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From Olonets to Kabarda. Reference to Johann Friedrich Bluher's prospecting works and exploration in Russia

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Abstract. The article provides a review of Johann Friedrich Bluher's activities as a prospector, mining engineer, assayer and metallurgist during his search for ferrous and non-ferrous metal ores in Russia. Bluher visited all the regions of the Russian state with existing metal industry. He also searched for mineral deposits in territories where such kind of works had not been previously performed. The author calls attention to his works on iron and copper ores' prospecting in Olonets region and to his expedition to Bolshaya Kabardin Plain for silver and copper ores. We use records of *Berg and Manufaktur Kollegiia* (Mining board and Manufactory board) for the interpretation of events. We note the diversity of assessment of Bluher's activities by his contemporaries and historians of the 21th century.

1. Introduction

Johann Friedrich Bluher (in Russian his surname variously rendered as *Блюер, Блюер, Блюер, Блюэр*), a prospector, assayer, master miner and metallurgist, worked effectively in the various regions of Russian state, in those regions with the functioning metal mining industry, those where it was established with his assistance and those where the natural resources have only been studied. Bluher worked in Russia for a long time. We have found records on him in the documents from the first three decades of the 18th century. The study of his life and works are of interest to the historians of Russian industry as well as to the regional historians of the North-West of Russia. Bluher, for example, had chosen the location for *Petrovskii zavod* (Peter's ironworks), now the city of Petrozavodsk. These studies are interesting to the historians of natural sciences, making available information on the search and analysis of mineral deposit.

We have met quite a lot of mention of Bluher in books on specialized subjects. There were also several research papers about him [1–4]. However, his professional activities were studied incompletely and unevenly. Our objective is to add information covering relatively unknown episodes of his life as a searcher for mineral deposit. Bluher fulfilled assignments of mining's central government bodies of Russia. They were *Prikaz rudokopnykh del* (Chamber of mines) (1700–1711), *Rudnaia kantseliariia* (Chamber of mines, Mines office) (1715–1718) and *Berg and Manufakturkollegiia* (Mining and Manufacturing board) (1718–1721) at that time. We accord special priority to the activities of Bluher in the north-west and in the south of the country. We observe the regional specifics of his works.



2. Materials and methods

We pay attention to records and papers of *Berg and Manufakturkollegiia* (Mining board and Manufacturing board), hereunder referred to *BMK*, and to records of *Bergkollegiia* (Mining board) from *Rossiiskii Gosudarstvennyi Arkhiv Drevnikh Aktov (RGADA)* (Russian State Archive of Ancient Acts). Time analysis of these records, records and special literature's data comparison allow to give more accurate definitions and to add to the subject of our study.

Our main source is *Kollezhskie prigovory* (decisions of the board on specific matters with the summary of the documents on the subject). We also use as necessary other types of documents, including private papers, such as petitions and reports. All these documents were preserved in the archive of current records of the board.

3. Results and Discussion

We cite from documents that listed most noticeable places of Bluher's prospecting. He was assigned to the *Prikaz rudokopnykh del* (Chamber of mines) in December 1700 [5]. On July 16th, 1719 looking back on 18 years of his service in Russia in the petition (*Obrashchenie*) to BMK he stated that he worked hard for "many years" and searched for "various metals". In order to examine ores, Bluher was sent to Siberia, through Astrakhan to Kabardin plain and to Alussia [5]. Excerpt (*Vypiska*) of the BMK (the document was made before the January 22, 1719) is another source that described Bluher's service in Russia. As it was written there, up to the year of 1712, Bluher with companions in his search for ores visited Kaluga, Kozelsk and the county of Kozelsk (Dudinsk civil parish) (*Kozelskii uezd, Dudinskaia volost*), Olonets copper mining works, Siberia and Izium [5]. These lists are not complete, we find other places of his prospecting in literature [4] for example *Moskovskii uezd, Kazanskii uezd* (Moscow county, Kazan county), etc.

The difficulties Bluher encountered during his expeditions were described in his petitions and reports on his prospecting trip to Kabarda for copper and silver ores. Bluher spent government money but achieved no result in the first one, and discovered ore occurrence that was hard to explore technically and mining there seemed unprofitable in the second one. Even this result was hard to gain.

The search of base non-ferrous metal ores and noble metal ores was considered as a task of current importance in Russia since the end of the 15th century. The search of silver ore was a task of primary concern. In 1660, an attempt was made to start a silver-smelting factory on the river Tulitsa, but of no success. In 1660 and in subsequent times, specialists from abroad took part in the search of silver ores, Russia had no local silver-searchers because of the lack of known deposits [6; 7].

In 1715, according to Bluher's narrative, by the tsar's order given from *Kantseliariia Pravitelstvuiushchego Senata* (Office of the Senate), he was sent to Astrakhan to the colonel of *Preobrazhenskiy* regiment prince Aleksandr Bekovich-Cherkasskoy for the prospecting of silver ores and copper ores. Bluher arrived to Astrakhan, was presented to the prince and then was sent to Circassian land to *Bolshaia Kabarda*. At that time this name meant lands along the Baksan River at the distance of three days from *Grebenskie* Cossack towns. The locals said Bluher it was not possible to get to Bolshaia Kabarda in winter neither by foot, nor by horse because of so much snow. Bluher however decided to give it a try. He took two guides and went through the "big mountains". After one-day trip, he made a disappointing conclusion that "those mountains are covered with great snow and it is not possible to get to the desired destination because of the snow". He had to come back. In the following year of 1716, he again travelled to Astrakhan and then to "those places" (that he could not probably reach for his first try). This time he got there and excavated and took for the analysis 100 pounds of ore. He smelted it and has got 3 lots of silver (38.4 grams). Percentage of metal in the ore was 0.094 %. Bluher passed the smelted silver to the Tsar. The miner formulated his conclusion as follows: "It is not possible to build a factory at those places, there are not enough resources, there are no forests there and the ore is of low metal content" [5].

Not only natural and climatic factors were the obstacles for his work. Unfortunately, his coworker, master Jaga Gunn, died (previously, Bluher had loaned him money). Bluher had no experience in the ways of communication with the locals. In Astrakhan, prince A. Bekovich-Cherkasskoy ordered

Bluher to take 200 hundred rubles from the office for the purchase of gifts for Circassian princes, according to Bekovich-Cherkasskoy it was not possible to enter these places empty-handed. Bluher obeyed and has spent on gifts and other purchases even the larger sum [5]. On his return Bluher was required to pay off the loan. He had no opportunity to prove the money was taken by the advice of Bekovich-Cherkasskoy forasmuch as Bekovich-Cherkasskoy died in the campaign to Khiva.

Another place where Bluher explored natural resources of Russia was the region of Olonets. Russian service of Bluher started in 1699 or in 1700 [4], and the routes of expeditions in which he took part passed through the north-west of the country. He came to the region as a part of a searching group of the Chamber of mines headed by I.F. Patrushev. The results of its work helped to pass on the new stage of mining complex development here. The launch of copper-smelting works near *Badma-ozero* (Badma lake) (1702) was a direct result of Bluher's search for a mineral deposit and of exploration. They also promoted the construction of State Olonets ironworks in 1703–1707 which included ironworks *Petrovskiy*, *Povenetskiy*, *Alekseevskiy zavod* and copper smelter *Konchezerskiy zavod* [4]. Bluher inspected the mouth of a river *Lososinka* that flows into *Onezhskoe ozero* (Lake Onega). He had found a place for the construction of a factory with a furnace. The history of the city Petrozavodsk started here with the construction of ironworks groundbreaking ceremony (1703). Lately by the needs of his service, Bluher paid his attention to the ore resources of the northwest of Russia multiple times.

Ironworks were named *Petrovskiy zavod*. It was constructed under the supervision of another person, as Bluher left Karelia and moved to Solikamsk. In July of the year 1719 Bluher volunteered to visit Olonets region again. Being in St Petersburg he made a petition (*donoshenie*) to BMK. He reminded his work in Russia for many years in the field of search and exploration of ores. After this he described one copper smelter in the county Olonets which was in the communication with the *Rudniy prikaz* (Chamber of mines) till 1711. Bluher asked for the permission to visit this smelter.

It is not clear from the text of the petition which factory Bluher had in mind. We can ascertain the name of a factory with analysis of surnames of its workers, the master of smelting Zimmerman and mine foreman Sheinfelt [5]. Wolf Martin Zimmerman, the master of smelting from Saxony and participant of the expedition of I.F. Patrushev, was the head of the construction of copper smelter *Konchezerskiy* in 1706–1707. At the end of 1710s there was no other state's operating copper smelting factory in the county Olonets. Apparently, this factory was the one mentioned by Bluher. According to other sources, the quantity of foreign specialists working on this factory in 1719 matched the quantity mentioned by Bluher.

At that time *Konchezerskiy zavod* served the needs of Admiralty and the factory and its personnel were subordinates to it, not to the BMK. But we can explain Bluher's desire to visit the factory by the fact that he named the foreigners working there "my gang of workers" [5]. In 1701 Bluher traveled abroad and recruited staff for mining works in Russia. Abovementioned V.M. Zimmerman, the silver-smelter, was one of the specialists hired in Saxony [4]. In the letter that Bluher took to Russia, it was stated that all mining experts who traveled with Bluher were ordered by the will of Augustus, king of Poland and elector of Saxony, to be loyal servants and knowing, skillful workmen. They were ordered also to obey master Bluher and consider him their superior [5]. So, by the will of the person who permitted their exit to Russia, these mining experts had to obey their current employer and Bluher.

According to Bluher's petition, the experts from Saxony had forgotten about these conditions and did not listen to his "order and request". He had no information on what were they doing there, whether it was works, did the factory obtain ore, they did not write about it to BMK and to him and did not send samples. Bluher was a master that lost control over his subordinates and it was a matter of deep concern for him. The anxiety, he said, was aggravated by the fact that the time of his service was spent in vain. Bluher asked to let him go to Olonets copper works in the coming days. He referred to desire to act and to show loyalty, he wished to inspect the factory, to know what the experts were doing there and to figure out what was the reason of the stop of works. He promised to inform BMK on the results of his inspection [5].

We do not know the reason why the specialists of factory were not in touch with BMK in the summer of 1719. Perhaps they have not yet adapted to the structural reform of the mining administration (*Rudnaia kantseliariia* was closed and the BMK was established) which was accompanied by changes in personnel. The illness of Sheinfelt who died soon (before July 18, 1720) was also a reason.

Nevertheless, the lack of correspondence with specialists entrusted to his care was not the only reason for his haste. The document has been preserved stating that shortly before submitting the quoted petition, Bluher had bought tools for performing ore tests from “the money master” Lang. BMK had to pay him for an iron stove, 300 clay pots for sampling of copper ores, 200 pots for sampling of silver ores, 300 cups for annealing, 20 muffle roasters and some kind of iron-board with holes [8]. This purchase should be linked to the preparation for the expedition to Ural where he had to go soon. Bluher understood he could not visit Olonets region soon. He was in a hurry to resolve situation on *Konchezerskiy zavod* before his trip to Ural.

BMK realized the responsibility for the state of affairs on enterprises of the mining industry regardless their subordination and reacted to Bluher’s petition. The decision of the board was made and the executive order was prepared by BMK. For some time the correspondence on the subject of the pay to Bluher went on with the Senate and the *Shtats-kontor-kollegiia* (Controlling board of costs and expenses).

We have not found records on the later events in the archive of BMK. If the trip took place, it was a short trip. BMK strenuously formed a group for the expedition to Ural. At the beginning of the 1720 (January 23), the tsar Peter by his personal order added V.N. Tatishchev to the group, the latter had to be the head of searching group jointly with Bluher. The expedition leaved Moscow at the end of May, 1720 [9].

But they still had not enough personnel for the success of an expedition in Ural. So, BMK decided to enforce the searching group by recall of some specialists from Olonets ironworks (The appointment of BMK from 18th of July, 1720). BMK ordered to take from colonel Hennin some apprentices of Artillery and to send them to Kungur copper mines for the “mining business”. They were apprentices Nikifor Kuvildin and Semen Leontev. On their way to Ural, they had to come to Moscow to *Prikaz Artillerii* (Artillery board). A mine foreman (Stieger) was also sent from Olonets to Kungur. Initially Sheinfelt had to go there but after BMK has got news on his death it was decided to send to Ural some other specialist from Saxons. At Kungur a mine foreman and apprentices had to be subordinates of V.N. Tatishchev and J.F. Bluher [10].

Tatishchev and Bluher spent several years in Ural region working hard together. We have to note that Bluher supported Tatishchev in the well-known conflict of Tatishchev and Demidov confirming the reasonableness of Tatishchev’s actions.

Bluher visited Olonets region (*Petrovskii zavod*) one more time at the end of his activities in Russia for the inspection of silver mines and copper mines.

4. Conclusion

As we can see, Bluher succeeded in the search of iron ores and copper ores in various regions of Russia during many years of service. He had found also silver ores but of low metal content and in the hard to get place where the construction of a factory and exploitation of resource were not possible at that time. He had shown also his skills and practical experience during his work on metallurgical works.

However, Bluher’s appreciation as an expert differed significantly. Head of the BMK James Daniel Bruce rated him low in the letter of March 17, 1719 [2]. But we should take into consideration this letter was written after the least successful expedition of Bluher to Kabarda. Georg Wilhelm de Hennin also rated Bluher low, he wrote that Bluher had no experience in administration work of a board, he was also of poor health condition, was spleeny and of poor memory [9]. Hennin however wrote about the administration cases – he had no stinging remarks on the work of Bluher as a *Bergmeister* (master miner). Modern historians, on the contrary, especially those of Ural region,

estimate Blüher as “prominent” and even “outstanding” master (A.M. Safronova, E.A. Kurlaev, N.S. Korepanov and S.A. Korepanov) [4; 3]. We agree on this high estimation and consider it reasonable and we hope it will be generally accepted.

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