

STORAGE OF GRAIN IN SOLUTION MINED CAVERNS

by

William M. Bishop
Vice President, Engineering
PB-KBB INC.

ABSTRACT

In 1990, PB-KBB Inc. received a U.S. Patent for the storage of grain in subsurface caverns produced by the solution mining of subsurface deposits. After a cavern is created, the brine is removed and grain is loaded and outloaded through the cavern well using a pneumatic conveying system incorporating an inert atmosphere, like nitrogen or carbon dioxide. The system presents a large number of advantages over conventional silo storage: lower capital costs, minimal spoilage, less required drying, zero explosions, no personnel related dust problems, no insecticide residue, etc. Although the method is probably economically feasible anywhere suitable salt exists, third world countries where grain spoilage often reaches thirty percent of the crop, look particularly attractive. Such use of this method would also introduce a brine production industry and storage of other commodities (hydrocarbons) to these countries.

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