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Developing capacity of groundwater and environmental protection in Kyrgyz Republic

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The Geological Survey of Finland (GTK) and the State Agency on Geology and Mineral Resources under the Government of the Kyrgyz Republic (SAGMR) has a development cooperation Project “Strengthening the mastering of natural resources for national welfare in the Kyrgyz Republic”. The project is funded by the Ministry for Foreign Affairs of Finland covering the period 2014- 2018.

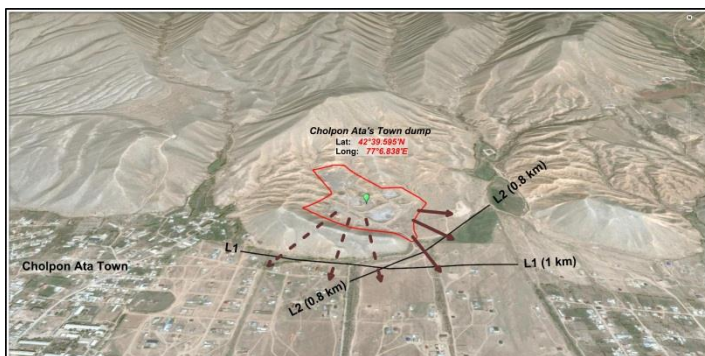
The overall objective of the cooperation is to improve the living standards and conditions for the population by supporting the efforts for strengthening of the national economy of Kyrgyzstan through sustainable use of mineral resources and ensuring a safer living environment. These objectives are supported by strengthening of the geosector with transfer of know-how, improved information management and availability of geoscientific data for as well sustainable use of natural resources as for a safer living environment through groundwater monitoring and identification of areas potential for geohazards.

The project purpose focuses on developing the institutional capacity of SAGMR for better risk management in respect of geohazards, efficient monitoring of changes in groundwater resources due to climate and environmental changes accompanied by modern geo-data collection, storage and dissemination. The project tasks include topics particularly prioritised by SAGMR for supporting the development of the agency and fulfilling project tasks. The topics are divided into following three subcomponents which are implemented as work packages (WPs): WP 1: Climate change and modern techniques, WP 2: Strengthening of the geoinformation chain and distribution and WP 3: Regional aspects and administration.

As part of efforts to develop groundwater and environmental protection capacity, the project includes geophysical techniques for improved detection and monitoring contamination around selected sites. In addition to geophysical measurements, data from groundwater sample-taking is combined with other digital geodata for tracking of effluent plumes and creating of a clear picture of environmental impacts.

The project has two target areas for fieldworks: 1) in Orozbekov village, South Kyrgyzstan and 2) in Cholpon-Ata town, Northern Kyrgyzstan. The geophysical measurements, 2D electrical survey in Orozbekov village purpose is to help potential land users to indicate underground water intakes and allow engaging vacant lands in agricultural use. Expected results in the area will be detection of the most thickness and watering reservoirs at the base of Quaternary slope formations. In Cholpon-Ata the geophysical measurement and groundwater sampling will be carried out. The objective of the 2 D

electrical survey and dipole-dipole IP method will be identification of the main migration routes of groundwater, possibly polluted by waste water inflows from the town’s dump (see figure 1). Conclusion



about possibility or impossibility of contaminated groundwater penetration through natural reservoirs to the places of population residences, and to the elements of the irrigation system located below the hill from the town's domestic and industrial wastes dump.

Figure 1: Target area in Cholpon-Ata town, Northern Kyrgyzstan

