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**Location:** Sludge pond No. 2 of the crushing and pre-enrichment shop in heavy environments (hereinafter referred to as CPP) of the beneficiation plant of the Ridder Mining and Processing Plant (RGOK) is administratively located on the territory subordinated to the Ridder city maslikhat of the East Kazakhstan region. The sludge pond is located 16 km from the city of Ridder on the industrial site of the Tishinsky mine of the RGOK of TOO Kazzinc and 104 km from the regional center - Ust-Kamenogorsk.

**Brief geological characteristics:** The filling of Sludge Accumulator No. 2 with sludge from washing sulphide polymetallic ores of the Tishinskoye deposit during their processing in the crushing and partial enrichment shop in heavy environments was carried out in the period 1982-2002. The accumulated sludge, containing significant amounts of non-ferrous metals, was subjected to oxidation processes under the influence of natural factors. Atmospheric precipitation, seeping through technogenic mineral formations (TMF), dissolves and carries non-ferrous metals into groundwater and into the surface runoff of the Ulba River.

Geological and economic assessment of the estimated reserves was not carried out and the profitability of sludge development was not assessed due to the fact that reclamation of the sludge pond is assumed regardless of the economic effect, due to environmental necessity. Utilization of sludge from sludge pond No. 2 will significantly reduce the negative impact on groundwater and surface runoff of the Ulba River.

The reserves are calculated within the natural boundaries of the TMO, conditions for calculating the sludge reserves have not been developed. The reserves of sludge pond No. 2 calculated as of 01.11.2008 are divided into reserves of the sludge pond accumulated before 01.09.2011, separately accumulated before 01.06.1992, owned by the state, and formed after the specified date and owned by Kazzinc LLC.

Extract from the state inventory records as of 01.01.2024.		
Useful component	Balance reserves	Off-balance sheet reserves
Gold	A+B+C1 – 181.5 kg	-
copper	A+B+C1 - 1.2 thousand tons	-
silver	A+B+C1 – 12.2 tons	-







