

An Examination of the Geology of the Bass Islands and Salina Groups in Ohio and Its Effect on Salt-Solution Mining and Underground Storage

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Abstract

The renewed interest in the underground storage of natural gas in salt caverns, along with continued development of the salt-solution mining industry in Ohio has led to a need for a better understanding of the geology of the Bass Islands and Salina Groups.

Detailed examination of 17 cores and 11 core descriptions led to the conclusion that the Salina Group in Ohio was deposited in a shallow water environment associated with sabkha and subaqueous settings. Further observations indicate that Salina deposition was extremely complex and most of the previous work in Ohio was based on geophysical logs and other subsurface data instead of sedimentological features.

Many of the situations, such as roof collapse and fluid migration, that are associated with salt-solution mining and underground storage in Ohio are directly related to the geology of the Bass Islands and Salina units. Further understanding of the geology should help to resolve some of the problems that effects these industries.

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