Pionowe zdjęcia lotnicze Luftwaffe, zdjęcia naziemne, filmy dokumentalne, mapy satelitarne, mapy Defense Intelligence, mapy Wehrmachtu i mapy archiwalne

Przedstawiona analiza została oparta o oryginalne odbitki zdjęć Luftwaffe znajdujące się w National Archives Records Administration w Waszyngtonie. Należy podkreślić, że wprowadzono w Polsce poglądów na ten temat, większość oryginalnego materiału zdjęciowego Luftwaffe jest w posiadaniu Rządu Amerykańskiego. Wielka Brytania otrzymała w latach 1945-4631 jedynie kopie. Bardzo nieliczne oryginały zdjęć znajdują się w Bundesarchiv i Militärarchiv.

Analiza obejmuje także naziemne zdjęcia pachromatyczne, zdjęcia z filmów dokumentalnych, mapy z amerykańskich zdjęć satelitarnych, mapy Wehrmachtu i mapy archiwalne. Nie jest możliwe wykonanie analizy zdjęć lotniczych Luftwaffe z II wojny światowej jedynie na podstawie ich cech interpretacyjnych. Dodatkowe udokumentowane dowody zostały omówione w rozdziale 2.

Do analizy zdjęć został użyty stereoskop z obiektywami umożliwiającymi powiększenia 1x i 4x. Wykorzystano także lupy o zdolności powiększenia 10x oraz mikroskop. Złączone zdjęcia są kopiami IV generacji i są zamieszczone jedynie dla ilustracji zagadnienia. Wszystkie obserwacje przeprowadzono na oryginałach odbitek papierowych, jednakże obserwacje stereoskopowe wykonywane były na kopiach negatywowych i diapositowych. Wykorzystano metody przesiewania i zmiany kontrastu w celu przedstawienia zdjęć z możliwie najlepszą ostrością, częściowo kompensując stratę rozdzielczości wynikającą z kopowania.

Nawet w kontrolowanych warunkach laboratoryjnych, minimalizujących stratę rozdzielczości, drobne szczegóły zanikają. Analizowaliśmy kontrowersyjne "zdjęcia spychaczy" (zdj. 37-39) z 28 kwietnia 1944 roku, wywołane w F-32 i F-30 w kilku wariantach czasowych: 30, 40, 45, 55 sekund. Próby te nie doprowadziły do uzyskania wyraźnego obrazu spychacza klasy DOK, takiego jak na oryginałe, z powodu subtelnej zmiany tonu szarości. W przypadku mikrofilmów, które plk. Tarczyński wykonał z moich negatywów w Wojskowym Instytucie Historycznym w Warszawie, jest to V kopia z oryginału, a odbitki są VI kopią.32 Odbitki papierowe VI generacji wykorzystane przez WOGET charakteryzują się stratą rocznicy 30-35% (najdrobniejszych szczegółów).

Wszystkie zdjęcia Dick Tracy i GX zamieszczone w tym opracowaniu są oznaczone numerem wyjątkowym i datą. Podano również na liście oryginalną skalę odbitek, a także zamieszczono podziałkę w celu oddania wielkości fragmentów zdjęcia. Każdemu zdjęciu i mapie jest przypisany porządek liczbowy, w kolejności występowania, włączając w to klucze interpretacyjne i opisy. Historia zdjęć GX jest złożona i nie ma tu miejsca na pełne jej przedstawienie. Plk. Roy Stanley jest autorem interesującej książki o zdjęciach z okresu II wojny światowej, obejmującej zdjęcia Luftwaffe, zdjęć lotnictwa rosyjskiego, japońskiego i amerykańsko-angielskiego33.

Moe badania dotyczące Katynia rozpoczęły się w połowie lat 80., badania kontynuowano w poszukiwaniu miejsc, gdzie zostali pochowani jeńcy Starobielska i Ostaszewka, przed przyznaniem się Sowietów do zbrodni. Wkrótce potem przekazałem Ministerstwu Sprawiedliwości RP dowody i protokoły dotyczące Charkowa, Miednoje, Katynia, Bełżucowki, Suchoje i innych miejsc, włączając zdjęć Starobielska i Ostaszewską.34 Wkrótce man zamiar opublikować artykuły dotyczące Miednoje i Charkowa, zawierające również nowe zdjęcia, mapy satelitarne oraz inne formy dokumentacji podstawowej i dodatkowej.

Mapy wprowadzające, fotomapy i zdjęcia

W końcu listopada 1992 roku kartografowie Wojska Polskiego dokonali pomiarów w Lesie Katynskim, aby opracować mapę interesującego nas terenu.35 Gruby śnieg utrudniał im znacznie rozpoznanie szczegółów terenu, a zdjęcia Luftwaffe, które dostarczył Wójcikiewiczu „Institut” Historycznemu, były V lub VI generacji o rozdzielczości znacznie zmniejszonej w porównaniu z oryginałami przechowywanymi w The National Archives w Waszyngtonie. W rezultacie polskie mapy nie oddają dokładnie kształtu i położenia cmentarza PCK, poszczególnych grobów 1-7 oraz miejsca ogrodu południowego zachód (jest on kontrowersyjny nawet na starym zdjęciu). Mapy te oddają jednak dokładnie położenie obecnego pomnika (tj. pięciogranicznego, tzw. „Menciora”; przyp. red.) i jego usytuowanie względem drogi leśnej. Man nadzieje, iż mapy opracowane na podstawie zdjęć satelitarne przedstawione w tym artykule, mapy sporządzono na Uniwersytecie Warszawskim36 i mapy wojskowe37 posłużą do opracowania lepszej mapy zasadniczej. Nowe zdjęcia znajdujące się w tym artykule i mapy opracowane na ich podstawie szczęśliwe dekonecje terenu, mogą w znacznym stopniu przyczynić się do lokalizacji obszarów, na których zainteresowania.
Luftwaffe vertical paper imagery,
Horizontal paper imagery,
Documentary films, Satellite cartography,
Defense Intelligence cartography,
Wehrmacht and archival cartography

The following analysis is based on Luftwaffe original paper prints, located within The National Archives Records Administration in Washington. To correct some erroneous statements published in papers on the subject in Poland, it must be pointed out that most of the original Luftwaffe imagery is in the possession of the American Government. Great Britain received only copies in 1945-46\textsuperscript{31}. There are very few original images at either the Bundesarchiv or Militärarchiv.

Included in this analysis are; horizontal pan-chromatic imagery, video imagery of documentary films, cartography from U.S. Government satellite imagery, Wehrmacht cartography, and archival cartography. It is not possible to conduct an analysis of WW II Luftwaffe imagery solely on its own signature. Collateral documentary evidence has been discussed in the Appendix.

A binocular stereoscope was used on original paper imagery, with lenses of 1x, and 4x. Calibrated lutes to 10x were also used, as well as a tubular microscope. The paper images here produced are 4th generation from the originals, and are here given as representations only. All observations were arrived at by study of original paper images, however, stereo studies were also done on negative and diapositive copies. Techniques of over-exposure and contrast variation were used to present the following images as sharply as possible, partially compensating for generational loss of resolution.

Even under controlled laboratory conditions, in which generational loss is minimized, subtle detail suffers. In an effort to produce for Warsaw University scientists sharper imagery resolution, I had the controversial “bulldozer images” (Photo 37–39), from 28 April 1944, developed at F-32 and F-30 at 30, 40, 45, 55, and 65 units each. The attempt did not succeed in producing as fine a view of the DOK class bulldozer as the original, again, subtle loss of grey tone. In the instance of the microfilms I allowed Colonel Tarczyński to make from my negatives at the Army Historical Institute in Warsaw, the generation of the microfilms produced is 5th generation, and the paper images from them, 6th generation\textsuperscript{32}. The 6th generation paper images used by WOGT would suffer at least 30-35% loss of resolution (the most subtle detail).

All Dick Tracy and GX imagery in this paper is referred to by sortie number and date. The original scale of the paper imagery is also given in each listing, and a scale is added to reflect the size of the fragment as published. A numerical order is assigned each image, and map, in order of appearance, including keys and annotations. The history of the GX imagery is complex and there is not room in this paper to address it at length. Colonel Roy Stanley is the author of a book on WW II imagery that is most interesting, encompassing Luftwaffe, Russian Air Force, Japanese, and American-British joint imagery\textsuperscript{33}.

My research on Katyn began in the mid 1980s, and I then proceeded (before the Russians admitted responsibility for the massacre) with work to seek out the places where prisoners from Starobelsk and Ostashkov had been buried. Shortly afterwards, I presented the Minister of Justice of the Republic of Poland with records and protocols concerning Kharkov, Mydnoye, Katyn, Bezdudovki, Suchoye and other places. I enclosed photographs of Starobelsk and Ostashkov\textsuperscript{34}. In the nearest future, I intend to publish articles on Mydnoye and Kharkov which will also contain new photographs, satellite maps and other forms of primary and supplementary documentation.

Introductory Maps, Photo-Maps, and Images

At the end of November 1992, Polish Army cartographers made measurements in the Katyn Forest with a view to drawing up a map of the area of interest to us\textsuperscript{35}. Thick snow proved a significant obstacle to their familiarization with the details of the terrain, and the Luftwaffe photographs which I supplied to the Military Institute of History were of the fifth or sixth generation, and therefore of considerably reduced definition in comparison to the originals kept in the National Archives in Washington. As a result, the Polish maps do not give exact shape and location of the Polish Red Cross Cemetery, of individual graves 1–7 or of the places of an eighth grave in the south-west (which is controversial even in the old photograph). The maps do, however, give the exact location of the present statue (i.e. the so-called “Memorial” in the fifth cemetery; ed.) and of its situation in relation to the forest road. I hope that the maps elaborated on the base of the satellite photographs presented in this article will combine with the maps produced at the University of Warsaw\textsuperscript{36} and the Army maps\textsuperscript{37} to allow for the drawing-up of a better basic map. The new photographs found here may, along with the maps drawn-up on the basis of them and gauging the deformation of the terrain, go a long way to locating the area of interest to us more precisely.
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**Lokalizacja**
- K.G.S.: Mapy mozaukowe na zachód od Smoleńska
- K.G.: Rejon Katynia Gniezdowa
- G.STA.: Stacja Gniezdowa
- K.: Las Katyński
- S.: Miasto Smoleńsk

**Numer porządkowy**
- GX: Kod Medmerham
- DT: Operacja Dick Tracy
- TM: Zdjęcia celowane
- A: Zdjęcia opisane
- NL: Zdjęcia nie zlokalizowane

**Charakterystyka rozdzielczości**
- E.: Bardzo dobra
- E.-S.: Bardzo dobra, lecz słaby efekt stereo
- G.: Dobra
- F.: Dość dobra
- P.: Słaba


Opracowanie: Wacław Godziemba-Maliszewski przy współpracy z Jamesem Martinem — The National Archives.
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<td>25-06-1941</td>
<td>—</td>
<td>—</td>
<td>Oblique</td>
<td>F</td>
</tr>
<tr>
<td>DT-TM 5 Box 132</td>
<td>S.</td>
<td>14296</td>
<td>25-06-1941</td>
<td>1:50,000</td>
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<td>Vertical</td>
<td>F</td>
</tr>
<tr>
<td>DT-TM 5 Box 132</td>
<td>S.</td>
<td>14309</td>
<td>26-06-1941</td>
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<td>—</td>
<td>Vertical</td>
<td>F</td>
</tr>
<tr>
<td>DT-TM 5 Box 132</td>
<td>S.</td>
<td>14310</td>
<td>26-06-1941</td>
<td>1:5,000</td>
<td>—</td>
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<td>F</td>
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<tr>
<td>DT-TM 5 Box 132</td>
<td>S.</td>
<td>14255</td>
<td>1941</td>
<td>1:10,000</td>
<td>—</td>
<td>Vertical</td>
<td>F</td>
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<tr>
<td>DT-TM 5 Box 132</td>
<td>S.</td>
<td>14270</td>
<td>08-08-1941</td>
<td>1:7,000</td>
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<td>Vertical</td>
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<tr>
<td>TUGX 819 F 116</td>
<td>G. STA.</td>
<td>20,21</td>
<td>05-07-1941</td>
<td>1:46,000</td>
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<tr>
<td>GX 2169 F383</td>
<td>K.</td>
<td>10</td>
<td>09-07-1941</td>
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<tr>
<td>GX 1562 F 2077 42</td>
<td>K.G.</td>
<td>104-107</td>
<td>02-09-1942</td>
<td>1:16,000</td>
<td>SG</td>
<td>Vertical</td>
<td>E</td>
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<tr>
<td>GX 4287 F 4234</td>
<td>K.G.</td>
<td>156-158</td>
<td>11-05-1943</td>
<td>1:46,000</td>
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<td>Vertical</td>
<td>G</td>
</tr>
<tr>
<td>GX 2518 F 3903</td>
<td>K.G.</td>
<td>56,57</td>
<td>26-09-1943</td>
<td>1:42,800</td>
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<tr>
<td>GX 4251</td>
<td>K.</td>
<td>13</td>
<td>30-09-1943</td>
<td>1:43,000</td>
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<td>Vertical</td>
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<tr>
<td>GX 4344 F 4075 43</td>
<td>K.</td>
<td>74-78</td>
<td>13-10-1943</td>
<td>1:13,800</td>
<td>SD</td>
<td>Vertical</td>
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<tr>
<td>GX 4344 F 4076 43</td>
<td>K.G.</td>
<td>46</td>
<td>14-10-1943</td>
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<tr>
<td>GX 4257 F 4204 43</td>
<td>K.G.</td>
<td>102-104</td>
<td>23-10-1943</td>
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<tr>
<td>GX 4257 F 4205 43</td>
<td>K.G.</td>
<td>119-123</td>
<td>23-10-1943</td>
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<td>Vertical</td>
<td>E</td>
</tr>
<tr>
<td>DT-TM 5 Box 21</td>
<td>K.G.</td>
<td>2920,2921</td>
<td>23-10-1943</td>
<td>1:10,000</td>
<td>SU</td>
<td>Mosaic A</td>
<td>E</td>
</tr>
<tr>
<td>GX 4287 F 4234</td>
<td>K.</td>
<td>25</td>
<td>31-12-1943</td>
<td>1:45,000</td>
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<tr>
<td>GX 4973</td>
<td>K.G.</td>
<td>90,91</td>
<td>07-01-1944</td>
<td>1:43,000</td>
<td>SK</td>
<td>Vertical</td>
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</tr>
<tr>
<td>GX 4682 F 24 44</td>
<td>K.G.</td>
<td>95-99</td>
<td>08-01-1944</td>
<td>1:9,000</td>
<td>SD</td>
<td>Vertical</td>
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</tr>
<tr>
<td>GX 4908 F 121 44</td>
<td>K.</td>
<td>47</td>
<td>07-02-1944</td>
<td>1:41,000</td>
<td>SK</td>
<td>Vertical</td>
<td>E</td>
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<tr>
<td>GX 4974</td>
<td>K.G.</td>
<td>40,41</td>
<td>07-02-1944</td>
<td>1:47,100</td>
<td>SK</td>
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</tr>
<tr>
<td>GX 4999 F 143 44</td>
<td>K.G.</td>
<td>127,128</td>
<td>18-02-1944</td>
<td>1:44,000</td>
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<td>Vertical</td>
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<tr>
<td>GX 4999 F 144 44</td>
<td>K.</td>
<td>75</td>
<td>18-02-1944</td>
<td>1:12,000</td>
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<td>Vertical</td>
<td>F</td>
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<tr>
<td>GX 4764 F 158</td>
<td>K.G.</td>
<td>30-40</td>
<td>19-02-1944</td>
<td>1:40,000</td>
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<tr>
<td>GX 5130 F</td>
<td>K.</td>
<td>16,17</td>
<td>27-03-1944</td>
<td>1:19,000</td>
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<td>Vertical</td>
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<tr>
<td>GX 3707-A F 751 44</td>
<td>K.G.</td>
<td>36,37</td>
<td>28-04-1944</td>
<td>1:40,000</td>
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<td>E</td>
</tr>
<tr>
<td>GX 3707-B F 752 44</td>
<td>K.G.</td>
<td>034-039</td>
<td>28-04-1944</td>
<td>1:11,500</td>
<td>SD</td>
<td>Vertical</td>
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<tr>
<td>GX 3107 F 874</td>
<td>K.G.</td>
<td>11-13</td>
<td>12-05-1944</td>
<td>1:48,000</td>
<td>SK</td>
<td>Vertical</td>
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<tr>
<td>GX 910 F 1125</td>
<td>K.G.</td>
<td>119-123</td>
<td>28-05-1944</td>
<td>1:15,900</td>
<td>SD</td>
<td>Vertical</td>
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<td>GX 1354 F 2549</td>
<td>K.G.</td>
<td>16-20</td>
<td>28-05-1944</td>
<td>1:21,000</td>
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<td>G</td>
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<tr>
<td>GX 1451-A F 2575</td>
<td>K.G.</td>
<td>247-250</td>
<td>02-06-1944</td>
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<td>Vertical</td>
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<tr>
<td>GX 1451-B F 1198</td>
<td>K.G.</td>
<td>273-276</td>
<td>02-06-1944</td>
<td>1:14,000</td>
<td>SD</td>
<td>Semi-Oblique</td>
<td>E</td>
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<tr>
<td>GX 832-A F 1308</td>
<td>K.G.</td>
<td>24-27</td>
<td>10-06-1944</td>
<td>1:16,500</td>
<td>SG</td>
<td>Vertical</td>
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<tr>
<td>GX 832-B F 1309</td>
<td>K.G.</td>
<td>31-35</td>
<td>10-06-1944</td>
<td>1:11,000</td>
<td>SD</td>
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</table>

The above imagery is from the records of the Defense Intelligence Agency and is located in Record Group 373, The National Archives Records Administration, Washington D.C. The sites are located on the following maps of Record Group 77 of the Army Map Service: Series N 501 Sheet NN 36-6, 1-250,000 1945, 1955, 1956, 1959 editions; and Series N701 Sheet 48271 1:50,000 1959 edition. The size of the original Luftwaffe panchromatic paper prints 29.5cm. x 30cm.
Prepared by: Waclaw Godziemb-Maliszewski, with the assistance of James Martin of The National Archives.

Mapę 1-B otrzymano 20 maja 1993 roku. Zawiera ona następujący opis: „W załączeniu szczegółowy rysunek rejonu oraz powiększenie obszaru centralnego. Pokrywa roślinna w nim zlokalizowanych miejsc ekshumacji z 1991 roku ani pomników niemieckich” (tj. cmentarza urządzonego w maju i czerwcu 1943 roku Komisją Techniczną; przyp. red.).

[Mapy zamieszczone w tym opracowaniu, przedstawiające zinterpretowane zdjęcia Luftwaffe z 8 stycznia 1944 roku i 10 czerwca 1944 roku, zostały nałożone na mapę satelitarną].
Satellite map of Katyn 1992 in scale ca. 1:20,000 generated from 1992 satellite imagery of Katyn, by American Intelligence Agencies at the request of Prof. Dr. Zbigniew Brzezinski. I supplied fact sheets, annotated Luftwaffe imagery, and questions to Dr. Brzezinski who in turn obtained maps of Kharkov, Mydnoye, and Katyn, based on my areas of interest. Additionally, some questions were answered, specific to each site. Here the Katyn data is given only. An error that I notice, on all the Katyn maps, is the slightly easterly placement of the circles of interest. On maps 1-A and 1-B the distance scale in meters repeats a "300" where a "450" was intended. I had asked questions bearing on possible satellite imagery taken on 21–22 November 1991, but coverage for this period was not available. The opinions received were nevertheless helpful, and the cartography has provided an excellent base map for localization of Luftwaffe imagery interest. Map "A" was received on 9 April 1992, along with the following statement: "Both the primary and the secondary areas of interest are still heavily forested. The roads located within the areas of interest in 1944 are still visible but are much less pronounced and are probably little more than trails today. A large swamp area, devoid of trees, with standing water is east of the areas of interest. The dacha is no longer visible and two new structures, probably a house and a barn, are located to the east and west of the site of the dacha. A new trail or road leads from the main highway to the easternmost structure." (My note: The new structures, built after WW II, are KGB dachas.)

Map 1-B was received on 20 May 1993. The following note accompanied the maps: "A detailed line drawing of the site and an enlarged drawing of the central area of the site are attached. The tree cover prohibits the discernment of any additional details of the site. We are unable to locate evidence of the 1991 exhumations or (of) the German monuments." (I.e. the cemetery organized in May and June 1943 by the Technical Commission of the Polish Red Cross; ed.)

[Maps presented with this paper showing Luftwaffe imagery features, from 8 January 1944 and 10 June 1944, have been superimposed on the satellite base map data].
Część jednego ze zdjęć z sekwencji 8 zdjęć DT/TM. Linia demarkacyjna „Mołotow–Von Ribbentrop”, dzieląca Polskę pomiędzy Związek Sowiecki i Niemcy. Fragment zdjęcia przedstawia granicę na rzece San dzieląc ten obszar na część niemiecką z Sanokiem i część sowiecką z Olchowcami. W kółku jest oryginalnym oznaczeniem mostu przez Niemców. Ciekawe, że na wjeździe na most widoczna jest kolumna pojazdów. Mogł to być punkt, w którym Niemcy i Rosjanie wymieniaли jeźdźców. Po drugiej stronie rzeki jest obóz rosyjski, na terenie szkoły lub podobnej instytucji, gdyż widać boisko sportowe.

Part one of eight part sequence DT/TM. Molotov–Von Ribbentrop demarcation line showing the division of Poland by the Soviet Union and Germany. This segment shows the border bisecting the River San, with Sanok in the German sector, and Olchowce in the Soviet sector. The circled [W] is an original German annotation symbol, pointing to a bridge. Curiously, just at the entry to the bridge from the German side, a column of motor vehicles is visible. This could be a transfer point where, as elsewhere, the Germans and Soviets exchanged prisoners. Just on the other side of the river is a Soviet camp, occupying an area that may formerly have been a school, or similar institution, as a sports field is visible.
Wycinek mapy przedstawia Kozelsk i leżący 3100 m na północny wschód obóz, w którym przebywali polscy oficerowie. 


Inset study showing Kozelsk, and 3,100 m to the northeast, the camp where Polish officers were held as prisoners. 

Formerly called the Optin Convent, it is now known as the "Dom Odykha Imeni Gork'ogo", house of rest named after Gorky. 


Restricted material, released to the author by application.


Zauważmy, że dwa budynki, pierwszy ok. 190 x 38 m i drugi 188 x 40 m (wklejane umownie przez DIA) nie znajdują się na żadnym zdjęciu z czerwca 1944 roku, więc musiała być zbudowana przez Sowietów później. Ponieważ ostatnie zdjęcie Katynia jest z czerwca 1944 roku, Defense Intelligence musiała mieć zdjęcie późniejsze, aby umieścić te budynki na mapie z 1959 r.

Inset study showing Katyn. From AMS Series N701, sheet 48271 i, entitled "Penisar", 1:50,000, Army Map Service, (Defense Intelligence Agency) Washington, March 1959. Restricted material, released by application. On the full map, from which this inset is taken, karst is present in several areas, however, not so annotated near the Dniepr where the author believes it also to be present in the form of "beehives", "sink-holes" and other indications evident in imagery. At area [1] notice the absence of the forest road that descends from north of the Smolensk Highway and should continue to Katyn forest but has been omitted, as well as other details in the area of our interest. Area [2] shows the northern railway siding referred to by Krivosertsev. Area [3] shows Gnedzovo Station. Area [4], the Gnedzovo Village area. Item [5] the southerly railway line, traffic in the direction of Smolensk. Item [6] the northern railway line, traffic from Smolensk. Item [7] the connecting loop referred to by Krivosertsev and in the new U.S. Govt. Puciński document regarding Gorczakowski (see: Appendix).

Note that two buildings, the first approx. 190 m long x 38 m wide, and the second, 188 m long by 40 m wide, (perhaps drawn just representatively by DIA) are not present in any imagery through June of 1944, and must have been built by the Soviets afterwards. In as much as our last image of Katyn is from June of 1944, the AMS of Defense Intelligence must have had later imagery to have included these structures on the 1959 map.

Sortie flight plan of GX 3707 A & B 28 April 1944. The word Confidential is stamped eleven times on the original. In contradiction, note the three maps made for the present author from American agencies in 1991 and 1992: and, in 1994, the present and various assistances provided by the American Government to the Polish Government’s Extraordinary Commission for Investigating Crimes Against the Polish People (Główna Komisja).
Annotated pair of Photos 2 & 3 found in Target Material.
[A] Gnezdovo Station area showing the bridge over the Olschanka undamaged. [B] Two bridges of the Smolensk Highway, one of which is destroyed. [C] Gnezdovo Station destroyed. [D] Wehrmacht forest camp. [E] Area of mass-graves at Katyn. The German annotations are self-evident.

Smolensk. Study showing the position of the photograph following it. From AMS Series N701, sheet 4927 IV, entitled Smolensk, 1:50,000. Washington, July 1963. Restricted material, released by application.


ZDJĘCIE 5. 28-04-1944

Zdjęcie 5 i 6 A-E przedstawiają obszar Gniezdowa i Katynia. W źródłach zachodnich istnieje mało materiałów opisujących geomorfologię tego terenu.

Poniższa interpretacja opiera się jedynie na analizie utworów powierzchniowych, gdyż brak odpowiedniego potwierdzenia przez badania terenowe. Wcześniej cytowane pamiętniki Waclawa Lednickiego, podobnie jak mapa Katynia AMS N701 ark. 4827 1 w skali 1:50 000 pomagają w identyfikacji zjawisk krasowych.


PHOTO 5. 28-04-1944

Photos 5 and 6 A-E present Katyn and Gnezdovo areas. There is little textual material from western sources on the geomorphology of this terrain. The following interpretation is on a prima facie basis for lack of sufficient ground confirmation. Waclaw Lednicki’s memories, earlier cited, support karst determination. AMS N701 Sheet 4827 1, map of Katyn, in 1:50,000 scale, also supports karst determination.

Photo 5. [1] Dniepr river meander. Between this area and the signal at [3] J.R. Oledzki identified several areas where the surface earth is disfigured. [2] A probable sink-hole, doline. [3] Area of Polish officers mass-graves. Beneath the soil cover several meters of sand are covered at the bottom strata by clay. [4] Just to the left of signal [4] are several craters, and/or dolines. [5] The dotted line area, approximately 500 m round, on both sides of the Smolensk Highway, indicates a probable man-made disturbance the date and purpose of which is not evident, but which may have been strip-mined in the 19th century or earlier. subsequently devolving into its current

Zdjęcie 6-A i fragmenty zdjęćowe 6-B, 6-C, 6-D i 6-E.
Wiadomo, że NKWD aresztowało wielu obywateli podejrzewanych o współpracę z Niemcami, a setki z nich było rozstrzelanych i grzebanych w okolicach Smoleńska przez szerąg nieśmiertelnych [12]. Obszar pokazany na zdjęciu 6-E. Duża grupa kopul podobnych do „juli”, z których część widać w wodach Dniepru. Większość ma otwory na wierzchołku, niektóre są zapadnięte. Formy te są widoczne także po północnej stronie torów kolejowych. Na zdjęciach tego regionu występują one powszechnie w dolinie Dniepru.

Germans, and that many hundreds were executed and buried in Smolensk's suburbs over a several month period. [12] See Fragment photo 6-E. A large group of beehive-like domes, some of which can be seen to be submerged in the Dnepr. Most have holes on top, some of which are collapsed. These shapes are also seen in the photograph on the northern side of the railway tracks. They are general to the Dnepr river area in imagery of this region.
A super-enlargement of the area of interest annotated above.
DUŻE POWIĘKSZENIE OPISANEGO POWYŻEJ OBSZARU. ZDJĘCIA 6-C I 6-D POKAŹĄ RÓŻNICE NA TYM SAMYM OBSZARZE W ODSTĘPIE
MIESIĄCA. ZDJĘCIE 6-D POKAŻE TAKŻE BARZDZIEJ WYRAŹNIE DROGI GRUNTOWE RÓWNOLEGŁE DO WYKÓPOW. NIEKTÓRE Z BLIZN W ZIEMI ZO-
STAŁY ZAPEWNE SPOWDOWANE PRZEZ BOMBARDOWANIA LOTNICZE LUB ARTYLERYSKIE, LECZ NIE MOŻE TO DOTYCZYć SYMETRYCZNYCH LINII
DOŁÓW.

A super-enlargement of the area of interest annotated above. Photos 6-C and 6-D show differences in the same terrain
one month apart in imagery. 6-D also shows more clearly the
dirt roads that the diggings parallel. Some of the ground scars
may be possibly caused by aerial or artillery bombing, but not
in the case of the symmetrical rows.
Duże powiększenie opisanego powyżej obszaru.

A super-enlargement of the area of interest annotated above.
This fragment is an 9x enlargement of a very poor oblique image with heavy cloud cover. It is the earliest image showing Katyn forest. The oblique view obscures the view of original 1940 mass-graves 1–7 and 8, though a clearing is detectable. According to German testimony in 1952 there was a clearing here in 1941.


2 lipca 1941 roku o godz. 7:00 generał Semen Timoszenko i jego oficer polityczny Nikita Chruszczow przybyli do Smolenska i uściskali się niewzrusznie do wsi Gniezdoowo, gdzie znajdowało się stanowisko dowodzenia frontu dopinarki. Jejczynce de dni wcześniej, 22 czerwca, Niemcy realizując plan Barbarossa znatakowały Związek Sowiecki, Gniezdoowo będące elementem strategicznego kompilkau kolejowego leży 12 km na wschód od Smolenska i około 4000 m od Katynia.

Adiunt Timoszenko prowadził dziennik wielu rozkazów Charsinka, włączając w rozwiązanie niemal wszędzie szosy smolenskiej i ich zdolnościowania we właściwym momencie. Paweł Sudoplatow twierdzi, iż w 1953 roku sekretarz NKWD L. Beria został oskarżony o podmienianie rządowych dachów w pobliżu szosy smolenskiej, z zamiarem zgłoszenia dowództwa. Brak informacji jakie rozkazy otrzymawał Chruszczow odnosi się na rozmowy polskich oficerów. Tego rodzaju rozkazy nie można znaleźć w notatkach adiunta Timoszenki. Katyn nie był przedmiotem pamiętników Chruszczowa ani jego tajnego wystąpienia na XX Zjazdzie Partii Komunistycznej w roku 1956. Niestudjo jednak znaleźć to miejsce w Gniezdoowo, w kompleksie zbierania, zlokalizowane około 2500 m od największego tajnego cementarza w zachodniej Rosji. Ten obraz najbardziej zaskoczył obserwatorów, lecz także tereny na północ i wzdłuż się od szosy smolenskiej, jak również obszar na kilkanaście wstępnego zbioru Dniepru.

Oflag terenu Lenina i Stalina zostały pochowane w grobach różnych wydarzeń, bez większej świadomości jako blizny w ziemi na zdjęciach Luftwaffe. Gdyby Wehrmacht wykrył polskie groby podczas swojego marszu na Smolensk, związki polityczne z Wielką Brytanią i USA przybrałyby inny obrót. Armia Czerwona prowadziła obronę bitw z dala od obszaru Katyn–Gniezdoowo, jak wynika z opublikowanych sprawozdań i map biwaczeń. Chruszczow nie mógł pozwolić, aby artyleria lub naloty objęły obszar morderstw.

Jest także możliwe, według zeznań, że oficerowie z Kozielska wychodzili tu z wagonów, oraz że miejsca egzekucji znajdowały się w pobliżu. Miejsce to interesowało również Niemców, o czym świadczy sytuacja przedstawiona na zdjęciu z 02-09-1942 (zdj. 9).

This is the earliest image of Gnezdo Station and environs, unfortunately very poor in the easternmost half. [A] Buildings near the “lesoposa” and railway siding. [B] The northern railway siding 500 m from Gnezdo Station, as noted by Ivan Krivosvetzov and as corroborated in the testimony of Kazimierz Gorczakowski that has been newly discovered. [C] See next series of photos. [D] The Smolensk Highway. [E] The Olszanka at low water. [F] The flood plain of the Olszanka. [G] The area later used as a forest camp by the Wehrmacht. [H] The photo grain is extremely poor even on the original paper imagery. Two rectangular shapes appear where later imagery shows a definite structure. There is some shadow cast by these shapes, and it is possible that camouflage is covering bunkers. Trails lead to this area from the railway siding. [I] This structure is not present in 1942 imagery. [J] See 1942 imagery for the barracks later built here by the Germans. [K] This building is visible in 1942 imagery, but not by October 1943. [L] The long building present here was destroyed later and is not visible in 1942 imagery. This area is extremely interesting in relation to Krivosvetzov’s testimony about the northern siding, “not much in view”. Given the 450 m length of rail siding, it could be considered as possibly General Timoshenko’s command position on the 4th of July 1941.

At 07:00 on July 2nd 1941, General Semen Timoshenko and his political officer Nikita Khrushchev reached Smolensk and then went without delay to the village of Gnezdowo, where the command point for the Dnepr front was located. Eleven days earlier, on June 22nd, the Germans had put Operation Barbarossa into action by attacking the Soviet Union. Gnezdozo, an element of strategic importance with its railway complex, is 12 km east of Smolensk and about 4000 m from Katyn.

Timoshenko’s adjutant kept a log of Stalin’s many orders, including one requiring mines to be distributed along the Smolensk road, and detonated as and when appropriate. Pavel Sudoplatov claims that, in 1953, L. Beria, head of the NKVD, was accused of mining government dachas near the Smolensk road with a view to doing away with the command. There is no information as to the orders Khrushchev received in relation to the corpses of Polish officers which had been discovered. Orders of this kind are not to be found in the notes kept by Timoshenko’s adjutant. Khrushchev’s memoirs did not touch upon the subject of Katyn, nor upon his secret speech at the 20th Congress of the Communist Party in 1956. However, it is not difficult to find the place, in Gnezdozo, in the command complex about 2500 m from the largest secret cemetery in western Russia. This huge area of mass graves includes not only the Katyn Forest, but also areas to the north and east of the Smolensk road, and an area of several villages on the northern bank of the Dnepr.

Victims of the terror under Lenin and Stalin were interred in graves of varying dimensions and are undoubtedly visible as scars on the land surface in the Luftwaffe photographs. If the Wehrmacht had uncovered Polish graves during its march on Smolensk, the political links with the United Kingdom and the USA would have taken a different course. It is clear from published reports and campaign maps that the Red Army mounted its defence at some distance from the Katyn–Gnezdozo area. Khrushchev could not permit gunfire or air raids to occur in the area of the murders.

According to testimony given, it is also possible that the officers from Kozielka came here from the wagons and that the execution sites were nearby. The place was of interest to the Germans too, as is made clear by the situation presented in the photograph from 02-09-1942 (Photo 9).

Photo 9 presents an 8x fragment of 2 September 1942. This is the best image of Gnezdovo Station prior to its destruction. This corroborates the testimony of Stanislaw Swianiewicz, especially as related in in the 1949 book, Stalin and the Poles (see: Appendix). [1] Showing a train of nine wagons in the same position Swianiewicz’s train was when he was detained. The engine of his train faced east towards Smolensk. Swianiewicz had a line-of-sight that encompassed the station house, a low fence running along the cross road, the station cottages and gardens. [2] This is the desolate open area, the “square” that he saw. [3] The station house. [4] The dotted line represents the low fence, visible in the imagery. The cottages and garden are behind the station. [5] This is the horizon of trees that Swianiewicz saw the black ravens disappear behind. [6] Here the black ravens would turn left onto the Smolensk Highway. The lesopola from this point is 1200 m away, and to the entrance to Katyn forest, 3800 m. [7] The long warehouse alongside two railway sidings. [8] Four trains are present on the southerly line and on sidings. [9] Gnezdovo dachas, country houses, probably of the NKVD. [10] The Olshanka river at low water. [11] This is one of three possible positions of the “hot beds” Krivosertzev refers to. Ground confirmation required.
ZDJĘCIE 10, ok. 1941–1942


PHOTO 10, ca 1941–1942

[1] The earliest sure image of a building structure, approximately 40 m × 13.4 m, near the northwest railway siding and “lesopolosa”. [6] Former structure on this square destroyed. [29] Building structures present in 1941 imagery. [52] In July 1941 only two structures were present here. The rest are probably constructions of the Germans. It is curious to note that at a later date two enormous buildings were later built on this site. They are not evident in WW II imagery, to June of 1944 at least, but are present on an American intelligence map printed in 1959 (see Map 3). [57] Structure present in 1941 imagery. [58] Destroyed 60 m long pitched roof structure. [B] The railway siding with two trains, one with eleven cars and the other with eight. [H] Railway main line with a thirty-seven wagon train. [D] The Smolensk Highway.


First Photo of Gnezdovo after the recent Soviet re-occupation. [1] Structure, at least the roof, is destroyed. Only the basement foundation remains. Within the foundation perimeter are several objects with height, but are unidentifiable. The basement may have had three separate chambers. [6] Clearing. Note the trails that lead through the lesopolosa to the railway siding. At the confluence of the trails there is a large open pit. [29] Former structures destroyed. [52] Former German buildings destroyed, only two near the road remain. [B] The railway siding. [H] Main railway line. [D] The Smolensk Highway with eleven motor vehicles on it, probably military or NKVD.

UWAGA: Obszar ten był przedmiotem szczególnej zaiste-
nowania Sovietów, co wynika z ruchu pojazdów i nowych
budynków, zwłaszcza w rejonie pasa zaleśnienia. Na tym terenie
mogło znajdować się pomieszczenie, w którym przeprowadzano
egzekucje w marcu-kwietniu-maju 1940 roku. Biorąc pod u-
wagę oszczędności świadków i zdjęcia, jest wysoce wskazane włąc-
czenie tego obszaru do dalszego dochodzenia prowadzonego
przez stronę polską i szczególne przebadanie go w terenie.

Both Image 14-A and its interpretation (Map 7) presents the
situation on 28 April 1944. This image was taken on the same
day as Photo 5, which shows parts of Katyn forest bulldozed and
activity on the ground. It is curious to note that in Photo 14-A
there is also a good deal of vehicular traffic on the Smolensk
Highway, and that train wagons are visible at intervals near the rail
siding of the "lesopola."

[A] Lesopola shown in color green.

[B] The northwestern railway siding 500 m west of Gnezdovo
Station, 450 m in length. [C] To Gnezdovo Station. [D] The
Smolensk Highway in the direction of Katyn forest, Kozie Gory.

[E] Medium high-water flood plain of the Olszanka river.

[F] Extreme high water flood plain. [G] To the former Wehrmacht
forest camp. [H] The main railway line, traffic direction to
Smolensk, [I] this structure, approximately 40 m x 13.4 m is
newly rebuilt on the ruins evident in October 1943 imagery.
It is possibly the first building to be re-built on Soviet re-
occupation of the terrain and for that reason alone is most
curious, especially so as its reconstruction is evidently a priority to
the reconstruction of the Gnezdovo Station facilities. There is ev-
dence of vehicular and human activity in surrounding areas.

[J] Two walls extend out beyond the buildings northern end,
where there is a courtyard and communication to the dirt road.

[K] Two large objects are visible at the western edge of
the structure. [L] A new building structure. [M] Ground distur-

area near a large hole present in October 1943 imagery. [T] Zig-

[W] Large open crater-like depression about 10 m wide.

[X] Kidney shaped disturbance with trails.

[Y] Probable bomb craters. [Z] Vehicles parked near
railway line, tracks partially damaged. [AA] Convoy of four cars.

Consulting or leaving, the lesopola? [AB-AD] Bomb craters.

[AE] Two lorry type motor vehicles. [AF-AG] Two ground dis-


buildings among others that have been destroyed. Refer to the
American intelligence map (Map 3): On this site two enormous
buildings were built sometime after June, 1944. The first
evidence is on the 1959 AMS map. [AT] Building structures.

[AU] Retaining wall for high-water. [AV] Fence in front of
area with destroyed German structures. The American N701 series
sheet 4827 I maps show two long structures here present after
the war. [AW] Site of 1941 buildings, now re-foliated.

NOTE: This area was of interest to the Soviets as evident
from traffic and the new structures, especially within the area
of the lesopola. This may have been the site of a March-April
May execution chamber. Given the witness testimony, and the
imagery evidence, there is every reason to include this area in
the interests of the Polish prosecution of the case, and to
thoroughly investigate the area.
W miejscu [A], na północny zachód od linii kolejowej, widać budowlę. To słabe zdjęcie jest trudne do interpretacji, zwłaszcza, że nie ma pokrycia stereoskopowego. Choć wykonane o godzinie 8:58 rano, nie widać cieni murów. W szarym fotografia, w którym na zdjęciu z 25 kwietnia wyraźnie widoczny jest dach, występuje dzienne rozjaśnienie obrazu o prawie kolistym kształcie, z dwoma dochodzącymi liniami, które wygląda naoby głowa królika patrzącego ze wschodu na zachód. Choć uszkodzenia bombami mogły być zaobserwowane wcześniej na tym obszarze, wydaje się, iż w przeciągu miesiąca nastąpiło nowe bombardowanie. Inne deformacje ziemi otaczające „budowlę” nie mogły być wywołane bombami; jest prawdopodobne, iż były one wynikiem zainteresowania się tym obszarem przez NKWD.

At signal [A] the site of the structure near the northwest railway siding is shown. This poor image is very difficult to interpret, especially so in that there is no stereo coverage. Though taken at 8:58 a.m., no shadows exist indicative of walls. Within the grey tone of which, according to imagery of 28 April a roof is evident, there is a curious white tone to the image, rather like a circular shape with two appended lines, which could be described as being like a rabbit’s head when looking at the image from east to west. Though aerial and artillery bomb damage may be seen earlier on the terrain, it seems to me that new bombing has occurred since imagery of month past. Other land disturbances surrounding the “structure” may not be so caused; it is possible that the other disturbances are related to interests of the NKVD.

W Lesie Katyńskim. Film dokumentalny, Berlin 1943 r.

1:06 min. Kamera, patrząc z południa, przechodzi w kierunku zachodnim ukazując miejsca niemieckich ekshumacji w kwietniu-maju 1943 roku. Pomieszczenie zbudowane z bali z dachem blaszanym znajduje się w pobliżu drogi w Lesie Katyńskim, prawie równolegle do dołów śmierci — masowych grobów 1–7. Stoły do badania zwłok znajdują się w pobliżu pomieszczenia. Panoramowanie zatrzymuje się, gdy kamery jest zwrócona w kierunku północno-zachodnim.

1:20 min. Kamera patrzy z południowego zachodu, pokazując ekshumowany grób nr 1, w kształcie litery L. Teren obniża się.

1:30 min. Kamera patrzy z południowego wschodu, zwracając się najpierw na zachód, następnie na wschód, pokazując groby 2–6.


4:17 min. Widać 4 z 5. Wież Katyńskich, jedną z flagą PCK. Interesujący artykuł Edwarda Janowskiego, omawiający zagadnienia związane z cmentarzem PCK, jest podany w bibliografii.


UWAGA: Zdjęcia lotnicze tego cmentarza wykonane przez Luftwaffe, omawiane w opracowaniu w kontekście zdjęć naziemnych, powinny być komputerowo nałożone na tymczasowy model terenu w celu ich lepszej analizy. W obecnej chwili brakuje numerycznego modelu terenu dla całego omawianego obszaru, który umożliwiłby nakładanie treści zdjęć, brakuje go także w tym opracowaniu. Istnieje plan potrzeba zastosowania takiej technologii. Jednym z wielu przykładów zdjęć, w których analizę pomogły model terenu, są zdjęcia Bujnowskiego z 1957 roku, przedstawiające Pomnik Rosyjski (trzeci cmentarz; był to drewniany krzyż nad betonową płytą bez napisów; przyp. red.), przedmiot kontrowersyjnej dyskusji. W tym opracowaniu przedstawiono opinię o „trzecim cmentarzu”.

1942 imagery gives us the clearest fully interpretable Luftwaffe sortie, and may be best presented contextual to a German propaganda film of 1943, and a Czech film with additional horizontal imagery of 1990. The Luftwaffe imagery will be discussed after first giving a review of the German Film. Im Wald von Katyn. After the Luftwaffe analysis, horizontal images taken by Dr. Mieczysław Borak of 30 May, 1990, will be discussed. All motion picture film is referred to by minutes and seconds of elapsed film time.

Im Wald von Katyn. Dokumentaristische Bildstrecke. Berlin 1943. 1:06 min. Camera angle, from the south, pans to the west revealing images of the German exhumation of April-May of 1943. A cabin constructed of logs, with a tin roof, is near the Katyn Forest road nearly parallel to the site of death-trench mass graves 1–7. Inspection tables, for examining corpses, are near the cabin. The camera pan stops, facing northwest.

1:20 min. Camera angle, southwest, showing exhumations of grave #1, L shaped. The terrain tends downwards.

1:30 min. Camera angle, southeast, pans west, then east, showing graves 2–6.

2:50 min. Uncertain camera direction. Corpses laid out on a flatter plain of land on which many cut tree stumps are apparent, correlativo to several Annliches Material photos. The field, part of the lower swampy area, is south of the 1–7 mass grave area.

4:17 min. Four or five of the “Katyn Towers”, one with a Red Cross Flag on it, are shown. An interesting article raising questions about the Polish Red Cross Cemetery is by Edward Janowski, listed with Literature.

11:22–11:31 min. Camera pans from several angles, showing the complete Polish Red Cross Cemetery in detail.

NOTE: Luftwaffe imagery of this cemetery, discussed in this analysis, in context of these horizontal images, should be computer-generated into a 3-D terrain model for analysis purposes. A terrain model of the entire region of our interest, and computer discs to enable manipulation and superimposition, are at present lacking in various imagery analysis of the terrain, including the present one. There is an urgent need for such technology. An instance, among many others, is the 1957 Bujnowski photographs that show a “Russian Memorial” (the third cemetery; it was a wooden cross over an unmarked concrete slab, ed.), a subject of controversial debate. My paper will later give an opinion on this “third” cemetery.
ZDJĘCIE 15, 02-09-1942


PHOTO 15, 02-09-1942

Photo 15 shows full image, but reduced by about 1/3 from the original. This is the earliest image found, to date, of the terrain of Kozie Gory undisturbed by the German exhumation of spring of 1943. Given the abundant evidence that the terrain, at least immediate to Kozie Gory, was not disturbed by warfare, we can use the image to fully represent Soviet-NKVD ground disturbances. One must, however, carefully note German testimony regarding the precision bombing of the Dacha and near area in 1941 and 1942 (see Terrain, Katyn discussion). Immediately following the analysis of this 1942 image is a discussion of Dr. Mecislav Borak's horizontal photography, both still and motion, taken on 30 May, 1990, which bears on ground scars south and east of the site of the 1940 death trenches 1–7. Areas marked [1], [2] and [3] are shown on photos 15, 17 and 18 respectively.
Zdjęcie 16 to fragment jednego z 7 zdjęć wykonanych 02-09-1942 r. [1] Północny rów, po raz pierwszy zidentyfikowany przez Roberta Poiriera na zdjęciu z 28-04-1944 roku. Na tym zdjęciu trudno jest ustalić obecność rowu lub jego zamaskowania. Dwa drzewa o iległe o 11 m otaczają ten obszar. W środku miejsca zidentyfikowanego na zdjęciu z 28-04-1944 roku występuje lekkie roztoczenie fototu. To roztoczenie jest wystarczającym powodem, aby przypuszczać, iż bliźna w ziemi istniała w 1942 roku i mogła poprzezdać okupację niemiecką. W archiwach Antilches i Hearings znajdują się liczne zeznania, które dotyczą bagażu zwanego oddzielnie do Koziej Gory; być może Poirier zidentyfikował rów, który zawierał także bagaż; lub być może to materiały związane z publikacjami Burdenki ze stycznia 1944 roku i późniejszymi, jeżeli można byłoby stwierdzić, iż bliźna w pewnym miejscu nie istniała na zdjęciu z 1942 roku. [2] Te 4 drzewa, zaznaczone białymi kropkami, znajdują się na zdjęciu z 02-01-1944 roku i służą do lokalizacji [3]. [3] Patrz zdjęcie z 08-01-1944 roku i z 28-04-1944 roku. Trzy kształty przypominające rowy są wyraźnie na zdjęciu zimowym z 08-01-1944 roku, lecz niezbyt widoczne na zdjęciu z 1942 roku, poza tym, że 3 długie wały ziemne wydają się przecinać kształty widoczne na zdjęciu zimowym po przekątnej; mogłoby to oznaczać, że widoczne w zimowym zdjęciu kształty były liniami do wytyczenia dróg spichrzowych. Wały ziemne są znacznie lepiej widoczne na zdjęciu z 28-04-1944 roku. Gdyby kształty te występowały jedynie w 1944 roku, wówczas byłyby niewidoczne związane z działaniem Komisji Burdenki. Jednakże, jeśli były one obecne w roku 1942, co trudno z całą pewnością stwierdzić, mogą być one związane z śmiercią innych osób niż Polacy. [4] Obszar piaszczystych dolów w pobliżu wzgórza, obok szosy z otwartym lejem na szczycie, widoczny na wszystkich zdjęciach. [5] Dwie konstrukcje, prawdopodobnie namioty. [6] Znajdują się dwóch ścieżek wzdłuż szosy smoleńskiej prowadzących do ścieżki na północ od szosy. Zauważmy deformację ziemne w pobliżu zejścia ścieżek, które występują w postaci zespołu dolów w pobliżu brzegu ścieżki. Dr M. Borak przedstawił mi zdjęcie grobu czeskosłowackiego żołnierza Wehrmachtu, znajdującego się w pobliżu tego miejsca. [7] Na zachód od lejszej drogi katyńskiej widać ścieżkę w 3 deformacje, będące jak czarne linie o długości 20-30 m i grubą linie o długości około 50 m. [8-9] Dwa rowy występują na zdjęciu zimowym z 08-01-1944 roku. [10] Obszar grobów obywateł sowieckich znajdujących się w 1943 roku. Są tu widoczne deformacje zaznaczone na zdjęciu zimowym z 08-01-1944 roku (patrz zdjęcie 30). Photo 16, a fragment of one of seven photos from 02-09-1944. [1] The northern trench, first identified by Robert Poirier in 20-04-1944 imagery. In this image it is difficult to determine if the trench or camouflage over it are present. Two trees about 11 m apart border the area. There is a slight whitening of the panchromatic grey tone immediately central to the 28-04-1944 identification. This whitening is sufficient reason to admit the possibility that the ground scar existed in 1942 and may pre-date the German occupancy. There is abundant testimony. Antilches and Hearings, that beam on luggage being trucked separately to Kozie Gory; it may be possible that Poirier's identified trench may contain such luggage; conversely, it may contain materials associated to the Burdenko proceedings of January 1944 and thereafter, if the scar can be said to definitely not exist in 1942 imagery. [2] This group of four trees, marked by white dots, are present in 02-01-1944 imagery and serve to locate [3]. [3] Refer to 08-01-1944 and to 28-04-1944. The three trench-like shapes evident in winter 08-01-1944 imagery are not distinctly evident in this 1942 imagery, except that three long mounds seem to cross the shapes evident in the winter imagery in a diagonal direction: This could mean that the shapes present in the winter 1944 imagery were lay-out marks for surveying the bulldozers path, incorrectly laid. The mounds are much more pronounced in the imagery of 28-04-1944. If the shapes only appeared in 1944 then they are surely associated with the Burdenko re-burials. If, however, they are present in 1942, and it is difficult to say so with certainty, then they may be associated to deaths other than the Poles. [4] Area of road-side sand pits near a hill with an open crater on the top, evident in all imagery. [5] Two structures, possibly tents. [6] Confluence of two paths from Smolensk Highway leading to a path north of the road. Note the ground disturbances near the path's confluence, which appear as several pit-like shapes in clusters near the path edge. Professor M. Borak sent me a photograph of a Czech soldier's grave (Wehrmacht soldier) near this spot. [7] To the west of the Katyn forest road a path is visible in the forest and nearby are three disturbances, appearing like black lines 20-30 m long and a greater line of about 50 m long. [8-9] Two trenches appear here in winter 08-01-1944 imagery. [10] Area in which graves of Soviet nationals were found in 1943. The disturbances signaled as 30-33 in winter 08-01-1944 imagery are present here (see Photo 30).
Na zdjęciu 17 (fragment zdjęcia 15) z 02-09-1942 dokona
no następujących wyróżnień: [1] Drzewo widoczne na zdjęciu z
08-01-1944 roku i na zdjęciu z 28-04-1944 roku. [2] Obszar
cementarza PCK urządzony w maju i czerwcu 1943 roku.
Widoczne tu biale kwadraty są większe niż w rzeczywistości,
lecz są to znaki umowne. [3] Obszar masowych grobów nr 1–7
z 1940 roku. Deformacja na prawo od znaku [3] jest w kształcie
litery V, gdy ogląda sią ją od północy. Każdy bok litery V ma
długość około 50 m. Na wschód od tego kształtu występuje inna
blizna, w kształcie odwróconej litery L przy czym dół L jest
około 10 grobów w pobliżu południowego zjścia się dróg leś-
nych tworzącego trójkąt. Do 08-01-1944 roku był tu duży dół w
kształcie nerkii, mniejszy zaś po drugiej stronie drogi. [6-7]
Kilka ścieżek na obszarze zdeformowanej powierzchni. [8] Rejon
grobu masowego nr 8 z 1940 roku. Deformacje tworzącą trójką-
tały kształt, większy niż grob 8 w świetle soweckich wyko-
palisk z 1944 roku, z pewnością zawierający dodatkowe groby.
Pierwszego czerwca 1943 roku Niemcy wykopali dół o wymia-
rach około 5.5 x 5.2 m. Na zdjęciu, najjaśniejszym fototonem
wyróżnia się blizna w ziemi o wymiarach około 25 x 10 m.
W pobliżu występują równolegle 2 mniejsze widoczne blizny.Ślady
działalności soweckiej wyraźnie widoczne na zdjęciu z 28
kwietnia 1944 roku, są widoczne także tutaj, choć blizny są
mniej wyraźne. [9-10] Zniekształcony teren z powodu działal-
ności soweckiej 08-01-1944 roku.36

On Photo 17 (fragment of Photo 15) of 02-09-1942 identi-
fiﬁed are: [1] This tree is evident in 08-01-1944 imagery and in
28-04-1944 imagery. [2] The area of the Polish Red Cross
Cemetery, created in 1943. The white squares shown here
are larger than they should be, and are representational only.
the right of signal [3] is shaped like a V when viewed from
north to south. Each side of the V is about 50 m long. To the east of
this shape another ground scar appears in the shape of an inverted
L shape, the bottom of the L pointing right. [4] Area of Soviet
graves. [5] A cluster of about ten pits near the southern conflu-
ence of the forest road where it forms a triangle in the forest.
[6-7] Small paths in an area of disturbed earth. [8] The region of the
1940 mass-grave eight. The disturbances here form a triangular
shape, greater in area than grave 8 which falls within it, and,
in light of Soviet 1944 diggings — surely containing additional
graves. On June 1st 1943 the Germans excavated an area
approximately 5.5 m x 5.2 m. In this image, by the whitest
paranchromatic grey tone, we see an oblong ground scar of about
25 m by 10 m. Nearby and parallel are other less obvious
ground scars. Soviet interest as evident in activity in imagery
of 28 April 1944 is also in these less obvious scars. [9-10]
Disturbed earth. Soviet activity here on 08-01-194446.
ZDJĘCIE 17 (fragment 2 zdjęcia 15)

PHOTO 17 (fragment 2 of Photo 15)
Na zdjęciu 19, które przedstawia fragment kadru 106 z 2 września 1942 r., zaznaczono miejsca wykonania zdjęć naziemnych przez Mieczysława Boraka (30 maja 1990 r.).


Photo 19 relative to exposure 106 of 2 September 1942, shows localities where horizontal images by Mieczyslaw Borak were taken on 30-05-1990.

Signals [a] and [b] indicate the positions of the 1943 Polish Red Cross Cemetery and the 1940 site of death-trenches 1–7. 1940 death-trench 8 is immediate to signal [2]. Luftwaffe exposure 106 is used as a base image to pin-point horizontal images that Dr. Borak took with a hand-held camera on 30 May, 1994, comprised of six panchromatic paper prints and seven in color slide mode. M. Borak took a motion-picture film at the same time, footage of which was incorporated into his television film, The Shadows of Conscience, which was aired in the Czech Republic. M. Borak sent these images to me, along with a map authored by T. Pieńkowski on which M. Borak indicated a schematic of where the images were taken. Only three horizontal images will be shown with this paper: photos 20, 21, 22, taken in 3, 6, 7 sites.
ZDJĘCIE 20, 30-05-1990

Naziemne zdjęcie panchromatyczne [20] wykonane na południowy zachód od dołu śmierci nr 8 z 1940 roku. Przedstawia ono głębokie obniżenie podobne do rowu. Nie wydaje mi się, aby było to osiąganie terenu wywołane kompresją zwłok, raczej sądzić z młodych drzew teren ten był rozkopywany około 20 lat temu, w czasie sowieckich działań we wczesnych latach 70.; prace wykopalskowe podjęto równocześnie z pojawieniem się zainteresowania sprawą katyńską w Anglii, lecz dokładne przyczyny tych prac nie są znane.

PHOTO 20, 30-05-1990

Horizontal panchromatic photo (20) taken southwest of 1940 DT-8. This shows a deep depression in the land, somewhat trench-like. It does not appear to be a gradual sinking of land caused by compression of corpses, but, rather, in my opinion, it appears that this area was excavated, judging by the young trees, about 20 or more years ago — in synch with the early 1970’s Soviet concern about attention the Katyn issue was getting in England at that time, which may be a curious event that caused them to perform excavations, for reasons unknown, on the terrain.

ZDJĘCIE 21, 30-05-1990

Naziemne zdjęcie panchromatyczne [21] wykonane dokładnie na południe od dołu śmierci nr 8 z 1940 roku. Zdjęcie to przedstawia M. Boraka trzymającego kamerę filmową, filmującego obniżenie i deformacje terenu. Wydaje mi się znów, iż obniżenie to nie zostało wywołane kompresją zwłok, lecz pracami wykopalskowymi. Nie wydaje się, żeby to zagłębienie było tak stare, jak pokazane na zdjęciu 20.

PHOTO 21, 30-05-1990

Horizontal panchromatic photo (21) taken nearly due south of 1940 DT-8. The photo shows M. Borak with a hand-held motion picture camera filming a depression and obvious disturbance to the earth cover. Again, it seems to me that this is not caused by compression of corpses, but, rather, by excavation. This excavation does not appear to be as old as that shown in Photo 20.
Horizontal panchromatic Photo (22) taken east of the Katyn Forest road, within the triangle where death pits containing Soviet citizens were found by the Germans in April of 1943. The photo shows a tree with a scar cut into it near the base, on which a number appears 12. M. Borak's television film also shows trees with numbers. Russian processors have not given their Polish counterparts a map of the region. By the evidence of numbers hacked into trees, and other arguments advanced in sections of this paper, including imagery evidence, it is a certainty to conclude that the Russians produced a map of Kozie Gory and surrounding areas that included a schematic of death-trench locations.

These images were taken in an area was "off-limits" in 1990, but, as M. Borak said in a letter to me dated 28-01-1994: "...on May 30, 1990, it was only several days after Mr. Gorbachev had promulgated the perpetrators of the crime, so we were followed by KGB members everywhere we tried to go. The images behind the fence are taken (covertly) with the help of our Polish friends."
FILM BORAKA CIENIE SUMIERIA

Film Cienie sumienia powinien obejrzeć wszyscy badacze zainteresowani Katyniem, ponieważ zawiera on charakterystykę terenu, pokazując w kilku miejscach obniżenia terenu, zwłaszcza w trójkać dróg leśnych i na pobudłowym zachód od pomnika katyńskiego (piąty cmentarz, zw. „Memorial”; przyp. red.), w rejonie dołu śmierci nr 8 z 1940 roku oraz na obszarze położonym bardziej na południe. Prof. Jan R. Oledzki i dr Małgorzata Mykce-Dominko opisali mapy, aby przedstawić swe obserwacje dotyczące deformacji terenu. Z załączonych zdjęć, zdjęcia nr 2012 pasują doskonale do deformacji przestawionych na mojej mapie 8 opracowanej na podstawie zdjęcia Luftwaffe 24 z 08-01-1944 roku. Nie zamieszczono tu zdjęć M. Boraka z obniżeniami również są zgodne ze zdjęciami lotniczymi z 1944 roku, a w wielu przypadkach także ze zdjęciami z 1942 roku.

Fragmenty filmu dotyczące Katynia zostały wykonane tego samego dnia, co zdjęcia. Obrazy są opisane w minutach i sekundach licząc od początku filmu.

**00:55-1:02 min.** Pokazany jest grób w kształcie rowu o wymiarach około 3×7 m i głębokości 0,5 m, powstały w wyniku wyrywanego zapadania się lub wykopania warstwy gleby. Jest on otoczony sosnami w wieku ponad 30 lat, prawdopodobnie 20-letnimi. Zdjęcia filmowe odpowiadają zdjęciom panoramicznemu M. Boraka (zdj. 20).

**24:44-plus min.** Różne znaki „nie wchodzić” i znaki ostrzegające „elektrycznych” niebezpieczeństw.

**26:13-26:33 min.** Różne obrazy filmowe „sanatorium”.

**26:46-26:57 min.** Garść NKWD. Został on po raz pierwszy zidentyfikowany na zdjęciach Luftwaffe i zaprezentowany w kwietniu 1991 roku, na konferencji w Krakowie dotyczącej innych badań.

**27:03-plus min.** Nowa leśna „dacha”, prawdopodobnie ta, którą pokazano na mapach 1-A i 1-B, opisana w Waszyngtonie jako „nowe budowle zbudowane po 1940 roku.”

**29:27-30:56 min.** Obniżenie w kształcie rowu z wymiarach ogólnych około 2×8 m i głębokości 1 m. Brzegi są wyraźne, co sugeruje, iż był to racej wykopany rów, niż osiadamie ziem z powodu kompresji zbiorników wodnych. Liczba 12 występuje w postaci wycięcia na dnie, potwierdzając miejsce wykonania zdjęcia panoramicznego (zdj. 22), które jednakże nie pokazuje wyraźnie grobu.

**32:47-33:18 min.** Zapadnięcie się powierzchni gleby pozbawione dorowo, ocieniane na 2×8 m i głębokości 1 m z kształcie zakrzywionego niewiasu.

**33:24-plus min.** Drzewo ze śladami kul. Biorąc pod uwagę ograniczony dostęp do głównego obszaru, odbywały się tu ewiczenia strzelnicze przechodzących przez las członków KGB. Przypomina się zeznania z okresu II wojny światowej dotyczące drzewa z kilkoma śladami kul w pobliżu domów śmierci 1-7. Według dr. Martina Woźnińskiego w jego artykule „Molek 5 tygodni w Katyniu”, Fakty i Dokumenty, Londyn 1947; „Duża liczba kul tworzących w sośnie rosnącej blisko dłuższego boku grobu nr 1 ... skłania do przypuszczeń, że pewna liczba egzekucji była wykonywana, gdy ofiary przyprowadzono w okolice drzewa”. Nie zgadzam się z opinią dr. Woźnińskiego. Według znanych mi zeznań świadków śladu kul w drodze mogą świadczyć o prowadzonych tam ćwiczeniach strzeleckich funkcjonariuszy NKWD.

BORAK FILM THE SHADOWS OF CONSCIENCE

The film, The Shadows of Conscience, should be seen by all researchers interested in the terrain of Katyn, for it contains footage of terrain showing depressions in the earth surface in several areas, particularly within the triangle of forest roads, and to the south west of the Katyn Memorial (the fifth cemetery, the so-called “Memorial”; ed.) in the region of 1940 death trench eight and on the terrain that is southernly of it. Professor Dr. Jan R. Oledzki, and Dr. Małgorzata Mykce-Dominko have annotated maps to illustrate their observation that there are disturbances within these regions of the earth cover. Of the photos shown, 20 and 21 match perfectly to disturbances illustrated in my Map 8 of Luftwaffe image Photo 24 of 08-01-1944. Of those photographs that M. Borak sent to me that are of depressions, yet not shown here, all match the 1944 imagery, and, in many instances, the 1942 imagery.

The segments of the film bearing on this study were shot on the same day as the above interpreted imagery: Images are given in minutes and seconds from the start of the film.

**00:55-1:02 min.** A trench-like grave is shown, estimated at about 3×7 m × 0.5 m deep by evident collapse or excavation of the top soil. It is surrounded by pine trees less than 30 years old, perhaps 20 years old. This film image is correlative to M. Borak paranchromatic photo (20).

**24:44-plus min.** Various „keep away” signs, and signs warning of „electrical” dangers and „hunters”.

**26:13-26:33 min.** Various film images of the „sanatorium”.

**26:46-26:57 min.** The original NKVD garage. This garage was first identified positively in Luftwaffe imagery at a conference in April 1991, regarding my research in Cracow.

**27:03-plus min.** A new forest „dacha”, probably the one shown in Maps 1-A and 1-B, annotated in Washington as „structures built since 1944”.

**29:27-30:56 min.** A trench-like depression, estimated here as about 2×8 m × 1 m deep. The edges are defined, giving the impression that it was an excavation rather than a sinking of human remains which caused it. The numeral 12 appears within a cut to the tree, confirming it as the site of paranchromatic Borak (Photo 22) horizontal image which does not, however, clearly show the grave.

**32:47-33:18 min.** A trench-like collapse of the soil surface, estimated here as about 2×8 m × 1 m deep, shaped like a crooked parenthesis.

**33:24-plus min.** A tree with a cluster of bullet holes. Obviously, given the restricted access to the general area, target practice by KGB men walking through the woods took place there. One recalls the WWII era testimony of a tree with several bullet wounds in a cluster near the original death trenches 1-7; According to Dr. Marian Woźniński, in his paper “My Five Weeks At Katyn”, Facts & Documents London 1947, “A large number of bullets found lodged in a pine tree growing close to the edge of the longer arm of grave #1 ... led us to suppose that a number of executions were carried out after the victim’s were taken to this tree”. I don’t agree with Dr Woźniński opinion. According to witness testimonies known to me the bullet holes visible in a tree can rather prove a shooting practice of NKVD officers were going on there.
Poniżej zostały przedstawione dwa fragmenty zdjęcia z paź-
dziernika 1943 roku.

Two fragments from aerial photo, exposed in October
1943.

ZDJĘCIE 23, 13-10-1943

Powiększony fragment zdjęcia wykonanego w skali 1:13 800, został opisany następująco: [1] To samo drzewo, które wystę-
tym samym obszarze, co na zdjęciu z 08–01–1944 roku. [5]
Kilka wypełnionych dolów. [6] Wycinka leśna o wymiarach 50
× 50 m odpowiadająca miejscu ze znakami [30–33] na zdjęciu
30. Tu wycinka leśna jest przecięta małą ścieżką. [7] Obszar
największego rowu widoczny na zdjęciu 28. Widać tu kilka
małych dolów, które wykopano w kwietniu i maju 1943 roku.
[8] Obszar grobu masowego nr 8 z 1940 roku. Większe defor-
macje występują przy zbiciu 2 ścieżek, po południowej stronie.

PHOTO 23, 13-10-1943

The enlarged fragment of the photo. original scale: 1:13 800
is annotated as follows: [1] The same tree as evident in 1942
mass-graves 1–7. [4] Fine dark lines in the same area as noted
about 50 m by 50 m corresponding to Photo 30 identifications
at signals [30–33]. Here the clearing is crossed by a small
Here several small pits are evident where digging took place in
April and May of 1943. [8] Area of the 1940 death trench 8,
mass-grave. The larger disturbance is at the confluence of two
forest paths, on the southerly side. [9] The garage of the NKVD.

The enlargement fragment of the photo, original scale 1:13 800. [1] The same tree as noted in 1942 imagery. [2] The Polish Red Cross Cemetery showing precise configurations of the memorial mounds including the smaller graves of General Smorawiński and General Bohaterowicz. It should be noted that this configuration has been misdrawn elsewhere, particularly in the Poirier paper, Katyn New Evidence, and in plans published in Poland. The present horizontal and vertical imagery is sufficient to create a computer generated 3-D model of the Polish Red Cross Cemetery. [3] Area of 1940 death trench mass-graves 1–7. [7] Area of pits and later trench-like shape in 1944. [8] Area of 1940 death trench mass-grave 8.
Nie było zmian na terenie cmentarza PCK pomiędzy 13 i 23 października 1943 roku. Krzyże, które znajdowały się na nim, musiały zostać usunięte wcześniej.

Between the 13th through the 23rd of October no alterations to the memorial took place. The crosses which were on them must have been removed at an earlier date.
Przedstawiona poniżej analiza zimowych zdjęć Luftwaffe z 1944 r. została uzupełniona prezentacją sowieckich filmów propagandowych (s. 79) z tego okresu.

Luftwaffe imagery analysis will be followed by minutes and seconds of documentary films bearing on winter 1944 imagery (see p. 79).

ZDJĘCIE 26. 07-01-1944

Zdjęcie 26 jest dużym powiększeniem zdjęcia nr 90 z 7 stycznia 1944 roku. Jest to wyjątkowo słabe zdjęcie o małej wartości interpretacyjnej. Oprócz słabej rozdzielczości i rozmycia fototong występuje gruba pokrywa śniegu maskująca szczegóły. Jednakże na zdjęciu z następnego dnia, 8 stycznia, widać mechaniczne porwanie dróg i częściowo zniszczony cmentarz PCK; zdjęcie z 7 stycznia pomaga określić zakres prac i wskazuje, że prace niszczące przy tym cmentarzu rozpoczęły się przed 7 stycznia.

PHOTO 26. 07-01-1944

Photo 26 is an extreme enlargement of exposure 90 on 7 January 1944. This is an extremely poor image and is of little interpretive value. Besides the poor resolution and panchromatic grey tone wash, the heavy snow obscures surface detail. However, as the following day’s imagery, the 8th of January, shows mechanical plowing of roads and the partially dismembered Polish Red Cross Cemetery under heavy snow, this image from the 7th serves to establish why plows were active and establishes that the disturbance of the memorial began before the 7th of January.

Photo 27 shows full image, reduced about 1/3 from the German original. Because the Luftwaffe pilot was flying very low and fast over the terrain, stereo coverage is only partial, and unfortunately not over the areas of our interest. In compensation, however, the excellent scale and sharp detail afford a very clear view of the NKVD activity. [1] Fragment 1 — Photo 28. [2] Fragment 2 — Photo 29. [3] Fragment 3 — Photo 30.
Zdjęcie 28 przedstawia fragment 1 zdjęcia 27. Patrz objaśnienia do mapy 8.

Photo 28 shows fragment 1 of Photo 27. See annotations to Map 8.
Mapa 8 została opracowana bezpośrednio ze zdjęcia Luftwaffe (zdjęcie 27). Poszczególne fragmenty tego zdjęcia prezentowane na zdjęciach 28, 29, 30 zostały opisane łącznie z opisem mapy.


MAPA 8

An annotated map 8 taken directly from Luftwaffe imagery, explanations of which will relate to Photos 28, 29, 30 presenting fragments of Photo 27.

AREA[A][1] To the right of numeral [1] are two lines forming an angle; the area within represents partial demolition of the Polish Red Cross Cemetery, which began before 7 January. One grave is partially excavated, lower in relation to the surroundings. Grave 2 and grave 3 are missing their former mounds. Partial excavation of grave 6 is evident. [2] This is a snow covered mound with a distinct shadow, probably indicating that the two smaller graves of General Smorawiński and General Bohaterewicz are undisturbed. [3] To the right of numeral [3] is

OBSZAR [8] [5-7] Namoty o skośnych dachach. Są one rozpoznawalne na małogatowym filmie propagandowym z 1944 roku zatytułowanym Katyni w 17 min. i 23 sek. filmu.


AREA [8] [5-7] Pitched roof tents. These are recognizable in the Soviet 1944 propaganda film entitled Katyn at 17 minutes 23 seconds of running time.

AREA [C] [8] The area of the 1940 mass-grave 8. Heavily trampled snow is evident in an irregular shape approximately 31 m north to south and 33 m at its widest western portion shaped like a boot. This pattern is pronounced in 28 April imagery. Photo 36. The northeast corner is bordered by a distinct path in the snow which leads south-east to the forest road and north-easterly to several other digging locations. The trails in the snow, here and elsewhere, show deliberate courses, they do not wander in a search pattern. The NKVD knew exactly where to look. [9-13] Several digging locations, numeral [11] has a rectangular shape while the remaining holes are circular. [14] Below numeral [14] is a shape representing a rise in the ground in the swamp area between the regions of grave eight and the northerly graves. This small hill is mostly cleared. On comparison with 1942 imagery it is evident that ground disturbance in the form of three lines appear. The easterly line, about 4 m by 15 m, appears as definite while the other two seem like small trails converging in an elliptical shape. It is curious to compare this to the M. Borak images earlier discussed (Photos 20, 21, 22). [15] The dotted line area to the east and west of the forest road shows a disturbance of the snow of approximately 35 m by 15 m. Later spring 1944 activity is not evident here. It is possible that this snow-trampled area was used for a purpose immediate to the Burdeko activity. [16-20] Nine clusters of diggings along a snow trail extending westerly from the forest road. It seems certain that this is the area nearer to the dacha that was referred to by German witnesses as containing small graves. [See also J.R. Oldzki’s map of 17-05-1991, as published by M. Mycke-Dominik]. [21] Twelve or more clusters of diggings. This area also was referred to by Colonel Bednek.

AREA [K] [22] A DOK class buldozer fitted with snow plough in motion towards the dacha. The image of the blade pushing the snow is sharp and clear. The plow is at the confluence of the forest roads where a triangle is formed; nearby is the shadow of a tree which should not be confused with the plow buldozer. To the east is a large bean-shaped excavation of considerable depth, measuring 21 m long and 10 m wide, with slanting walls, perhaps 3 m deep. Snow-filled and obvi- ously excavated before this date. Spring 1944 imagery shows the same ground scar, with another on the opposite roadside. [23] Excavation. [24] Possible motor vehicle. [25] Excavation. [26] To the left of numeral [26] is an excavation hole. To the south-west is a trench-like shape approximately 12 m by 8 m. Continued activity here in spring 1944. [27] West of numeral [27] two excavation holes appear as well as a trapezoidal clearing of about 11 m by 8 m. [28] Excavation. [29] Possible tent. To the west is a small vehicle, evident by its tracks. [30-33] Between each set of numerals a trench-like shape appears, with no snow filling it, about 21 m long and having a parapet of earth. [34-35] Also evident in spring 1944 imagery. [34] Excavation. [35] Two tents appear in a [36-37] Excavation. [38] Possible tent. [39] Group of five small excavations along the forest trail leading westerly from the Polish Red Cross Cemetery. [40-41] Trampled snow area leading to the confluence of the northern forest triangle of roads. This disturbed area has had a lot of foot traffic. It connects to a similar area just under area [GI]. There could possibly be snow-covered corpses in the area. [42] Tent. [43] Two large holes, one 9 m round and the other 4.5 m round. They are within a larger area.


AREA [G] [46-47]. Two long trenches on either side of the forest road, 43 m long on the western side and 47 m long on the eastern side. A bulldozer is operating within the western trench. Both trenches have raised-earth parapets. Both are evident in 1942 and 1944 imagery. [48] Two or more excavation holes with a small trench extending south-east. [49] Possible cluster of pits. [50-51] Two tents in a trapped area.

AREA [H] [52-53]. Partially visible tracts. [54-55] Tents. [56] Path.

AREA [J] [57]. This dotted line shows the exact location of the northern trench as identified by Robert Porter in 28-04-1942 imagery. No evidence of it in this image, though there is a possibility it existed in 1942. [58] Tent. [59-60] Small structures or motor vehicles.

AREA [F] [61-62-63]. Three large trench like shapes, yet with snow cover, and delineated in shape only; evidence of activity prior to 8 January. [61] and [62] have closed northern ends while [63] is open. The direction of these shapes follows the general shadow pattern of trees but none are near enough to cause the shadows. They are in a natural clearing and abut a large tract of land near the Smolensk Highway which is generally clear. Some faint indication in 1942 imagery here of long mounds, but they are slightly diagonal to these present shapes. Spring 1944 imagery also has mounds here. The present image may be of the area being marked off for later NKVD attention. On study of the Soviet propaganda film from 1944, Katyn between 37 minutes 36 seconds and 38 minutes 05 seconds of film running time — a very large snow covered field is shown on which several hundred corpses are laid out side by side in rows. Imagery not shown in the 1944 film is included in the 1993 Russian film, Monstyr: a portrait of Stalin in blood, also supporting this observation. The hillocks and woods in the background of this film support the determination that the field of corpses is the same as the area between the sand-pits [61-62-63], and the mouth of the forest road as it turns in from the Smolensk Highway. Within this area are many tents and evidence of heavy foot traffic. It may be that at least some of the 900 corpses exhumed by the Burdenko Commission lay somewhere nearby [see Conclusions], The three trench-like shapes noted have objects at the southerly corners but not of sufficient height to cause a misidentification of shadow lines. There is also the possibility that the shapes are not delineating an interior use but are simply six lines forming narrower trenches. A strong consideration is that of survey lines, perhaps plotting an earlier NKVD grave. [64-65] Geomorphic objects or man-disturbed. Hard to say.

AREA [E] The sand pit by the Smolensk Highway. Nearby is a hill with a crater top. This is the start of the 150 m long generally clear area extending to the forest road. [67] Tent or structure. [68-69] Motor vehicles. [70-71] Two small motor vehicles and two lorries. [72] This is the area, annotated as a large dotted square in Photo 29, that I believe may be the site apparent in the Stanislaw Bułynskich photograph, from 1957, of a Memorial Grave site, [73] Group of three large lorries. [76] Two motor vehicles in a parking lot with a tent nearby. [77] Probable group of NKVD personnel.

NOTE: Here we see a plan of Soviet intentions, highly defined, in newly fallen snow; deliberate footprints leading to scenes of several crimes. The Soviets had a map of the various mass-graves that are throughout Katyn forest (and along the course of the Dropt). There is little evidence of search patterns, the trails go directly to digging areas. This is confirmed by the M. Borak 1990 images, earlier discussed, showing cuts and marks (12) in trees. This Luftwaffe imagery map has also been superimposed on the American satellite map. This is the best winter image. Those taken later in February and March are extremely poor, though nevertheless showing extremely heavy ground-cover of deep snow — rendering NKVD activity virtually impossible until, of course, the shocking images from 28-04-1944.
MAPA 9


MAP 9

Map 9 created by superimposition of 08-01-1944 imagery onto the 1992 American satellite map of Katyn.

One of several maps developed from satellite imagery with superimpositions of Luftwaffe imagery. They also cover features of interest at Myednoye and Kharkov.
ZDJĘCIE 31, 08-01-1944

Zdjęcie 31 przedstawia pełny kadr, zmniejszony o 1/3 w stosunku do oryginału z 8 stycznia 1944 roku. Pokazuje ono zniszczoną stację Gniezdowo, skrzyżowanie linii kolejowych oraz szosę smoleńską. Widać działalność górniczą na wschód od stacji. Zauważmy równinę zalewową Dniepru i wiele struktur w kształcie „ul”. Na następnym zdjęciu (32) widać duży wykop znajdujący się w górnej prawej ćwiartce zdjęcia.

PHOTO 31, 08-01-1944

Full image. 1/3 reduced from original, 8 January 1944. Showing the destroyed site of Gnezdo Station, the cross-over of the railway line, and the Smolensk Highway. Also shown is the mining activity east of the station. Note the flood plain of the Dnepr and the many beehive domes. A fragment follows (Photo 32), showing the large excavation in the top-right quadrant of this photo.
Zdjęcie 32 stanowi fragment zdjęcia 31. [1] Szosa smoleńska przecinająca Nowyje Batoki. [2] Głęboki i bardzo duży wykop, długości 260 m, w środku o szerokości 70 m i 65 m na północnym krańcu, głębokości około 14 m na północu i 9–10 m na zachodzie, 2–3 m na wschodzie i 12 m na zachodzie. Wykop ten jest widoczny na zdjęciach z 1941, 1942 i 1943 roku. Fiątego lipca 1941 roku był on płytki, i było widać małe deformacje powierzchni w kształcie okrągłych wykopów wzdłuż rowów. Na zdjęciu z 02–09-1942 roku rozjaśnienie uniemożliwa interpretację. Jest to prawdopodobnie kopalnia odkrywkowa: może być uważana za „inspekcę” Kriwozercewa, lecz dane geomorfologiczne o tym terenie są skąpe.

Ten obszar przypomina także zeznanie Borysowa. Inne wątki są również interesujące. Były oficer NKWD płk Jerszow, który uciekł z NRD w 1949 roku, zeznał przed Komisją Madde- na, że komendantem kompanii w jego dywizji był kapitan Bor- rysov, który powiedział mu, że w 1940 roku był wraz z kolegami osobieicie zamieszany w zamordowanie w Katyniu 400 ludzi, czego dokonano w okopie w celu stłumienia odgłosów strzałów karabinowych. Nazwisko Borysow wiąże się także z innymi

PHOTO 32, 08–01–1944

Photo 32 shows fragment from Photo 31. [1] The Smolensk Highway across from Novyye Batoki. [2] A deep and very large excavation, measuring 260 m long, by 70 m wide in the center and 65 m wide at its northern end, by about 14 m deep south, 9–10 m deep north, 2–3 m deep east, and 12 m deep west. This excavation is visible in 1941, 1942, and 1943 imagery. In 05–07–1941 there is very little depth, and surface disturbance seems clustered as though smaller round excavations were side by side along with trench-like shapes. In 02–09–1942 imagery halation of the image prevents interpretation. This is most surely a strip mine; possibly it may be considered as Krivos- sertzhev’s “hot beds” — but again, geomorphic data on this region is scant.

This area also recalls Borysov’s testimony. Other threads of the story are also interesting. Former NKVD officer Colonel Yershov, who escaped from the GDR in 1949, testified before the Madden Commission that a company commander in his division, Captain Borysov, had told him that he and his colleagues had been personally involved in the killing of 400 people at Katyn in 1940, and that this had been done in a fox hole to

avoid noise as the rifles were discharged. The name Borysov fits with other fragmentary data, because a similar surname had been mentioned by Professor Zawodny. The story is interesting on account of the still, unexplained scars on the ground which are visible on Luftwaffe photographs of the areas around Gniezdovo and Katyn. Archaeological work may reveal if these are associated with the Borysov story. The image is curious because at the bottom of the excavation a dome with a hole on top (beehive, pepino?), six in-line mounds, and a deep hole are present. Near the easterly edge, on the flat ground outside of the hole, are several crater-like shapes. [3] A building just to the right of signal [3] and another between signals [2] and [3]. [4] The main railway line showing two tracks that merge, off camera, to one track. [5] Zig-zag antitank defense.

ZDJĘCIE 33. 08-01-1944

Zdjęcie 33 przedstawia prawie pełny kadr zmniejszony o 1/3 w stosunku do oryginału. Pokazuje meander Dniepru, a ponad nim boczną linię kolejową prowadzącą do obszaru stożków w kształcie uli. Zauważmy ich występowanie wzdłuż brzegów Dniepru w wielu miejscach, a czasami na Dnieprze. Obszar znajduje się poniżej miejscowości Giuszczenki.

PHOTO 33. 08-01-1944

Photo 33 shows almost a full image 1/3 reduced from original. Showing a meander of the Dnepr, and above it a railway spur leading into an area of beehive-like domes. Note their presence along the Dnepr's banks in several locations, in some cases in the Dnepr itself. This area is just below Glushchenki.

PHOTO 34. 08-01-1944

ZDJĘCIE 35, 19-02-1944


PHOTO 35, 19-02-1944

Photo 35 shows a fragment from an extreme enlargement from exposure from 19 February 1944. Poor image and heavy snow cover; the photo is of little interpretive value but is here included to show what all of the remaining winter 1943-44 imagery looks like. [1] The Smolensk Highway. [2] The area of the former Polish Red Cross Cemetery. The next sortie imagery coverage, from 27-03-1941, has even heavier snow accumulation and is of no interpretive value.
2:56-3:00 min. Approaching Katyn Forest on the Smolensk Highway, showing embankments near the forest road entrance with sparse trees.

3:03-3:09 min. The camera is on the Smolensk Highway with a southerly view encompassing the hills of Kozie Góry, Katyn Forest. In the fore-ground the long 150 m. field near the road entrance is clearly evident to be the same field of the 30 January 1944 Soviet horizontal pictures of Polish soldiers (see Photo 44).

4:15-4:19 min. The camera is within the field near the Smolensk Highway, near to and encompassing the northern "trench" as identified by Poitier. A group of several workers are obscured by sparse trees near the site. It is not clear whether or not there is evidence of the trench.

4:34-4:47 min. The camera is south of the Smolensk Highway field, panning towards the north and westerly towards the entrance of the Katyn Forest road which slopes precisely as shown in the 30 January 1944 Soviet photo of Polish soldiers (see Photo 44).

4:48-5:43 min. Showing excavation of four graves within the former Polish Red Cross Cemetery.

5:11-6:18 min. Showing the area of the long field again, with tents westerly of the south-easterly position of the camera.

7:04-7:06 min. The gate across Katyn Forest road, with sentry post.

7:47-7:49 min. The camera is from the south pointing north showing the rise of the Smolensk Highway embankments and long hill. We see the 150 m long field, in the middle of which are nine parallel rows of Polish corpses.

8:46-8:51 min. The camera is from the south, near the Katyn Forest road, pointing north and showing a lattice of sticks on which uniforms are displayed. In the near background portions of the long field are visible. This is the area from which stretcher-bearers transported corpses to trucks, or slept, for movement forward to the field for display.


37:36-37:55 min. Film ten zawiera dłuższy fragment sekwencji „polowej”, niż film z 1944 roku. Wizyty tu dość duże plaskie pole równoległe do szosy smoleńskiej, to same co na zdjęciu polskich żołnierzy z 30 stycznia 1944 roku. W 19-sekundowym fragmencie widzimy 9 rzędów polskich zwłok wystawionych do oglądania. Tragarze schodzą z poludnia, z cmentarza PKC ze zwłokami. Ostatecznie sekundy filmu pokazujące ten cmentarz wskazują to miejsce jako niebezpieczne dla pieszego poruszania się, dlatego też dla celów propagandowych zostało wybrane pole. „Północny rów” Potieria znajduje się w pobliżu lub wzdłuż rzędów zwłok, jednakże w tym czasie nie był odkryty.

**Monster: A Portrait of Stalin in Blood, segment “Stalin’s Secret Police”** Contact Film Studio, Moscow, 1991; Aleksandr Ivankin, producer-director.

37:36-37:55 min. This film apparently incorporates a longer segment of the "field" sequence than the 1944 film. Here we have a large fairly flat field parallel to the Smolensk Highway, the same as the 30 January 1944 horizontal image of Polish soldiers. In this 19 second segment we see 9 rows of Polish corpses laid out for view. Stretcher-bearers descend from the south, from the Polish Red Cross Cemetery with corpses. The few seconds of film that show this cemetery show it to be a place of dangerous footing, hence we see why the field was chosen for the propaganda lay out. The location Poitier’s "northern trench" is near or alongside the rows of corpses, however not opened at this time.
Zdjęcia wybrane z jednego z lotów odbytego 28 kwietnia 1944 roku. Zostanie również omówione zdjęcia z innego lotu wykonanego tego dnia.


Zdjęcia wiosenne z 1944 roku
1944 Spring Imagery

One from various exposures of sortie executed 28 April 1944. Imagery from another sortie flow that will be noted but not shown.

Photo 36 shows a fragment 1 of exposure 039 of GX 3707 B F 752 SD, 28-04-1944. [1] The sand pits near the Smolensk Highway and the nearby hill with a crater peak. [2] The first sure indication of a trench-like shape near the Smolensk Highway, first identified by Robert Poitier. There is, however, a scant possibility that a ground scar existed here in 1942 imagery. It is curious to note that this obvious area of interest was omitted from the 21-22 November 1991 Joint Russian-Polish test diggings on the terrain — despite sufficient imagery evidence. [3] Area of 08-01-1944 Soviet interest. See Photo 37. [4] Area of the two long trench-like lines (see Photo 37 and detailed annotations). [5] The area of the former Polish Red Cross Cemetery, now emptied of corpses, with a bulldozer present. [6] The area of various graves of Soviet nationals exhumed by the Germans in 1943. [7] The area of the 1940 mass-graves of Polish officers, i-7 (see Photo 39). [8] Area of the 1940 mass-grave 8 (see Photo 38). [9] Two open kidney shaped excavations on either side of the road. [10] The dacha with surrounding buildings destroyed. The original garage is undamaged and still present today. [11] The Dnepr. [12] The area of possibly man-made disturbed terrain, possibly from mining in an earlier century, here high-lighted by white dots; it could also have resulted from a catastrophe. This area, circular, extends 400 m down from the Smolensk Highway. Northerly, just outside of the circular area shown and forming a crescent around it is a ravine which falls of quickly from the circled area and is quite deep, joining another ravine near the land north of the Smolensk Highway. See Photo 5 for discussion of swamp features relative to available mapping. [02], [03] & [04] Three clearings with disturbed soil cover. Each is approximately 25-30 m wide and 65 m long. They do not appear to be forestry clear-cuts, as mounds are present as evidenced by shadows cast. This is probably another NKWD mass-grave area. [05] & [06] Two sunken depressions, not newly dug. [07] & [08] Four crater-like pits, the two westerly are about 9 m round and the easterly are about 3 m round. It is tempting to say they may be pits associated with the NKWD, for it would be convenient to pull up a car at this spot to dump bodies. But these may be associated to karst or other geomorphic phenomena. [09] Two definite pits in an area of disturbed soil, taken together with [010], this is NKWD territory. [10] This area, outlined with white dots, has a trail passing through it, east and west of which numerous pits appear. [11] A pit about 6 m round by 2 m deep, not bomb damage. May have a geomorphic or agrarian explanation. Nearby, in the vicinity of the former dacha, ten or more bomb craters are apparent. [12] A sinkhole, doline. Natural rival areas lead to it. Gretchin Gillis, M.Sc., of the Maxus Energy Corporation, Houston, Texas, is of the opinion that this is a funnel-like structure typical of karstic landscapes. The area provides good examples of the way in which precise geomorphological analysis in the field is needed to differentiate between such natural karstic features, natural craters and the places where bodies were buried.

Photo 37 shows the long hill which obscures a ground view of the Smolensk Highway, evident in the 30 January 1944 horizontal photograph of Polish soldiers (Photo 44), is shown well in this image, by fact of shadows. The trees may be easily correlated to the trees on the “soldier” photograph. [1] Area of the sand-pit. To the right of numeric [1] the crater on top of a hill is marked by a dotted square. [2] The northern trench identified by Robert Poirier. In this extreme enlargement the shape seems formed by a series of pits rather than by a bulldozer plow. At least two, central to the scar, are clearly evident; however, the north and south ends of the scar shape are somewhat squared, perhaps indicating the entry points of a bulldozer. [3] This is the area of curiously evident in 08-01-1944 imagery (Photo 27). Within the dotted line square four mounds, oriented north-easterly, are evident. The westernmost mound, and the two easternmost mounds are about 5 m across and about 30 m long. The larger mound, shaped more like an oval, is just to the east of the westernmost, and is about 10–12 m at its widest point and about 30 m long. All have height as evident by shadows. This height is not present in 08-01-1944 imagery so therefore activity took place here on and after that date. The orientation of direction here is different also from 08-01-1944 imagery. To the right of the large dotted line square is a smaller square in which we see an open depression, possibly a pit in the process of filling. [4] To the higher left of numeric [4] is an open pit, showing depth by fact of shadow, outlined here with a white square of dots. This falls within the larger area, generalized in Photo 29 of 8 January 1944. This is within the area that, it seems to me, relates in character to the 1957 Stanisław Bułnowski photograph, discussed in the Historical Abstract, and annotated as “Stanisław Bułnowski obok drewnianego płotka otaczającego trzeci cmentarz katyński” (see Photo 45). The three dotted lines to the right of numeric [4] indicate long trench-like shapes. The central line is likely a shadow caused by an escarpment of the road. The other two lines, measuring 58 m long east of the forest road, and about 48 m long west of the forest road, appear as man-made. They are not clearly evident in 1942 imagery, although ground disturbance is. The WOGiT map in 1:4,000 scale shows escarpments to the road in these locations — perhaps indicating post-war removal of embankments [see Conclusions]. In 1990 I was doubtful of the purpose of these long narrow trenches, even given the 28-04-1944 imagery (Photo 37) — but on finding, after three year’s search, the 08-01-1944 winter imagery (Photo 27) in which these trenches are in the process of being excavated it is obvious that they are in direct relation to the Burdenko Commission activity. Probably they were dug [as hinted in 1942 Imagery: Photo 15] in an area associated with earlier NKVD interest, but nevertheless pertaining to needs of the later January diggings: A reburial place for 925 Polish corpses? Perhaps, but two other sites are also likely [see Conclusions].

Photo 38 shows: [5] Excavation in progress of the former Polish Red Cross Cemetery (see next Photo for detailed discussion). [6] Area of 1943 German exhumation of graves containing Soviet nationals. [7] Area of the 1940 mass-graves 1–7. [8] Area of 1940 mass-grave 8. It is evident that there is more than one mass-grave here. At least 12 or more ground disturbances are apparent here, in general agreement with 08–01–1944 Imagery (Photo 31) and the associated map made of Soviet interests. Here the shape of the disturbance containing these pits is quite irregular, but generally measuring about 60 m × 25 m with an additional southerly appendage to the shape measuring 24 m × 11 m. The general visual impression of the combined shapes is of an isosceles triangle, but this is assisted by light panchromatic whitening of tree tops; the actual pit locations fall within the triangle in an irregular pattern. It is worth recalling that J.K. Zawodny believed in the possibility of at least one additional Katyn grave beyond those discovered by the Germans, which would account for the missing 300–350 officers not included in the German or Polish Red Cross lists. They may be in the vicinity of grave 8, or as my disturbance map of 10 June 1944 shows (Photo 43), near the original graves 1–7.
Fokazuje ono spychacz w działaniu na terenie po cmentarzu PCK. Jest to niewątpliw, że Biuro Prokuratury Wojskowej Rosji określiło jako „pogłoski” dalsze stwierdzenie, iż Komisja Burdenki pozostawiła ten obszar „prawie nietknięty”. [A] Cień drogi lewej w kierunku zachodnim, wskazujący na rów o znacznej głębokości. Zdjęcie zostało wykonane o 2:12 po południu, dzięki czemu głębokość wykopu od strony drogi można oszacować na 3 do 4 m. Obszar wykopu ma wymiary około 50 x 60 m. Wykop jest płotszy w części południowej, a głębszy w części północnej. Prawdopodobnie są tam jeszcze zwłoki, gdyż praca spychaczami trwa nadal. Ze wschodniej strony drogi lewej cienie dwóch drzew przecinają cień drogi i sięgają wykopu.

Showing the bulldozer in operation within the former Polish Red Cross Cemetery. This is the ineluctable evidence that the Russian Republic’s Military Prosecuting Office referred to as a “rumor”, further asserting that the Burdenko Commission left this area “almost untouched”. [A] The shadow of the forest road falling westerly, indicating great depth. The image was taken at 2:12 in the afternoon: we can therefore estimate the depth near the road as about 3 m–4 m. The area of the excavation is about 50 m by 60 m. The excavation is shallower at its southern end and deepest at its northern end. Possibly some corpses remain, as the bulldozing is still underway.

From the eastern side of the forest road the shadow of two trees fall across the shadow of the road into the excavation. [B] DOK class Stalinizer bulldozer (the design of which was pirated from the American Caterpillar Corporation). Light can be seen reflecting on the plow blade, the tread plates are visible and a shadow falls westerly showing the bulldozer shape. A confusing item in the imagery subsequent to this date is the presence of another object in nearly the same place as the bulldozer is now — whatever this object is, it is not a tree, as evident from shadow analysis, but it may be a structure or broken down piece of mechanical equipment. Precise micro study of the original Luftwaffe image makes it certain that the object here on 28 April 1944 is a bulldozer. [C] This is the shadow of a much taller tree falling westerly from the eastern side of the forest road. Evident also in 02-06-1944 imagery [Photo 42]. [D] A flaw (scratch) in the original paper image, not to be confused with other ground striations which are clearly evident. Małgorzata Myccke-Dominko (see Bibliography) on the basis of the 4th generation imagery, states her opinion that within the confines of this excavation there seem to be five long excavations equidistant from each other. In a later publication (see Bibliography) T. Pięknikowski repeats this description. I disagree, as does Robert Poitier. On the original paper imagery it is observed that bulldozer striations may cause this impression inadvertently. The striations of the blade form excavation debris lines but only at the bottom of the now emptied cemetery. 4th generation imagery gives a pseudo-impression. [E] Two shapes having shadow and height. The more easterly appears as a dirt pile probably in which are comngled corpse parts, and is about 3 m round. The westerly shape casts a harder shadow and has a bright patch of light on top, unidentifiable. To the south of these [right in the photo] is a large dirt pile but not of sufficient size to account for the amount of dirt missing from the excavation. No corpses are in evidence anywhere in this vicinity unless they are within the southerly dirt pile. Possibly the 900 corpses excavated by Burdenko are nearer the Smolensk Highway. [F] Area of the 1940 graves — 1–7, and more southerly, open excavations, occupants unknown. The excavation of graves 1–7 seems to be recently commenced. Some open pits are evident, corresponding to the probable locations of graves 3, 4, and 7 (see my 10-06-1944 map, following). South of the 1–7 1940 area, four open pits directly following the course of the forest road are evident. [G] Immediately above the letter [G] are three objects having shadows, that appear to be tents. To the higher left of letter [G] is a curious shape that may be a structure. Just east of the forest road is another ground disturbance, immediate to the road, probably an area used to park vehicles, as it does not have depth.

Photo 40 comes from a Wehrmacht technical repair manual on captured Soviet vehicles. The German Army usually produced such manuals in two weeks, and re-marked the vehicles with their own signations. However, on this model the word “Stalinex” is embossed in the metal of the radiator and consequently is not removable. In 1932 the Caterpillar Corporation of Peoria, Illinois negotiated to trade with Stalin and sent over at least three different tractor models. Stalin kept them and had his own made from them in the Soviet Union. The Stalinex model is nearly a duplicate of the Caterpillar Model 20. Stalin never did trade with Caterpillar. It is curious to note that the “Belarus” models now imported into the United States are later developments of Stalin’s theft — now well beyond the authority of patent law. See also repair manual: “Raupenschlepper St (r) Typ ’Stalinex 65’ und ’SG65’ D 628/20” of 19-06-1943. The National Archives, Captured German Records, Washington D.C.

Photo 41 shows a poor quality semi-oblique fragment of photograph. [2] The northern trench, unchanged since 28-04-1944. [3] Insufficient interpretable detail. [4] The trenches east and west of the forest road; insufficient detail, too too per Bujnowski site. [5] Expanded area of surface disturbance compared with 28-04-1944 imagery (Photo 38) of the Polish Red Cross Cemetery, though most of the cavity has been filled in. A pile of dirt is south of the former cemetery. [6] Additional diggings in the area known to contain graves of Soviet nationals. [7] The dirt pile is in the right corner of the dotted square. Excavations in the area of 1940 graves 1–7 are commencing though are not clearly defined as in 10-6-1944 imagery (Photo 43). [8] Area of the 8th 1940 grave. The larger excavation (8th?) contains at least four pits, now closed, but open in 28-04-1944. New to this area is a group of four, perhaps five, pits that follow westerly the trail that passes the larger excavation. [9] To the right of numeral [9] are three open pits, two of which were open on 08-01-1944 and 28-04-1944. To the above of numeral [9] is a dotted white rectangle indicating an area of human surface activity. At this point, on the eastern and western sides of the forest road small roundish shapes appear; three easterly and two westerly, in a perfect row. These do not appear in the same configuration in earlier or later imagery so we may presume they are objects on the surface that were removed later (tents?). They are most curioust. A different configuration appears by 10-06-1944, though in 02-06-1944 (Photo 42) no trace is evident.

Zauważmy, że jawnie widoczne na zdjęciu z 28-05-1944 roku: rząd kształtów na powierzchni (namioty), nie występuje na tym zdjęciu, choć znajduje się w innej konfiguracji na zdjęciu 43 z 10-06-1944 roku.

Photo 42 presents a semi-oblique fragment of the aerial photograph. A very clear and sharp image, though with surface scratches on the original print. [1] The Smolensk Highway sand pits. [2] The northern trench, unchanged. [3] Refer to 08-01-1944 winter imagery (Photo 28). There are no trees or posts here to explain shadows forming the shapes apparent in 08-01-1944 imagery. A small trail cuts across the curious area from north-east to south-west. Three pit-like shapes appear here yet covered by short-growth vegetation. There are no open scars relevant to the date of the imagery. No camera halation is evident as is usually the case when turned soil contains water (a tone is always dark when soil contains water; ed.). A mystery. As also with 28-04-1944 imagery (Photo 36). It is to fall into conjecture in photo-interpretation: only on-site ground exploration can explain what is evident in 08-01-1944 imagery. [4] Both trenches east and west of the forest road are clearly defined and somewhat sunken as apparent by shadows. The eastern trench is much more pronounced and seems wider and deeper than the western trench, additionally it has a trail leading from its northern end directly to the forest road. Directly near signal [4] is the area of interest to the Bujnowski photograph; some whitening of the photo tone suggests ground activity. Slightly lower and outside the area highlighted in 8 January imagery there seems to be a lowering of the earth in a long rectangular shape. This image does not allow certain interpretation. [5] Area of the former Polish Red Cross Cemetery. I doubt if Robert Poirier is correct in saying that some shapes may be lamp posts, as no evidence of a line of posts continuing to the Smolensk Highway is evident. A generator could be near the site, however. It is also possible that these are remnants of the Katyn "towers", as defined by Edward Janowski. Central to the excavation site is a small object throwing shadow, but not the 28-04-1944 bulldozer. There is still some depth near the forest road as evident by the road's shadow falling into the excavation area: That the area would lack its normal surface height is explainable by loss of solid matter; corpses. [6] Area of Soviet nationals graves, three of which are open, near the forest road. [7] Defined diggings, in contradiction to 28-05-1944 imagery (Photo 41), have begun in the 1940 graves 1-7 area. The dirt pile is gone. Southerly, stretching to numeral [9], four large pits are open, connected by a path. [8] Surface damage to the original print obscures the activity in the region of 1940 grave 8. [9] Three large pits are open (perhaps dug near or on 08-01-1944 to receive corpses being disinterred elsewhere?.

Note that the phenomena apparent in 28-05-1944 imagery, the row of surface shapes (tents), is not in this image, though it is, as a different cluster configuration, in 10-06-1944 imagery (Photo 43).
Zdjęcie 43 jest ostatnim dostępnym zdjęciem lotniczym. Na przedstawionej, zaproponowanej przez mnie mapie (10), pokazuje pierwotne położenie grobów z 1940 roku, które jednoznacznie wynika z wyraźnych śladów kopania, widocznych na zdjęciu na obszarze grobów 1–7 i w mniejszym stopniu grobu 8. Przestrziane połączenia jest 4 generacji, lecz zachęcam zainteresowanych do przesładowania oryginalnego, na którym bez wątpliwości można wyznaczyć obszar działań NKWD; badałem go stereoskopowo oraz przy użyciu mikroskopu. [1–2] Nie zmieniony obszar. [3] Widać pewne rozjaśnienie fotolotu. [4] Wszelkie rów, nie zmieniony. Na wschód od zachodniego rów występują doły bardzo wyraźnie niż na zdjęciu 42 z 02–06–1944 roku. Dwa północy doły są małe, a zespół zapewne trzech południowych, jest znacznie większy. Dwa kształt, prawdopodobnie ciągnięte, są różne. Zdjęcie 1940 roku, które nie przywozmy materiałów do Lasu Kątarskiego, lecz były by tej, w celu wywożenia czegoś. Deformacje terenu są także widoczne blisko obszaru, który łączy ze siedzibą Bujnowskiego. [5] Obszar cmentarza PCK. [6] Wiele innych dołów, 3 z nich duży, w miejscu pochowaniu obywateli sowieckich. [7] Obszar ten odnosi się do mapy 10 przedstawiającej sytuację z 10–06–1944 r. Uwzględnienie wszystkich materiałów źródłowych dotyczących pierwotnego położenia grobów 1–7, włączając mapę Vossa (która jest w 3 wersjach), mapę Chmielna z 1951 roku, mapę z Faktów i Dokumentów z 1946 roku, pisemne relacje członków PCK oraz dane Tadeusza Pietkowskiego z lat 1968–1990 pozwoliło mi na wrażliwe określenie tego, co samo przez się wynika z obrazu karnury. Moje ustalenia są najbardziej zgodne z mapą Chmielna z 1951 roku. Pismo zdaje się zaopatrzone w publikacji J. Mckiewcza Mordcyr ochoty kątarskiej. Groby w kształtach i typach (nr 1; przyp. red.) jest w znacznym stopniu oporowym. Znajdując się przy pochówku grodów odpowiednie numerki i oznaczał je kolor czerwonym. Kontrowersyjne jest położenie grobów [3] czy znajduje się on w oznaczonym miejscu, czy na miejscu iskronie, z jaką można zrobić wniosku. Znajduje się kompletnie w obszarze pochówków. Dlatego co najmniej 10 wykopów na obszarze dołów śmierci nr 1–7, 12 lub więcej wykopów i na obszarze grobów nr 8 oraz 4 doły położone są przy drodze, musieli stwierdzić, że musi był używany przez KGB z 1940 roku, oraz że oprócz znanej liczby polskich grobów istniały inne groby z nieznanej zawartością. Oczywiście Nenwe w 1943 roku poza szkolnictwem, lecz jak wykazano to wcześniej, nie były to naukowe poszukiwania i wiele z nich oznaczało. [8] Obszar grobów nr 8 z 1940 roku. Czerwonym kolorem oznaczałem wszystkich trzech obiektów, jednym z nich jest prawdopodobnie grob nr 8. W pobliżu ścieżki leśnej są 4 duże doły 12 male, wykopane z dużą dokładnością przez NKWD. Znów, należy unikać przyprawienia w interpretacji, lecz właścicieli grobowców można być poznawane w takich nie wyjaśnionych miejscach, włączając żołnierzy narodowości białych. W przypadku Charkowa, dowodzony obszar ekshumacji był ogrodzony: gdy pytany strażnicy KGB: „dlaczego?”, odpowiada: „nie chcielibyśmy, abyśzek niecoć naszych Włochów i Węgrów” (przywilejowe źródło: WGM). [9] Dwa żółte znaki oznaczają położenie otwartych dołów. Widoczne w pobliżu grupa białych punktów jest umieszczona inaczej niż na zdjęciu 41 z 02–06–1944, gdy twory prosty szarych 5 obiektów, a na zdjęciu 42 z 02–06–1944 nie występuje wcale. Znów nieskompatyn. Komentarz dotyczący zdjęcia 43 i mapy 10, spodkiewa się, iż to przeniesienie położenia grobów nr 1–7 z 1940 roku będzie kontrowersyjne i goraco omawiane. Muszą jeszcze raz powiedzieć, należy studiować oryginalne zdjęcia Luftwaffe: zdjęcia IV generacji nie są tak ostre. Reprodukcje mapy Chmielna przedstawiano jako mapę 11. Photo 43 is the last aerial photograph available. This image is followed by a map (10) drawn by me in which I indicate the original position of 1940 graves as evident in this image by the clearly defined diggings on the area of 1940 graves 1–7, and, to a lesser extent, grave 8. This representative image is of course 4th generation, but I here direct those interested to study the original in which the sharp delineation of NKVD interest is incalculable, which I studied in stereo, and with a tubular microscope. [1–2] Unchanged. [3] Some halation, a whitening of paneshromatic grey tone, is present. [4] Easterly trench, unchanged. To the east of the westerly trench, pits appear more defined than in 02–06–1944 imagery (Photo 42). The two northern are small, and the cluster of perhaps three southerly are much larger. Two shapes, likely trucks (lorries), are near the forest road. These vehicles would hardly be bringing materials to forest areas, and there would be some debate over removal purposes. Disturbance is also seen near the area I identified to the Bujnowski photograph. [5] Area of the Polish Red Cross Cemetery. [6] Many more pits, three of which are large, in the Soviet nationals grave site. [7] This area directly relates to the following map, dated 10–06–1944: Map 10. In consideration of all source material, often contradictory, on the location of original 1940 graves 1–7, including the 1943 Voss map (of which there are three versions), the 1951 Chamiers map, the 1946 Facts and Documents map, written accounts of Polish Red Cross members, and the 1988–90 Tadeusz Pietkowski data, I have allowed the sharp delineations evident to the camera to speak for themselves. Of all early maps, they seem most in agreement with the Chamiers map of 1951 London, as illustrated in J. McKewicz, Mordcyr Lasu Kątarskiego. The L shaped grave is clearly defined (nr 1; ed.). I have tried to follow a deductive assignment of corresponding grave numbers, and have colored them in red. Controversial is the location of [3], whether as shown in or in the printed line indication to the left. Above the L shaped grave is another scattered round shape, near or on the location of the dirt pile. Another scattered round shape is near [2]. Here we may recall that J.K. Zawodny believed that there was a possibility of an additional grave, as he pointed out in 1962, that would account for the missing 350 officers. Here in this imagery we see that the NKVD excavated with precision in all areas of ground disturbance. This was also most pointedly evident in 08–01–1944 winter imagery (Photo 29) in which they went, in deep snow, directly to the points of their interest. Clearly, they had a map, clearly, given the at least ten diggings in the 1–7 area, and the presence of the numbered pitted area, as well as the four path-connected pits near the road, we can say that there must have been a 9th 1940 grave, and that in addition to the total number of Polish graves, nearby graves of unknown occupants also existed. Certainly the Germans in 1943 tested for more graves, but as pointed out in earlier sections of this paper it was not a scientific search and they obviously missed several graves that the NKVD had created. The area of the 8th 1940 grave: in the color red I have shown a cluster of three shapes, one of which is likely the 8th grave. Nearby on the forest path four large pits and two more side-by-side smaller pits are evident, located and dug with precision by the NKVD. Again, conjecture is to be avoided in nphotointerpretation but several candidates may occupy such unexplained disturbances, including Baltic nations military personnel. In the case of Kharkov, the allowable excavation area was fenced off: When a KGB guard was asked why, he replied “We wouldn’t want you to disturb our Italians and Hungarians” (private source). The two yellow marks show the location of open pits. The cluster of white marks nearby shows a different configuration to the 28–05–1944 (Photo 41) straight “row” of five surface shapes that are not present in 02–06–1944 imagery. (Photo 42). Again, tents? In closing this image and map commentary I expect that this presentation of the 1940 1–7 graves will be controversial and hotly debated. I must say again, study the original Luftwaffe image; this one, 4th generation, is not so sharp. The Chambers map will follow as Map 11.
Map 11 is drawn by E.A. Chambers and published with The Katyn wood murders by Józef Mackiewicz. London, 1951. This map is most extraordinary in comparison with other inaccurate and primitive early maps of Katyn. A future paper of my consideration will treat the three Voss maps and several others. Compare the Chambers map to Map 10 and Photo 43. (Robert Poirier gave me a 1959 Defense Intelligence map in 1:50 000 which settled the matter in 1990 (See Map 3).
Map 12 is a base map created from Map 1-B, American intelligence agency satellite map of Katyn.
Mapa 13 powstała przez nałożenie na mapę 12 deformacji terenu z mapy 10. Przedstawia obszary zainteresowania z 1944 roku, w nowoczesnej formie kartograficznej.

Mapa 13 presents the superimposition of Map 10 on Map 12. Showing the 1944 areas of interest in modern cartographic context.

Mapa 14 created by superimposition of two maps produced by Tadeusz Pieńkowski. The data was received from prosecutor Henryk Stawryło. The data was in fact three hand-drawn maps which were not results of a survey, mere estimations. Note the disagreement at signal [13]. The maps produced by Polish and Russian prosecutors are worthless as scientific tools. A new survey of the 21–22 November 1991 exhumation holes is required.

Map 15 presents a WOGiT Polish Army Cartography map in 1:4,000 scale superimposed on the 10–06–1944 Luftwaffe imagery map. There is agreement of roads. Escarpments are shown on the WOGiT map where the two long trench-like shapes are evident in 1944 imagery. Whatever the purpose the trenches served in 1944, it is clear that since that date the area was further excavated. There is also an escarpment shown in the trail that led to grave 8, which may have had its northern side excavated since 1944. The WOGiT map is notable for its disclusion of the 01–07–1940 grave site.

UWAGA: Oprócz zdjęć i map przedstawionych w tym opracowaniu, w moim prywatnym archiwum mam kilkadziesiąt zdjęć Katynia, które tworzą datowany zbór. Spotkawem się, że wkrótce zostaną udostępnione przez Defense Intelligence Agency, zdjęcia wykonane po II wojnie światowej, włączając zdjęcia z Black Bird i Moby Dick, oraz być może zdjęcia z U-2. Oprócz tego wysłano prośby o udostępnienie rosyjskich archiwów zdjęciowych.

Map 16 presents the WOGIT Polish Army Cartography map in 1:1,000 scale superimposed on the 10–06–1944 Luftwaffe imagery map. Again there is an agreement of roads. Luftwaffe imagery had nearly zero camera tilt. It is tempting to compare Mr. Pieńkowski’s map (Map 14) with this present superimposition, especially regarding test holes [12] and [20] which appear to be within the 1940 confines of grave 1, the L grave. But, again, given the Polish and Russian aerials on which they were based, there is no scientific value in doing so. This particular WOGIT map is notable for its inclusion of “rejony dołów śmierci 1–7” — though no pin-pointing of the graves was attempted. This must be because the 4th generation paper images that I loaned to Col. Marek Tarczyński for micro-filming became 5th generation in the new negatives and 6th generation in the copies given to WOGIT. The 6th generation of the 10–06–1944 aerial photographs would have suffered nearly 30–35% loss of resolution: The Polish Army scientists would not see the clearly defined excavations of graves 1–7.

NOTE: In addition to photographs and maps that are included with this paper, in my personal archives several dozen more images of Katyn comprise a collection of what has been located to date. It is expected that post-WW II imagery may be released in the near future by the Defense Intelligence Agency, including the Black Bird and Moby Dick era, and, hopefully, the U-2 era. In addition, requests have been made to Russian imagery archives.
Katyń
10.6.1944

LAS KATYŃSKI
Rejon egzekucji i dołowa śmierci

LEGENDA

100 m
Sowieckie zdjęcia ze stycznia 1944 roku przedstawiają 2 groby o wymiarach 1,5 × 4 m oraz 10 × 10 m. Dostępne zdjęcia są dalekimi kopiami oryginalów, niektóre szczegóły są trudne do zidentyfikowania i skorelowania ze zdjęciami lotniczymi Luftwaffe. Zdjęcia sowieckie zostały wykonane 30 stycznia 1944 roku w czasie wizyty „czerwonej” polskiej armii, jedynie dla celów propagandowych.

Soviet photographs from January 1944 present 2 graves measuring 1,5 × 4 m and 10 × 10 m. The available photographs are distant descendents of these originals, and some details are difficult to identify and reconcile with the aerial photographs taken by the Luftwaffe. The Soviet photographs were taken on January 30th 1944, in the course of a visit by the “red” Polish army for propaganda purposes.


However, one of the photographs in the set is easier to identify. Stanisław Jankowski published recently (in 1994) an article entitled Five cemeteries near Smolensk (see Bibliography) which was in part based on several earlier (1989–1992) publications by Tadeusz Pieniakowski (see Bibliography). In this article, a photograph captioned “Polish soldiers parade in the Katyn Forest on January 30th 1944” portrays a group of 4 Polish soldiers in a color party being saluted by 2 Polish officers. This is the best and most detailed copy of the photograph: for on copies which I have studied previously I have been unable to make out certain details on account of the poor resolution. The soldiers on the photo of January 30th 1944 are standing on the same field as is presented in the 2 documentaries. To be found in the background is a rather wide field rising up to a long elevation with sparse trees behind which there runs the Smolensk road (on Photo 29, this slope is within a long rectangle marked by a dotted line and confined by the numbers (67–70)). The soldiers are facing east with the camera “looking” from the south. They are about 85–90 m east of the crossroads with the Katyn Forest road, which is to be seen in the upper left hand corner of the photograph descending from the level of the Smolensk road hidden behind the long elevation. The soldiers are standing near the place, which was seen in leading
oznaczonego numerem [57] na mapie 8 z dnia 8 stycznia 1944 roku. Około 70 m na południe od żołnierzy, lecz poza zbiorem, znajdują się dwa długie rowy wyraźnie widoczne na zdjęciu lotniczym, za-znaczone na mapie 8 numerami [46] i [47]. Jest jeszcze jeden podejrzany obszar w pobliżu, omówiony w następnej części opracowania. Wynika, iż ceremonia odbywała się blisko tzw. „Pamiątkowego Grobu”, wzniesionego przez Sowietów (był to drugi cmentarz, dwie mogiły; przyp. red.) jako narzędzie propagandy dla żołnierzy oraz w pobliżu innych grobów, które Sowietowie uważali za ukryte.

Jeśli rzeczywiście jest to miejsce pierwszego soiwieckiego „Pomnika” (drugi cmentarz, dwie mogiły, urządzono na uroczyść 30-01-1944 roku; przyp. red.), to narzuca się pytanie, dlaczego tu? Wydaje mi się, iż dlatego, ponieważ w czasie działań Komisji Burdenko trudno było przejeździć po terenie byłego cmentarza PCK, który był w 75% rozkopany i zawierał zwały ziemi oraz był pokryty grubą warstwą śniegu. Film sowiecki Katyn pokazuje panne Harriman z trudem utrzymującą się na nogach. W rzeczywistości film pokazuje głównie działania propagandowe odbywające się na polu w pobliżu szosy smoleńskiej. Głównie sceny filmu pokazują zwłoki niesione na noszach w kierunku bardziej płaskiego terenu położonego u stóp wzgórza przy szosie smoleńskiej, który lepiej nadawał się do „okazania” ciał i był łatwiej dostępny dla gości.

sequences of the film from 7 days previously (January 23rd 1944), and identified as [57] on map 8 of January 8th 1944. To be found about 70 m south of the soldiers, though off picture, are the two long ditches which are seen clearly on the aerial photograph, and which are marked on Map 8 as [46] and [47]. There is one more questionable area nearby which is discussed in the next part of the article. It may be concluded that the ceremony took place near the so-called “Commemorative Grave”, which the Soviets erected as a propaganda tool for the soldiers (the second cemetery with 2 graves; ed.), as well as other graves which the Soviets considered hidden.

If this is really the place of the first Russian “Monument” (the second cemetery, two graves, installed at the commemoration of 30-01-1994, ed.), then one might ask, why here? It seems to me that this was because it was difficult to pass across the former Polish Red Cross cemetery, during the time that the Burdenko Commission was active, because some seventy five percent of it had been dug up, leaving piles of earth everywhere, all covered in a thick layer of snow. The Soviet film of Katyn shows Miss Harriman finding it difficult to keep her feet. But in reality the film mainly depicts the propaganda activities going on in the field near the Smolensk road. The main scenes show corpses being carried on stretchers towards an area which, being flatter land below the elevation near the Smolensk road, was more suitable for “showing off” the bodies, and more accessible to the guests.
Stanisław Bujnowski był w Lesie Katynskim pod koniec czerwca 1957 roku (patrz Suplement) i widział nowy cmentarz w miejscu otoczonym parkanem o wymiarach około 40 × 50 m, w głębi o wymiarach około 0,5 m z surową, płytą cementową, bez napisów. Na podstawie istniejących jeszcze danych jest oczywiste, iż ten trzeci cmentarz został zniszczony około 1960 roku. W artykule Jankowskiego znajduje się dobra reprodukcja zdjęcia wykonanego przez Bujnowskiego. Według mojej oceny aparat był umieszczony około 1,3 m nad ziemią, zorientowany w kierunku północno-wschodnim: ze zdjęcia wynika, że teren obniża się w kierunku Bujnowskiego, który fotografował się przechodząc przez bramę w kierunku granic cmentarza. Bujnowski siedział w kierunku zachodnim. Bardzo ważnym elementem zdjęcia jest tło, łącznie z niebem. To obniża się stopniowo w kierunku krawędzi zdjęcia, niebo jest widoczne powyżej linii płotu wzdłuż szczytów drzew niższych niż znajdujące się na bliższym planie. Linia poziomej liny, do której przybija są szachy, wznosi się w kierunku Bujnowskiego dając wrażenie podniesienia planu zdjęcia. Jest oczywiste, że ziemia podnosi się tu około 0,5 m z obniżenia będącego miejscem cmentarnym. Na zdjęciu Bujnowski stoi wyżej niż os aparatu, którą można zlokalizować jako punkt za ramionami i zrzucać na główną płaszczyzną obrazową pod kątem około 10 stopni. Prawdopodobnie około 15 m za Bujnowskim teren obniża się w kierunku pola w pobliżu szosy smoleńskiej, w zasadzie w stronę północno-wschodnią, w kierunku przeciwnym do wzgórza zlokalizowanych na zdjęciu polskich żołnierzy z 30 stycznia 1944 roku. Na mapie 8 z 08-01-1944 numerami 46 i 47 oznaczono dwa długie rowy położone blisko skarpy wzdłuż drogi Lasu Katynskiego: umieszczono na niej zdjęcia Bujnowskiego oznaczające przerywaną linię na zachód od rowów. Zdjęcie przedstawia

Stanisław Bujnowski was in the Katyn Forest at the end of June 1957 (see Supplement). He saw the new cemetery in an area of about 40 × 50 m surrounded by a fence. Set into the ground by about half a metre was a plain, uninscribed cement slab. On the basis of the information which still exists, it is obvious that this third cemetery was destroyed about 1960. However, Mr. Jankowski's article features a good reproduction of the photograph taken personally by Bujnowski with his own camera.

According to my analysis, the camera was held about 1.3 m above the ground and orientated in a north-easterly direction. It follows from this photograph that the land slopes downwards in Bujnowski's direction, and that he took it in the direction of the edge of the cemetery as he came through the gate. Bujnowski proceeded in a westerly direction. A very important element of the photo is the background, together with the sky. The background gradually declines in altitude towards the edge of the photograph, and the sky is visible above the line of the fence, along the tops of trees that are lower than those to be seen in the foreground. The line formed by the railing to which the slats are secured is seen in the direction of Bujnowski, giving an impression of an elevation plan photograph. It is obvious that the land is elevated here by about half a metre, with the depression being the place of the cemetery. In the photo Bujnowski is standing at a higher level than the axis of the camera, which may be located as a point behind the shoulders, and projected onto the main plane of the photo at an angle of about 10 degrees. It is probable that the land suddenly falls about fifteen metres behind Bujnowski, in the direction of the field near the Smolensk road, and principally on the north-easterm side, in the opposite direction to the elevation featured in the photo of Polish soldiers from January 30th 1944. Map 8

ZDJĘCIE 45, czerwiec 1957

PHOTO 45. June. 1957
wzniesienie na północ-wschód od pola leżącego przy szosie smoleńskiej i na zachód od drogi przez Las Katyński. Środek zdjęcia jest położony około 115 m bliżej szosy smoleńskiej niż cmentarz PCK z 1943 roku. Obszar ten oznaczono kwadratem na zdjęciu 29. Pokrywa śniegu podkreśla rzeźbę terenu; na zdjęciu widać zboczę opadającą w kierunku pola. Ze względu na porę roku, cienie różnią się od tych ze zdjęcia naziemnego, z wiosny 1957 roku. Archeologowie muszą teraz dopasować ścieżkę elementy informacji naziemnej i lotniczej.

from January 8th 1944 features the numbers [46] and [47] marking 2 long ditches close to the scarp along the Katyn Forest road; I located on it Bujnowski’s photo, marking it with a dotted line to the west of the ditches. The photo presents the elevation to the north-east of the field lying by the Smolensk road and to the west of the Katyn Forest road. The centre of the photo is located about 115 m nearer to the Smolensk road than the 1943 Polish Red Cross Cemetery. Photo 29 presents the described square in order to indicate the area. The lying snow emphasizes the relief of the terrain, with the photo showing clearly that the land slopes down in the direction of the field. On account of the season of the year, the shadows differ from those in the ground photo from spring 1957. Archaeologists must now fit together the precise pieces of terrestrial and aerial information.

ZDjęCIE 46 PHOTO 46

Zdjęcie 46 przedstawia czaszkę polskiego oficera; zdjęcie zostało opublikowane w Archliches Material. Berlin, 1943 r.

Photo 46 shows a Polish officer's scull, as published in Archliches Material, Berlin 1943.