

Coffeyville #30

File

Cleveland

Aux.

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S. B. Coolidge, Jr.

Coffeyville Technical Progress
Weekly Report
Oct. 7 to Oct. 11, 1963

BARIUM CARBONATE - H₂S RECOVERY

The apparatus for counter-current precipitation of barium carbonate is still in the process of being made up and assembled. The turbo-mixers had to be worked over and coated, small tube pumps are being made, and 20 liter glass precipitating jars had to be modified to fit into the scheme. Due to more pressing work elsewhere, such as getting the hydrate plant ready, the assembly of this equipment has made slow progress.

BARIUM CARBONATE - WET FEEDING

This apparatus is about ready. We can possibly start experimental work the week of October 14th.

BARIUM MONOHYDRATE - REFRIGERATION

A small single refrigeration leaf to be coated with teflon has been ordered. This is for the purpose of determining whether barium hydroxide crystals will adhere to a teflon surface under refrigeration.

BARIUM CARBONATE - PELLETIZING

This will begin in the near future, using barium hydroxide, possibly caustic soda, or soda ash solutions to be used as binders for the pellets.

LEAD SILICA - CHROMATE

The preparation of the ten pound sample to be sent to Mr. Gabbert for testing purposes is nearing completion. This has been made from a 60/40 silica-lead sulfide mix, roasted, ground, slurried in water and treated with sodium dichromate to form lead chromate.

ZINC MOLYBDATE

We are in the process of making 4,000 pounds of zinc molybdate to be shipped to Acme. This is being dovetailed into Solfast Titan Yellow operations in the Pilot Plant.

BASIC SULFATE OF WHITE LEAD

Since Mexican litharge is cheaper than domestic litharge, and our only source of supply of basic sulfate of White lead is Eagle-Picher, possibly we can economically produce our own material. Last fiscal year we consumed 911,500 pounds of B.S.W.L.

We have two thoughts of approach. One is by acidifying lead sulfide residue from the oxide sufficiently to produce some lead sulfate, roasting the mix of lead sulfate and lead sulfide to attempt to produce a B.S.W.L. of proper chemical composition.

Basic Sulfate of White Lead (Cont'd)

The other is by slurring Mexican litharge in water, partially sulfate it with sulfuric acid and possibly calcine it to an acceptable B.S.W.L.

OZLO 12 - SOLUBLE SALTS

There has been expressed a recent contention that the water soluble salts in Ozlo 12 may be a factor in affecting the durability of a paint film. Zinc sulfate is present to the extent of 0.2 to 0.3% in the pigment. Since antimony united with lead is a yellow substance, and zinc sulfate prevents their union during Ozlo 12 manufacture, we have always used a slight excess of zinc sulfate for this purpose. At one time antimony ran as high as 1.5% Sb_2O_3 in the original lumps. Now that it lies between 0.2 and 0.3%, perhaps we can reduce the excess zinc sulfate to nil, possibly even allow a small amount of PbO to remain without the formation of an objectionable yellow lead antimonate.

ZINC SULPHATE

Experimental work has begun in precipitating zinc sulfide from a zinc sulfate solution, using ammonium sulfide as the precipitant. The first product obtained after calcination was low in tinting strength.

The interesting features of this process are that the excess of H_2S from barium carbonate manufacture would be absorbed in ammonium hydroxide to form ammonium sulfide, and the ammonium sulfate formed during the precipitation of the zinc sulfide has value as a fertilizer.

JRM

V. R. Hornsby

cc: J. V. Hann
T. Kirkpatrick
K. H. Wilkinson
G. F. Wyman
J. B. Soehner
R. H. Kendrick