nicotine = 0.04mg/ml
Figure 5. FTC Nicotine Determination Sample
n-C_{22} not present
Figure 6. FTC Water Determination