wassara

STRAIGHT FORWARD DRILLING

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GEO-ENERGY IN THE HEART OF STOCKHOLM, SWEDEN

In the very heart of Stockholm, a building needed heating and cooling. The contractor wanted a method that gave his workers a safe working environment, was environmentally friendly and could drill straight holes. LKAB Wassara had the drilling method offering all that.

Background

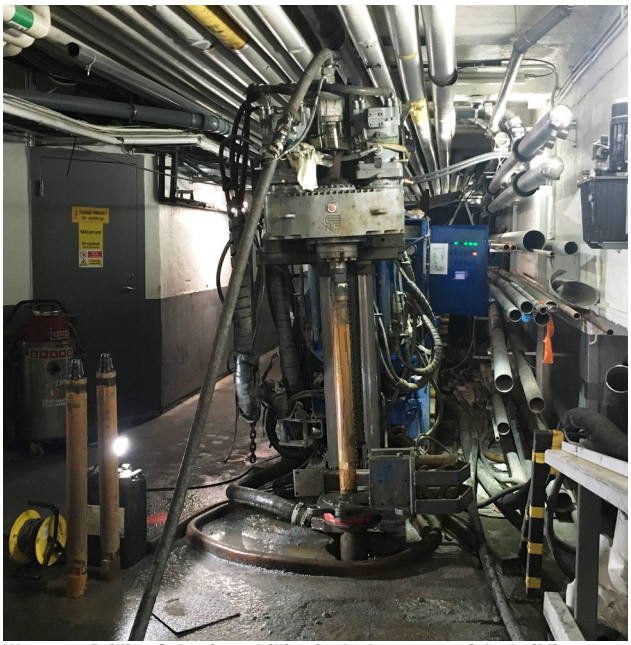
In central Stockholm, Sweden, close to the square Stureplan, a building needed heating and cooling. The solution was to install geo-energy. The building is located in the heart of Stockholm and there are constantly a lot of people in motion and old buildings sensitive to vibrations nearby. No dust, no vibration, minimal noise level i.e. no significant disturbance was allowed in this project.

The contractor choice

The chosen contractor for the geo-drilling was Wessman Drilling Solutions. The CEO Per Wessman says that LKAB Wassara and their water-powered DTH hammer was chosen for reasons like safety, quality, environmentally friendly and hole straightness. The drilling result turned out very well.

Working environment – a top priority

Wessman Drilling Solutions wanted to find a drilling method that emphasized security and personal safety for their drillers. Using compressed air is not possible in such a complex



Wessman Drilling Soluctions drilling in the basement of the building at Stureplan

environment with the risks that compressed air entails like hose explosions, which can have devastating consequences for the workers and the surroundings. With water-powered drilling you don't have this risk.

A successful pilot project for the client

A large praise is to be given to the client, Hufvudstaden, who dared to invest in, for them, an untested technology and to let Wessman Drilling Solutions do the pilot project. The location of the building is the most central one can imagine and there has been full regular operation in the house throughout the drilling. When it comes to install geo-energy this was Hufvudstaden's first project. The good outcome will result in more geo-energy drilling in the future with equally complex conditions.

Drill rods to be used drilling for geo-energy

Challenges

Standing in a narrow basement with low ceiling height is of course a challenge itself in a project like this. For example, the pipe splicing will become a challenge since you cannot use long drill pipes.

One of the things CEO Per Wessman likes with LKAB Wassara's technique in this project is that when you stop the water pump the pressure stops immediately. When turning off an air compressor it takes several minutes until the pressure is gone

Per Wessman wants to mention one downside in the project; the drilling speed. When starting the project they calculated a speed of about 20-30 m/h. The average drilling speed instead turned out to be 10 m/h. Here Per Wessman wants to give the representant of Hufvudstaden further praise for understanding the importance of choosing a sensitive and environmentally friendly drilling method in a complex area, where Wassara's technique was the only and best choice.

Used equipment	
DTH hammer	W100
Drill rods	Ø 89 mm, length 1,0 m
Drill bit	115 mm
Pump	WASP 120E
Rig	Hytte 202 (Casagrande)
Borehole length	350 m
Scope of drilling	7 200 m
Formation	Rock (granite)
Project year	2019