

Circle K - SMS2A

Moss, Norway

Treatment of the D&B Tunnel crown from ground surface by means of Jet Grouting. Execution performed up to 30m depth including inclined columns and restricted working height inside the tank station.

Quantities: 593 pcs / 14.366m (Drilling) / 2.994m (JG).
Drilling inclination range from 5° to 25°.



The project

The SMS2a project is a part of an Intercity development project consisting of 10km new double-track railway. The Circle K section is one part of the six sub-areas within the project. This section sits directly above the new tunnel which will pass through an area of unconsolidated soils and a thin bedrock layer. It is necessary to stabilize this area to prevent subsidence of the soil as tunnel drilling progresses to the city center.

The challenge

Directional and inclined drilling inside and outside of an existing gas station and utilities, with a tolerance of 2% for deviation.

Low headroom drilling. A clearance height of 4.5m.

Guaranteed overlap of JG columns in the treatment zone and the bedrock interface.

Soil conditions consist of stiff clay, boulders, and moraine. As well as oil contaminated soil.

The solution

Water drilling with Wassara monitor.

Devico Gyro/Aligner to perform inclined and directional drillings.

Keller rig KB0-5 used for low headroom drilling inside the existing gas station.

Backflow treatment by Keller's Filterpress to achieve environmental requirements and feasible handling of backflow.

Project facts

Owner(s)

Bane Nor

Keller business unit(s)

Keller Geoteknikk AS

Keller Grundbau

Main contractor(s)

JV Acciona / Implenia (MossIA)

Engineer(s)

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Solutions

Slope stabilisation

Markets

Infrastructure

Techniques

Jet grouting

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