

TO: Mr. J. A. Scherr
FROM: D. C. Watson
SUBJECT: Menthol Analyses

May 27, 1969

E. L. Dillen
MAY 28 1969

In regard to your memo of May 16, 1969 (Mr. L. L. Long)
we have compiled a more comprehensive study of the data involved.

The graphs used in the memo are correct for the data.
They are, however, misleading as they are taken from CI reports
which are the averages of three months values for a given brand.
A more realistic plot of this data is shown in Graph I. It
shows a plot of Menthol Total vs Menthol Delivered for the
four brands over the past 12 months.

An even more representative picture is shown in Graphs II
and III. Here the Menthol Total is plotted vs Menthol Delivered
for the past 56 months for Alpine (AL6) and Salem (SL6). Note
that even though these samples were made and analyzed over a
4 1/2 year period, a general linear relationship exists that
falls within the analytical error limits as defined in the
methods manual.

A third method of viewing the data is shown in Graph IV.
Here the menthol delivered is plotted by individual CI pickup
for October 1964 through May 1969. The trend for increasing
menthol deliveries during July 1968 - January 1969 is particu-
larly evident in Alpine (AL6) and Kool (KL6). The trend is less
evident for Salem (SL6) and for Marlboro Green (MR6u) occurs
during July 1968 to October 1968. There is no significant
increase in the delivery of a specially made and equilibrated
control (Menthol Monitor).

Table I demonstrated the precision of the menthol in smoke
procedure. The average standard deviation at the 2 sigma level
is calculated by month for the period July 1968 through May 1969.
Data is presented for experimental cigarettes (from normal requests),
for commercial brands (SL6, AL6, and KL6), and for the Menthol
Monitor (where enough data exists for valid calculations).

In all cases the deviation is equal to or less for the
experimental cigarettes than for commercial cigarettes. This
points out the need for care in comparisons of data from unrelated
experiments. CI values are aimed at determining brand averages
from different places of manufacture and detecting changes in
the brands. Experimental cigarettes are more closely controlled
as to matrix and equilibration.

1001888394