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Bristol Beaufort Mk. I X.8931 L2
No. 5 (Coastal) Operational Training Unit, R.A.F. Chivenor

THE LAST FLIGHT OF:

BEAUFORT L.4478

A narrative of the last flight of Beaufort L.4478, which crashed at Putsborough near Croyde in North Devon on 3 August 1941, killing the pilot P/O BATLEY and his observer. The other crew member survived the crash.

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The Last Flight of Beaufort L.4478

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Introduction

For various reasons, R.A.F. units changed their names or titles, which can sometimes be interpreted as the formation of a new unit. Often in reality, the change of name was superficial and meant little to the men and women based at that unit. One such example was the redesignation of No. 3 (Coastal) Operational Training Unit ((C) O.T.U.) as No. 5 (Coastal) Operational Training Unit. Although some ground crew were posted to R.A.F. Cranwell where a new No. 3 (Coastal) Operational Training Unit was being formed to train air crew on the Vickers Wellington and Armstrong Whitworth Whitley aircraft being introduced into Coastal Command.

The official date of the redesignation was 1 August 1941, and just three days later, the 'new' O.T.U. suffered its first fatal air crash. This is the story of this crash.

The Bristol Beaufort

The Bristol Beaufort was the standard torpedo-bomber and maritime strike aircraft of the Royal Air Force Coastal Command from 1940 until 1943. It replaced the Vickers Vildebeest biplanes, which were obsolete by the outbreak of the Second World War. The Bristol Aeroplane Company Limited, based at Filton, on the northern outskirts of the Gloucestershire city that it was named after, developed the Beaufort in response to two Specifications issued by the Air Ministry. Specification M.15/35 was for a three seat, twin-engine, monoplane for use as a torpedo-bomber, and G.24/35 for a four seat, general reconnaissance bomber.

The Bristol Aeroplane Coy Ltd saw an advantage in combining both roles into a single design, and the proposed aircraft was known as the Type 152. Blackburn Aircraft Limited had developed their design, which was known as the B-26 (later known as the Botha) in response to the same two specifications, and because Blackburn had less work than Bristol (who were building the Blenheim light bombers), the B-26 was chosen to become the principal R.A.F. torpedo-bomber. Because there was little to choose between the two designs on paper, orders were placed for both aircraft. The Air Ministry decided to use the Botha to replace the Avro Anson and Vickers Vildebeest at home, while the Beaufort would replace the Vildebeest overseas. The priority given to the Blackburn design can be seen that by the time that orders for the Botha had reached one-thousand, two-hundred and fifty-six aircraft, those for the Beaufort were only four-hundred and twenty-six aircraft.

The prototype Beaufort (L.4441) first flew on 15 October 1938, and the Air Ministry issued a contract to build seventy-eight aircraft to the Specification 10/36. The production aircraft differed from the prototype in several details, but in essence, they were still the same design. The aircraft was a torpedo-bomber, with a crew of four: pilot, observer/navigator, wireless operator, and air gunner. It had an all-metal, stressed skin construction, and weighed 13,107 lbs (5.85 tons) when empty, and 21,228 lbs (9.5 tons) when fully loaded. The aircraft was powered by two, 1,010 horsepower (hp), Bristol Taurus Mk. II air-cooled, radial engines.

The Beaufort had a wingspan of 57' 10", a length of 44' 7", a height of 12' 5", and a wing area of 503 square feet. The maximum speed of the Beaufort was 265 mph at 6,000 feet, with a cruising speed of 200 mph. Its range was 1,035 miles in normal operation, with a maximum range of 1,600 miles. The endurance of the aircraft was six hours, and it had a ceiling of 16,500 feet, although this was used rarely. The Beaufort was originally armed with one 0.303 machine gun in the port wing, and a single Vickers K-type gas fed 0.303 machine gun in the B.IV Mk I turret. The aircraft was designed to carry four 250 lb bombs in the bomb bay, and one more on each wing. In theory, the Beaufort could carry six 500 lb bombs, or one 1,605 lb, eighteen-inch torpedo semi-enclosed in the bomb bay. In practice, the restrictions on range and performance imposed by a full bomb load, meant that Coastal Command restricted the aircraft to carrying up to 2,200 lbs of bombs or mines.

Both the Blackburn Botha, and the Bristol Beaufort, were planned to be powered by two, single-row, sleeve-valve, air-cooled, Bristol Perseus engines. It was predicted that this would leave both aircraft underpowered, and in order to get the Beaufort into service as quickly as possible, and because a proven low-altitude engine of higher power was not available, the Air Ministry agreed to that the new and compact, twin-row, Bristol Taurus engine would be substituted. This turned out to be a flawed design, which had been rushed into production before full testing and development had been completed. Availability of this new engine was limited, and Bristol gave priority to their own design of aircraft, leaving the Botha to continue with the Perseus engine. This effectively condemned the Blackburn Botha to failure as an operational torpedo bomber.

Problems persisted with the Bristol Taurus Mk II engines fitted to the first production Beaufort aircraft. Frequent failures with a bolt led to the connecting rods slipping from the crankshaft and thereby wrecking the engine. This would result in the loss of an engine, often accompanied by fire, with catastrophic results at low altitude. The view of the Bristol company was to use high revolutions and maximum continuous speed, but although this may have reduced the incidence of failures, it reduced the range of the aircraft significantly, and simply wore the engines out early. The de Havilland propellers were variable speed, but they could not be fully feathered, meaning that a failed engine caused a lot of drag to the aircraft. As late as March 1940, the Aeroplane and Armament Experimental Establishment (A. & A.E.E.) refused to give full and final clearance for the aircraft to enter operational service because of its poor performance on a single engine.

There were also problems with the tailwheel and tailplane, but it was engine overheating that was the main issue delaying the Beaufort's operational debut. In October 1938, the Beaufort was grounded for modifications to the cowlings and cooling gills. This still caused problems with running the engines on the ground, but in the air, matters were improved. It was decided on 16 March 1939 that of the first seventy-eight aircraft ordered, five would act as prototypes, two would be used for trials, and twenty-one would re-equip No. 100 Squadron in Singapore. The other fifty would be supplied to the Royal Australian Air Force, with No. 36 Squadron to be equipped with aircraft from the next batch.

Matters changed with the increasingly disappointing performance of the Blackburn Botha, and so the Air Ministry agreed to divert all Beauforts to home based squadrons. On 1 July 1939, an order for fifty aircraft was placed with the Australian government to supply squadrons in the Far East.

Beam guns were added to some aircraft from May 1940 onwards, and from W.6538 onwards, a Browning machine gun was fitted in the starboard wing. Then problems with the supply of the Daimler built B.IV series turrets arose. The Blenheim type turret was modified for use in the Beaufort as the B.I Mk. V turret, and this mounted twin Browning 0.303 machine guns. The first aircraft so fitted was AW.335, and these had a strengthened airframe and were designated as Mark IA Beauforts. On 27 May 1941, the Air Staff decided that Beauforts allocated to torpedo bomber squadrons should have a single Vickers K machine gun installed in the nose, but these were fitted only in aircraft used by No. 22 Squadron.

Problems with the Bristol Taurus Mk II engine nearly led to the end of the Beaufort as an operational aircraft, but there was nothing else. On 28 August 1940, due to the persistent problems with the engines, the Beaufort was withdrawn from front-line service to allow two-hundred and fifty-four aircraft to be returned to Filton for the improved Mark VI engine to be fitted. Operations resumed with No. 22 Squadron on 31 August, with No. 42 following on 28 September. The Mark IA version was fitted with the Taurus Mk. XII engine, and these were retro-fitted to surviving Mark I aircraft.

The search for a better engine led to consideration of fitting the Rolls-Royce Merlin, but this was discounted for reasons of range and performance, but the Pratt and Whitney Twin Wasp S3C4 engine, was found to be suitable. Beaufort N.1110 was used as a prototype, and this led to the production of the Mark II version of the aircraft. The prototype flew for the first time in November 1940, with the first aircraft, AW.244 flying on 17 August 1941. The Twin Wasp engines developed 1,200 hp, but other than a few improvements made through operational experience, the basic aircraft was the same. The Beaufort squadrons found that the Taurus equipped aircraft performed better in temperate climates, but the Twin Wasps were better in hotter and more humid climates. Four-hundred and fifteen Beaufort Mk. II and Mk IIA aircraft (the Mark IIA having the strengthened airframe and new turret) were built before production ceased in 1944. The Taurus equipped Beaufort was declared obsolete in 1944, and the Twin-Wasp version a year later.

One-thousand and thirteen Beaufort Mk. I aircraft were built by the Bristol Aeroplane Co. Ltd. at their main works at Filton, and at a shadow factory at Banwell, Somerset. The Australian government built additional Beauforts in Australia for use by the Royal Australian Air Force. Total production was two-thousand, one-hundred and twenty-nine Beaufort aircraft, including seven-hundred built in Australia. Thirteen Beauforts were supplied to the Turkish Air Force, and these were flown until 1950. The last Beaufort was flown in the U.K. in 1946, and a consideration of its status is that it was never awarded a Civil certificate of airworthiness by the U.K. authorities. No flying examples remain today, and only two as static exhibits.

Beaufort Mk. VIII (the Australian version of the Mark IIA) A9-557 can be seen at the Australian War Memorial in Canberra. There is a Beaufort on display at the R.A.F. Museum, which is displayed as Mark IIA, DD.931. It is in fact built from parts from several Australian Mk. VIII aircraft, the main airframe coming from A9-559.

Operational Deployment

The Bristol Beaufort was approved to be allocated to R.A.F. squadrons in September 1939, and they entered service in November 1939, with No. 22 Squadron, based at Thorney Island, Sussex. The Beauforts superseded Vickers Vildebeest biplanes, and they were a marked improvement in capability for the squadron. The conversion to the new aircraft continued until the last Vildebeest left in February 1940. A problem arose as it was realised that although the R.A.F. had a new torpedo bomber, it had no torpedo capable of being dropped from the Beaufort. The simple issue was that the design of British air-launched torpedoes had fallen behind the improvement in aircraft design.

The torpedo in use at the time was the Mk. XII, which had been designed during the First World War to be fired from Motor Torpedo Boats. The most modern Royal Navy torpedo carrying aircraft was the Fairy Albacore, a development of the Fairy Swordfish that remained the principal R.N. torpedo bomber. These were biplanes, with a top speed of about 160 mph, and different from the Beaufort. Trials at the Torpedo Development Unit at R.A.F. Gosport showed serious problems with torpedoes dropped from high-speed aircraft. To remedy this, a larger and detachable air tail was fitted, which resulted in the torpedo being carried in a nose-up attitude, as opposed to the preferred nose-down manner. These issues were overcome, and the Beaufort had several successes as a torpedo-bomber, particularly in the Mediterranean.

On 8 April 1940, No. 22 Squadron moved to R.A.F. North Coates in Lincolnshire, to cover the North Sea, as a consequence of the German invasion of Norway. The first operational sortie by No. 22 Squadron using their Beauforts was on the night of 15/16 April 1940, with a mine-laying operation in the mouth of the River Jade. The squadron dropped their first bomb on 7 May 1940.

The second squadron to receive the Beaufort was No. 42 Squadron. This unit had been formed in August 1939, from a flight of No. 22 Squadron. It was equipped with the Vickers Vildebeest biplane torpedo bomber, but it received its first Beaufort (L.4489) in April 1940. This coincided with a move to R.A.F. Thorney Island to replace No. 22 Squadron, which had moved to North Coates. The move was to allow the conversion of No. 42 Squadron to the Beaufort. In June 1940, with the conversion completed, the squadron moved to R.A.F. Wick, in Caithness, to fly operational sorties over the North Sea to Norway.

The third squadron to be equipped with the Beaufort was No. 217 Squadron. This pre-war squadron had been based at R.A.F. Warmwell, Dorset, at the outbreak of the Second World War. In October 1939, it moved to R.A.F. St. Eval in Cornwall, to cover the Western Approaches. It received its first Beaufort in May 1940, just after No. 42 Squadron started to receive its Beauforts.

Due to the shortage of aircraft and trained pilots, with effect from 19 October 1940, other Beauforts were transferred from No. 48 Squadron, which had flown only one sortie with the Beauforts on 17 October 1940. No. 217 Squadron remained at R.A.F. St. Eval until October 1941, when it moved to R.A.F. Thorney Island, however, the squadron maintained a detachment at R.A.F. St. Eval. No. 217 Squadron remained a bomb (and mine) only squadron well into 1941, before torpedo training was undertaken, however, the squadron had a trials detachment at R.A.F. Chivenor testing A.S.V. radar, and the use of depth charges.

The fourth, and last, squadron in the U.K. to receive the Beaufort was No. 86 Squadron. This squadron was formed at R.A.F. Gosport, Hampshire, on 6 December 1940. The new squadron was equipped with Bristol Blenheim Mk. IV aircraft. It spent a month at R.A.F. Leuchars in Fife in February 1941, and it moved to R.A.F. Wattisham in Suffolk in March 1941. It moved to R.A.F. North Coates in May 1941, where it began to receive Beaufort aircraft in June of that year. The first Beaufort sortie was flown on 11 June 1940, but in practice, it acted as a holding and dispatch unit for No. 39 Squadron in Egypt. The Beaufort Mk. II was issued to No. 217 Squadron beginning in November 1941, and to No. 86 Squadron with effect from January 1942.

The only other Home-based squadrons using the Bristol Beaufort were No. 489 Squadron, R.N.Z.A.F. and No. 415 Squadron, R.C.A.F.. The former was due to receive Beauforts in August 1941 at its base at R.A.F. Leuchars, but it converted to Beaufighters instead. For a short period of time, the latter operated some Beauforts while stationed at R.A.F. Thorney Island from September 1941 until January 1942.

The early sorties were against targets in Germany, mainly the naval bases on the north coast, and the area of Heligoland. The aircraft were armed with bombs, meaning that they were specialist air crew attacking a standard target suitable for bombers. The opening of hostilities in Norway meant a realignment of the sorties undertaken by the Beauforts. On 21 June, No. 42 Squadron conducted a strike against the battlecruiser Scharnhorst off Norway. There were no hits on the German warship, but the weakness of the defensive armament of the Beaufort was exposed, especially when attacked by the German Me 109 aircraft now based in Norway. To counter this, Beaufort sorties were provided with escorts, with Beaufighters becoming common in this role. Due to the limitations of engine power, additional armour could not be fitted to the aircraft.

Shortly after the Scharnhorst incident, persistent trouble with the engines led to all the Beauforts being grounded, and for a time, it was a possibility that the aircraft would be declared unsuitable for operational duties. On 28 August, the Bristol Aeroplane Co. Ltd. agreed to fit an improved version of the Taurus, the Mk. VI, and this allowed No. 22 Squadron to resume operations on 31 August 1940. No. 217 Squadron resumed operations on 25 September, followed by No.42 Squadron three days later.

With the fall of France, the German Navy took over French ports in Brittany, and on the Bay of Biscay. This led to another change in the tasking of the Beaufort squadrons, with attacks against French ports, in particular Brest, becoming frequent. No. 22 Squadron undertook its first sortie with torpedoes on 11 September, and then a new form of sortie commenced four days later, when the first 'Rover' patrols were flown. Prior to this, the R.A.F. relied on aircraft carrying out reconnaissance sorties, and then if they found something of interest, they would radio back to base for a strike force to be dispatched. This introduced delays, so that most strike sorties failed to locate any meaningful targets. The Rover patrols were an attempt to overcome this, by dispatching aircraft, often armed with a mix of torpedoes and bombs, so that any target of opportunity could be attacked. The first success with a torpedo came on 17 September, at Cherbourg, when the small merchant vessel Johann Blumenthal was sunk by either L.4508 or L.9790.

No. 42 Squadron gained its first success on 26 October, with two ships being torpedoed off the coast of Norway by L.9813, and N.1159, but both aircraft were shot down. New bombs were introduced late in 1940, being modified sea mines, but these could only be carried by Beauforts and Hampdens. Bremerhaven was attacked with these bombs on 25 October by five aircraft from No. 22 Squadron. No. 22 Squadron gained further success on 18 September, with the sinking of a naval tanker, the sinking of Sperrbrecher 17 on 27 December, and the cargo-line Mar Del Plata on 26 March 1941. On 6 April 1941, three aircraft from No. 22 Squadron were tasked to attack the German battleship Gneisenau at Brest on 6 April. F/O K. CAMPBELL and his air crew flew in one of these aircraft, and he succeeded in hitting the German warship. The heavy flak brought the aircraft down in the harbour, and all four men died. F/O K. CAMPBELL was awarded, posthumously, the Victoria Cross for his selfless gallantry.

The entry of the Bismarck into the North Atlantic led to all three Beaufort squadrons being placed on readiness to attack the warship, when located. In addition, aircraft from the Torpedo Training Unit at R.A.F. Abbotsinch were placed on stand-by. No. 217 Squadron stood by at St. Eval, armed with bombs as they were not ready to fly with torpedoes until 8 July 1941. From mid-1941 onwards, the number of successful operations by the four-homebased squadrons declined. This was due to a combination of factors, including the shortage of torpedoes, and the lack of experienced pilots and air crew. The pilot aimed and dropped the bombs or torpedoes. The torpedoes had to be dropped at low speed, about 160 mph, at a height of about seventy feet, and at a range of about 750 yards from the target, to achieve the likelihood of a hit against any target moving at speed. The course at the Torpedo Training Unit in Scotland taught pilots to drop torpedoes at small and slow (often stationery) targets, from a range of 1,500 yards; a situation not rectified until the Spring of 1942. To obtain a hit, the pilot had to fly in the face of heavy light flak from the ship, or escorts, with a high degree of determination, discipline, courage, and hope. In the light of these facts, it is not surprising that a study undertaken in November 1942 revealed that flying a torpedo-bomber was the most dangerous role in the R.A.F. at that period. A tour was intended to last for three-hundred hours operational flying, but only 17.5% of pilots survived one tour.

If a pilot was fortunate to survive one tour, and commenced another tour, they had only a 3% chance of surviving both. In comparison, a day fighter pilot had a 43% chance of surviving one tour, and an 18.5% chance of surviving two, and for a night bomber pilot, the figures were 44% and 19.5%. The highest chance of survival came from flying Catalina flying boats, giving a pilot a 77% chance of surviving one tour, and a 60% chance of surviving two. In spite of this, the number of cases of men refusing to fly, and being labelled as 'Lack of Moral Fibre', was no worse than for other types and categories of flying duties.¹

During 1942, the level of operations in the Mediterranean increased, and those in Home waters declined. This was because of the change of priorities, and the lack of targets for U.K. based squadrons. No torpedo hits were scored by any U.K. based Beaufort in 1942, and R.A.F. strike aircraft bombed no vessel larger than 400 tons. Attacks by No. 22 Squadron against the Scharnhorst in July 1941 were adjudged to have failed, as was another attack in May 1942 against the Prinz Eugen, with No. 86 Squadron even failing to find the German battle cruiser.

After the entry of Italy into the Second World War in June 1940, the Mediterranean became the main areas of operations for the British Armed Forces. Requests were made from late-1940 onwards for Beauforts to be deployed to the Mediterranean, but the Air Ministry blocked these due to the problems with engine cooling persisting. The strategic considerations led to the move east of the Beaufort Squadrons, leaving the Hampdens to cover Home waters pending the development of the Beaufighter as a torpedo-bomber. Three of the four U.K. Beaufort squadrons were sent overseas in 1942. The first to leave was No. 22 Squadron, which left for Ceylon in February 1942. In June 1942, No. 42 Squadron left the U.K. bound for Ceylon, while No. 217 Squadron left in the same month for Malta. No. 217 Squadron later moved onwards to join the other two squadrons in Ceylon. No. 86 Squadron remained in the U.K., and it served at R.A.F. St. Eval between January and March 1942, and R.A.F. Wick from March until July 1942. In that month, it moved to R.A.F. Thorney Island, and commenced converting to fly Liberators on anti-submarine duties.

In the Mediterranean, No. 39 and 47 Squadrons operated Beauforts from August 1941 onwards flying from Egypt and Malta, but by June 1943, both had converted to other types of aircraft. No. 39 Squadron had moved to Singapore from India at the outbreak of war, as a day bomber squadron. In April 1940, it moved to Aden to support the British operations in Eritrea and Ethiopia. In January 1941, the squadron was tasked with maritime reconnaissance, and commenced equipping with Blenheim and Maryland aircraft. In August 1941, the squadron began to receive Beaufort torpedo bombers, acquiring aircraft and air crews from No. 86 Squadron. The first operation mounted by the Squadron using Beauforts took place on 28 January 1942 with an attack on an Italian convoy.

A detachment of No. 217 Squadron arrived at R.A.F. Luqa on the island of Malta in June 1942, and they launched a successful attack on the Italian fleet on 15 June. By July 1942, Beauforts of No. 86 Squadron had also arrived on Malta, and these were absorbed into a reconstituted No. 39 Squadron, which had suffered heavy casualties. This allowed No. 217 Squadron to move onwards to Ceylon.

¹ HADAWAY, Stuart *The British Airman of the Second World War* (Oxford, Shire Publications, 2013) p.33

No. 47 Squadron had started the war based in the Sudan. It moved to Egypt in December 1941, and in July 1942, it began its conversion to the Bristol Beaufort. The Squadron's first operation using the Beaufort took place on 8 October 1942, in an attack on the Axis supply convoys prior to the major battle of El Alamein. With the end of the campaign in Tunisia in May 1943, the Squadron moved there and re-equipped with the Bristol Beaufighter.

R.A.F. Chivenor was the only Operational Training Unit serving the Beaufort squadrons based in the U.K. and abroad, from its inception as No. 3 (Coastal) Operational Training Unit in late 1940, until 16 May 1942. It was redesignated as No. 5 (C) O.T.U. on 1 August 1941. On 3 May, No. 5 (C) O.T.U. began its move to R.A.F. Turnberry, on the west coast of Ayrshire, which was completed on 16 May. This ended one chapter in the history of R.A.F. Chivenor, but it allowed another to commence.

R.A.F. Chivenor and No. 5 (Coastal) Operational Training Unit

The first building work for the new Royal Air Force station at Chivenor began in May 1940, and on 21 June 1940, the first sod was removed to inaugurate work on the runways. The initial plans provided for three runways, each one-thousand yards long and fifty yards wide, on the alignment of the present runway layout. The building plans when completed left the Station virtually as it is today, the only major later additions being the two airmen's brick barrack blocks and the married quarters. The eastern boundary of the airfield was extended in 1941 to take in the North Devon Airport, and between then and 1944 the east-west runway was progressively lengthened to its present two-thousand yards. In 1942, the dispersal pans and taxiways on the present married quarters site were constructed. Post-war, concrete aircraft servicing platforms were built, and the married quarters constructed on the site of the pre-war aerodrome. R.A.F. Chivenor was extensively rebuilt in the 1970's with all but one of the wooden huts replaced.

The first Royal Air Force unit to occupy the Station was No. 3 (Coastal) Operational Training Unit, administered by No. 17 Group, Coastal Command. Flight Lieutenant (F/L) E. D. BRADFIELD arrived on Friday, 25 October 1940, from R.A.F. Mount Batten in Plymouth to take up the position of Senior Equipment Officer, accompanied by Pilot Officer (P/O) A. C. SHARPE, who was posted from R.A.F. Gosport as an Equipment Officer on the same day. These two officers were the first personnel to be posted to the new R.A.F. Chivenor, to establish the new Operational Training Unit there. It opened formally on 27 November 1940 and assumed responsibility for operational training of Beaufort crews from R.A.F. Silloth in Cumberland. There were five Flights within No. 3 (C) O.T.U., allowing two courses to run concurrently for each aircraft type, and they were:

'A' Flt.	Bristol Beaufort
'B' Flt.	Bristol Beaufort
'C' Flt.	Avro Anson and Bristol Blenheim
'D' Flt.	Avro Anson and Bristol Blenheim
'F' Flt	Fairey Battle (later Westland Lysander) – for target towing

On 1 August 1941, the unit based at Chivenor became No. 5 (Coastal) O.T.U.. This change of style does not seem to have altered the work of Chivenor in any respect as the conversion courses continued in an unbroken sequence and the personnel on the unit were the same. This came about because of the expansion of Coastal Command, with the added requirement to train crews on Whitley and Wellington aircraft. It had been intended to move the Beauforts to R.A.F. Turnberry, in Scotland, but this airfield was not ready in August 1941 to accept this unit. Hence, the training of Whitley and Wellington crews consolidated at R.A.F. Cranwell, with the training of Beaufort crews remaining at R.A.F. Chivenor. The O.T.U. at Cranwell was formed as a new unit although some personnel transferred from R.A.F. Chivenor to R.A.F. Cranwell. Other personnel and aircraft came from R.A.F. Silloth in Cumberland.

Most pilots were regarded as a 'cut above' above the other members of the crew. At this stage of the war, the officers were either pre-war members of the R.A.F. or were university educated. The formation of the crews was a lottery. Although the crews would fly, fight and sometimes die together, they lived separately at R.A.F. Chivenor and other bases. The officers lived in the Officers' Mess, and the sergeants, flight sergeants and warrant officers lived in the Sergeants' Mess. No matter how close an officer was to his crew, all officers were to be addressed as 'Sir' or 'Pilot' if appropriate. Not all officers adhered strictly to this, but it appears that for most crews, some degree of formality remained in place.²

Most of the WOp/AGs had been together through training at Blackpool and Yatesbury, and so tended to know each other well. They were generally working class men, often qualified in a trade, from across the U.K.. Wireless Operators/Air Gunners generally had lower educational attainment than the pilots or observers or were older and over the age limit for becoming a pilot (25 years). They would often stick together at the O.T.U., and sometimes chose their captains rather than the other way around. They wanted a steady driver, one most likely to ensure their survival. They chose the men that they could care to live with, and possibly die with.³

When not on duty, some men would go swimming at Croyde, the cinema in Braunton, and they would go to dances or drinking in Barnstaple or Ilfracombe. Many men would take a bus into Barnstaple at about 5.00 pm, but there was no bus back. Some men used to sleep in railway carriages at Barnstaple, and one morning a Sergeant was absent at breakfast. Then he phoned up, from Bristol, having slept on a carriage that formed an early morning train to Taunton and then onwards to Bristol where he woke up.⁴

² MAYNE, Maurice with RYAN Mark *Down but not out – The incredible Story of Second World War Airman Maurice 'Moggy' MAYNE* (Stroud, The History Press, 2014)

³ Ibid

⁴ Ibid

By the time that they reached R.A.F. Chivenor, the four men who formed an air crew had endured several stages of selection and assessment. This began with the initial interview and medical examination, the onwards through other training units with more exercises, tests, and examinations. Generally, the pilots streamed for Bomber and Coastal Command were seen as:

- Being cool, steady, and tenacious,
- To have stamina,
- To have initiative,
- Having powers of leadership.⁵

In terms of flying skills, they had to be reliable on the use of instruments and have a flying accuracy required to ensure efficient coordination between the pilot and navigator (observer). At no point was it explained to the other air crew how very dangerous their operational role was going to be. This was war, so everything was dangerous, and all the air crew were volunteers. All they wanted to do was to get on with it. There was no question in the minds of the young men training at Chivenor of transferring away from this role, and they had no chance to take a different direction; from the moment you joined up, you did as you were told. There was no choice. R.A.F. Chivenor took an official photograph of the students early in the course, as soon as they had crewed-up. Of those in photograph of Course 7A, twenty died, one became a prisoner-of-war, four were injured and two were branded 'Lack of Moral Fibre' and taken off flying duties. Only Sergeant (Sgt) Bill CARROLL was destined to survive the war unscathed.⁶

The pilots were told that the Beaufort was challenging to fly, but it was seen as a tough little plane and it could take some punishment. Its twin Taurus engines were underpowered, and it was therefore difficult to fly if one engine failed. After every fifty hours of use, each engine would be inspected, and after every one-hundred hours, a more rigorous inspection would be carried out. Every two to three-hundred hours, each aircraft went for a major inspection and was stripped down, checked, and reassembled.⁷

The pilot had to undertake a visual check around the aircraft, including checking to see that the cover had been removed from the pitot head, just under the nose. This supplied the air speed indicator which calibrated the pilot's instruments. Each pilot had to sign the Form 700 before they could take an aircraft up. It was also signed by the rigger and fitter, the rigger was in charge of the wings and the tail, the fitter in charge of the engines. How well they did their job could be a matter of life or death for the air crew. The aircraft were being treated badly almost every day by pilots who had no choice or did not know better.⁸

⁵ THORNING, Arthur G *The Dambuster who cracked the Dam – The story of Melvin 'Dinghy' YOUNG* (Barnsley, Pen & Sword Aviation, 2008)

⁶ ALDRIDGE, Arthur with RYAN, Mark *The Last Torpedo Flyers – The True Story of Arthur ALDRIDGE, Hero of the Skies* (London, Simon & Schuster Ltd., 2013)

⁷ Ibid

⁸ Ibid

Pilots entered the aircraft by climbing on the wing and dropping through the top hatch straight into the pilot's seat. They completed the cockpit check – testing flaps, throttles, fine pitch and that the hydraulic system was working. The joystick was in front of the pilot with two handles, and the pilot would use it to move the ailerons on the wings and elevators on the tail plane, and then work the rudder by means of the foot pedals. The ground crew had a starting battery, and they primed the induction system while they were underneath the engines. They used the electronic starter to rotate each propeller twice and switch on the starting magnetos. They then cleared the propellers, and the pilot shouted 'contact', and pressed the port starter button followed by the starboard one. The brakes were held on while the pilot tested each engine to full throttle in fine pitch, then the chocks were removed by arm signals.

The pilot would manoeuvre the aircraft by use of the engines, port to go right and starboard to go left, and make his way to the end of the runway to line up in order to take-off into the wind. Flaps 30 was selected and both throttles opened up together, the pilot would keep his right hand on the throttles and use his left hand on the control column. The rudder would be used to keep the aircraft straight as the torque of the engines would pull it to one side. The take-off speed was 80 knots and it would take about 700 yards to reach that speed. The pilot would ease back on the control column and would feel that special, subtle, sensation of being airborne.⁹

Once airborne, the pilot would keep their right hand on the throttles and use the left hand to raise the undercarriage. At about 700 feet, the flaps would be raised and shortly afterwards the aircraft would reach its cruising speed of 140 knots. When landing, the Beaufort would be eased into the final approach, full flaps down, undercarriage down, so at about 80 knots a decent three-point landing could be achieved safely.¹⁰

On Monday, 13 January 1941, No. 1 Course of Instruction, for Beauforts and Ansons, commenced, but the number of students on this course is not recorded. This course concluded on Sunday, 2 March 1941. These were the first students to undertake the two-month operational training course, including the formation of an aircrew of four to include a pilot, observer, and two wireless operators/air gunners. A general overview of the nature of the course was that it comprised three stages. These were:

- Weeks 1 and 2
 - Ground Instruction/Crewing Up/Familiarisation/Circuits and Landings;
- Weeks 3 to 6
 - Ground Instruction/Basic Air Training Day & Night/Bombing/Air Firing/Cine Gun;
- Week 7 & onwards
 - Ground Instruction/Applied Air Training/Cross Country/Advanced Navigation/Fighter Affiliation.

⁹ Ibid

¹⁰ Ibid

Elements of the training syllabus included:

- Synthetic training:
 - Link Trainer,
 - Bombing Teacher,
 - Clay Pigeon Shooting,
 - Turret Training,
- Gunnery:
 - Combat Manoeuvres,
 - Air-to-Sea Firing,
 - Air-to-Air Firing,
 - Fighter Affiliation,
- Bombing:
 - Bombing Target Practice,
 - Mine Laying,
- Navigation:
 - Dead Reckoning Navigation,
 - Cross-Country Navigation Exercises,
 - Cross-Sea Navigation Exercises,
- Drills:
 - Ditching and Dinghy,
 - Parachute,
 - Fire,
 - Crash,
- Operational Procedures:
 - Formation Flying,
 - Attack Profiles.

Throughout the course there were daily classroom lectures, navigational exercises, morse practice in the air and on the ground. The first element of the training programme at No. 3 (C) O.T.U. was for the pilots to be assessed by an instructor (also known as a Screened Pilot) and passed for solo flying. The instructors taught the pupil pilots to: *'Always trust your instruments'*, and not to rely on their instincts. Any conflict between a pilot's instincts and his instruments could result in spatial disorientation, particularly in cloud, and no doubt led to many aircraft stalling and crashing. Many pilots avoided flying in cloud, unless taking evasive action, for this reason.¹¹

Once a pilot was passed as competent for flying solo, they would team up with an Observer (Navigator), and two Wireless Operators/Air Gunners (WOp/AG). It was the practice of Coastal Command to train aircrew as wireless operators and air gunners to allow flexibility in their duties, so they could interchange roles on long sorties to avoid becoming stale.¹²

¹¹ Ibid

¹² See Footnote on Page 3.

The process for forming up crews was informal, with the pilots, observers and WOp/AGs all meeting up in a room and choosing their crews by discussions and then an instinctive decision. The next stage for the crews was for the pilots to qualify for night flying. Many did their first sorties at dusk, before being passed for solo flying. It should be remembered that the aircraft of this period lacked many of the sophisticated flying aids fitted to modern aircraft. Most pilots relied on their experience, judgement, and luck. Each pilot went solo at night to do an initial circuit and bumps. In the dark, a pilot would take off and then turn to port to keep the flare path in sight while flying downwind. It was often pitch black for the pilots, with the blackout in force on the ground.

The O.T.U. course included navigation, bombing and air-combat exercises, with one of the last elements being formation flying. This was because the anti-shipping aircraft would usually fly and attack in 'vics' of three aircraft, so this skill had to be learnt. It was a perilous climax to the course. One pilot's misjudgement or lapse in concentration could result in a collision with one or both aircraft crashing.

Once the training programme was completed, the course would be concluded, and the crews posted. Most crews were posted as formed crews, although some would be split up according to operational requirements. Some crews were posted direct to either No. 22, 42, 86, or 217 Squadrons, the four Beaufort equipped squadrons in Coastal Command at this time. Other crews were posted to the T.T.U. at R.A.F. Abbotsinch, near Glasgow, and some were posted to prepare for deployment overseas to the Mediterranean.

On 1 August 1941, No. 3 (C) O.T.U. at R.A.F. Chivenor became No. 5 (C) O.T.U.. 24068 Wing Commander (W/C) P. D. CRACROFT, A.F.C. was appointed to the rank of Group Captain (G/C) to become the Commanding Officer, R.A.F. Station, Chivenor. The station was organised along the following lines:

<u>Royal Air Force Chivenor</u>	<u>No. 5 (C) O.T.U.</u>
Station Headquarters @	Maintenance Wing
No. 47 Works Flight	Training Wing
A.A. Defence Squadron	

Circumstances of the Crash

At 14.50 hours on Sunday 3 August 1941, Bristol Beaufort Mk. I, L.4478, crashed one mile north of Croyde, North Devon. The aircraft was loaded with three practice bombs and was probably engaged in a low-level bombing exercise on a target moored just off the coast near Putsborough. The location of the crash is described as Middle Ransom, Putsborough, Croyde.¹³ The aircraft hit the ground near the top of the cliffs above Putsborough beach, at a shallow angle, but at high speed.

¹³ From Probate Record via www.Ancestry.co.uk

The air crew were:

88671	P/O D. M. BATLEY, R.A.F.V.R.	Pilot & Captain
R/54197	P/O H. J. ABRAMS, R.C.A.F.	Observer
937544	Sgt N. C. J. COLES, R.A.F.V.R.	WOp/AG

Both P/O BATLEY and P/O ABRAMS died in the crash, however, Sgt COLES escaped with superficial abrasions.

Bristol Beaufort, registration serial L.4478, was one of the first batch of seventy-three Mark I aircraft delivered to the R.A.F. by the Bristol Aeroplane Company Limited between November 1939 and June 1940. It was delivered new to Royal Aeronautical Establishment, after which it was transferred to No. 3 (Coastal) Operational Training Unit at R.A.F. Chivenor in North Devon. The aircraft was destroyed and assessed as Category 'E' which meant it was only fit for salvage. No. 67 Maintenance Unit at Taunton and Tavistock were informed to attend and clear the scene of the crash.

Court of Inquiry

On 9 August, a Court of Enquiry was assembled at R.A.F. Chivenor at 10.00 hours to enquire into the accident involving Beaufort L.4478 on 3 August 1941. The President was S/L R. E. BRUSN, and the Members F/L J. AMES and F/O R. S. FOSTER. The outcome of this Court is not known.

Accidents Investigation Branch

The Accidents Investigation Branch of the Air Ministry may have investigated this accident, but it appears that any accident report has not survived.

The Air Crew

88671 Pilot Officer David Marcus BATLEY, R.A.F.V.R.

David Marcus BATLEY was born on 3 September 1913, the only son of Frank and Annie BATLEY. The family lived at 5, Hays Road, Holmfirth, Yorkshire, but by 1939 they had moved to Prospect House, Thongsbridge, Huddersfield, Yorkshire. David's father was an agricultural product merchant, and David himself qualified as a Chartered Accountant and worked as an insurance clerk.

He enlisted in the Royal Air Force Volunteer Reserve at R.A.F. Cardington shortly after the outbreak of the Second World War. He was commissioned as a Pilot Officer, on probation, on 20 November 1940, with his seniority back-dated to 7 November. This probably coincided with the award of his Flying Badge. He left effects of £1,189 17 s 10d to his father. He is buried in the Lane Congregational Burial Ground at Holmfirth.

R/54197 Pilot Officer Hyman David ABRAMS, R.C.A.F.

Hyman David ABRAMS was born on 10 October 1916 in Montreal, Province of Quebec. His father, Isidore ABRAMS was born in Romania, as was his mother, Rosa ABRAMS (nee MOSCOVITCH). Both had obtained Canadian citizenship and the family lived at 4406, Oxford Avenue, Montreal. Isidore worked as a manufacturer in Montreal. The family were members of the Hebrew religion. Hyman had an elder brother called William, an elder sister called Sol and a younger sister called Anne.

Hyman was educated at West Hill High School from 1928 until 1933 and studied Arts and obtained the Junior Matriculation. He then went on to study commerce at McGill University for one year. On leaving university, ABRAMS obtained employment as the manager of the Montreal Dress Company, a position he held for two years. In 1936, he set up his own business called Peggy Paige Frocks which he ran for two years. In 1938, he sold the business and became a designer for Montreal Dress (Tailorette) until he enlisted in the Royal Canadian Air Force. ABRAMS was a member of the Epsilon Lambda Phi Fraternity, which was a college fraternity spread across North America. He listed his hobbies as reading and sports, and he stated he played tennis and golf extensively, and soccer and basketball moderately.

He enlisted in the R.C.A.F. at Montreal on 1 July 1940 and was sent to No. 1 Initial Training School as a member of Course No. 5 which was held between 19 August and 14 September 1940. He was granted the rank of Aircraftman 2nd Class and the service number R/56183. ABRAMS was 5' 10" tall and weighed 146 pounds.

He had a dark complexion, dark hair and brown eyes. He did well in his initial training obtaining a pass mark of 83% and finishing eighty-ninth out of course of one-hundred and ninety-three. The remarks stated: *'Should make a good pilot'*. ABRAMS was promoted to the rank of Leading Aircraftman on 7 October 1940.

ABRAMS was then posted to No. 4 Elementary Flying Training School at Windsor Mills, Province of Quebec, where he flew the Fleet Finch biplane for twelve hours, all dual instruction. His ability was rated as 'Very Poor' and he failed the course. The Chief Flying Instructor reported on 25 October 1940: *'This pupil's progress has been very slow throughout. Judgment of height and distance very erratic. Lacks air sense. Unsuitable as service pilot'*. He was assessed as unsuitable for commissioned rank, and the general remarks stated: *'Intelligence and ability well above average. He is very keen. Personality and conduct very good. He is especially interested in navigation and should make a good air observer.'*

The Pupil's Test Card for LAC ABRAMS is more straightforward, and perhaps blunt, in the assessment of him. It states: *'Fails to inspire the feeling that he will ever become a pilot – Wash out'*.¹⁴ A memorandum explains that AC2 ABRAMS did not appear enthused about flying.¹⁵ After about eight hours flying training, he was given a progress test by an instructor, Mr STEVENSON. The Chief Supervisory Officer was consulted, and he decided to give ABRAMS three more hours flying and then rechecked. Apparently, he became more enthused, but the time was too short for him to reach the required standard. He would turn quite badly after take-off and become stiff at the controls on landings, resulting in poor landings. The Chief Supervisory Officer, F.L C. J. FEE, determined that ABRAMS lacked the necessary air sense and judgment to solo in a reasonable time and so it was recommended that his flying training be discontinued.

LAC ABRAMS was remustered as an Air Observer and posted to No. 1 Manning Depot to await an observer's course. On 10 November 1940, LAC ABRAMS was posted to No. 1 Air Observer's School at R.C.A.F. Malton, as a member of Course No. 11 which ran from 11 November 1940 until 1 February 1941. His marks were consistently good, and he finished nineteenth out of class of forty-four. In terms of his ground training, he was described as an excellent student. The general remarks stated: *'This man is extremely quick at learning and rarely needs a second explanation. Very clean cut appearance. Well liked by fellow students and officers. Will make excellent observer.'* While serving at R.C.A.F. Malton, ABRAMS applied for permission to marry Molly KAUFMAN on 20 April 1941. He attached the Certificate of Character which was required by the authorities and the application was duly recommended. It appears that the marriage did not proceed as the casualty documents state that he was not married when he died.

He completed his Air Observer's Course and was posted to No. 1 Bombing and Gunnery School at R.C.A.F. Jarvie on 3 February 1941 as a student on No. 11 Air Observer's Course. He flew fifteen hours in a Fairey Battle on bombing training and six hours gunnery training. The results of his air gunnery tests were under 4%, but this was not untypical. He was seen as a clever student who took a keen interest in the course. On completion of his element of his training, he received his Observer's brevet and promotion to the rank of Temporary Sergeant (Paid). On 16 March 1941, ABRAMS was posted to No. 1 Air Navigation School at R.C.A.F. Rivers for his advanced navigation course. He did well on this course and finished fourteenth out of a class on seventy-two, was recommended as an instructor, and was now seen as commission material. He passed out having received a commission with effect from 26 April 1941 and then had eighteen days leave. As was usual for personnel who had volunteered to serve overseas, P/O ABRAMS was posted to 'Y' Depot at Halifax to await embarkation for the U.K..

¹⁴ There is a chart included in his personal file of a circuit ABRAMS completed 'after coaching', which does confirm the difficulty he was having in mastering the skills of flying. It does not show a standard circuit and is very misshapen.

¹⁵ ABRAMS did in fact hold the rank of Leading Aircraftman at this time.

While serving at R.A.F. Chivenor, P/O ABRAMS reported sick with eye strain. He explained that he had headaches, and his vision was 6/12, so he was sent to an ophthalmic specialist at R.A.F. Locking near Weston-super-Mare. The report from the specialist stated that his left eye was normal and only minor problems with the right eye.

The Canadian Air Ministry awarded P/O ABRAMS posthumously the 1939 – 45 Star, the 1939 – 1945 War Medal and the Canadian Volunteer Service Medal.¹⁶ The Ministerial Card was sent to ABRAMS mother on 21 August 1941 and the Memorial Cross, duly engraved, on 5 September 1941.

937544 Sgt Nelson C. J. COLES

Sgt COLES was the wireless operator/air gunner aboard the Beaufort when it crashed. His service number indicates that he enlisted at R.A.F. Cardington shortly after the outbreak of the Second World War. He survived the war and was not commissioned. It is believed that he lived at Brackley, Northamptonshire.

Conclusions

It is not clear why the aircraft crashed into the top of the cliff at Putsborough, but it was at a shallow angle which preserved the life of the wireless operator/air gunner as he was sat further back in the Beaufort. The aircraft had presumably been undertaking a low-level bombing exercise in Woolacombe Bay where towed and moored targets were deployed. It is simply possible that the pilot failed to pull up sufficiently to clear the top of the cliff and caught it a glancing blow which resulted in serious damage to the front of the aircraft, but less so further back. The truth is, we shall never know.

¹⁶ DUCKERS, Peter *British Campaign Medals 1914 – 2000* (Princes Risborough, Shire Publications Ltd., 2011)

In Memoriam

3 August 1941 – Bristol Beaufort Mk. I – L.4478

No.	Surname	Forenames(s)	Age	Date of Death	Rank	Role	Service	Service Number	Place of Burial	Grave
1	BATLEY ¹⁷	David Marcus	27	03/08/41	Pilot Officer	Pilot	R.A.F.V.R.	88671	Lane Congregational	Grave K.21
2.	ABRAMS ¹⁸	Hyman David	24	03/08/41	Pilot Officer	Observer	R.C.A.F.	J/5089	Exeter Jewish Cemetery	Central part, Row 12, Grave 3.

¹⁷ Son of Frank and Annie BATLEY, of Thongsbridge, Yorkshire. Chartered Accountant.

¹⁸ Son of Isidore and Rose Moscovitch ABRAMS, of Montreal, Province of Quebec, Canada.

Map of the area to the north of R.A.F. Chivenor

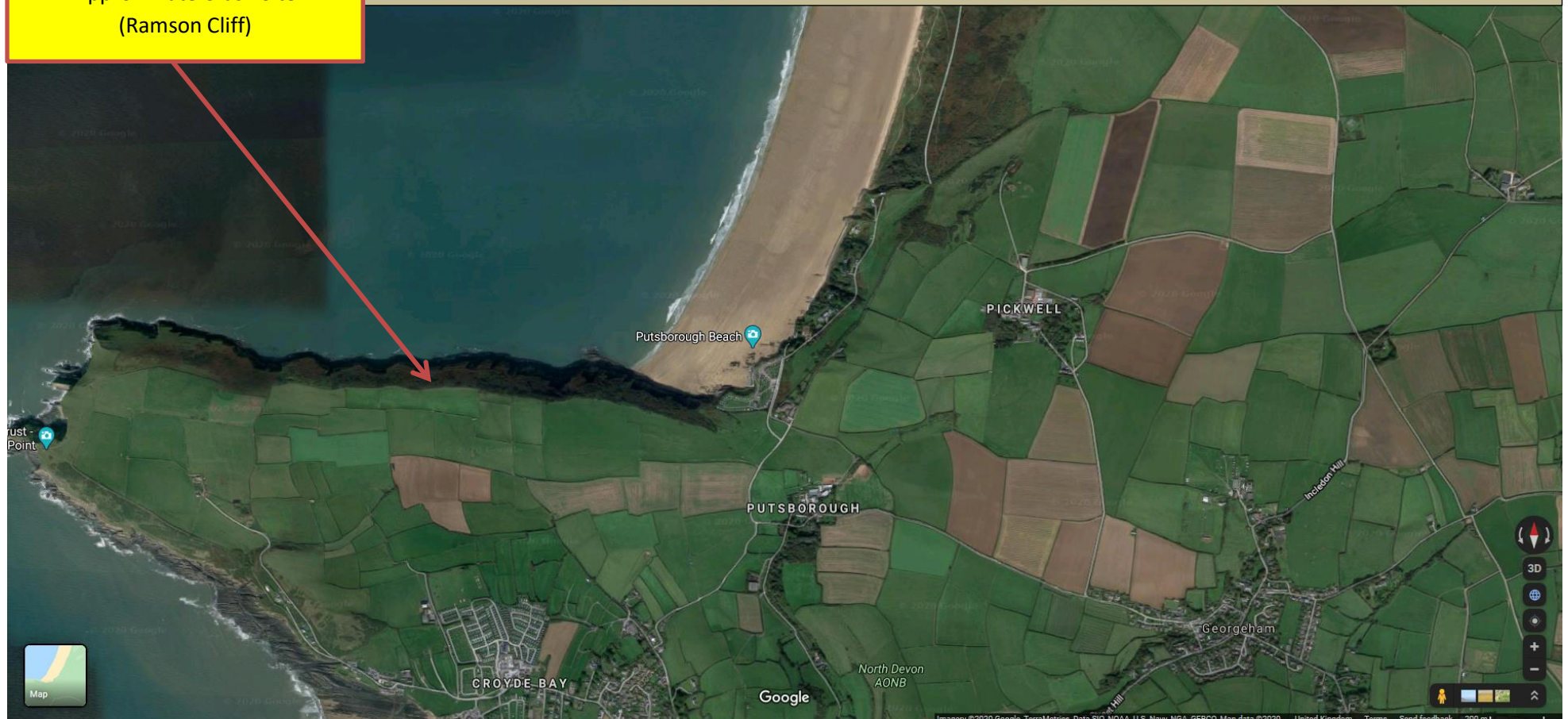
Approximate Crash Site

R.A.F. Chivenor



Map of the crash site of L.4478 – 3 August 1941

Approximate Crash Site
(Ramson Cliff)





Pilot Officer Hyman Abrams

Pilot Officer Abrams Dies in Flying Crash

Word has reached Mrs. Sol Max of this city of the death of her brother, Pilot Officer Hy Abrams of Montreal in an overseas flying accident. Pilot Officer Abrams was widely known in the Capital, having visited the city on both business and pleasure trips. He was a son of Mr and Mrs. I Abrams, 4406 Oxford avenue, Montreal.

Pilot Officer Abrams joined the R.C.A.F. in July, 1940 and graduated from the training school at Rivers, Manitoba, in May, 1941. Six weeks ago he flew to England in a bomber.

Surviving, besides his parents, are a brother, William, at present on the war efforts committee of the Canadian Jewish Congress and two sisters, Anne of Montreal, and Mrs Sol Max, Ottawa.

Above Left – Hyman ABRAMS at the time of his enlistment.

Above Centre – P/O ABRAMS after his commission as a qualified Air Observer.

Above Right – A newspaper cutting reporting ABRAM's death.

Courtesy of: <https://www.veterans.gc.ca/eng/remembrance/memorials/canadian-virtual-war-memorial/detail/2441626>

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The Last Flight of Beaufort L.4478

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