

Underground Track „St. Johannes” Mine & Tourist Route “By the traces of the former ore mining” in the Mirsk Commune as the example of post-mining relics’ management for geotourism

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ABSTRACT

This article presents the issues concerning background, preparation and implementation of the project of post-mining relics’ management for geotourism and industrial tourism as regards the economy, technique, environment as well as formal-legal questions. For the last few years mining heritage geotourism has become a rapidly developing branch of geotourism. Also the number of products for tourism stimulating the development of regions has grown. The base for the analyses was the project implemented in the Mirsk Commune (Gierczyn-Krobica-Przecznica area) in Lower Silesia, Poland.

Key words: geoturistic route, post-mining relics, mining heritage, Lower Silesia in Poland

INTRODUCTION

The idea of proper preservation and preparation of former mines and post-mining remnants in aspect of making them available for tourists is becoming more and more popular within local authorities in different countries. Within the reasons it should be mentioned the larger access to European Union’ funds as well as deeper understanding of values of post-industrial heritage. The main measurable goals of such undertakings is increase of tourist attractiveness of the region as well as social benefits.

Activity for protecting and disposal of post-mining heritage for tourism has started in Poland on larger scale since 2005 as a result of world-wide trends observations in this branch as well as the initiative of the World Tourism Organization (UNWTO). Thanks to activities of this organization it was possible to create the International Documentation and Research Centre on Industrial Heritage for Tourism (IDRC-IHT) in September 2008, which is the

integral part of the Monumental Coal Mine “Guido” in Zabrze. The Centre pays its attention on protecting, promotion and addition the new values to the industrial heritage relics for touristic purposes. About 25 years before creation of the Centre the “Guido” former coal mine was transformed into mining museum complex, which in 2007 became independent cultural institution operating under the auspices of Zabrze municipality. Two levels open for public at 170 m and 320 m underground within this historical coal mine are well-known and important example of geoturistic attraction in the Upper Silesian Coal Basin (Dzięgiel, 2011).

The superior institution in Poland in this area is the National Heritage Board of Poland, which has been created on 1st January 2011 as a consequence of establishing the new status to the National Centre of Research and Monuments Documentation. The mission of the National Heritage Board of Poland is to implement the State’s policy concerning the protection of cultural heritage and its

supervision through assuring the best and most comprehensive conditions for preserving it for future generations. In accordance with the strategies of these organizations the aim of activities connecting to post-industrial relics' protection and preservation is to build a social shared responsibility and to preserve sustainable development rules. It means to operate with respect to environment protection issues and social matters.

EXAMPLES OF PROJECTS BASED ON HISTORICAL POST-MINING REMNANTS

An active management of industrial heritage, along with mining heritage, has a wide touristic context. Post-industrial heritage tourism is touristic activity on the areas, where the main attraction, and the main reason for visits is the heritage. Within the most valuable, movable monuments, their parts or complexes, the best representative domains for history of polish industry are among other things - mining and processing. The polish experiences of the owners and administrators of open, mainly underground

geotouristic routes, shows that these ventures have a huge touristic potential (Mikoś, 2008). These routes were mainly formed on the base of former gold mines (the Gold Mine in Złoty Stok), salt mines (the "Wieliczka" Salt Mine), uranium mines (the Underground Touristic-Educational Route in the Old Uranium Mine in Kletno) as well as coal mines - the Heritage Park of Mining "Queen Luiza" in Zabrze. By 2010 six underground post-mining tourist routes open for visitors in Lower Silesia region had been identified (Fijałkowska-Lichwa, 2011).

The understanding of the value of post-mining and post-metallurgy objects by their dispatchers as well local and private investors was in last several years the beginning for a number of new undertakings with the post-industrial and geotouristic character. For example only in 2012 were opened:

- ✓ Touristic Underground Route „Groty Nagórzyckie” in Tomaszów Mazowiecki (Fig.1),
- ✓ Mining and Smelting Custom Park in Michałkowice,
- ✓ „Maciej” Shaft in Zabrze,
- ✓ Mining and Smelting Museum in Leszczyna.

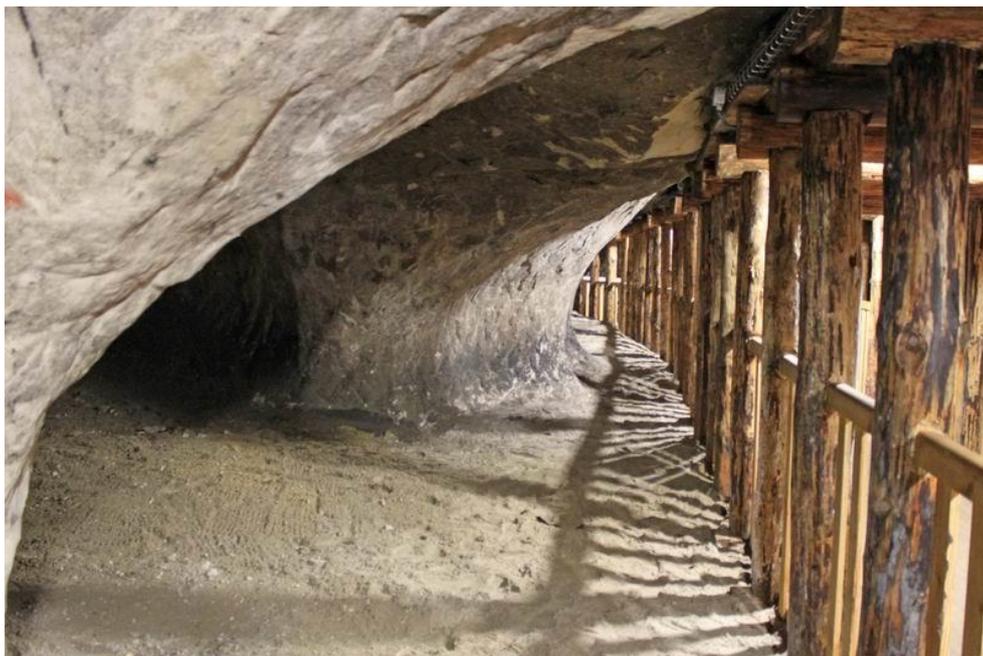


Fig. 1 Touristic Underground Route "Groty Nagórzyckie", newly opened in Tomaszów Mazowiecki. **Source:** www.groty.skansenpilicy.pl

Accessory, the additional attractions in existing routes were opened:

- ✓ renovated „Regis” Shaft and Mining Route within the project titled „the New Adventure Tracks in Monumental Wieliczka Salt Mine”,

- ✓ Multimedia Museum in Historic Silver Mine in Tarnowskie Góry,

- ✓ European Center of Technical Culture and Industrial Tourism (Part I) in Mining Museum „Queen Luise” in Zabrze.

The planned openings in 2013 and 2014 are:

- ✓ „Główna Kluczowa Dziedziczna” Adit in Zabrze,

- ✓ „Multimedia Project in the Lill Górna and Kazanów chambers” in Monumental Wieliczka Salt Mine,

- ✓ „Middle Ages Technique Park” next to Touristic Underground Route in Złoty Stok,

- ✓ Underground Track „St. Johannes” Mine & Tourist Route “By the traces of the former ore mining” in the Mirsk Commune. The last one of these projects served the author as the example for analysis of conditions for implementation of the programmes of post-mining heritage management connecting with fulfilling the targets of industrial tourism.

PREPARATION FOR POST-MINING RELICS’ MANAGEMENT FOR GEOTOURISM IN THE MIRSK COMMUNE

The origin of every undertaking with the geotouristic character is a disclosure of object or objects complex of cultural heritage, so in the case of post-mining object these is often a disclosure of collapsed entrance of adit or shaft. It is unfortunately and very often connected with a health and life hazard of humans or animals. It is made for example through the finding of the post-exploitation cavern as a hole in land surface. The origin of the program whose purpose is management of the installations related to the former

mining of tin and cobalt ore located in the area of the Mirsk Commune (the Lower Silesia in Poland) is connected with the research and inventory work performed in the Izerskie Mountains since 1995 by the Faculty of Mining at the Wrocław Technical University. The results of the mentioned works aroused the interest of the government of the Mirsk Commune who started works aim to assessment of technical and environmental conditions of such initiative. In the area among Kotlina, Gierczyn and Przecznicza over 20 post-mining objects were found and identified (Fig. 2). There are objects related to mainly non-ferrous mining and metallurgy of tin and cobalt ore excluding mine waste rock dumps from the deposit first working and exploitation. These objects were: post-shafts holes, collapsed adits with different conditions, open-pit and underground excavations relics, swelling remnants, drain adits relics, the ruins of post-mining buildings from 40. and 50. of 20th Century as well as waste rock dumps (mentioned above).

The condition of these objects showed that they were improperly closed and liquidated as well as reclaimed. The inventory works pointed out that all holes and their surrounding are the places of storage and waste dumps with mainly garbage waste but also hazardous waste. It was supposed that one of the adits might be used for sewage disposal to surface and underground water which is a threat for water environment but also for human health (shaft wells). In connection with the needs of these environmental problems solving, the Mirsk Commune launched the investment co-financed by the European Union, within the Regional Operative Programme for the Lower Silesia for the period 2007–2013 (Priority 4 – Environment and Ecological Security, Operation 4.5 – Reclamation of degraded territories) – project which name is: „Reclamation of territories degraded by mining activities in the area of the Mirsk Commune and establishing the tourist route



Fig. 2 The area of the tourist route “By the traces of the former ore mining”. **Source:** photo by M. Kobylańska.

– *By the traces of the former ore mining*”. The direct purpose of the project of establishing the mentioned geotourist route has been related to the reclamation of territories degraded by former mining activities within the area of the Mirsk Commune, among the indirect ones have been the environmental, recreational and holiday purposes, cognitive and educational and scientific purposes, as well as the elimination of dangers resulting from wrong excavation closure and from the existence of post-exploitation vacuums, enhancing the tourist attractiveness of the region, protection of the cultural heritage of the area and its social and economic development (Feasibility Study, 2009).

The agreement for funding the project between the Magistrate and Commune of Mirsk and the Board of Lower Silesia Government was concluded on 27.01.2010. In the result of the bid the main executor of works has become KGHM CUPRUM Ltd Research and Development Centre who cooperates with the specialist mining works company (the consortium agreement). The

start of implementation of the project took place on 01.07.2010 and the official end was in July 2013. The following phases of the undertaking were determined:

- ✓ different surveys and analyses,
- ✓ detailed environmental and mining inventories,
- ✓ elaboration of project and calculation documentation,
- ✓ elaboration of environmental impact assessment,
- ✓ realization of underground parts of the geotouristic route,
- ✓ realization of the track and accompanying infrastructure.

Within the programme implementation the complex reclamation of the post-mining installations in the area between Krobica – Gierczyn – Przecznicza (38 hectares of reclaimed surface), for the forest-tourist route has been performed and the tourist-didactic route with over a dozen of sites has been established which present the history and relicts of the former mining activities for tin and cobalt ore in this area. The area

covered by the programme is located within the Northern Slopes of the Kamienickie Mountain Range in the Izerskie Mountains, between the valley of the Krobica Stream in the West and the valley of the Przecznicza Stream in the East.

The post-mining relicts covered with the programme was mainly the groups of excavations and the remaining land infrastructure of the former mines: „Sct. Maria – Anna”, „Drei Brüder” and „Frederic Wilhelm” in Przecznicza, „Reicher Trost” in Gierczyn, „St. Carol” and „Hunds Rücken” in Kotlina, „St. Johannes” and „Leopold” in Krobica, as well as feeding waters within the Dzieża Stream. The most important part of the route named „By the traces of the former ore mining” is however the underground tourist route called „St. Johannes Mine” in Krobica, established on the base of historic excavations from the period 1576 – 1816, whose length reaches about 350 m (Fig. 3).

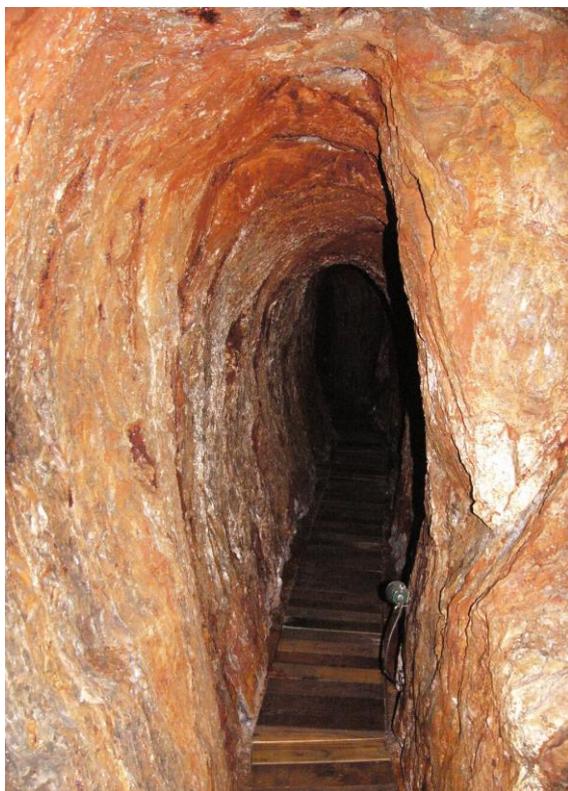


Fig. 3 The interior of the underground track „St. Johannes” Mine in Krobica. **Source:** photo by M. Madziarz.

DIFFERENT TYPES OF CONDITIONS CONCERNING IMPLEMENTATION OF THE PROJECT

Despite a big amount of environmental and social advantages of planned undertaking on the project, building and operational stages in the light of geological and mining law it didn't get any special preferences and was treated from the very beginning as a standard investment. In environmental aspect the most important conditions of the project were:

- ✓ locating the whole area of the project within the NATURE 2000 area – the Special Protection Area for Birds OSO – Izerskie Mountain (PLB 020009 code),

- ✓ locating the area of the project partly within the currently establishing NATURE 2000 area – the Special Protection Area for Habitats – the Meadows of Izerskie Mountains and Highlands (PLH 020102 code),

- ✓ the presence of protected bat populations in some underground excavations, which was connected with getting from the Monument Conservator in Wroclaw the special decision related to instructions and works operation (for example chiropterology works),

- ✓ running the detailed environmental inventories of mining objects and areas which were selected for reclamation,

- ✓ efficient surface and underground objects cleaning from the different types of waste materials with hazardous waste included (together 8 types of waste materials).

In technical aspect the most important conditions of this undertaking in the opinion of the executors and contractors were:

- ✓ safety removal of specific exploitation waste materials which arised during the prospectors works, with ferruginous ore pulps from the floor, roof and side walls of “St. Leopold” adit,

- ✓ using part of the waste (exploitation waste materials included) in the recovery

process which consists in liquidation adjacent excavations, mainly dangerous for people and animals, and using them for example for stabilizing of excavations of “St. Carol” mine,

- ✓ minimization of interventions in current state of the post-mining remnants in the project area aim to preserve their historical character, especially in case of underground excavations from the period between the 16th and 19th centuries (“St. Johannes” Mine),

- ✓ running the archaeological inspection during all technical works in historical places of tin and cobalt exploitation in this region and documentation works (Madziarz et al., 2012).

Within the project several stations and view terraces have been built aim to emphasize the touristic advantages connected with landscapes attractive for tourists like panorama of the Mirsk Valley. All of 13 stations located on the track is designated by information board and in

some cases also the rest places have been organized. The track was projected for pedestrian movement but some of its parts can be cycled by bike. The most attractive part of the route named „By the traces of the former ore mining” is however the underground tourist route called „St. Johannes Mine” in Krobica which has the exhibition pavilion with some exhibitions, for example mining tools, archive maps and plans as well as some exhibits of the local ore (Fig. 4). This part of the route had been equipped with necessary small architecture elements and facilities for the visitors.

The visiting of the complex of adits goes on with the well-educated guide. There are also some plans for demonstrations of 19th century miners works. The underground part of the track leads by “St. Leopold” adit (18th-19th centuries), then by the sloping small shaft to the level of “St. Johannes” adit (16th-18th centuries) about 10 m above. The exit of this adit is located adjacent to the Krobica Stream and “St. Johannes” shaft, which fulfills the ventilation function for the whole underground route.



Fig. 4 The entrance to the exhibition pavilion and underground track „St. Johannes” Mine in Krobica.

Source: photo by M. Kobyłańska.

CONCLUSIONS

The innovative in the region scale project basing on protection and exposure of the historic mining excavations in the Krobica-Gierczyn-Przecznica area and fulfilment of its main purpose – performing complex reclamation of this region – required commitment and cooperation of the many experts mainly in the field of mining, geology, environmental protection and ecology, archaeology (including mining archaeology) as well as mining and building law. Knowledge, experience and commitment of the interdisciplinary project team have resulted in efficient solution of all problems occurring and in compliance with many formal-legal and technical-environmental conditions within the project realization.

The other element which is a condition of successful implementation of the project with such peculiarity is a commitment of local government and providing conditions for the expansion of potential for the regional economy and tourism, everything linked to the proper governing of the new tourist attraction. That is nevertheless the continuation, the last stage of investment process which results, as the author believes, will be served for the promotion of post-mining heritage of Lower Silesia in Poland and abroad. It should be also emphasized that this last but crucial stage of geotouristic projects is maximization its market value within operational activity. In this point of view on the basis of new tourist infrastructure and its potential the system of short-term and long-term activities for taking advantage of it should be planned and implemented.

Another problematic issue is that some geotouristic projects including underground tracks pass over reliable geologic information, focusing particularly on information about mining history (Zagożdżon & Zagożdżon, 2013) as well as

recreational attractions. It seems that in case of „By the traces of the former ore mining” route all these aspects of geotouristic project’ planning and implementation mentioned above occur in proper proportions and in accordance with aims regarding to preserving of post-industrial heritage.

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