



This project is funded by
the European Union



DHV BV in joint venture
with COWI A/S, ECORYS,
and WL | Delft Hydraulics

Pollution Monitoring of the Russian sector of the Caspian Sea.

Executive summary

According to the contract between DHV and SRC “Hydrometproject” in the frame of EC TACIS project “Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern, (CaspianMAP)” the pollution surveys of the Northern part of the Dagestan sector of the Caspian sea were organized and executed by the Executer (SRC “Hydrometproject”) between 16th and 29th of April, 2009.

The main objectives of the expedition were:

- Indicate the main characteristics of water and bottom sediments in the potential impact areas of pollution sources, i.e. land based sources, as well as those located offshore
- Demonstrate capacities of the monitoring organizations and analytical laboratories in Dagestan, in order to establish an agreed cooperation for water quality monitoring in the Caspian Sea. And to assess the technical capacities and the required level of methodical provision, for the execution of future monitoring in the frame of the imminent regional monitoring program.

To achieve the mentioned objectives, a special sampling program was developed in the preparation phase with the participation of TACIS project coordinator – O. Voitsekhovich -, and the main organizations for future partaking in the regional monitoring program.

The expedition was executed with the scientific vessel “Neptun”.

Besides the Dagestan experts, the staff of SOI also participated in the expedition. The following experts participated in the expedition:

1. Tynyansky M.V. – leader of the expedition, an engineer of the 1st category
2. Alibulatov O.T. – team leader of the works at the vessel, captain of “Neptun”
3. Shalaputin N.V. - hydro chemist
4. Saphin G. M. – oceanologist
5. Rakhuba E.A. – aspirant SOI

And other staff of the team, which maintained all the duties at the vessel and stations of taking sampling.

The samples were taken in the off-shore waters along Makhachkala coast, and relatively shallow zone of the northern part of the Caspian. The expedition with the RV “Neptun” was executed between 16th and 29th of April, 2009. The following research was done on board:

- Complex of hydro-meteorological observations
- Sampling and conservation of the sea water samples and bottom sediments for the following hydrochemical analysis at the coastal laboratory
- Sampling of bottom sediments, research of their composition, packing and storage of the samples in the in the freezer at the temperature – 15⁰ C.



This project is funded by
the European Union



DHV BV in joint venture
with COWI A/S, ECORYS,
and WL | Delft Hydraulics

Total amount of the sample stations is 11.

During the sampling the hydro meteorological observations were conducted, which included the following measurements: temperature, wind velocity and its direction, atmospheric pressure and weather conditions.

Water sampling was done in accordance with the “Sample Methods, methods of treatment and conservation of sea water samples, ice, snow cover, bottom sediments in the conditions of sea surveys. The samples on heavy metals were made with the use of sample-making equipment, which didn’t have the metal open structural components. The water samples were not conserved.

The bottom samples were taken for fulfillment of the following chemical analysis on heavy metal, hydrocarbons content and radiation. Sampling was made at 11 stations.

All the analytical works on concentration of different elements in the water and bottom sediments were made in the laboratory “DagCGMS” (Makhachkala) and in the chemico-analytical center “Typhoon”.

After completion of work, the RV “Neptun” returned to the port Makhachkala, where packing, cleaning and transportation of equipment and participants were fulfilled.

The departure of survey participants from Makhachkala town was arranged the 2nd of May, 2009.

According to the results of survey works and analytical processing of samples, the data base in the standard MS-Excel program was prepared.