

**AN OVERVIEW OF POTENTIAL CORROSION  
MECHANISMS AND DETECTION TECHNIQUES IN  
SOLUTION MINING AND HYDROCARBON STORAGE WELLS**

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**ABSTRACT**

The diversity of operational problems associated with solution mining and hydrocarbon storage in salt caverns cover a wide range of technologies and operator experience varies widely. In some cases, corrosion has been a contributor to the overall problems. This article makes a pictorial presentation of tubulars removed from both active and inactive hydrocarbon storage wells and suggests the mechanisms that may have contributed to the degradation of the hanging string.

Limited comparisons of actual conditions are made with the results of Schlumberger's Ultra Sonic Casing Imager (UCI). Pressure and density requirements unique to solution mining and hydrocarbon storage wells were discovered during field operations involving the UCI tool. Solutions to these problems are proposed, such that operators considering the use of the UCI to determine the condition of either the brine hanging string or cemented casing will be able to acquire more meaningful corrosion data.

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