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Opportunities of making post-mining objects in Bystrzyca Górna area in Lower Silesia available for tourists

Abstract

The article describes the outline of the history and the remains of mining in the area of Bystrzyca Górna (Sowie Mountains). History of 500 years polimetalic ore exploration and mining is described. The author attempt, on the basis of extant archival sources, nineteenth-century studies the history of mining in Silesia, and based on field research, systematize knowledge about the location and naming of the former metal ore mines in the area. Possibility of the further touristic using are also discussed.

Key words: post mining objects, geotourism

1. Introduction – historic mining in Bystrzyca Górna

Bystrzyca Górna is the extensive village in the Bystrzyca river valley, in the vicinity of Świdnica, approx. 60 km from Wrocław. It is one of the oldest, known villages in the Sudety Mts., and its history dated as back as in the 16th century is strictly connected with the mining and metallurgy of lead and silver ore [5,4,3]. It cannot be ruled out that the origins of mining activity in the region of Bystrzyca Górna of which the first documented mention dates back in the year 1539, are even older. The importance of silver, primarily as a monetary material, had already prompted intensive prospecting for its sources and those exploration activities could

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hardly miss the easily-accessible area of the Sowie Mountains. Obviously, the object of mineral exploration and exploitation in early periods of mining and metallurgical activities in Lower Silesia (from the 13th to 14th century) was also gold – washed out in the stream valleys and possibly also exploited using mining methods. It is suggested by the names of many places, areas and watercourses, such as Złoty Strumień (Gold Stream) or Złoty Las (Gold Forest) and especially by the original German names: Seitenwasser – in the word-to-word translation Washing Water, or Seifenwald – Washing Forest. The research by A. Zöller proved the existence of former gold-washers in the area of the Sowie Mountains [6]. H. Quiring proposed a hypothesis that the origin of the name Sowie Mountains – Eulengebirge in the German language, came from the Celtic word Jilova, which meant gold, just as e.g. Sowia Valey – Eulengrund near Karpacz [10, 11]. In fact, the vein deposits occurring in Bystrzyca Górna and its neibourhood and exploited in the 16th contained small amount of gold. The tentative melt of ores from the St. Steffen Achter mine in Bystrzyca, carried out in 1576, showed 0.191 kg of Ag content and 0.89 g of Au content in 100 kg of the extracted ore [5].

However, the mining exploration and exploitation in the area of the Sowie Mountains was basically aimed at the small deposits of lead ores containing silver, copper and small amounts of other metals (such as zinc, nickel or cobalt, depending on a deposit), associated with the ore-bearing barite and quartz-barite veins, known primarily from Srebrna Góra. Such deposits occurred in the neighbourhood of Bystrzyca Górna, Lubachów, Modliszów, Dziećmorowice or Jedlina Zdrój. Their exploitation was conducted with breaks, from the 16th to the first half of the 20th century [5, 4, 3]. On a map from the year 1924 we can find the designated areas of the Gabe Gottes and Consolidierte Gut Glück mines in the neighbourhood of Dziećmorowice, where subsequently, after the attachment of Lower Silesia to Poland, the exploitation of uranium ores was conducted in the years 1949–1952.

At the beginning of the 20th century the only evidence of former mining activity in the area of the occurrence of most ore deposits in the Sowie Mountains were waste dumps of former mines [6]. Finckh cites, inter alia, information about the mines located in the vicinity of a small village what is now called Czernik, about a mine in the neighbourhood of Modliszów, about the Fuchsglück Grube mine in the neighbourhood of Lubachów, about a mine in Niedźwiedzice and the Schlesierthal mine in the former village flooded with dam waters, and also about the Beathe mine in Bystrzyca Górna, where the object of exploitation were galena, tetrahedrite, pyrite, and even zinc blende.

The last of the above-mentioned mines, “Beathe” (which, according to the subject literature and preserved mining maps was formerly operated under the names: Segen Gottes, Christinenglück, Victor Friedrich, Wilhelmine) is worthy of special attention.

From the report by the Mining Office in Świdnica, prepared in the year 1575, we know that in the area of Bystrzyca two miners’ guilds: St. Stefens Achter and Geistliche Hülf Gottes operated [5, 4, 3]. The analysis of geological structure of the environs of Bystrzyca Górna and the occurrence of ore veins in its neighbourhood shows that the site of conducting former mining activity could only be the deposit located north-west of Bystrzyca Górna, in the massif of Widna Mountain, in the area called Gold Forest, in the Silver Meadow valley. This is the only confirmed major occurrence of metallic compound bearing barite veins in the direct vicinity of Bystrzyca Górna, which was certainly of economic importance. The barite mineralisation zone extends here with interruptions over the length of 1200 m.
The dip of the veins is steep: 60–75º NE, and the thickness varies within a range from 0.5 to 1.5 m. In the fine crystalline portions of the vein there are galena ribbons and pyrite and, less often, chalcopyrite splashes [1,2].

The deposit in the massif of Widna Mountain constituted an essential base for operating the mines in the Bystřice region. The long-lasting and extensive exploitation of the deposit is confirmed by the considerable destruction of the barite vein by former mining works. Of fundamental economic importance were mining works conducted on this deposit in the Segen Gottes mine, especially in the period from the 16th to 17th century. The area of former mining works in Bystřice was revisited in the year 1773, when by an attempt of the miners’ guild from Witoszów the Victor Friedrich mine was started in the area of the former Christinenglück mine. Even Friedrich Wilhelm von Reden, the then director of the Prussian Higher Mining Office in Wroclaw, was interested in the development of mining works in Bystřice and its neighbourhood, which confirms that there were certain hopes connected with the mining activities in that area. [4].

Fig.1. “Victor Friedrich” mine excavation plan from 1773, from the collection of the State Archives in Katowice
In the year 1843, the former Wilhelmine mine area in Bystrzyca Górna was granted a new mining conferment [5]. In the subject protocol it was stated that in the old Wilhelmine mine, located several hundred metres west of the village of Bystrzyca on the Silver Meadow (Silberwiese), where the mining works had been started earlier in the years 1572, 1733 and 1773, as the hitherto last exploitation attempt had been undertaken in the year 1810 by the then garrison commanding officer in Świdnica.

A documented attempt to resume the exploitation of veins in the massif of Widna Mountain was undertaken in the year 1844, in the mine called Beathe, and zinc blende became the target mineral. The mining works were stopped after only a few years [5].

In the subject literature there is no information about further attempts to exploit the deposit in Bystrzyca, however, in the geological map of 1924 the abandoned workings are still present, and the shaft accessing the deposit in the vicinity of the upper drift was given the name Bertha. Hence, it can be assumed that, the mine with the same name was operated there in the subsequent years (the conducting of such works may be confirmed by the fragments of electrical cables, probably used for blasting in the 20th century, found during the cataloguing work in the years 2007/2008).

The area of former mines in the north part of the Sowie Mountains was revisited after the year 1945. The initial aim of exploration conducted then was to assess the prospects of the occurrence and exploration of uranium ores, and later barite. Luckily, the idea of deposit exploration by means of mining works was given up, which, as shown by the contemporary research and cataloguing work, proved to be extremely important from the viewpoint of preserving the state of workings in an aspect of mining archaeology and geo-tourism issues.

2. Remains of former mining works

The exploration and exploitation history of metal ore-bearing barite and quartz-barite veins in the area of Bystrzyca Górna, Dziećmorowice and Modliszów, dating back at least to the 16th century, ended in the first half of the 1960s. At present, those deposits are of historical importance only. The last active metal ore mine in the close vicinity of Bystrzyca Górna was uranium ore mining facility (1949–1952), located near Dziećmorowice, in the area of the former mines: Gabe Gottes and Consolidierte Gut Glück. The prospecting works that were subsequently aimed at barite ended in the 1960s. The deposit prospects were assessed negatively and further prospecting in this area was abandoned.

Twenty years later, in the year 1994, the former workings in the described region became the target of research and cataloguing work of the Mining Institute at the Wrocław University of Technology, as the objects of historical importance [8]. The research and cataloguing work carried out then in a large area became an impulse for undertaking further activities in the scope of mining history and relics of mining works in the described area by a number of people and organisations, e.g. the Foundation of Open Museum of Technology in Wrocław. Forgotten and immersed in the shadow of huge underground structures of the Riese (Giant) complex – from the times of World War II, the history of ore mining in the north part of the Sowie Mountains again became the subject of interest of many researchers and fans.
In the year 2006, within the framework of statutory research project of the Mining Institute at the Wrocław University of Technology "Cataloguing of relics of former mining works in the area of Lower Silesia along with documentation of selected objects", detailed research work began in the area of the deposit located in the massif of Widna Mountain, near Bystrzyca Górna, and exploited from the 16th century, where, according to the subject literature, mining works were conducted over the centuries in the following mines: Segen Gottes, Christinenglück, Victor Friedrich, Wilhelmine, Beathe and probably Berthe. Probably, just in this place, Bystrzyca miners' guilds St. Stefens Achter and Geistliche Hülf Gottes conducted mining works as back as in the 16th century. The subsequently started mines used, as seen in the preserved mining plans from the 18th and 19th century, the same main access excavations – initially two, and from around 1777 [4] three adits, on which the underground excavation structure was based.

In consultation with the Institute of Archaeology of the University of Wrocław and after obtaining the consent from the owner of that land – the State Forests, Forest Headquarters Świdnica, besides the cataloguing work on the ground surface, works aimed to open out and penetrate part of the underground workings started. The part of historic workings in the massif of Widna Mountain, which, as proved by the cataloguing and research work, were preserved in their original intact state were re-opened. In particular, the extremely regular cross-sectional shape of the so-called “upper drift” in combination with its small size and clear marks of manual rock mining without using blasting material proved the 16th-century or earlier period of its origin and its association with the oldest, documented mining works in the neighbourhood of Bystrzyca Górna.
3. Concept for making use of former mining work relics in Bystrzyca Górna and its neighbourhood as tourist attractions

The worldwide growing interest in former industrial facilities, particularly in abandoned mines – where the outsiders are offered possibility to visit an alien world of underground workings, suggests making use of the former mining work relics in the neighbourhood of Bystrzyca Górna as industrial tourism and geo-tourism attractions. It should be also noted that the regions of Bystrzyca Górna and Dziećmorowice seemed to be particularly predestined for developing these branches of tourism, due to the combination of the medieval history of ore mining and the post-war exploitation of uranium – the history of which, for the major part of society, is still shrouded in mystery and arouses great interest.

It is proposed to mark out a trail (tourist path) connecting a number of places located in the northern part of the Sowie Mountains and associated with the former ore mining, the main attraction of which would be an underground tourist route created on the basis of the historic complex of mining workings in the massif of Widna Mountain, in Bystrzyca Górna. The tourist trail called, e.g.: “Along the silver footprints of the Sowie Mountains” could start in Świdnica (where the former Mining Office was located) and lead to Bystrzyca Górna and further on to Lubachów, Modliszów, Dziećmorowice, Zagórze Śląskie, Witoszów, and even to the places situated much further away: Walim or Jugów, and other places associated with the mining exploration and exploitation history in the area of the Sowie Mountains.

The location of the historic complex of mining workings in Bystrzyca Górna offers very suitable conditions for the organisation of tourist traffic, because of the small distance of former mining work area from the places, good road connection with Świdnica and general tourist attractiveness of the neighbourhood. The road further leads to the Lake of Bystrzyca and very interesting water dam, which is visited by lots of tourists, inter alia, from Świdnica and Wrocław.
The underground tourist route “Silver Mine Beata” in Bystrzyca Górna can be created on the basis of the oldest, documented former workings in the massif of Widna Mountain, i.e. the “upper drift” and the “medium drift” and horizontal and vertical excavations that connect them. The analysis of preserved, original mining plans from the period of 18th–19th century suggests the great attractiveness of such a route. In the neighbourhood of the medium drift entry the suitable conditions exist for creating necessary surface infrastructure for tourists and operators of the underground route, i.e. entry pavilion, ticket office, etc. Through the sunken vestibule (entry pavilion) visitors would go into the medium drift, through which they would reach the staple inclined shaft connecting it with the upper drift located several dozen metres above, through which, in turn, they would return to the surface in the upper part of the mountain. It is worth to take note of great landscapes and natural features of the massif of Widna Mountain, where the described, historic workings are located. On the top of the mountain, towering above the neighbourhood, where the tourists would go after leaving the underground excavations there are remains of entrenchments – artillery stands from the period of the Seven Year’s War (1756–1763). On 20 June 1762 near Bystrzyca, on the fields of Burkatów, the great battle took place – one of the last in that war, which lead to the consolidation of Prussian reign over the Lower Silesia. The Prussian troops, under the command of King Frederic the Great routed the Austrian troops fortified at the edge of the valley and on the surrounding hills. In order to commemorate that victory a memorial obelisk was raised on nearby Widna Mountain (former Belvederberg), unfortunately destroyed after World War II, but which could be reconstructed now and fulfil the function of another tourist attraction. It undoubtedly constitutes yet another contribution to the development of tourism and should be used in the preparation of tourist traffic in the neighbourhood of Bystrzyca Górna. The area in which the historic battle took place now attracts more and more fans of military history, who also would be certainly interested in visiting the remains of former mining works. However, it requires preparation of tourist and teaching paths, installation of information boards – containing scientifically prepared, reliable information for visitors and making part of the underground excavations accessible for tourists.

Like in many other sites of former mining activity in Lower Silesia, apart from surface expositions, in the old mine workings it would be possible to observe and analyse the deep rock mass structure, which would be certainly interesting for mineral collectors and amateur geologists, and even would offer opportunity to use the preserved underground workings in teaching geology and mining to students.

Also, the abandoned and now deteriorating railway line Świdnica-Kraszowice–Jedlina Zdrój, with numerous culverts, viaducts and bridges, constitutes a good example of old art of engineering and an essential landscape element of the Bystrzyca valley.

One can imagine a complex concept for tourist management of the north part of the Sowie Mountains, where tourists would set off from Świdnica on a historic train pulled by a steam engine along a picturesque railway trail, and once reaching Bystrzyca Górna they could visit the historic silver mine operated with interruptions in the period from the 16th to the beginning of the 19th century, acquaint themselves with the history and course of one the major battles of the Seven Year’s War (Battle of Burkersdorf), visit the dam and historic water-power plant in Lubachów, and traverse on foot the route of former silver ore mining. The interesting history of mining in the described region, combined with the relics of earth fortifications from
the period of Prussian-Austrian wars and the neighbourhood of the dam and historic water-power plant in Lubachów can help restore, after years of oblivion, the tourist character of Bystrzyca – a 19th century health resort beautifully situated in the river valley, amidst wooded mountains.

References

Berlin.