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Release Letter No. 910
Letter 5/3/49 to E. S. Nickerson

CC: Mr. J. W. Iliff, Lab.
Mr. C. R. E. Markle, "
Mr. Stuart Graves, "
Mr. W. F. Singleton, "
Mr. A. C. Krause, "

"INDEXED"
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Philadelphia Laboratory
May 18, 1949

MEMORANDUM REPORT NO. M-247:

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FIELD TEST #1236 - "DULUX" SCREEN ENAMEL
RESIDENCE OF MR. E. S. NICKERSON

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"Dulux" Screen Enamel, 28-666, was recommended for field trial in Release Letter No. 910 dated October 24, 1945 and for full sale in Release Letter No. 910-A on October 29, 1947. However, in April 1948 the laboratory recommended the withdrawal of the release of this product because of the severe staining obtained on Mr. E. S. Nickerson's screened porch in Wilmington even though it had been properly applied by experienced men.

On the basis of recent test fence exposure results it was decided to field test a higher zinc dust content screen enamel. During the period May 2 to May 12, 1949 the product was applied on Mr. Nickerson's porch. Upon removing the molding on the screen it became evident that a great deal of the staining on this porch was iron staining caused by the corrosion of tin-coated iron staples which had been used to tack down the copper screens. These staples were spaced less than two inches apart over the entire area of the porch and a sizeable amount of rust had collected under the moldings over a period of years. The screens are all mill-made and therefore it was not suspected that iron tacks would be used in connection with copper screening. (Painting of the copper screening behind the molding had been demonstrated by a previous test to be unnecessary). Most of the staples at the bottom edge of the screens were rusted through completely. The screening up near the eaves was protected from the weather and the staples were in relatively good condition.

At this point it became obvious that in order to carry out a proper field test it would be necessary to remove the iron staples. It was decided to replace most of the old screening with new wire since the old wire had previously been coated three times and was fairly well plugged up over 75% of the area.

Mr. Krause and the writer accomplished the following work on this field test. Please refer to the attached diagram for details.

1. Removed all moldings and replaced iron brads with brass where necessary.

2. Removed 95% of the old copper screening and replaced with either new copper or aluminum screening as required for the test.

3. Removed all of the iron staples except as noted.

4. Coated inset of frames with zinc dust enamel to cover iron staples which had broken off in the wood.

5. Coated the inside edge of all moldings.

6. Repainted all the frames with 301-875, #40 Outside White with the exception of the four pillars and facings on the side of the porch which we coated with Trim & Trellis White, P-87-P-14732.

It was necessary to practically disassemble most of the sections of the porch in order to perform the work.

It should be noted that after a reasonable period of exposure we can expect staining on sections B, E, F, and G since these sections contain either new or old iron tacks for purposes of the test.

At the completion of the test Mr. Krause commented that the control 28-666 had better application properties than P-28-R-28577 probably because of a lower zinc dust content. The writer observed that both enamels covered better over weathered screening than over new copper or aluminum screening which already is protected with a clear finish. It may be necessary to cut down somewhat on the amount of zinc dust in P-28-R-28577 in order to improve the application properties.

The following table corresponds to the figures in the attached diagram:

<u>Code</u>	<u>Screen</u>	<u>Tacks</u>	<u>Behind Screen</u>	<u>Behind Molding</u>	<u>Enamel</u>
A	New Cu	Cu	No	No	P-28-R-28577
B	New Cu	Fe	No	No	P-28-R-28577
B ₁	New Cu	Fe	No	No	28-666
C	1 Yr. Old Cu	Cu	No	Yes	P-28-R-28577
D	New Cu	Cu	Yes	Yes	P-28-R-28577
D ₁	New Cu	Cu	Yes	Yes	28-666
E	Old Cu	Fe	No	Yes	P-28-R-28577
F	Old Cu	Fe	No	Yes	(P-28-R-28577-bottom only)
-	-	Fe	No	No	P-28-R-28577-side & top
G	Old Cu	Fe	No	No	P-28-R-28577
H	Alum.	Al	Yes	Yes	P-28-R-28577
I	Alum.	Al	Yes	Yes	28-666

Samples of the stain have been collected and will be analyzed for iron and copper content.

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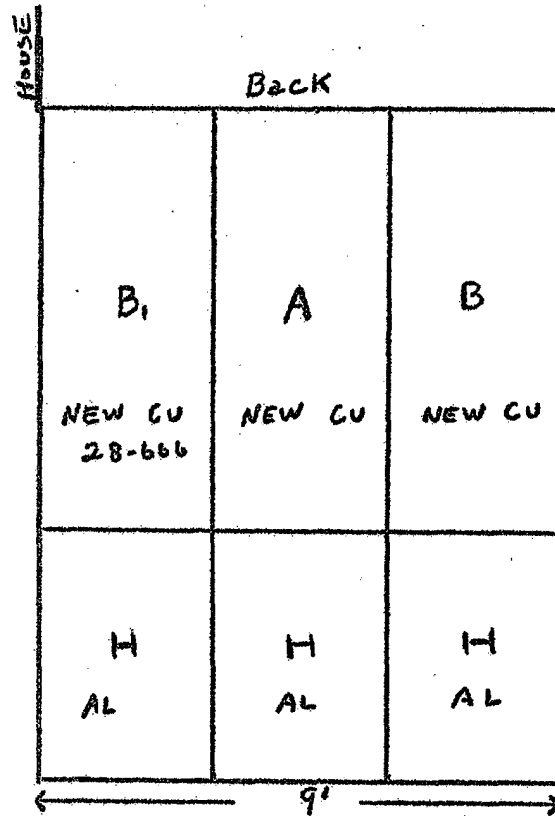
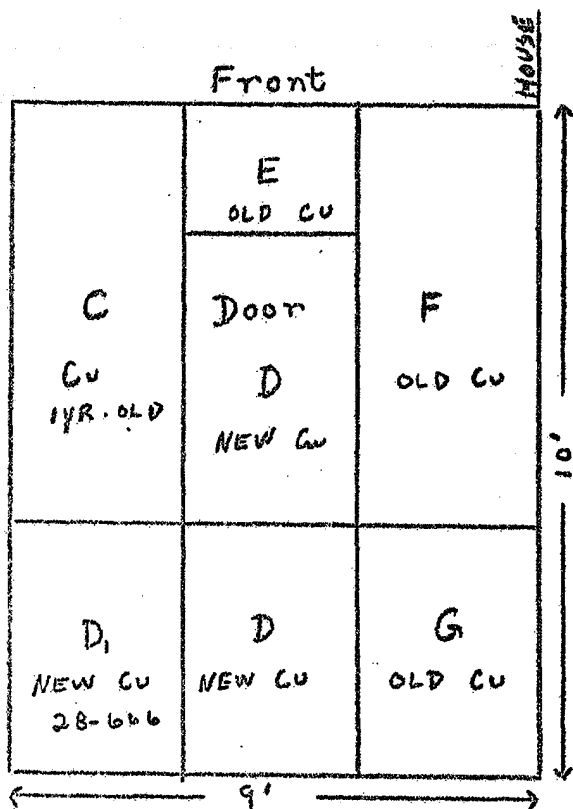
R. M. Kirkpatrick

R. M. KIRKPATRICK

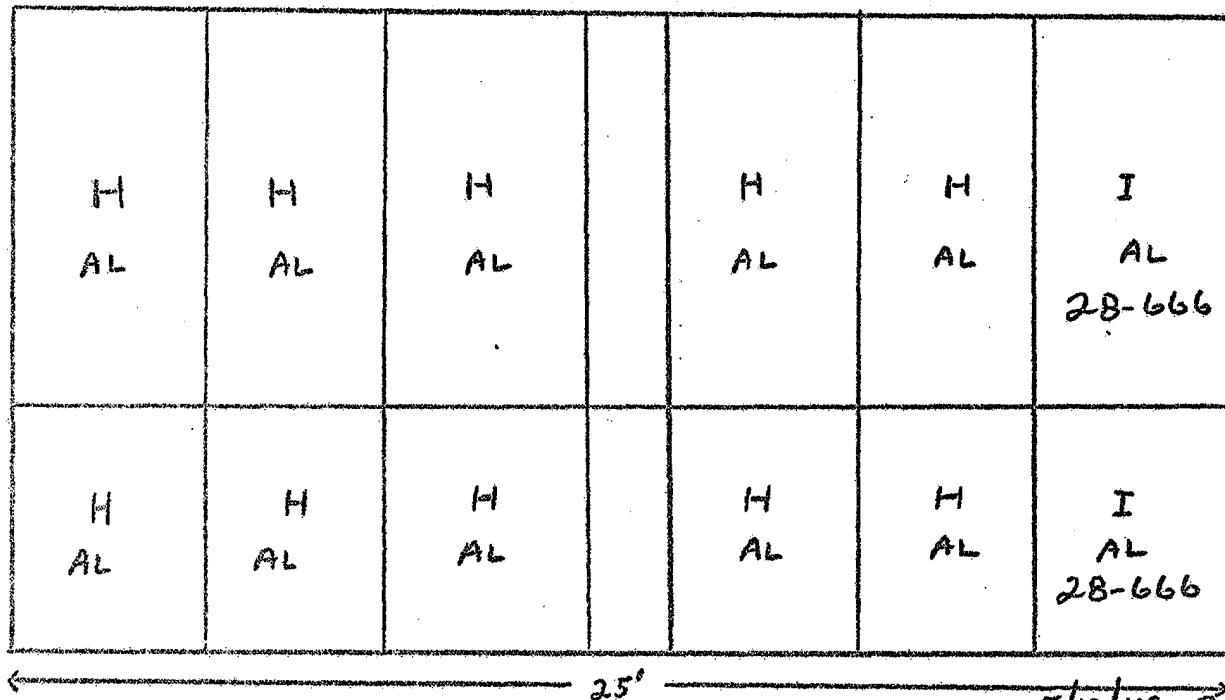
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No. M-247

Porch - 957 Centre Road, Wilmington



SIDE 1



5/19/49 RMK