SWENSON, ALAN.*, The Amalgamated Sugar Company, Mini-Cassia Factory, 50 South 500 West, Paul, Idaho 83347. - Long term thick juice storage.

The Mini-Cassia Factory thick juice production exceeds the Sugar end capacity. In 1988 a thick juice storage tank was built. The excess thick juice is stored for an eleven month period and is processed just prior to the next beet campaign. A System consisting of (1)a recieving tank, (2)pH control, (3)filtration and (4)temperature control was installed to maintain storage parameters. The storage parameters are purity 90.0 A.P. RDS 69.6, pH 9.0 min., temperature 25° max. The storage tank is forced ventilated for relative humidity control in the air space and the juice is stored under a food grade mineral oil layer. The system has been used successfully for the 1988 & 1989 crop years.

MORRISON, CHRIS D.*. Nalco Chemical Company, 395 Taylor Blvd., Suite 115, Pleasant Hill, CA 94523. - Performance monitoring of biocides in mill water systems used to minimize corrosion and microbiological fouling.

Sugar mill cooling system performance can dramatically affect the efficiency and reliability of the mill's operation. Uncontrolled microbiological growth can limit crystalizer cooling capacity and/or shut down vital plant equipment due to corrosion, scale, or under-deposit/slime corrosion by sulfate-reducing bacteria. Control agents for these applications are limited by FDA registrations. The most common biocide, gaseous chlorine, has difficulty acting in mill water systems due to the very high levels of ammonia found in these systems. Ammonia readily reacts with chlorine to form a less-toxic coproduct called "chlor-amines." The use of biodispersants has proved effective in improving the cleanliness of mill water systems. Recently, Nalco's Acti-Brom chemistry has shown to be very cost-effective in mill water microbiological control. This has been further compared to chlorine dioxide and ozone and believed to be still the most cost-effective choice. Further investigations into biocide use in the flume and diffuser areas of the plant are being compared to the allowable FDA uses of biocides. This study will be completed by February, 1991, and will be ready to be discussed then.