

The “Fliegerhorst” of Neubiberg (Munich-Germany)

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Abstract

The investigation of the organization, evolution and preservation state of the Neubiberg airfield near Munich (Bavaria-Germany), now at seventy years after the conclusion of the World War II, reveals that its preservation state is good but menaced by the installation of sport facilities and the possible further expansion of the areas of the municipalities of Neubiberg, Unterhaching and of the Federal Army University. On 1991 at the end of the military operations, the airfield has not resumed its original role of sport airfield that is the reason of its construction. This would have ensured its operative survival and the survival of a landing place for aircrafts in distress.

Keywords

World War II, Cold War, Airfield, Neubiberg, Germany

1. Introduction

A lot of information and images exist in literature and in internet concerning the history, during the World War II and the subsequent Cold War, of the Neubiberg *Fliegerhorst* (airfield) near Munich (Bavaria-Germany). A lack of information instead appears to exist concerning its organization and evolution. Purpose of the present article is to overcome this lack and to investigate the preservation state of its structures now at seventy years after the conclusion of the World War II.

2. History of the Airfield

With a letter dated 19th September 1933, the *Staatkanzlei* (State Chancellery) of the Free State of Bavaria informed the State Inner Ministry about the necessity of providing the airfield of Schleißheim, near Munich, with a dependent airfield for sport airplanes. This sport airfield had to be built on the vegetable, farm and partially woody terrains of the municipalities of Neubiberg and Unterhaching at the South of Munich (**Figure 1**). The ex-

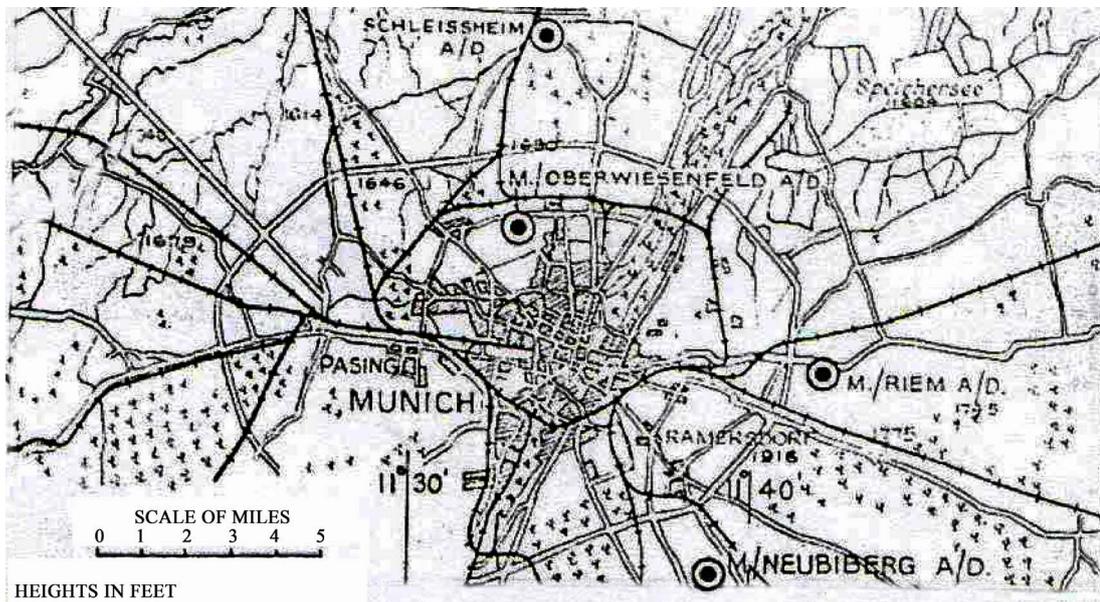


Figure 1. Location of the airfields of Schleißheim and Neubiberg (Ries & Dierich, 1993).

propriated small farmers and land owners, especially of Unterhaching, received corresponding parcels on other state-owned terrains and the vegetable terrains were settled monetarily. The airfield to be built received the reference name of *Flugplatz Hauptübungsstelle Süd-Deutscher Luftsportverband* (Southern German Air Sport Association Principal Training Air Place). The first constructions, as shown in the acts LRA 21,168 and LRA 23,750 of the Munich State Archive, comprised an access road on the terrains of Unterhaching and Neubiberg, and on the West side of a designated area (Figure 2): three barracks respectively for kitchens, offices and lodgments, an aircraft's hall comprising workshops and garages, a hangar and on the East side of the area: two barracks for the airfield director and the students admitted to the courses of the Association. The runway was 1000 m long and consisted of a slightly prepared agricultural terrain (Soltau, 2005).

On 27th October 1933 began the construction of the airfield South part on the terrains of the municipality of Neubiberg. With a letter dated 6th November the *Landbauamtes München* (Munich State Construction Office) ordered the enlargement and amelioration of the airfield access roads because the airfield had become a matter of national interest. On 1st July 1934 the airfield started its operations by receiving 40 small motor aircraft of the types Klemm, Föcke-Wulf FW 44 *Stieglitz* and Arado of the Association. On September 1935 the Association began to move to Kaufbeuren (Bavaria) and the airfield became a great yard for the construction of buildings and barracks for receiving a *Fliegerersatzabteilung* (support flight division) with a *Flugzeugführerschule*—FS (pilot school) and a *Fliegerhorst-Kommandantur* (airfield headquarter) with its administration. The construction was articulated in five parts. Part 1/year 1935: toward the West of the designated area (Figure 2), barracks from 66 up to 21 (administration), which from November 1935 were ready for receiving airmen and soldiers; Part 2: barracks 71 (guard corps), 67 (headquarter), 15, 16 (infirmary) and two sport halls—at the same time in the near city of Ottobrunn (Bavaria) were constructed houses for the airfield Commander and the Administration employees; Part 3/years 1936-37: barracks 7 (yard), 14 (harness store), 25 (tower, operations, archive) and 23; Part 4/years 1938-39: barracks 2 (officers lodgments), 11 - 13, 19 - 20, 8 - 9, 74 (garage), 81 - 82, 78 (small caliber shooting hall) and a football field; Part 5/1939-40: barracks 51-60. The airfield fire brigade was constituted on August 1935. On September 1937 the Munich-Perlach railway station was assigned to the airfield for the transport of materials. From 1935 to 1939, 27 Mio *Reichsmarks* were spent for the construction of the airfield (Soltau, 2005).

At the beginning of September 1935 the permanent staff and the four companies of the to be formed *Fliegerersatzabteilung* (Support Flight Division) V began to settle on the airfield, followed on 27th October by a first part of the 1200 recruits that taken their oath on the 8th November. For organizational reasons on the 1st December the Support Flight Division V assumed the designation Support Flight Division A 15 (FEA 15). On the same time started its activities its FS A which later assumed the designation of FS FEA 15 and later *A-Schule* (A-School). On

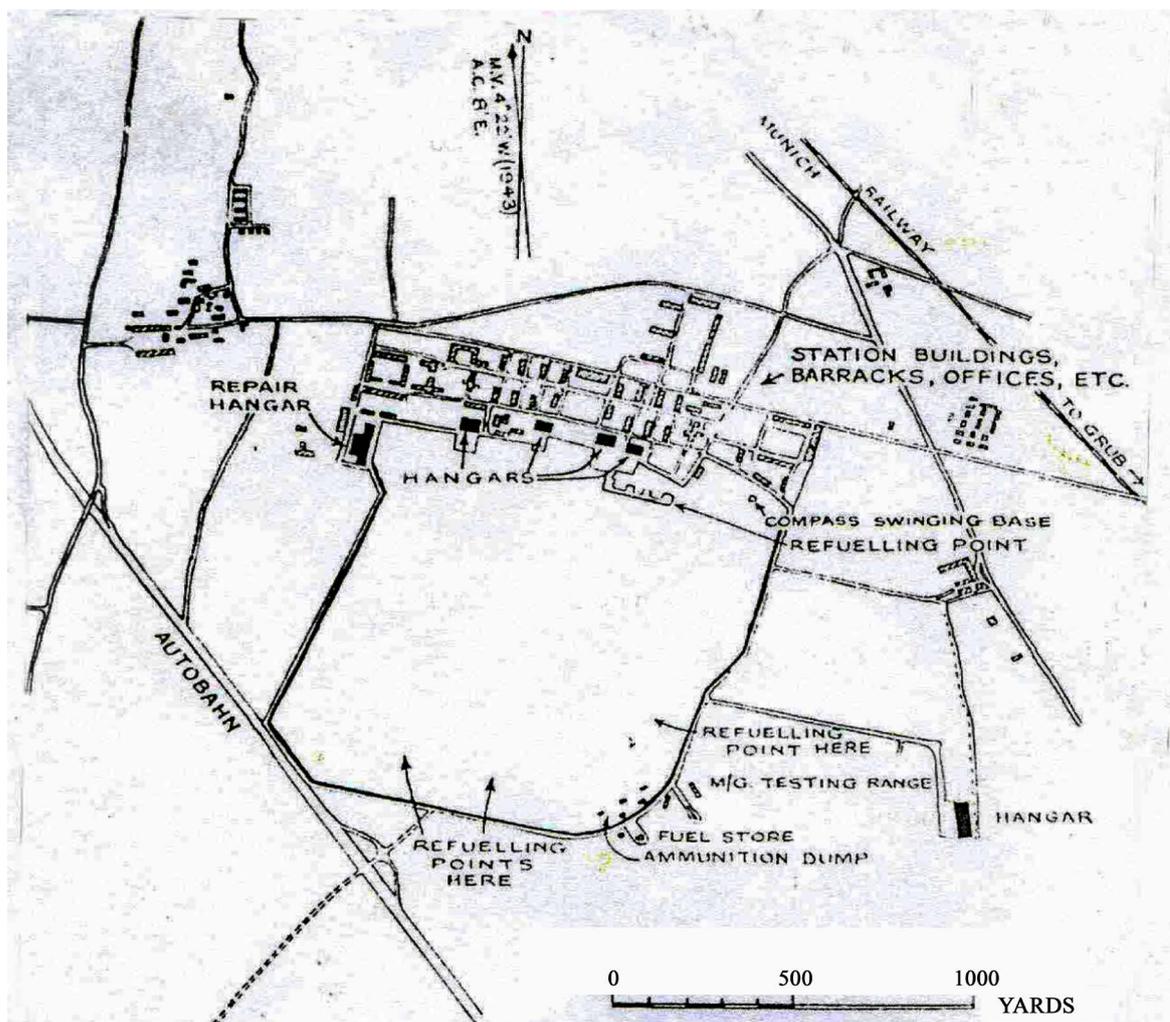


Figure 2. Neubiberg airfield (48°04'25"N, 11°38'30"E) cover name Max—map probably of 1943—in the middle the designated area (Ries & Dierich, 1993).

1st January 1937 the A-School comprised 9 Heinkel He 72 Kadett, 17 Focke-Wulf FW 44, 2 Bücker Bü 131, 2 Arado AR 66 and 6 Gotha Go 145. On 1st April during a ceremony the FEA 15 received its new combat flag with the motto "You should just want, believe and you will succeed". On 12th March 1938 transport aircrafts Junker Ju 52 coming from different pilot schools were grouped on the airfield for launching leaflets on the principal town of Austria in view of its annexation to the German *Reich*. On 1st July the FEA 15, the A-School and other support units were subordinated to the *Luftgaukommando* (District Air Command) VII in Munich. In the summer 1938 the A-School received about 30 aspirant officers from the *Heereskriegsschule* (Army War School) of Dresden mutated to the *Luftwaffe*. After the Austria annexation the air connection Neubiberg-Chiemsee-Salzburg-Linz-St. Polten-Wien and return was inaugurated. On 1st November, the FEA 15 received the new designation of FEA 13 under the command of the *Luftwaffengruppenkommando* (Air Force Group Command) 3 South Munich. At the beginning of the World War II further 60 ha of terrains were confiscated for the enlargement of the airfield (Soltau, 2005).

On 1st April 1939 the FEA 13 received the designation *Fliegerausbildungs-Regiment* (Pilot Training Regiment) 13 (FAR 13) and on 16th November the FAR 13 and the FAR 13 School transferred to the new locations respectively in Pilsen (Czechoslovakia) and Rokycany (East of Pilsen) and the IV. *Gruppe* of the *Kampfgeschwader* (Bomber Wing) KG 153 was resident on the airfield. On 17th April 1940, the 3. *Staffel* (Squadron) of the *Zerstörerschule* (Destroyer School) 1 Schleißheim with aircrafts Messerschmitt Bf 110 and Heinkel He 51 moved to the airfield followed by the 4. *Ausbildungsgruppe* (Training Group). Both the

Squadrons formed destroyer crews up to the end of August 1941 and then together became the II. *Gruppe Nachtjagdschule* (Night Hunting School) 1. On June 1940 the III. group of the KG 52 based on the airfield ensured the security of the air space west of the highway Ingolstadt-Tagernsee during the meeting of Hitler and Mussolini in Munich. The airfield served up to 17 - 18 October as technical stop for Italian aircrafts participating to the Battle of England. During this period the air defense of the airfield was assumed by the II., III. and IV. *Zug* (Column) of the *Reserve-Flakabteilung* (Reserve Air Defense Division) 507 (Solltau, 2005).

According to the request of Mussolini to Hitler on 6th February 1941 of sustaining the efforts of the Italian Army against the British offensive in Nord Africa, already on 14th February vanguards of different German air groups landed in Tripoli for supporting the operations of the *Deutsche Afrikakorps* (DAK). On 24th February at the *Kommandantur* in Neubiberg was established the *Fliegerführer Afrika* (Flyer Command Africa). In the first three months of 1941 Squadrons of different Wings grouped on the airfield before to reach X. *Fliegerkorps* (Air Corp) in Sicily. They flew to Messina (Sicily) for missions against Malta and ships in the Mediterranean Sea. Among the units temporary relocated on the airfield were the 7. Squadron of the *Jagdgeschwader* (Fighter Wing) JG 26, the 2. Squadron of the *Aufklärungsgruppe* (Reconnaissance Group) F 123, the 1. and 3. Squadrons of the JG 27 and the 9. Squadron of the KG zbV 106. On September were trained on the airfield the 5. and 6. Squadrons of the III. *Ausbildungsgruppe* (Training Group) of the *Nachtjagdschule* 1 and in December the II. Training Group of the *Nachtjagdschule* 1 was renamed III. *Ausbildungsgruppe/Zerstörerschule* 2 (Solltau, 2005).

The security of the airfield from April to June 1942 was ensured by the *Landeschützenzug* (Land Riflemen Column) 40/VII. On April 1942 came from France the I. Group of the *Zerstörergruppe* (Destroyer Wing) ZG 1, which after a refreshing training on 29th May moved to the East front. The rest of the III. Group of the *Zerstörerschule* 2 moved on 26th June from the airfield to France. On 21st July from Schwechat near Wien came to the airfield the *Jagdflieger Vorschule* (Flight Preparatory School) 3 with its Stab (Headquarter) and Squadrons I.-III. for a training period of three months. On September the airfield was visited by officers of Infantry, Artillery and Pioneers for training on aerial imagery. On 14th October the II. group of the *Zerstörerschule* 2 came to the airfield. August 1942 was a heavy month for the airfield yard and for Schleißheim, 30 Messerschmitt Bf 109 of the III. Group ZG 1 were adapted for tropical use and other 20 aircrafts were repaired. In November the airfield received the III. Group of the JG 77 from Russia. Its 36 Messerschmitt Bf 109 G2 were retrofitted before its departure at the end of November to North Africa. On 26th November the airfield received the designation of *Kommando des Flughafensbereichs* (Command of the Airport Area) Koflug 2/VII (Solltau, 2005).

At the beginning of 1943 the II. group of the ZG 2 and its personnel moved away from the airfield and from March to the beginning of May the yard was occupied for the preparation of 40 Me Bf 110 of the II. Group of the ZG 1 for their deployment in Italy. In June came at the airfield the IV. group of the JG 3 and the I. Group of the JG 77 which on 9th July were deployed in Italy. On 17 - 18 August came the II. Group of the JG 51 from Treviso (Italy) after heavy losses suffered in Sardinia and Italy, without aircrafts for training on the Bf 109. During its permanence it participated to the defense of the German *Reich* against American air attacks. From August 1943 up to February 1945 the airfield was designated with the cover number 719. Mid November 1943 came to the airfield the IV. Group of the JG 3 and its Stab, which together with the II. group of the JG 51 left the airfield at the end of December after having received the visit of the *Reichsmarschall* Göring and the *Gen. Lt.* Galland. From mid December 1943 to May 1944 the I. Group of the JG 301 was present on the airfield. It was provided with one motor aircrafts without radar and in the night they attacked allied aircrafts by seeking their shape against the cloud cover illuminated by the air defense reflectors (Solltau, 2005).

From February up to May 1944 the I. Group of the JG 301 fought night and day accumulating heavy losses before to left the airfield for the Holzkirchen airfield (Bavaria). Fearing an attack on Munich, *Hauptstadt der Bewegung* (Capital of the Movement), for the Hitler's birthday of 20th April 1944, on 18 April 1944, for about a week, the III. Group of JG 26 was assigned to the airfield, whereupon on 25 - 26 April it moved to Nancy (France). On 20th June came on the airfield from Deelen (Holland) the I. group of the *Nachtjagdgeschwader* (Night Fighter Wing) 6 (NJG 6). Up to 13th August it participated together with other NJGs to the *Reich* defense. At the beginning of December was present on the airfield the V. Group of the NJG 2 of the III. group of the KG 2, to be trained on the Junker Ju 88 G6. It received the support of specialists and intelligence personnel among which 100 women assistants. In the year 1944 and also in place on January 1945 for the air defense of Neubiberg and South Munich were based in Unterbiberg the 1st *schwere Flakabteilung* (Heavy Air Defense Division) 571 operated by Hungarian personnel with six 88 mm guns and the 203/VII *schwere Heimat Flakbatterie* (Heavy Home Air Defense Battery) with four 88 mm guns (Solltau, 2005).

On February 1945 the airfield received the *Stab* and the 1st and 2nd Squadrons of the *Fernaufklärungsgruppe* (Remote Reconnaissance Group) 5, equipped with Junker Ju 290 and Ju 88. At the beginning of April the airfield received three Squadrons of the III, group of the NJG 6, each comprising 12 aircrafts, from Leipheim (Swabia) because of the attacks of the US Army over Ulm (Baden-Württemberg). The Squadrons moved on 28 April to Bad Aibling (Bavaria). The airfield was subjected to allied air attacks having as target mainly the parked aircrafts in view of the possible re-use of its structures after the war. Up to mid-April 1945 the V. Group of the NJG 2 continued its training and night missions against targets in flight and on the ground. From 19th April the V. Group continued its missions from a wooded area near Brunthal (Bavaria), where aircrafts box areas under the trees and a grassland glade as airstrip were prepared. On 23rd April the Hitler's personal physician transited on the airfield directed to Munich for accomplishing a special mission ordered directly by Hitler. On 24th April, an attack on the airfield conducted by four American P51 Mustang caused the burning of numerous German aircrafts parked on the airfield. The last mission of V. Group took place on 28-29 April. At the end of April the airfield received part of the aircrafts of the *Nahaufklärungsgruppe* (Close Reconnaissance Group) 14 and 11 Ju 87 D of the NJG 1 (Solltau, 2005).

On 30th April 1945 at about 23:00 a mixed combat group of the US Army formed by a column of the 27th Tank Battalion reinforced by infantrymen of the 2nd Battalion of the Infantry Regiment 242 arrived on the airfield. They destroyed 88 mm air defense guns, captured about hundred intact barracks and about hundred aircrafts comprising some new jets Me 262. The action terminated on 1st May at about 6:00 with the surrender of 71 German officers, 955 commissioned officers and soldiers and 500 assistants (Solltau, 2005).

After the war, the airfield received the designation of Army Air Force (AAF) Station R85 and after 1947 United States Air Force Europe (USAFE) Air Force Base (AFB) Neubiberg. On 1948 began the extension of the airfield with the construction of a concrete runway about 1700 m long, that was prolonged on 1949/1950 up to 2200 m over the highway Munich-Salzburg and the state road 2078. On 15th January 1956 the USAFE AFB Neubiberg included 301.96 ha. The surveillance and the services at the airfield were ensured by locally recruited Labor Service Units. The airfield was occupied by many different Squadrons of the AAF and USAFE equipped by P-47 Thunderbolt, P-51 Mustang, C-47 Skytrain aircrafts. On 1948 C-47 aircrafts of the 86th Fighter Wing of the AFB Neubiberg participated to the Berlin Airlift for supplying of West Berlin under Soviet Blockade. On October 1949 the AFB received the visit of the first Atlantic non-stop flyer Charles Lindberg and on November 1951 that of the general Dwight Eisenhower. On October 1950 the 27th Fighter Escort Wing with 91 F-84E Thunderjet was based at the AFB. On October-November 1956 and January 1957 C-118 aircrafts of the AFB transported from Austria to Neubiberg refugees of the Hungarian uprising. The 7101st Support Group on February 1958 was the last USAFE Group at the AFB before the transfer of the AFB to the German *Luftwaffe* (Air Force). The aspect of the airfield changed substantially with the construction of the campus of the *Hochschule der Bundeswehr* for 2500 officers and cadets, that was designated on 1st April 1985 *Universität der Bundeswehr* (Federal Army University). On 30th March 1991 officially terminated all the airfield military operations (Solltau 2005) (Spindelmann 1969).

3. Organization and Preservation State of the Airfield

In looking to **Figure 3** it is possible to recognize the following airfield structural areas: 1) a building area corresponding to the designated area and to the “station buildings, barracks, office, etc.” (**Figure 2**), 2) a runway area, 3) a fuel area corresponding to the “fuel store” and “ammunition dump” (**Figure 2**), 4) an ammunition area and 5) a defense area. The runway, ammunition and defense areas are not present on the map probably of 1943 (**Figure 2**) but present on aerial images of 1955 (Solltau, 2005). Therefore, they testify of the development of the airfield after the war. Because the investigation on the terrain should complete the air recognition, the airfield has been the object of two my visits on 23/09/2007 and 18/12/2015.

3.1. The Building Area

The East part of the building area (**Figure 4**) is now occupied by the buildings of the Federal Army University, the construction of which caused the demolition of numerous original German and American buildings and barracks of the airfield.

The West part, on the contrary, preserves many German buildings and hangars (**Figure 4**) that the Americans re-used after their decision of not bombing them. The Halle 150-repair hangar and the Halle 105 are hangars of



Figure 3. Organization of the Neubiberg airfield—(1) building area, (2) runway area, (3) fuel area, (4) ammunition area, (5) defense area, (6) Neubiberg urban area, (7) Unterhaching urban area, (8) highway Munich-Salzburg, (9) Neubiberg cemetery, (10) Unterbiberg urban area (Flash Earth).

German construction which appears well preserved but two other German hangars disappeared (**Figure 2, Figure 4**). The aircraft parkings (08)-(11) of 1948-1950 construction are still preserved. The radome (12) (**Figures 4-6**), 15 m in diameter, probably contained an early warning radar for detecting Warsaw Pact missiles or aircrafts attacks. Its original instrumentation is unknown. With respect to 2007 the radome appears restored and actually it hosts instrumentations for satellite communications and radar location researches of the Institute of High-Frequency Technology of the Federal Army University.

3.2. The Runway Area

The runway area (**Figure 7**) is placed in front of the building area. Part of it is occupied by a tennis court and the new cemetery of Neubiberg with its oval hill. It is unknown whether this hill conceals some structure of the German airfield. The asphalted runway of 2200 m, completed on 1950, still preserves the original white threshold indications and the magnetic azimuth (**Figure 8**) indications: 07 (East 70°), 25 (West 250°) for aircraft take-off and landing. The extremities of the runway have been reached by the expansion of the urban areas of Neubiberg and Unterhaching. A portion of the runway is invaded by sports facilities which prevent the landing of possible aircrafts in distress.

3.3. The Fuel Area

The fuel area (**Figure 9**) occupies the ammunition dump of the German airfield (**Figure 2**). It hosts several different structures.



Figure 4. airfield building area—(1) Halle 150 repair hangar, (2) German/American buildings: post office, AFEX shopping center, tailor, American Express, Rail Transport Office, (3) German/American buildings: 1972nd AACs Sq., 1701st Support Sq., 1701st Material Sq., (4) hangar, (5) American buildings: base operations, 18th Weather Sq, Daf 2, control tower, fire brigade hall, (6) Halle 105 hangar, (7) airfield chapel, (8)-(11) aircraft parking, (12) radome, (13) connection way, (14) Federal Army University buildings, (15) clothing sales, (16) dining hall (EM), (17) dispensary, (18) BOQ, (19) dental clinic, library, (20) service club, snack bar (AFEX) (Flash Earth).



Figure 5. From left to right: university buildings, hangar (4), radome (12), university buildings, building (5) with control tower, antennae and fire brigade hall, cubic building for parachute cleaning—07/10/2007.



Figure 6. From left to right: university buildings, building (5) with control tower (the antennae disappeared), fire brigade hall, land cubic hall for parachute cleaning, Halle 105-hangar (6) and radome (12)—18/12/2015.

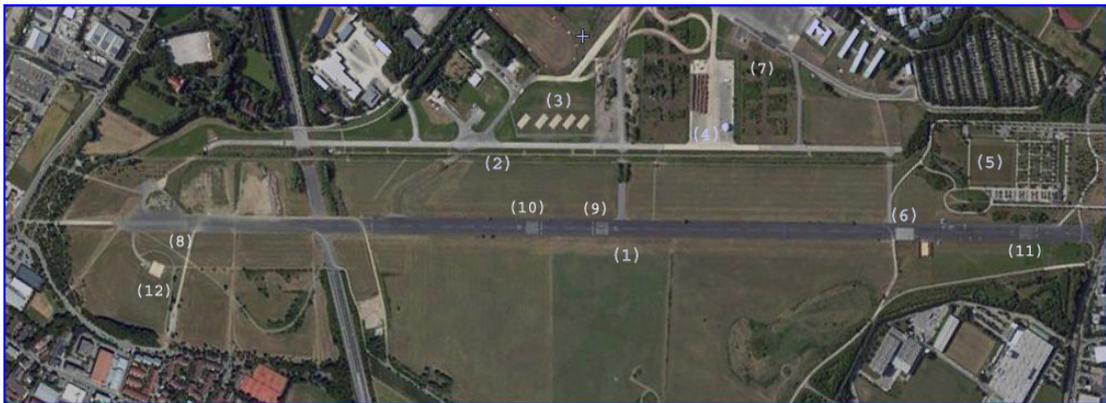


Figure 7. Airfield runway area—(1) runway, (2) connection way, (3) possible refueling area, (4) radome, (5) cemetery Neubiberg with oval hill, (6) sport facilities, (7) possible implantation of disappeared German barracks, (8)-(9) magnetic azimuth indications 07, (10)-(11) magnetic azimuth indication 25, (12) tennis court.



Figure 8. Airfield runway area—vision of the runway from the oval hill of the Neubiberg cemetery—on the left a small kiosk, in the middle the sport facilities (6).

A circular structure (1) (**Figure 9**, **Figure 10**) of about 30 m in diameter formed by an asphalted ring not large enough for truck circulation. It has a central dip of about 1×1 m. Certainly, it was not an antenna emplacement because no antenna base and no cable anchoring bases have been found there. The presence of nearby hydrants (**Figure 11**) suggests a possible underlying water cistern.

A cistern structure formed by underground cisterns. Some cistern preserves a manually painted identification code like: 1, 2, 5, 6, 7, 8, 9, 10 (**Figure 9**) on the front side of the rotatable, metallic cover of its concrete, external control box. On the rear side of some metallic covers is still readable the cistern identification code and a blue inscription like GEFAHRENKLASSE-A 1-hazard class A 1, which indicates stored fluids having flash point under 21°C , i.e., for example, aviation gasoline or GEFAHRENKLASSE-A 2, i.e. stored fluid substances having flash point between 21°C and 55°C , i.e., for example, Kerosene type jet fuels (**Figure 12**). Some control box has covers secured by a lock, some others have covers still openable, but their interior is filled with terrain,



Figure 9. Airfield fuel area—(1) circular structure of unknown purpose, (2) railway, (3)-(4) underground cisterns coded 1, 2, (5) rectangular structure, (6) underground cistern coded 5, (7) underground cistern, (8) underground cistern coded 6, (9) underground cistern coded 7, (10) underground cisterns coded 8, 9, (11) underground cistern coded 10, (12) underground cistern, (13) small underground cisterns, (14) square structure, (15) underground cisterns coded 12, 13.



Figure 10. Airfield fuel area—circular structure (1) of unknown purpose.

so that, in both the cases, the internal details of the control boxes are concealed (**Figure 13**). On the front side of some control box two circular holes remain visible (**Figure 12**). The original air vents of some cisterns are still preserved. The cisterns 1, 2, 5, 6, 7 (**Figure 9**) are located on the borders of an oval, asphalted road crossed by a railway (2) (**Figure 14, Figure 15**). The railway is quite old as testified by the bad preserved wooden sleepers and the manufacturing information SGF 1895 11 6 and FL...CO LTD XII 1938 readable on some rail. Thus, very probably, this is a German railway that, during the war, connected the airfield to the Perlach station for the transport of fuels and ammunitions to the airfield fuel store and the ammunition dump (**Figure 2**). The cisterns 8, 9, 10 and other (**Figure 9**) are located on the border of a lateral road closed on itself, evidently, for facilitating the turnaround of trucks. The road, under this aspect, is similar to a military German road in use, during the war, at the station of Vezot (France) (Tomezzoli & Pottier, 2015). Other brown metallic covers and air vents on the terrain let suppose possible other underground cisterns (**Figure 13**). Other two small cisterns (13) (**Figure 9, Figure 16**) are located at the end of a pathway connected to the road.

A rectangular structure (7) of about 80×20 m comprising 9 square areas each containing a circular dip of 3 m in diameter is located at the center of the oval, asphalted road. Probably each square area represents the base of a disappeared, external cylindrical tank.

The cisterns 1, 2, 5, 6, 7 (**Figure 9**) and the tanks of the rectangular structure (5) could be filled directly from tank wagons parked on the railway and the fuel was draw out by tank trucks parked on the oval road, but because of the absence of a pipeline, the cisterns 8, 9, 10, 12, 13, other cisterns and the small cisterns (**Figure 9**) and the small cisterns could be filled and the fuel draw out only by cisterns trucks parked on the lateral road.

A square concrete structure (14) of about 10×10 m (**Figure 9** and **Figure 17**) surrounded by a wall 50 cm height with a narrow entrance is located not far from the small cisterns. Its purpose is unknown.



Figure 11. Airfield fuel area—(1)-(2) hydrants nearby the circular structure (1).



Figure 12. Airfield fuel area—(1) external, concrete control box of the underground cistern 12 (12) with closed metallic, rotatable cover and counterweight; (2) metallic, rotatable cover rear side with the indication of the hazard class A-1.



(1)



(2)

Figure 13. airfield fuel area—(1) external, concrete control box of the underground cistern 12 filled with terrain; (2) brown metallic cover and air vent mast of a possible other underground cistern.



(1)



(2)

Figure 14. Airfield fuel area—(1) railway towards the underground cisterns, on the right underground cistern 5 (6); (2) railway near the underground cistern 5 (6).



(1)



(2)

Figure 15. Airfield fuel area—(1) railway and underground cistern 1 (3) seen from cistern 5 (6); rectangular structure (5) with circular dips.



Figure 16. Airfield fuel area—(1) small underground cistern numbered as 6 or 9; (2) small underground cistern.



Figure 17. Airfield fuel area—square structure (14) of unknown purpose.

3.4. The Ammunition Area and the Defense Area

The ammunition area and the defense areas occupy a surface adjacent to the fuel area not previously occupied by German structures. Their original common fence is preserved.

The ammunition area hosts a bunker structure formed by six bunkers each preserving an identification code: 133, 127, 128, 120, 130, 131 (**Figures 18-23**). They are about 15 m long, 10 m wide, 4 m height, spaced 80 m from each other and covered with terrain for protection. They represent a dual port variant of the standard American Ammo bunker S 1007 or S 1008. The double port, with respect to the single port of the bunker standard version, was apparently selected for allowing a rapid movement of bulky ammunition packages. A metal barrier on the upper part of the façade protected against accidental falls (**Figure 20, Figure 23**), two neon lamps ensured the illumination of the door, two air intakes on the facade and a chimney ensured the internal aeration (**Figure 20**), metal strips converging on the chimney ensured the electrical insulation and a covered board (**Figure 21**) permitted to control the internal electrical devices of each bunker. Because of their number and their reduced dimensions, they probably stored light ammunitions for aircrafts.

A linear structure (**Figure 18, Figures 24-26**) comprising three aligned artillery emplacements (8), (9), (10) each having external dimensions of about 35×35 m, in which an embankment 4 m height protects an internal area of 20×20 m. The kind of artillery or air defense gun/s hosted in each emplacement is unknown. An embankment opening of 5 m in each emplacement, directed toward the ammunition bunkers, allowed the gun/s fire to protect two bunkers at the time, i.e. respectively emplacement (8)—bunkers 133, 127, emplacement (9)—bunkers 128, 120, emplacement (10)—bunkers 130, 131.

A circular structure (**Figure 18, Figures 27-29**) comprising two bunkers respectively coded as 120, 121, one artillery emplacement with protection embankment, one barrack coded 118 and a bunker coded 119. The two bunkers coded 120 (16), 121 (15) are 30 m long, 20 m wide, 8 m height and represent an enlarged version of the Ammo bunker S 1007 or S 1008. Because of their number and extended dimensions, they probably stored heavy ammunitions for the guns or rockets for the emplacements (8)-(11). They preserve their massive doors, metal barriers, electric control board and external boxes of the aeration system.



Figure 18. Airfield ammunition area: (1)-(6) ammunition bunkers coded 133, 127, 128, 120, 130, 131; airfield defense area: (7) protection embankment, (8)-(11) gun emplacements, (12) protection embankment, (13) barrack, (14)-(16) bunkers.



Figure 19. Airfield ammunition and defense area—on the left the alignment of the ammunition bunkers (1)-(6) and on the right gun emplacements (9), (10).



(1)



(2)

Figure 20. Airfield ammunition area—bunker coded 133—(1) side view; (2) front view—visible are the covered board, the metal barrier and the two air intake at the sides of the double door.



(1)



(2)

Figure 21. Airfield ammunition area—(1) bunker coded 133, electric control board; (2) bunker coded 127, side view.



(1)



(2)

Figure 22. Airfield ammunition area—(1) bunker coded 128, side view; (2) bunker coded 120, side view.



(1)



(2)

Figure 23. Airfield ammunition area—(1) bunker coded 130 front view—visible are the metal barrier and the double door; (2) bunker coded 131, front view.



Figure 24. Airfield defense area—artillery emplacement (8).



Figure 25. Airfield defense area artillery emplacement (9).



Figure 26. Airfield defense area—artillery emplacement (10) original code 90.



Figure 27. Airfield defense area—bunker coded 121.



Figure 28. Airfield defense area—(1) bunker coded 121, electric control board, double door, external box of the aeration system; (2) bunker coded 121, electric control board.

The air defense square emplacement (11) (**Figure 18, Figure 30**) has external dimensions of about 40×40 m, in which an embankment 4 m height protects an internal area of 25×25 m cluttered with building materials and degraded railway wooden sleepers. The presence of an embankment about 50 m long and 4 m height protecting the entrance, confirms that its fire was directed to the sky. The kind of air defense gun/s or rockets hosted in the emplacements is unknown. A barrack coded as 118 (13) (**Figure 18, Figure 31**), 30 m long and 8 m wide, gives the impression of a workshop for the maintenance of the guns and the materials of the defense area. It preserves its original green paint, the original doors and electric control board. The bunker coded 119 (14) (**Figure 18, Figure 32**) has six chambers preserving the original metallic doors and is protected on three sides by an embankment. It probably stored materials in use at the defense area.

4. Conclusion

Today, at seventy years from the end of the war, the airfield appears in a good preservation state, but is menaced in its integrity by the possible further expansion of the areas of the municipalities of Neubiberg, Unterhaching and of the Federal Army University and the installation of sport facilities. It is regrettable that on 1991, at the end of the military operations, the airfield has not resumed its original role of sport airfield that is the reason



Figure 29. Airfield defense area—bunker coded 120.



(1)



(2)

Figure 30. Airfield defense area, air defense emplacement—(1) on the left the square protection embankment, on the right entrance protection embankment; (2) interior of the emplacement seen from the entrance protection embankment.



Figure 31. Airfield defense area, workshop barrack.



Figure 32. Airfield defense area, material store bunker.

of its construction. This would have ensured its operative survival and the survival of a landing place for aircrafts in distress.

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