

CONFIDENTIAL

NEWARK, NEW JERSEY

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J.H.C.

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AQUEOUS GRINDING OF CPC

FOR PERIOD DECEMBER 15, 1951 to JANUARY 11, 1952.

A-II-C-261 - AJS 75%; OJCK 25%

Three more charges of dispersed green for GT-675-P have been made in the 100 gallon Cowles unit during this period, making a total of 9 charges in this unit. The products continue to be of uniformly high strength when tested by the standard brushout method which uses 0.5 gm. dry color to 20 gms. TiO₂. However, when the test is made with 4 gms. color to 16 gms. TiO₂, the new colors appear weak and dull. When tested in emulsion paints, the peculiar masstone effect seems to appear as transparency. Recent evidence indicates that the Heliogen Green pastes also exhibit the light masstone effects and our new colors resemble the Heliogen pastes in this respect while being much stronger.

One attempt to obtain high solid contents in the borax sludge by adding a short filter bed to the rake classifier was not successful due to blinding of the filter cloth. It is proposed to try other filter media for this purpose.

During this period 7 charges of CPC-LB were processed in the #14 building Cowles unit. Two of these used 5% Blancol but less borax, one using 10 lbs. CPC with 50 lbs. Borax and the other using 15 lbs. CPC with 45 lbs. Borax. The over-all results of these charges have been very encouraging. The strength is very much above that of BT-321-P (more or less 30% stronger); there is considerable intensity but some greenness. The same light masstone effect observed with the green is also found with the blue but again the new products resemble Heliogen Blue paste more closely than they do our own standards.

The 10% Blancol products are markedly stronger than those made with 5% Blancol. Both types have seemed to have lower filtration rates than have been found with the dispersed green. This point will be watched carefully.

The use of lower amounts of borax has been very encouraging though all tests are not yet complete. There is evidence that the strength easily obtainable may be less than that obtained with 10 parts of borax but still well above that of standard. This deserves more study.

A very interesting development in the laboratory has been the successful use of "Pontamine" Fast Turquoise 8GL (CPC polysulfonate) as the dispersing agent in place of Blancol. This dye appears to promote grinding in a fashion comparable to Blancol when used in equal amounts, even though the dye is only of about 50% purity. Flocculation with some agent is necessary and DPG functions for this purpose, as does alum. There is some tendency to bleed during the washing cycle after filtration, but it seems less than would be expected. It seems doubtful whether the use of the dye as the dispersing agent would be economically sound unless some unusual property resulted, such as a non-flocculating toner of good properties in oil. However, the development gives added incentive to the study of other agents which might replace Blancol without its undesirable effects. Such agents as the aromatic sulfonic acids, or their salts, are contemplated for study in the near future.

One trial of Daxad 11 gave products similar to Blancol though not exactly the same. We believe a process for its use can be worked out if desired.

An effort has been made to prepare WD lakes from the new dispersed pastes by adding more agents and drying. No use tests have been made but the colors do not appear to be capable of complete dispersion in water.


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