

The German Defence System of the Grève de Goulven (Finistère—FR) during the World War II

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Abstract

In order to prevent a possible allied landing on the Grève de Goulven, the *Organisation Todt* prepared for the *Wehrmacht* (German Army), in the frame of the *Atlantikwall*, many military structures crewed in a close defence line formed by Wn.s. close around the Grève and in a far defence line formed by St.P.s for directing and supporting the fire of the Wn.s. Purpose of this article is to identify said military structures and investigate their preservation state. The lack of an allied landing in the Grève and the prompt retreat, on 6-8 August 1944, of the German troops inside the *Festung Brest*, upon the arrival of the US Army, provided a unique occasion to visit German military structure practically intact, and had a unique occasion for investigating these structures, their preservation state and the interaction of the today's population with them.

Keywords

Goulven, France, Atlantic Wall, Defence, Military, German, World War II

1. Introduction

Near at the end of the year 1941 a *Schutzstaffel* (defence section) of a *Wehrgeologen-Kompanie* (military geological company) initiated studies for possible military implantations (road, bridges, ports and fortified structures) along the Brittany coasts. But, it was the entry into the war of the United States on 14 December 1941 that made evident the necessity of a *Neue Westwall* (new West Wall). The *Führer* directive n° 40 of 23 March 1942 marked the official beginning of the construction of the *Atlantikwall*, which *Festungen* (fortresses) and defensive lines had to ensure the west Europe coasts defence against possible allied landings.

The *Küsten-Verteidigungs-Abschnitt* (coastal defensive sector) B of the *Atlantikwall* in the region of Brest extended between the littoral municipalities of Plouescat and

Plomodiern and comprised the *Küsten-Verteidigungs-Gruppen* (coastal defensive groups) coded respectively as: A or Av—Aber Wrach, from the homonymous coastal river, Re—Saint-Renan, B—Brest, C or Cr—from Camaret or Crozon peninsula. Each group included Wn.s (*Widerstandsneste*—resistance nests) and St.P.s (*Stützpunkte*—support points).

To prevent a possible allied landing on the Grève de Goulven, the *Organization Todt* prepared for the *Wehrmacht* (German Army), in the frame of the *Atlantikwall*, many military structures grouped in a close defence line formed by Wn.s, close the Grève, and a far defence line around the Grève formed by St.P.s for directing and supporting the fire of said Wn.s (Patrimoine Région Bretagne, 2002a) (Figure 1).

The lack of an allied landing in the Grève and the prompt retreat, on 6-8 August 1944, of the German troop inside the *Festung Brest*, upon the arrival of the US Army, provided a unique occasion to visit German military structures practically intact.



Figure 1. German defensive system of the Grève de Goulven—Br: Brittany; C: Cotentin peninsula; CI: Channel Islands; FM: *Festung Saint-Malo*; G: Grève de Goulven; FB: *Festung Brest*; UK: United Kingdom. (a)-(d): identified bunkers of the close defence line. (1) Goulven, (2) Treflez, (3) Plouider, (4) Kérilien St.P. Av?—anti-aircraft battery and artillery observation place, (5) Rumadiou St.P. Av 59—artillery battery, (6) Le Veleury—La Metairie St.P. Av 55—artillery battery, (7) Kerbreslau St.P. Av 82 “Unstrut”—artillery battery, (8) Grève de Goulven, (9) St.P. Av? Bréhi-chen—artillery battery (Flash Earth).

2. The Close Defence Line

The structure and organization of the close defence line around the Grève de Goulven is not well known. It was apparently formed by Wn.s comprising small *Verstärktskonstruktionen* (reinforced constructions) Vk for *Panzerabwehrkanonen* (anti-tank guns) Pak and machine guns. The visit took place on 26/05/2016. It allowed the identification of the bunkers a., b., c., d. (**Figure 1** & **Figure 2**). The bunker a. sheltered probably a light 37 mm Pak 36 gun. The front side hosted the rectangular aperture of the fire room directed towards to the Grève, the rear side hosted the gun entrance aperture or rear side aperture of the fire room. A niche on an internal wall of the fire room (**Figure 2(c)**) probably allowed the servants to turn the gun inside the bunker and then fire towards the land through the rear side aperture of the fire room. The bunker was near a farm, probably lodgement of the gun servants. The concrete structure of the bunker was still in a good state of preservation without damages. The original furniture disappeared and the fire room was invaded by sand and debris masking the possible fixing system of the gun support. An old agriculture device was abandoned in the fire room. The bunker b. was similar to the bunker a. and probably it too sheltered a 37 mm Pak 36 gun. The front side hosted the front aperture of the fire closed by sand and debris; the rear side hosted the rear aperture of the fire room and a minor aperture for a machine gun. The apertures of the fire room, opened towards the coast and the land, suggested that also this bunker had the double capability of firing towards the Grève and the land. The concrete structure of the bunker was still in a good state of preservation without damages. The original furniture disappeared and the sand invaded the fire room (**Figure 2(e)** & **Figure 2(f)**). The bunker c. was completely buried under sand and vegetation therefore, it was impossible to determine its purpose and type. The bunker d. (**Figure 2(h)**) was similar to the bunkers a. and b. It too probably sheltered a 37 mm Pak 36 gun and had said double capability. It faced the bunker a. from the opposite side of the Grève so as to catch landing troops between two fires. The concrete structure of the bunker was still in a good state of preservation without damages.

3. The Far Defence Line

Better known than the close defence line is the far defence line. It comprised the following St.P.s located around the Grève: Kérilien (Plouider) St.P Av? anti-aircraft battery and artillery observatory designed for directing the fire of the close and far defence lines, the Rumadiou (Tréfléz) St.P. Av 59 artillery battery, La Métairie—Le Veleury (Plouider) St.P. Av 55 artillery battery, Kerbreslaouen (Plounéour-Trez) St.P. Av 82 “Unstrut” artillery battery and the Bréhichen (Lochrist) Av? artillery battery (**Figure 3**).

3.1. Kérilien St.P. Av?—Anti-Aircraft Battery and Artillery Observatory

Located at the top of a hill (**Figures 3-6**), the Kérilien St.P. Av? ($48^{\circ}37'56.8''\text{N}$, $04^{\circ}19'29.3''\text{W}$) absolved the double purpose of ensuring the anti-air protection of the Grève and the Dunes de Keremma beach and of directing the fire of the Wn.s and St.Ps



Figure 2. Close defence line—(a) bunker a., front side aperture of the fire room, (b) bunker a., concrete coverage, (c) bunker a., fire room, on the left side niche for turning the gun and possible entrance to the ammunition room, on the right side gun entrance aperture, (d) fire room filled with sand and debris, (e) bunker b., in the middle, rear side aperture of the fire room and on the left aperture for a machine gun, (f) bunker b., front aperture of the fire room filled with sand and debris, (g) bunker c., buried under sand and vegetation, (h) bunker d., front aperture of the fire room.

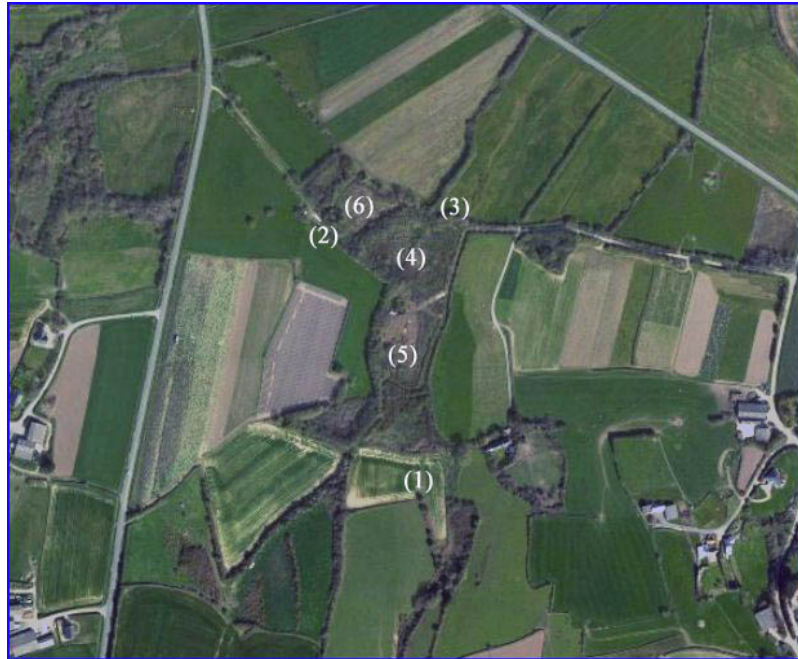


Figure 3. Kérilien St.P. Av?—general plan: (1) access pathway, (2) entrance of a bunker covered with terrain, (3) military shelter or modern dunghill platform, (4) bunkers covered by terrain, (5) small bunker, (6) bunkers covered with terrain [Flash Earth].



Figure 4. Kérilien St.P. Av?—general view and access pathway.



(a)



(b)



(c)

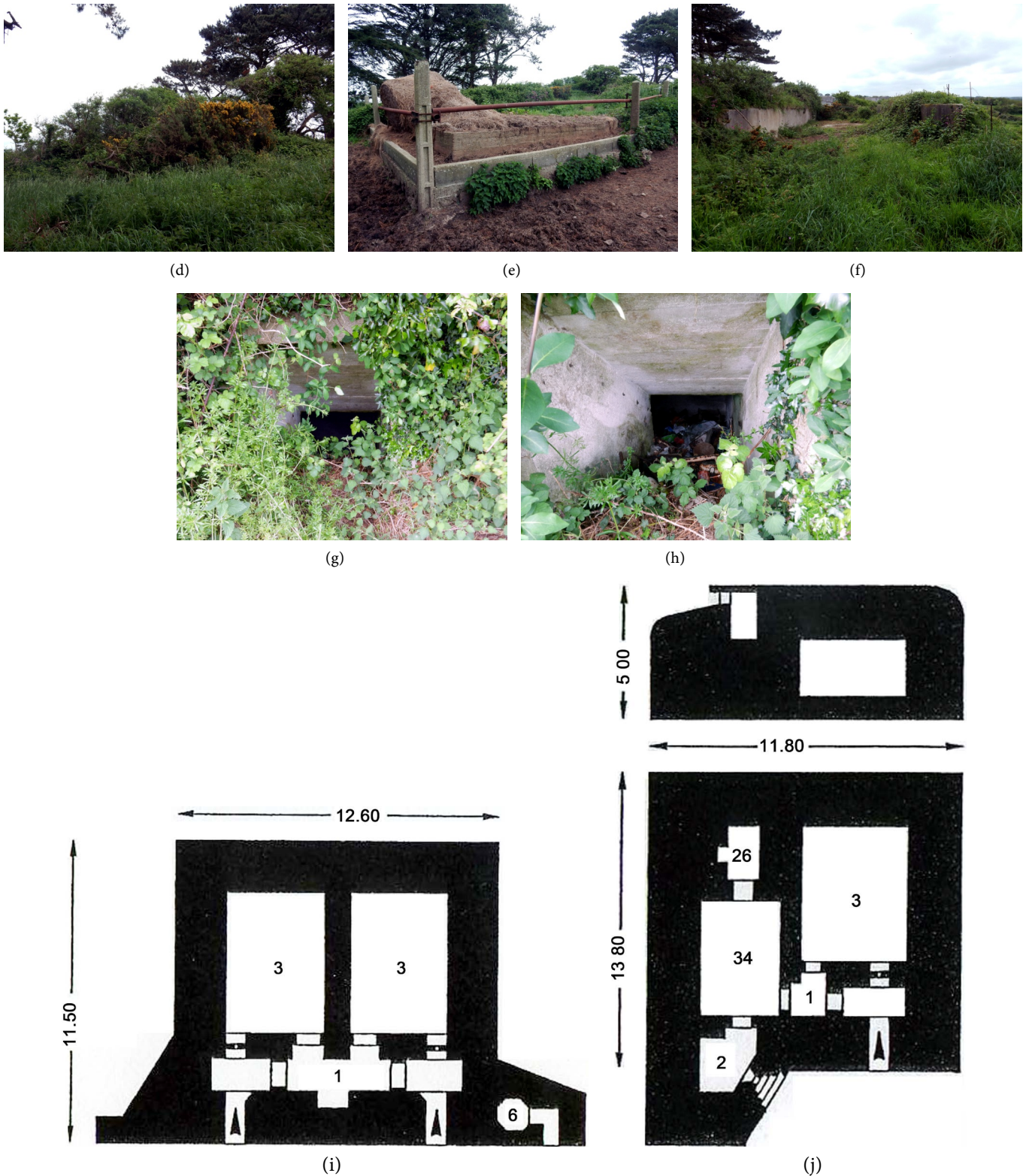


Figure 5. Kérialien St.P. Av?—(a)-(d) bunkers covered with terrain and vegetation; (e) small, square bunker 5.; (f) possible military shelter or modern dunghill platform 3.; (g) bunker 2. Entrance; (h) bunker 2. interior filled with waste; (i) R622 plan: 1. gas loch, 3. crew room, 6. uncovered observation post (Rudi, 1988); (j) H627 plan: 1. gas loch, 2. close fire room, 3. crew room, 26. observation room, 34. chart room/plotting room (Rudi, 1988).



Figure 6. Kérialien St.P. Av?—view on the Grève de Goulven.

of the close and far defence lines. It was formed by at least two anti-air gun ring emplacements, two bunkers for two groups of soldiers, probably two *Regelbau* (ruled construction) R622, a R627, indicated also as (Heer—Army) H627, artillery observatory bunker and two other bunkers (*Patrimoine Région Bretagne, 2002b*). The visit took place on 22 May 2016.

The hill was used as free pasturage for livestock. All the bunkers were covered by terrain and vegetation and no longer visible and accessible (**Figures 3-6**), so that the organization of the St.P. was no longer recognizable. Barely visible, at the top of the hill, covered by hay and encircled by a barrier, was a small, about 5×5 m bunker 4. (**Figure 5(e)**), probably one of said two bunkers. Recognizable on a side of the hill was a rectangular, about 10×5 m military shelter, or probably a modern dunghill platform, closed on three sides by walls about 1.5 m high (**Figure 5(f)**). An aperture, barely recognizable, along the access pathway, on the side of the hill opposed to the platform gave access to the bunker 2., completely covered by vegetation (**Figure 5(g)**, **Figure 5(h)**). Its interior filled by waste was not accessible, so that it was not possible to determine its type, purpose and internal preservation state. The location and type of the at least two anti-air gun ring emplacements was impossible to be determined.

Only a part of the military staff in service at the St.P. was probably lodged in the two possible R622s, the other part was probably lodged in the nearby farms or in barracks now disappeared.

Notwithstanding the well-developed and diffused German radar technology (*Trenkle, 1979*), apparently the Kérialien St.P. was not provided with radar. This absence, in case of bad weather, frequent in Brittany, would let it impossible to direct the fire of the Wn.s and St.P.s from the H627. Thus, the question of the possible radar surveillance of the Grève de Goulven and in general of the coastal defensive sector B, remains open for investigations.

3.2. Rumadiou St.P Av 59—Artillery Battery

The Rumadiou (Treflez) St.P. Av 59 ($48^{\circ}37'12.1''N$, $04^{\circ}14'52.7''W$) (**Figures 7-12**) comprised two bunkers R669, or H669, for captured Russian 76.2 mm FK 39 gun, two open emplacements for 76.2 mm FK 39 gun, two emplacements for 20 mm gun and other minor emplacements. The battery was serviced by the military staff of a hippo-



Figure 7. Rumadiou St.P. Av 59—general plan: (1) farm, (2) R669, (3) R669, (4) dog breeding, (5) dependence of the farm, (6) dependence of the farm, (7) dependence of the farm, (8) (9) possible gun emplacement [Flash Earth].



Figure 8. Rumadiou St.P. Av 59—R669 2., fire room rear side aperture and exhausted combat gas conduit niche, ashlar camouflage, on the right fence of the dog breeding.



(a)



(b)



Figure 9. Rumadiou St.P. Av 59—R669 2.—(a) niche of the exhausted combat gas conduit, (b) walled front side aperture of the fire room and metallic ceiling with two joints for gun lifting, (c) combat gas extraction system room, (d) ammunition room.



Figure 10. Rumadiou St.P. Av 59—R669 3., rear side covered by vegetation and rear side aperture of the fire room.



Figure 11. Rumadiou St.P. Av 59—R6693.—(a) fire room, on the left entrance of the combat gas extraction system room; (b) fire room, walled front side aperture, metallic ceiling with gates of the combat gas extraction system and joints for the gun lifting.



Figure 12. Rumadiou St.P. Av 59—H669 3., fire room front side aperture with splinter guards and ashlar camouflage.

mobile battery (Patrimoine Région Bretagne, 2002c) (Rapport Pinczon du Sel, 1947-1948a). The St.P. site was included in the terrains of a farm. The R669 are similar to other R669 already encountered in other German artillery batteries (Tomezzoli & Pottier, 2016a) (Tomezzoli & Pottier, 2016b). The visit took place on 22 May 2016.

The R669 2. (Figures 7-9) was located on a side of a dog breeding. Its external concrete structure was in a good preservation state, characterized by a curious ashlar camouflage, typical of the bunker of this area. A wall provided with metallic barrier divided the fire room in two parts: a part was designated for storing agricultural devices and materials; the other for the activities of the dog breeding. All the bunker original furniture disappeared. A water tank was installed in the combat gas extraction system room, the conduits of the system were covered by metal panels and the system pump disappeared. The ammunition room hosted shelves and devices of the dog breeding. The metallic ceiling preserved two joints for the gun lifting.

The R669 3. had a well preserved ashlar camouflaged concrete structure. The interior of the fire room was of difficult access because of the lot of stored agricultural devices and materials. The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system. The front fire aperture was walled, probably for preventing the access and for protecting the stored devices.

Both the bunkers were constructed in a rather quiet period by skilled workers, which had time to devote to the completion of the ashlar camouflage. The military staff in service at the battery was probably lodged in a nearby farm and its dependences. However, the necessity of a canteen, lavatories and toilets let think to the existence of some barracks now disappeared. The two open gun emplacements, the emplacements of the 20 mm guns and the other minor emplacements were no longer recognizable.

3.3. Le Veleury—La Metairie St.P. Av 55—Artillery Battery

The Le Veleury—La Metairie (Plouider) St.p. Av 55 (Figures 13-32) (48°36'9.15"N, 4°17'59.09"W), indicated also as Grand Kérvélégan St.P., was composed by four bunkers H671 for captured 105 mm French guns K 331, disposed along a country road, five



Figure 13. Le Veleury - La Metairie St.P. Av 55—general plan: (1) dismantled H671 bunker, (2) one room bunker, (3) H671 bunker, (4) one room bunker, (5) one room bunker, (6) H671 bunker, (7) H671 bunker, (8) place of two bunkers buried in the terrain, (9) Plouider, (10) farm and dependencies [Flash Earth].

other bunkers and some machine gun nests. The guns were operated by the military staff of a German horse-drawn battery. The orientation of the guns North— 10° —West allowed the far defence of the Grève de Goulven as well as of the Brignogan-Kerlouan and Dunes de Keremma beaches. On 6 August 1944, to block the progress of the US Army, the battery heavily bombarded the city of Lesneven damaging the city centre, the church and the Saint-François College. The Germans retreated in the night of 7-8 August 1944 towards the *Festung* Brest evacuating the St.P. after having destroyed the remaining ammunitions stored in the bunkers. The consequent burning destroyed the nearby farm hosting the command post of the St.P. (*Patrimoine Région Bretagne, 2002d*) (*Rapport Pinczon du Sel, 1947-1948b*) (*UNC, 2016*). The St.P. site was included in the terrains of a farm. The visit took place on 22/05/2016.

Surprisingly, the H671 1. disappeared, dismantled for unknown reasons. A ground embankment covered the rests of its basement (**Figure 14**).

The one room bunker 2. (**Figure 15 & Figure 16**), about 10×5 m, partially buried in the terrain had a well preserved external concrete structure, letting to the vision the imprint of the boards of the original formwork. Although provided with a window, the interior having the internal walls, lacking a thermal insulation system and supports for bunks for the military staff, and the ceiling, lacking the hole of a chimney, suggest that it was not habitable and probably mainly designated for storing only materials, in fact, the ammunitions were stored in rooms inside the H671s (**Figure 26(h)**). All the bunker



Figure 14. Le Veleury—La Metairie St.P. Av 55—emplacement of the dismantled H671 1.



Figure 15. Le Veleury—La Metairie St.P. Av 55—one room bunker 2. partially buried in the terrain.



(a)



(b)



(c)



(d)

Figure 16. Le Veleury—La Metairie St.P. Av 55—one room bunker 2.: (a) staircase and entrance; (b) bunker interior, wooden ceiling with metallic supports, wall aperture and niche; (c) niche of unclear purpose; (d) bunker interior filled with materials.

original furniture disappeared and the room was filled with materials. The wooden ceiling provided with metallic supports was intended for preventing the fall of concrete debris in case of projectiles or bombs falling on the coverage. An aperture gave access to the exterior and a niche in one of the wall had unclear purpose.

The H671 3. (Figures 17-20) had a well preserved ashlar camouflaged concrete structure. The relative narrow rear aperture of the fire room and the fixing bolts on the floor of the room (Figure 17, Figure 18 & Figures 19(a)-(d)) suggest that the hosted K 331 gun was detached from its mobile carriage, entered in the fire room through its front aperture and then mounted on a support anchored to said bolts, and that the bunker, as the other H671 of the St.P., had no double fire capability. All the bunker original furniture disappeared and the fire room was empty. For security reasons, a pallet with superimposed stones covered the fixing bolts. On the fire room walls no rests of a thermal insulation system. The fire room and the combat gas extraction system room preserved some rusted portion of conduits (Figures 19(e)-(h)). The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system.

The one room bunker 4. (Figures 21-23), few meters away from the H671 3., was similar for shape and dimensions to bunker 2. It was practically completely buried in the terrain, so that it can be supposed that its external concrete structure was well preserved. An inclined concrete ramp allowed accessing its entrance. All the bunker original furniture disappeared and the room was partially filled with materials. The interior



Figure 17. Le Veleury—La Metairie St.P. Av 55—general view—in the middle the H667 3., on the right one room bunker 4. and, visible through the vegetation, entrance of one room bunker 5.



Figure 18. Le Veleury—La Metairie St.P. Av 55—H671 bunker 3.—rear side with camouflage, on the left niche of the exhausted combat gas conduit, in the middle rear side aperture of the fire room.



Figure 19. Le Veleury—La Metairie St.P. Av 55—H671 bunker 3.—(a) rear side aperture, niche and frame of the armored door; (b) fire room, front side aperture, pallet covering the fixation points of the gun mount; (c) fire room, fixation points of the gun mount; (d) fire room, rear side aperture, on the left, ammunition room entrance, on the right, combat gas extraction system room entrance, on the ceiling, joint for gun lifting; (e) fire room, combat gas extraction conduit; (f) combat gas extraction system room, combat gas extraction system conduit; (g) combat gas extraction system room, metallic ceiling and combat gas extraction system conduits; (h) niche of the exhausted combat gas conduit.



Figure 20. Le Veleury—La Metairie St.P. Av 55—H671 bunker 3.—fire room front side aperture with splinter guards.



Figure 21. Le Veleury—La Metairie St.P. Av 55—one room bunker 4.—on the left wall aperture, on the right entrance.



(a)



(b)



Figure 22. Le Veleury—La Metairie St.P. Av 55—one room bunker 4.—(a) wall aperture and niche, on the wall possible fixations of a thermal insulation system; (b) wooden ceiling with metallic supports; (c) chimney hole for WT80; (d) interior filled with materials.



Figure 23. Le Veleury—La Metairie St.P. Av 55—on the left one room bunker 4., on the right, buried in the terrain, one room bunker 5.

walls preserving possible fixations of a thermal insulation system and the wooden ceiling, provided with metallic supports and preserving a chimney hole, probably for a *Festungshofen* (fortress oven) WT80 (Figures 22(a)-(d)), suggests that it was habitable. A wall aperture, as that of bunker 2., allowed the access to the exterior and a niche in one of the internal wall, as that of bunker 2., had no clear purpose (Figure 22(a)).

The one room bunker 5. (Figure 23 & Figure 24), about 50 meters away from the H671 3., was similar for shape and dimensions to bunkers 2. and 4. It was completely buried in the terrain, so that, also in this case it can be supposed that its external concrete structure was well preserved. All the bunker original furniture disappeared and the interior was empty. The interior walls, without fixations of a thermal insulation system, and the wooden ceiling, without a chimney hole (Figures 24(a)-(d)), suggest it was not habitable. A wall aperture, as those of bunker 2. and 4., allowed the access to the exterior and a niche in one of the internal wall, as that of bunkers 2. and 4., had an unclear purpose (Figure 22(a)).

A further one room bunker, buried in the terrain, similar to bunkers 2., 4. and 5. was about 30 meters away from bunker 5, but, covered by vegetation and terrain, it was not accessible.

The H671 6. (Figures 25-28) was covered by a clump of vegetation which partially masked its ashlar camouflaged concrete structure (Figure 25). All the bunker original



Figure 24. Le Veleury—La Metairie St.P. Av 55—one room bunker 5.—(a) wall aperture and wooden ceiling without supports of a thermal insulation system; (b) bunker interior walls, niche.



Figure 25. Le Veleury—La Metairie St.P. Av 55—H671 bunker 6.—rear side with aperture of the fire room and niche of the exhausted combat gas conduit, on the foreground nearby farm former command posts of the battery.





Figure 26. Le Veleury—La Metairie St.P. Av 55—H671 6.—(a) rear side aperture, niche and armored door frame of the fire room; (b) ammunition room; (c) fire room, floor covered with terrain; (d) fire room, metallic ceiling with broken joint for gun lifting; (e) fire room, metallic ceiling, details; (f) fire room, combat gas extraction conduit; (g) combat gas extraction system room, combat gas extraction system conduit; (h) H671 plan: 4. ammunition room, 5. fire room.



Figure 27. Le Veleury—La Metairie St.P. Av 55—H671 6.—fire room front side aperture with splinter guards and ashlar camouflage.



Figure 28. Le Veleury—La Metairie St.P. Av 55—rests of the St.P. boundary fence near the H667 bunker 6.

furniture disappeared. The fire room was empty, but the terrain covering its floor masked the fixing bolts of the support of its K 331 gun. On the fire room walls no rests of a thermal insulation system. The fire room and the combat gas extraction system room preserved some rusted portion of conduits (**Figures 26(e)-(g)**). The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system.

The H671 7. (**Figures 29-31**) was also covered by a clump of vegetation which partially masked its ashlar camouflaged concrete structure (**Figure 29**). All the bunker original furniture disappeared. The fire room was empty, but, also in this case, the terrain covering its floor masked the fixing bolts of the support of its K 331 gun. On the fire room walls no rests of a thermal insulation system. The fire room and the combat gas extraction system room preserved some rusted portion of conduits (**Figures 30(d)-(f)**). The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system.

No trace was appreciable on the terrain of the two buried bunkers 8 (**Figure 32**).

The owner of the St.P. site did not commented about the reasons of the dismantlement of the H671 1. However, he confirmed that the command post of the St.P was hosted in the nearby farm and that military staff in service at the St.P. was lodged in the farm dependences. However, the necessity of a canteen, lavatories and toilets, also in

this case, suggest the existence of some barracks now disappeared.

No traces were visible on the H671s, the one room bunkers, the nearby farm and the farm dependencies of said ammunitions destruction and consequent burning.



Figure 29. Le Veleury—La Metairie St.P. Av 55—H671 7.—rear side with aperture of the fire room.



(a)



(b)



(c)



(d)



Figure 30. Le Veleury—La Metairie St.P. Av 55—H671 7.—(a) rear side aperture, niche and frame of the armoured door; (b) ammunition room; (c) fire room, floor covered with terrain, metallic ceiling with joint for gun lifting; (d) fire room, combat gas extraction conduit; (e) combat gas extraction system room, conduit; (f) niche of the exhausted combat gas conduit.



Figure 31. Le Veleury—La Metairie St.P. Av 55—H671 7.—fire room front side aperture, splinter guards covered by the vegetation, metallic ceiling with joint for gun lifting.



Figure 32. Le Veleury—La Metairie St.P. Av 55—place of two bunkers 8. buried in the terrain.

3.4. Kerbreslauen St.P. Av 82 “Unstrut”—Artillery Battery

The Kerbreslauen St.p. Av 82 “Unstrut” (German river tributary of the Saale) (Figures 33-42) ($48^{\circ}39'00.5''\text{N}$, $04^{\circ}20'08.9''\text{W}$), indicated also as Grand Kérvélégan St.p., was composed by four bunkers H669 for captured Russian 76.2 mm FK 39, disposed along

an arc of circle, two other bunkers disposed behind the H669s and probably by some machine gun nests. The guns were operated by the military staff of a German horse-drawn battery, probably the same that operated the St.P Av 55 (*Patrimoine Région Bretagne, 2002e*). The St.P. was probably evacuated in the same night of 7-8 August 1944 as the other St.P.s around the Grève de Goulven during the retreat of the Germans towards the *Festung* Brest. The St.P. site was included in the terrains of a farm. The visit took place on 22/05/2016.

The R669 1. (**Figure 34 & Figure 35**) had the rear side aperture of the fire room covered by the vegetation, letting visible only on the front side a well preserved ashlar camouflaged concrete structure. The fire room was difficult to access because of the lot of cut wooden logs obstructing the front aperture. The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system. On a fire room wall was an original inscription: *Sperrfeuer "Unstrut" u.Gr.R. 76 mg 7200 2 Kampfsätze in 2.Min. = 12 Schuß* translatable as: fire barrage "Unstrut" under Group Regiment, 76 machine guns, 7200, two combat set in two minutes = 12 shots. The inscription, surviving an evident attempt of erasing, is interesting because the term 76 *mg*, i.e. machine guns, permits of estimating at about 100 the number of soldier and officers composing the military staff of the St.P. The term 7200 informs about the consistence of the ammunition, letting in doubt if it refers to the total ammunition of the machine guns or of the 76.2 mm guns. The term 2 *Kampfsätze in 2.Min. = 12 Schuß* defines the nominal fire power of the guns as two combat set in two minutes equivalent to 12 shots.

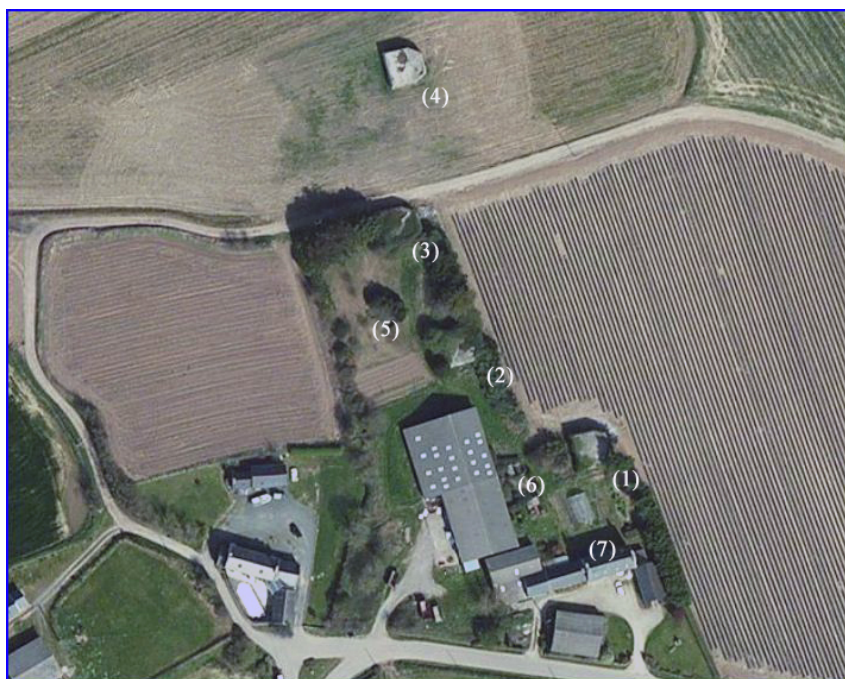


Figure 33. Kerbreslaun St.P. Av 82 "Unstrut"—general plan: (1) H669, (2) H669, (3) H669, (4) H669, (5) bunker buried in the terrain, (6) bunker buried in the terrain, (7) farm and dependencies [Flash Earth].



Figure 34. Kerbreslauen St.P. Av 82 “Unstrut”—H669 1. in the foreground H669 4.



Figure 35. Kerbreslauen St.P. Av 82 “Unstrut”—H669 1., fire room front side aperture with splinter guards, ashlar camouflage, on the coverage net camouflage supports.



Figure 36. Kerbreslauen St.P. Av 82 “Unstrut”—H669 2., lateral side covered by the vegetation and ashlar camouflage.

The R669 2. (**Figure 36 & Figure 37**) was covered by the vegetation, which here and there let visible the preserved ashlar camouflaged concrete structure (**Figure 36**). The fire room was empty, only a lot of stones partially obstructed its rear aperture, terrain covering the floor masked the rails of the vibration dampening system. The metallic ceiling preserved two joints for the gun lifting and the grids of the combat gas extraction system. The fire room and the combat gas extraction system room preserved some

rusted portion of conduits. The ammunition room was cluttered with market cassettes. On a fire room wall was the original inscription, similar to that of H669 1.: *Sperrfeuer "Unstrut" u. Gr.R. 76 mg 7450 Kampfsätze* translatable as: fire barrage "Unstrut" under Group Regiment, 76 machine guns, combat sets, which, although incompletely, reproduced the information of the H669 1. inscription.

The R669 3. (**Figure 38** & **Figure 39**) was covered by the vegetation, which here and there let visible a well preserved ashlar camouflaged concrete structure. The fire room was empty but terrain covering the floor masked the rails of the vibration dampening system. The metallic ceiling preserved two joints for the gun lifting and the air intakes of the combat gas extraction system. The fire room and the combat gas extraction system room preserved some rusted portion of conduits. On a fire room wall was the



Figure 37. Kerbreslauen St.P. Av 82 "Unstrut"—H669 2.—(a) fire room, rear side aperture, on the left, combat gas extraction system room entrance, on the right, ammunition room entrance; (b) combat gas extraction system room, metallic ceiling and combat gas extraction system conduit; (c) ammunition room; (d) fire room, gates of the combat gas extraction system.



Figure 38. Kerbreslauen St.P. Av 82 “Unstrut”—H669 3. fire room front side aperture with splinter guards.



Figure 39. Kerbreslauen St.P. Av 82 “Unstrut”—H669 3.—(a) niche of the exhausted combat gas conduit fire room, rear side aperture, on the left, combat gas extraction system room entrance, on the right, ammunition room entrance; (b) combat gas extraction system room, metallic ceiling and combat gas extraction system conduits; (c) fire room, air intakes of the combat gas extraction system; (d) combat gas extraction system room, conduits.

original inscription: *Sperrfeuer “Unstr u.Gr.R. 7 mg 74 2. Kampfsätze in 2 Min.”*, which, although incompletely, also in this case, reproduced the information of the H669 1. inscription.

The R669 4. (Figures 40-42) appeared isolated in a wheat field. It was little covered by the vegetation, so that its well preserved ashlar camouflage of its concrete structure was completely visible. The fire room was empty but terrain covering the floor masked the rails of the vibration dampening system. The metallic ceiling preserved two joints for the gun lifting and the air intakes of the combat gas extraction system. The fire



Figure 40. Kerbreslauen St.P. Av 82 “Unstrut”—H669 4.—lateral side and aperture of the fire room.



(a)



(b)



(c)



(d)



Figure 41. Kerbreslauen St.P. Av 82 “Unstrut”—H669 4.—(a) fire room, rear side aperture, on the left, combat gas extraction system room entrance, on the right, ammunition room entrance; (b) combat gas extraction system room, metallic ceiling and combat gas extraction system conduits; (c) fire room, small combat gas extraction system conduit at floor level; (d) fire room, small combat gas extraction system conduit at floor level; (e) ammunition room; (d) combat gas extraction system room, metallic ceiling and combat gas extraction system conduits; (f) fire room, air intakes of the combat gas extraction system.



Figure 42. Kerbreslauen St.P. Av 82 “Unstrut”—H669 4.—rear side with aperture of the fire room, niche of the exhausted combat gas conduit and ashlar camouflage.

room at the floor level and at the ceiling level and the combat gas extraction system room preserved portion of the conduits of the system. The combat gas extraction system room and the ammunition room were empty. On a fire room wall the original inscription at the limit of the readability: *Sperrfeuer “Unstrut” u.Gr.R. 75 mg 74 2. Kampfsätze in 2.Min* which, although incompletely, also in this case, reproduced the information of the H669 1. inscription.

The owner of the St.P. site informed, probably referring to the after war, that no gun



Figure 43. Kerbreslauen St.P. Av 82 “Unstrut”—farm and dependences.

was installed in the bunkers. He indicated the emplacement of the bunker 5. which was buried in the terrain and its entrance covered by the vegetation and declared that two rooms were inside it, which suggests that it was a R622 (**Figure 5(i)**) for two groups of six soldiers. He confirmed that German soldiers lived in the dependencies of the farm. However, the necessity of a canteen, lavatories and toilets suggests also the existence of some barracks now disappeared. He added that the farm (**Figure 43**) was seat of a *Kommandantur*, probably the command post of the St.P., which hosted also prisoners' cells at the first floor and in the granary, and that the bunker 6. was buried in the terrain and no longer accessible.

3.5. Bréhichen St.P. Av?—Artillery Battery

The Bréhichen St.P Av? was located halfway between Plounévez-Lochrist and the hamlet of Lochrist. It comprised four platforms for 105 mm gun, which were only roughly cut in the terrain at the time of the Liberation (*Rapport Pinczon du Sel, 1947-1948c*). This vague indication has not located precisely position of this St.P. and, consequently, it was not possible to organize a visit.

4. Conclusion

Although, the French military and administrative authorities did not provide a general conservation plan for the German military structures, the position of the presented ones, outside the towns, in remote places like beaches or in the land, normally inside private properties, allowed them to survive the after war up today. They are normally accessible and practically in all the cases, and their organization is recognizable. They are practically abandoned with some adaptations to the modern exigencies of the agriculture and the breeding. They remind the confidence of the Germans in military static offensive and defensive structures. But, because of the evolved geo-political situation as well as of the modern military doctrines based on rapid first strikes and precision

bombing, they will never recover their former military role and will never play an important role at all. Therefore, we can now look to them neutrally, as one normal subject of the contemporary military archaeology.

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