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BEYOND THE BARBED WIRE. THE BACKGROUNDS OF GERMAN NAZI CONCENTRATION CAMPS AND A PRISONER-OF-WAR CAMP IN PRESENT-DAY WESTERN POLAND

POZA DRUTAMI KOLCZASTYMI. ZAPLECZA NIEMIECKICH NAZISTOWSKICH OBOZÓW KONCENTRACYJNYCH I OBOZU JENIECKIEGO W DZISIEJSZEJ ZACHODNIEJ POLSCE

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ABSTRACT: This article presents interdisciplinary research on the areas surrounding four German Nazi subcamps of KL Gross-Rosen Concentration Camp and one prisoner-of-war camp from the Second World War, the remains of which are located in western Poland today. The results indicate that the camps' barbed-wire fences marked the boundaries of imprisonment, but it is not the limit of the landscapes of repression. Beyond the prisoner compounds were sites of burial for victims of Nazism, camps' administrative zones with anti-aircraft defense installations, sanitary and waste-disposal areas, and the logistical facilities of camps' construction sites. Investigation of the camps' peripheries expanded knowledge of their functioning. It led to the conclusion that these areas should be treated as integral to the prisoner compounds, as complementary parts of the landscapes of memory dedicated to the victims of Nazism.

KEY WORDS: World War II archaeology, Holocaust archaeology, German Nazi concentration camps, Gross-Rosen, dark heritage

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INTRODUCTION

Within the discourse on the material heritage of Nazi repression, it is noticeable that less attention has been devoted to the external infrastructure supporting the functioning of former camp sites (e.g., Theune, 2013; Sturdy Colls, 2015; Bernbeck, 2018). This raises the question of whether the failure to investigate camp hinterlands leads to a simplified understanding of the functioning of the Nazi system of violence. This question guided the archaeological research conducted at the subcamps of the German Nazi concentration camp Gross-Rosen (Rogoźnica, Świdnica County), the remains of which are now located in western Poland (fig. 1). These included Arbeitslager (AL) Kittlitztreben (Karczmarka, Bolesławiec County), AL Halbau (Czyżówek, Żagań County), Frauenarbeitslager (FAL) Schlesiersee I (Stare Strącze, Wschowa County), and FAL Schlesiersee II (Przybyszów, Wschowa County). The research also included one of the subcamps of the prisoner-of-war camp Neuhammer 308 (Świętoszów, Bolesławiec County), which operated on a sheep farm near Hinter Sänitz (Mała Lipna, Żary County).

Historical sources indicated that the areas surrounding these camps should contain graves of female and male prisoners, remains of administrative infrastructure and anti-aircraft fortifications, as well as sanitary infrastructure, rubbish dumps, and the



Fig. 1. Location of the discussed camps of Nazi prisoners. A red dotted line marks the state borders from before 1945 (data source Geoportal, prepared by A. Misiurny)

logistical facilities of the camp construction sites (Pilichowski, 1979; Mołdawa, 2009; Konczewski, Vařeka, 2025, with further references therein). The results of the search for these elements of the camps are presented below.

HISTORICAL BACKGROUND

The emergence during the Second World War of constellations of camps for slave labor in the German Reich and the countries it occupied resulted from labor shortages in industry, where production had become decentralized due to Allied bombing raids, and from the need to provide labor for the construction and operation of wartime installations. Mobilizing German women and youth for employment proved insufficient to meet these demands. This forced the Germans to partially postpone the genocide of European Jews and prisoners of war from the Red Army, who were instead assigned to slave labor in support of the war effort, alongside other victims of Nazism (Benz, Distel, 2005; Informator, 2008; Megargee, 2019).

As a consequence, the Germans and their collaborators established new prison facilities near industrial plants, military centers, and even agricultural estates. In KL Gross-Rosen, the first subcamp was established as early as 1942. Five additional camps were created in 1943, and around sixty in 1944. In the same year, 28 forced labor camps for Jews from Silesia and the Sudetenland (the so-called Organization Schmelt camps) were incorporated into the Gross-Rosen network. At the beginning of 1945, several further external camps of Gross-Rosen were established. Their total number exceeded 100. A significant proportion of the approximately 120,000 prisoners who passed through the KL Gross-Rosen' system were held in these camps. Most of them did not survive. It is estimated that around 42,000–46,000 prisoners died in the main camp, the subcamps claimed the lives of approximately 6,000 women and men, and the evacuations during the Death Marches resulted in a further 30,000–35,000 fatalities (Pilichowski, 1979; Informator, 2008; Mołdawa, 2009; Megargee, 2019). Material remains of this genocide are today located in Poland, the Czech Republic, and Germany.

Prisoners of war were also a source of slave labor for Nazi Germany. Although Germany was a signatory to the Convention of 27 July 1929 relative to the Treatment of Prisoners of War (Geneva Convention), in practice during World War II its application was limited, to the point of drastic and criminal deprivation of the rights of soldiers taken prisoner. In particular, this concerned the soldiers of the Red Army. The authorities of the German Reich argued that since the Soviet Union had not signed the Geneva Convention, Germany was not obliged to respect its provisions in relation to the Red Army. Moreover, the Red Army was treated not as a military opponent, but as an ideological enemy, against whom international rules of war do not apply. As a result, more than 5 million captured Red Army soldiers were subjected to mass extermination through the execution of people arbitrarily considered hostile (e.g. with a Semitic appearance or considered communists), but mainly by

creating devastating conditions in prisoner of war camps, where hunger, epidemics and extremely difficult living conditions prevailed. It is estimated that more than 3 million Soviet soldiers in German captivity died as a result. One of the extermination camps was Stalag 308 Neuhammer (Świętoszów). From July 1941 to the spring of 1942, more than 57,000 Soviet prisoners of war were sent to this camp, of whom more than 20,000 died. Their mass graves were discovered during a post-war investigation into war crimes committed against Soviet POWs. From the spring of 1942, due to the permanent shortage of workers, the Germans abandoned the mass extermination of Soviet prisoners, sending them to work – but still often in conditions of extreme physical exploitation, which contributed to their high mortality rate (AKTA, 1968; Moldova, 1982).

In the spring of 1942, one of the labor group, numbering about 600 Soviet prisoners, was sent from the camp in Neuhammer to the village of Sanice (Sänitz), Żary County, creating a sub-camp for half of them in nearby Mała Lipna (Hinter Sänitz). The mass graves discovered there are one example of the genocide of Red Army soldiers by Nazi Germany (AKTA, 1968; Kwiatkowska et al., 2025).

OBJECTIVES, METHODS, AND RESEARCH SITES

The investigation of the surroundings of concentration and prisoner-of-war camps formed part of the research project "Bioarcheology and Archeology of National Socialist Landscapes of Repression: The Perspective of Central and Eastern Europe", carried out by an interdisciplinary research team from Poland, the Czech Republic, and Germany. The project had two principal research objectives. The first concerned the investigation of "camp landscapes" and their functioning within the context of the wartime economy and infrastructure of Nazi Germany. The second focused on the identification of forgotten graves of victims of Nazism. During the research, it became clear that to achieve these objectives as fully as possible, it was also necessary to investigate areas adjacent to the camps. Of the seven camps examined in western Poland, camp hinterlands were successfully identified at the five locations listed above (Konczewski, Vařeka, 2025).

A wide range of data and methods was employed in the research. This range included historical archival research, including the analysis of archival aerial photographs. Remote sensing methods were also applied, including analyses of Digital Terrain Models (DTMs) generated using LiDAR technology, as well as geophysical investigations employing magnetic and electrical resistivity methods and metal detectors. The primary fieldwork method consisted of surface surveys, during which post-camp designed vegetation was also recorded (Sady-Bugajska, 2024). Key areas were subjected to archaeological excavation. Recovered artifacts, as well as plant, animal, and human remains, underwent appropriate analyses. Human burials were examined exclusively in situ and were not exhumed. All fieldwork was doc-

umented through three-dimensional spatial recording of identified structures using GPS-RTK measurements, combined with descriptive, drawing, photographic, and photogrammetric documentation. Spatial data were collected and analyzed using QGIS 3.18 Zürich software, while the remaining data were compiled in the Memento application. The use of individual tools and research methods adhered to generally accepted standards and procedures, and interim results were discussed to formulate conclusions (Cox et al., 2008; Campana, Piro, 2009; Rączkowski, 2012; Gojda, 2017).

The first of the investigated sites comprised the remains of the concentration camp AL Kittlitztreben, concealed within forests between the villages of Trzebień and Karczmarka. The camp was established in early 1944, 2–3 kilometers east of the Luftwaffe storage and production base Luftmunitionsanstalt Kittlitztreben 6/III. Several hundred meters north-east of the camp was the Kretschamberg railway stop and the Reich Labor Service (Reichsarbeitsdienst, RAD) camp no. 5/105 Johann Herrmann v. Herrmannsdorf, established there as early as the 1930s. During the Second World War, the RAD camp was taken over by the Luftwaffe and adapted into barracks for soldiers serving the nearby base. The establishment of the concentration camp was probably preceded by the operation of an Organization Schmelt labor camp from autumn 1943, and perhaps even a camp for prisoners of war from the Red Army soldiers as early as 1942 (Orlicki, 2023, with further references therein).

Initially, prisoners worked on expanding both the camp and the Luftwaffe base. Some were employed within the base itself, servicing warehouses and producing specialized aerial munitions such as V1 missiles and Fritz X guided bombs. The camp occupied an area of approximately 5.8 hectares. Its perimeter was marked by a double barbed-wire fence, with an electrified inner line. Guard towers were positioned at the corners and along the fence. The gate was located in the south-eastern corner. The camp interior was divided into three rows of residential and utility-workshop barracks (fig. 2) (Biel, Konczewski, Orlicki, 2025; Biel, Orlicki, 2025a; Konczewski et al., 2025a). The prisoners were primarily Polish and German Jews transferred from Organization Schmelt labor camps, as well as Jews deported from Hungary. The number of prisoners is estimated at between 1,700 and 2,500 individuals (Informator, 2008; Sawicka, 2009; Orlicki, 2023).

The remains of the next camp, AL Halbau, are located near the south-western boundary of the village of Czyżówek. The camp was established in July 1944, when residential and utility barracks were constructed in two rows within a forest clearing, concentrated around a triangular central square. A double barbed-wire fence with an electrified inner line was also erected along the triangle measuring approximately 210×245×330 m (fig. 3) (Konczewski et al., 2025a; Biel, Orlicki, 2025b). Around 1,000 men, mostly Poles and Russians, were held in this camp. The prisoners worked in the nearby town of Halbau (Iłowa, Żagań County) at the Pressmetall GmbH aircraft propeller factory (Informator, 2008; Orlicki, 2023).

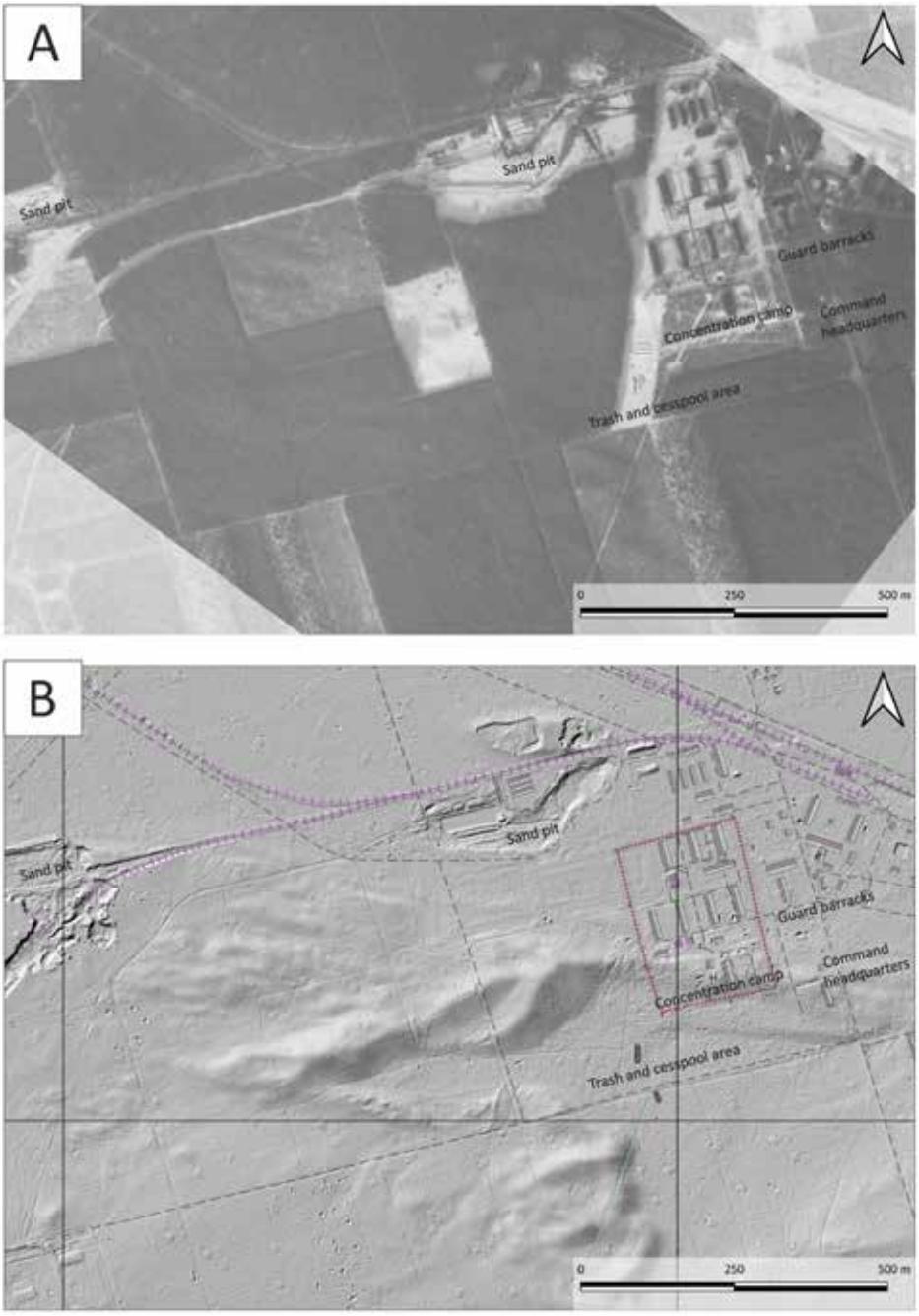


Fig. 2. Karczmarka. The AL Kittlitztreben camp area: A – aerial photography from 1944; B – plan with buildings and other elements marked on a map based on ALS data (A: National Archives and Records Administration; B: ALS data source Geoportal, compiled by R. Biel and A. Misiurny)

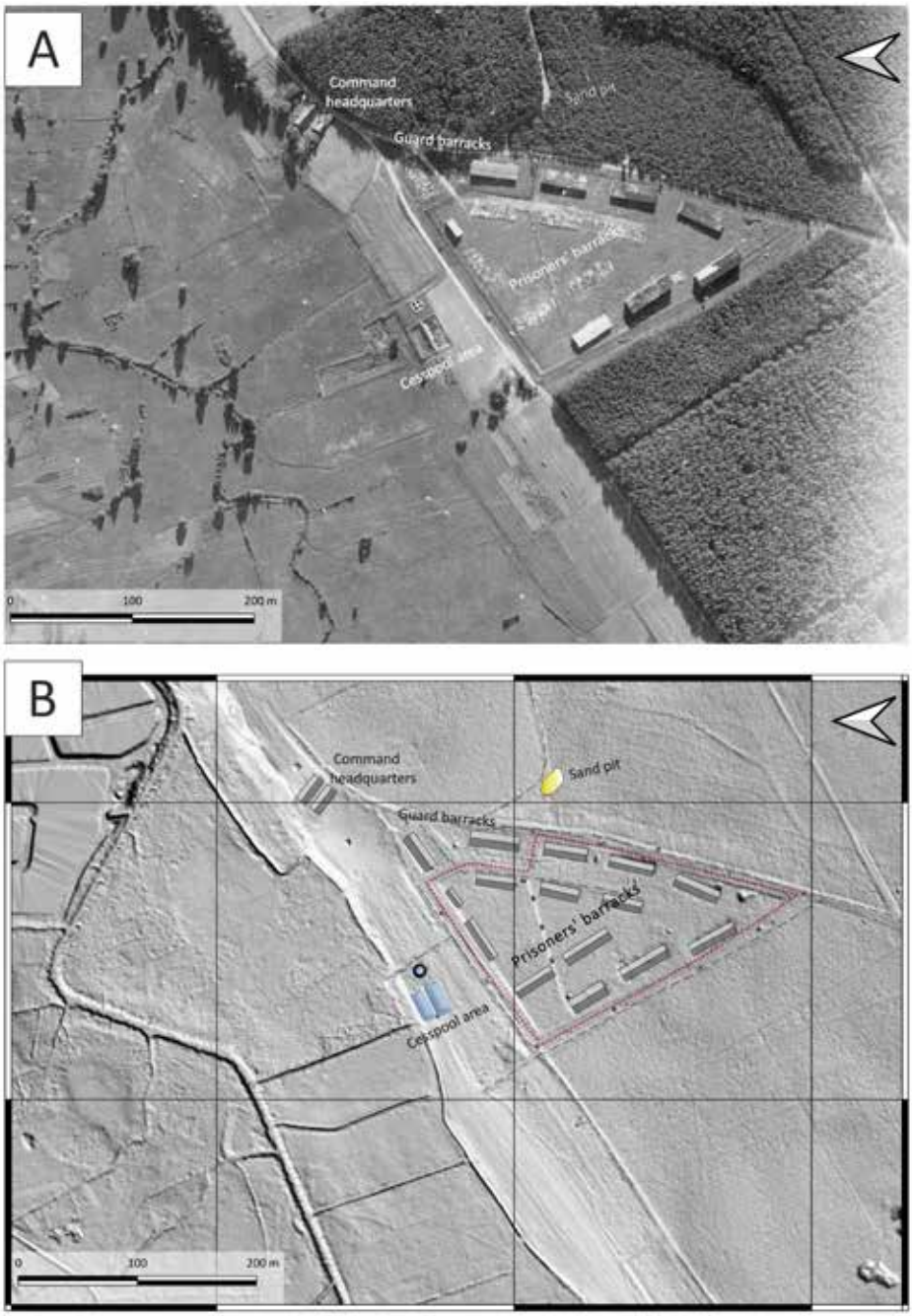


Fig. 3. Czyżówek. The AL Halbau camp area: A – aerial photography from 1948; B – plan with buildings and other elements marked on a map based on ALS data (A: Military Historical Office of the Polish Army, compiled by M. Michalski; B: ALS data source Geoportal, compiled by R. Biel and A. Misiurny)

Military setbacks on the Eastern Front in 1944 forced the Germans to hastily fortify the eastern borders of the Reich. Among other measures, anti-tank ditches were excavated on the north-eastern approaches to the middle course of the Oder River. In October 1944, five thousand Jewish women from Hungary, Poland, and Czechoslovakia, prisoners of Auschwitz-Birkenau (Oświęcim-Brzezinka, Oświęcim County), were forced to carry out this work. They were distributed in groups of one thousand among five provisional camps that became subcamps of KL Gross-Rosen. Two of these camps were established near the town of Schlesiersee (Sława, Wschowa County). Schlesiersee I camp was created on an estate north of the village of Stare Strącze, while Schlesiersee II was established on an estate near the village of Przybyszów (fig. 4) (Informator, 2008; Langowska, 2023; Konczewski et al., 2025b). Living conditions in these camps were particularly harsh, resulting in the highest mortality rates among the female subcamps of Gross-Rosen (Rudorf, 2014; Molnár Hegedűs, 2017).

Using the buildings of a sheep farm in Mała Lipna, a camp was established for a labor detachment of approximately 300 prisoners of war, soldiers of the Red Army brought there in 1942 from the Stalag 308 Neuhammer prisoner-of-war camp (Świętoszów, Bolesławiec County). The estate had been constructed at the end of the nineteenth century, with a sheepfold, barn, and residential house arranged around a rectangular courtyard, while the eastern frontage was enclosed by a fence (fig. 5A). This site was examined during a post-war investigation into crimes committed against the prisoners held there, resulting in the discovery of their graves (AKTA, 1968).

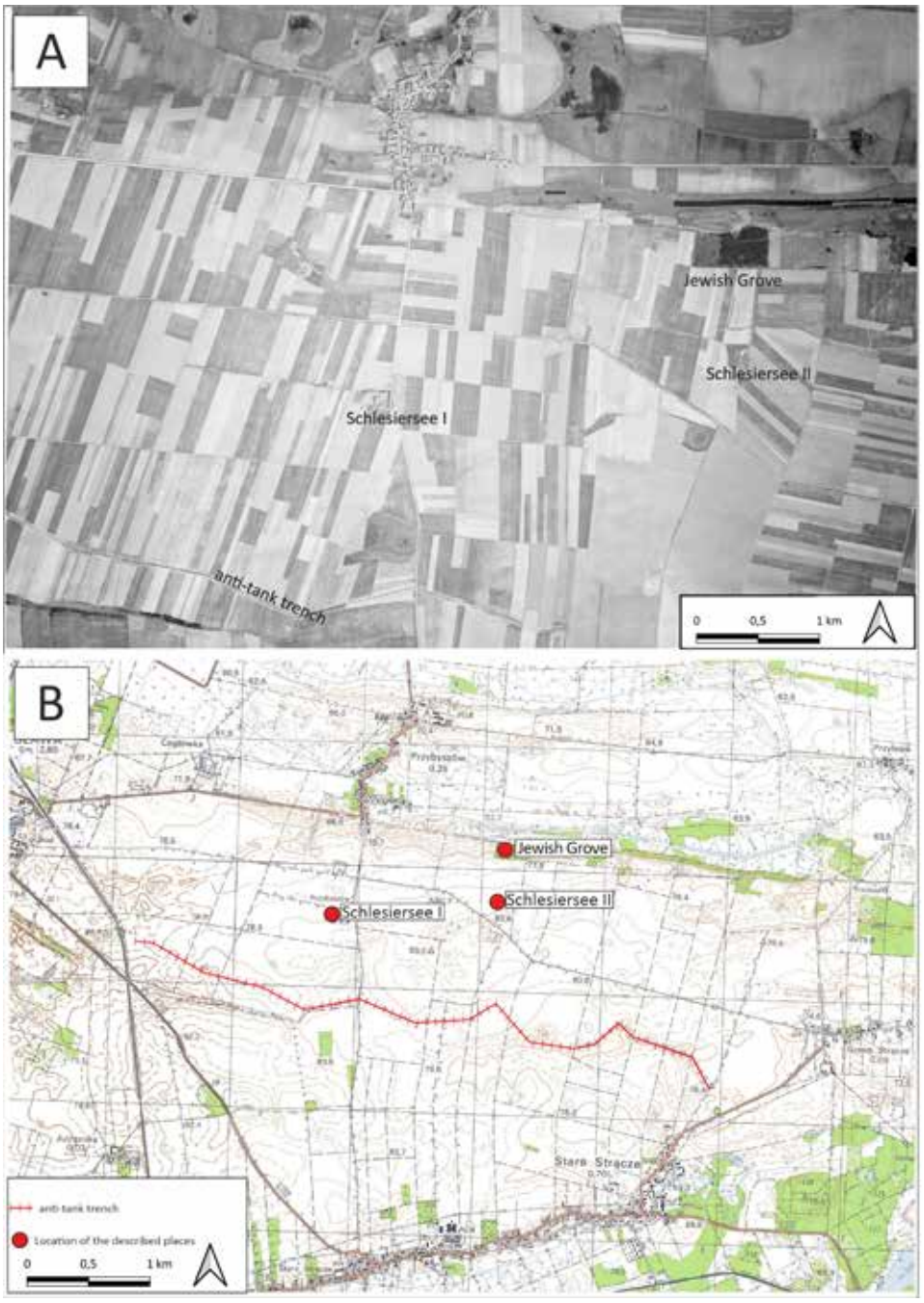


Fig. 4. Stare Strącze – Przybyszów – Sława. The FAL Schlesiersee I and FAL Schlesiersee II: A – aerial photography from 1952 with the interpretation of the camps landscape; B – plan with the location of elements of landscapes of Nazi violence (A: Military Historical Office of the Polish Army, compiled by M. Michalski; B: ALS data source Geoportal, compiled by R. Biel and A. Misiurny)

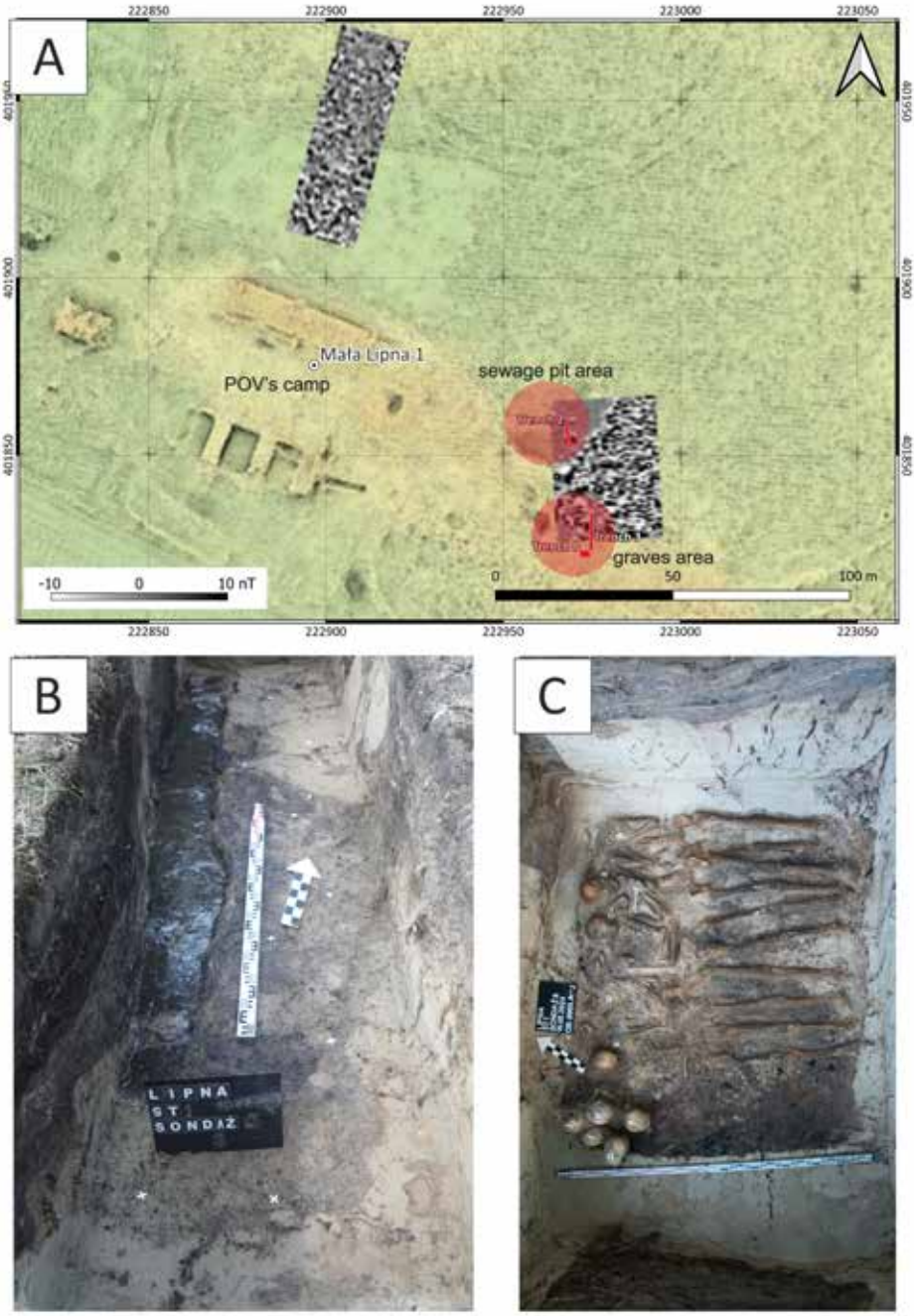


Fig. 5. Mała Lipna. Prisoner of war camp: A – ALS model with magnetometry survey results (range – 10 to + 10 nT) and locations of archaeological trenches, and structures outside the camp related to its functioning; B – the bottom part of cesspit; C – trench 8, mass grave (A: ALS data source Geoportal, prepared by M. Mackiewicz and R. Biel; B, C: photos by P. Konczewski, prepared by A. Misiurny)

COMMAND POSTS AND GUARD QUARTERS

From the establishment of the first concentration camp in Germany, KL Dachau, in 1933, administrative and residential facilities for SS personnel formed an integral component of camp complexes. The division between prisoner compounds and administrative sections was replicated in the construction of subsequent camps (Benz, Distel, 2005).

The division into prisoners and administrative barracks sections was identified at Karczmarka. Approximately 70 m east of the gate to the prisoner compound stood a building identified as the commandant's house. It was a brick-built structure equipped with electricity and a telephone. Judging from aerial photographs from December 1944, the house had a gabled roof and faced the road leading to the camp. It stood within a forested area. On the southern side of the road, there was an elongated barrack, possibly serving administrative and utility functions. A barrack identified as the quarters of the camp guards was located approximately 120 meters north of the commandant's house, directly adjacent to the camp's eastern fence (fig. 2A, 2B). This barrack was not excavated, and therefore it can only be assumed that it differed from the prisoner barracks by having superior facilities, such as more stoves and residential rooms. Indirect evidence of its barracks function is provided by fragments of porcelain vessels and beer steins found in an air-raid trench located at its southern end. This trench took the form of a zigzag ditch approximately 2 m deep and 1.5 m wide, extending for about 40 m between forest clearings leading to the commandant's house (Biel, Konczewski, Orlicki, 2025). A second air-raid trench was located south of the Luftwaffe barracks.

At Czyżówek, the camp's administrative and guard buildings stood directly beside the gate to the prisoner compound (fig. 3A, 3B). One of these barracks survives: a brick-built, non-basement structure with two internal rooms (fig. 6A). The second, dismantled before 1948, had a wooden superstructure. The smaller wooden barrack probably served as the camp office and guard post, while the brick barrack housed approximately 20 guards. Garden plants grow around this building, including common privet (*Ligustrum vulgare*), redcurrant (*Ribes rubrum*), and gooseberry (*Ribes uva-crispa*). Their presence is interpreted as the overgrown remains of a former garden (Sady-Bugajska, 2024). The camp staff also included three non-commissioned officers and a commandant, initially SS-Hauptscharführer Walter Karl Heinrich Knop, and from September 1944, SS-Oberscharführer Mathias Hesshaus. Local tradition and prisoner testimonies indicate that the camp commandants and their families were housed in homes located along the road leading to the village (fig. 3A, 3B). No air-raid trenches were identified around the camp at Czyżówek. Their function may instead have been fulfilled by pits equipped with concrete stairways, situated near the guard towers (Biel et al., 2025, Biel, Orlicki, 2025b, with further references therein).


A
B

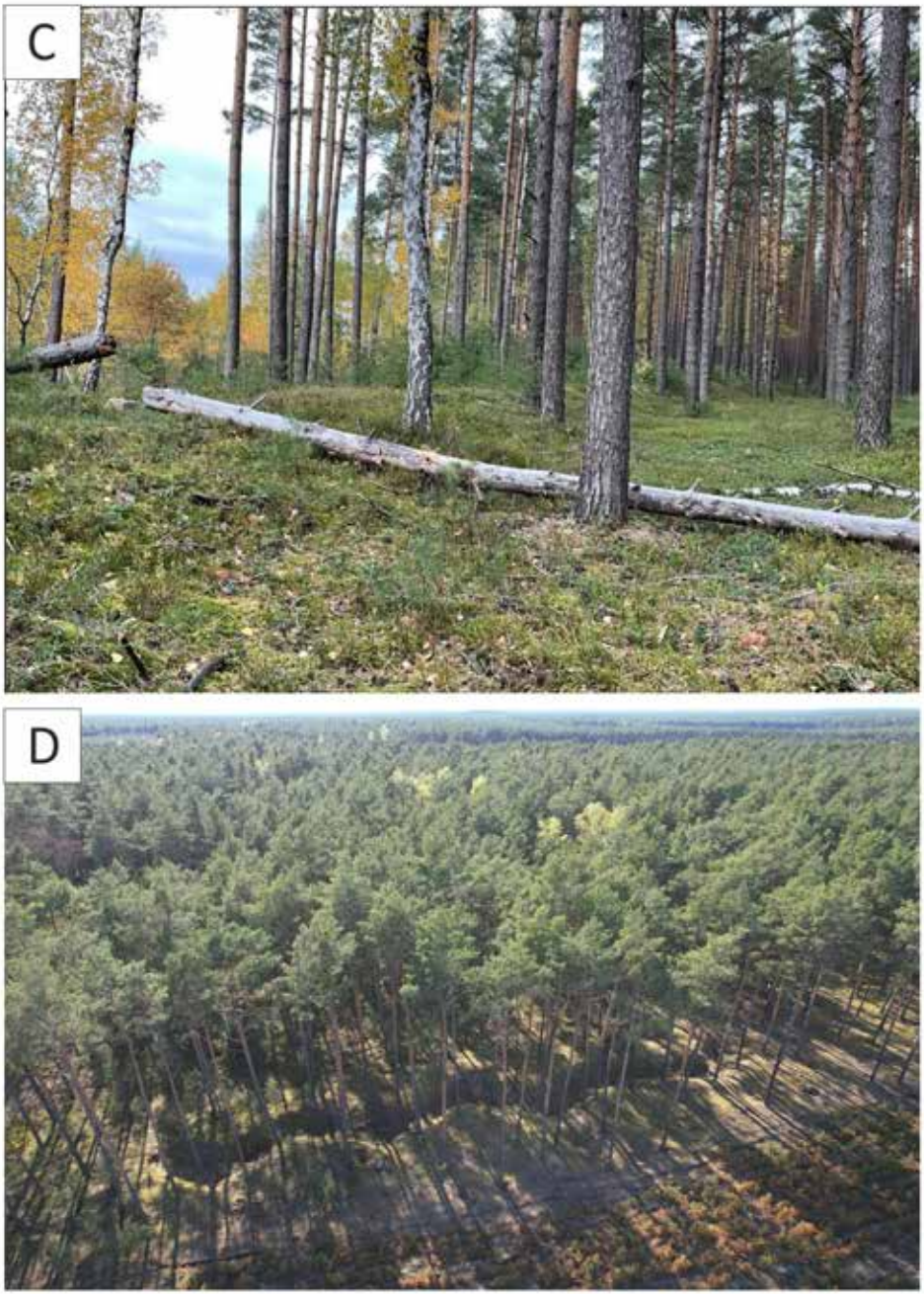


Fig. 6. Examples of relics of camp structures outside the prison parts: A – Czyżówek, Camp guard barracks; B – Czyżówek, sewage treatment plant of the AL Halbau camp; C – Karczmarka, embankment of a narrow-gauge railway, in the background a sinkhole of a sand pit near AL Kittlitztreben camp; D – Krzystkowice – Nowogród Bobrzański, anti-aircraft tranche at one of the camps at the DAG factory Alfred Nobel Christianstadt (A – C: photos by P. Konczewski; D: photos by A. Misiurny, prepared by A. Misiurny)

At the camps in Stare Strącze, Przybyszów, and Mała Lipna, there were no separate administrative or barracks zones. These functions were accommodated within the already existing residential buildings of the estates. Female prisoners and prisoners of war were confined in farm buildings (Konczewski et al., 2025b; Kwiatkowska et al., 2025). The entire complex was enclosed within estate fences and further reinforced with barbed wire.

SANITARY FACILITIES

Structures used for the disposal of human waste were identified at all investigated camps. In the Schlesiersee camps, these took the form of latrines dug within the camp interiors (Rudorf, 2014; Molnár Hegedűs, 2017). In the remaining camps, soakaway pits for feces, sewage-treatment installations, and refuse pits were identified.

An extensive sewage disposal system existed at the camp in Karczmarka. Prisoner Jakub Retman recalled that the camp bathhouse was not constructed until approximately two months after he arrived in Karczmarka in March 1944. Prior to this, the prisoners' only source of water had been a single tap (ŻIH 301/710). Archaeological investigations revealed that both the bathhouse and the residential barracks in the southern row were connected to a sewage system. In the field and on DTMs, ditches extending from the buildings were visible, representing the remains of the sewer network dismantled after the war. The arrangement of sewer inspection chambers indicated that wastewater was discharged from the camp in two directions: towards a sewage settling tank east of the Luftwaffe barracks, and towards soakaway pits excavated south of the camp. A pit situated south of the camp probably also served temporarily as a fecal settling tank and camp rubbish dump, and perhaps additional pits visible on the December 1944 aerial photograph fulfilled similar functions. A concentration of such pits was located, for example, at the southern end of the forest clearing leading to the Luftwaffe warehouses (fig. 2A, 2B). This clearing carried the power supply network, and there may also have been a barbed-wire corridor through which prisoners were escorted to work, as recalled by one of the German soldiers (Orlicki, 2023).

At Czyżówek, the sewage disposal complex was identified beyond the western fence of the camp (fig. 3A, 3B, 6B). The remains of a four-chamber concrete septic tank, connected to the camp via a sewage network (dismantled after the war), are located there. Adjacent to the septic tank, a two-part settling basin covering approximately 650 m² was excavated. The creation of this second makeshift sewage disposal area may testify to the inadequacy of the permanent installations, given the overcrowding described by prisoners (Orlicki, 2023; Biel et al., 2025, Biel, Orlicki, 2025b).

An L-shaped fecal pit with an area of approximately 200 m² was identified beyond the eastern fence of the prisoner-of-war camp in Mała Lipna (fig. 5A). The camp had been established within a sheep-farm estate, with the residential building located on the eastern side of the courtyard. The estate possessed a well, and an outhouse stood beside the house. Following the accommodation in 1942 of approximately 300 Soviet

prisoners of war in the farm buildings and guards in the residential house, this sanitary infrastructure proved insufficient. It remains unknown whether latrines were constructed within the camp itself (they may have been established in the north-eastern corner of the estate, where a domestic garden probably existed). It is certain, however, that the aforementioned pit was excavated. Trial excavations revealed that the bottom layers still contained undecomposed excrement deposits (below the groundwater level), while the trench fill indicated repeated re-excavation, presumably associated with its periodic emptying. No wall lining was identified. The L-shaped form of the soakaway pit may have resulted from its later enlargement (fig. 5A, 5B). During the excavation of the soakaway pit at the camp in Mała Lipna, human remains were also discovered. These were most likely deposited there secondarily, buried following the exhumation of prisoners' graves in 1968 (AKTA, 1968; Biel, Konczewski, Misiurny, 2025; Kwiatkowska et al., 2025).

BURIAL SITES

All of the camps described, female and male prisoners died, and their bodies were buried nearby. This did not, however, apply to all victims. Initially, the bodies were transported to the crematorium at the main Gross-Rosen camp. From autumn 1944 onwards, the transportation of corpses was discontinued. Due to logistical difficulties, orders were issued to bury them in areas surrounding the subcamps (Mołdawa, 2009; Rudorf, 2014; Orlicki, 2023). Such a practice had likely been adopted from the very beginning in relation to the bodies of prisoners of war who died in the camp at Mała Lipna (AKTA, 1968; Mnichowski, 1982).

During its existence of less than a year, AL Kittlitztreben claimed the lives of several hundred prisoners (Informator, 2008; Sawicka, 2009; Orlicki, 2023; Biel, Orlicki, 2025a). Three locations were investigated in the search for their graves. The first was situated south-east of the Luftwaffe barracks, where, after the war, a monument bearing the Russian-language inscription "To the Victims of Fascism" stood. On Soviet and Polish military maps from the 1970s, this site was marked with the graphic symbol for a "mass grave". Excavations conducted within the area of the monument's now-destroyed pedestal, as well as geophysical and trial investigations around it, failed to reveal any graves. Investigations at the subsequent locations also produced negative results. At the second site, the elongated trenches are most likely the remains of vegetable storage mounds, while the pits at the third site were probably temporary storage places for military equipment (Biel, Konczewski, Orlicki, 2025; Biel, Orlicki, 2025a).

At AL Halbau, at least 64 prisoners died, and the majority of their bodies were transported to the crematorium at Gross-Rosen (Sipowicz, 1974; Informator, 2008). Prisoner testimonies also contain information that escapees were executed in a meadow east of the camp and buried there. In the 1970s, Franciszek Krzystek, a former Wehrmacht soldier living in Czyżówek, testified that one of the graves was located

approximately 300 m east of the camp (Sipowicz, 1974). Guided by these indications, ground anomalies identified in this area were subjected to ground-penetrating radar and trial investigations. None of them, however, proved to be graves (Biel, Orlicki, 2025b).

Death claimed approximately 60 women in the two FAL Schlesiersee camps (Rudorf, 2014). In local tradition, the so-called *Jewish Grove*, located between Przybyszów and the Schlesiersee II camp, is identified as the burial site (fig. 4A, 4B). None of the interviewees, however, could indicate the exact location of the graves. According to the testimony of prisoner Anna Molnár Hegedűs (2017), who was held in Schlesiersee I camp, the naked bodies of deceased women were buried by a prisoner work detail that dug one-meter-deep pits in the forest approximately 2 km from the camp, corresponding to the distance to the *Jewish Grove*. Aerial photographs from the 1940s indicate that the forest was considerably smaller at that time. Remote sensing and geophysical analyses carried out in its older section nevertheless failed to reveal any graves (Biel, Konczewski, Misiurny, 2025; Konczewski et al., 2025b).

At Mała Lipna, guided by documentation from the investigation files (AKTA, 1968), trial trenches were laid out east of the remains of the prisoner-of-war camp (fig. 5A). In trench no. 3, a partially preserved adult male skeleton was discovered, with no artifacts beside it. In the southern profile of the trench, a cut feature was observed beneath the forest road running through the area. It was assumed that this might be the remnant of the 1968 excavation in which the burials of prisoners of war had been uncovered. This indeed proved to be the case. After expanding the excavation area, a mass grave containing the remains of five adult men was revealed. Beside one of them, a prisoner-of-war identification tag bearing the inscription Stalag I B 2747 was discovered. This code refers to the prisoner-of-war camp Stalag I B Hohenstein, today Królikowo near Olsztynek, Warmian-Masurian Voivodeship. It was probably there that the prisoner whose remains were uncovered at Mała Lipna had initially been held. His identity has not yet been established. Some of the skeletons found in the mass grave were missing skulls, while a pile of eight skulls lay nearby (fig. 5C). They were most likely placed there following forensic medical examinations conducted in 1968. The investigations carried out at that time, as well as discoveries made in 2024, suggest that further prisoner burials are located beneath the road over a distance of approximately 100 meters (AKTA, 1968; Biel et al., 2025; Kwiatkowska et al., 2025).

CONSTRUCTION SITE INFRASTRUCTURE

The camps near Sława and at Mała Lipna were established by converting agricultural estates, which did not involve extensive construction. The camps at Karczmarka and Czyżówek were built from scratch using concrete and cement mortar. The sand required for this purpose was extracted locally. Evidence of this survives in the former sand pits situated immediately adjacent to both camps. The sand extraction zone, also serving the continuously expanding Luftwaffe base, was located west of

the concentration camp at Karczmarka. The sand pits were situated along the road, and the narrow-gauge railway line leading from the Kretschamberg railway stop to the ammunition depots. The extraction sites were spaced approximately 500 m apart and together covered an area of around 7.6 ha (fig. 2A, 2B, 6C). These sand pits are visible in aerial photographs from 1944 but were not marked on contemporary or earlier topographic maps.

The same applies to the sand pit, covering approximately 200 m², located about 30 m east of the concentration camp fence at Czyżówek. The scale of sand extraction there was modest, corresponding to the camp's construction needs. In this case as well, the extraction site was well connected to the camp by a road leading directly to its gate (fig. 3A, 3B).

THE PERIPHERIES OF LANDSCAPES OF REPRESSION. CONCLUSIONS

It is one of history's ironies that, in some cases, the only surviving elements in the landscape bearing witness to the functioning of Nazi camps are the buildings of the commandant's office and the camp guards, as in Czyżówek. This resulted from the pragmatic post-war approach to camp spaces. The supervision buildings were of higher quality and possessed better residential infrastructure than the prisoner barracks. For this reason, they were occupied by post-war users who paid little attention to their historical origins. A striking example is Bełżec, where the only structure to survive from the Nazi extermination camp, leveled to the ground, was the commandant's building (Kuwałek, 2010), as well as the main Gross-Rosen camp, where the SS casino building survived and today houses the museum exhibition (Mołdawa, 2009). In some cases, passive air-defense systems were also established on the outskirts of camp administrative areas, such as the air-raid trenches at Karczmarka. Significantly, these were situated outside the fenced prisoner compounds. They therefore served not to protect prisoners, but solely the SS personnel, particularly evident in the complex of camps surrounding the armaments factory DAG Alfred Nobel Christianstadt (fig. 6D), in Krzystkowice – Nowogród Bobrzański, Zielona Góra County.

The areas adjacent to the prisoner compounds contained elements complementing the camps' functioning. The range of supporting infrastructure was not strictly standardized and differed considerably from that applied at the "model" camp of KL Dachau (Benz, Distel, 2005). This is exemplified by the varied methods of waste disposal observed in the camps under investigation. It is worth noting that the problem was not effectively addressed even in the main Gross-Rosen camp. In this structure, originally intended for approximately 11,000–12,000 prisoners, the issue of feces disposal (as well as access to water) was evidently neglected. The latrines constructed in 1940 were emptied manually, and the waste was transported to soakaway pits dug beside the stream flowing south of the camp, resulting in an ecological disaster. Only in 1942–1943 was a sewage network constructed to channel wastewater to

a treatment plant located outside the camp (Mołdawa, 2009). Among the investigated camps, sanitary sewer systems were identified at Karczmarka and Czyżówek. A sewage treatment facility existed only in Czyżówek. It was probably insufficient for the camp's needs, given the presence of nearby open soakaway pits. Wastewater from the camp at Karczmarka was discharged into soakaway pits, some of which were not integrated into the sewer system. Waste from the prisoner-of-war camp at Mała Lipna was also removed to a soakaway pit outside the camp. Fecal matter from the camp latrines at Stare Strącze and Przybyszów was most likely spread across nearby fields.

The presence of sanitary and waste-disposal zones around the camps may appear, at first glance, to be a banal conclusion. Yet it directs attention towards a broader perspective on the functioning of camps as spaces inhabited by people, with all the implications of this fact, for example, the need for feces disposal. The makeshift construction of fecal pits around the camps at Karczmarka, Czyżówek, and Mała Lipna also lends material credibility to prisoners' testimonies describing overcrowding and catastrophic sanitary conditions within the camps (ŻIH, 301/710; AKTA, 1968; Orlicki, 2023).

Similarly, the landscape remains of construction-site infrastructure constitute an empirical complement to prisoners' testimonies concerning the functioning of Nazi concentration camps. A comparison of remote sensing data with archival sources allows the sand pits at Karczmarka and Czyżówek to be unequivocally linked with the construction of the camps. The recorded sand extraction sites for construction purposes near the camps at Karczmarka and Czyżówek were probably not the only elements of their construction infrastructure. Building material depots and concrete mixing plants must also have existed somewhere, structures identified, for example, at Auschwitz-Birkenau and Gross-Rosen camps (Setkiewicz, 2008; Mołdawa, 2009). Resolving these issues likewise requires further research.

The roads and railway lines leading out of the camps became the routes of the Death Marches during the evacuations. This issue falls beyond the scope of the present text. Nevertheless, it constitutes another argument against viewing camp landscapes as isolated points and instead supports treating them as spaces whose functioning required peripheral zones. Peripheral sites sometimes play important roles in practices of remembrance concerning the martyrdom of Nazi prisoners, such as the graves of victims from the beginning of the Death March from Schlesiersee (Konczewski et al., 2025b), or the cemeteries associated with the prisoner-of-war camp at Łambinowice (Kobiałka et al., 2025). Similar potential is held by the forgotten graves in the forest near the camp at Mała Lipna, as well as the "Jewish Grove" at Przybyszów, which is the most probable burial site of the victims of the Schlesiersee camps. In the latter case, the difficulty of confirming the presence of burials stems from natural vegetation succession, the dumping of rubbish in the forest, and terrain changes caused by sand extraction for construction.

The unresolved locations of graves of Nazi victims that should be situated on the peripheries of camps, as well as the observable social incorporation of these sites into areas of remembrance of the Nazi tragedy, require continued scholarly attention, not only at the sites investigated thus far, but at many others as well.

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