

Company: Rådasand

Location: Sweden

Recycling of process water in protection zone for groundwater supply

Context

Rådasand gravel pit is classified as a mineral deposit of national interest (only 3 out of the 870 gravel pits in Sweden), as its sand has a unique quality as casting sand and is also used as filtration sand for water treatment plants.

The pit is located in the protection zone of the groundwater supply of the municipality of Lidköping.

The project

The natural gravel and sand of the pit are mixed with clay and silt, which must be removed before the material can be used. Thus, the process water from the wet screening must be cleaned so that the water can be recycled, while not affecting the groundwater. Rådasand has invested in an advanced water treatment plant:

- Step 1: the sand is separated from the process water in a lamella separator
- Step 2: Flocculants are added to the process water in a tank
- Step 3: the purified water is separated from the flocs with another lamella separator
- Step 4: more water is removed from the sediment with the filter press

Results

The results from measurements of the concentrations of suspended particles show that the water treatment plant works very effectively.

The water quality is also controlled at the water treatment plant thus becoming drinking water for the municipality.

The sediment is sold as soil improvement.



WATER TREATMENT PLANT

