Report water project

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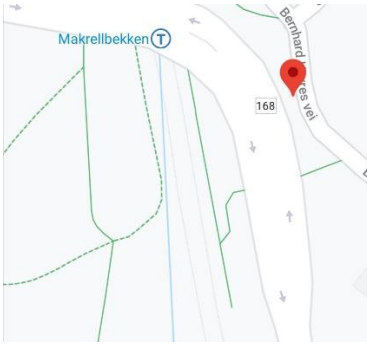
Introduction: On march 4th we went to Oslo to meet up with some people from the company Rambøll. Rambøll is a huge independent engineering and design consultancy company and a provider of management consultancy. They have close to 300 offices all over the world. Their mission ist to create sustainable societies where nature and people flourish. One of their jobs at the moment ist hat they check the quality oft he water in Oslo. The city of Oslo would like to build a new water reservoir and therefore Rambøll is checking on some important aspects in the water like PH or the amount of sewage. Together with Rambøll we were able to be a small part of this huge new project. We took samples in the water of Makrellbekken in Oslo. We were checking on the PH value, oil, colour, condactivity, temperature and mercury oft the water.

Place and date: Makrellbekken, 4th of march



Purpose of fieldwork: When you are out in the field you learn something by doing it which makes it easier to remember new information as you have a visual and a practial connection to it.

Field equipment: protective gloves, glasses, light reflecting vests – for the person who does the sampling; plastic and glass bottles with acid, temperature and pH level measuring device – for sampling.

Methods: putting on the equipment, getting the water to the plastic bottle for further steps, sharing the water between glass bottle (to observe color, consistency and amount of oil in water) and small glass bottle filled with acid (to observe the amount of mercury), taking measurements, using temperature and pH level device.

Description of methods: the sampling of upstream zone started with protecting the participant with appropriate safety clothing – the light reflecting vest, glasses and gloves were given. It was done due to providing safety on the field of work. Then the participant went to the stream and filled up the plastic bottle with approximately 2 liters of water from the stream for analysis. Analysis started from pouring some of the water into the glass bottle to get information about the color, consistency and amount of oil in the water. Then, some of the water was placed into the glass bottle which had some acid in it to measure the amount of mercury in water. Further on, the participant was working with the device, which showed the temperature, pH level and conductivity. Further investigations (nutrient indications, ammonium level and mercury level) were to be made in the laboratory.

Results: the results presented that the water's color in the stream was medium grey, the smell of sewage prevailed, the traces of oil weren't found, and the consistency of water was regular. The amount of mercury will be known as soon as the laboratory's results will be published.

The device showed that the temperature of water was 4.2 ° C, the conductivity was 1065 mS\cm which fits in the normal range for the streams (between 50 and 1500 mS\cm). The

pH level was measured 8.2 on the field, but was correlated to 7 during the re-measuring in campus (which is in the normal range due to 6.5 – 8.5 norm for the streams).

Overall, during the sampling the color, smell, traces of oil, conductivity and pH level were investigated. Having the results of all three zones of analysis (upstream, middle and downstream zones), we can state that the pH level and smell is increasing in the downstream zone, temperature stays the same and conductivity is decreasing from the upstream to the downstream area. This result can indicate the fact that water becomes more rotten to the downstream zone, being affected by sewage and wastes that goes from the top to the bottom area.

Discussion: Water monitoring is a system of continuous monitoring and control of processes occurring in this water, the results of which are the rationale for decisions to ensure the safety of people and the environment in general. So, water monitoring exists and is created in order to control the quality of water, because water is our life, take even a simple example, the person himself consists of 80% water. Monitoring of water, in the understanding of clean water, water without pesticides and harmful chemical components in this water, avoids many problems, such as sustainable development of agriculture, because there will be clean water, there will be development of agriculture. Our body should receive pure, artesian water, because it contains a number of useful substances, it is precisely water monitoring that will help us to do this. Everyone on the whole earth should use only pure water, pure - without any impurities. Each recreation center, each sanatorium should be able to provide its admirers with clean, artesian water. But water is a source of energy, not just water, but water of good quality. Every workplace should have access to clean water, because healthy workers are the key to economic growth and success. Even in infrastructure, water has a very important role. Each enterprise should have its own approach to the use of water, namely the rational use of water, as it is well-known enterprises of any type use a lot of water resources. First of all, we must take care of our environment, we must preserve our oceans and seas, rivers and streams, because this is our source of life. And now we can draw a big conclusion. In order to achieve the list of these goals, we need to perform quality monitoring of water. And each of us should be interested in this and contribute to the development of these goals. Only together we will make our planet environmentally friendly.

Training teachers to achieve this goal is very important. After all, at the university, students have every opportunity to start studying safe water and sanitation with the help of a curriculum. Then students can begin to understand the relationship between water, health and nutrition