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# The actions of the tanks at the Battle of Bullecourt, 11 April 1917

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## ABSTRACT

*The First Battle of Bullecourt, 11 April 1917, is principally remembered for an action in which tanks played a prominent part during the initial stages of the assault. The action of the tanks, their movements and final resting place on the battlefield has often been neglected as accurate sources are limited. This has led to conjecture and confusion as to their accomplishments during the battle. By using Bullecourt as an early exemplar of their use as a primary weapon, a better understanding of their ability on the battlefield can be achieved. Overall, Bullecourt identified the limitations of tanks, and the need to develop and refine tank doctrine for future assaults.*

## Introduction

On 11 April 1917, tanks attacked a re-entrant in the Hindenburg Line at Bullecourt. In an untried tactic, the tanks led the advance replacing the usual creeping barrage protecting the infantry. The tank assault ended in complete disaster. The majority of the tanks were destroyed or abandoned, leaving the infantry exposed as they attempted to breach the wire in front of the German trenches. The Australian infantry had 900 men killed and some 1200 taken prisoner. The factors contributing to the catastrophe are controversial.

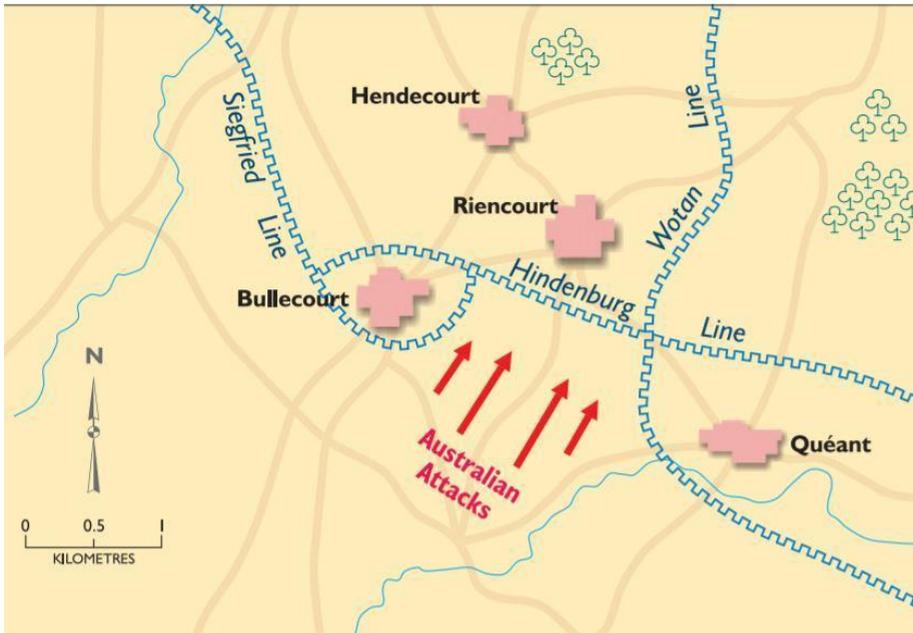
The invention of the tank during the First World War was a technological innovation designed to break the stalemate on the Western Front by destroying wire

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entanglements and enemy machine gun emplacements.<sup>1</sup> The tank would go on to transform how warfare was conducted in the twentieth century, and prevented enduring entrenchment in the Second World War.<sup>2</sup> The primitive, poorly armoured British Mark I tank was first employed on the battlefield at Flers–Courselette on 15 September 1916. The attack achieved limited results, but nevertheless General Headquarters (GHQ) agreed to pursue their worthiness through saving lives and with some machines penetrating German lines further than could the infantry.<sup>3</sup> The next major opportunity to use tanks was at the Battle of Arras, a diversion for General Robert Nivelle's proposed 1917 Spring Offensive. General Sir Hubert Gough of the Fifth Army, whose command flanked the Arras sector of General Allenby's Third Army, wanted a subsidiary converging assault against the Hindenburg Line to the east. Gough elected to attack the strongly held small salient of the village at Bullecourt (Figure 1). The objective of achieving a breakthrough spearheaded by tanks failed.



**Figure 1: Proposed advance of Australian infantry attack against the German defences at Bullecourt.<sup>4</sup>**

<sup>1</sup>J.P. Harris, 'The Rise of Armour', In P. Griffith (ed.) *British fighting methods in the Great War*, (Portland OR: F. Cass, 1996), p. 116 & p. 177.

<sup>2</sup>*Ibid.*, p. 113.

<sup>3</sup>*Ibid.*, pp. 121-122.

<sup>4</sup>Peter Burness, 'The battles for Bullecourt', *Wartime Issue* 18 (2002), p. 28.

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Recriminations between the British and Australians began immediately. Battle reports made by Australian commanders branded the tank crews as cowards. The British tank war diary credited their accomplishments with a summary operations diagram (Appendix A) and route map (Appendix B) which overstated the depth penetrating German defences. However, no after action reports (Tank battle history sheets) have been found to exist, despite their completion being a requirement for tank commanders at that time. This left a distinct deficiency in accounts of the individual tank actions in the battle. The tank company commander, Major William Watson, published his wartime memoirs, *A Company of Tanks*, in 1920 and this provides an insight to the attack.<sup>5</sup> This allowed scholars some interpretation of the tank commanders who were not identified in the war diaries and the corresponding tank of which they were in charge, but unexplainably Watson omitted several officers. The Australian official historian, Charles Bean, published the 1917 volume in 1933.<sup>6</sup> His narrative, which produced maps of the initial and final tank positions, attempted to account for the tanks' movements on the battlefield. Bean's analysis was more reliable, but minor inaccuracies and contradictions existed compared to Watson's version. Publications on the battle itself offer attempts at describing events. Walker injects novel accounts, some of which are problematic, whilst Keech's battleground guide focuses strongly on Watson and Bean's accounts without evaluation.<sup>7</sup>

Treatises in tank combat performance at Bullecourt receive little attention or are generally overlooked, whereas the tanks earlier baptism of fire at Flers–Courcelette and later 'victory' at Cambrai in November 1917 are celebrated, without much insight into the intervening evolution of operating doctrine. Harris argues that the small number of available tanks for Arras meant they made little contribution to operational planning but notes the tank performance at Bullecourt was embarrassing for the Heavy Branch.<sup>8</sup> Evaluation of the national viewpoints of causation between British tanks and Australian infantry being responsible for the defeat remain polemic. The populist view into the catastrophic infantry losses blame the impotence of the tanks at the start of

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<sup>5</sup>William H.L. Watson, *A Company of Tanks* (Edinburgh: William Blackwood, 1920).

<sup>6</sup>Charles E.W. Bean, *The AIF in France 1917, Vol. IV of Official history of Australia in the war of 1914-18* (Canberra: Angus & Robertson, 1941).

<sup>7</sup>Jonathon Walker, *The Blood Tub: General Gough and the Battle of Bullecourt 1917*, (Staplehurst: Spellmount, 1998), pp. 91-113;

Graham Keech, *Bullecourt*, (Barnsley: Pen and Sword, 2014), pp. 25-68.

<sup>8</sup>J.P. Harris, *Men, ideas and tanks: British military thought and armoured forces, 1903-1939*, (Manchester: Manchester University Press, 1995), p. 96 & p. 98. The designation for the tank organisation from November 1916 was the Heavy Branch Machine Gun Corps before being renamed the Tank Corps in July 1917.

battle.<sup>9</sup> Gough also failed to respond to reports of the tanks' vulnerability at Arras. However, these arguments neglect the factors contributing to the Australian inability to hold the Hindenburg Line under pressure of the new German tactics of rapid counter attacks. A major deficiency at Bullecourt was the integration of artillery into this set-piece attack. Tanks replaced the creeping barrage, but poor communication hampered coordinating artillery support for the infantry, and late preparations left counter-battery fire ineffective at neutralisation.<sup>10</sup>

This paper reevaluates the tank's involvement during the Battle of Bullecourt using contemporary archive accounts, available post battle literature, and photographic evidence. Through an analysis of their capability at Bullecourt, the development of tank doctrine can be expanded. The propaganda associated portraying tanks as the new wonder weapon of the battlefield was taken too literally and without a clear understanding of what a tank's capabilities were.

## **Prelude**

On hearing of the success of Third Army opposite Arras Gough was enthusiastic to attack Bullecourt. He would use 4 Australian Division, 1 ANZAC Corps, and 62 British Division with 12 tanks of 11 Company, D Battalion, Heavy Branch Machine Gun Corps (HBMGC) in support. Delays of artillery, logistics and auxiliary services hampered Fifth Army's consolidation of their front line, but Gough proposed to proceed. However, barbed wire in front of the enemy's trenches remained uncut practically along the whole front and in some places it was up to 100 feet deep.<sup>11</sup> Major Watson commanding the tank company suggested an alternative to use the tanks as a mobile barrage and wire destroyer, and in a surprise strike. He planned an attack, on a narrow front of a thousand yards and supported as strongly as possible by all the infantry and guns available, to steal up to the Hindenburg Line without a barrage. As they entered the German trenches down would come the barrage, and under cover of the barrage the tanks and the infantry would sweep through, while every gun not used in the barrage would pound away at the German batteries.<sup>12</sup>

Gough agreed and the idea was taken up immediately. The tanks would instead lead an attack the next morning on 10 April with Australian infantry following behind. The

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<sup>9</sup>See for example, Meleah Hampton 'My tanks were not to blame: The first battle of Bullecourt', *Wartime*. Issue 98 (2022), pp. 30-35.

<sup>10</sup>Nick Floyd, 'Seeds of Destruction: The Australian Field Artillery at Pozieres and Bullecourt', In Westerman, W. & Floyd, N. (eds.) *Clash of the Gods of War*, (Newport: Big Sky Publishing, 2020), p. 214.

<sup>11</sup>The National Archives (hereinafter TNA) WO 95/3068, 62nd Division War Diary April 1917.

<sup>12</sup>Watson, *A Company of Tanks*. pp. 44-45.

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Australians had no experience of operating with the new weapon to adapt existing tactics to the conduct of the armoured role. The standard doctrine of a lifting barrage that advanced in front of the infantry was dispensed with and was replaced by tanks. Unfortunately, production delays of the improved Mk IV tank meant the tanks deployed that day were the already obsolete Mk I and training Mk IIs.

### **An Aborted Attack**

The plan caused some panic amongst Gough's Corps Commanders who felt his decision had been made in haste.<sup>13</sup> Lt General William Birdwood, the Australian Corps commander, later claimed to have protested. The Australians had previously suffered from Gough's poor planning at Pozières in 1916.<sup>14</sup> With Gough's eagerness to proceed he forced subordinate commanders to attack before they were ready and with little allowance made for preparation time.<sup>15</sup> This became evident when orders for the attack were still being issued on 10 April with 4 Division, only receiving their final orders at 12.25am leaving some four hours for preparation as zero hour was set for 04.30am.<sup>16</sup>

When the tanks failed to reach Noreuil by 05.00am the attack was called off.<sup>17</sup> The tanks began the journey to the battlefield on 9 April from their temporary base at Mory Quarry at 20.00. They were scheduled to be at the forming up positions before dawn near the abandoned railway embankment, which traversed the landscape at Bullecourt, approximately 8 km away. Unseasonal weather resulted in a freak blizzard which covered the tank approach through the Noreuil valley and they were detained by the adverse conditions. Lack of 'real-time' communication technology between tanks and HQ meant warning of their delay was not received until a tank commander arrived at brigade headquarters at Noreuil. After a 9 hour journey the tank crews were exhausted. It was impossible for the tanks to reach their allotted positions before sunrise. The waiting infantry were finally recalled to their billets behind Noreuil.<sup>18</sup>

Despite the Australian's cancelled attack, a provisional order to push troops of 62 Division on the left of the Anzac flank into Bullecourt had not been rescinded. Believing

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<sup>13</sup>Jeff Hatwell, *No ordinary determination: Percy Black and Harry Murray of the First AIF*, (Fremantle: Fremantle Arts Centre Press, 2014), p. 192.

<sup>14</sup>Meleah Hampton, 'Hubert Gough, the Anzacs and the Somme: A Descent into Pointlessness', *British Journal for Military History* Vol. 2, Issue 3 (July 2016), pp. 47-61.

<sup>15</sup>Gary Sheffield & Helen McCartney, 'Hubert Gough Fifth Army 1916-1918', In Beckett, I.F. & Corvi, S.J. (eds.) *Haig's Generals*, (Barnsley: Pen & Sword, 2006), p. 85.

<sup>16</sup>Keech, *Bullecourt*, p. 35.

<sup>17</sup>Bean, *The AIF in France 1917*, p. 282.

<sup>18</sup>Ibid.

that the Australians were attacking, patrols of the West Yorkshire 185 Brigade probed to the west of Bullecourt, engaging the Germans but were heavily defeated.<sup>19</sup>

As the main Arras offensive had been in progress since 9 April, the German defenders had anticipated that this section of the line would also be attacked. *Generalmajor* Heinrich Maur, commanding the 27 Infantry Division, issued an order 'it must be assumed that there will be enemy attacks against [Sectors] A [Bullecourt] and C [Riencourt]'.<sup>20</sup> Mistaking the Yorkshires advance on the 10 April as a reconnaissance in force General Otto von Moser, the commander of XIV Reserve Corp (*Gruppe Quéant*), warned that the attack might be accompanied by tanks. His earlier diary entry for 8 April stated, 'the anxiety concerning them are grave, since they constitute a new means of warfare, exercising a strong moral effect on our infantry – we have as yet no experience in effectively dealing with them'.<sup>21</sup> It is clear that the threat of tanks was an issue for the Germans and in expecting an attack, despite their limited experience, were preparing to repulse them.

### **Tank Plans**

At Noreuil on 10 April Watson briefed the tank commanders of the renewed plan to attack the next day and their assigned roles on a concentrated narrower front. Watson commented that,

one or two of them naturally complained of changes made at such a late hour and they did not see how they could study their orders, their maps and their photographs in the hour and a half that remained to them before it was time for the tanks to start.<sup>22</sup>

The 12 tanks were now subdivided into three sections of four tanks: a right flank, left flank and a supporting centre section. The operation intended each section striking the trench at a separate point, with the centre section forging ahead and the flanking sections moving inwards and outwards, and as outlined in Figure 2.<sup>23</sup>

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<sup>19</sup>Everard Wyrall, *The History of the 62nd (West Riding) Division 1914-1919*, (London: Bodley Head, 1925), pp. 42-43.

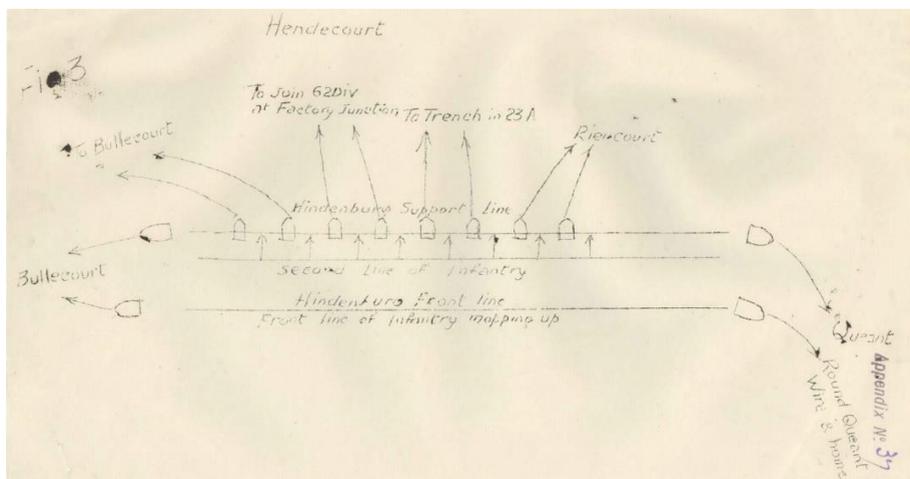
<sup>20</sup>Jack Sheldon, 'Bullecourt Day of disaster: The assault seen from the German side of the wire' *Wartime* Issue 63. (2013), p. 15.

<sup>21</sup>Cited by Bean, *The AIF in France 1917*, p. 345.

<sup>22</sup>Watson, *A Company of Tanks*, pp. 55-56.

<sup>23</sup>John F.C. Fuller, *Tanks in the Great War 1914-1918*, (New York: E.P. Dutton, 1920), p. 76.

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**Figure 2: Objectives for the tanks after the Hindenburg support line (OG2) had been achieved by the second wave of infantry.<sup>24</sup>**

The right flank consisted of Captain Wyatt's section, with tanks commanded by Lieutenants Puttock (D25-711), Davies (D26-799), Clarkson (D28-586) and Morris (D24-593). They were to approach the German trenches in front of Riencourt, leading the battalions of the 4 Brigade through the enemy wire. After reaching this initial objective, turn east towards the German's Balcony Trench and then southward, suppressing the enfilade fire coming from the direction of Quéant, eventually returning to a rally point.<sup>25</sup>

Lieutenant Hugh Swears' left section would lead 46 and 48 Battalions of 12 Brigade into the German forward positions east of the village, then turn outwards, followed by the infantry to storm Bullecourt and roll down the wire in front of it.<sup>26</sup> The tanks were commanded by Lieutenants Skinner (D23-796), Birkett (D30-797), and two unidentified officers (in D22-531 and D27-800).

The section of four tanks commanded by Captain Field assigned to the centre, comprised of Lieutenants Bernstein (D21-798), Money (D29-590), Head (D52-702) and McElvaine (D32-585). These were tasked with attacking along the central road

<sup>24</sup>Australian War Memorial (hereinafter AWM) AWM4 23/31/30, 14th Infantry Battalion War Diary April 1917.

<sup>25</sup>Captain Basil Liddell Hart, *The Tanks – The History of the Royal Tank Regiment and its Predecessors, Heavy Branch, Machine-Gun Corps, Tank Corps, and Royal Tank Corps, 1914-1945, Volume 1*, (London: Cassell, 1959), p. 101.

<sup>26</sup>Ibid.

towards the German trenches in a gap between the infantry of 4 and 12 Brigades. They would then assist the advance to the villages of Riencourt and Hendecourt. It would be essential for these tanks to cut through the wire and engage the enemy trenches. Watson stated,

this movement was made necessary by the decision to attack not on a continuous front but up to slight spurs or shoulders. The Hindenburg line itself lay just beyond the crest of a slope. And these almost imperceptible shoulders ran out from the main slope at right angles to the (German) line. It was thought that the depression between them, would be swept by (enemy) machine-gun fire and it was decided in consequence to leave the attack up the depression to the tanks alone.<sup>27</sup>

Furthermore, the amended plan according to the drawn objective in Figure 2, shows half of the right section is to proceed to Riencourt, while the other half turns towards Balcony Trench. The centre section after suppressing the Hindenburg support line (OG2) is to split in half towards the trenches in U23a and the factory in U22b. The use of nomenclature OGI and OG2 for the first and second line, was derived from the two lines of trenches which the Australians had encountered at Pozières the previous year, and colloquially known as Old German (OG) 1 & 2.<sup>28</sup>

### **The Main attack**

The Australian infantry again left their billets and made their way to their front-line positions before dawn on the 11 April. They took advantage of the railway embankment for protection, which was some 900 metres from the Hindenburg Line. A level crossing was needed for the tanks to negotiate this obstacle. Forward of this, a sunken lane made a useful forming up position, with some assembly trenches having been constructed.<sup>29</sup> This sunken lane had previously been found by Captain Albert Jacka VC, 14 Battalion's Intelligence Officer during a reconnaissance on 8 April, 300 metres ahead of the battalion's advanced position.<sup>30</sup> By 04.15am, the assaulting troops were in position.

This could not be said of the tanks. At 03.00am, each tank should have been positioned, ready to advance. But it was at 03.20am that the first tank arrived and was guided into position ahead of 4 Brigade by Captain Jacka.<sup>31</sup> Tanks at this point arrived piecemeal

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<sup>27</sup>Watson, *A Company of Tanks*, p. 54.

<sup>28</sup>Bean, *The AIF in France 1917*, p. 287.

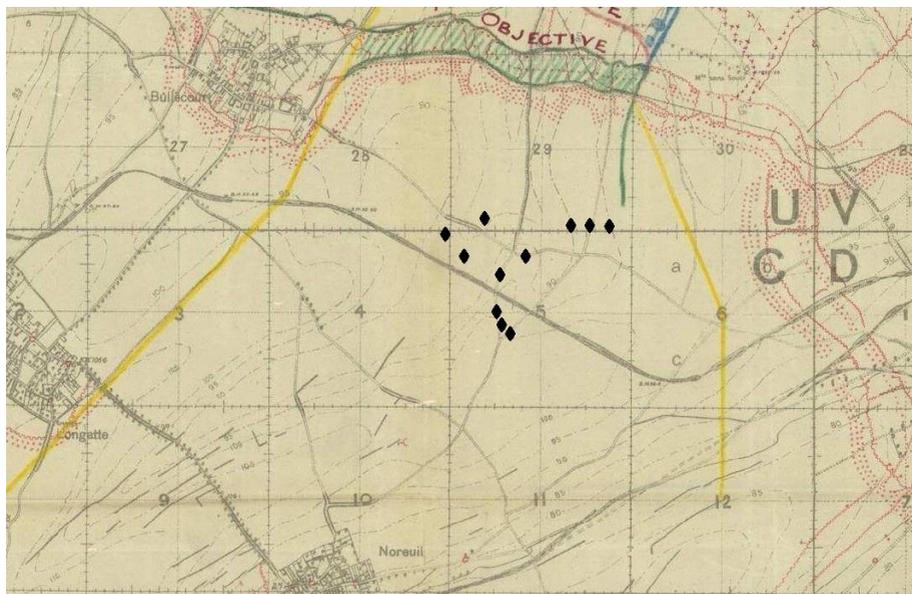
<sup>29</sup>Hatwell, *No ordinary determination*, p. 195.

<sup>30</sup>Robert Macklin, *Jacka V.C.: Australian Hero* (Crows Nest: Allen & Unwin, 2006), p. 147.

<sup>31</sup>Bean, *The AIF in France 1917*, p. 290.

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and were slowly directed into place as best as conditions could allow (Figure 3). One tank, likely 585, promptly got stuck in a bank and stranded itself in the sunken road infuriating Jacka, who had marked a suitable crossing place. Bean recognised that, 'It seems probable that the subaltern in the tank, realising that he was late, attempted a short cut to save time'.<sup>32</sup> The tanks allocated to 12 Brigade were not positioned in U28d by the start time.



**Figure 3: Trench map of Bullecourt sector showing approximate start positions of the tanks, represented as black diamonds, at 04.45am on 11 April 1917. Based on Bean.<sup>33</sup>**

It became standard practice during the initial phases of tank deployment on the Western Front to use various methods of 'noise' activity to disguise their presence near the immediate vicinity of an offensive. This was achieved either by aircraft flying overhead, or the tanks approach being drowned out by continuous machine gun or artillery fire as they moved into position. Unfortunately, this was not achieved. Orders that machine-gun fire must be arranged, vaguely percolated through to the machine-gun companies, but through lack of experience with tanks, its full intention was missed.<sup>34</sup> As the tanks approached, soldiers within the Australian lines heard and saw

<sup>32</sup>Ibid., p. 291.

<sup>33</sup>Ibid., p. 292.

<sup>34</sup>Ibid., p. 290.

them coming in the darkness by the shower of sparks rising from their exhaust baffles.<sup>35</sup> Similarly, this was reflected in the German lines, when at 02.00am posts of the Infantry Regiment 124 and later at 03.00am, Grenadier Regiment 123 detected the sound of petrol engines. It was only faintly heard through the artillery fire, but tanks were at once suspected.<sup>36</sup>

Enemy forward observation posts duly reported activity to their Company HQ where Von Moser reiterated that the tanks must be fired on, not only by the special anti-tank guns built in or near the firing line, but generally by every field or heavy battery that sees one approaching; and when they come closer, by the machine guns provided with new steel, armour piercing 'K' bullets.<sup>37</sup> The German defenders saw the tanks as daylight broke, and they 'were all too visible targets on the snow-covered ground'.<sup>38</sup> At zero plus 30 minutes a protective flanking barrage ceased, to eliminate the risk of the tanks being hit. Conversely, this exposed the advancing infantry and tanks to deadly enfilade fire from the eastern side of Bullecourt village and the Balcony Trench.

### **The Tanks Advance: Right Flank Attack - Tanks 711, 799, 586, 593**

Despite being vital to the operational plan as the means of cutting the wire and providing a mobile barrage, only three of the section's four tanks were in position to commence on time at 04.30am. Lieutenant Puttock in Tank 711 proceeded in the dark towards his objective. Amongst the bombardment, the tank was receiving small arms fire from the German trenches. Men watching from close in the allied rear could at times see their shapes outlined by the sparks of the bullets that rattled against their sides.<sup>39</sup> Part way towards the objective 711 stopped and opened fire. In the darkness Puttock may not have known how far he had advanced and mistakenly thought any troops immediately to his front were the enemy. Swinging to the right as ordered, the tank glided along the wire of Balcony Trench. However, serious clutch trouble developed in 711 which was barely moving and the decision to retire was taken.<sup>40</sup> As the tank withdrew, it was attracting closer attention from artillery and Puttock decided to abandon the tank on the southern side of the embankment. The HBMGC operational diagram (see Appendix A) shows 711 as breaching the German lines before returning near to its start position. A hand annotated map (see Appendix B) which also forms part of the war diaries, records the movements of tanks during the assault. However, the tanks themselves are not identified and the map does not overall accurately support the operational diagram except in a very broad interpretation.

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<sup>35</sup>Walker, *The Blood Tub*, p. 94.

<sup>36</sup>Bean, *The AIF in France 1917*, p. 347.

<sup>37</sup>Ibid.

<sup>38</sup>Liddell Hart, *The Tanks*, p. 101.

<sup>39</sup>Bean, *The AIF in France 1917*, p. 295.

<sup>40</sup>Watson, *A Company of Tanks*, p. 61.

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Puttock's tank is shown to have returned safely through square C6. Tank 711 would eventually be salvaged with running repairs and eventually onto a rail head under her own power.<sup>41</sup>

Lieutenant Morris in 593 suffered a minor ditching on a bank near Noreuil while moving up, delaying his start time.<sup>42</sup> There are no identifiable records of 593's progress in No Mans Land until its return to the embankment where help was given to Tank 796, which had either stalled or had got stuck near the former railway. Watson states, 'Morris passed a line to Skinner (of the left section) and towed him over the embankment'.<sup>43</sup>



**Figure 4: Tank 593 can be identified by the serial number on the left rear of the tail, faintly visible in the image. It is facing north in the direction of the German trench line. Trench signs identify the location as the junction of Tank Avenue and Horseshoe Lane (Author's collection).**

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<sup>41</sup>Captain R.P. Butler, 'Reminiscences of salvage work', *The Royal Tank Corps Journal* (June, 1932).

<sup>42</sup>Watson, *A Company of Tanks*, p. 60.

<sup>43</sup>*Ibid.*, p. 61.

Morris and Skinner eventually set off in the direction of Bullecourt. There is no further mention of 593 in Watson's account. Bean noted that the location of the wrecked 593 is uncertain, marking the wreck near the level crossing of the embankment.<sup>44</sup>

Furthermore, the HBMGC's operational diagram (see Appendix A) shows that 593 did not reach its objective but stopped somewhere in between the British and German positions. This contradicts D Battalion's war diary entry which states 593 returned safely to the rally point, the likely basis of Bean's final map position.<sup>45</sup> This is resolved by a German photographic postcard from 1918 which shows 593 wrecked at the junction of Tank Avenue and Horseshoe Lane (Figure 4); trenches dug during the second battle at the former Australian 12 Brigade's jump off position. The photo confirms that Morris, after helping Skinner was headed in the direction of Bullecourt or OGI when his tank was either knocked out or broke down.

Clarkson in 586 made it as far as the barbed wire in front of OGI at approximately 05.30am where he stopped. The tracks were jammed by detritus, and a witness to this, Lance Corporal Bert Knowles of the AIF, stated,

a tank penetrated the front line of the wire. In passing fairly close to it, I remember a chap standing near the front of it, with a short plank, trying to lever a piece of iron from amongst the big cogs beneath the wheels, and cursing like a bullock whilst the bullets were rattling like hail on the tank itself.<sup>46</sup>

The appearance of 586 caused some panic amongst the defenders in the trenches and the *Württembergische* of Infantry Regiment 124 dispersed, allowing the Australian infantry to gain the first trench.<sup>47</sup> Eventually, 586 continued to advance and crossed OGI advancing towards OG2. Artillery located either side of Riencourt targeted the tank while it returned and re-crossed OGI where it turned to face Riencourt. Private McCallum, who had managed to enter OGI was taking shelter after consolidating a dug-out and states,

we had been in the trench about an hour and it was broad daylight when along came one of our tanks and stopped right over the top of the trench I was in. I could see the bullets bouncing off it like hail stones, and they began to shell it. I saw a shell hit it and stand it right up on end.<sup>48</sup>

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<sup>44</sup>Bean, *The AIF in France 1917*, p. 314.

<sup>45</sup>TNA WO 95/110/2, Diary of D Company Heavy Section Machine Gun Corps.

<sup>46</sup>John Ramsland, *The Legacy of Douglas Grant: A Notable Aborigine in War and Peace*, (Melbourne: Brolga, 2019), p. 97.

<sup>47</sup>Bean, *The AIF in France 1917*, p. 348.

<sup>48</sup>NAA PP2/8 M12923, MCCALLUM, Angus Duncan - Service Number - 6303.

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Clarkson was subsequently killed, but some of the crew would later be taken prisoner. The operational diagram (see Appendix A) shows in error the location of the destroyed tank in Hendecourt. A photograph (Figure 5) confirms the tank's location near to a trench determined as OGI.



**Figure 5: Tank 586's serial number is faintly visible on the left rear tail above some battle damage on the hull plating. Germans can be seen in the trench of OGI (Author's collection).**

Lieutenant Davies in 799 was to help 4 Brigade to enter OGI and OG2 and consolidate the position before assisting in the advance on Riencourt. Starting on time, but going off course in the darkness, the tank travelled east instead of north. It subsequently attacked the northern end of Balcony Trench rather than OGI.<sup>49</sup> After crossing the first line the tank advanced about 40-50 metres towards the second line where it was engaged by *Leutnant* Gotthold Schabel of Grenadier Regiment 123 with a machine gun, armed with armour piercing ammunition.<sup>50</sup> Engaging the tank at approximately 150 metres he fired about 1200 rounds while the tank tried to manoeuvre and it burst into flames. Davies was killed but some survivors were captured and taken prisoner.<sup>51</sup> This was the first tank to be knocked out and captured within German lines and gave the first opportunity to securely examine one. The

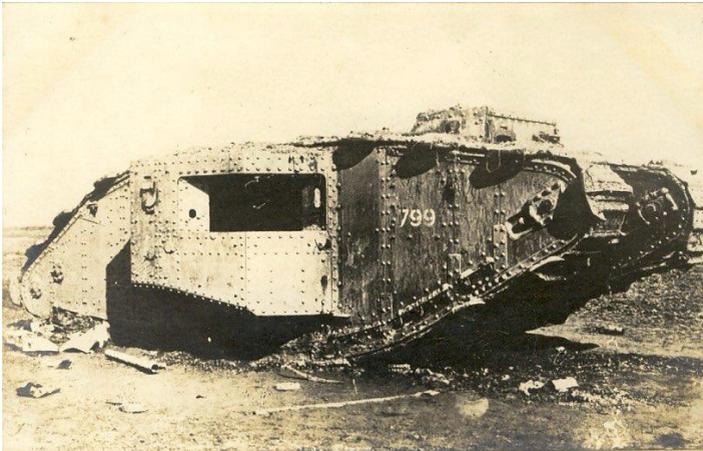
<sup>49</sup>Bean, *The AIF in France 1917*, p. 347.

<sup>50</sup>Sheldon, 'Bullecourt Day of disaster', p. 17.

<sup>51</sup>Bean, *The AIF in France 1917*, p. 347.

discovery of the effect of K rounds led to the publication of a German intelligence order that all infantry should in future carry a certain amount of this ammunition type.<sup>52</sup>

A German image of 799 (Figure 6) shows the destroyed tank. The wreck earned the dubious honour as one of the most photographed tanks of the war. Additionally, a German aerial photograph confirms its location after having penetrated Balcony Trench facing eastwards and is annotated with its direction of movement (Figure 7). This position was on a reserve slope which contributed to the British accepting a report that the tank, incorrectly, was knocked out in Hendecourt as shown on the operational diagram (Appendix A). However, the movement map (Appendix B) correctly records the tank knocked out in U30. This discrepancy between the knocked out tank in Balcony Trench, while recording two other tanks in Hendecourt, confirms British confusion reporting the right section's achievements.



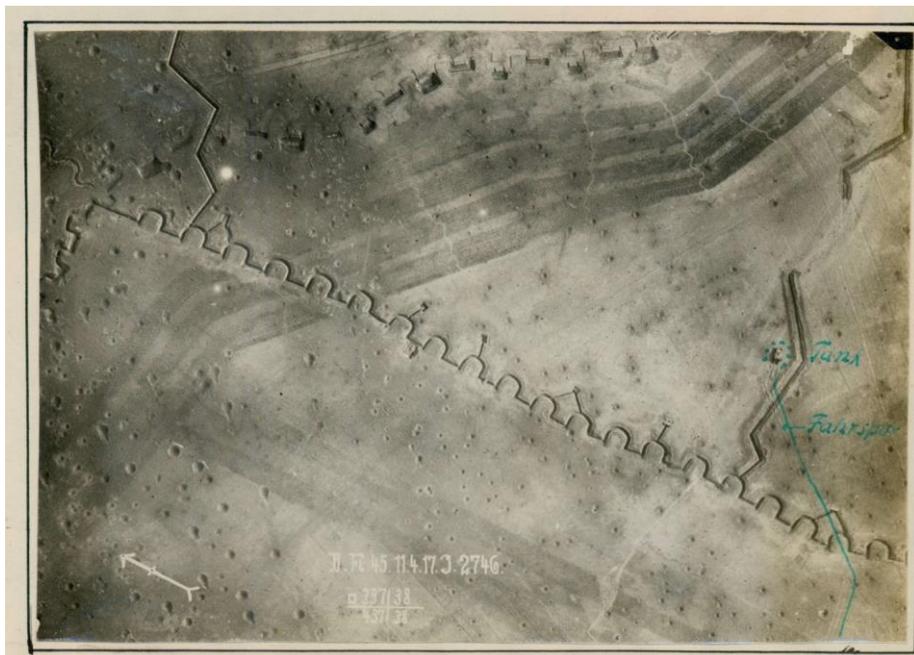
**Figure 6: The wreck of Tank 799 behind German lines (Author's collection).**

The tanks of Wyatt's section arguably made the greatest gains, with Tank 586 assisting the infantry to break into the Hindenburg Line and secure a foothold after panicking the defenders. The wayward Tank 799 likely contributed to reduce early infantry casualties from enfilade fire as enemy machine gunners in Balcony Trench focused on disabling the armoured hulk.

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<sup>52</sup>Fuller, *Tanks in the Great War*, p. 88.

## TANKS AT THE BATTLE OF BULLECOURT, 11 APRIL 1917



**Figure 7: A German aerial photograph taken on day of battle illustrating Tank 799 which had penetrated *Balkon Stellung* (Balcony Trench).<sup>53</sup>**

### **Centre Section Attack – Tanks 798, 590, 702, 585**

The centre section of four tanks was reduced to three when 702, commanded by Lieutenant Head, broke down and did not participate in the coming attack. Lieutenant McElvaine in 585 made no progress after being stuck in a bank and stranded. A shell struck the track with the crew evacuating it before receiving a direct hit.<sup>54</sup> Now lying exposed it was further hit during the hours of daylight before it could be repaired.<sup>55</sup> The operational diagram (Appendix A) shows 585 as being destroyed before reaching its starting point.

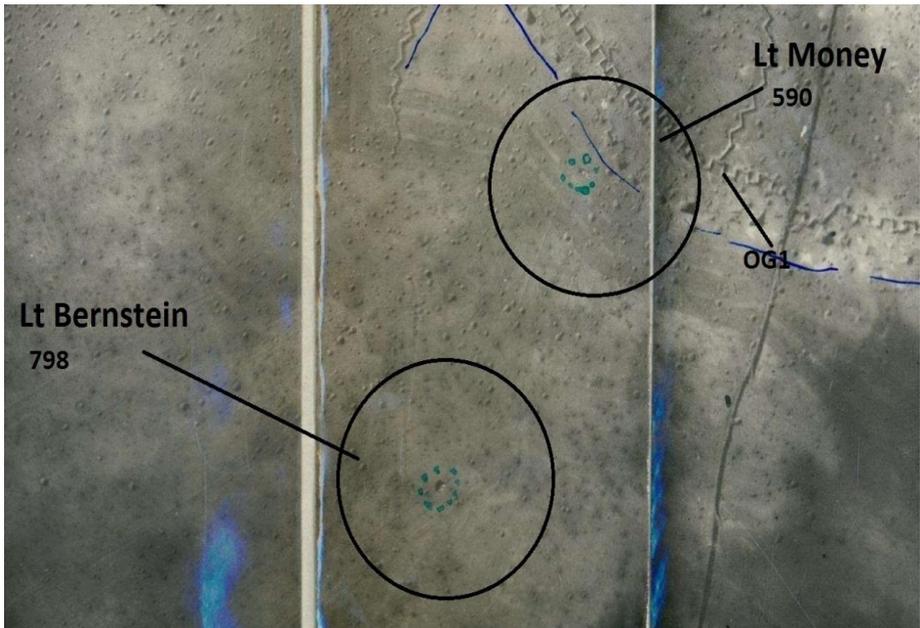
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<sup>53</sup>Landesarchiv Baden-Württemberg – Generallandesarchiv Karlsruhe, Foto dreier zerschossener Panzer und eines abgestürzten feindlichen Flugzeugs bei der deutschen Stellung südlich von Bullecourt (Luftbild) [Photograph]. Available at: [https://www2.landesarchiv-bw.de/ofs21/bild\\_zoom/zoom.php?bestand=13755&id=7570875&screenbreite=1280&screenhoehe=984](https://www2.landesarchiv-bw.de/ofs21/bild_zoom/zoom.php?bestand=13755&id=7570875&screenbreite=1280&screenhoehe=984). Accessed 17 September 2022.

<sup>54</sup>Walker, *The Blood Tub*, p. 97.

<sup>55</sup>Watson, *A Company of Tanks*, p. 62.

Lieutenant Money commanding 590 advanced and proceeded to reach the thick belts of barbed wire protecting OG I in the central depression. The tank caught fast in the wire, making it impossible to extricate itself. It is estimated that at about 06.00am as the tank rocked backwards and forwards, it took direct hits from enemy artillery, as well as a stream of armour piercing rounds which cut through the tank's hull rupturing the fuel tank which then exploded.<sup>56</sup> The HBMGC operational diagram and map (see Appendices A & B respectively) shows a tank in U29a whose movements conform to this description. Further evidence to this tank can be seen in a German aerial photograph (Figure 8) which shows its location near to OG I.



**Figure 8: A German aerial photograph illustrating two tanks which can be identified as 590 and 798.<sup>57</sup>**

<sup>56</sup>Walker, *The Blood Tub*, p. 98.

<sup>57</sup>Landesarchiv Baden-Württemberg – Generallandesarchiv Karlsruhe, Foto der deutschen Stellungen und englischer Panzer südlich von Bullecourt (Luftbild). [Photograph]. Available at: [https://www2.landesarchiv-bw.de/ofs21/bild\\_zoom/zoom.php?bestand=13755&id=7570884&screenbreite=1280&screenhoehe=984](https://www2.landesarchiv-bw.de/ofs21/bild_zoom/zoom.php?bestand=13755&id=7570884&screenbreite=1280&screenhoehe=984). Accessed 17 September 2022.

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The practice of pairing male and female tanks saw Lieutenant Bernstein in Tank 798 accompany Lieutenant Money.<sup>58</sup> As 798 advanced in the darkness it turned to move along the front of the infantry's jump off position and opened machine-gun fire on their shallow trench. Soldiers of 46 Battalion shouted an alert which stopped the firing and prompted the tank officer to appear and apologise for the mistake, as well as his asking which way are the German lines.<sup>59</sup> 798 then having been redirected moved off towards its objective but almost immediately, the tank was hit in the cab, decapitating the driver in the process. Bernstein was stunned and temporarily blinded but managed to escape and reach the safety of the embankment. As the crew were crawling out, a second shell hit the tank roof.<sup>60</sup> Although the HBMGC operational diagram (see Appendix A), shows 798 within the German front line system, the aerial photograph (Figure 8) confirms the tank mid-way between the Australian forward line and OG I. Bean states this tank as being hit twice when near the starting point.<sup>61</sup>

The destruction of the three tanks without achieving their first objective, meant the Germans still held this section of Hindenburg Line. The defenders were then able to bring reinforcements forward and launch counter attacks against the Australians, which had captured the adjacent trenches towards Bullecourt and Riencourt but were unable to link up.

### **The Left Flank Attack – Tanks 796, 797, 531, 800**

The original 12 Brigade plan for the attack on 11 April specified zero hour at 04.30am, and after the tanks indicated with a green disc signal they had secured the Hindenburg Line, the infantry would advance. In the last issued battle plan, this order was cancelled, and the infantry were to advance 15 minutes after the tanks commenced the attack. It is uncertain if 46 Battalion received the revised order, and there was no contingency detail if the tanks did not arrive on time. The late appearance of only two tanks, most likely from the centre section, resulted in confusion over the start for the lead battalion, which was delayed until after 05.00am. No explanation for the left section's late arrival has been afforded.

Lieutenant Birkett in 797 eventually arrived near the location of 48 Battalion HQ, at approximately 06.30hrs. This was some two hours after the planned jumping off by 12 Brigade. There is no report as to why Birkett's tank was delayed. However, Walker claims Birkett had initially moved too far to the right and was directed back towards

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<sup>58</sup>Male tanks were armed with a 6 pounder gun in the sponsons, whereas females had Vickers machine guns.

<sup>59</sup>Bean, *The AIF in France 1917*, p. 305.

<sup>60</sup>Watson, *A Company of Tanks*, pp. 62-63.

<sup>61</sup>Bean, *The AIF in France 1917*, p. 315.

Bullecourt by Swears.<sup>62</sup> On arrival he asked Lt Colonel Raymond Leane what he should do and was requested to support the left flank of 48 Battalion. Leane pointed out the position of a German machine gun firing from Bullecourt and asked for it be suppressed.<sup>63</sup> The tank advanced about 300 yards to the jump off trench and opened fire. Turning back, it was targeted by German gunners. Near the embankment Birkett stopped the tank to take his bearings. As Birkett was climbing out of the tank, a shell burst against its side and wounded him in the leg.<sup>64</sup> Birkett would receive further injuries whilst outside, and along with crew casualties, prompted the tank to be abandoned.



**Figure 9: Tank 797. The serial number is visible on the right-hand front tank plating (Author's collection).**

As the tank was visible to enemy gunners, it was continually shelled and it later burst into flames.<sup>65</sup> Its final position can be determined by its proximity to 48 Battalion's advanced HQ. The HBMGC operational diagram (see Appendix A) has 797 entering Bullecourt and returning to the British lines. While the map (see Appendix B) likely identifies 797 as damaged but got back safely, incorrectly through square C3. A

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<sup>62</sup>Walker, *The Blood Tub*, p. 99.

<sup>63</sup>Bean, *The AIF in France 1917*, p. 315.

<sup>64</sup>Watson, *A Company of Tanks*, p. 63.

<sup>65</sup>Bean, *The AIF in France 1917*, p. 315.

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contemporary photograph of the tank (Figure 9) shows 797 with damage to the roof and scorching to the plates and gun sponson. Captain Jacka commented on this tank and stated,

one tank returned almost to Reserve Battalion Headquarters, pulled up right on the skyline and in full view of Bullecourt, thereby making a splendid aiming mark and drawing severe enemy gun fire which made the route very dangerous for troops'.<sup>66</sup>

Lieutenant Skinner had been delayed until his ditched Tank 796 (on the embankment) was extricated by Morris. Skinner made for Bullecourt between approximately 08.00am and 09.00am, thinking that as the battle had been in progress for more than three hours, the Australians must have fought their way down the trenches into the village.<sup>67</sup> Progressing across the battlefield and seemingly attempting to follow the southern prong of the planned envelopment of the village, his movement was stopped by an impassable shell crater to their front. Watson stated, 'he tried to reverse, but he could not change gear, the tank was motionless'.<sup>68</sup>



**Figure 10: A German propaganda photographic postcard showing a tank near their trench lines at Bullecourt identifying Tank 796 (Author's collection).**

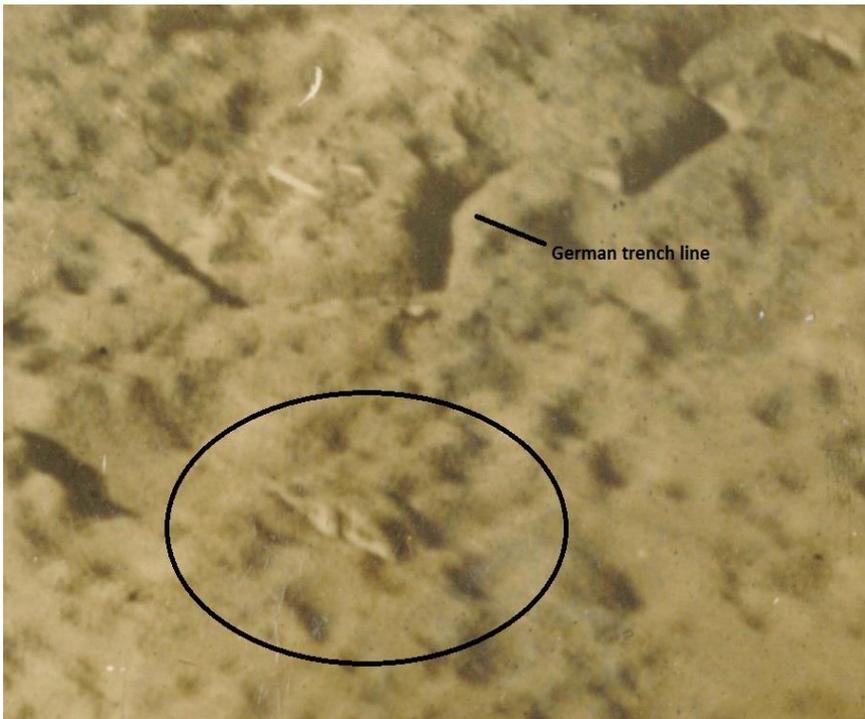
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<sup>66</sup>Macklin, *Jacka V.C.*, p. 164.

<sup>67</sup>Watson, *A Company of Tanks*, p. 64.

<sup>68</sup>*Ibid.*

The German machine guns concentrated upon it and some of the crew were wounded by the splinters of metal (spalling) which were sent flying about its interior. The Germans then brought up a trench mortar and the tank commander withdrew his crew.<sup>69</sup> Skinner then made his way back to the embankment through No Mans Land without further casualties. Simultaneously the section commander, Swears, had set off on foot from the rail line to evaluate the situation in the village and was never seen again. The operational diagram and map (see Appendices A & B) claim the tank within the confines of the village in U28a. However, a German photograph taken from their lines (Figure 10) shows the destroyed 796, with further confirmation from the aerial photograph (Figure 11) showing its location outside the edge of the village.



**Figure 11: Tank 796 close up from an aerial photograph showing its proximity to the first German trench (OGI) on the southeast corner of village.<sup>70</sup>**

<sup>69</sup>Bean, *The AIF in France 1917*, p. 316.

<sup>70</sup>McMaster University Digital Archive, 51b.P18 [Bullecourt] April 24, 1917: France. Available at: <http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A4948>. Accessed 17 September 2022.

## TANKS AT THE BATTLE OF BULLECOURT, 11 APRIL 1917

There are no accurate accounts to describe the movements of Tanks 531 and 800 which are specifically named in the battle order. Watson does make a brief mention regarding what is probably tank 800 and states, 'the fourth tank of this section was hit on the roof just as it was coming into action. The engine stopped in sympathy and the tank commander withdrew his crew from the tank'.<sup>71</sup> Walker attributes this as being Lieutenant Richards and crew and confuses this with Leane's interaction with Birkett's crew.<sup>72</sup> In a later entry Watson stated, 'we heard the noise of a tanks engine...it was the fourth tank of Swears' section which had been evacuated after a shell had blown a large hole in the roof'.<sup>73</sup> The operational diagram (see Appendix A) shows 800 reaching Bullecourt and returning to the British Lines. The map (see Appendix B) traces a line moving towards the German positions but flanking left and returning to a position past the embankment via square C3. Further reference is made to this crew when Watson states

when the crew left the tank and were well on their way to Noreuil, the tank corporal remembered that he had left his primus stove behind. It was a valuable stove and he did not wish to lose it. So he started back with a comrade and later they were joined by a third man. They reached the tank, which the German gunners were doing their very best to hit it, and tried to start the engine. To their immense surprise it fired and the three of them brought the tank and the primus stove safe into Noreuil.<sup>74</sup>

This incident may be the same crew which elicited a scathing reference made by Captain Jacka when he stated

one crew in particular when asked why they had vacated their tank, stated that it had caught fire, but gave no reason for same. The same crew returned carrying sandbags, one containing enamelware and the other food. Personal safety and comfort seemed to be their sole ambition.<sup>75</sup>

Tank 531 has no reference to its movements except the operational diagram (Appendix A), which states the tank reached the German line at OG I. Bean identifies this as Tank 8 in his map of final positions, indicating its location near the wire at the north-east edge of Bullecourt village.<sup>76</sup>

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<sup>71</sup>Watson, *A Company of Tanks*, p. 64.

<sup>72</sup>Walker, *The Blood Tub*, pp. 97-98.

<sup>73</sup>Watson, *A Company of Tanks*, p. 65.

<sup>74</sup>Ibid.

<sup>75</sup>Macklin, *Jacka V.C.*, p. 164.

<sup>76</sup>Bean, *The AIF in France 1917*, p 310.

Overall, the tanks made no material assistance to 12 Brigade which found the wire in front of the trenches intact. Leane's HQ being shelled due to the nearby target of 797 and his battalion being cut off in OG2 left him overly critical in assessment of the tanks. By 07.00am the majority of the tanks in the re-entrant had been destroyed ending their involvement in the battle, except that for Lieutenant Skinner in 796. However, his actions as described above would see his tank abandoned as unrecoverable by 09.30am.

### Recrimination and Blame

From the arrival at the battlefield to the end of their individual actions, the tanks were never a cohesive force and operated almost independently of any command. The haphazard nature of the attack may be recognised by the final positions the destroyed and wrecked tanks have on their battlefield dispositions - as described previously and as shown in Figure 12. This diagram updates all previous versions from contemporary war diaries and national official histories, by combining mapping, aerials and tank identities through serials in German postcards.

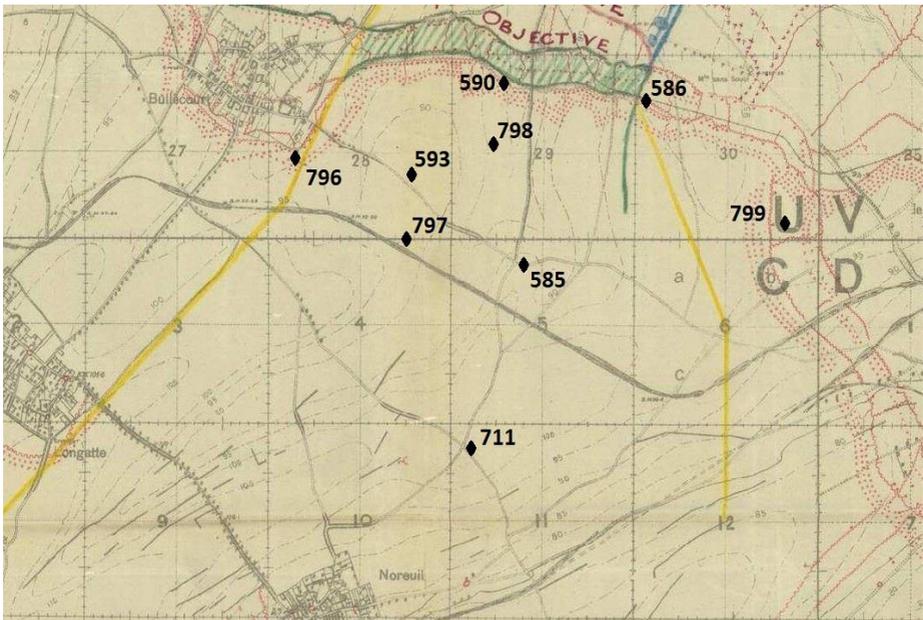


Figure 12: The location of the tanks and their respective final positions are shown at approximately 09.30am on 11 April 1917. Tank 531 is not represented as its final location has not been reliably identified. Tank 800 was later knocked out that day further south at Vraucourt Copse.

## TANKS AT THE BATTLE OF BULLECOURT, 11 APRIL 1917

The Australian infantry would continue to hold and fight in the captured trenches of OGI and OG2 until about 11:00am when the decision to withdraw was taken. The pressure of German counter attacks on both flanks of each brigade was exacerbated by the tanks failure to clear the objectives at Central Road.

Amongst the recriminations and blame for what became a disastrous assault, the tanks and their crews would become the main reason for the assault's failure. Australian command vented their anger on those they thought were responsible with Lt Colonel Leane accusing the tank crews of cowardice and incompetence.<sup>77</sup> Captain Edgar Rule from 14 Battalion stated that 'he never saw a more windy lot of officers...it was not the tanks' fault, but the chicken hearts who manned them'.<sup>78</sup>

The unfortunate occurrences of the tanks firing on the Australians during the initial stages brought bitterness amongst the soldiery and caused Lt Colonel Drake-Brockman, 16 Battalion, to comment that

the tank crews seemed to know nothing whatsoever about the particular operation they were to participate in and they did not know the direction of the enemy. This is verified by the fact that they opened fire on our own troops, causing many casualties<sup>79</sup>

Similar mishaps had been experienced previously at Flers–Courcelette, and don't appear resolved for the Bullecourt operation.<sup>80</sup> Lt Colonel Ernest Swinton who wrote many of the training and operational notes on employment of tanks stated, 'the best moment for the start will be just before dawn, as soon as there is sufficient light in the sky to distinguish objects to some extent'.<sup>81</sup>

Major Watson maintained that 'while the Australians in their bitterness of their losses looked for scapegoats, and found them in my tanks, my tanks were not to blame'.<sup>82</sup> After the war, he faced criticism for attacking a 1500 yard front without support on either flank. In their defence, Watson continued

it must not be forgotten the attack ought to have been, and in fact was, expected. The artillery support was very far from overwhelming, and the

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<sup>77</sup>AWM26 171/18, German Withdrawal 12th Infantry Brigade 8 to 13 Apr 1917.

<sup>78</sup>AWM38 3DRL 606/245/1, Diary of Capt. E.J. Rule.

<sup>79</sup>TNA WO 95/3488, 4 Australian Infantry Brigade Headquarters. Jan. - Dec., 1917.

<sup>80</sup>Harris, 'The Rise of Armour', p121.

<sup>81</sup>Harris, *Men, ideas and tanks*, p. 56.

<sup>82</sup>Watson, *A Company of Tanks*, p. 69.

barrage, coming down at zero, gave away the attack before my tanks could cross the wide No Man's Land and reach the German trenches.<sup>83</sup>

### **Aftermath: Learning From Trial and Error**

The perceived benefit of the tanks at Bullecourt was reinforced by the Heavy Branch's commander, Lt Colonel Hugh Elles' congratulatory 'the best thing tanks have done yet'.<sup>84</sup> The tank's chief staff officer, John Fuller, stated Bullecourt embodied his earlier concept tanks could potentially perform better when the artillery provided little to no preliminary bombardment to prevent destroying the ground.<sup>85</sup> However, counter battery work was essential for the tanks' protection and the tanks should be used in mass and a strong reserve held.<sup>86</sup> Later at Hamel with their experience of Bullecourt, the Australian staff insisted Lt General John Monash, the newly appointed commander of the Australian Corps, use a creeping barrage which was originally dispensed with.<sup>87</sup>

Senior tank officers believe two machines reached as far as Hendecourt in the German lines and continued to argue this point post war in defence of the tank's achievements in the assault.<sup>88</sup> Fuller added, whether the tanks actually crossed the Hindenburg Line or not was immaterial. Tank Corps HQ believed so and the tactics of the victory at Cambrai were based upon the belief.<sup>89</sup> After Arras, GHQ resolutely had faith in the potential of tanks. Haig wrote to the war office on 5 June 1917

events have proved the utility of Tanks both as a means of overcoming hostile resistance and as a means of reducing casualties in the attacking troops and I consider that sufficient experience has now been gained to warrant the adoption of the Tank as a recognized addition to the existing means of conducting offensive operations.<sup>90</sup>

Furthermore, Elles reinforced in January 1918 that if infantry were

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<sup>83</sup>Ibid., p. 70.

<sup>84</sup>Watson, *A Company of Tanks*, p. 71.

<sup>85</sup>John F.C Fuller, *Memoirs of an Unconventional Soldier*, (London: Ivor Nicholson and Watson, 1936), p. 103.

<sup>86</sup>Fuller, *Tanks in the Great War*, p. 89.

<sup>87</sup>Robin Prior & Trevor Wilson, *Command on the Western Front*, (Oxford: Blackwell, 1992), p. 297.

<sup>88</sup>Watson, *A Company of Tanks*, p. 71.

John H.C. Fuller, 'The Tanks at the Battle of Bullecourt – 11 April 1917', *The Royal Tank Corps Journal* (July 1933).

<sup>89</sup>Fuller, 'The Tanks at the Battle of Bullecourt – 11 April 1917'.

<sup>90</sup>TNA MUN 4/2791, Haig to War Office 5 June 1917.

## TANKS AT THE BATTLE OF BULLECOURT, 11 APRIL 1917

trained to co-operate with Tanks and Aeroplanes, not only will its potential hitting power be increased many times, but a new method of warfare may be inaugurated against which the enemy is at present impotent.<sup>91</sup>

Mk IV tanks were introduced at Messines in June 1917 and these were more reliable and better armoured, and proof against K rounds, which lessened their vulnerability compared to the Mk I and Mk IIs. The increasing success of tank operations seen at Cambrai on 20 November 1917, and combined arms tactics with improved Mk Vs at Hamel on 4 July 1918 culminated in the Battle of Amiens on 8 August. This initiated the campaign that led to the Armistice 100 days later. The tank became an important element in the Allied ability to achieve success in the final months of war.

Foley advocates the British Army having become an organisation with an informal method of learning which often produced technological solutions, such as the development of the tank to deal with the tactical and operational challenges of the battlefields of the First World War.<sup>92</sup> After Arras, it was realised that efficient communications were a prerequisite for the successful employment of tanks in battle.<sup>93</sup>

However, the lack of effective inter-tank and tank-rear HQ communication remained a technical disadvantage throughout the war, which despite experimentation continued to hinder command and tank operations on the Western Front.<sup>94</sup>

### Conclusion

The available literature associated with the movements of tanks at Bullecourt is limited. The narrative to describe the actions of the individual tanks is generally derived from Major Watson's account which Bean refers to as a reference within the Australian Official History. Bean additionally used German unit histories for an alternative viewpoint, which confirmed the moral effect of the tanks 'crippling resistance' and 797's fate.<sup>95</sup> Further individual actions and the identity of the tanks in texts have historically been difficult to interpret in the absence of battle history sheets and accurate reports. The final positions of the tanks in this study (Figure 12 above) were largely determined from postcards of Germans posing with their prized trophies compared against aerial landscapes.

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<sup>91</sup>AWM26, 481/8, Elles to GHQ 3 Jan 1918.

<sup>92</sup>Robert Foley, 'Dumb Donkeys or Cunning Foxes? Learning in the British and German Armies during the Great War', *International Affairs* 90/2 (2014), pp. 16–19.

<sup>93</sup>Brian Hall, 'The Development of Tank Communications in the British Expeditionary Force, 1916-1918', In Searle, A. (ed.) *Genesis, Employment, Aftermath: First World War Tanks and the New Warfare, 1900-1945*, (West Midlands: Helion, 2015), p. 136.

<sup>94</sup>Ibid., p. 137.

<sup>95</sup>Bean, *The AIF in France 1917*, p 347.

The haste of organising the attack at Bullecourt demonstrated that planning was crucial for operations to achieve success. The late arrival of the tanks was due to poor tactical reconnaissance and underestimating the time required to reach their destination, and also by being hampered by darkness and undesirable weather conditions. A suitable lead time was unavailable due to the urgency with which General Gough wanted to assault the village. Furthermore, the hurried briefing of amended objectives on the battle eve compounded the confusion. The unfamiliar terrain of the battlefield contributed to failure of the tanks to follow their planned course of action. The crews had spent between 14 to 16 hours in a tank within a period of 35 to 37 hours and were under severe strain and suffering from the effects of carbon monoxide poisoning, heat stress and general confusion.<sup>96</sup> Bullecourt can be viewed as providing a prime example of prolonged exposure to adverse conditions in the confines of a hull as being detrimental to combat effectiveness, an issue that could not be resolved given the limitations of FWW tank technology.

The infantry had no cooperative rehearsal to work in partnership with tanks for the assault, which reinforced the recommendation for combined training in future preparations. In addition, unfamiliarity with the need for noise cover during the tank approach, meant bombardment by alerted defenders increased the difficulty of guiding the tanks into assault formation. The heavy loss of tanks from the German artillery reflected the need for effective counter battery fire. Elles was informed that 90% of tank casualties at Arras were due to being hit while stationary in order to stop, swing and turn the tank.<sup>97</sup> Post battle allegations of cowardice or a failure of morale amongst the tank crews may be challenged in that the majority of the tanks were destroyed and that there was an approximate 50% casualty rate of tank personnel.<sup>98</sup>

The tanks helped distract the enemy's attention from the advancing infantry because the Germans concentrated on destroying the tanks in the early part of the attack. This contributed to the infantry suffering less casualties in this phase of battle.<sup>99</sup> Combined with some panic amongst the German defenders at the approaching tanks, this provided opportunity for the infantry to seize the first line of trenches. A standing barrage was not prioritised to subdue German counter attacks and the infantry were left unsupported in their consolidation of captured trenches. Failure came at a significant infantry cost.

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<sup>96</sup>David Brown, 'Never mind the heat, never mind the noise: Understanding the working conditions of tank crews during the First World War', *Journal of the Society for Army Historical Research* (2020).

<sup>97</sup>TNA, WO 158/814, Elles to Anley 23 April 1917.

<sup>98</sup>Watson, *A Company of Tanks*, p. 66.

<sup>99</sup>*Ibid.*, pp. 70-71.

## TANKS AT THE BATTLE OF BULLECOURT, 11 APRIL 1917

Most importantly, the tank's effective integration into complex combat operations proved difficult to plan and execute in early 1917. High command was slow to adopt the concept of combined arms doctrine and preferred to believe tanks could be a war winner alone.

Overall, the preparations for the Bullecourt attack were too hasty, and were then compounded by changing the plans the night before the battle, combined with poor cooperation, inadequate artillery resources in support and insufficient tank numbers assaulting a narrow salient.<sup>100</sup>

Later recognition of the tank's limitations were learnt by trial and error and enabled the adoption of successful tactical and operational doctrine for set-piece attacks. Tanks proved to be an important element in the development and perfection of all-arms battles as the war progressed in 1918.

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<sup>100</sup>Fuller, *Tanks in the Great War*, p. 88.

Appendix A

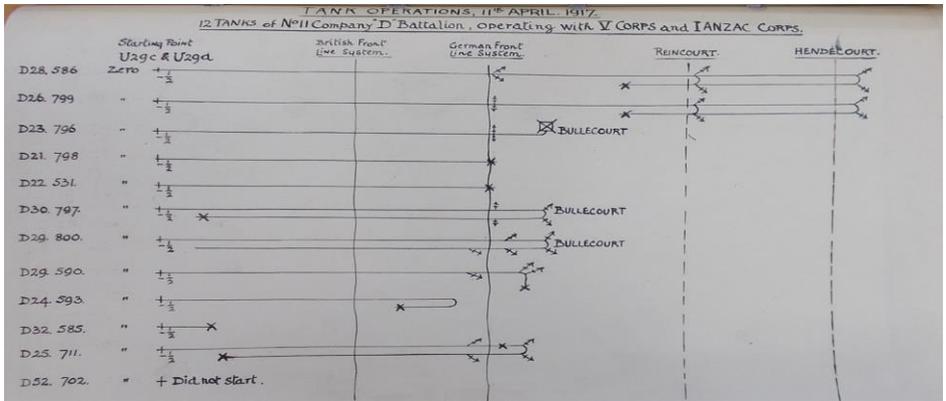


Figure 13: Tank Operations diagram 11 April 1917.<sup>101</sup>

<sup>101</sup>TNA, WO 95/91/4, Tank Corps War Diary 'Report on the Action of Tanks at the Battle of Arras. 9th to 13th April 1917', 27 April 1917; 'Summary of Tank Operations 1st Brigade, Heavy Branch. 9th April-3rd May 1917', 17 May 1917.

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## Appendix B.

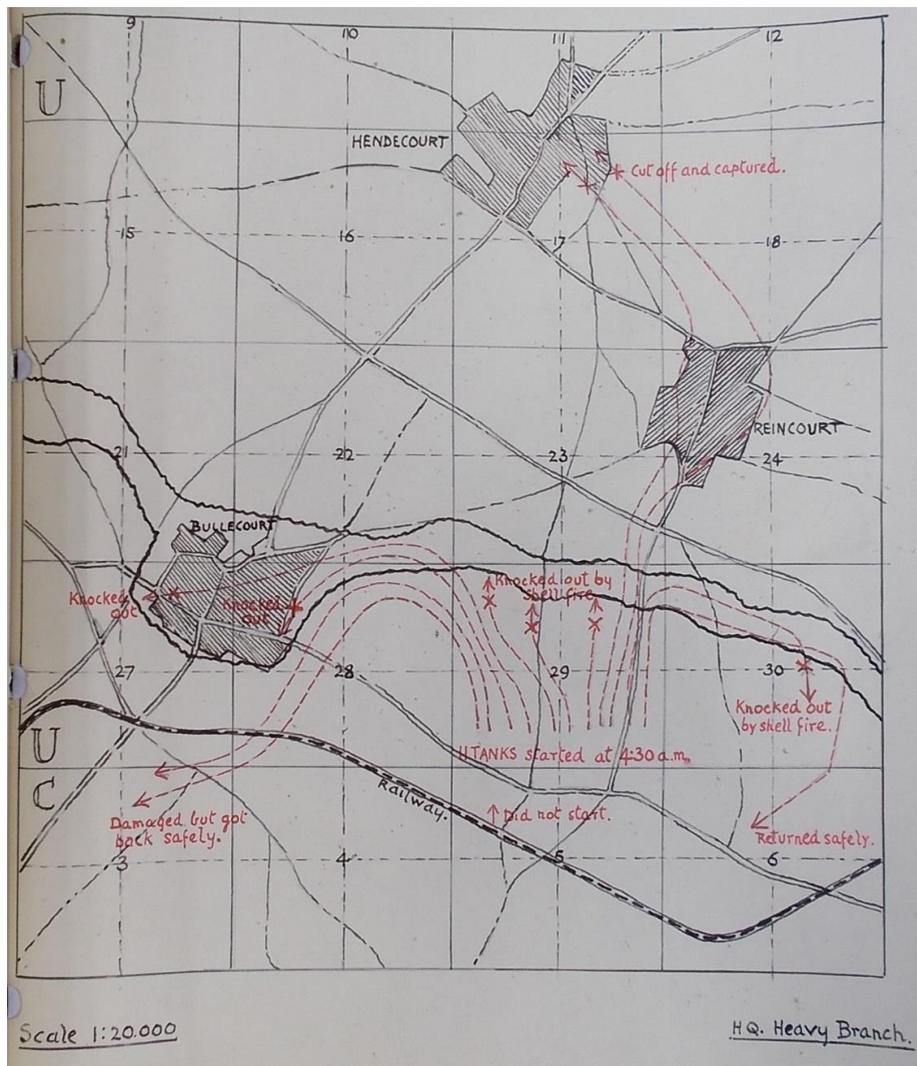


Figure 14: Hand annotated map of tank routes during course of battle 11 April 1917.<sup>102</sup>

<sup>102</sup>TNA, WO 95/91/4, Tank Corps War Diary 'Report on the Action of Tanks at the Battle of Arras. 9th to 13th April 1917', 27 April 1917; 'Summary of Tank Operations 1st Brigade, Heavy Branch. 9th April-3rd May 1917', 17 May 1917.