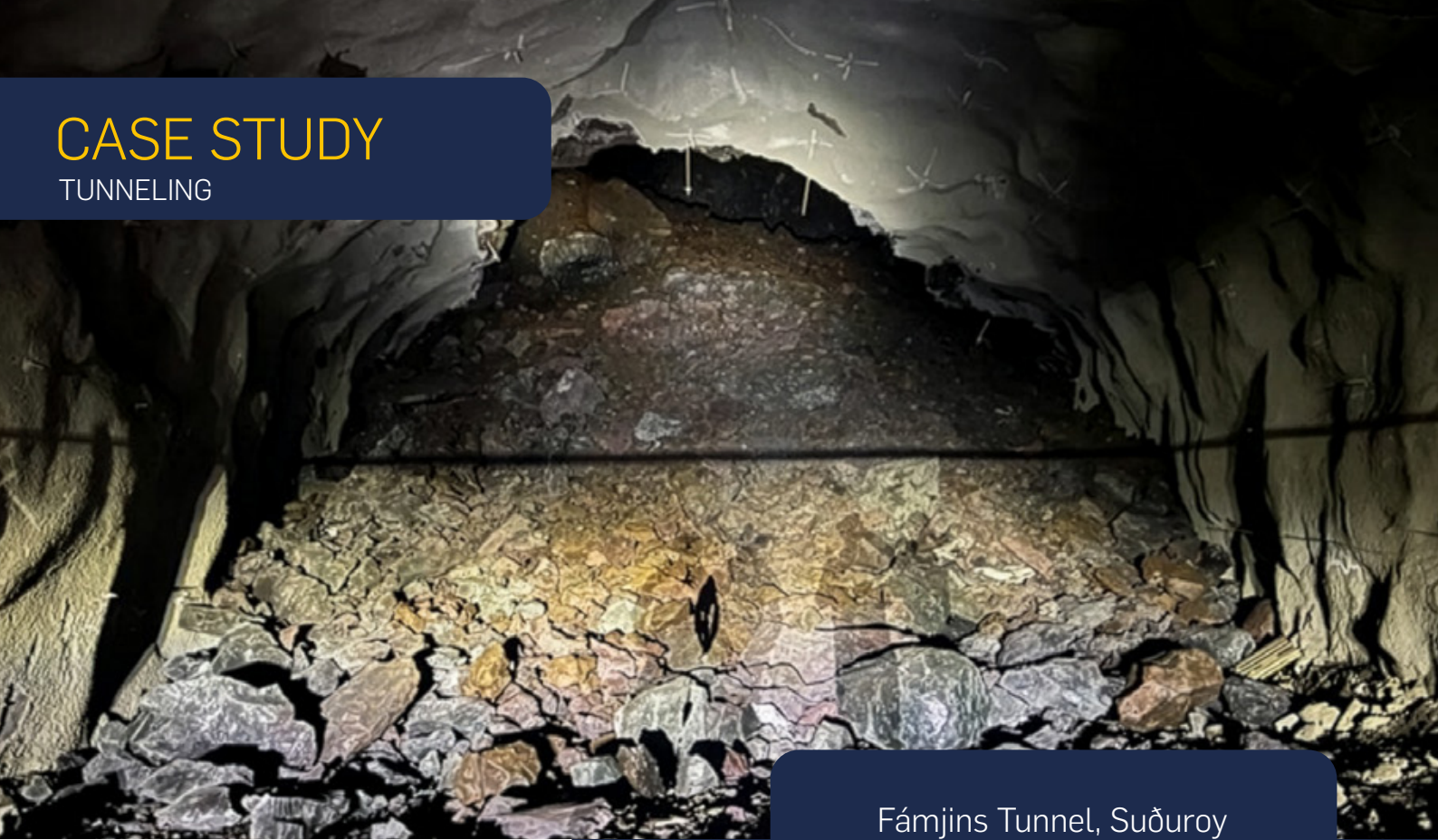


CASE STUDY

TUNNELING



Fámjins Tunnel, Suðuroy
Faroe Islands

OVERVIEW

The Faroe Islands, a remote part of the Danish Kingdom, boast an extensive network of roads and numerous tunnels. Despite the low population density, infrastructure projects are crucial, and more tunnels are continuously being constructed.

During the construction of the new Fámjins road tunnel on Suðuroy, the southernmost island, the project faced challenging and, at times, very unfavorable geological conditions. The tunnel, which spans 1,200 meters with one lane in each direction, encountered a significant issue in November 2023.

A major collapse occurred in the overburden of an already excavated section, resulting in the formation of a massive cavity measuring approximately

2,200 cubic meters (25 meters in length, 13 meters in height, and 10 meters in width).

Filling a cavity of this magnitude, which was practically inaccessible due to debris at the face, required the application of underground mining methods to navigate through the cave-in. Minova was called upon for support and to find a solution to this situation, owing to the contractor's historical experience.

SOLUTION >>>>

The solution involved using long SDA R32/R38 injection lances drilled into the overburden, combined with high-foaming, silicate-based injection resin GeoFoam. After filling the cavern, support frames were erected, followed by systematic forepoling and shotcreting. This procedure was repeated cyclically until the collapsed zone was completely navigated.

The resin was processed using a pneumatically driven SK90 injection pump, fed from IBC containers. This setup allowed for large volume deliveries while minimizing manual handling of the material.

The contractor successfully navigated the collapsed zone without significant

complications. The high-foaming resin GeoFoam has once again proven to be an effective solution for challenging and extensive applications in the underground construction industry.



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