

## **Etzel Cavern Storage – Rock-Mechanical and Solution Mining Aspects Regarding Cavern Field Expansion**

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### **Abstract**

IVG Caverns GmbH operates a cavern site in domal salt located at Etzel in northwestern Germany comprising 40 cavities providing underground storage of crude oil and natural gas. IVG gained ownership of the cavern facility in 2005, since when it has concentrated its operational activities on the development of new caverns, mainly for gas storage. IVG intends to enlarge the cavern field by 90 additional caverns by 2022 in order to lease the additional storage capacity to national stockpiling agencies or large-scale energy suppliers.

The presentation concentrates on the rock-mechanical and solution mining concepts and tasks associated with the processing of the project, namely

- geological inventory (exploration and analyses)
- cavern field lay-out
- cavern design
- solution mining challenges
- coordination of rock mechanical and solution mining demands

**Keywords:** Caverns for Gas Storage, Cavern Design, Cavern Development, Solution Mining, Rock-Mechanics