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23 April 2015

Dear [REDACTED]

Thank you for your email of 24 March 2015 to the Joint Casualty and Compassionate Centre (JCCC) requesting information on the excavation of the Gravesend Hurricane and F/S Williams. Your email has been treated as a request for information under the Freedom of Information Act 2000. You asked:

I have just been reading through Gravesham BC's planning file regarding F/S Williams and I note that in his letter to you dated 26 May 2008, Lewis Deal mentions a report on the excavations, by Wing Commander Lainchbury. Is there a possibility of my having a copy of that report please?

A search for the information has now been completed within the Ministry of Defence, and I can confirm that the document (Ref: FTDC/1030/1/ORG, dated 12 May 2008) you requested is held and is attached.

Section 40(2) of the Freedom of Information Act has been applied to the document so some of the information has been redacted in order to protect personal information. Section 40 is an absolute exemption and there is no requirement to consider the public interest in making a decision to withhold the information.

If you are not satisfied with this response or you wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, 1st Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <http://www.ico.gov.uk>

Yours sincerely,

[REDACTED]
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Secretariat



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See Distribution

Reference: FTDC/10301/ORG

Date: 12 May 08

**ATTEMPTED DEFENCE TRAINING AND DEVELOPMENT CENTRE/ROYAL SCHOOL OF
MILITARY ENGINEERS RECOVERY OF HURRICANE V6550 & PILOT AT ALBION PARADE,
GRAVESEND - FINAL REPORT**

BACKGROUND

1. Hawker Hurricane Mk I V6550 of 46 Sqn RAF [REDACTED] was shot down during aerial combat over the Thames Estuary on 15 October 1940. The aircraft crashed at Barton's Timber Wharf, Albion Parade, Gravesend; the pilot was not seen to escape. Shortly afterwards a local team of Royal Engineers were tasked to recover the pilot's remains, but the high water table and waterlogged ground, allied to the lack of suitable excavation equipment caused the attempt to be abandoned. [REDACTED] was therefore officially posted as Missing In Action.

2. Due to the resurgence of interest in the events of World War 2 and the concomitant rapid growth in 'aviation archaeology' this site has been the focus of much amateur interest during the past 30 years. However, Barton's Wharf was extensively altered post-war, with land reclamation and new warehouses dominating the site. Whilst many theories as to the precise location of the impact point abound, it has consistently defied identification. The site is now largely derelict, with only one warehouse remaining. The majority of the site is still covered by the reinforced concrete floor of the former post-war warehouses. It is privately owned by [REDACTED]. [REDACTED] It must be stated for the record that [REDACTED] cooperation with the Ministry of Defence (MOD) throughout this operation has been superb.

3. There have been several previous amateur attempts at excavation, both licensed and unlicensed. All of them failed. The site once again came to prominence in early 2007 when the local media reported that it was to be redeveloped within the Thames Gateway Rejuvenation Project, thereby entombing the wreckage & pilot's remains for all time. This inspired [REDACTED] [REDACTED] to coordinate a 'once & for all' recovery operation. With the resources of MOD Fire Services Centre Training Establishment¹ Manston (FSCTE) already committed, the author subsequently sought and received approval from Comdt Royal School of Military Engineers Chatham (RSME) to employ substantial Royal Engineer support. Joint Air Recovery and Transport Squadron from MOD St Athan also committed to the operation which was then approved by the Joint Casualty and Compassionate Centre.

¹ Since renamed Defence Fire Training and Development Centre.

FIRST EXCAVATION

4. The first excavation took place during the period 27-29 July 2007. A Defence Science and Technology Laboratory (DSTL) search team² had previously been deployed to the site and 2 significant readings were obtained in the target area. Identification of this area was performed by ██████████ and was predicated on a 1941 aerial photograph that shows a suspicious hole in the roof of Barton's Timber Wharf; research had indicated that this was caused by the crashing aircraft. The precise spot to be dug was then calculated by simple triangulation using surviving local landmarks. Despite a huge excavation no trace of the aircraft was found. The 2 readings obtained by DSTL were revealed as the metal upperworks of an old Thames barge³ and a large volume of 1970s era rubbish. No other significant electronic returns were found once these items were removed. Continued excavation revealed the original sea wall complete with barge chains but nothing that provided any clues as to the aircraft's impact point. A damaged tyre, initially thought to be from the aircraft's tail-wheel, was later identified as belonging to a go-kart type sports vehicle. As expected the water table was encountered at a depth of around 2 metres; however, the rate of water ingress was very high and the FSCTE equipment was barely able to keep pace. Notwithstanding the lack of success the operation enjoyed a considerable amount of positive media coverage. Battle of Britain Memorial Flight kindly provided a fly past by one of their airworthy Hurricanes during the on-site memorial service to the fallen pilot that was held on 28 July 2007.

SECOND EXCAVATION

5. As a direct result of the ensuing media coverage the author was contacted by ██████████ ██████████, a former aviation archaeologist ██████████ who claimed to have much detailed knowledge of this crash that was not in the public domain. ██████████ travelled to Manston and generously handed over ██████████ complete case file. The file contained 2 first hand written accounts from long deceased eye witnesses that appeared to shed new light on the mystery. Specifically, they suggested that, after striking the roof, the bulk of the wreckage had travelled onwards through Barton's Wharf in a SE direction before impacting towards the rear of the yard. ██████████ also claimed that ██████████ had previously carried out a small excavation⁴ in this area and had found part of the aircraft's battery⁵. In order to confirm this hypothesis, and to gain a better understanding of the history of the site, Joint Air Reconnaissance Intelligence Centre kindly produced new mapping⁶ based on a modern satellite based overlay of the contemporary imagery. The digital data was then fed directly into the DSTL search equipment.

6. The second excavation⁷ took place during the period 21-23 September 2007 and benefited from several 'lessons learned' during the previous attempt. In particular it was decided to excavate to a point just above the water table, thus making the task much easier and simultaneously offering the best possible operating conditions for the DSTL search equipment. However, the results obtained were nearly identical to those achieved 2 months earlier. A variety of metal rubbish was recovered⁸ but, with one possible exception, no tangible remains of the aircraft were found. Moreover, just as before, once the metal contaminants were removed the DSTL equipment could find no trace of a main body of wreckage commensurate with an aero engine, propeller gear, radiator, firewall and armour plating etc (albeit crushed), the combination of which would emit an enormous electronic signature. By chance one small piece of mica was found in the same location as that described by ██████████. However, by itself it offers no definitive proof of impact, as the material is so light that it could have found its way to that spot by a variety of routes.

² Specifications and performance of the equipment used by Defence Science and Technology Laboratory throughout this operation are classified.

³ Redundant barges were used to facilitate post-war reclamation along the river bank.

⁴ This attempted excavation was illegal and ██████████ was ordered off site soon afterwards.

⁵ Now known to have been several strips of mica which was used in aircraft battery construction at the time.

⁶ The techniques involved are classified but, for the record, appropriate GPS corrections were used.

⁷ The excavation licence was transferred from ██████████ to ██████████ for this attempt.

⁸ The excavation also encountered a Victorian landfill site that contained thousands of jars & bottles.

THIRD EXCAVATION

7. In similar vein to the first excavation, news of the second was widely reported⁹ in the local media and resulted in more offers of assistance and information, the most significant of which came from ██████████. A 1940 employee of Essex Aero (whose premises were adjacent to Barton's) ██████████ claimed to have been the first on the scene after the crash and described it perfectly. ██████████ was interviewed ██████████ by the author on 2 separate occasions. ██████████ was also taken to the area where ██████████ had little difficulty in orientating ██████████. If ██████████ evidence is correct – and this author believes that it is – then the previous focus on the 'warehouse with the hole in the roof' has been completely wrong. ██████████ not only pointed to a different spot but also provided much new information about the nature and layout of Barton's Wharf. ██████████ recalled that Barton's was a much larger facility than hitherto believed and it consisted of not one but several large timber roofed warehouses. ██████████ unfailingly pointed to the western-most building, not the eastern-most where we had previously been working. (This connects with a small piece of previously overlooked evidence that had been gleaned some years ago from a former Police Constable who stood guard over the site in 1940; although ██████████ sketch was crude, it clearly shows a point at the western end of Barton's).

8. Unfortunately the spot identified by ██████████ currently lies beneath the only surviving warehouse on the site. This building was erected in 1978 and, barring one extension, occupies exactly the same area as its pre-war counterpart. There are no immediate plans to demolish this warehouse, as it is in good order and ██████████ has leased it to a white van delivery company ██████████. Moreover, the anticipated Thames Gateway project appears to have run into difficulties due to planning disputes. However, in early January 2008 the warehouse floor was conveniently clear and with the consent of all relevant parties DSTL conducted extensive surveys; 2 significant readings were obtained. In turn, RSME deployed a mobile drilling rig and removed core samples from the 5-7 metre band. These samples revealed various small fragments including bone¹⁰, leather, laminated wood and some nuts & bolts. Sadly, none of these fragments can be directly attributed to the aircraft, although the laminated wood is of a type consistent with 1930s aircraft construction¹¹. Both of the large electronic readings were further analysed by means of a magnetometer that was inserted into the drill holes; neither reading proved to be the aircraft, nor were any other significant readings located in the vicinity.

9. In view of the massive amount of analysis, research and effort that has been invested in this project and the continued lack of tangible aircraft remains we are left with 4 possible scenarios:

- a. Scenario 1. All research conducted thus far is wrong and the true crash site lies somewhere else within the local area.
- b. Analysis of Scenario 1. All research material and eye witness accounts examined thus far point to either the first excavation area (the hole in the roof theory) or to the current ██████████ warehouse. Whilst many of these accounts are either vague or contradictory, to date no other potential impact point has emerged via a cogent source.
- c. Scenario 2. The crash site lies at the eastern end of Barton's former facility (in keeping with popular thinking), the 1941 aerial photograph does indeed show evidence of a collision with the roof and therefore the wreckage must be nearby.
- d. Analysis of Scenario 2. Given the size, scale and depth of the July and September 2007 excavations around this area, the wreckage would have to be beyond the reach of the DSTL search equipment; this would be unheard of. Even if the wreckage is still there, its

⁹ There was no advance MOD publicity, but news was leaked to the media by amateur enthusiasts.

¹⁰ Dundee University have been unable to determine the origin of the largest bone fragment found. As at the time of writing chemical analysis is being considered, subject to costs.

¹¹ The Hurricane had many wooden components within its rear fuselage.

depth would effectively rule out an excavation on the grounds of its enormous magnitude, complexity and cost, not to mention the terrific impact on the immediate local area.

e. Scenario 3. The crash site is close to the [REDACTED] warehouse, but lies just outside of the areas searched by DSTL.

f. Analysis of Scenario 3. [REDACTED] did not actually witness the moment of impact; no one did due to the tall buildings that blocked the eye witnesses' view in the last few seconds of its fall. It is possible therefore that, whilst [REDACTED] may be entirely correct in [REDACTED] recollections, the post-crash fire that [REDACTED] watched burning was in a slightly different area to that where the main body of wreckage had penetrated. Given the unproductive search in & around the [REDACTED] warehouse the only possible area that might fit this scenario is in the NE corner where the search equipment was confused by a massive amount of ground disturbance and metallic debris, far in excess of that which could be attributed to the aircraft. This probably marks the start of the post-war redevelopment work and at least some of the returns must emanate from decaying landfill barges. Not only would any excavation of this area have to wait for demolition of the [REDACTED] warehouse but, as in scenario 2, the likely magnitude of such an operation would also render it impractical in both engineering terms¹² and cost.

g. Scenario 4. The crash site lies underneath the [REDACTED] warehouse and the January 2008 search & drilling failed to locate it.

h. Analysis of Scenario 4. The lack of definitive evidence retrieved from the core samples, which simultaneously disproved the 2 significant electronic returns found under the warehouse floor, clearly proves that the main body of wreckage is not there. Moreover, a wider search around the perimeter of the building extending almost to the sea wall similarly failed to locate the aircraft. Yet, [REDACTED] recollections cannot be faulted and the evidence of the former Police Constable cannot be ignored. Therefore the main body of wreckage must have been removed post-war. Local stories of wreckage being found during redevelopment work, in 1950 and again in 1978, add weight to this theory. Moreover, 1978 marked the peak of uncontrolled aviation archaeology activity in the UK and it is therefore possible that news of wreckage being found prompted unknown individuals to carry out their own covert recovery. It will not be possible to prove this theory until the warehouse is finally demolished and a full excavation of the site can be mounted. As previously stated, this seems several years away.

CONCLUSION

10. Given the media & local sensitivities associated with this crash site, allied to the high degree of NOK interest, the decision to undertake an excavation was well founded. A large amount of detailed research into ascertaining the precise impact point was invested by [REDACTED] and [REDACTED] team; however, they unwittingly fell into the popular trap set by the 1941 'hole in the roof' photograph. This explains the complete absence of evidence found in July 2007. With hindsight the new evidence presented by [REDACTED] was similarly off-target, but the fact that [REDACTED] had previously found mica in that location firmly suggested that a second attempt should be made. Although the September 2007 excavation did indeed find more mica in that same spot, it failed to resolve the wider question regarding the location of the main body of wreckage. The evidence subsequently brought forward by [REDACTED] threw welcome new light on the matter and has come close to answering several parts of the puzzle. However, the lack of definitive evidence around the [REDACTED] warehouse is disappointing.

11. Taking into account the most reliable of the research material and eye witness reports analysed so far, and the clear lack of a viable electronic signature in the area of the former 'hole in

¹² Any excavation of this area would have to take account of both the depth of in-fill material and then the additional depth to which the aircraft might have sunk, a likely combined depth of more than 9 metres.

the roof, scenarios 1 & 2 are discounted. Scenario 3 has some merit, especially as the NE corner of the [REDACTED] warehouse stands on the fringes of an area that has been subject to massive disturbance in the past. However, this is not consistent with either the reported angle of the aircraft's final descent or the location of the post-crash fire. Thus the only remaining explanation that stands the test of reason is scenario 4, that the main body of wreckage has already been removed. If so, it is highly likely that minor fragments – including fragmentary human remains – will eventually be found under the site of the present [REDACTED] warehouse, but only after it has been demolished. Even then, an enormous volume of earth would have to be excavated and sifted in order to recover whatever may be left.

RECOMMENDATIONS

12. It is recommended that:

- a. The JCCC accept scenario 4 as the most likely fate of this aircraft and its unfortunate pilot, and inform all relevant parties accordingly.
- b. The JCCC coordinate with the site owner, [REDACTED], and Kent Police so that, once the [REDACTED] warehouse is finally demolished, the site may be properly secured pending any further MOD investigation.

[REDACTED]

[REDACTED]

Distribution:

External:

Action:

JCCC Innsworth [REDACTED]

VALEDICTION

The author would like to express [redacted] sincere thanks to the following organisations and individuals, all of whom consistently performed 'above & beyond the call of duty' throughout this difficult and complex operation:

RSME Chatham:

[redacted]

JARTF MOD St Athan

[redacted]

DSTL Fort Halstead

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

DFTDC Manston

[redacted]

BBMF RAF Coningsby

[redacted]

JARIC RAF Brampton

[redacted]

Dundee University

[redacted]

[redacted]

[redacted]

Coroner's Office

[redacted]