

# Mining

## A Salty Situation

### The Project

**Morton Salt's Mining Safety Team uses GSSI equipment, a SIR-20 and 400 MHz antenna, in their salt mines. This system is used in extreme conditions 2000 feet under ground and 2 ½ miles under Lake Erie to mine a 450 million year old bed of halite (rock salt).**



Courtesy: Morton Salt Company  
Grand River, Ohio USA  
[www.mortonsalt.com](http://www.mortonsalt.com)

### Project Description

Morton mounted the SIR-20 and 400 MHz antenna on their continuous miner machine, which allows them to detect the thickness of salt on the mine's floor and ceiling as they travel along. Layer thickness must be measured because the salt is located horizontally between two beds of shale, and if the company mines too much rock salt from the ceiling of the mine, it will become unstable and collapse.

Morton also measures thickness in the mine's floor since driving conditions will become unstable if excess material is taken. GPR is an excellent technique to use with this medium because halite is very resistive and homogenous, which makes layer interpretation relatively easy. This is due to the vast dielectric contrast between shale and halite.

### Outcome

GPR allows Morton to collect the maximum amount of rock salt from the stratigraphic layer while preserving a safe mine environment.

Morton has been using GSSI equipment for many years, and while it may be encrusted with salt, the company has had no problems with our rugged products since their purchase. The conditions are tough, but the SIR-20 still works flawlessly.



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