

During 2018, two Rio Tinto exploration wells spilled, causing the clover to stop sprouting in one part of the plot. A similar thing happened the following year. BIRN had an insight into two contracts which show that Rio Sava Exploration doo, as the official name of the Serbian representative office of Rio Tinto reads, has undertaken to compensate for the damage caused by groundwater spills on crops.

The company says that in the last six years, they have signed 15 contracts on compensation of damage with five owners of fields and that they have spent a total of about 230 thousand dinars for those purposes. A total of 125 piezometers were installed to monitor the groundwater level, and "a leak was detected on a small number of devices," the letter from Rio Tinto states.

BIRN obtained the results of laboratory tests of the quality of the leaked groundwater, whose samples were taken at the end of April 2021 by experts from the Jaroslav Cerni Institute and the Sabac Public Health Institute, on the order of Rio Tinto, at the insistence of the locals. The measurement results show that the concentration of boron on one of the piezometers was 574.72 mg / l, and precisely because of the water leak from this device, Rio Tinto paid compensation for the damage during the year 2018 and 2019. For the sake of comparison, the maximum allowed concentration of boron in drinking water is 1 mg / l, and in rivers of the worst category 2.5 mg / l, while there are no defined values for soil, domestic regulations show.

In addition to pine, sodium also has a higher concentration than allowed, an element that also has a detrimental effect on plants, as Professor Lazić explains. The measured sodium concentration was 1085.30 mg / l, while 200 mg / l was allowed in drinking water. There are no defined concentrations for sodium in rivers and soil in domestic regulations.

The destruction of clover during the investigation is currently the only tangible environmental problem of the locals around Loznica, but also a warning about the possible consequences of pumping water into rivers without adequate processing.

Milojko Lazic from the Faculty of Mining and Geology says that groundwater of such a composition should not accidentally spill onto the surface.

"The question is how to deal with it. "Such water must not be discharged into an open watercourse," he said.

Rio Tinto assures that groundwater is not a problem for the development of the future mine, that the project envisages purification of groundwater to a quality that corresponds to the Adriatic and Drina, the rivers into which they should be discharged after purification.

Yvonne Orenge, a researcher who has been monitoring human rights and environmental standards violations in Madagascar for the past 25 years, where Rio Tinto also has a mine, told BIRN that "everything Rio Tinto is talking about should be taken with a grain of salt."

What destroyed the clover?

Rio Tinto explains that leaks occur "due to mechanical failures, that over time screws or

covers corrode or loosen," while in rare cases errors occur - the pipes were of poor quality welded, there was damage during installation or cementing. In order to resolve the locals' doubts about water quality, at the end of April 2021, representatives of the Jaroslav Černi Institute and the Public Health Institute Sabac, in the presence of locals and representatives of Rio Tinto, took groundwater samples from several disputed devices.

The locals got the results at the beginning of June and they show high concentrations of boron, sodium and other chemical elements. The results were submitted to them for the first time since 2016, when the company continuously monitored the results of groundwater quality.

Although public institutions, the Jaroslav Černi Institute and the Sabac Institute of Public Health refused to provide BIRN reporters with water quality analyzes, explaining that they had a contract with Rio Tinto, which is why the data is confidential.

Rio Tinto states that it monitors two types of groundwater - the first are shallow below the earth's surface, between three and 16 meters deep, and contain lower concentrations of metals. The second type of groundwater is at great depths, between 62 and 690 meters and has an elevated content of various metals that can be found in that ore deposit. Describing the quality of shallow groundwater that can be found up to sixteen meters deep, Rio Tinto says that "metal concentrations are generally low, except for sporadic locations where slightly elevated concentrations of arsenic were detected, as well as chromium, nickel, lead and mercury."

Processing, then into the rivers

Milojko Lazic, a professor at the Faculty of Mining and Geology, points out the shortcomings of domestic legislation when it comes to wastewater and its release into rivers.

"In order for wastewater to be discharged into a watercourse, it must be brought into the same category as the watercourse. And our smart people translated it so that the water was purified, discharged into an open watercourse and that it continued to flow in the same category ", explains Lazic.

Dragana Djordjevic, a professor at the Institute of Chemistry, has a similar opinion. These waters into the surrounding rivers disrupt the natural balance of flora as well as groundwater levels so that plant roots can be left without water, which would lead to the drying of large-scale forests around mines as well as agricultural plantations far outside the mining complex.

Petar Dokmanovic, a hydrogeologist and professor at the Faculty of Mining and Geology, says that it is common for groundwater to be of problematic quality in a field rich in ore, and that the problem is always what to do with it when you pump it to the surface.

Rio Tinto assures that today there are advanced technological means by which this water can be purified without major problems, but also that "the quantities of water are comparatively low for a mine of this size and characteristics".



Clover stopped sprouting due to metals in groundwater after Rio Tinto's exploration in Serbia

Source: birn.rs