



Momentux

A Mellifiq reference project

Mellifiq solves enduring groundwater problem with our AquaFloc

**Mellifiq tackles a difficult
groundwater remediation case**

MELLIFIQ

Momentux, Västerås, Sweden

In this reference project, we are heading towards one of Sweden's industrial capitals to provide assistance to a construction project. Our client is a company offering top-notch consulting and project management services. When working on projects, they focus on managing the project and coordinating the partners that they hire for it, which is great because it means they can really make a difference to the success of the project! We were absolutely thrilled to be one of those partners in this project! We at Mellifiq were asked to design and implement a functioning treatment system for the groundwater.

Facts

Client:	Momentux
Location:	Sweden
Application	Removal of heavy metals, oil and oliphatics
Industry:	Dewatering & hydrogeology

Solution:

Mellifiq delivery:	A multitechnical treatment solution consisting of sedimentation (2 x Water Maid AquaFloc 24-S containers), particle filtration (Water Maid FlexKarb-S), ozonation (Ozonetech RENA Tellus X200) and adsorption (Water Maid FlexKarb-C)
Flow:	20 m ³ /h
Purification rate:	Over 80% for dissolved organics, over 80% for heavy metalssorption (Water Maid FlexKarb-C)

The problem

Groundwater contamination is a problem that is often encountered within the context of construction projects—and it's an exciting challenge to overcome! Groundwater is a very precious resource, and the local authorities responsible for managing it have set strict requirements for construction companies so that they can do their bit for the environment! The authorities demand that construction companies proactively implement measures to protect the groundwater and the surrounding environment during their projects. In addition to local regulations, the European Union has also implemented a union-wide Water Framework Directive that regulates how its member states should treat their water sources. This is, of course, very beneficial for the environment.

Our client had been struggling with treating aliphatics, suspended solids, and heavy metals for many years before we came along. External consultant reports showed that contamination levels were just above the maximum legal threshold. They had simply never succeeded in finding the right system configuration to treat their groundwater, but we were confident we could help them succeed!



The solution

We kicked off our project by conducting tests on the groundwater and collecting information so that we could design a comprehensive treatment solution. We were looking at general flows between 3 m³/h and 20 m³/h, depending on external factors such as weather conditions. Using our findings, We were able to provide and commission a functioning, custom-made, multitechnical groundwater treatment solution to our client.

Two of our Water Maid AquaFloc 24-s systems form the basis of the treatment system. The two AquaFloc containers, each measuring 20 ft, are particle separation systems that remediate groundwater using flocculation processes. Through homogeneous mixing, the systems successfully separate suspended solids from the water by making full use of the carefully selected flocculant.

While flocculation processes are effective, they are not always efficient at taking care of heavy metals and organic compounds, such as aromatic compounds and aliphatics. This meant that we had to be innovative! We were able to successfully complement the AquaFloc systems with downstream treatment processes that were perfect for the job! These processes included a particle filtration step using our Water Maid FlexKarb-S, an advanced ozonation step using our Ozonetech RENA Tellus X200 ozone system, and finally, an adsorption step using our Water Maid FlexKarb-C system aimed at dissolved organics and heavy metals. We integrated these additional treatment processes into a movable container in order to ensure operational stability and to prevent weather issues.

In addition, every single one of our systems is fitted with security mechanisms that monitor their activities and notify our Service Center in case there are any problems.



The two AquaFloc containers, each measuring 20 ft, are particle separation systems that remediate groundwater using flocculation processes.

Evaluation

We are more than happy to see that our complete treatment solution—which includes two AquaFloc containers, a particle filtration system, an ozone system, and an adsorption system—has delivered excellent results.

We conducted a series of tests after the commissioning process was complete. These tests analysed aliphatics and heavy metal levels, and also included COD-Cr levels. The COD-Cr levels allowed us to gain a comprehensive understanding of the dissolved organics levels. Thanks to the tests, we could confirm removal rates of 100% for suspended solids, over 80% for dissolved organics, and over 80% for heavy metals. Furthermore, aliphatics could not be detected at all!

Thanks to our multitechnical system, the purified groundwater fulfills all legal requirements. This way, our client has managed to rid themselves of a problem that they have tried to solve for several years. With operational safety being an extra perk of our treatment solution, our client could not be more satisfied!



Thanks to the tests, we could confirm removal rates of 100% for suspended solids, over 80% for dissolved organics, and over 80% for heavy metals.

About Mellifiq

Mellifiq is a multi-awarded environmental service company group, that has since the early nineties evolved into a world leading system and solution provider with multiple groundbreaking applications for industrial, municipal, and real estate clients. We supply cutting-edge technologies to manage the most sophisticated air, water, and energy challenges.

Mellifiq offers a complete range of air and water treatment technologies and solutions across multiple industries such as processing industry, energy sector, food and beverage, pharmaceutical, wastewater treatment and commercial real estate.

Mellifiq offers strong and renowned brands, such as Ozonotech, Nodora and Water Maid, and world-class engineering services combined an excellent track record of more than 40 years of innovation. We help our clients achieve the most efficient and sustainable solutions while creating the maximum value for their businesses.

With several business units across Europe, Mellifiq is headquartered in Stockholm where research and development, production, QA and certification all take place. Our unique technology and our extensive expertise have made us the Center of Excellence for the world's most complex projects, and a global player with installations on all six continents.

Everyday millions of people rely on our solutions for ventilation, disinfection, sanitation, and odor control. We are committed to raising the bar for the concept of clean and the industry standard for engineering, technical services and general contracting.

For additional information, visit our website at www.mellifiq.com

