

**WWII Battlefield Research and Preservation Group**  
DISCOVER, RECORD, INTERPRET, PRESERVE, INFORM  
#15 Rue Henri Hemes, L-8134, Bridel Luxembourg



# REPORT

## INTERMÉDIAIRE D'OPÉRATION D'ARCHÉOLOGIE PRÉVENTIVE

WWII aircraft wreckage removal and Missing US Airmen (MIA) research, under guidance of the  
Insutute of National Research of Archaeology (INRA) the Luxembourg Ministry of Culture

“WindGen Site”, 2021  
activity No: 2021-034

Date of Operation  
2 March – 24 March 2021

Patrick Murphy  
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## Scientific Outline

This project is a science-based mission to search, locate the wreck site, recover wreckage and establish the most probable resting place of two MIA Airmen.

1. Sgt. Michael J. Holowaty, # 33831847, USAAF. Sgt Holowaty was the top turret gunner for the aircraft.
2. Sgt Stephen P. Wulderk, #33575452, USAAF. Sgt Wulderk was a radio operator and gunner in the mid-section of the ship. Both men are missing since 14 January 1945 after their plane was shot down over Luxembourg.

Since 2017, there is an ongoing collaboration between the WWIIBRPG and the US Department of Defense POW/MIA Accounting Agency (DPAA). Search for the aircraft began in 2017 near Boevange in the Biergerhaard forest. By 2020, only a few pieces of wreckage had been found in the 49 hectares area. There were few clues as to the direction the wreckage traveled. Supported known facts are that the remains of three crew members were found near Boevange, and three near Hupperdange, and Fischbach Jan/Feb 1945. The location of the aircraft crash site remained unknown for 76 years until confirmed in February 2021.

A reconnaissance survey was done in August 2020 (Plan-1) near Fischbach; one piece (Plt-1) found identifies the wreck as a B-17. In January 2021 further systematic surveys were performed to produce a pattern of wreckage spread and density, pointing toward a “ground zero”, point of impact. An engine data plate was found belonging to aircraft 43-38911(Plt-2). Persistent searching of the fields for clues as to the two MIAs continued for evidence that they may possibly be on site. In late February 2021 two bomb craters were discovered in the fields; 25 years earlier farmers stated these craters were to be in the area. It was said they contained all battlefield debris from the area as well as aircraft parts from the crash deposited there by the Swiss Army. Given the combat history around in the area and an incredible volume of unexploded ordnance ((UXOs) in the area, it was advised to open and clear the iron deposited combat contents as detected by Service de déminage de l'Armée luxembourgeoise (SEDAL). The diagnostic aircraft wreckage was also quite clear to be there and needed to be taken with great care. What sections of the plane were buried were not known and any significant clues as to one or both missing airmen may perhaps be there or point to a new direction in research.

## Operational Objectives

It is postulated that the Windgen site is where the aircraft has come to rest after exploding over the Biergerhaard and impacting the fields. In addition to fragmented debris on the fields and US Army reports of the remains of three crewmen found there, this site determines the best chance of MIA discovery. Primary research objectives are:

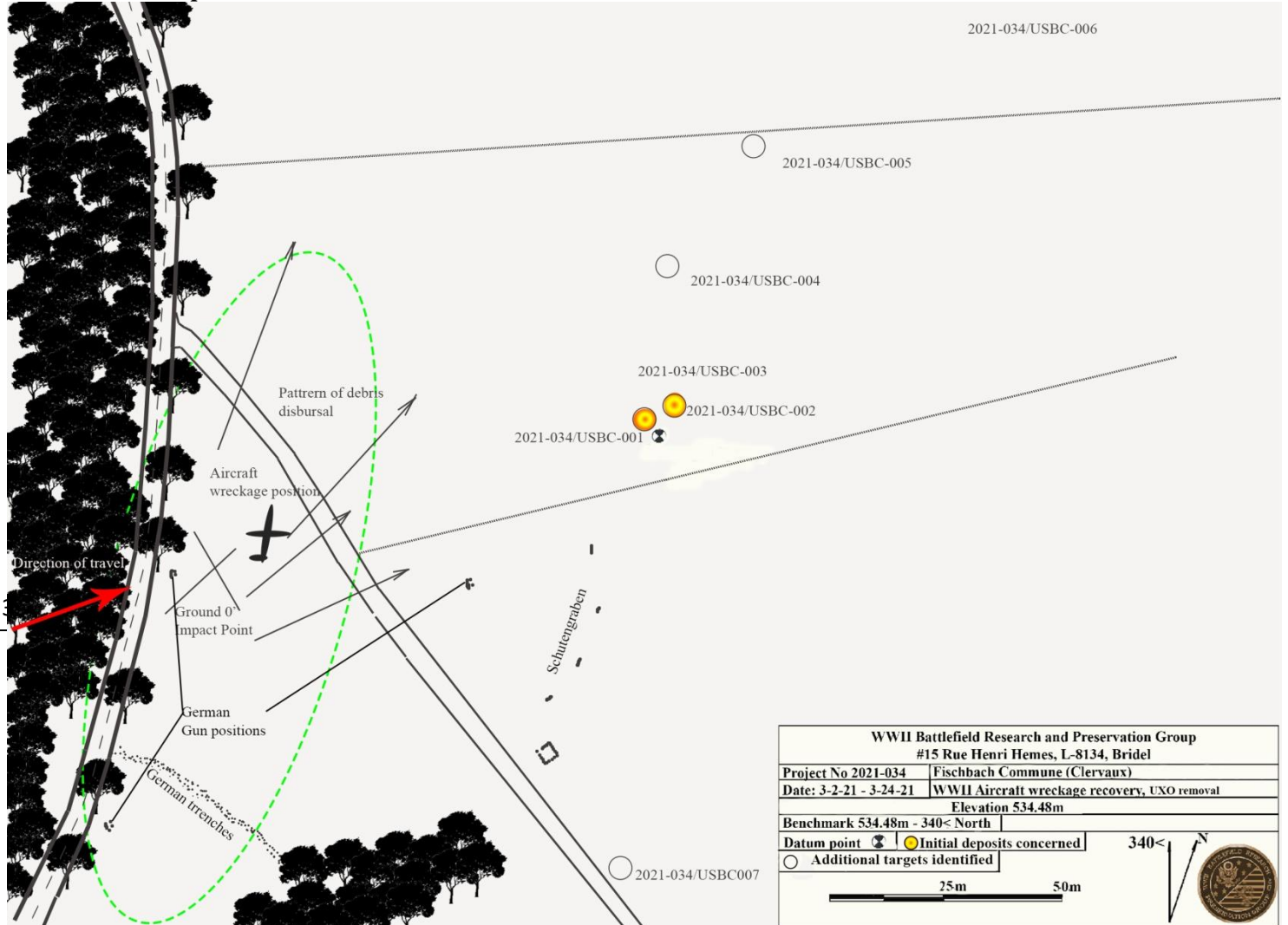
- Find and recover aircraft wreckage
- Diagnose all pieces for determining point of explosion and extent of damage
- Forensics analysis of damaged fuselage sections to interpret structural breakup
- Substantiate direction of travel and spread of debris
- Give an assessment of high certainty of one or more MIAs on location based on personal equipment and individual working stations wreckage on the site
- Assess what structure/s is onsite and surmise what is missing or maybe in the immediate area i.e. no wreckage of the nose section or vertical stabilizer being found
- List all salvage actions accomplished in the summer/fall of 1945 and by whom

It is well acknowledged that many questions may not have an answer and that more questions will arise, but is certainly a great part of the incident can be quantified with findings on this essential location.

# Analyses of the Site Area

The primary wreck site “ground zero”, point of impact is in a field adjacent (West) to the deposits of battlefield material and aircraft wreckage. The deposited sites are North East from the center of the village of Fischbach (C). All aircraft debris and deposit sites in relation to the aircraft are in cultivation fields of grass, cereal, and corn, and scrub bush of oak, birch, ash, and walnut.

General Plan.psd



Plan - 1, Site overview plan, WWIIBRPG

# 1. Abstract – Search for Missing US Army Air Forces Airmen (MIA)

## 1.1 Primary Objectives of Operation, Background

WWII Battlefield Research and Preservation Group is an ASBL created in 2016, part of our vision statement is to “Proactively support institutions in bringing home unaccounted for soldiers/airmen for families”. This is mutually accomplished by working in unison with the United States Government’s Department of Defense POW/MIA Accounting Agency; in which we share a sacred promise to bring home our missing airmen and soldiers. We conduct the background research into cases that remain unsolved and provide the government with the data that highlights the utmost probable location as to where an MIA(s) might be discovered. The search for the US Army Air Force bomber “Bull Session” began five ½ years ago. This is a B-17G that was assigned to the 91st Bomb Group, 323rd Bomber Squadron which took off from Bassingbourn England 14 January 1945 to bomb rail yards and bridges in Cologne Germany. The ship was shot down soon after entering over the Luxembourg/Belgian border in the Boevange area. There were 9 crew members on board. Eight men lost their lives, one was captured near Weicherdange, and two of the crewmen remain unaccounted for and are the focus of the research. Finding witnesses to the incident and archives that could provide valuable clues to the location of the plane or crew members does not exist. We must focus on any and every word written on it and evidence collected then and now. We have solid evidence on where the Pilot, Co-Pilot, and Navigators remains were recovered. This area was near Boevange (W); also known as the location of the remains of the Ball Turret Gunner, Tail Gunner, and Waist Gunner that were found in the Fischbach/Hupperdange area (fig 9-1). That gives a beginning point “A” and ending point “B”. The one thing that remained a mystery and had involved some quite confusing stories was the location of the aircraft itself. For 76 years the exact location of the wreck remained a mystery. It is especially important to know this location as it may be key to finding the two missing crew members.

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As a World War Two research organization, we also strive to establish a detailed historical record of events that are vague in connection with the case as many references in the past have not been so detailed or remain outdated. It is a fundamental result to provide such findings to the public through written reports and lectures. There is a strong cultural and shared human history of these events that are duty-bound to be made available which emboss community and country heritage. Material collected is paramount to be exhibited for the public in a national institute for all ages and interests to experience. In-depth research into the mission of the crew as well as a personal background about them capped with aviation technical details surrounding the aircraft functions, design, materials, and the companies that built it in the early stages of aviation is also a must. Family members of the crew still await an answer from the US Government about their lost brothers, husbands, and fathers. The parents are now all gone; the answers to siblings and the next two generations are long overdue.

The site area also provides a valuable insight into battlefield actions not related to the crash, but to the conflict that was ongoing from the Ardennes Offensives' first days of fighting December 16 – 18, 1944 to ending combat actions resulting in liberation, 26 January through 8 February 1945. Documenting finds and material deposited in these landfill sites with wreckage brings a clearer vision as to what units were on that ground and what was used in the fight. These findings will be an addition to the final report of the site. Original aerial photos (Fig 13-1) show that the area was occupied by German artillery units and how they established their positions. Some items found may be linked directly to individual men who used the equipment. We strive to document this data in as much detail as well as the discovered arboglyphs made by soldiers nearby.

## 1.2 Historical background overview of project and site discovery:

A long and exhaustive search had been conducted for the wreckage of the aircraft beginning in the Biergerhaard region near Boevange in 2017. This initial phase of the project was to hopefully find the wreck site, not knowing how much was still out there if any, because it was assumed that all remnants of actual plane parts bigger than 20cm was cleared and taken away by salvage crews in the summer of 1945 – 1948. The best intelligence given on the location of the wreck was given in John Dernenen’s

book Crash Band I and Crash Band II. John had explained that his “witness” said that the landing gear and top turret, pictured in the book Crash II, page 23 and 25 was found in the forest at a designated

marking point. Exhaustive searching yielded very little wreckage found in the area, not one piece of Plexiglas, some aluminum was all. In all 4.5km radius area of the Biergerhaard, less than 30 pieces of evidence were found spread over a kilometer, these were small fragments most likely that came off in the initial explosion. From 2018 through 2019 no wreckage was found. In 2018 a wreck site near Weicherdange was known to be a B-17 wreck site, but no further information was known about this wreck, other than a date of 30 November 1944. This wreckage lay directly in the route drawn from the center of Biergerhhard to Fischbach. It was heavily suspected that the aircraft near Weicherdange had a high probability of being “Bull Session”. Efforts from 2018 to the summer of 2020 were paramount to discovering the identity of the aircraft. In June of 2020, the evidence was finally discovered and the identity was found to be a plane from the 384th Bomb Group, 544th Bomber Squadron, named Sneakin Deacon (*WWIIBRPG PDF Report December 2020, End Report 44-6141Sneakin Deacon*). This was not the plane searched for (*Bull Session*) but had finally been identified and the entire mission was now proven. Historical records were then updated to reflect the incorrect history concerning the aircraft.

Other pieces of aircraft were found in the area near Eselborn by locals in the 1950s. One part was identified as being from the engine area of a B-17. Since the Weicherdange plane had come from the opposite direction (East) and was not coming down in pieces this had to be from the aircraft Bull Session. This was a positive piece of the mystery in the route to Fischbach. The next phase of the search was to be in the Fischbach area based on a US Army report that the Tail Gunner was found next to the road near Hupperdange 29 January 1945 and that the Waist Gunner and Ball Turret Gunner were found “in wreckage” near the road by Fischbach. This new search theory was shared with colleague John Dernenen presenting a line and circle around the Heinerscheid- Fischbach area (Fig 9-1); he was quite taken to the new information and shared a report of a 4 engine bomber being witnessed to come down. This was in July 2020. With the new location provided, a reconnaissance survey in August was performed around the field borders and roadsides looking for any aircraft pieces protruding from the ground. Next to a newly plowed field a small round piece was found, later identified as a rear cover for the vacuum pump (Plt-1) of an 1820-97 Wright- Cyclone engine. This engine built by Studebaker belongs to the B-17 and is an inboard engine. It was established for certain that indeed a B-17 crashed on the location. Beginning January, 2021 this area would be the new search location for the positive identity of the wreck site. This is done by finding an engine data plate with the serial number, as they were recorded in the Missing Aircraft Report, a crew members’ dog tag, marked equipment/personal items with the serial number, or an aircraft data plate. In late January a fragment of the engine data plate was found (Plt-2), but it had only a part of the serial number. A couple of weeks later, the second half of the tag was found and the number matched the engines of Bull Session. The site was now known to be the correct plane searched for so many years missing.

A systematic search of the area for any clues to the crew was committed for hopes of an identification plate from someone missing. There was a rumor of two large bomb craters used for deposits of wreckage and battlefield debris in the area. It was thought to be just farmers’ stories as no one had ever seen them or knew of where they were. In February late, two of these craters were positively found.

### **1.3 Geographical and topographical facts**

Geographically the crash route traveled is in the Northern Ardennes transecting the West - North East direction from the southernmost section of the Beirgerhaard forest near Boevange (W), to 1.13km NE of Fischbach. The aircraft was on a flight course to Cologne from England. The bomber Group consisted of 187 aircraft in total, 12 aircraft were from the 323rd Bomb Squadron to which Bull Session belonged. The aircraft group has navigational waypoints called Initial Point (IP) where the groups make navigational changes to target to avoid flak gun areas. Liège, St. Vith, and Brussels are just a few IPs. It is believed that they were using Bastogne as an IP on the run. After making

adjustments from the West to East direction, the group turned NE towards the Luxembourg border. It was shortly after entering the airspace between Luxembourg/Belgium that the plane was hit by flak at 7,100m above Allerborn or Hammiville and exploded. The high altitude explosion began a structural breakup that would take the plane 13 Km NE towards Fischbach where it finally hit the ground. This aircraft was traveling 340Km per hour weighing 38 tonnes, it would continue in a direction of travel until momentum and gravity, plus aerial dynamics were no longer playing the part of flight capabilities.

### 1.4 Geologic context and corrosion effects within the deposits

The geological context of the site offers additional research regarding the question of what happens to artifacts in the ground in respect of the state of preservation and the rate of corrosion and breakdown.

The North Ardennes locally called the Eisleck or Oesling geology has been a dynamic subject since the beginning of the Ardennes Offensive began on 16 December 1944 when the tactics were to move armies, tanks, and other heavy equipment over the steep hills and deep valleys with very little or no paved roads. Consisting largely of Devonian schists, shales, sandstone clays, and quartzite's of 400 million years ago, the weather and topography play a primary role in soil development or lack of. At the Draï Hivelen, the site area is open crop fields with barely 25 to 30cm of topsoil commonly called the "plow zone". There are other factors that also play part in the degradation of aircraft metals, plastic, rubber, electronics, laminated phenolic, and pressed board. The amount of fertilizers over time and water drainage or how much water stays in the ground as well as how much comes up from the ground as high water tables. All this can have grave effects on artifacts and evidence. The slope of the site area averages 1m per 100 meters in the SW to NE direction measured for 200m. A profile (Fig 6-1) of the crater exhibits damage done by explosive shock.

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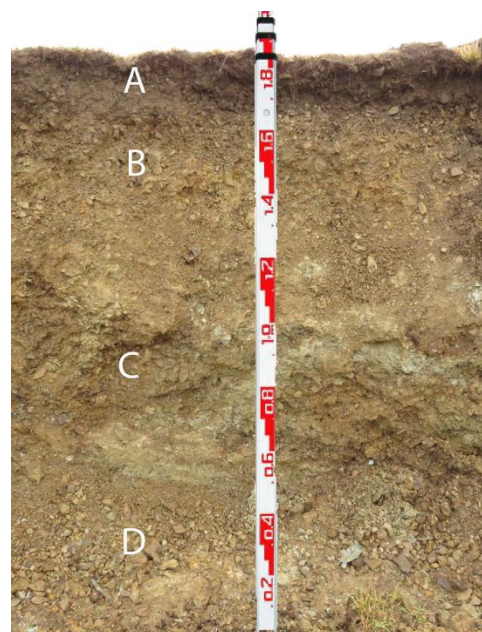
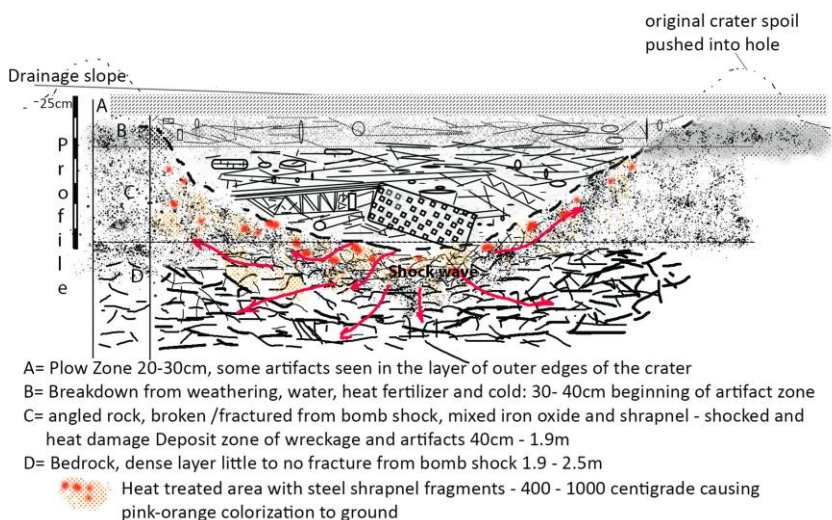


Fig 6-2, illustrates ground changes, Munsell scale 10YR, 6/6 - 5/8, WWIIBRPG

Fig 6-1, USBC Profile with ground shock damage, WWIIBRPG

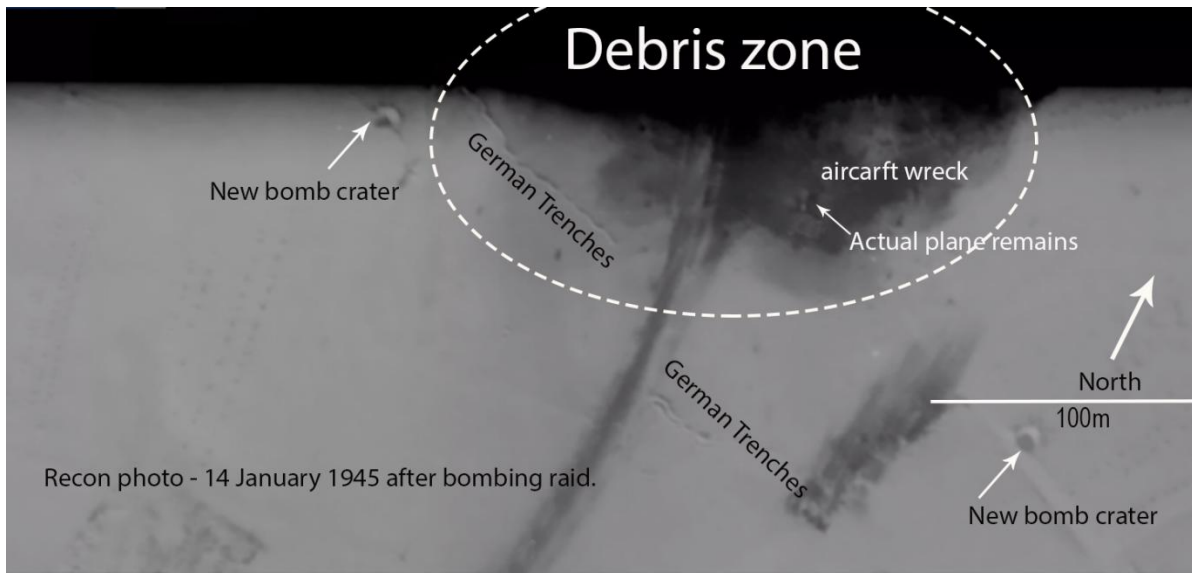


Fig 7-1, Jan 14 1945, NCAP,NARA,WWIIBRPG

As stated earlier, these depressions are craters formed on or about 14 January 1945 when the US 19th Air Forces dropped 500lb (250Kg) high explosive ordnance on German positions occupying the area with gun emplacements (fig 7-1). Seven or eight of these craters that have been located were used for dumping battlefield debris and aircraft wreckage during cleanup operations in the summer-fall 1945 by Swiss Army and civil paid workers. It has been documented and observed that the contents of aircraft wreckage have been subjected to varying degrees of corrosion. Some magnitude of corrosion has been so far as that much of the aluminum has transformed back to a powder magnesium state and also presents itself as a light blue grainy powder and sometimes a liquid gel that is slimy. Obviously buried deeper objects and deposits on more slop have less degradation. The photo shows different metals in the helmet and bomb backplate in condition as compared to aluminum with and without corrosion preventive techniques.



Fig 7-2, iron artifacts verses aluminum



Fig 7-3, US M1 Helmet lies in aluminum remnants



Fig 7-4, Propeller damage from corrosion

The helmet (fig 7-2) was cleaned and found to belong to an SSgt Casey, 28<sup>th</sup> Division 1<sup>st</sup> battalion. They held the line during the December 16 - 18 fighting in the Fischbach - Hupperdange - Heinerscheid zone. Research is ongoing to reveal more about the man and his part in the fighting.



## 2. Historical and cultural significance to Archaeology

Going beyond the primary scope of searching for our missing servicemen, we can obviously concede that this site and the incident of downing the aircraft are all wrapped in a very historical event. The liberation of Europe from the Nazi regime of 4 years of complete occupation not only of Luxembourg but what is today the European Union, and the threat of further global decimation of human life. That is the big picture, on the micro-scale of events, this is the story of 9 young men who were whisked away from youth, home, and the life they knew to fight in a conflict a world away. Their role in the big picture is one very small fragment of thousands like theirs that when operating collectively pursue freedom for people they didn't even know and the hope for returning to the "normal" life.

Post-war data collected gives grim numbers of just what the freedom cost in life, equipment, and resources. According to the AAF Statistical Digest, Approximately 43,000 planes were lost overseas, including 23,000 in combat between December 1941 and August 1945. Numbers for the US Army Air Forces in airmen are: lost 14,903 pilots, aircrew, and assorted personnel plus 13,873 airplanes. The numbers by VE-Day would rise to over 40,000 airmen killed in combat theatres with 18,000 wounded in action. Some 12,000 missing men were declared dead. A staggering amount of fuel, equipment, and weapons used to gain freedom were also expended as numbers show 9.7 billion gallons of gasoline used up, 459.7 billion rounds of aircraft ammo, and 7.9 million bombs dropped. Sources: Rene Francillon, Ray Wagner, American Combat Planes; Wikipedia.

What small part in history has this aircraft played; it would have to be said for this mission not much as it never made it to the target. But as a player on the winning team, she played her part in 18 missions prior to the last one dropping approximately a total of 90,000 lbs of bombs on target. Being shot down on 14 January 1945 begins the ship and crew's significant part in history to be remembered, as this mission will stand out among the rest of them prior. It's a human connection of sad events that tie the lives of nine young men and the mystery of what happened to their ship, crew, and the whereabouts of the plane itself. Of course, all this happened over the country of Luxembourg, and spans the community of Winrange to Clervaux, crossing German lines with its wreckage and crew lying upon the battlefields occupied by combat units of six different US Divisions and the German 5th Panzer Army. These two combatants met head-on beginning 16 December 1944 and locked horns till the first week of February 1945.

After a five-year search for the aircraft that was missing for 76 years, we not only have solved the mystery of where it went, but can now correct the historical records, and literature written prior to its demise. Being that there is a substantial amount of material and data, we have a literal crime scene preserved with evidence to point out the exact cause that brought her down. The evidence in the form of shrapnel damage in the engine area, slight fire damage in the fuselage, Plexiglas, and interpreting the damage done by impact. Parts recovered also play a huge portion in telling the story and shining light on the investigation. If we have only wings and tail then we wonder where the fuselage could be, as that is the working location of the crew. Significant finds such as rudder pedals, brake system, and armor from behind the Co-Pilot seat, is strong clear evidence of the cockpit at least being on the field.

Also found is a radio transmitter, antenna transmitter unit, the IFF destruct system for the radio, and a part of the Radio Operators' chair. This is very important as being from the Radio Operators section, and is extremely important as one of the missing airmen is our Radio Operator. This evidence gives hope that he may be very well on the impact point – not in the deposited crater.

Someday significant parts of this plane will be on display in the public, as will the mission details and the of the crew who flew it, it is a shared cultural heritage of people not only in the US but the community of Clervaux and Winrange and touched by those in Fischbach, Weicherdange, and Boevange. These people take large pride in what happened in their backyard even if it was only 76 years ago. Too many times has World War II material been just discarded as shrot and taken to the SICA. Too many times have people just said throw it away, it's in the past or we don't want to hear about WWII anymore. It's not Roman, Mid-Evil, or romantic, but it is shared history.

### 3. The scientific objectives and characteristics of the operation

Founded on information collected in archives, historical reports, and a pattern of discoveries a theory as to the missing men began to develop. As stated prior, 3 members of the crew had been found in the Boevange area, the pilot was discovered in March of 1946 by Anna Jaeger working in Boevange when she went to the forest to bring firewood. This shallow grave's exact location remains unknown. It is speculated that the missing Top Turret Gunner, Michael Holowaty may have been buried in the same area, but overlooked as the grave was not being regarded for at the time. The Co-Pilot was injured and taken to a German infirmary in Boevange where he soon died and was buried there. The Navigator was also killed in action and buried in the Boevange cemetery. This data offered a starting point to begin the search. As the search moved further NE and nothing was found, it was decided to "jump" to the far end of the path where the Tail Gunner, Waist Gunner, and Ball Turret Gunner were found near Fischbach and Hupperdange.

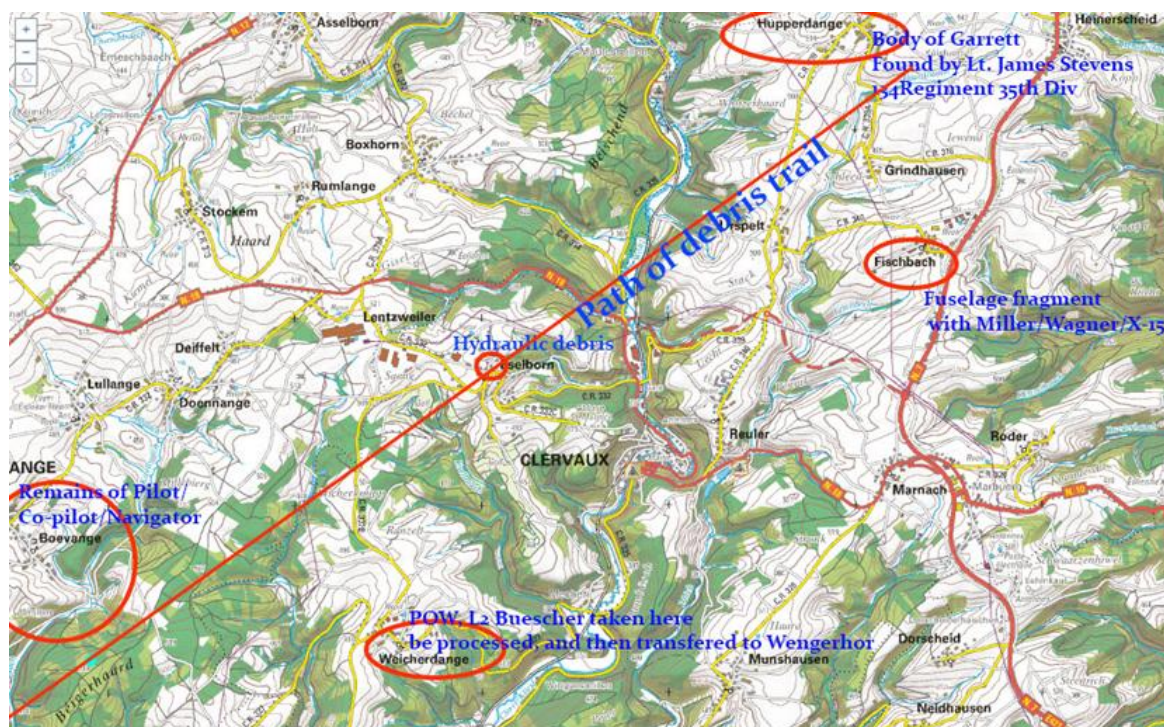


Fig 9-1, Path of travel, Geoportal, WWIIBRPG

A helpful fact established was that the body of Robert P. Garret was discovered on 29 January by US forces near Hupperdange, an exact location not known. A witness report from the Gendanmarie stated that a 4 engine aircraft was seen crashing to the ground near Fischbach at the Draï Hivelen, and one chute was seen. It is assumed that this chute may have been Garret who came down near Hupperdange. The bodies of Robert M. Wagner and Arthur Miller were discovered near a road around Fischbach in the wreckage.

Report of burial for Unknown American X-19, who was KIA (Est) 12 Jan. 45, Hupperdange, Luxembourg (VP/800 677 Nord de Guerre Zone). Buried 1 Feb. 45 in the US Mil Cem Hamm, Luxembourg, Plot M, Row 10, Grave 238. Fingerprints and Tooth Chart were taken. According to attached statement signed by James Stevens, 2nd Lt., 134th Inf. 35th Div., body was found along the road which had been in enemy hands (enemy territory) for some time. Body brought to cemetery by Pfc. Perez Vidal, 3048th QM Gr. Reg. Co. attached to 6th Arm. Div., Assenois, Belgium. Body was one of 18 bodies brought but only one picked up at Hupperdange, Belgium, and only one an Air Force member. Laundry Mark "G-5458" found in 3 places on White wool Under-shirt and white wool drawers; also on the body was an electrically heated flying suit and parachute harness.

This is all that was known at the time. As this evidence and data conversed with fellow researcher and colleague John Dernenen, it is a collective agreement that the Fiscbach region must be the correct place of the impact, and therefore the wreckage on site is that of the sought after aircraft B-17G, "Bull Session" and it is here we may have the best chance of MIA evidence.

Fig 9-2, Garrett P. IDPF, WWIIBRPG

## 4. Progress of the operation and methodology:

### 4.1 Techniques of crater extraction and welfare concerns

Preliminary surveys of the site area indicated the deposited craters to be approximately 7 meters in diameter and are filled with metallic content. In USBC-001 at a depth of 32 cm, barbed wire fence strands, aircraft debris, and unexploded ordnance identified by SEDAL were found. Shallow-buried UXO hazards must be anticipated in such an area given the combat history. In 2021 an enormous number of UXOs were discovered and removed from the area from Hoscheid to Weiswampach and two farm tractors had been damaged or destroyed. Factors that must be observed regarding UXOs are time in the ground, temperature changes, chemical instability, not all bombs “just go off”, but there is always a possibility. There are faulty detonators, was the bomb armed or not from pilots? And some bombs “Porpoises” being they enter the ground swim along and re-emerge without detonation. There are also sometimes more than one detonator such as the 250Kg bomb can have a front, rear and inner detonator. A proactive UXO risk assessment was implemented by SEDAL to mitigate a threat on site. Further testing with a deep detector and magnetometer gave positive results for large “iron” targets; the deposits were to be reported as “battlefield deposits” recommendation was for clearing them of all material. It was clearly assumed that aircraft debris, as well as “unknown” material, was occupying the deposits, extraction was to be carried out in a safe, controlled as well as a technical manner to not destroy any wreckage evidence or personal items that may belong to the missing personnel. The following passage outlines this procedure.



Fig 10-1, USBC-002, filled in the crater in the dark area, WWIIBRPG



Fig 10-2, USBC002, SEDAL target checking, WWIIBRPG

Designation numbers 2021-034/USBC-001 continuing consecutively were assigned to each depression. Each crater was scanned to determine the size in diameter as well as iron objects greater than 30cm in length and marked in blue paint. Orange flagging was also put out to illustrate the shape and size of the area. An initial de-capping of topsoil of 10cm was taken off. Caution was used as not to scrape directly down on the blue targets. When nothing was observed another 10cm was taken down, this continued until a presence of metals was seen. It was obvious that contents on the edges of the craters would be reviled before areas more toward the center. A central datum point for a site map in Luref was established with elevation (Plan-3). A slope measurement was taken of the field to show an average of .40cm drop to the NE for every 20m. This shows a negligible run-off for water on the site. An additional Luref point was taken in the center of the crater for putting distance in between craters. At this time further scanning of the 50-meter area indicated two additional craters in the immediate area moving in the NE direction. Two craters 7m in diameter were stripped of approximately 40sq meters area.

Once the diameter of the crater was well defined and the first contents exposed, a spoil trench of 1.5 – 2m was cut around the crater for the safety of recovering contents from the sides and working downwards, this would repeat as the “pie” shape would begin to shrink and close inward. All the exposing of contents was done by trowel, buckets, and brush (fig 14-2). Small spades were to remove the unneeded spoil and as the trench filled up the spoil was removed by machine and increased the depth until the bottom of the crater reached (fig14-1). Mapping (fig11-3) was done with the aid of measurements from the optical level transit, laser distance measurer and tape, in addition, photos of significant finds and stages were taken to review for a finished map we have no GPR, LIDAR access, or high tech equipment.

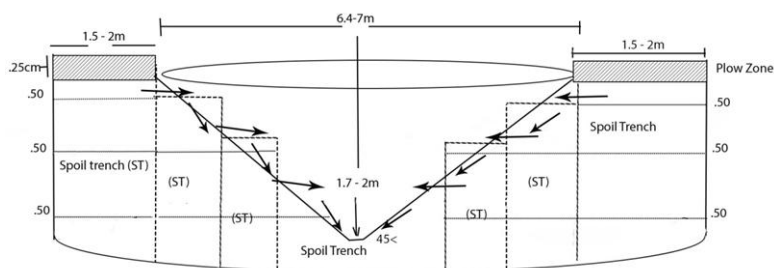


Fig 11-1, diagram of the crater cone as worked, WWIIBRPG



Fig 11-2, exposing, WWIIBRPG



Fig 11-3, center depth reading WWIIBRPG

In the relationship to the site deposits to impact zone, there are no provenience other than the deposit was made at the same time circa the end of summer 1945 by the Swiss Army Salvage units. Salvage of the aircraft sections was evident as no fuel bladders were found, there are 23 of them in the wings holding 1,700 US gallons. The rubber was worth gold back then. The engine mounts were all cut suggesting the engines were taken away. Parts deposited that occur in USBC-001 appear to continue in USBC-002 in an orderly pattern, such as the ball turret as most of it was found in USBC-002, but less in USBC-001 suggesting 001 may have been filled first as it is closer to the impact area.

Deposition of associated wreckage continues in an orderly pattern as associated evidence shows sections were taken from the impact zone and deposited until the crater was full; the remaining wreckage from the same section was then put in the next crater. Also taken by the salvage team, were sensitive equipment and parachute cord cut from the harness. Also discovered were small amounts of cereal (Plt-10) grown in the field that summer of 1945 which made its way into the crater inside layers of wreckage, as well as birch leaves (Plt-11) and wild weeds grown in the craters during spring 1945. This was not the limit to non-wreckage debris, also found was partial German/US uniforms, helmets (28th Division), a gas mask, and a canteen.

## **4.2 US Department of Defense POW/MIA Accounting Agency (DPAA) intervention**

On August 29, 2021, the United States Departments of Defense's POW/MIA Accounting Agency team of 5 personnel from the Central Identification Laboratory Hawaii and the Pentagon, Washington DC arrived for a site visit to implement a ground survey and receive a progress update to the research. The team spent 3 days on site.

GPS points were collected in the fields on both sides of the roads. Metal detection was accomplished with 5 transects 20 meters long and 4 meters between. Targets were flagged and a random sample opened. These samples consisted of small fragments of aluminum being mainly pieces of the wing structure and engine fragments as well as .50 cal small arms ammo. Photographs of diagnostic value evidence were also taken for further analysis to determine the probability of possible remains being at the site. No solid fundamental evidence has been collected to indicate that any one individual or both are at the site. The team will be assessing all data collected back in DC and Hawaii with forensic determinations. It is a mutual agreement that more evidence must be collected and documented from the impact site and satellite sites in the area that can determine a more in-depth trajectory of aircraft from the direction of travel to ground zero.

## **4.3 Technical Oversight and Personnel**

Technical oversight for the science of the research for mapping, exposing procedures, documenting, tagging, and bagging evidence, photographing, and personnel rest with WWIIBRPG. Service de déminage de l'Armée luxembourgeoise, SEDAL has responsibility for the overall safety of ordnance, UXO removal, and control.

Gratitude and credit to the WWIIBRPG team. A highly motivated, dedicated enthusiastic group of volunteers that share a passion for history and science put in many hours of their own time, as no one is paid, working 5-6 hours after their normal workday and on weekends away from family enduring 4 to -3 temperatures in the mud, wind, rain, and snow. The SEDAL team was on-site 80% of the time helping remove debris at the same time performing normal duty at other locations. Members are a mix of aviation engineers, police, aircraft pilots, construction workers, teachers, and military.

Everyone pitched in using their equipment including but not limited to excavator, loader, and trailers. We receive no State subsidies, loans, or budgets of tens of thousands in funding; all are out of pocket at an average of 6,000 euros per year. The commune of Clervaux provided us a commune worker for 4 hours per day for 4 days in the week.

# **5. Results of the operation**

## **5.1 Definitive aspects of the site**

The current hypothesis for the site is based on data and evidence gathered as so far as current operations have been conducted. That this crater area in the fields were made from 500-pound ordnance dropped by US forces prior to January 14, 1945, to neutralize German positions. Evidence supported as to the size of ordnance is identified by found remains of the bomb's fins, backplate with detonators, shrapnel fragments, and crater dimensions. Bomb run direction can be calculated to be from the SW direction as supported by patterns of crater layout and "blow-out" cone angles.

The aerial reconnaissance photos taken December 27, 1944, and 14 January 1945 clearly show the targets for the US Army Air Forces and the damage inflicted after operations as well as the wreckage of the aircraft in the photos on the ground. The discovery of these crater-filled depressions with battlefield debris and aircraft wreckage indicates a clean-up and salvage mission was being done on the location.

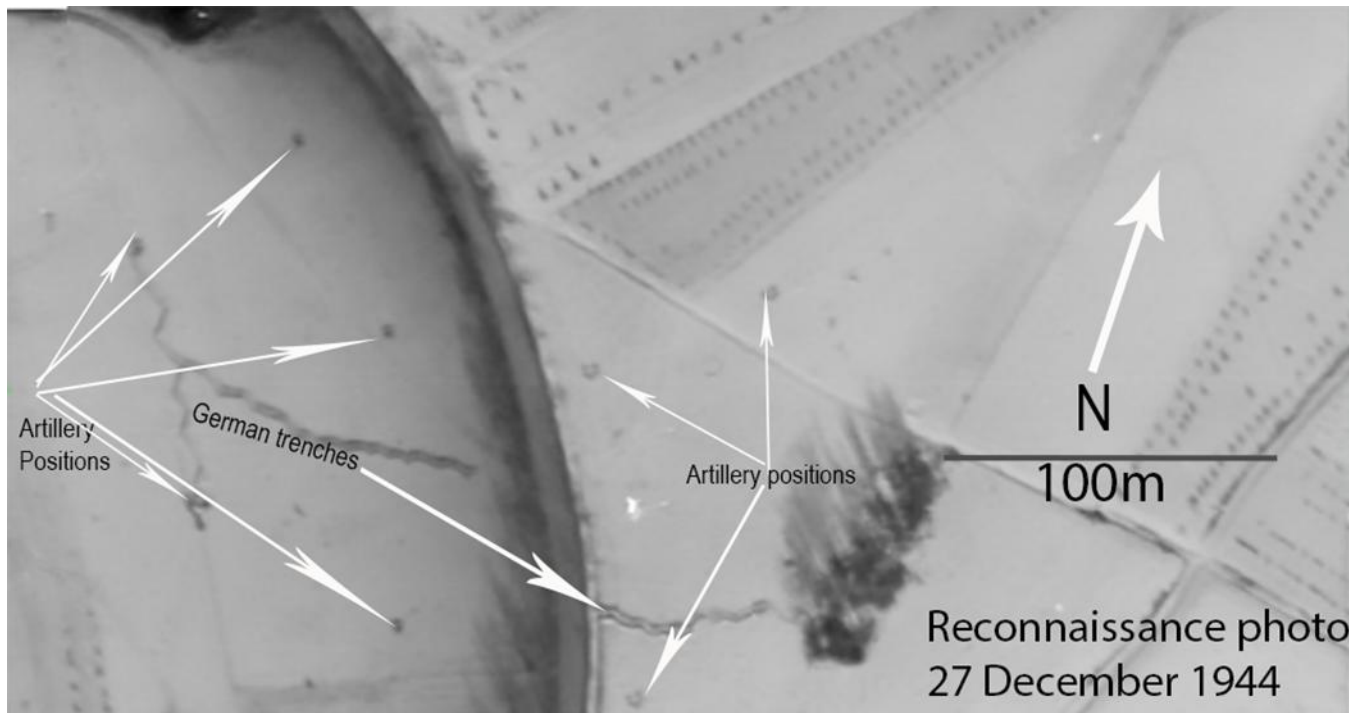


Fig 13-1, 27 December photo shows German positions before bombs dropped on 14 January 1945. NCAP

13

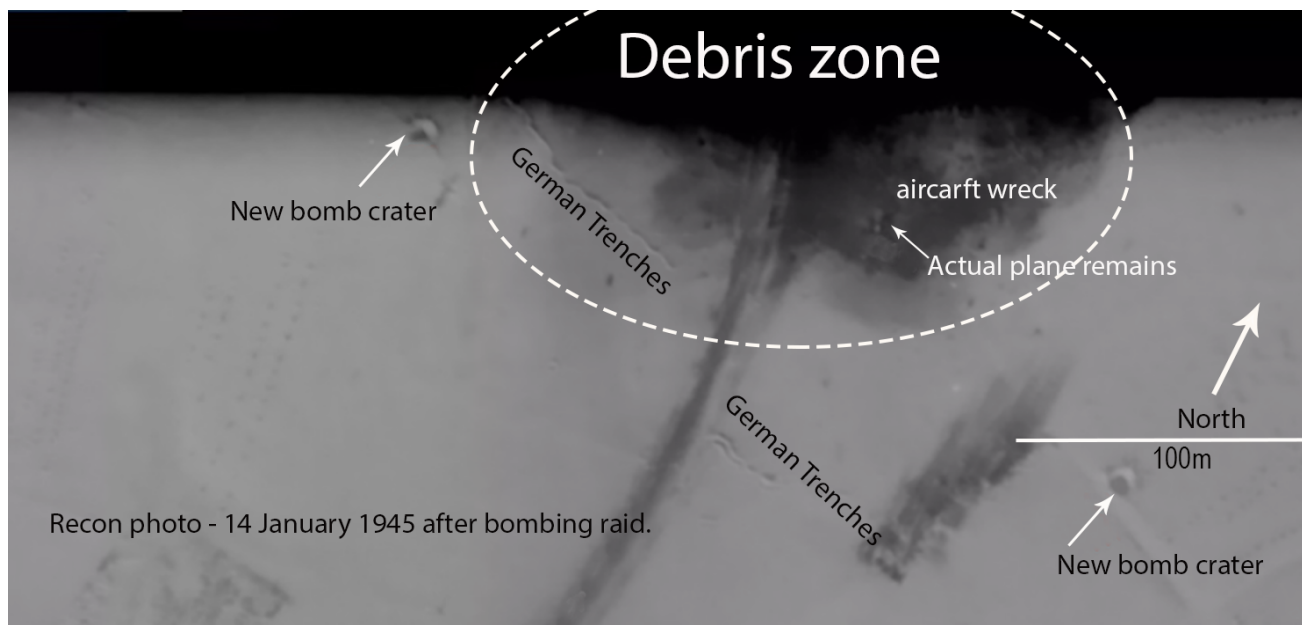


Fig 13-2, shows the same area with snow covered craters from bombing German positions, and aircraft wreckage on the field. NCAP

Each crater contains thousands of pieces of aircraft debris which are diagnostic to the research, some are completely lost to time and degradation from corrosion. Ongoing work is in progress to clean, identify and catalog as much of every piece as possible, this number is above 1000. For simplicity, only primary assemblies and unique parts will be mentioned in this report. A color code is used to distinguish tags, items, and maps for quick reference as to what crater it came from. All items with Blue are from USBC-001, Red signifies USBC-002. This scheme will continue for the next discovered deposits.

2021-034/USBC-001 - For a detailed map of the site refer to page 15, Map-1  
 Width; 7m in diameter, with spoil trench. 10m = first spoil trench 1.2m, second expansion 1.8, third expansion 70cm  
 Depth - 1.94m in the center. The angle of the cone of depression is about 45°

2021-034/USBC-001

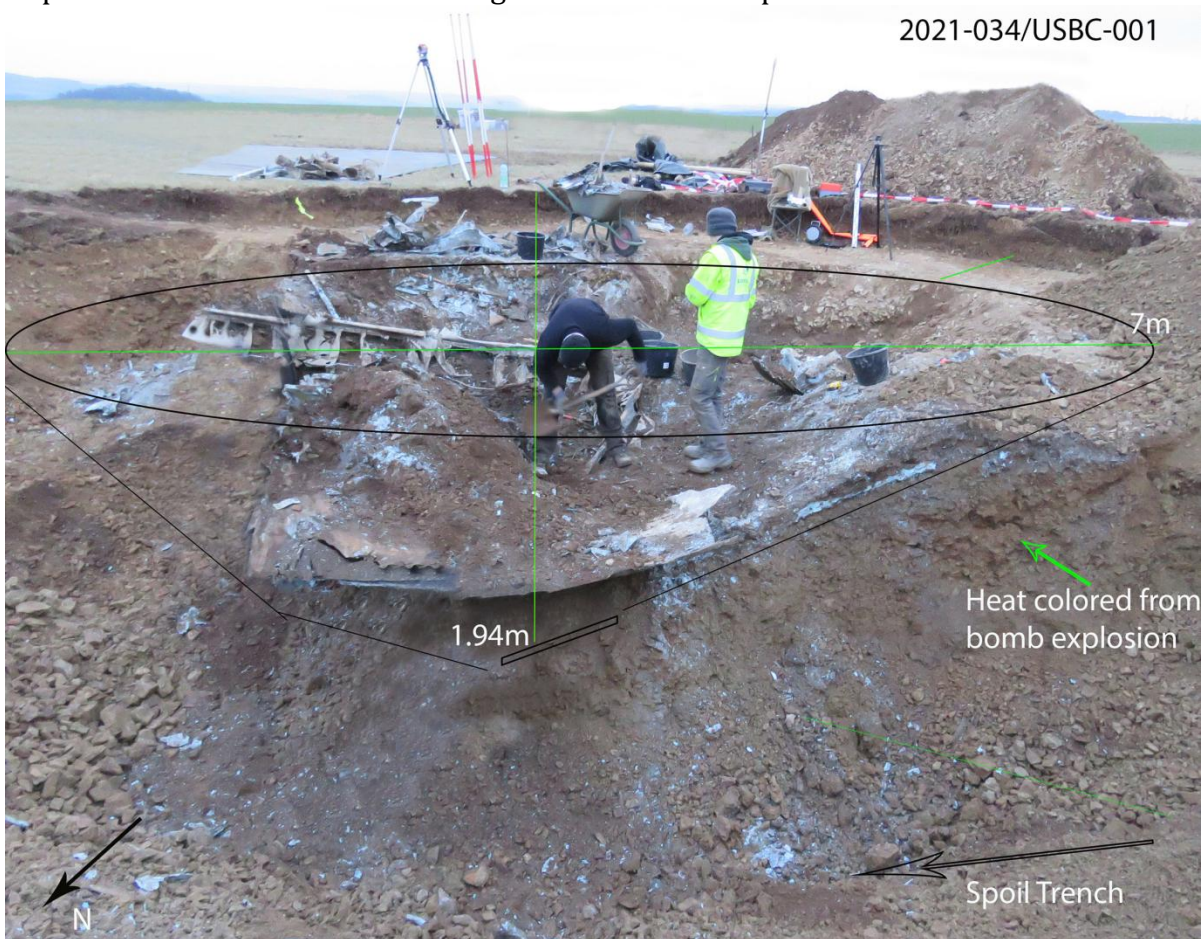
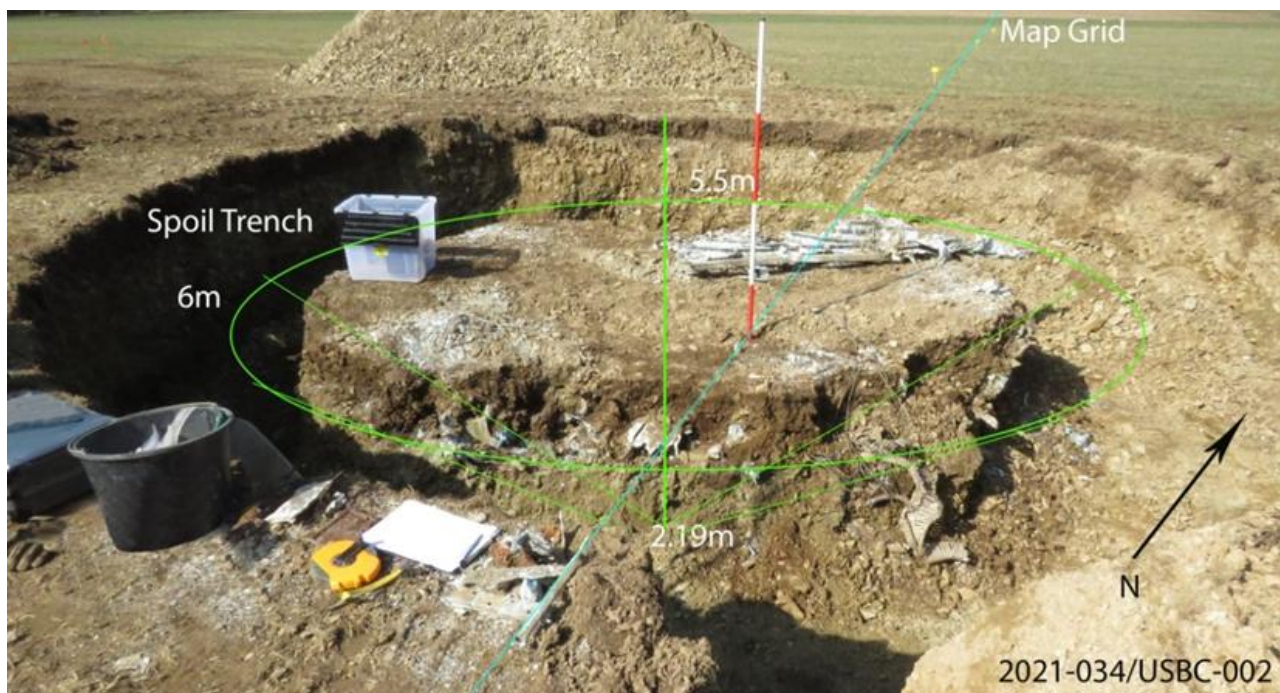


Fig 14-1, USBC-001 dimensions, WWIIBRPG

2021-034/USBC-002 - For a detailed map of the site refer to page 16, Map-2.  
 Width - 6x5.5m in diameter, with spoil trench - 10m = first trench expansion 2.6m, the second expansion, 1.4m  
 Depth - 2.19m in the center of the depression, cone angle 45°



2021-034/USBC-002

Fig 14-2, USB-002 dimensions

- 2021-034/USBC-1 Primary Artifact Guide
1. WING SKIN W/STAR AND BLUE FIELD
  2. INBOARD WING TRUSS AND SPARS
  3. WING TRUSS FRAGMENT END - OUTBOARD
  4. FUEL BLADDER SUPPORT RIB
  5. OUTER WING SURFACE SKIN
  6. SURFACE SKIN FUSELAGE
  7. MI HELMET - 28TH DIVISION
  8. DYNAMOTOR - VOLTAGE AMPLIFIER
  9. NACELLE COVER - AF-43-3891I NACELE No4
  10. EXHAUST COLLECTOR
  11. OUTBOARD TRUSS SPAR
  12. TRUSS ANGLE SUPPORT WEB-PLATING
  13. RUDDER PEDALS-2, PILOT-CO-PILOT
  14. ENGINE COVER
  15. BALL TURRET FRAGMENT
  16. RUDDER PEDAL PILOT-CO-PILOT
  17. ELECTRONICS - BOX
  18. FLAK HELMET
  19. BOMB FINS - 500LB
  20. 20a. FLAK VEST - X2
  21. TYPE-1 SERVICE SHOE
  22. AILERON - STARBOARD
  23. AILERON - FRAGMENT PORT-SIDE
  24. WING SKIN - SUPPORT
  25. FUSELAGE STREAMER SUPPORTS
  26. WING TRUSS SUPPORT SECTION
  27. INTERNAL WING RIB SUPPORT
  28. FUEL LINE - RED BAND COLOR CODE

WWII Battlefield Research and Preservation Group  
 #15 Rue Henri Hemes, L-8134, Bridel

Project No 2021-034/USBC-01: Dräi Hiwelen, Fischbach Commune (Clervaux)

Date: 3-2-21 - 3-10-21 WWII Aircraft wreckage recovery, USAAF 43-3891I

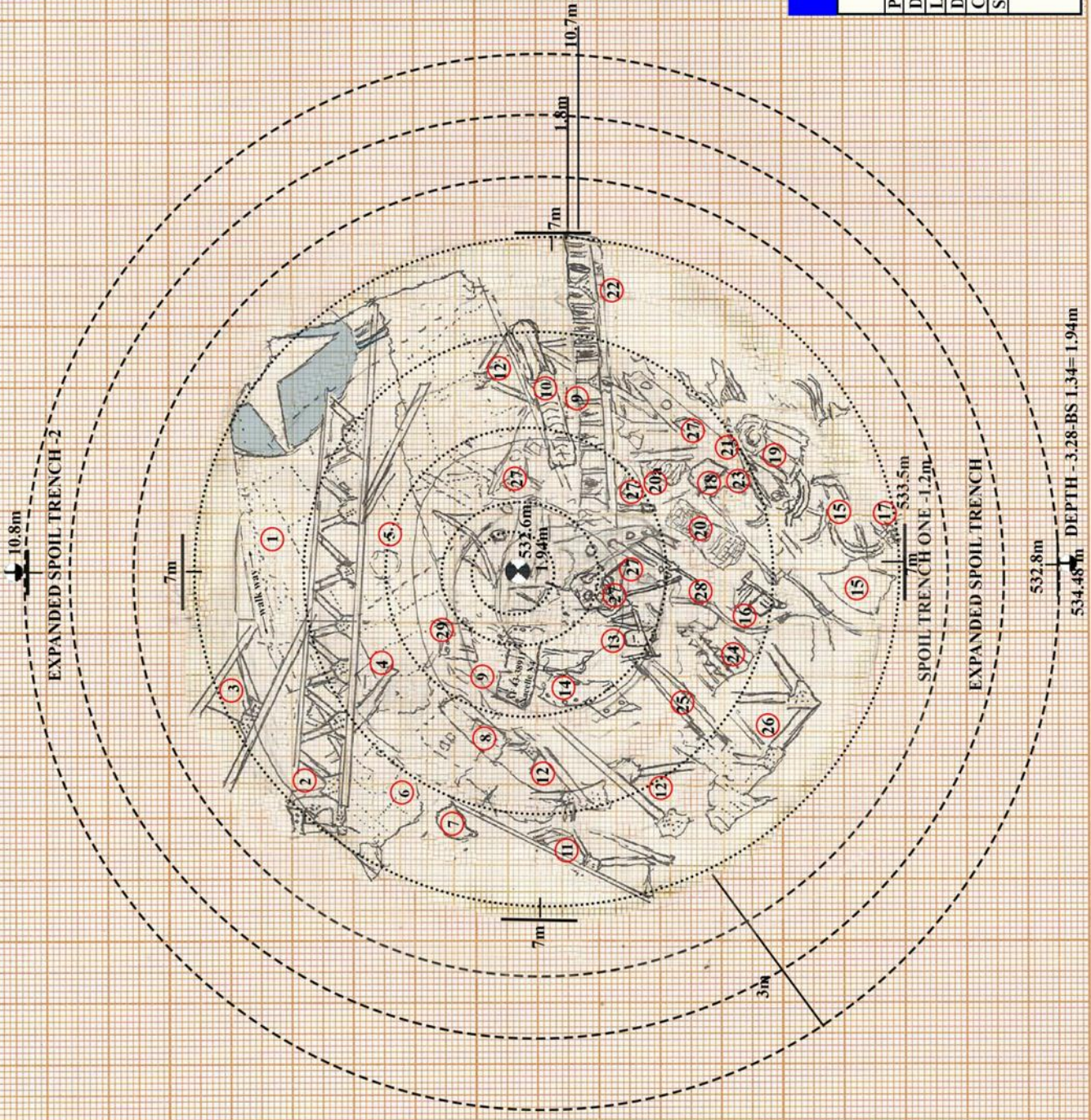
LuRef: E 73652, N 127432; Elevation 534.48m

Depth: 1.94 m, contour interval .50cm. Benchmark 534.48m - 340< North

Crater width - 7m x 7.2m Datum point

Spoil Trench width 3.8m - 2.8m Measure point

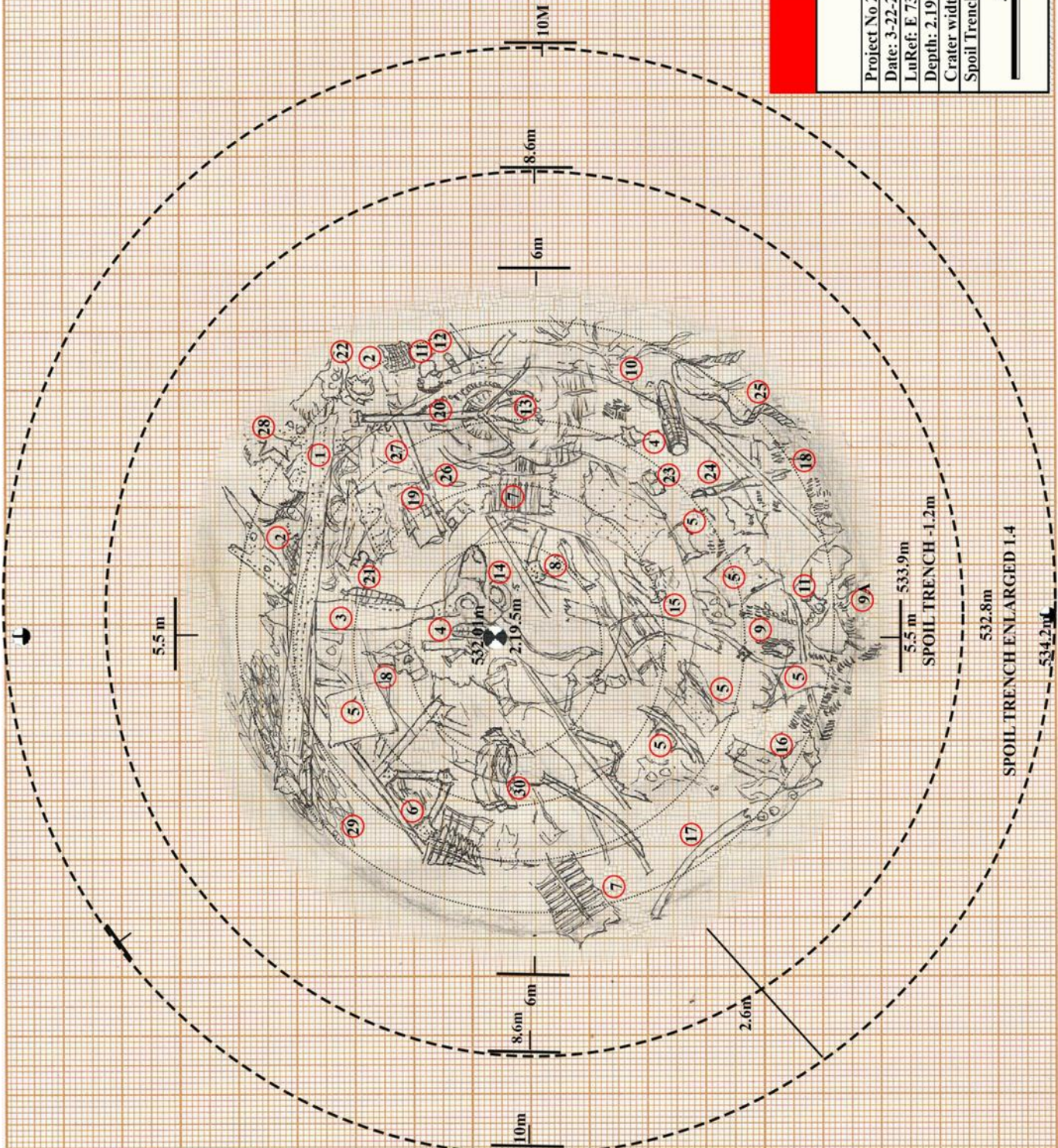
.875 1.75m 3.5m





2021-034/USBC-2 Primary Artifact Guide

- 1. INBOARD WING TRUSS
- 2. FLAK VEST X2
- 3. PROPELLER - X2 BLADES
- 4. OXYGEN TANK (TYPE D-2) X 2
- 5. BALL TURRET LARGE PARTS X 5
- 6. OUTBOARD WING TRUSS FRAME
- 7. WING SKIN
- 8. HEAT DUCTING ASSEMBLY
- 9/9a. ELECTRICAL HEATED GLOVE
- 10. PARACHUTE AND D-RINGS, PARACHUTE HOOKS
- 11. OXYGEN MASK A-14 X 2
- 12. GOGLES
- 13. TURBO CHARGER
- 14. 500LB BOMB BACK PLATE
- 15. BOMB FINS
- 16. FUEL BLADDER FRAGMENTS
- 17. FUEL TANK RIB
- 18. .50 AMMO X 550 RDS
- 19. ANTENNA XMITTER
- 20. BALL-TURRET HANGER SYSTEM
- 21. FLAK HELMET
- 22. SCR-363 INTERCOM JACK
- 23. EXHAUST COLLECTOR
- 24. MAUAL HYDRAULIC PUMP LEVER
- 25. FLEX CHUTE
- 26. TYPE -F2 HEATED BOOT SOLE
- 27. ANTENNA MAST VHF 104
- 28. WING SKIN WITH STAR
- 29. US TELEGRAPH/PHONE WIRE - NON AIRCRAFT RELATED
- 30. BALL TURRET AMMUNITION BOX



WWII Battlefield Research and Preservation Group

#15 Rue Henri Hemes, L-8134, Bridel

Project No 2021-034/USBC-02: Dräi Hiwelen, Fischbach Commune (Clervaux)

Date: 3-22-21 - 3-24-21 | WWII Aircraft wreckage recovery, USAAF 43-38911

LuRef: E 73655, N 127435; Elevation 534.2m

Depth: 2.19m, contour interval .50cm, Benchmark 534.2 - 340 < North

Crater width - 5.5m x 6 m Datum point 340 <

Spoil Trench width 1.2m - 1.8m Measure point

.8 1.6m 3.2m



## 5.2 Summary of USBC-001 and USBC-002

These deposit sites can be summed up as craters initially created by 500-pound munitions dropped on location approximately the first 10 days of January 1945. Photos of 27 December (fig 13-1) show the area before being hit with no craters, but the snow had fallen. Photos on or about 14 January (fig 13-2), 1945 present the area after the bombs were dropped on the fields as well as the wreckage of the aircraft now in the picture. The craters were created before the wreckage hit the ground as they exhibit fresh snow on them where the wreckage zone is blackened and spread wide.

In late summer, the craters were then used for a convenient dumping site for battlefield debris left behind from combat forces in the area both during the beginning offensive 16 – 18 December 1944 and the final days of combat for liberating the area end January to the first week of February 1945. It is not clearly understood why so much material from the plane was deposited and not taken by the salvage team. It is observed that the site was salvaged for the most part, as mentioned the rubber took, engines, sensitive equipment, and such. We also have since discovered a news article that talked about the salvage operation and even mentions that the local farmer assisted in depositing the debris, this comes as a strange coincidence that the grandson has assisted in recovering the debris. He was not aware of this history until we discovered the article.

Post recovery operations are ongoing as far as conservation, cataloging, cleaning, and examining each piece for flak damage shining a light on the exact location of the explosion to the craft, and possibly telling what exact type of munition was used (Plt-12/13). There are many questions to answer. Also, observations are other artifacts that occupied the deposits such as combat equipment and uniform material from both combatants, foliage from the crop fields of the harvest of 1945, leaves off Birch trees in the fall 1945 and even Arboglyphs (Plt-17-20) discovered on site.

It is also clear that these deposits are indirectly connected to ground zero (impact) in that the plane did not cause the craters; the deposited material has been taken from the impact zone and deposited, not the aircraft crashing into the ground in separate depressions. It is highly doubted that any human remains were transferred into the deposits, but clues as to the missing men who might have been on the field in the wreckage are possible, such as the items recovered, for example the A-11 flight helmet, type II service shoes (Plt-4-5), and gloves (Plt-8-9) found, all have no serial numbers or names detected but were used by the crew.

## 6. Conclusion

It is without a doubt, that this investigation has come a long way since 2017, but is not conclusive. We have made great progress in accomplishing what was thought to be non-achievable, locating and discovering the resting place of the actual aircraft, and finding a vast amount of wreckage to help solve the mystery of the missing airmen. Short term goals that were set in 2017 edge towards success:

1. Finding as much aircraft material on the ground as possible
2. Locate the precise impact point of the aircraft
3. Begin to formulate a hypothesis of where the highest probable location of the two MIA might be.

The patterns of wreckage across a 12km area define, and enhance the magnitude of the corridor of debris. Continuing work has yielded 3 distinct areas of debris consisting of the wing and engine pieces as far as 480m west of the impact zone. This area is planned to become a Zone of Industry, it is vital to the research to find and recover as much material in connection to the wreckage as possible before this area is disturbed. Scanning operations in the fields continue to record schützengraben, trenches, other craters, and a mysterious large target located under the agriculture road that is under scrutiny in hopes that more significant wreckage may be associated with it. Ongoing analyses are being looked at to assess the potential of the find.

Contents of the deposits in “entire” are paramount to finding conclusive evidence to possible MIA localities. Items that could shine light are ID tags from any one of the missing men, top turret parts from the aircraft, or bone fragments. It was also said that when the wind turbine was built the construction crews had come across “some” wreckage fragments. What and how large this was no one knows, we are looking into it. Photographs of the replacement generator show that the site only missed the deposits by 30m.



Fig 18-1, Geoportal, WWIIBRPG

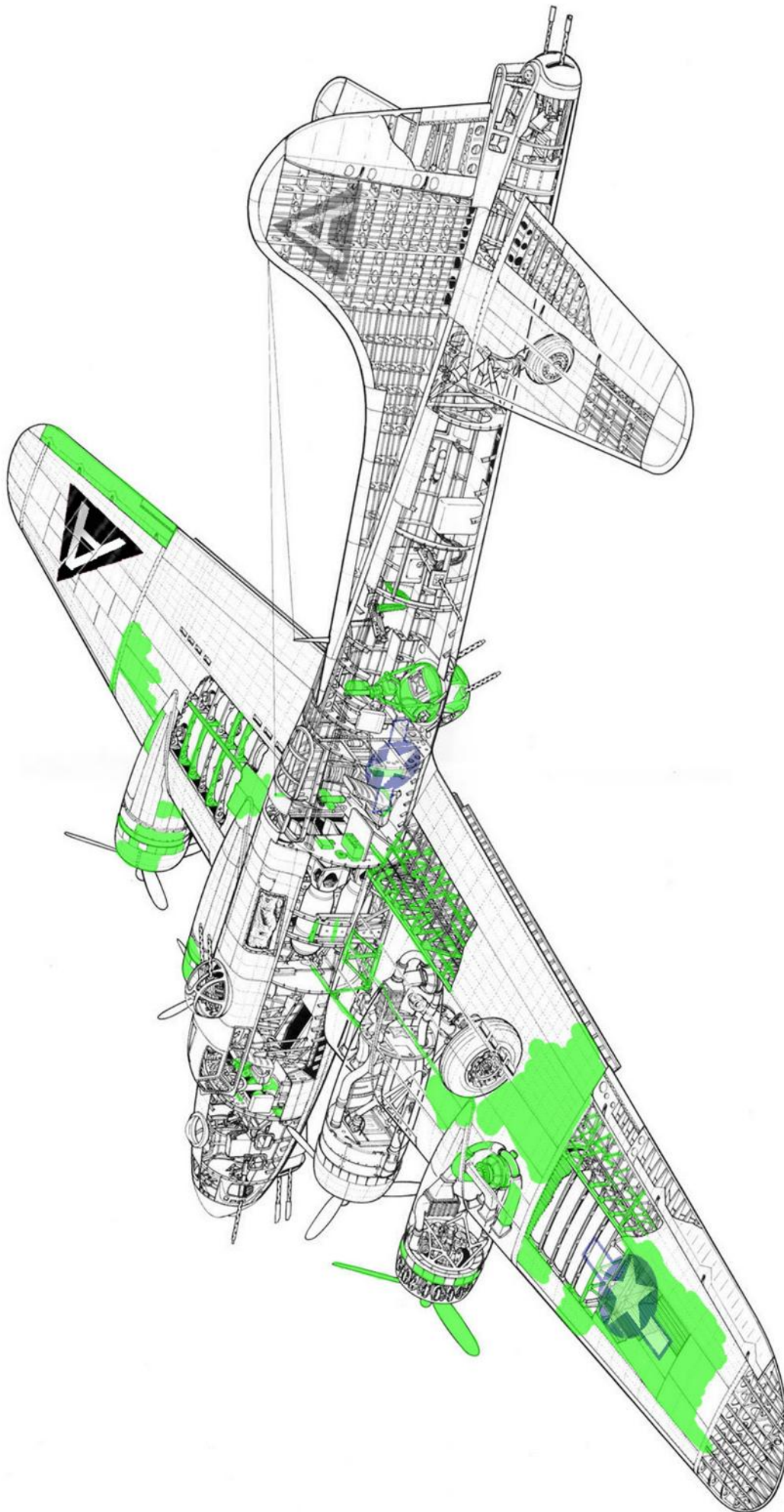
In 2021 we accomplished one of our sort-term goals as far as discovering the wreckage location, the hypothesis is still pending and weighs heavy on artifacts recovered from the wreck site and analysis of all material/data of the area. The wreckage recovered is as if someone had left a video and some belongings behind, we just have to splice it back together and interpret the data.

Primary assemblies found in USBC-001 and USBC-002 (Plan-5) include the outer and inner main wing (LH) (RH), turbocharger, ball turret, equipment from the radio room, bomb bay – door actuators and bomb shackles, command cabin, aileron, 2 flak helmets, 2.5 flak vest, gloves-heated, non-heated, flight Helmet, parachute, survival gear, propeller, and many more items still being identified. As said before, the final disposition of the aircraft wreckage and contents belong in the public and for research, not personal collections or sold, by anyone or institution, it is passionately desired that the collection stay a complete exhibit and not broken apart and spread between different entities. We must honor the crew and family as well as the history of the mission and aircraft.

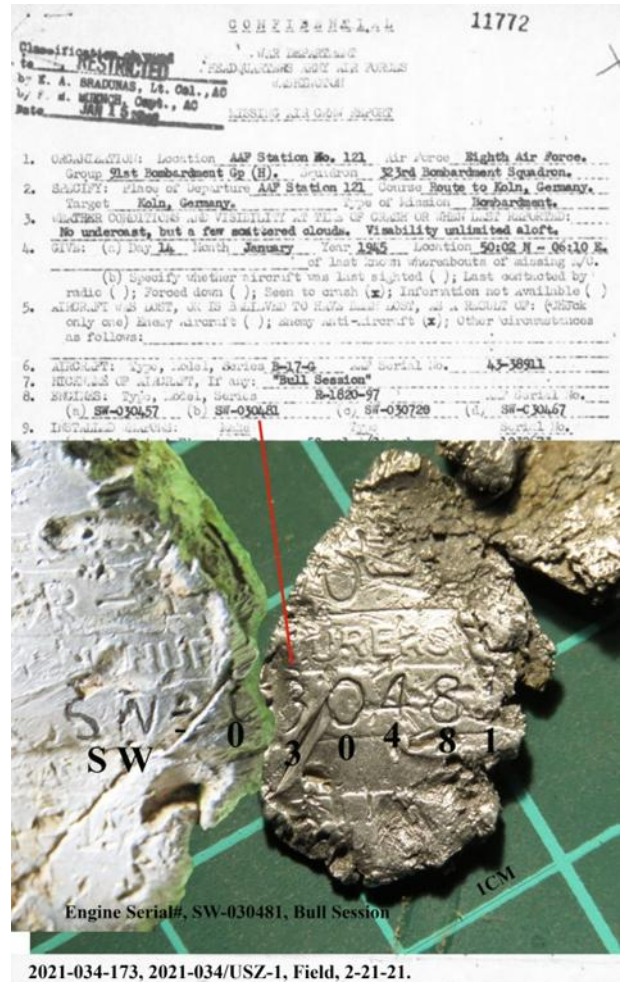
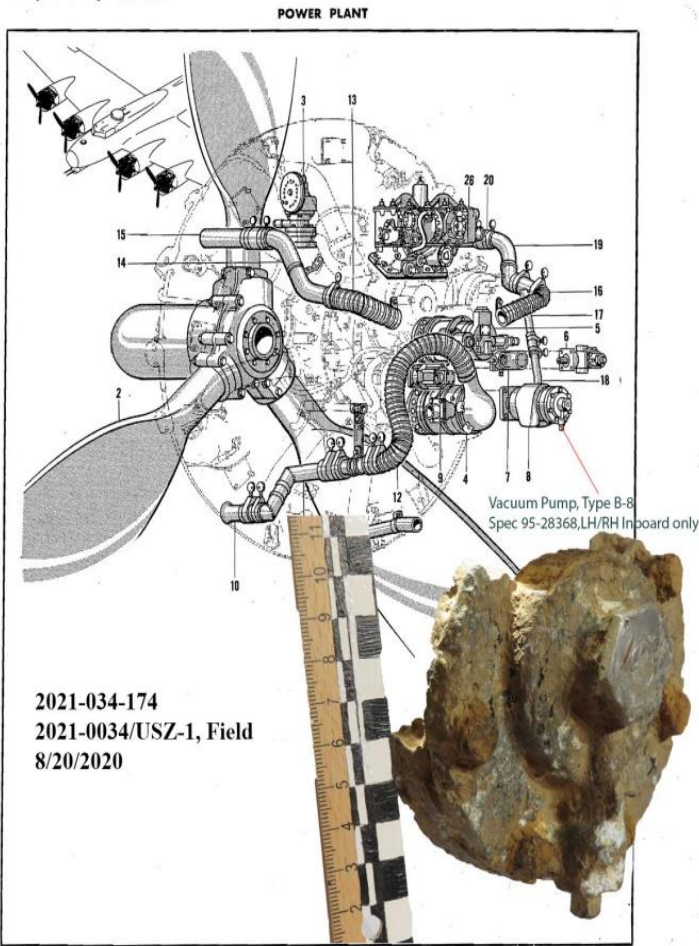
### 6.1 Post-operation, clean-up

It was very important that the farmers have the fields returned to them in better condition than when taken. There is a crystal clear understanding regarding the importance of the fields for their work and earnings. A sum of 1000kg of bad metals, barbed wires, and much other shrot as well as 800+live munitions was taken from the two deposits. Once all material was cleared, the craters were destroyed and a further 1m was taken around/below it to be certain that remnants of explosives had been removed. The ground was backfilled in reverse of opening and more topsoil and seeds were added.

This research honors the families of the missing men with a commitment to ensure that the sacrifices made by those young crewmen, (sons, fathers, brothers, and husbands), are not forgotten and that closure can finally be given. We have to stress that this is not only a site of historical events but of tragedy and investigation.



# Plates



Plt-1, Vacuum pump cover

Plt-2, Engine data plate



Plt-3, A-11 Flight Helmet



Plt-4, Type-I Service Shoes USAAF



021-034-225  
021-034/USBC-001  
Type 1 Service shoe (R)

Plt-5, Type-I Service Shoes USAAF

2021-034-003  
2021-034/USBC-001  
M-3 Flak helmet



Plt-6, M-3 Flak Helmet

2021-034-077  
2021-034/USBC-002  
M3 Flak helmet



Plt-7, Flak Helmet M-3



2021-034-073  
2021-034/USBC-002  
Glove, Flying, Electrically heated, 24vlt, Type E-1

Plt-8, Heated Glove

2021-034-074  
2021-034/USBC-002  
Glove, A11-A with wool insert



Plt-9, Winter glove



2021-034/234  
Wheat grain

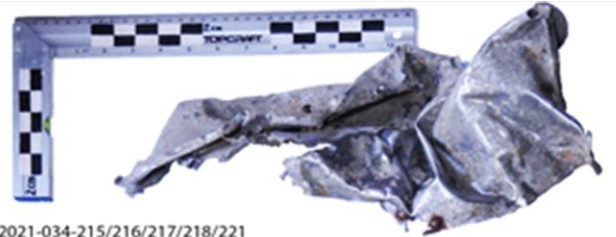
Plt-10, Wheat cereal



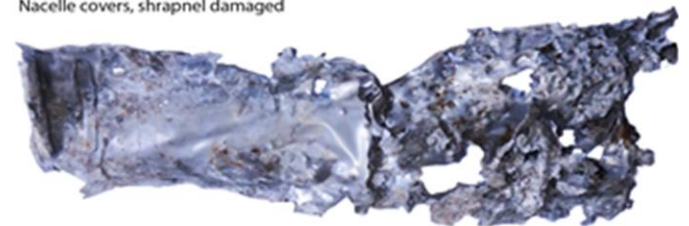
2021-034/235

Plt-11 Beech leaves

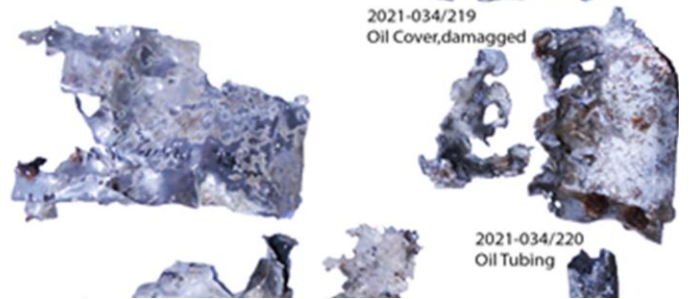
Plt - 12, Engine cover flak damage



2021-034-215/216/217/218/221  
Nacelle covers, shrapnel damaged



2021-034/219  
Oil Cover,damaged



2021-034/220  
Oil Tubing



2021-034-232  
Front Inboard Truss, Main Wing  
Flak Dammage

Plt-13, Shrapnel damage, wing truss support



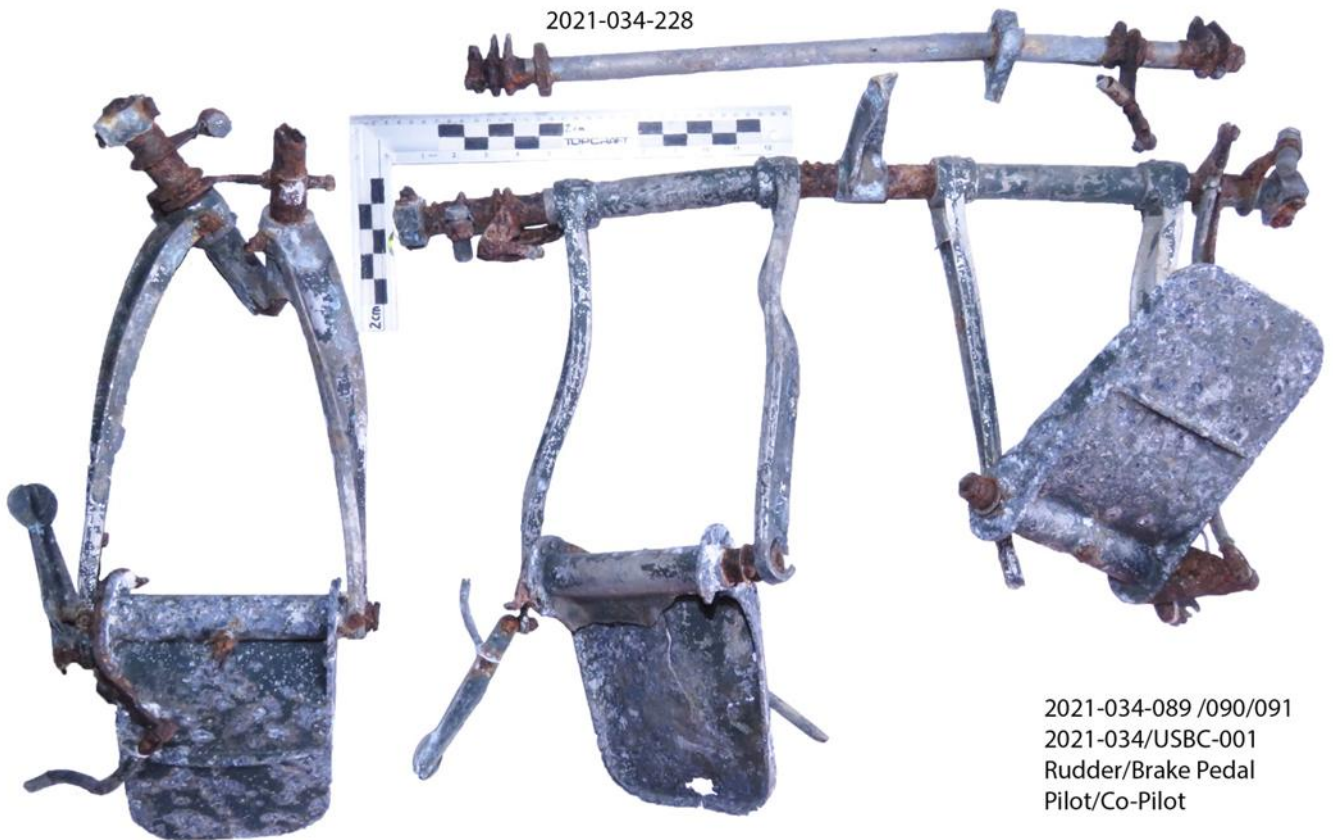
2021-034/233  
2021-034/USBC-001  
German Artillery Uniform



2021-034/010  
2021-034/USBC-002  
RC255, Radio Destruct system (IFF)

Plt-14, German uniform tunic, Artillery branch?

Plt-15, Identifier Friendly Foe (IFF) Destruct



2021-034-228

2021-034-089 /090/091  
2021-034/USBC-001  
Rudder/Brake Pedal  
Pilot/Co-Pilot

Plt-16, Rudder/brake pedals





Plt-17, Arboglyph -1



Plt-18, Arboglyph - 2, 2<sup>nd</sup> panzer Division?



Plt-19, USA, Hackenkruez



Plt-20, Panzer Lehr?

# Appendix

## Supporting references

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