REPORT
concerning
the Impact of the *Ada Tepe* gold mine, Eastern Rhodope Mountain, Bulgaria, on the hydro morphological status of Krumovitsa River

Introduction

This is an independent monitoring report concerning the performance of the most modern mining enterprise developed in Bulgaria in recent years - the *Ada Tepe* gold mine near the town of Krumovgrad in the Eastern Rhodope Mountains. Based on the research and recommendations in the Environmental Impact Assessment and Appropriate Assessment reports concerning the investment plan, experts have declared that the development of *Ada Tepe* - Alternative Number 1 - will not cause significant adverse impact on the Krumovitsa River ecosystem and on the Natura 2000 Habitats Directive Site *Rodopi-Iztochni BG001032.*

This report elaborates in detail the findings of a monitoring field visit, testing of sludge samples, correspondence with the competent environmental authorities and an analysis of the implementation of the ESIA and AA recommendations. Based on these, the main conclusions are:

- the surface water cycle at the mining area is not completely closed and part of the surface rainwater is discharged into Krumovitsa River untreated;
- not all surface water is collected and treated before discharge into Krumovitsa River, in contradiction to the EIA recommendations;
- the section of the riverbed in close proximity to the mine has a layer of sludge on the bottom, which contains amounts of arsenic and other metals exceeding the environmental quality standard (EQS) limits for sediments;
- the Monitoring Plan for the Ada Tepe project is insufficient as far as surface water management is concerned;
- future plans for exploration and potential mining development in the area of Krumovgrad and the *Rhodopi Iztochni* Natura 2000 site contradict the AA of the Ada Tepe project and threaten the integrity of the site.

Full compliance with the recommendations and conditions specified in the *Ada Tepe* EIA/AA reports is of crucial importance in order to avoid environmental deterioration, especially in view of the large-scale investment plans for the development of other future mining projects in the municipality of Krumovgrad. All of these investments are planned to take place within the boundaries of the same Habitats Directive site *Rodopi-Iztochni BG001032*,
Moreover, there is an ongoing procedure in the East Aegean River Basin Directorate (EARBD) concerning a new Water Permit allowing the discharge of treated waste water into the Krumovitsa River with quantities two times larger than those specified in the EIA Report. This means that the negative impact on the ecological and chemical status of the receiving surface water body will be doubled in contradiction with the parameters assessed in the EIA report.

Therefore, any deviations from the approved EIA and AA reports that may occur or can be identified, should be reported to all interested parties at the earliest stage possible, starting with the investor as the first party to be notified. In this way some necessary recommendations, aiming at the possible improvement of the Ada Tepe's performance at the operational stage may be taken into consideration in due course

and positive conclusions for future mining development in the area concerned may also be drawn.
For these reasons, a field study of Krumovitsa River below the *Ada Tepe* mining area was carried out on 13 November 2020. The study covered a river section starting 1.0 kilometre above and ending 2.0 kilometres below the south sump of *Ada tepe* gold mine. The presence of fish was registered along the entire studied section of the river. Traces of otter (Lutra lutra) were also registered, which is another positive sign.

At the same time on the bottom of the riverbed and on the riverbanks, an accumulation of sludge was also registered below the mining area, which is unusual for this type of river. An atypical amount of sludge on the riverbed bottom was clearly noticeable below the *Ada Tepe* sumps and decreased with the distance away from the mining area downstream.

Because four of the groundwater sources for the drinking water of the municipality of Krumfovgrad are located in the terraces below the mine downriver, the registered sludge should be sampled and tested for pollutants, the source should be identified and measures to avoid further accumulation should be undertaken in due course

The hydro morphological pressure registered during the field study will also be discussed in the light of the relevant national and European legislation.

The Ada Tepe mine was financed by the EBRD and the enterprise should operate in line with the Bank's own Environmental and Social Policy (ESP), in addition to Bulgarian, EU and UN standards and good international practice. This study is fully independent and, therefore, it can hopefully be considered as partial post-construction monitoring of the performance of the EBRD's client on the project, Dundee Precious Metals.

Acronyms

MOEW - Ministry of Environment and Water
EARBD – East Aegean River Basin Directorate
RIEW - Regional Inspectorate of Environment and Water
DPM – Dundee Precious Metals
EBRD – European Bank for Reconstruction and Development
SEA – Strategic Environmental Assessment
AA – Appropriate assessment
EIA – Environmental Impact Assessment
EQS – Environmental Quality Standard
ESP – Environmental and Social Policy
WFD – Water Framework Directive of the EU
WA - Bulgarian Water Act
TFEU -Treaty on the Functioning of the European Union

I. Field study and results.

The general scheme of the entire mining area with all operational facilities can be found in the EIA documentation, uploaded to the Bulgarian Ministry of Environment and Water's (MOEW) internet register of all EIA/AA procedures in Bulgaria:
http://registers.moew.government.bg/ovos/lot/7560

For easier access the general scheme of the facilities of the Ada Tepe mine in PDF format can also be found here:
https://dams.reki.bg/uploads/Docs/Files/ADA_TEPE_plan.pdf

Dundee Precious Metals has disclosed the Environmental and Social Impact Assessment (ESIA) package on its web site, together with Water Monitoring reports for the Ada Tepe Prospect of the Khan Kroum Deposit for 2015, 2016 and 2017, which can be found here:
https://www.dundeeprecious.com/English/Operating-Regions/Current-Operations/Ada-Tepe/Documents/default.aspx

The field study took place on Friday, 13 November 2020 and covered 3.0 kilometres long section of the Krumovitsa River, starting 1.0 kilometre above and ending 2.0 kilometers below the south *Ada Tepe* sump, built in a small gully tributary to the Krumovitsa River. The presence of two sumps was registered close to the main river, in compliance with the general scheme. They look similar:

This picture, taken from the riverbank, shows the north sump. Big exhaust pipes (indicated in the yellow ellipse) are clearly visible at the left hand top corner of each barrage, with one possible purpose: to serve as spillways. The entire mining area, including the sumps, can be viewed in this video, shot with a drone:
https://www.youtube.com/watch?v=pEvCHLi846c

The south sump below the *Ada Tepe* Waste Management Facility is more clearly visible in this video at 4:20:
https://youtu.be/Ev6yqJv7eaw

According to local people interviewed during the field study, in the summer and early autumn of 2020 Krumovitsa River was completely dry in the inspected river section, due to insufficient rainfall and lack of seasonal runoff.

Krumovitsa River and its tributaries fall within the "drying type of rivers", with code R14 - Submediterranean small and medium rivers in Eco region 7, Eastern Balkans, according to the East Aegean River Basin Management Plan 2016-2021.
To confirm this fact, according to the AA Report /page 24/ the river:
"...shows strong water flow fluctuations - from very high around February-March, to almost complete drying in July-August (except for individual pools)."

The *Ada Tepe* AA Report /in Bulgarian/ can be found here
https://dams.reki.bg/uploads/Docs/Files/Ada_Tepe_Final_Report_BG_Dopalneno.pdf

The fact that the river often dries up was also confirmed during the field study in November 2020, when only a very small water flow was running in the riverbed. Judging from the presence of cracked sludge on the bottom of the riverbed and the thickness of the sludge layer, reaching 10 centimetres at some points, it is obvious that:

1. The river had become dry some time before the field study took place, because fine bottom sediments and sludge can never crack if they stay under water all the time.
2. An unusual amount of sludge has accumulated on the riverbed bottom and on the riverbanks, while the presence of such a layer of sludge is not noticeable above the affected river section. On page 45 of the EIA report the following warning is shared:

The increased sediment discharge in rivers and streams has a negative impact on the aquatic biota, as sediments cover river bottoms and aquatic vegetation, and prevent the penetration of sunlight.
Obviously, the macrozoobenthos community in the riverbed section below the mine will be the most affected.

This is a warning in the EIA report that appropriate measures to prevent the accumulation of sludge should be undertaken during the construction phase of the project's implementation. It is even more valid for the operational phase. The issue was not addressed in the EIA report and adequate mitigation measures were not planned.

This video proves the presence of cracked bottom sludge in the riverbed under the water below the mining area, close to the north sump:
https://www.youtube.com/watch?v=tTs5gMyBrJ4&feature=youtu.be

For this study, samples of the bottom sludge were taken from the south river bank close to the watercourse during low water conditions, from a spot with approximate coordinates - 41.432816 / 25.663494.
These samples were tested in a licensed laboratory for the presence of specific metals. As there is no official EQS concerning metal contents in river sediments, neither Bulgarian, nor European, the results are compared to the national standards of Romania and the Netherlands, which are very similar to the standard in the United States of America. Here is a table of the results:

Metal	Units	Result	EQS /Romania/	EQS /Netherlands/
Arsenic /As/	mg/kg	**36.36 ± 5.45**	29	29
Manganese /Mn/	mg/kg	861.0 ± 129.2	—	—
Copper /Cu/	mg/kg	30.84 ± 4.63	40	36
Nickel /Ni/	mg/kg	**46.37 ± 6.96**	35	35
Lead /Pb/	mg/kg	13.92 ± 2.09	85	85
Zinc /Zn/	mg/kg	96.0 ± 14.4	150	140

The laboratory results can be found here:
https://dams.reki.bg/uploads/Docs/Files/ADA_TEPE_SEDIMENTS.pdf

Apart from the other metals, the presence of arsenic is the most disturbing, as it can hardly be explained by natural processes and because upriver of the *Ada Tepe* mine there are no other industrial undertakings of any kind. Arsenic is mobile and highly toxic.
As stated above, four of the groundwater drinking sources of Krumovgrad municipality are located close to the town in the terraces of Krumovitsa River below the mining area according to the data provided in a letter from the East Aegean River Basin Directorate's (EARBD) during the EIA preparation. During the public consultations on the Ada Tepe project between 2006 and 2011, local people and independent experts raised questions about the possible arsenic pollution of Krumovgrad's drinking water on numerous occasions.

It should also be taken into account that the groundwater body in the area is in direct contact with the surface waters of Krumovitsa River.

Page 5 of MOEW's final decision on the approval of the Ada Tepe EIA/AA reports gives a special warning on this issue:
'These are pore ground waters directly connected with the waters of the Krumovitsa River and, therefore, the quality of the waters in the river is crucial for the quality of the waters of the groundwater body BG3G000000Q010...'

Usually, the arsenic content in the sediments of rivers in their natural state - not affected by industrial pollutants - is not expected to exceed 10mg/kg. During the EIA

procedure the problem should have been identified and addressed, with appropriate measures recommended, if the EIA/AA experts have noticed the presence of sludge below the mining area, which they did not.

If the sludge was present at the time, it should have been registered in the baseline, sampled and tested, and the source should have been identified, in order to be taken for reference during future monitoring studies on the impact of the mine.

This is a matter of crucial importance - any kind of accidental river pollution may come and go in a very short period of time, thus it can remain unregistered by local people and by the competent authorities - when samples from the water in the river are taken and tested. But if some metals are discharged together with the surface waste water from a mining area (or from somewhere else) only during heavy rainfall, metal traces are expected to be found mainly in the bottom substrate and, depending on the quantity of pollutants and the duration of exposure, possibly in aquatic fauna like fish, crabs, etc. For example, fish species often come into contact with the bottom substrate, therefore, taking and testing tissue samples from the fish is quite reasonable in such cases. However, because the river often becomes dry and fish are migrating, the only 100% reliable indicator in this case is the bottom substrate.

This does not mean that if the problem was available and registered during the preparation of the EIA and AA reports, it should have been underrated and/or neglected. The reports prepared for this project are of very high quality and it would be very strange if the experts didn't see the sludge.

Still, the problem was not addressed in the EIA/AA Reports for one reason only - it is stated many times in the report that all industrial and surface waste waters, including rainwater accumulated from the whole mining area, will be collected, treated properly and reused in a returning cycle afterwards (discussed in the next section).

While the presence of a large amount of sludge in the riverbed was not registered in the EIA/AA reports and no measures were proposed, an obvious question should be answered - when did the sludge appear and where did it come from?

Part of the answer is easy, judging from the satellite pictures downloaded from Google Earth during the construction phase - the following picture was taken on 22 July 2018, when a massive discharge of mud flowing into the river is clearly noticeable under the north sump:

NOTE: To be enlarged and studied in detail, all the pictures shared in this report can be downloaded from the following link:
http://gallery.balkanka.bg/s/users/pitcha/ADA+Tepe/2018_07_22_A.jpg.html

This video clearly displays the natural state of the area before the construction stage and afterwards:
https://www.youtube.com/watch?v=ZqCsM39MKNM

Normally, it is not expected and usual that metal pollutants only reach the river during the construction phase of a mining enterprise for processing metal ores. Water samples, taken from the rivers below all the other mines in the East Aegean River Basin usually show metal contents exceeding the limits hundreds of times, according to the monitoring data in the River Basin Management Plan 2016-2021.

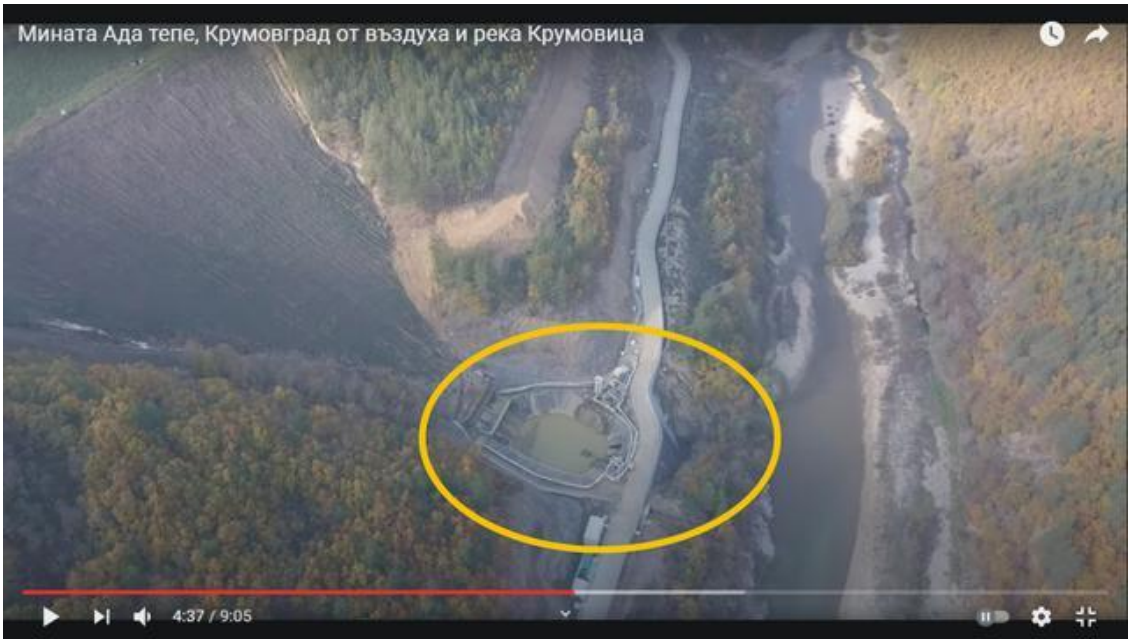
The Regional Inspectorate for Environment and Waters (RIEW) in the town of *Haskovo* informed the authors of this study that a thorough inspection of the mining area took place on 25 November 2020. The inspection discovered that some of the surface waters are discharged directly into the river during rainfall, without any treatment whatsoever. The letter of RIEW *Haskovo* /in Bulgarian/ can be downloaded from the following link:
https://dams.reki.bg/uploads/Docs/Files/ADA_Tepe_RIEW_ANSWER.pdf

On page 2 of the RIEW letter the following statement can be found:
"The north and the south sumps are divided in two with concrete partitions and drainage waters from the working cells are getting into the right hand part, while non-contact rain water from the area of the site remaining intact fom the construction, are getting into the left hand part of the sump.

If need be, non contact rainwater can be diverted through an open concrete channel to the Krumovitsa riverbed...

... At the connection point of the rainwater channel to the southern sump there are traces of discharge due to the last rain..."

The south sump held a small amount of water during the November 2020 field visit:



This picture displays the undisputable facts that:

1. There is enough volume to collect additional rain water instead of discharging it directly into the riverbed.
2. There is no partition wall in the sump, claimed in RIEW Haskovo's the letter.

Dumping surface waters from the industrial mining area, regardless of whether they are considered contact or "non contact", is in contradiction with the expert statements and recommendations in the EIA report (discussed in the next section). It is hard to understand why only a small part of the surface rain water is collected and reused if it is really pure enough for the needs of the mine, while groundwater quantities are pumped from the terraces of the river as a source of fresh water.

Using rainwater in a closed cycle will lead to a much more prudent and effective utilisation of the natural resources as required by Article 191 of the Treaty on the Functioning of the EU (TFEU), literally transposed in Articles 2 and 2a of the Bulgarian Water Act, and will reduce the pressure on the groundwater body in return. At the same time, the operational costs for the investor will also be reduced, not to mention that collecting surface rainwater during heavy rainfall can bring multiple other benefits.

According to the letter of RIEW *Haskovo*, part of the "non-contact" rainwater is collected in the sumps. However, on page one of the letter, RIEW states that the south sump was only 21% full at the time of their inspection, indicating that another part is dumped into the river even when the sumps are empty.

Based on the findings above, it is obvious that the main source of sludge was formed during the construction phase of the project's implementation.
However, possible pollution during the operational phase cannot be discarded completely.

Therefore, the reason for the registered presence of metals in the sludge exceeding the EQS for river sediments needs to be studied thoroughly, because the chemical status of the surface and the groundwater bodies in the area concerned is at risk.
The fresh groundwater source for the Ada Tepe mine itself is located in the upstream terraces of Krumovitsa, instead of downstream of the mine - where the drinking groundwater sources of the city of Krumovgrad are situated - likely due to the pollution risk.

Dumping surface rainwater (whether "contact" or not) with unknown chemical contents from the industrial mining area directly into the river should not be allowed. If such dumping is taking place, these waters also need to be tested. Dundee Precious Metals has not published water monitoring reports since 2017 and it is unclear if such monitoring is carried out by the company, the EBRD or their consultants.
The authors of this report plan to test the surface waters discharged during rainfall next year, if the competent state authorities refuse to fulfil their duties, as they are obliged to by the relevant legal framework.

Unfortunately, after a signal from the beginning of November, till the end of December 2020, EARBD has also refused to conduct a field inspection or to check the performance of the Ada tepe mine for compliance with the Bulgarian Water Act and the underpinning national documents in legal force.

IMPORTANT
In accordance with the national regulatory legal framework, the investor prepared a Monitoring Plan on the performance of Ada Tepe mine. The Plan was consequently approved by the competent authorities. This Plan can be found on both the MOEW and EBRD websites. After a thorough review of the Plan during the preparation of this report, the following shortcomings were discovered.

1. The Monitoring Plan disregards the possible discharge of surface rain water contaminated with dissolved and undissolved substances into the Krumovitsa River during the construction phase.
2. The Monitoring Plan also disregards the possibility that during the operational phase "non contact" surface waters, coming from an industrial mining area and dumped without treatment into the river, may possibly contain pollutants of some kind.
3. Concerning the potential chemical pressure, only surface and ground waters monitoring is planned. Monitoring of river sediments is not taken into consideration at all.
4. Monitoring based on testing tissue samples taken from the fish fauna in the river is not considered in the Monitoring Plan either.

According to section eight *Water Monitoring*, the Plan includes 9 stations for surface waters, 17 stations for ground waters and 6 stations for industrial waste water.

None of the surface stations is located in the Krumovitsa River right below the mine, but even if there was a station there, water samples from these stations are taken and tested only once a month. Thus they may not register accidental pollution. They also may not register pollution during heavy rainfall, when the quantities of pollutants may be considerable, but concentrations are small.
As mentioned above, accidental surface water pollution may come and go in a very short period of time during rainfall. It may remain unregistered even by the investor during the implementation of the Monitoring Plan. The only possible sources of information that such accidental pollution may be occurring – from heavy metals for example - are the sediments and the aquatic fauna in the river.

Another very important fact that needs some explanation is specified in Dundee Precious Metals' Ada Tepe Annual Water Monitoring Report 2017 (prepared during the construction phase):
https://s21.q4cdn.com/589145389/files/doc_documents/BG/%D0%95%D0%BA%D0%BE%D0%BB%D0%BE%D0%B3%D0%B8%D1%87%D0%BD%D0%B8_%D0%B4%D0%BE%D0%BA%D0%BB%D0%B0%D0%B4%D0%B8/Water-Monitoring-Report-2017_Final.pdf

According to pages 22 and 23 of the report, groundwater monitoring station **EGW 03** (coordinates - E 386986 ; N 4588201 - to the west of the mine) has shown serious fluctuations in recorded rrsenic contents - from within the limits, to **4.6** times above the limits. The only explanation found in the report is that:
*"Probably the appearance of iron, manganese and arsenic ions above the permissible levels of the quality standard (*EQS) *is due to the groundwater levels reaching easily soluble fractions of minerals containing these metals."*

However, there is another possibility, namely that the appearance of metals in the groundwater is highly dependent on the seasonal rainfall, on potential surface water pollution and on the direct contact between surface and groundwater. This is much more likely to be the true explanation, because the difference registered in the groundwater levels' fluctuation was too small - only around 30 centimetres.

The good news is that the readings of one of the monitoring stations at a drinking groundwater source - EGW 12 in the terraces of Krumovitsa, 2.6 kilometres to the North of the mine, were under the limits in 2017 according to the Annual Report. These readings can be used as referent parameters for any future water quality monitoring.

Based on the above, it is undisputed that Arsenic is present in the mining area and in its vicinity; therefore, proper monitoring using all indicators possible (including river sediments and fish) must be conducted in order to prevent pollution and to rectify it at the source at the earliest stage possible.

NOTE

The hydromorphological and potential chemical impact was the main objective of the field study. Assessment of the impact on fish fauna and on other aquatic species did not fall within the scope of this particular study. However, the presence of fish was clearly visible in most of the pools along the river below the mining area, showing that the water running in the riverbed was not heavily polluted at the time of the field visit, when weather was dry and surface rainwater was not discharged into the river.

Another positive sign was the presence of fresh traces of otter excrements alongside the river, registered some 350 metres upstream of the south sump:

These traces demonstrate that there is still a sufficient nutritional base for the otter, which has not been chased away from the surrounding area after more than one year of the mine's operation.

II. Compliance of the Ada Tepe mining area parameters with the conditions and recommendations specified in the EIA and AA reports

The EIA and AA procedure was finalised in 2011. Full documentation in Bulgarian is available in the Register of EIA/AA procedures of the Bulgarian Ministry of Environment and Waters:
http://registers.moew.government.bg/ovos/lot/7560

After a thorough review of the chapters concerning water management and river and biodiversity protection, the following discrepancies between the EIA and AA reports and the actual project implementation were found:

1) It is written in the EIA report (page 185) that the following measures should be undertaken during the construction phase to minimise the risk of surface flow contamination:

- Construction of temporary drainage ditches for collecting and diverting surface flows from the construction sites;

- Construction of temporary precipitators to collect water contaminated with undissolved substances (soil and subsoil material) for its purification, before its discharge into the river.

Comment: From the picture on page five displaying the erosional flows, it is obvious that these measures were either not taken, were insufficient or they did not work during the construction phase. It should also be underlined that the experts who prepared the EIA did not discuss the possible discharge of metal contents together with the subsoil material, which is not expected during the construction phase. Hence, the metals must have come from somewhere else – possibly from the mine during the operational stage.

2) It is stated many times in the EIA report (pages 48, 82, 201-203, 288, 294 etc.) that during the operational phase all industrial, mining, surface and faecal wastewaters will be collected, precipitated and purified before they get discharged into the river. Numerous statements point to the conclusion that all kinds of waste waters, including surface rainwater, will be captured, collected, purified, precipitated and reused, and the eventual excess of water will be dumped into the river through a pipeline only after proper treatment. Page 284 of the EIA report reads:

A review of the technology for development of the mining area in line with Alternative 1 defines the drainage and rainwater tank as the only possible organised source of potential water and soil pollution...
... Waters from the tank will be returned to circulation and excess waters will enter the precipitator before they are discharged into the river. Such discharge will be required mainly during heavy rainfall.

Comment: According to the letter from RIEW Haskovo surface rainwater is dumped directly into the river during rainfall right below the mining area at the south sump, even when the sump is empty. This contradicts the EIA's conclusions. The possible negative impact on the riverine ecosystem, on the surface water and on groundwater bodies was discussed in the previous section. Therefore, additional measures concerning the surface waters from the mining area should be undertaken in due course.

3) Concerning the operational phase, according to the EIA report (page 48) the expected total quantity of waste water is **4.5 l/sec**, which can increase to **15 l/s** during extreme events, such as heavy rainfall (in case of an event with a probability of 1:100). These are the waste water quantities, expected and declared to be dumped after purification to an acceptable extent into the river, which were assessed in the EIA report.
Comment: There is an ongoing procedure in the EARBD concerning a new Water Permit allowing the discharge of treated waste water into the Krumovitsa River with quantities two times larger than those specified in the EIA report. This means that the negative impact on the ecological and chemical status of the receiving surface water body will be doubled, in contradiction to the parameters assessed in the EIA report.

5) Currently, Dundee Precious Metals has many future investment plans in the same area of the Krumovgrad municipality. This is confirmed by regular applications for other exploration permits in recent years. These intentions are in contradiction with the conclusions and recommendations in the AA report on the impact of Ada Tepe

mine and its implications for the conservation objectives of the Natura 2000 Habitats Directive site Rodopi-Iztochni BG0001032.

In section 4.4.1 (page 48) of the AA report the following important warning is included:

'A possible cumulative effect will occur in the case of new developed mining sections and in case of the appearance of other investors in the region, which will cause significant negative impact at the Site's level.'

The same recommendation is written in a more specific way in section five of the report (page 66), where mitigation measures are discussed:

Other investment proposals in the Site concerned within the territory of the municipality of Krumovgrad, which affect habitats and species - subject to protection in the Site, or are located within the Site or within a radius of less than 100 metres from its borders, in the expected area of impact, that may have cumulative or synergistic with the expected impacts of this investment proposal effect, should not be allowed.

Expected benefit: Elimination of the cumulative effect of increased anthropogenic pressure on this part of the Rodopi - Iztochni Habitats Directive Site, as well as on the Site as a whole, and preventing any further negative impacts on the habitats and species within the Site.

Comment: The quality of the Ada Tepe AA report is indisputable. It is the best that we have encountered in our long practice.

The recommendations cited above mean that only Alternative Number 1, which encompasses a reduced mining development area (85 hectares) in comparison to Alternative Number 2 (160 hectares), is acceptable in terms of the expected cumulative effects on the Natura 2000 site concerned within the boundaries of the municipality of Krumovgrad. Any future enlargement of the *Ada Tepe* mining section beyond Alternative Number 1, or any future development of any of the five other mining sections in the *Khan Krum* concession field, which fall within the boundaries of the municipality of Krumovgrad, will have a significant negative impact on the conservation objectives of the Natura 2000 Habitats Directive site Rodopi-Iztochni BG0001032.

These were the conditions under which the AA report for the *Ada Tepe* project was approved and the project itself received green light to proceed.

Yet, regardless of the above recommendations, the website of the Bulgarian MOEW shows that the investor has not met the above conditions. The Khan Krum mining field consists of six mining sections according to the information on the concession contract, specified on page two of the AA report. These mining sections are - *Ada Tepe, Kaklitsa, Kupel, Sarnak, Sinap and Skalak*.

According to a letter from MOEW to the investor regarding further exploration activities within the concession field *Khan Krum*, Dundee Precious Metals was instructed to conduct another brand new AA procedure concerning three of the other mining sections - Sarnak, Sinap and Kaklitsa of the Khan Krum mining field:

https://www.moew.government.bg/static/media/ups/articles/attachments/NSZP-319%20ot%2007.08.20192714bd2871bc52f6c7b1a5d468e21fbe.pdf?fbclid=IwAR3Q4dVJAAamDOfqm7pSC1HBZGPP4erZFIvbotRAvhZUGhoSKS0WdfhBRKY

Furthermore, apart from the Khan Krum mining field, Dundee Precious Metals holds permits for metal search and exploration in another six mining fields like *Khan Krum*, according to the Ministry of Energy's register of these permits. These large exploration fields are registered under the following names: Chiirite, Divna, Dalbokata reka, Elhovo, Lada and Yarilo. Dundee Precious Metals' subsidiary - Balkan Mineral Mining holds an exploration permit for another big mining field named Iran Tepe.

The request to begin exploration on the Lada and Yarilo mining fields has already received the green light from the Ministry of Environment without an AA procedure for the exploration phase. The search for gold could start any time now.

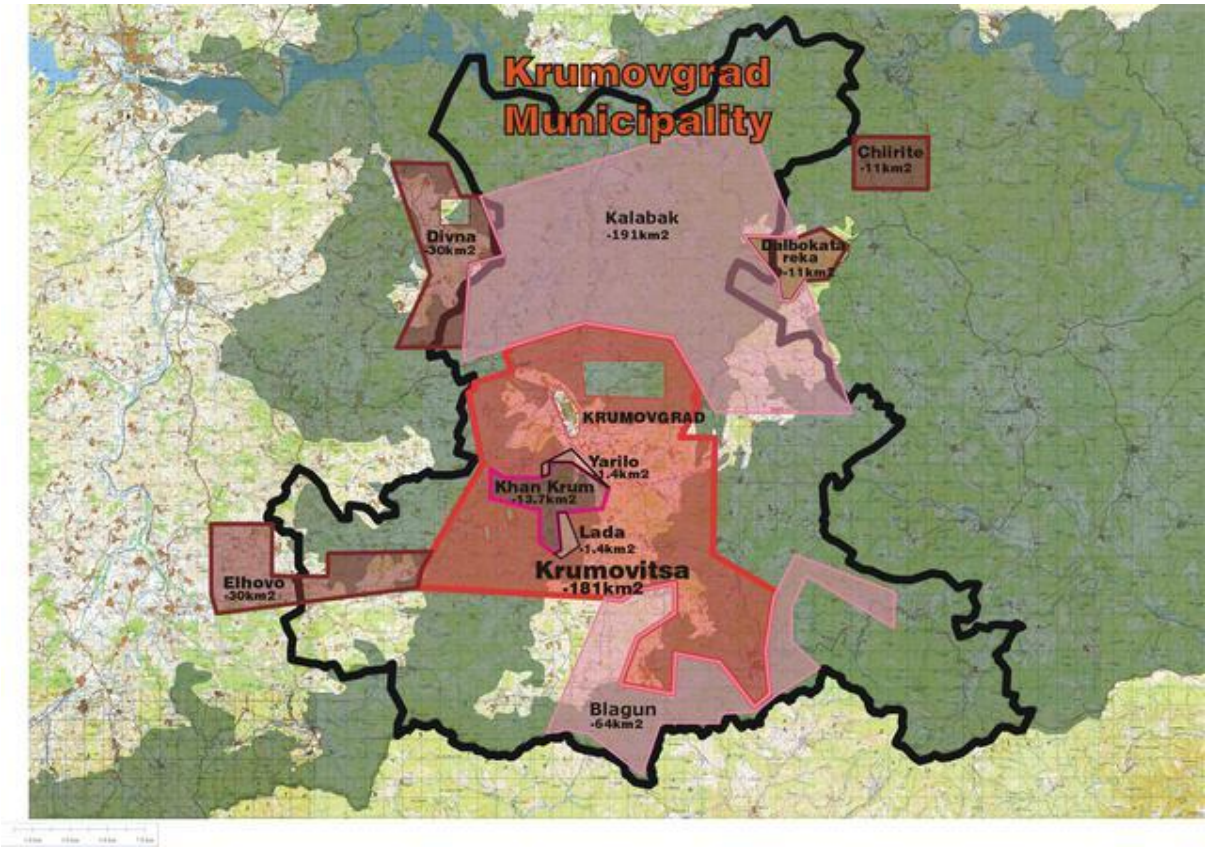
In November 2020, the Ministry required the investor to carry out an AA procedure only for the Elhovo and Chiirite mining fields.

Except for the *Chiirite* mining field, each of the other five new mining fields is partially located in the area of the Krumovgrad municipality, but they all fall within the boundaries of Rodopi - Iztochni BG0001032 Habitats Directive site.

Therefore, the recommendations in the AA report for the Ada Tepe mine have been disregarded both by the investor and the state authorities.

Additionally, two other companies are holding exploration permits for two other big mining fields - Kalabak /**191**km^2/ and Blagun /**64**km^2/ in the area of the Krumovgrad municipality.

Moreover, during the preparation of this report, another tender invitation appeared on the Ministry of Energy website, concerning metal search and exploration in another new large mining field called Krumovitsa /**181**km^2/, which falls entirely within the boundaries of Krumovgrad municipality. The tender procedure is initiated by an unknown investor, meaning it may not be Dundee Precious Metals. However, the borders of this particular field fully cover the borders of the existing field known as Iran Tepe, which is owned by Balkan Mineral Mining, therefore Dundee Precious Metals may still be involved. The boundaries of all future mining plans are displayed on the following map and the Krumovgrad municipality borders are drawn with thick black line:



The exploration fields Kalabak and Blagun, which do not belong to Dundee Precious Metals or its subsidiary Balkan Mineral Mining, are colored in light pink.

This map shows only the mining exploration fields in the municipality of Krumovgrad, but there are many other permits for exploration within the same Habitats Directive site, which is indicated in dark green on the map..

To be enlarged and studied in detail the map can be downloaded from here: **https://dams.reki.bg/uploads/Docs/Files/ADA_TEPE_KRU_MAP_2.jpg**

Some of the large mining fields surround or link some of the other fields, as they share the same borders. For example, Krumovitsa surrounds Khan Krum, Lada and Yarilo, and shares a border with Elhovo, Kalabak and Blagun. This is done on purpose, because the area of exploration under a single permit should not exceed 200 square kilometers, according to the Mineral Resources Act.

In line with the recommendations specified in the EIA/AA reports, the approved Alternative Number 1 of the Ada Tepe mining section should have a reduced operational area – only 85 hectares, instead of 160 hectares as proposed in Alternative Number 2. The reason for limiting the mine's area was to avoid significant adverse impact at the site level. Now, however, two new fields with permits for exploration – Lada and Yarilo, which belong to the same investor – are adjoined to Khan Krum, forming an additional 3.1 square kilometres.

It also seems that at least 70% of the total area of the municipality of Krumovgrad will be subject to further exploration for gold and other metals. Geological data which indicates the presence of metals is available from the National Geological Fund, which is from the Socialist period. Once mining companies are able to officially confirm the Fund's information about the presence of metals in a given area the subsequent procedure is automatic and unstoppable until a concession contract is

signed, unless the Investment Plan is rejected during the EIA/AA procedure, which has never happened. The reasons for this are described in the next section.

6) Last, but not least, the European Commission sent a final warning to Bulgaria over systemic failures in its implementation of EU nature legislation on 3 December 2020.

Here is the source:
https://ec.europa.eu/commission/presscorner/detail/en/inf_20_2142

In Chapter 1 of this letter, 'Environment and fisheries', in a section entitled, 'Reasoned opinions', the letter reads:

…
In Bulgaria, cumulative impacts of existing and authorised plans and projects in Natura 2000 areas have systematically been neglected when assessing the impacts of new plans and projects. Therefore, many developments representing a major threat to conservation objectives have been authorised. The Commission initiated an infringement procedure and sent an additional letter of formal notice to Bulgaria in July 2018. However, new complaints and a check of authorisations granted in Natura 2000 sites in 2019-2020 showed that this structural problem persists and plans and projects continue to be authorised based on inadequate assessments, or even in the absence of appropriate assessments. Bulgaria now has two months to remedy the situation, otherwise the Commission may refer the case to the Court of Justice of the EU.

The AA report for the Ada Tepe mining section is an exception to this, as it does discuss the risk of cumulative impacts. Any future mining activities in the area of Krumovgrad within the Natura 2000 Site concerned will be in direct contradiction with the AA expert conclusions if the future plans of the investor are developed any further.

III. Compliance of the *Ada Tepe* mining area parameters with the Bulgarian Water Act and the underpinning national documents.

The Ada Tepe mine is subject to certain legal provisions, specifically on the use of water..
According to the Bulgarian Water Act:

Additional Provisions, WA
7. *(amended, SG No. 65/2006, in force since 11.08.2006)* ***"water abstraction"*** *shall cover all activities related to the abstraction of water from water bodies;*
.....
34. *(New, SG No. 65/2006, in force since 11.08.2006)* ***"water object"*** *is a permanent or temporary concentration of waters with relevant borders, volume and water regime in the earth's subsoil and in natural or artificially created forms of the terrain together with the lands belonging to them;*
Note: This means that each gully, in which *permanent or temporary* water courses are formed, is a water object by definition. There is a decision of the Supreme Administrative Court on the matter in a lawsuit against a quarry, in which the authors of this report were engaged as consultants of the party that won the case.

Article 44, paragraph (1), WA
Art. 44. (1) (Amended, SG No. 81/2000, amended, SG No. 65/2006, effective 11.08.2006) A permit for water abstraction shall be required in all cases, except for:
1. the cases under art. 43, para. 2;
.....
Note - Article 43, paragraph 2 is about water abstraction up to $10m^3$ per day, by individuals for personal needs in their own property inside urban areas. Hence, it is not applicable to enterprises of any kind.

Article 44, paragraph (2), WA
Art. 44. (2) (Amended, SG No. 65/2006, in force since 11.08.2006) Water abstraction shall include the abstraction of water from water objects and / or water diversion from them, as well as the use of water energy.

Article 46, paragraph (1), WA
Art. 46. (Amended, SG No. 65/2006, in force since 11.08.2006) (1) A permit for Usage of a water object shall be issued for:
***1.** (amended, SG No. 61/2010) construction of new, reconstruction or modernization of existing systems and facilities for:*
(a) runoff regulation;
.....
g) water abstraction from surface or groundwater;
.....
3. *(amended, SG No. 61/2010) discharge of waste water into surface water for:*
a) the design of sites, incl. sewerage systems of settlements, settlement and resort formations;

Article 50, WA
Art. 50. (1) (Amended, SG No. 65/2006, in force since 11.08.2006) A permit shall be issued for water Abstraction and for the Usage of a water object.

How has the Ada Tepe mine project fared in compliance with this these provisions? The aforementioned letter from RIEW Haskovo (page 6 of this report) provides evidence for three very important facts by which to assess this compliance with the above legislation::

1. Two sumps were built for the operation of *Ada Tepe* in the gullies tributary to Krumovitsa River, together with a channel to collect "non contact" surface rainwater and occasionally dump part of it into the receiving water body - (Krumovitsa River) below the mining area.
2. Part of the surface rainwater is collected, diverted from the Krumovitsa River and returned to be reused for industrial needs.
3. Another part of the surface rainwater is collected and occasionally dumped directly into the river without any treatment whatsoever, regardless of the fact that mining areas may emit significant quantities of dust, possibly containing toxic substances and/or metals. For this particular reason dust was paid special attention in the *Ada Tepe* EIA report.

Fact 1 means that new facilities (the sumps) were built in existing surface water objects (the gullies) where water courses are temporarily formed.
In this case, a Water Permit for Usage of the gullies is required.

Fact 2 means that part of the surface rainwater is diverted and reused for industrial needs, but it does not reach the surface water body (Krumovitsa River).
In this case, a Water Permit for Abstraction from the surface water object is required.

Fact 3 means that part of the surface rainwater is dumped occasionally into the Krumovitsa River below the mine without any treatment at all. This water comes from an industrial area, potentially loaded with mining dust that may contain an unknown quantity of pollutants. To discharge this type of waste water (whether contact or non-contact) into a river, it should meet appropriate emissions' rates and limits, which should be specified by the EARBD in the Water Permit, in order to follow the legal provisions. Consequently, the EARBD should be able to check whether the limits are exceeded during the operational phase of the project.
In this case, a Water Permit for the Usage of the receiving water body (Krumovitsa River right below the mine) is required.

All existing Water Permits (actual, expired, extended and/or modified) are listed either in the EARBD Register (when EARBD is the competent state authority), or in the MOEW Register (when EARBD is not the competent authority on the matter).

After a thorough search in both MOEW and EARBD registers and a letter from the EBRD received through the Public Information Access Act, only two Water Permits for the Ada Tepe mine were found:

- A Water Permit for the abstraction of fresh water from the groundwater source above the mine (currently in effect).
- A Water Permit for the use of Krumovitsa River as a receiving water body for properly treated waste water. The point of discharge is located below the city of Krumovgrad, several kilometres away from the mining area. This particular permit expired in August 2019 (at the start of the operational phase of the mine) and has not been officially extended or modified yet. Such waste water is still collected in the sumps and in the reservoir, a year and four months after the start of the mining activity. Of course, another reason is that surface rainwater is still dumped directly into the river at the south sump below the mine, instead of being collected, treated, precipitated and reused in line with the requirements for prudent, effective and rational utilisation of the natural resources, according to the TFEU.

IV. Compliance of the Ada Tepe mine and future mining development plans with the SEA Directive and the Habitats Directive of the EU

Returning to the map of all existing and future mining projects in the area of Krumovgrad municipality, it becomes clear that together, these plans constitute a general mining development plan, programme, or even a strategy for the future development of the municipality itself. There will be no room left for any other undertakings – industrial, rural, tourism, etc., because at any moment in the future it will be possible that a mining company may come around and start digging.

Therefore, full compliance with the relevant EU directives is of crucial importance for the future of these mining plans, which means that relevant procedures in line with the EU SEA and Habitats Directives must be carried out for the mining Strategy.

A General Spatial Plan for Krumovgrad is not available on the website of the municipality, and currently such Plan does not exist. The contract for the preparation of the General Spatial Plan, together with a SEA and AA for the Plan, was signed in March 2018, but as of the time of this report's publication, the Plan and its assessments have not been completed, and the deadlines have expired long time ago. An SEA and AA for such a Plan have not been uploaded on the SEA internet register of the competent RIEW *Haskovo*:
https://haskovo.riosv.com/main.php?module=documents&object=category&action=list&doc_cat_id=8

This is not a surprise, because any positive conclusions in any possible SEA and AA reports will contradict the conclusions of the AA report for the Ada Tepe mine in the light of the expected cumulative effects.

V. Compliance of the Ada Tepe mine and the future mining development plans with the Espoo Convention.

Krumovitsa River is tributary to the transboundary *Arda* River, which flows to Greece. In line with the Espoo Convention, an EIA in a transboundary context was conducted for the *Ada Tepe* mine.
The affected Greek party (represented by the Greek Ministry of Environment, Energy and Climate Change) agreed on the project's implementation only within the parameters of Alternative Number 1, with the reduced mining area (85 hectares).
The letter of the affected State - Greece, to the State of origin - Bulgaria can be found here:
https://dams.reki.bg/uploads/Docs/Files/ADA_TEPE_ESPOO_LETTER_GREECE.pdf

The Greek Ministry shared its expectations for the project on page 3 of its letter (emphasis added):
"All appropriate measures will also be taken (i.e. forming gradients, maintenance of drains to ensure flowing capacity etc) to avoid transfer of any kind of sediments from the project's facilities to the Krumovitsa River"...

It remains to be seen how the plans for expansion of the mining activities in this area will be dealt with in relation to the Espoo Convention.

VI.Summary

- Erosional flows during the construction phase have caused negative impact on the status of Krumovitsa River, due to the covering of the riverbed with sludge below the mining area.

- The presence of sludge in the riverbed and its metal contents was not registered and discussed during the preparation of the *Ada Tepe* EIA/AA reports. Having in

mind the good quality of these reports, such an omission is unusual if the sludge was present at the time.

- Currently the sludge contains arsenic and other metals exceeding the EQS limits for sediments. This is a great matter of concern due to the direct contact between the surface and groundwater bodies in the area, because the drinking groundwater sources of the city of Krumovgrad are located in the terraces of the river close to the town downstream the mine.

- Such concern is not relevant to the fresh water source of the Ada Tepe mine itself, because its groundwater source is located upstream of the mine...

- Concerning the Monitoring Plan of the investor, the monitoring of river sediments and testing tissue samples from the fish fauna during the construction and the operational phase was not taken into consideration at all. Thus, pollution occurring during each rainfall may remain unregistered.

- The affected Greek party (within the meaning of the Espoo Convention) agreed on the project's implementation only if 'transfer of any kind of sediments from the project's facilities to the Krumovitsa River' is avoided.

- During rainfall, 'non-contact' surface waters from the industrial mining area are collected and some part is dumped directly into the river, instead of being reused. The content of dust or heavy metals and other pollutants in these waters are currently unknown. This is happening in breach of a basic European principle, set forth in Article 191 of the TFEU, namely that:
  ...*policy on the environment should be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay...*

- Another part of the 'non-contact' surface waters from the industrial mining area are collected and reused for industrial purposes; hence, they are diverted from – and never reach – the Krumovitsa River.

- Surface rainwater management of the *Ada Tepe* mining area has weaknesses and inconsistence with the conditions and recommendations specified in the EIA and AA reports.

- In the Water Permit registers of MOEW and EARBD, there are no traces of the necessary Water Permits for Abstraction and Usage of the water objects in the mining area. The only existing and actual Water Permit available in the official registers is for fresh water abstraction from the groundwater source above the mine.

- The investor has applied for an extension of the Water Permit (expired in August 2019) for the Usage of Krumovitsa River as a receiving water body for treated waste waters coming from the mine. The point of discharge is located below the city of Krumovgrad, several kilometres away from the mining area. The application specifies waste water quantities two times larger than the quantities assessed in the EIA report.

- The presence of fish and otter along the whole studied section of Krumovitsa River is a positive sign, indicating that the river ecosystem is not heavily affected yet.

- The plans for exploration and other potential future mining developments in the area of Krumovgrad are in contradiction with the conclusions in the AA report for the Ada Tepe gold mine.

- An SEA and AA were not conducted for the strategic mining development plan of Krumovgrad municipality. Implementation of this strategic mining plan is proceeding in the absence of a General Spatial Plan for the municipality of Krumovgrad.

- For the same strategic mining plan, an EIA in line with the Espoo Convention has not started and currently the Greek party does not know what will happen.

- It appears that the preparation of the General Spatial Plan of the Krumovgrad municipality, together with its EIA and AA reports, has been abandoned.

VII. Recommendations

1. Concerning surface waters, whether contact or non contact, Ada Tepe surface rainwater management and monitoring needs to be improved. Surface rainwater should be collected and treated in order to prevent pollution and to use the fresh water source in a much more prudent and effective way, aiming to reduce the pressure on the groundwater body.
2. Future waste water quantities from all types of sources should be brought into conformity with the quantities assessed in the EIA report.
3. Measures to prevent further accumulation of sludge, due to direct discharge of non-contact surface waters coming from the mining area and flowing into the Krumovitsa River right below the mine without proper treatment, must be undertaken in due course. Apart from the national legal requirements, problems with the Greek party might also be expected if they are informed that the problem persists.
4. The accumulated bottom sludge should be thoroughly sampled and analysed for pollutants and the source of pollution must be identified. Depending on the results, appropriate measures should be recommended, planned and undertaken very soon. Otherwise, some of the drinking groundwater sources in the area may be at risk.
5. Tissue samples taken from the fish below the mining area should be tested for the presence of metals. It is highly recommended that this is included in the Monitoring Plan of the investor, together with a monitoring of the presence, the source and the eventual further contamination of the sludge.
6. Groundwater monitoring of the Krumovgrad drinking water sources has to be conducted with extreme caution on a regular basis.
7. Apart from *Ada Tepe*, other investment plans for new mining activities in the area of Krumovgrad municipality, falling within the boundaries or in the close vicinity of Natura 2000 Habitats Directive site Rodopi-Iztochni BG0001032, must not be

allowed or developed. If this is not respected, it will undermine the very meaning of the EIA/AA procedures in Bulgaria, breaching not only national environmental legislation, but the Espoo Convention and the relevant EU Directives as well – the Water Framework Directive, the Habitats Directive, the SEA and EIA Directives, etc.

Finally, having in mind that the Bulgarian National Development Strategy for the Mining Industry was not subjected to an SEA and AA in breach of the relevant EU Directives, and also taking into account the scale of the future investment plans of Dundee Precious Metals and other mining investors in the area concerned, it is obvious that the Habitats Directive site Rodopi-Iztochni BG0001032 will become subject to a significant adverse impact.

Therefore, this report will be conveyed to the Directorate-General Environment (DG ENV) of the European Commission before it is too late. Some of the grounds on which the infringement procedure of the European Commission is based, namely the pollution caused by mining enterprises and the uncontrolled mining development in the country without a SEA and AA, can be found in a complaint made by Bugarian NGO Balkanka to the European Commission in April 2020:
https://dams.reki.bg/uploads/Docs/Files/EU_COMPLAINT_POLUTION_DRAFT4.pdf

The recommendations above are based entirely on the principles laid down in Article 191 of the TFEU. We hope, therefore, that at least some of the recommendations proposed will be taken into consideration and will be followed.

In the very end it should also be noted that a very interesting document appeared on Internet the day when this report was finalised - another DPM document called Risks and Opportunities Related to Climate Change:

https://s21.q4cdn.com/589145389/files/doc_downloads/2021/01/TCFD-Report_Preview_210108.pdf?fbclid=IwAR3vlihtvAQqTvfqo9faHDCna0sZbQpvY1MYp7QUbugSB4fM8NTUTKAHulY

Most interesting is **page 20**, where water management risks the *Ada tepe* mine is facing are discussed. For example - the potential delays due to possible water shortages, which can be avoided if the recommendations above are followed, together with the dust issues, are addressed in the table on this page.
Assuming that the authors mean purified or treated water when they talk about "*cleaned water",* once again any possible direct discharge of "non contact" untreated rainwater /i.e. not purified or *cleaned*/ into the Krumovitsa River below the south sump is not mentioned at all...

Author:

/dipl.eng.Dimiter Koumanov/

Sofia, Bulgaria
11.01.2021

APPENDIX 1: Dundee Precious Metals' Response

After its preparation, this report was conveyed both to the investor, Dundee Precious Metals, and to the EBRD for comments. Dundee Precious Metals was very kind to share their written position on the issues raised in the report, and the management of EBRD shared its satisfaction with the investor's response.

In the meantime, a thorough hydrobiological report was also finalized and shared. In this particular report, the unusual presence of sludge in the river below the mine and its impact on the macro-invertebrate community was thoroughly analysed. Among many other findings, the hydrobiological study has proven the following very important facts:

1. The presence of sludge in the riverbed above the mine was not registered.
2. The sludge started to appear in the riverbed bellow the mining area.
3. The river above the mining area is in excellent ecological status, using macrozoobenthos as a primary quality element for assessment.
4. Therefore, the river above the mining area can be used as a referent site for all future impact assessments of the mine on the ecological status of Krumovitsa River below the mine.
5. The post construction Monitoring Plan of the investor neglects the importance of the biological quality elements and is not apprehensive to potential accidental river pollution.

This particular report can be found in the following link:
https://dams.reki.bg/uploads/Docs/Files/Hydrobiological_%20report_Krumovitsa.pdf

Of course, the official answer of DPM is the most interesting. It can be found here:
https://dams.reki.bg/uploads/Docs/Files/ADA_Tepe_DPM_Balkanka%20Letter_290121.pdf

The most important statements of Dundee Precious Metals in its response to the report above, together with some necessary short comments, are:

- ***The Company does not discharge any non-contact water.***

This statement contradicts the findings of the hydrobiological report, which was carried out during rainfall. The statement also contradicts the observations in the report of RIEW Haskovo, where traces of discharge bellow the south sump were registered in a dry period after rainfall. Therefore, it is unclear who to believe, having in mind that in the letter of RIEW Haskovo particular attention is paid to the equipment to facilitate such discharge – an open concrete channel to collect the non-contact surface waters, which are dumped directly into the Kumovitsa riverbed bellow the south sump. In such cases, the best approach is only to believe ourselves and, therefore, Balkanka's independent monitoring on a regular basis will continue in the future.

The good news, however, is that from now on the investor has committed to take every step possible to avoid direct discharge in the future, despite declaring that such discharge has never happened in the past.

- ***Arsenic presence <u>in soils</u> has been a well-known fact. Its presence in soils and water has been observed for many years, long before the setting up of the Ada Tepe open pit. Therefore, it is quite normal to find arsenic in the composition of riverbed sediments.***

Sorry, this is anything but normal.
If this is the case, then it is completely inexplicable why open-pit gold mining is allowed in the area at all. While the natural vegetation of grasses, bushes, shrubs, trees, etc. protects the terrain from surface erosion, the active transfer of toxic sediments from the soil surface into the river cannot be expected. The processes are activated if the vegetation and soil surface are destroyed. What's worse is that exactly the same soils are currently being stacked and will be used for reclamation. For this purpose, they will be taken from the stacked piles and will be backfilled to restore the landscape.
These new embankments will become stable against erosion with new vegetation vigorous and strong enough to protect their surface from erosion after many years. Until then, the risk of surface erosion and leakage of new amounts of arsenic into the river cannot be ignored.
The sludge contaminated with arsenic was not registered and tested during the EIA report preparation. If this arsenic contamination was due only to natural processes, it would have been there in the riverbed, and the experts should have found and explained its presence. Sludge, whether natural or not, was not found above the mine during the present studies either.
Another big question is – what about the cumulative effects, if all of the future mining plans within the municipality of Krumovgrad proceed in an area where the natural soils are loaded with Arsenic and heavy metals as stated in the Ada tepe EIA report?

- ***The latest inspection of Plovdiv Basin Directorate (EARBD) carried out on <u>20.02.2021</u> discovered no violations of the Water Act.***

This is no surprise at all (in the next sections the reason will be clarified). But the EARBD received a signal <u>at the beginning of November 2020</u> with several invitations for them to carry out an inspection repeated thereafter. The results of the inspection are not clear yet and will be delayed, as the study of sediments requires at least one month.
The EARBD will likely find that during their inspection, no traces of sludge were found in the Krumovitsa riverbed, which is to be expected due to the flooding that occurred just before the inspection of the EARBD, from 10 to 12 January 2021, which washed all traces of sludge from the riverbed. Most likely, the choice of the period for the inspection three months after the first signal is the result of mere coincidence, accidental or not.
From the photos included in the hydro biological report, however, anyone can get an idea of what the mud in the dried-up Krumovitsa River looked like in October 2020.

The good news here is that the flood from January 2021 has washed the mud from the riverbed. After the commitment of the DPM management, namely that no surface waters of any kind will be discharged into the river, we are sure that our future monitoring visits will never find new sludge starting to appear in the river below the

south sump, otherwise the whereabouts of the source will become clear and undisputed.

- ***Further exploration works of the remaining prospects of the Khan Krum concession area are initiated only after obtaining a positive statement on the Appropriate Assessment ('compatibility assessment' in the original text) by the competent authority – MOEW.***
- ***Future mining developments in the area of the municipality of Krumovgrad are in compliance with all legal and contractual requirements of the competent authorities* (including MOEW).**

Now, this is the most interesting part of all. Actually, these future mining plans were the reason for the start of our inquiry and our involvement in the case upon the requests of worried local people.

Here the investor is quite right from his point of view.
The question is – do the requirements of the Bulgarian environmental authorities always follow the law or not? Balkanka has a record of five-to-one wins-to-losses in cases brought to the Supreme Administrative Court against unlawful requirements and decisions of MOEW.

Balkanka also has a long history of communication with the EBRD on the issue concerning the competence of the 'competent' Bulgarian environmental authorities – like the Iliyna Hydropower Plant of the Rila Holly Cloister, for instance. It was a case in which a whole bunch of 'competent' authorities was involved in the biggest fraud we have ever encountered, and the EBRD was about to finance it blindly!

The competent Bulgarian authorities constantly breach the law! The reason is Grand Corruption in the most corrupt EU Member State. It comes to explain why the EARBD has waited for three months and decided to conduct an inspection upon the signal from the beginning of November only after a big flood had happened. Otherwise they would have waited endlessly.
Based on the above reasons, should our "competent" authorities have always followed the law, the Infringement procedure of the European Commission highlighted in the report wouldn't have started and wouldn't have been brought to the European Court. At least half of all cases and grounds, on which the Infringement procedure is based, are listed in several consecutive complaints *Balkanka* has lodged, and significant part of these cases were proudly financed by the EBRD in huge violation of the EU environmental directives!

As for the satisfaction of the EBRD with the official answer of Dundee Precious Metals, it is not a surprise either. CEE Bankwatch Network's 2017 report Broken Rivers[1] on the EBRD's hydropower investments in North Macedonia showed that the management of the Bank was quite happy with the answer of the investors that their 'experts' had managed to find new fish species in a riverbed completely dry during the Bankwatch team of experts' inspection, regardless of the videos of the dry riverbeds shot for proof. We may also add the EBRD investments in small

[1] https://bankwatch.org/publication/broken-rivers-impacts-european-financed-small-hydropower-plants-pristine-balkan-landscapes

hydropower in Bulgaria, like the Sreden Iskar and the Blagoevgradska Bistritsa cascades, as another example.
In this context, based on our experience it is really interesting - does the EBRD ever finance some undertakings that follow the law?
As a European financial institution, it is expected that full compliance with the national and European legal framework will be the key to the EBRD's investments and that the due diligence procedures of the Bank will check even the reactions of local authorities for potential breach of the law.

Finally, in the light of the issues raised in relation to the Espoo Convention, which are not discussed in Dundee Precious Metals' official position, the fate of a number of proposed mining activities in the region of the Bosilegrad - Kyustendil municipalities on the border between Bulgaria and Serbia should be inspiring. Two years ago, a complaint was lodged with the Implementation Committee of the Convention. It was a case where the 'competent' authorities on both sides of the border shook hands to breach the Convention based on a bilateral agreement, only to the profit of private interests once again. However, due to the complaints filed, the final result was that several mining investment plans were cancelled.

In the light of the expected cumulative effects, taking into account the presence of arsenic in the soils, we hereby strongly urge the EBRD not to support any of the future mining projects in the area of the municipality of Krumovgrad. We also hope that the EBRD will advise its client to follow at least some of the recommendations in the reports, especially those concerning the improvement of the post-construction Monitoring Plan of the investor. We strongly believe that it is in the best interest of the client too, because the trust between investor and stakeholders will grow when the proposed measures are implemented.

APPENDIX 2: ADDITIONAL INFORMATION

I. To be completed, this report has to take into consideration the findings of the EARBD inspection, carried out on 20.01.2021. On 16.03.2021 these findings were finally received by Balkanka Association in an official EARBD Report, which can be found here:
https://dams.reki.bg/uploads/Docs/Files/ADA_TEPE_EARBD_REPORT.pdf

The most important EARBD official findings are marked in the document. These are:

1. There are 13 /thirteen/ existing points of rain wastewater discharge from the mining area into the surface water body Krumovitsa River - two points at the sumps and eleven additional points at the ditches surrounding the mining area...
2. Based on EIA decision No 18-8/11/2011 of MOEW where "Zero Discharge" is granted, the EARBD director (competent in this case), finds that the discharge of untreated surface rainwater into the Krumovitsa River is in contradiction with article 132 of the Water Act and exceeds the parameters set forth in the Water Permit for the usage of the surface water object for waste water discharge.
3. In Water Permit No 33140188/21.08.2015 (*not in effect at the moment* - our note) only one point of waste water discharge is defined - below the city of Krumovgrad, and all the other points of discharge are beyond the approved parameters.
4. Based on these facts and circumstances, there is a discrepancy between the activities described in the EIA Report.
5. The above is confirmed by a RIEW Haskovo's letter No ПД1491(3)/08.12.2020 to the Deputy Minister of Environment and Water, which states that in the EIA Report and in MOEW EIA Decision No 18-8/11/2011 the discharge of non-contact surface rainwater is not included.

The EARBD inspection was carried out in dry weather when surface rainwater was not dumped into the river, 10 days after a heavy rainfall and subsequent flooding in the area of Krumovgrad that washed away the sludge registered during Balkanka Association's inspections in October and November 2021. Therefore, only a small amount of sludge was found under the North sump.

Water samples taken from the Krumovitsa River during the tests showed that the EQS limits are not exceeded.

Most interesting are the tests of the sludge on the final page in the EARBD report.

This time the **arsenic contents** were inside the recommended limits, which is only normal due to the high mobility of this element, washed away by the flooding.

The highly toxic **nickel contents** exceed the recommended EQS limits for sediments twice. This particular fact was also proven by the sample testing during the preparation of the Hydro morphological Report of Balkanka Association.

However, the **iron contents** in the sludge (not tested by Balkanka) according to the EARBD report are really scary! The results show roughly 43 grams of iron per kilogram of sludge!

According to a dissertation work of Dr. *Bozidar Dokic* 2012:
Although Iron falls into the basic elements, there is evidence of the carcinogenicity of its compounds. Iron exhibits a toxic effect in the liver, respiratory, endocrine, nervous and cardiovascular systems. Lack of iron leads to anemia, and too high a concentration leads to the disease of hemochromatosis (Mandić, 2010).

This dissertation work can be found in the following link (in Serbian):
https://nardus.mpn.gov.rs/handle/123456789/2657?fbclid=IwAR12ydXcYG3a3tRAJN_th-LYdmwQJF4fngpY8vSgVqHVmeWS344Q04Gv7os

In the end of this section we must recall the statement of the investor in his letter dated 29.01.2021, stating:
The company does not discharge any noncontact water...

II. In the meantime, Dundee Precious Metals has applied for an extension and modification of Ada Tepe's Water Permit for the abstraction of fresh water from the groundwater source above the mine. This time, the required water quantity of 15 liters per second is three times bigger than the water quantity (5 liters per second) initially allowed in the original Water Permit. Together with the proven fact that the surface rainwater is not fully captured and effectively utilized, this comes to prove that the water management of the enterprise needs to be improved. The effect on the ecological status of Krumovitsa River, which falls within the "drying type of rivers", in direct contact with the groundwater body, will be unavoidable - the river will stay dry more frequently, for longer periods.

III. A symbolic court decision on the implementation of the national legislation concerning all mining activities has been issued by the Supreme Administrative Court. Among many other rulings, the Court ruled that even for a quarry for construction materials (let alone metal ores) an Appropriate Assessment is necessary for the exploration programme. Here is just a short citation:

"... *the Appropriate Assessment under Article 31 of the Biodiversity Act is mandatory with regard to the working search and exploration programme, in the process of issuing the concession permit, rather than after its issuance. Because only in its presence, the competent authority will be able to assess the presence or not of the condition under Article 56, paragraph 1, section 3 of the Natural Resources Act.*"

Here is the source:
http://www.sac.government.bg/court22.nsf/d038edcf49190344c2256b7600367606/c844dbf7a9ea90b0c2258597001eac4d?OpenDocument

The conclusions directly arising from this crucial SAC decision are that an AA is mandatory for the exploration programmes of each individual new mining enterprise, while the Ministry of Environment and Water did not require AA to be conducted for most of the numerous future mining exploration intentions of Dundee Precious Metals in the area of the Krumovgrad municipality.