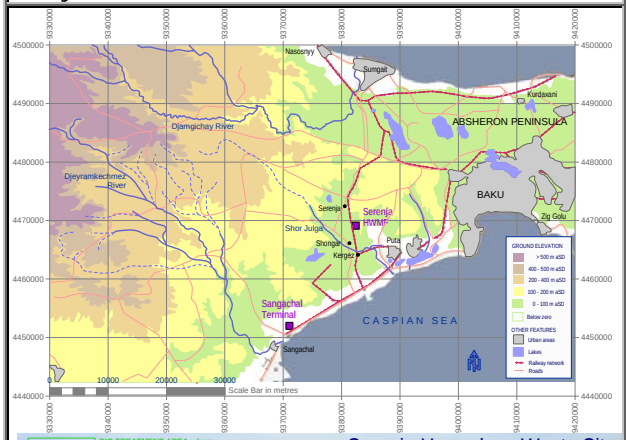
Water Resource Associates

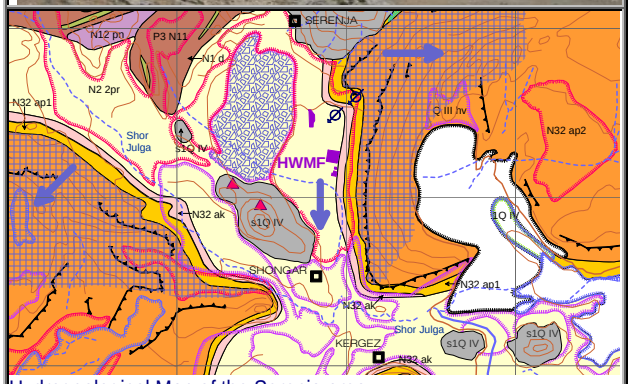
A network of consultants in hydraulics, hydrology, groundwater & environmental issues

Project title: Sangachal & Serenja Hydrological monitoring

Summary: Implementation of a Groundwater survey & annual contaminant monitoring reports.

Client: BP Exploration [Caspian Sea] Ltd	**Financed by:**
Period of assignment: May 2009 - May 2010	**Location**: Caspian Sea, Azerbaijan
Project Value: US$ 50,000	**WRA services:** US$ 50,000





Hydrogeological Map of the Serenja area

Overview

Groundwater monitoring has been carried out in the vicinity of the Serenja Hazardous Waste Management Facility [HWMF] intermittently since 1998. In 2008, the groundwater monitoring network was expanded with the installation of new boreholes. WRA reviewed all the information obtained to-date to provide hydrogeological interpretation & recommendations for future monitoring.

The WRA assignment

Potential sources of contaminants, pathways for contaminant migration and receptors to contaminants were assessed. A range of potential sources were identified, from current activities including transport of oily water, from historical sources such as the bioremediation area and construction of the AA Services and HWMF compounds and from airborne contaminants. The concrete base in the HWMF treatment facility provides protection to the ground from waste at the facility. The clay rich sediments provide some protection to the groundwater from any contamination at the ground surface.

Results

Although small-scale contamination of groundwater was found, the level of contamination did not present an immediate risk to water resources or other receptors, in the vicinity of the site. There is some natural protection to ground and the concrete base at the HWMF provides a barrier between waste and the ground. Currently, there is insufficient information to attribute the small-scale contamination to any known or potential source.

The highest concentrations of petroleum hydrocarbons and light aromatic hydrocarbons were found in the north-west of the Serenja site, particularly benzene and toluene.

Recommendations were given to continue monitoring after some adjustment to the analytical suite, and that permeability tests should be carried out to find the hydraulic conductivity of the water-bearing horizons.

Project Number 000279

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