

Reporting of Reserves for Solution Mined Salt Domes

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Abstract

Accurate, transparent, and material reporting of salt reserves in the solution mining industry is important toward maintaining public trust. The solution mining industry includes brine production, chlor-alkali manufacturing, and hydrocarbon storage. Within the U.S. Gulf Coast region, suitable new cavern locations within salt diapirs, or domes, are becoming limited. Sophisticated and complex planning of each site in three dimensions using all available data is commonplace. Despite the advances made in predicting salt cavern development, the models are imperfect. A systematic method is needed to estimate reserves in a manner that considers the uncertainties inherent when reporting salt reserves.

The Society for Mining, Metallurgy, and Exploration (SME) published the first SME Guide for Reporting Exploration Information, Mineral Resources, and Mineral Reserves (The SME Guide) in 1991. It was most recently updated in August of 2017. The update includes several changes, including a new section specifically for in-situ recovery (ISR), or solution mining. This paper reviews the history of mineral reserves reporting and the application of the SME Guide to solution mined salt caverns; specifically, those in salt domes located in the southern U.S. Utilizing the internationally accepted definitions and methods for resource and reserves reporting helps ensure that economic and investment decisions are based on the highest standards in our industry. A method will also be described for determining reserves from solution mined caverns in salt domes such that reserve statements enable companies to properly plan new wells, allocate capital, and maintain trust.

Key words: Reserves Reporting, Recovery Factor, Salt Diapirs, Salt Stocks, Salt Domes, Competent Person, Qualified Person