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J. H. C.

NEWARK, NEW JERSEY
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CONFIDENTIAL

DR. J. H. COOPER (3)

A.S.

A-IIC-261 AJS - 65%
 OJCK - 10%
 EFK - 20%

AQUEOUS "HF" MILLING OF CPC

As the result of a conference with Management, at which time the merits of products made by this process were thoroughly discussed, a decision has been rendered to proceed rapidly on the procurement and operation of a 100 gal. pilot plant "HF" unit to be located at Newark. It is anticipated that the unit will be available for operation early in the Fall.

Considerable time has been spent with representatives of the Engineering Research Laboratories regarding means of separating the borax from the ground pigment. This included a visit to the laboratories of the Dorr Co. at Westport, Conn. It was decided that a rake classifier has a very good chance of accomplishing the desired separation and it has been decided to purchase a 14" classifier available from the Dorr Co. for use in conjunction with the other equipment noted above.

One semi-works charge was processed during the month using CPC Green Crude with 5% Blancol and designed to be finished as dispersed paste.

Lab. finished controls indicate that the brushout strength of GT-689-P was reached in about 1/2 hour, but the product was dull at this point. Subsequent samples were strong and intense with the maximum strength at about 2 hours. At a dilution of about 3 times, the borax settled very well. The top layer was decanted and the remainder filtered readily.

Lab. studies on the extraction of the decanted slurry suggest that the best results are obtained from simple acid extraction and filtration. However, filtration is quite slow; but it can be markedly improved by the addition of some amine salts, notably diphenyl guanidine (DPG) hydrochloride. This results in some loss of strength, but the product obtained was still better than standard and deserves further attention.

As a by-product of this study it has been possible to completely flocculate a WD lake with DPG so that it is readily filterable. When dried, such products have shown very poor strength, but the properties of the paste, have not been investigated.