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Mining of non-ferrous metal ores in the valley of the Bystrzyca river in relation to Grodno Castle

Introduction

The medieval mining constituted one of the substantial elements of developing economic systems, therefore it had to be both managed in a relevant manner, and also properly protected. In the area of mining centres there appeared objects of defensive character, i.e., the establishments of motte type, castles, and in the modern times – manor houses as well. The relations between formation of the mining areas and development of the defensive objects can be traced on the example of development of the settlements in the Harz Mountains area (the Emperor's residence in Goslar), the Krusne Hory Mountains and other mining areas in the area of Central Europe [1], [2].

These relations were also noticed in the area of Lower Silesia, and they were presented, inter alia, in the works of Józef Kaźmierczyk [3], Marek Gedl [4], Stanisław Firszt [5] and other authors [6], chiefly with reference to architectural objects established in the neighbourhood of centres of exploitation of deposits of gold-bearing sands and gravels in the vicinity of towns of Bolesławiec and Lwówek Śląski (Żeliszów, Dworek, Płakowice) and of Złotoryja (Rokitnica). An interesting example of such relationships is also Edelštejn Castle. Since the 13th century it constituted a part of the Zlatohorskie estate, undoubtedly being an important element of the infrastructure of the gold mining district there. This object with the town and mines passed from hands to hands of the consecutive proprietors, namely the Moravia Margraves, the Bishops of Wrocław [7, no. 31, p. 10], the Czech Crown (1339–1361) [7, no. 67, pp. 20, 21], the Duke of Opava and the Duke of Opole, to return to

the estate of the Bishops' Dukedom from 1460 (formally from 1480) [7, no. 228, pp. 98, 99; no. 229, pp. 99, 100].

The connection with mining can also be noticed in the case of the defensive objects located close to poly-metallic ore outcroppings – e.g., in the area of the Kaczawy Mountains Foothills (the castle known in the historical sources as *Heinzenberg* on Górzec Hill in the region of Męcinki, Jawor Powiat) [8] or in the Rudawy Janowickie Mountains – Bolczów Castle and the manor house in Miedzianka (Jelenia Góra Powiat). The latter settlements were located in the period from the 14th to 16th century in the areas connected with exploitation of ores of copper, silver and lead, and also with production of copper vitriol. Their proprietors participated in mining activities or performed mining works on their own around Miedzianka [9].

Can similar relations be assumed in relation to Grodno Castle (*Kinsperch*, *Kiensberg*, *Kinsberg*, *Kynsburg*) in Zagórze Śląskie? This architectural object was founded in the 13th century, originally being the seat of a duke (till 1392), and later the residence of knights and magnates: of the houses of von Mühlhein (till 1465), von Czettritz (till 1535), von Hochberg (till 1545) and the house of von Logau (till 1596) [10]. On the basis of written sources and field studies, we would like to attempt to provide an answer the aforementioned question.

The main emphasis in the presented work will be placed on the questions related to mining works from the medieval times and early modern period (till 1618), performed in the area of three mesoregions: the Sowie (Owl) Mountains and the Wałbrzyskie (Waldenburg) Mountains and Foothills. In the article we will try to follow the history of mining works and attempt to identify the relics of old time works with mines known from the written and cartographical sources. The mining centres founded there since the medieval times – mining towns, mines or smelters, functioned for a relatively short time, however, the undertaken mining works

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– in the discussed area there were excavated and smelted chiefly ores of silver and lead, but also of gold and copper
 – constituted a substantial impulse for economic development of many localities in the area.

Legal conditions of mining in the Middle Ages and the modern period

Constituting the exceptionally important branches of the medieval economy, the mining and smelting industries were subject to the so called mining “regale”. Over the time the rights to exploit the deposits, which belonged to the rulers were transferred to the clergy and cloisters and to the secular magnates as well. In the area of German Reich already in 1028 Emperor Conrad II (1024–1039) transferred the rights to silver mines and exploitation of this metal to the Bishop of Basel [11]. In the early medieval Poland the first information concerning the similar processes comes from the 12th century (1136). In the document we can find information on diggers of silver (*argentifossores*), who performed mining works in the estate of the Archbishop of Gniezno [7, no. 1, p. 1], [12].

In the 12th and 13th century, together with development of the so called miner’s freedom (*Bergfreiheit*), the miners obtained personal freedom, freedom of relocation, they operated within separate administrative and legal structures and as specialists they were subject only to the liege lord’s rule and the rule of his officials. The course of mining works and their organization were ordered by separate regulations of law included in ordinances and collections of statutes. Such codifications are known, e.g., from Jihlava – 1249/1250, Goslar – 1271, Kutna Hora – circa 1300 [13], [14]. Similar legal stipulations existed in Lower Silesia for the local gold mining centres, quite likely already in the 13th century [7, no. 10, p. 3], however, their complete codification took place in the middle of the 14th century [7, no. 29, p. 9; no. 86, pp. 28–30].

In the modern period in the area of Lower Silesia the mining works were ordered with the regulations following the model of the Jachymov (Sankt Joachimstahl) mining ordinance. It is this collection of laws coming from 1518 that was used by the Lower Silesian mining centres. In 1532 Christoph von Hoberg vested the mining laws following the model of Jachymov regulations for his estates in Boguszów [15, no. 472, pp. 20–22], a year later a similar ordinance was issued by Ulrich von Czettritz [15, no. 479, p. 27]. The stipulations referring to the Jachymov Law appear in the mining law of Miedzianka (the ordinance issued in 1539 for the estates of Ludwik Decjusz [15, no. 548, p. 76, 77]). Also the miners brought to the estates of Hans Schaffgotsch in Gierczyn came from these mining centres [15, no. 334, p. 184]. Only in 1577 did Emperor Rudolf II issue the ordinance for the area of Silesia, also a year later for Kłodzko County [16], [17, pp. 27–30].

Geological structure of the Grodno Castle area

Historically exploited metal ore deposits were found in the Sowie (Owl) Mountains and the Wałbrzyskie Mountains and Foothills in the form of quartz-barite veins of

hydrothermal origin, with precious metal appearances chiefly in silver-bearing galena, occurring in the Sowie Mountains gneiss. The thickness of the ore bearing areas was predominantly up to a few dozen centimetres, rarely reaching up to circa 1 m. In the deposits, there also appeared zinc blende (sphalerite), tetrahedrite, pyrite and copper and iron compounds [17, p. 309]. For the discussed area there also appear secondary deposits of gold, washed from the streams in the area of the Sowie Mountains. This precious metal was also obtained in a metallurgical process from the local deposits, however in a relatively small amount [18, p. 172].

History of mining works in the Bystrzyca River valley

The oldest mining works executed in the estates related to Grodno Castle date back most likely to the medieval times. Undertaking of the exploration and perhaps even mining works related to gold panning can be demonstrated by the local names such as Pogorzała (*Seifersdorf*), a stream called *Seifen* in the area of Burkatów or finally Złoty Las (*Golden Wald*) between Lubachów and Modliszów (Fig. 1) [19, pp. 161, 162]. A similar genesis of the mining works is also indicated by Heinrich Quiring, who informs that in the Middle Ages about 12 kg of gold was extracted from the local deposits [20, pp. 154–157]. The best explanation of the term *Siefen seiffen* is a description coming from a 1625 report and also a map drawn at that time, which was made for the purpose of mining works in the area of Złotyja. According to these sources *Seiffen* is a term for the places [...] *below Wilcza Góra (Wolf Mountain) where gold was washed before and where it is still possible to pan gold*¹ [15, no. 842, 176, 177], [21].

A direct confirmation of the previous mining works in the area of our interest is the survey of the Świdnica Dukedom region performed in 1548 by the Royal Commission. It discovered that in the vicinity of the settlement of *Schlesierthal* there were relics of old, supposedly medieval mining works. Similar objects occurred also in Sierpnica (*Rudelswalde*) and Walim (*Waltersdorf*) [15, no. 610, pp. 107, 108]². The similar chronology is featured by the work remnants in Dziećmorowice and in Złoty Potok Valley. Hermann Fechner informs that in 1459 the local mine called *Gabe Gottes* was completely destroyed [22, p. 445].

At that time and also during the following centuries Dziećmorowice was incorporated in the castle fiefdom subject to the Grodno Castle owners. In the 14th century it included Jugowice (*Hausdorf*), Jawornik/Jugowice Górne (*Jauernick*), Pogorzała (*Seifersdorf*) on the side of location of the village administration area (*Scholtisei*), including the administration area, Dziećmorowice (*Dittmannsdorf*), Jedlinki (*Tannhausen*), with courts, church fiefdom

¹ *Unter Wolfsberge sind ienseit zwey Gründe, die man sieffen nennt, da gold gewaschen worden und noch zu waschen sein soll.*

² The village of *Schlesierthal* was flooded with the waters of the reservoir constructed on the Bystrzyca river in the beginning of the 20th century (1911–1914). It was located between Lubachów and Zagórze Śląskie.



Fig. 1. Part of map of Ludwig Wilhelm Regler from years 1764–1770, Blatt 64.

Marks: 1 – Grodno Castle, 2 – village of Schlesierval, 3 – Lubachów, 4 – Złoty Las, 5 – Bystrzyca Górna, 6 – former silver mine (alte Silber Grube), 7 – Dziećmorowice, 8, 9 – silver mine (Silbergrube) (elaborated by T. Stolarczyk)

Il. 1. Fragment mapy Ludwiga Wilhelma Reglera z lat 1764–1770, Blatt 64.

Oznaczenia: 1 – zamek Grodno, 2 – wieś Schlesierval, 3 – Lubachów, 4 – Złoty Las, 5 – Bystrzyca Górna, 6 – dawna kopalnia srebra (alte Silber Grube), 7 – Dziećmorowice, 8, 9 – kopalnia srebra (Silbergrube) (oprac. T. Stolarczyk)

and establishments, apart from the mill on the Bystrzyca river (*Weistriz*) with three mill-wheels, as belonging to the castle, and one more mill³ [23].

In the deed of sale of the house of Hoberg Castle in 1535, apart from the already indicated locations there is also a wood called *Seifen* (Gold Wood? between Dziećmorowice and Zagórze Śląskie). At that time the castle fiefdom included also the churches in Myślęcín (*Schenckendorf*) and Niedźwiedzice (*Bärsdorf*) [24, p. 25].

From the close of the 15th century, in the discussed area there was a visible recovery of mining works. Miner Trade Unions commenced their activities in the area of Boguszów [17, pp. 282–302], and in the estates belonging to the houses of von Hoberg [15, no. 472, pp. 20–22] and von Czettritz (*auf Königsberge und auf Neuhaus*) [15, no. 479, p. 27].

Also in the area neighbouring with Grodno Castle the first Miner Trade Unions started their activities. In 1539 Ernest von Schaffgotsch from Pogorzały addressed the Emperor for the permission to carry on surveying *auf dem Hoppenberg bei Seiferstorf Sweidnischen furstenthumb*

[25, p. 6], [26, p. 65]⁴. In the same year Schaffgotsch was granted the privilege of miner's freedom [15, no. 561, p. 83]. The commencement of exploitation works near Grodno Castle can be testified by a 1545 document, in which Georg von Lasnig transferred to his brother Hans the shares in the mines in Boguszów and Bystrzyca (*sein Antheil an beiden Bergwerken zu Gottesberg und Weistriz im Weichbilde Schweidnitz*) [15, no. 594, p. 102].

The next records related to the works executed in the discussed area date to the 1570s. Eufrozyna Piątek and Zygfryd Piątek inform that in 1572 in Lubachów a crusher and a smelter were established, thus it can be assumed that the works could be continued within the time space of about three decades.

In 1575 12.1 kg of silver was smelted in there [26, p. 65]. On the basis of later records it can be assumed that ore from the surrounding mines was smelted there, including the mines located in the area of the castle fiefdom (the mines operating close to Dziećmorowice).

⁴ E. and Z. Piątek [26, p. 65] inform that it concerns a hill called Popelberg in Bystrzyca Górna – Góra Widna, however it seems that it is a wrong interpretation of the document content; the hill with this name was also located in the neighbourhood of Pogorzały and Dziećmorowice.

³ Cf. M. Chorowska in this issue of the "Architectus".

In spite of the particular legal provisions, the contemporary miners and trade union members had to cope with numerous difficulties resulting from work organization and different kinds of malpractices. From a report of Bronner, the mining master of the Świdnica Dukedom of 1573, we learn that a certain man called Marcus Uthmann who purported to be the mining master, swindled large amounts of money, which was needed to pay for delivery of lumber coming from the estates of von Seydlitz brothers [27, p. 25]⁵. It was necessary for lining of some sections of mine workings. The correspondence, which concerned this dispute between the Silesian Chamber and the Seydlitzs was continued till 1575 [28, p. 69].

In a report from the same year made for the Silesian Chamber, in relation to sample testing of the local deposits there appear names of the mines operational in this area. On the grounds of Bystrzyca Górna there were the following mines: *S. Steffens Achter Fundgrube* and *Geistliche Hülff-Gottes Fundgrube*, in Lubachów (*zu Breitenhayn*) mine *S. Jahannisstolln am Guldwasser*, in Dziećmorowice mine *Joh. Georg Fundgrube*, in Modliszów mine *Gute Georgens Fundgrube*, drift *tieffen Scheidnitzererbstolln*, related to the mines *Gnade Gottes* and *Mittagsgrube* [24, pp. 65, 66], [28, pp. 69, 70]. Piątek also mentioned mine *Himmlisches Heer* in the area of Dziećmorowice and drain adit *St. Bernhards*, located in the vicinity of Witoszów [26, p. 78]. The latter, according to the state in 1584, together with mine *Segen Gottes* was located in the massif of Widna Mount in Bystrzyca Górna or in the vicinity of Witoszów [26, pp. 66, 67], [29, pp. 464–467].

At the same time there was also an increase in mining works performed in Dziećmorowice, which constituted a part of Grodno Castle fiefdom. In 1576, after the inspection of the mines by smelter master Krzysztof Nessler from Jachymów, the works performed there received the mining ordinance from the Emperor [15, no. 757, p. 151]. According to Piątek, the deposit exploited at that time turned out to be rich and ensured relatively high profits as for the conditions of the local mining [26]. According to the data from the work of Emil Steinbeck in 1576, a trial smelting was performed of 100 kg of the ore from mine *St. Stephan Achter* (Bystrzyca Górna), resulting in obtaining 5½ lot of silver (1 lot = half an ounce), of which 2½ carat of gold was received [28, p. 70]. As it is indicated by the source data, richer mineralization was quickly depleted though, and the local miners did not receive remuneration for their work. In relation to this situation, the local trade union members had to apply to the Chamber for a loan of 1337 thaler intended for maintaining profitability of their venture [26, pp. 67, 79]. In 1577 Georg von Logau was obliged by the Emperor's Chamber to supply lumber necessary for lining of the workings at mine *auf Segen Gottes* in Dziećmorowice, as well as charcoal and also to construct a new smelter in Jedlinka. Due to lack of positive attitude on behalf the Grodno proprietor,

the Emperor appointed a commission for measurements of the woods belonging to the castle fiefdom. It results from the documents cited by Heinrich Schubert that the Grodno proprietor carried on overexploitation in logging of the surrounding woods and disputes with the Emperor in this question lasted almost till Georg von Logau's death in 1595 [24, pp. 31–38].

The mining law also ensured free access to the lumber necessary for execution of mining works. As long as in the first ordinances the logging was free of charge and could be executed for all purposes, then in the later mining regulations some limitations can be found in this regard. In the ordinance of Rudolf II from 1577 it was stipulated that lumber could be used only for lining of underground workings. The regulations issued in 1532 by Christoph von Hoberg permitted logging by the miners executing works in the area of Boguszków only in the locations indicated by the lord's forester. It is not until the 18th century that we deal with planned forest management and completing of the areas depleted by logging with planting new, usually coniferous trees in Lower Silesia [30, pp. 171–173].

In reference to the presented records, it is difficult to say if mine *auf Segen Gottes* exploited the deposit in Dziećmorowice, or if it refers to the mine operational on the lands of Bystrzyca Górna. According to Piątek, the works performed near Dziećmorowice were executed till 1581 when the operations of mine *Himmlisches Heer* were stopped, while the remaining mines and miner trade unions had gone out of business before [26, p. 79].

At that time in the neighbouring Lubachów (Gold Wood) there was a smelter, which smelted the excavated mineralization. In 1584 mining master Christoph Dither from Nuremberg was employed there. At that time 3500 kg of copper was obtained from the local ore with the value of 434 thaler, and from one ton of ore from mine *Segen Gottes* 252 kg of copper and about 87–122 g of silver was extracted [29, p. 465]. Already a few years later (1587–1589) the mining trade union that was active there, had to take loans for further functioning and the works were stopped. As Piątek indicates, the local smelter processed also ores supplied from nearby Dziećmorowice. In 1596 they obtained from it 11.7 kg of silver, for which the Chamber in Wrocław paid 300 thaler, which was only a part of the agreed price. The last written information concerning its operations comes from 1602 when the Chamber paid 160 thaler for the silver smelted there [26, p. 68]. The miners returned to the workings of mine *Segen Gottes* only in 1611. The steiger Mayer who managed the works was to extend the drain adit up to 70 lachter (140 m) [29, pp. 465, 466].

On the basis of the analysis of the written sources, we can assume that the final breakdown of the local works was sealed with the outbreak of the Thirty Year's War. The last information concerning these works comes from 1613. It refers to the collapsed smelter, which was to be reconstructed with the aid of the Silesian Chamber and Unger, the mining master of Świdnica. The exploitation had been stopped two years earlier. Lack of any further information can testify to the final breakdown of the local works [17, p. 316], [28, p. 70].

⁵ As M. Goliński [27] informs, the estates of the house of von Seydlitz comprised Walim, Burkatów, Omieciny, Bystrzyca Górna and the village of Schlesiethal.

The history of research on relics of mining works in the Bystrzyca valley area and the location of historical mines

The field research into relics of mining works in the area of the Bystrzyca valley dates back to the 1980s. In years 1985–1986 a scientific team under the management of Witold Nawalicki and Wiesław Rośkiewicz performing the studies of the Archeological Picture of Poland (AZP; areas AZP 86-22, 86-23, 87-23, 88-23), documented the remnants of the former silver, lead and copper ore mines in the region of the Sowie Mountains and Wałbrzyskie Mountains and Foothills (after: [31, p. 26]) (Fig. 2).

In the mid-1990s the inventory works in this area (the region of Lubachów, Zagórze Śląskie, Walim, Bystrzyca Górna and Dziecmorowice) were performed by the employees of the Mining and Geology Faculty of the Wrocław University of Science and Technology [32], [33]. The results that were obtained became the impulse for the creation of the work entitled *Górnictwo rud metali w Górach Sowich* [Mining of metal ores in the Sowie Mountains], by E. Piątek and Z. Piątek [26].

Intensification of the research works in the area of the Sowie Mountains and the Wałbrzyskie Mountains and Foothills contributed to the growth of the source base, popularization and spreading of knowledge concerning the traditions of the local mining and it also became the impulse to organize conferences and meetings of the experts preoccupied with this exceptionally broad topic.

Thanks to a broad access to the source materials and use of interdisciplinary approach to the described issues, the scope of archaeological research was also changed, aimed

at determining the old, first of all medieval, and modern mining works. Since 2008 in the area of Lower Silesia as many as 123 new archaeological sites related to mining and smelting have been documented and it was also possible to gain a wide spectrum of historical artefacts related to these issues (ceramics, tools, metal artefacts; slugs and other historical objects connected with processes of ore metallurgy) and to undertake non-invasive works and specialist analysis [31], [34].

The mining works in the vicinity of Grodno Castle reach back with their roots to the medieval times, however the local mining developed most intensively in the 16th century. The mines listed in the documents can be allocated to the particular workings located in the discussed area. Within the area of the castle fiefdom the largest mine operated near Dziecmorowice (Dziecmorowice cond. 6; AZP 86-22). In the 18th century this object was described in the sources as mine *Gotte Gabe*. The extensively developed structure of the working testifies to earlier performance of exploitation works. After World War II the working was related with exploitation of uranium minerals and currently the tailings are subject to extraction as a road construction material [35].

In the area of Dziecmorowice there are also other workings related to exploitation of poly-metallic ore lodes, which was carried on there. One of the mines was marked e.g., on the map of Ludwig Wilhelm von Regler from the 2nd half of the 18th century as *Silbergrube*. On the basis of the LIDAR data analysis it can be assumed that its remnants can be the sinkhole located between Dziecmorowice and today's Zagórze Śląskie and Lubachów (the area of the former village of Myślęcín, today's hamlet of Zagórze

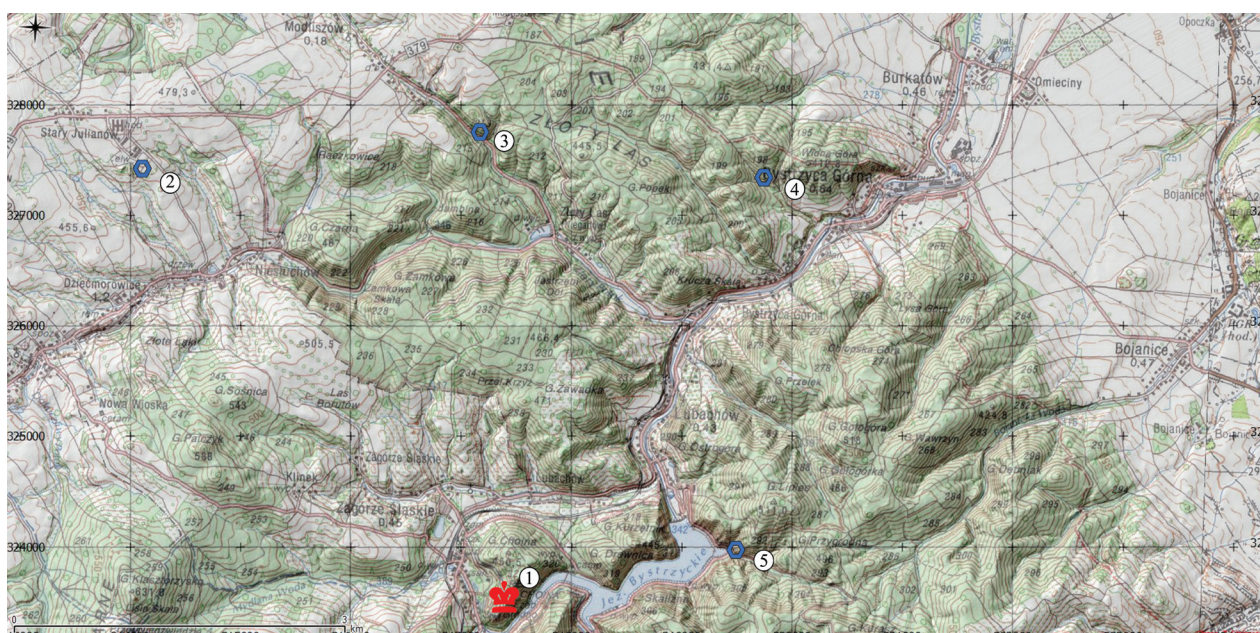


Fig. 2. Topographic map of Bystrzyca river valley with markings of selected archeological sites related to mining of non-ferrous metal ores: 1 – Grodno Castle, 2 – Dziecmorowice site 6 (AZP 86-22), 3 – Modliszów site 1 (AZP 86-22), 4 – Bystrzyca Górna site 26 (AZP 86-23), 5 – Lubachów site 2 (AZP 87-23) (elaborated by T. Stolarczyk)

II. 2. Mapa topograficzna doliny Bystrzycy z oznaczeniem wybranych stanowisk archeologicznych związanych z górnictwem rud metali nieżelaznych: 1 – zamek Grodno, 2 – Dziecmorowice stan. 6 (AZP 86-22), 3 – Modliszów stan. 1 (AZP 86-22), 4 – Bystrzyca Górna stan. 26 (AZP 86-23), 5 – Lubachów stan. 2 (AZP 87-23) (oprac. T. Stolarczyk)



Fig. 3. Plan of mine *Wilhelm Heinrich* in Dzieńmorowice from 1777 (source: Archiwum Państwowe, Katowice, OBB II 1201)

Il. 3. Plan kopalni *Wilhelm Heinrich* w Dzieńmorowicach z 1777 r. (źródło: zbiory Archiwum Państwowego w Katowicach, OBB II 1201)



Fig. 4. Drift sinkhole (a) and mine shafts (b) within the boundaries of archeological site Modliszów 1 (AZP 86-22) (photo by T. Stolarczyk)

Il. 4. Zapadlisko sztolni (a) oraz szyby górnicze (b) w obrębie stanowiska Modliszów 1 (AZP 86-22) (fot. T. Stolarczyk)



Fig. 5. Drift sinkhole within the boundaries of archeological site Lubachów 2 (AZP 87-23) (photo by T. Stolarczyk)

Il. 5. Zapadlisko sztolni w obrębie stanowiska Lubachów 2 (AZP 87-23) (fot. T. Stolarczyk)

Śląskie; see Fig. 1). According to Fechner, in the 18th century there was mine *Kaiser Heinrich* and *Wilhelm Heinrich* [22, pp. 445, 446], and the archive cartographic documentation is known for the object (Fig. 3). This object has not been included in the list of sites of the AZP program yet.

The next cluster of workings is located in Modliszów and Witoszów. In the 16th century these villages were included in the estates of the house of von Hochberg. They can be connected with the mines listed in documents as *Gute Georgen Fundgrube*, *Gnade Gottes* as well as *Mittagsgrube* [29]. The two latter ones were connected with adit *tieffen Scheidnitzererbstolln*, possibly the object which is determined in the AZP materials as site Modliszów 1 (Fig. 4). The workings located to the north of the today's sprawl of Modliszów, in the neighbourhood of Witoszów Górny may also come from the 16th century [36].

The next workings known from field research are located in the direct vicinity of the castle, on hills Kurzęt-



Fig. 6. Section of a plan from 1817 presenting the layout of mining workings of mine *Wilhelmine* in Bystrzyca Górna, in the area of Widna Mount (Bystrzyca Górna, site 26, AZP 86-23): 1 – lower drift, 2 – tailings dumped in front of the central drift, 3 – central drift course, 4 – sinkholes of former shafts (*Pingen*), 5 – tailings dumped in front of the upper drift, 6 – upper drift course, 7 – local name *Srebrna Łąka* (*Silber Wiese*) (source: Archiwum Państwowe, Katowice, OBB II 1222; elaborated by T. Stolarczyk)

Il. 6. Fragment planu z 1817 r. prezentujący układ wyrobisk górniczych kopalni *Wilhelmine* w Bystrzycy Górnej, na terenie góry Widnej (Bystrzyca Górna, stan. 26, AZP 86-23): 1 – sztolnia dolna, 2 – warpa odłożona przed sztolnią środkową, 3 – przebieg sztolni środkowej, 4 – zapadliska dawnych szybów (*Pingen*), 5 – warpa odłożona przed sztolnią górną, 6 – przebieg sztolni górnej, 7 – nazwa miejscowa *Srebrna Łąka* (*Silber Wiese*) (źródło: Archiwum Państwowe, Katowice, OBB II 1222; oprac. T. Stolarczyk)

nik, Lipiec and Przygodna. They are related to the mining works executed on the grounds of the village of *Schlesierthal*, belonging to the estates of the house of Seydlitz in the 16th century. It was flooded by the waters of Bystrzyckie Lake. In this area there are preserved remnants of workings related to silver ore and lead ore mines, which operated there before 1548 (?) (Lubachów site 2; Fig. 5) [32], [37].

The largest complex of workings related to exploitation of silver and lead ores was located in the 16th century within the boundaries of Bystrzyca Górna, a town belonging to the estates of the house of Seydlitz. These workings are located on the both banks of the Bystrzyca river, on the length of over 2 km. Most of them should be connected with the medieval times and the 16th century. The works in the workings located in the massif of Widna Mount were also carried on in the 18th and 19th centuries (Bystrzyca Górna site 26; see Fig. 2) [38].

The research works within this complex have been carried out from the 1990s by Maciej Madziarz of the Mining and Geology Faculty of the Wrocław University of Science and Technology and KGHM Sp. z o.o. Centrum Badawczo-Rozwojowe (Research and Development Center) in Wrocław. As it results from the literature on this subject, over the centuries the mining works were executed there in the following mines: *Segen Gottes*, *Christinenglück*, *Victor Friedrich*, *Wilhelmine* (Fig. 6), *Beathe* and probably *Berthe*. The field research from years 2017–2019 allowed the recognition of the two oldest drift workings, coming from the 14th century (Figs. 7–9).

It must be assumed that the similar chronology may feature the relics of the mining works located a little fur-

ther to the north and north-east of the discussed complex of workings. These objects have not been surveyed yet, nor have they been included in the list of the sites known from the base of the Archaeological Picture of Poland. Their surveillance using the archaeological digging method would allow for verification of the chronology of the mining works in this area.



Fig. 7. Bystrzyca Górna, site 26. End section of the shaft examined in 2017 with visible elements of wooden lining connecting it with the central drift (photo by T. Stolarczyk)

Il. 7. Bystrzyca Górna, stan. 26. Końcowy odcinek szybu badanego w 2017 r. z widocznymi elementami drewnianej obudowy łączącej go ze sztolnią środkową (fot. T. Stolarczyk)



Fig. 8. Bystrzyca Górna, site 26.
Central drift in the area of the shaft surveyed in 2017
(photo by M. Madziarz)

Il. 8. Bystrzyca Górna, stan. 26.
Sztolnia środkowa w rejonie szybu rozpoznanego w 2017 r.
(fot. M. Madziarz)

Summary

The mining relics constitute an integral element of the cultural landscape of the Sowie Mountains and Wałbrzyskie Mountains and Foothills. Their remnants are the testimony to the significance of this area for the economy in the Middle Ages and early modern times.

Grodno Castle founded in the 13th century, being the seat of a duke, surely constituted one of the elements of support for development of the duke's property. On the basis of the analysis of the names of places – presence of *Seiffen* in the local names – we can assume that at that time surveying or even extraction of gold originating from the secondary placed deposits could be carried on.

Substantially more information concerning mining is provided by records referring to the works performed in the 16th century. They were undertaken both in the area of the castle fiefdom – chiefly in Dziećmorowice – as well as in the neighbouring settlements, i.e., the village of *Schlesierthal*, in Modliszów, Lubachów and Bystrzyca Górna. The miner trade unions that developed there performed their operations in the estates of the local gentry (the houses of von Hoberg, Schaffgotsch or von Seydlitz). The Dziećmorowice mines, since 1545 located within the boundaries of the estate of the house of von Logau, did not receive relevant support from the proprietor of the castle fiefdom despite the clear orders of the Emperor himself. The disputes over that matter with the Chamber of the Emperor lasted almost till the death of Georg von Logau. We can assume that the local miner trade unions did not constitute for him a source of important income and in the modern times Grodno Castle was not connected with the mining works carried on in the area of the fiefdom.

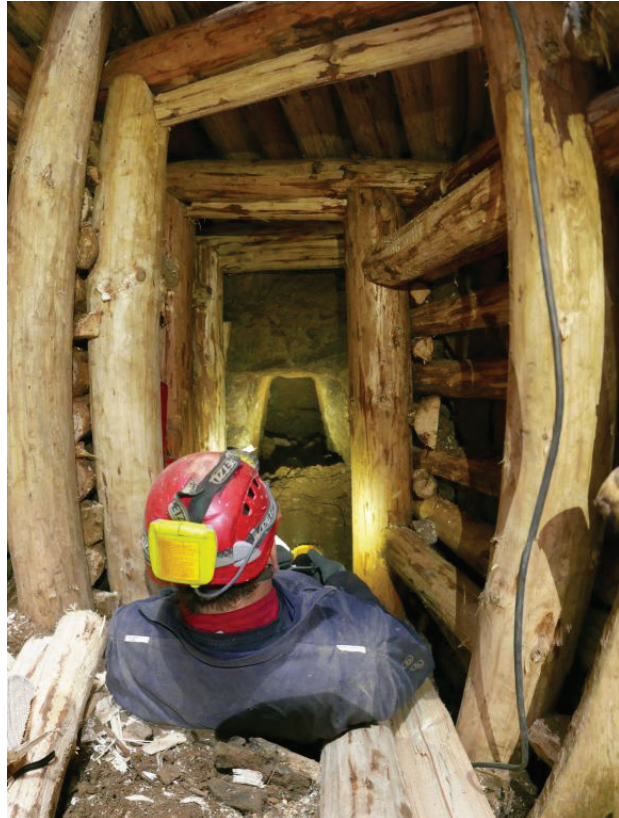


Fig. 9. Bystrzyca Górna, site 26. Redeveloped shaft of the upper drift, the drift inlet visible in the lower section of the drift
(photo by M. Madziarz)

Il. 9. Bystrzyca Górna, stan. 26. Przebudowany szyb sztolni górnej, w dolnej części widoczny wlot sztolni
(fot. M. Madziarz)

The performed analysis of the written and archeological sources does not exhaust the discussed subject. Therefore it seems justified to undertake a detailed inventory works of the old mining work objects. The historical materials procured in their course and also the analysis e.g. dendrochronological, would allow us to specify the chronology of the mining works executed in this part of the Sowie Mountains and Wałbrzyskie Mountains and Foothills.

It seems to be especially important for the discussed area to undertake the written source analysis from the early modern times and to commence the works of interdisciplinary character in the scope of the archaeology of mining in the area of the Sowie Mountains and Wałbrzyskie Mountains and Foothills. This kind of activities could shed new light not only on economic activities carried on within the estates of the house of Logau, but in the entire region as well.

Translated by
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Abstract

Mining of non-ferrous metal ores in the valley of the Bystrzyca river in relation to Grodno Castle

The article discusses the issues of mining works from the Middle Ages and early modern period (until 1618), carried out in the region of the Bystrzyca river valley, in the vicinity of Grodno Castle (the area located on the border of three meso-regions: the Sowie Mountains and the Wałbrzyskie Mountains and Foothills). The chronology of local mining probably dates back to the Middle Ages; however, the best documented reports refer to mining works carried out in the 16th century. They were undertaken both in the territory of the Grodno Castle fiefdom – mainly in Dziećmorowice – and in the neighboring villages: Schlesierval, Modliszów, Lubachów and Bystrzyca Górna. The remains of former mining works have been the subject of mining archeology research for years. A significant part of them was entered in the register of sites included in the Archaeological Picture of Poland program. The authors of the article presented the most important historical mining excavations in the given area and documentation related to the individual sites.

Key words: non-ferrous metal ore mining, Grodno Castle, mining archaeology, mining history

Streszczenie

Górnictwo rud metali nieżelaznych w dolinie Bystrzycy a zamek Grodno

W artykule omówiono zagadnienia dotyczące prac górniczych z okresu średniowiecza i wczesnego okresu nowożytnego (do 1618), prowadzonych w rejonie doliny rzeki Bystrzycy, w sąsiedztwie zamku Grodno (obszar położony na granicy trzech mezoregionów: Gór Sowich oraz Gór i Pogórza Wałbrzyskiego). Chronologia tutejszego górnictwa sięga zapewne okresu średniowiecza, najlepiej udokumentowane są jednak przekazy odnoszące się do prac górniczych prowadzonych w XVI w. Podejmowano je zarówno na obszarze lenna zamku Grodno – głównie w Dziećmorowicach – jak i w sąsiednich miejscowościach: wsi Schlesierval, w Modliszowie, Lubachowie oraz Bystrzycy Górnej. Pozostałości dawnych robót górniczych są od lat przedmiotem badań archeologii górniczej. Znaczna ich część włączona została do ewidencji stanowisk ujętych w programie Archeologicznego Zdjęcia Polski. Autorzy artykułu przedstawili najważniejsze z historycznych wyrobisk górniczych na omawianym obszarze oraz dokumentację związaną z poszczególnymi stanowiskami.

Słowa kluczowe: górnictwo rud metali nieżelaznych, zamek Grodno, archeologia górnicza, historia górnictwa