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June 16, 1945.

R E P O R T

of the

ORE DRESSING AND METALLURGICAL LABORATORIES.

Investigation No. 1892.

Hydrobromic Acid Neutralization By Two
Unknown Oils (Specification C-28-34).

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Background:

On June 6, 1945, a telephoned request was received from W/C J. M. Macoun, of the Directorate of Aeronautical Inspection, Department of National Defence for Air, Ottawa, Ontario, to test two unknown oils, labelled "A" and "B", for hydrobromic acid neutralization, using a modification of a procedure described in Specification C-28-34.

Tests Performed:

Steel test panels, 2 inches by 4 inches in size, were sandblasted and dipped in a 0.1 per cent hydrobromic acid solution for 30 seconds. The excess solution at the bottom of the panels was removed with a blotter. The panels then were moved back and forth in the oil ("A" or "B") a number of times. Finally they were suspended in the air for 4 hours. At the end of that time the oils were removed from the panels with petroleum ether. The panels were then examined for signs of corrosion.

Result -

The panels which had been treated in oil "A" showed no signs of corrosion. Those which had been treated in oil "B" were badly corroded.

Remarks:

1. The above method of testing for hydrobromic acid neutralization was much shorter, much less complicated, and gave more definite results than the one described in Specification C-27-587. Judging by these tests, an oil which is capable of neutralizing hydrobromic acid will give a satisfactory result when tested by this procedure. It is recognized that the oils tested in these experiments were unknown and may not have had the same properties as the corrosion-preventive compounds ordinarily tested under Specification C-27-587. However, it is suggested that the advisability of further investigation along this line be considered.

2. A letter on the subject of hydrobromic acid neutralization tests has just been received from the U.S. Navy Yard, Philadelphia, Pa. Among other things it was suggested that a special oil be used in making the hydrobromic acid

(Remarks, cont'd) -

emulsion and that the panels be given a special cleaning before dipping them in the emulsion. These points will be investigated at the earliest opportunity.

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