AMULSAR A WOULD-BE DISASTER

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Houry Ellezian, Montreal, 7 July 2020

A Corporation Versus the Homeland

To review and understand what is involved in Amulsar, one must watch the documentary "Amulsar. State of Indifference".

Lydian International Ltd. discovered gold in Amulsar, Armenia, back in 2006. With its Armenian counterpart, it began luring villagers of Gndevaz and surrounding villages, with promising jobs and enterprises, at times exploiting their naivety and desperateness. Bought their lands at low prices, via their corrupt mayor, against whom, a court case is currently in progress.

Lydian acquired its mining license from the previous corrupt government. Following land acquisition, it proceeded to destroy all the villagers' lifework of apricot orchards, to build its own mine facilities. Some villagers even had to sell their cattle because these lands had become useless for grazing.

The company presented a simplified foolproof picture of "clean mining" to the authorities, in a short-animated film, and started construction work, without the consent of the local communities: Gndevaz, Saravan, Saralanj, Kechout and Gorayq communities… and most importantly without even consulting Jermuk community, the most crucially impacted town. This created a terrible alarm among the residents of Jermuk, who were quick to collect over three thousand signatures to confirm their rejection of any mine in their neighborhood.

And despite all the contrary scientific evidence:

1. The site's critical location at the heart of Armenia.
2. Proximity to critical drainage systems, connected to important reservoirs and rivers, which directly connect to Lake Sevan. As well-known, Arpa river is connected to Lake Sevan by a tunnel, and which was being renovated and scheduled to re-open in late March of this year.
3. Proximity to the famous spa town of Jermuk, well-known for its ***geysers*** / hot water springs, connected to the hot subterranean volcanic structures. It is worth noting that there is a special building code for this area, to avoid explosions.
4. Existence of uranium, proven in the fifties and harmful to human health if exposed.
5. Very strong winds, characteristic of the area, that can transport the dust produced to vast distances.

6. Snow during winter stays a long time in this area, which is a slow and sure way of infiltration and recharging ground water. Meaning any contaminant can easily infiltrate into the ground water through melting snow.
7. Cyanide, a dangerous chemical was planned to be transported uphill along a "rugged mountainous region" leading to the site.

Thus, when the construction phase began, many tragic incidents were reported:

1. Loud and noisy explosions were heard and visible from spa town of Jermuk,
2. Blackish turbid water started running from tap water inside houses,
3. Snow color turned into pinkish,
4. Heavy dust settled on people's cars just after one rainfall,
5. Arpa - Vorotan rivers were rapidly polluted,
6. Small baby fish were killed in fisheries.

After such incidents, the residents of Gendevaz and Jermuk confirmed that this project was a disaster in progress, even at its launching phase. Though some people were initially not complaining, turned absolutely against it after these incidents occurred.

Concerned voices which were raised long ago by the environmentalists, during the previous government, unfortunately continued with the new administration. They had great hopes that after the revolution, all corrupt schemes, including Amulsar project would be halted. But surprisingly, the new government took a different stand! No drop of water will be affected, the Prime Minister said. In disbelief, the residents thereupon resorted to blocking all the roads leading to the mine site.

Meanwhile, many independent studies were conducted through private means, numerous pleas, expert opinions, including my ***open letter*** to Prime Minister Nikol Pashinyan, all pointing to the defects and faults in Lydian's claims. Nevertheless, the new government preferred to conduct its own investigation, commissioning Lebanese ELARD, for an assessment, which also lead to similar conclusions. But the investigative committee appointed by the government for this reason, was dubiously coordinating with Lydian, and cleverly added a last page to the report prepared by ELARD, to misinform the Prime Minister that the report was in fact positive. Soon after, corruption charges were also laid on the head of this investigative committee.

It was apparent that the mining company and its shareholders were a stronger clan than the state. Lydian continued its arrogant and aggressive tactics. It even sued the environmentalists for defamation, spreading false narratives about them, misleading the new government, that the environmentalists were standing in the way of development. Always maintaining that the blockage was illegal, peeping into the protesters' private information, publishing propaganda articles in various Armenian and non-Armenian journals, and even threatening the republic of Armenia with international arbitration court.

As events came to demonstrate, the new government was under tremendous pressure by ambassadors of the UK and USA , who were either being influenced by Lydian story, or had a direct interest in Amulsar! An impression was created that if you are against mining in Amulsar, you are against big foreign investments in the country. Thus, no human rights were recognized from human rights defenders themselves.

Sadly, encouraging mining, increasing its production, and giving out new licenses, also became a priority of this government. A recent plea to suspend issuing of new mining licenses for the next two years, was refused by a committee of parliament.

Standing firm and blocking the roads, defending the land, the habitat, against aggression and against the destruction of Mount Amulsar, remains the only option for now, until this government takes a firm decision, to stop mining in Amulsar and elsewhere in the country. You cannot open a mine, start destroying nature, harming your own citizens, letting them migrate, and then decide that it is harmful and put it back again. It is just not possible.

As a result of more than a year's blockage, Lydian began losing its share value in Toronto Stock Exchange and was eventually delisted from the market. See also Ontario Superior Court informed about misleading information in mining company Lydian's affidavit.

And the struggle continues …

The Open Letter from Environmentalists to the Diaspora investors

On April 8, 2020 Armenian environmentalists, ***Armecofront,*** issued an open letter to large investors of the diaspora:

"Stay Away from Amulsar: Open Letter to Big Capital Owners and Businessmen in the Armenian Diaspora"

In this letter, diaspora's investors were alerted about a dangerous process of buying Lydian shares by big Armenian investors. This, after the company was delisted from Toronto Stock Exchange. In the mentioned open letter, certain personalities were revealed, some of whom, in the name of benevolence, were in fact doing great harm.

Latest incidents

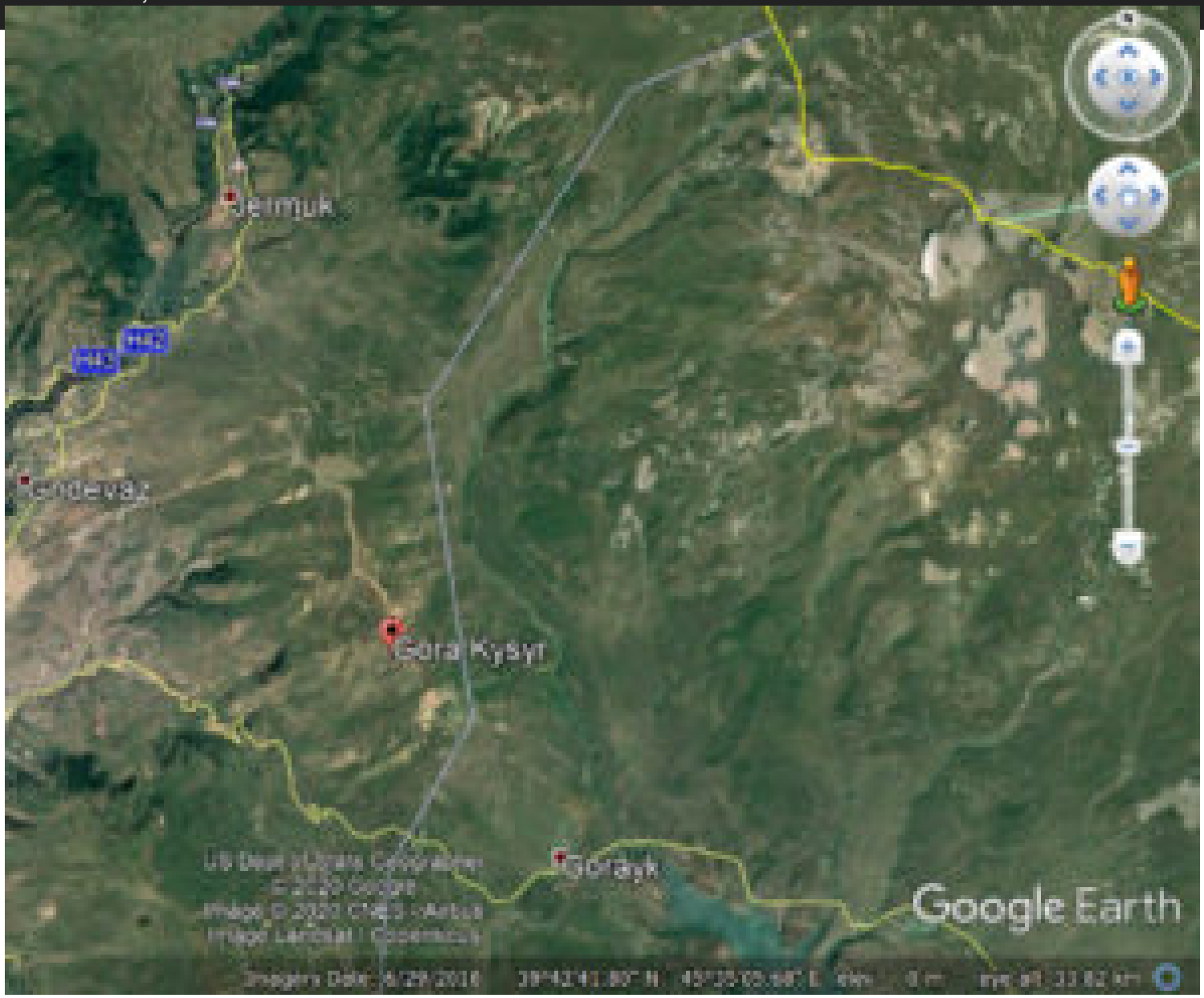
In the early morning hours of June 30th, 2020, a private security company claiming to have replaced the previous one, rushed to Amulsar posts with their cars and guns. While doing so they also overran and killed 3 puppies, creating heartache, chaos and large gatherings during a pandemic. The story was that they were sent to protect Lydian properties. But they had not previously notified the Amulsar guardians, making it look more like an invasion. Later, government security forces came to control the situation. There was finally an agreement between the two parties that legal documents

would be handed over to the lawyers, the security men/cars representing Lydian, would be identified and reduced to a minimum, without carrying arms and showing off. You may also read:

- Ամուլսարում զինված պահնորդային ուժեր են կուտակվել
- Tense Situation near Amulsar Guard Post
- Ամուլսարի հարցը մեզ համար արցախյան հարց է, որի լուծումը ժողովուրդը տվել է, հետքայլ չկա. Շիրակ Բունիաթյան
- Ամուլսարում համաձայնության են եկել. այդ շոուները տարածքում պետք է չլինեն՝ զենքով, դիմակով, զորքով ծառայություն չեն իրականացնելու. Շիրակ Բունիաթյան

What happened in Google Earth and Google Maps?

I was searching for Amulsar in both Google Maps and Google Earth, and this is what I found: the word “Gora Kysyr” instead of “Amulsar”. And a bunch of other Turkish names all over Armenia … I wrote a feedback to Google Earth, but one person is not enough.



It was only natural to expect Azerbaijan's encouragement to exploit Amulsar: Ադրբեջանը ողջունում է Ամուլսարի շահագործումը

But they went a step further and revealed their true intentions to annihilate the rest of Armenia. Let this be a notification, a registered proof, to the appropriate world organizations and negotiators that Armenia now is under cyber-attack. Just go to ***Google Earth*** and ***Google Maps*** and check for yourselves … and what will ***Google*** do about it?

The author's open letter to Prime Minister Nikol Pashinyan

Houry Ellezian is a geologist/sedimentologist with work experience in seismology. She is an

environmental activist. The collage appearing on top of the article is the author's work.

Comments



Houry Ellezian – 2020-07-09 22:55:21

Dear Hrayr Agnerian, 1. Of course it is NOT ok to have mines anywhere in Armenia, and I suggest you read my first two articles if you still haven't, especially the second one where I demonstrate all the disasters of mining by pictures. They have already devastated the South, the Syunik region, and the North, now they want to touch the middle, hitting Jermuk, the jewel of Armenia, and Lake Sevan. As if we have extensive lands available for sale. Since mines were all privatized in the last 25-30 years. In other words, complete annihilation of Armenia through its barbaric mines. In a future article, I intend to present a list of villages that have been wiped off the map, as a consequence of mining. 2. All your section 2, isotope and ion study, is only a minor technical detail in view of the whole picture. And I wouldn't rely on any data or study presented by Lydian, the interested party. In fact, I heard their sampling was not sufficient and they didn't spend much time on details. Just tell that to the local environmentalists, who post numerous pictures on acid drainage, and polluted rivers, daily. And try to sell that to the citizens of Jermuk, Gndevaz and the surrounding who have experienced it firsthand. While focusing on groundwater connection, you forgot that Arpa river is directly connected to Lake Sevan, and Arpa river was rapidly contaminated when construction works began. Lydian claimed that it would reach Lake Sevan in a 100 years, how funny. I saw the videos with my own eyes. I have other independent studies, that raise a list of problems with execution and cleanup. I could send them to you by email. In fact, I had prepared a long list of bibliography, but I asked Keghart to omit them for occupying much space. 3. Uranium, its existence was proven by the Russians, and amounts of uranium deposits were more than the gold. The study is in Russian language. This was translated by an Armenian scientist now living in the States. I will also include that in the list of bibliography. 4. You don't seem to take strong winds seriously? And how large an area, do you suppose, they would have to spray? And where would they bring water from? This is not just a road you know. There is proof that they already started utilizing water from Lake Sevan (already suffering from low water levels and blue green algae) and were asking permission to draw water from somewhere else and got refused. I will also include that in the bibliography. 5. Didn't you read the color of snow changed to pinkish? How did that happen? That was really reported. Yes, it was contaminant from the mine, which is quite a vast area! 6. Cyanide: when I was a student working in the lab and we had to use Potassium Ferri-Cyanide, also a powder, we were warned not to ingest it by accident, because a tiny amount of cyanide could kill you. What if the spill was into a river? And yes, I have heard about cyanide pools in the Ararat plain, visible also on Google Earth. You think those are ok? I suggest you read my first article for that. As for the rest, I again stress that you read my previous articles. In the current article, I have discussed multiple layers of the problem. Law, human rights, and consent. Do they mean anything to you? Before defending a destructive project, think of the brand name Armenia will loose and it was there before Lydian; a foreign company who bought lands in your homeland and wants to impose itself and drive the people away. It will never happen. Already Jermuk resorts started losing business when clients heard about the mine. I personally heard on the news, foreign customers expressing their fears and said they would not come again if there is going to be a mine. And these same tourists came every year to this destination. Amulsar is visible from Jermuk, and that means tourists will watch trucks moving and hear explosions while they are resting. Everything I have written is based on numerous references and follow up. Nothing is invented nor assumed.



Dr. Anahid Shirinian Orlando – 2020-07-09 16:20:39

Armenia needs a moratorium on metal mining, needs investment in water-supply infrastructure, rural areas need environmental cleanup and land/soil remediation, as result of excessive over-abusive mining. All of the above requires recognizing the basic human rights of people to have access to clean water, to be able to live on their ancestral land, instead of being forced to abandon life in Armenia to become refugees. Anahid Shirinian Orlando



Hrayr Agnerian – 2020-07-09 15:40:57

I read with interest Houry Ellezian's article in the latest issue of Keghart about the Amulsar gold project in Armenia. I am sorry to say that her views, as a Geologist, about this project are so misguided. That is why I feel that it is important to respond to her views, item by item. 1. Houry's first objection is that the Amulsar project is located in the heart (my emphasis) of Armenia. What does this mean? Would it be OK if it was at the "foot" or "head" of Armenia. She should be the first one to realize that mineral deposits are located in geological environments independent of geography. 2. Houry mentions that Amulsar is situated close to local streams and especially to Jermuk, the local spa with thermal springs. She conveniently forgets to mention that in November 2018, Lydian International Limited (the Operator) contracted an accredited Czech laboratory who carried out an extensive sampling and analysis of the waters in and around Amulsar, and the results were interpreted by Golder Associates, another accredited Consulting Company. The latter concluded that the provenance of ground water at the mine is different from the water at Jermuk. In particular, the Consultants stated that "the chemistry of the waters of the Jermuk thermal springs and minerals water boreholes are characteristic of hydrothermal waters based on their major and minor ion chemistry and environmental isotopic characteristics. The hydrothermal waters have an enriched d13C signature, along with clear differentiation with respect to d180 and d2H, d34S, 87Sr/86Sr and gross alpha and beta activity, which is clearly distinct from the surface water and shallow groundwater sampled and consistent with a separate flow regime of hydrothermal origin. This water type is not similar to groundwater encountered in the vicinity of Amulsar mountain and supports the conclusion that the groundwater system of Amulsar mountain is a distinct hydrogeological system to the Jermuk hydrothermal system. In summary, based on the data and analysis of the groundwater regime presented in the 2016 ESIA for the Amulsar Gold Project, combined with the major ion and isotope data presented in this memorandum it may be concluded that the Jermuk thermal mineral water system is not in hydraulic connection with shallow groundwater and surface water on the Amulsar mountain" (Lydian International website). I expect that Houry knows and understands about isotope analysis. 3. Houry also mentions about the occurrence of uranium near Amulsar. During one of my visits to Armenia I also heard about this and asked my colleagues in Armenia if anybody knew about the exact concentration of uranium in the rocks around Amulsar. I was interested in this because of my experience in uranium deposits in Canada and around the world. Unfortunately, no one could give me a good answer, and the impression that I got was that it was more likely a Soviet geologist who had detected an elevated radioactive response, and most likely interpreted it to be the source of uranium. Note that the rocks around Amulsar, similar to granitic rocks in general, have higher radioactive response than other rocks, like shale or sandstone. In all likelihood, it is an elevated background response. I have seen a similar case in Madagascar, where French geologists had reported relatively high radioactivity, but no uranium deposit! 4. Houry mentions about the "very strong winds, characteristic of the area" and that it would be damaging for residents in nearby villages. Well, of course any mining or road building operation would produce some dust, but the solution to that kind of problem is spraying the roads and benches of the open pit mine with water. This is commonly done at mining operations all around the world. 5. Houry further mentions that during the winter months, snow stays a long time on the ground, thus allowing that "any contaminant can easily infiltrate into the ground water through melting snow". What "contaminant"? From the dust in the air? I really do not understand what she means by that statement. I refer her to read my comments above. 6. Finally, Houry mentions about "Cyanide, a dangerous chemical was planned to be transported uphill along a rugged mountainous region leading to the site". First of all, the region around Amulsar is not rugged. There are some hills with moderate topographic relief in the area, but nothing like the mountains near Kapan or Meghri in southern part of Armenia. Secondly, what does "transporting uphill" got to do with the issue, if there is a spill of any kind, the fact that the terrain is flat or uphill doesn't change anything in terms of potential damage. But the real issue is the use of cyanide acid (NaCN). The manufactured product is a solid powder and transported in, commonly 10-gallon drums. This powder is then mixed with water and the liquid acid is used to leach the gold in the crushed rock, either in large vats or large heaps of the material. That's why it is called heap leaching. Therefore, an accidental spillage of the cyanide powder would not be disastrous, as many people think, i.e., the area can be easily cleaned and the spilled material collected with care, of course. The liquid cyanide acid with dissolved gold (pregnant solution) is collected and passed through activated charcoal mats, which is then burned to produce pure gold. I have visited numerous gold mining operations around the world that use cyanide acid to extract the gold, and I am not aware of any major disasters. People use the material with great care and attention, exactly because it is dangerous. If the local residents did not want Lydian to use cyanide at the site, then all they had to do was to insist that processing of the ore be done at another site, like the Ararat complex south of Yerevan. That is where ore from the Zod mine used to be treated for the same reason as at Amulsar. There are solutions to problems, you know. As a Geologist, I am concerned that in the past, and perhaps more recently, some mining companies carried out their operations with little regard for the environment, mainly to reduce operating costs. But times have changed. Nowadays, mining companies in Canada, as well as in many Western countries, are required to carry out their mining operations under strict environmental controls. If the added cost of the environmental protection or remediation will cause the project to be non-economic, then the project doesn't have any resources, and with such a thin profit margin perhaps the project should not be developed, anyway. It would cause not only physical damage, but financial problems for the investors, too. The real problem with people opposing to development of natural resources is that they do not realize that the engine of economic growth – and therefore the means for our modern lifestyle – is by developing the natural resources of the country. It provides jobs and increases the tax base for the government. It appears from Houry's background that she is a sedimentologist with experience in seismology and well logging, i.e., oil industry. How is it that it is OK to develop petroleum resources and use the fossil fuel to heat houses, in cars, etc. and not OK to develop a gold deposit? Geology is not only to study and describe rocks, minerals and fossils. It is about applying the knowledge to develop natural resources, taking the natural environment into consideration, of course. Mining and extraction of metals and various commodities has been going on since the beginning of our civilization, and will continue in the future, because we need the commodities for our industries. In summary, I understand that people are concerned about the natural environment and express their opinions based on some publications, and sometimes by just hearsay. But to see that a Professional geologist like Houry express opinions on a project like Amulsar is simply irresponsible. I have not carried out any assignment for Lydian International Limited, but I have worked on gold and other metal projects in Armenia, and I know the general area of Amulsar even though I have not visited the site. That is why I feel compelled to correct the misconceptions in Houry's article, and provide my independent opinions about the project. I would appreciate that you forward my comments to Houry, and I will be happy to discuss this subject with her, if she wishes. Regards, Hrayr Agnerian, P.Geo. AGNERIAN CONSULTING North York, ON www.agnerian.ca