

TECHNICAL NOTE NUMBER C-6

FOREST PRODUCTS LABORATORY U. S. FOREST SERVICE MADISON, WISCONSIN

WEEKLY INVENTORY AT SODA AND SULPHATE PULP MILLS

Leaky tanks and pipe lines and slopovers from careless operation at soda and sulphate pulp mills are soon detected if a weekly inventory is taken of soda in the system. This can be accomplished closely enough for all practical purposes in the following way:

Make note of the density and height of liquor in the various storage tanks at a certain time each week, preferably during the Sunday shutdown. A table should be made for each different size of tank, by which the volume in cubic feet for any height of liquor may be read. Using the accompanying graph, determine the amount of soda, figured as Na_2O , by multiplying the pounds of soda per cubic foot for the density of liquor in the tank by the volume in cubic feet. In case of an unusually long shutdown, correction for temperature should be made.

Three separate curves are given for black liquors, each of which is typical of the liquor obtained from the pulpwood commonly used in the localities indicated. The black liquor from the Virginia mill was obtained from a mixture of scrub, loblolly, and shortleaf pines. The black liquor from the Texas mill was obtained from material which was about 50 per cent slabs and edgings from long-leaf pine and 50 per cent cordwood from second growth shortleaf pine. Black liquor from the Canadian mill was obtained from spruce and balsam.

Each mill should determine the typical curve for its own black liquor.

The curves for green liquor and white liquor will not vary much in different mills where the usual methods

of soda recovery are used. The curves for sodium carbonate and caustic soda are applicable to the liquors of soda pulp mills. The curve for sodium sulphate coincides up to the break (which is the point of saturation at 15°) with the curve for the black liquor of a Canadian mill.

Abscissae indicated at the top of the graph are to be used with the specific gravity curve in converting degrees Baume' to specific gravity. The abscissae to be used for all the other curves are written at the bottom of the graph as pounds per cubic foot.

