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CONSIDERATION OF PARAMETERS FOR THE DESIGN OF COLD CRYSTALLIZATION PONDS FOR SOLUTION MINING IN SASKATCHEWAN

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Abstract

Both of the existing solution mines in Saskatchewan use pond crystallization for all or a substantial portion of their production of potash from brine. The operation of the ponds is facilitated by the unique climate of the province and is quite different from the evaporation ponds found in other locations.

This paper will discuss the parameters used in the design of ponds for new proposed operations, including climatic influences, brine concentration, operational dynamics and logistic considerations. It will review practical application of the impact of saturation levels at temperature in the system KCl – NaCl – H₂O.

Key words: Potash, Solution Mining Surface Facilities, Saskatchewan

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