CONFIDENTIAL

JUN 2-1950

Newark, New Jersey
June 2, 1950

J. H. C.

JUN 5 1950

D.B.K.

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NEWARK

H.F.MILLING A-IIC-261,AJS-40%

During May four HF charges were made in the semi-works on Blue LB and one on Violet 4RN. The Violet has not yet been evaluated. One charge of Blue LB was made with a new drill press with two plain discs at about 700 RPM and gave strength development essentially equal to the laboratory, with the strength of standard attained in about 1 hour and full strength in 2 hours. The remaining three grinds were made with the Cowles mixer using an 8 inch disc at varying speeds. At about 700 RPM, the product was still weaker than standard after 3 hours. However, when the speed was increased to about 1100 RPM, very much better results were obtained and standard strength was reached in 1-1/2 hours. A further speed increase to about 1500 RPM resulted in standard strength in about 1 hour and somewhat better strength than the previous grind at all levels. Approximate power measurements with an ammeter indicate that the strength development may be an approximate function of the power applied.

The Cowles Dissolver has been demonstrated as a versatile and useful tool for HF grinding and it is proposed to purchase the device in order to make additional equipment available for possible studies of continuous operation.

Laboratory studies on variation of the borax-pigment ratio indicate that inferior strength results when the amount of borax is reduced significantly. Two grinds were made with 10% acetone in one case and water in the other case, both showing promise that a process with little or no acetone can be worked out. The water grind made with Blancol gave a product of about 80 to 85% of standard strength. Further efforts in this line will be continued.

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AJS:RMK

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