

**ON MONITORING OF ASTANA SOLID
WASTE LANDFILL**

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The new capital of the Republic of Kazakhstan is in the stage of active construction and growth of population. These factors are attended with natural growth of solid domestic waste amount. From July, 2006, in Astana a new landfill located as far as 6 km along the Astana-Pavlodar highway, 50 m eastwards from the one, near the old polygon, operates.

The landfill area is bermed with a 1,5 m tall embankment to prevent atmospheric fallouts from draining from the landfill territory. Gathering and stocking of recyclable materials is carried out separately: metal scrap, reinforced concrete, automobile tires, wood waste.

In geomorphological relation the areas of the polygons are located on the water-parting of Sarybulak and Solyonaya Balka streams flowing into the Ishim River. In 2001 the groundwater monitoring project, wherein it was considered sufficient to manage a network of three well bores №1,2,3 to organize a secure network and find out the mere fact of contamination, was developed. The presence of these well bores together with the existing bore №201 allowed evaluating the intensity of groundwater contamination processes.

The bore № 1 was drilled 50 m northwards from the open cast.

The bore № 2 was drilled down the groundwater stream 50 m southwards from the open cast; nowadays the bore is out of order.

The bore № 3 was drilled down the groundwater stream 200 m southwards from the open cast. The bores' depth made 40 meters each one. All the bores revealed Paleozoic formations. The water bearing zone of the upper Devonian rocks jointing is defined by the well bore №201, which is 40 m deep, drilled in 1991 for the landfill water supply.

In the course of the works carried out from 2003 to 2007 it was found out that there is a hydrochemical influence of the polygon on the groundwater. In all the bores it was determined an increased concentration of cadmium, lead, solid residue. In 2008 the drilling of two more well bores in the SDW disposal location area is prescribed by the Environmental Management Plan: downstream the groundwater flow, high and low the landfill location. These measures will allow improving the existing system of overseeing the influence of the landfill on the environment.

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