

AD-4237-992

THE ENGINEER ROLE IN THE DEFENSE -- A COMPARISON  
BETWEEN THE MESOPOTAMIA CAMPAIGN AND THE PERSIAN GULF  
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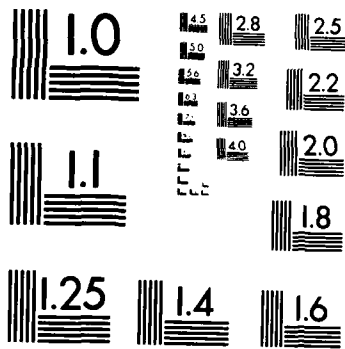
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

**REPORT DOCUMENTATION PAGE**

Form Approved  
 OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>		1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		7a. NAME OF MONITORING ORGANIZATION	
6a. NAME OF PERFORMING ORGANIZATION US Army War College	6b. OFFICE SYMBOL (if applicable) AWCA	7b. ADDRESS (City, State, and ZIP Code)	
6c. ADDRESS (City, State, and ZIP Code) Carlisle Barracks, PA 17013-5002		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (if applicable)	10. SOURCE OF FUNDING NUMBERS	
8c. ADDRESS (City, State, and ZIP Code)		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) The Engineer Role in the Defense--A Comparison Between the Mesopotamia Campaign and the Persian Gulf War			
12. PERSONAL AUTHOR(S)			
13a. TYPE OF REPORT Study Project	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 1991 April 8	15. PAGE COUNT 36

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

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20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
22a. NAME OF RESPONSIBLE INDIVIDUAL MARTIN W. ANDRESEN, LTC, FA		22b. TELEPHONE (Include Area Code) (717) 245-4114	22c. OFFICE SYMBOL USAMHI



Accession For	
DTIC GRAFI	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

USAWC MILITARY STUDIES PROGRAM PAPER

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THE ENGINEER ROLE IN THE DEFENSE--A COMPARISON BETWEEN THE MESOPOTAMIA CAMPAIGN AND THE PERSIAN GULF WAR

AN INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel Thomas A. York  
United States Army

Lieutenant Colonel Martin W. Andresen  
Project Advisor

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U. S. Army War College  
Carlisle Barracks, Pennsylvania 17013

ABSTRACT

AUTHOR: Thomas A. York, Lt Col, USA

TITLE: The Engineer Role in the Defense--A Comparison  
Between the Mesopotamia Campaign and the Persian Gulf  
War

FORMAT: Individual Study Project

DATE: 8 April 1991 PAGES: 27 CLASSIFICATION: Unclassified

The British and the Turkish army fought a bloody war in the Persian Gulf in 1914. There are numerous comparisons between the tactics used in the Mesopotamia Campaign of 1914 and the most recent Persian Gulf War. The lessons learned in the two wars separated by almost eighty years are strikingly similar. The focus of this study is on the comparison of how engineers were used in the defense. The principal viewpoint is based on British written accounts. The Iraqis used a combination of old Turkish and British tactics combined with Soviet doctrine. They failed to apply the impact that modern technology has on the battlefield. The coalition forces used a form of seige similar to what the Turks used against the British in 1914. The role of the engineer in the defense has not changed greatly over the years.

The purpose of this paper is to analyze the Mesopotamia campaign of 1914, to show how the Turkish defensive warfare triumphed over the extended British offensive. This campaign offers insight into the outcome of the Persian Gulf War. The Turkish fight-smart and wait-for-the-enemy's overextension strategy is the strategy that will be analyzed in this study.

This paper focuses on the operations of the British-Indian Expeditionary Force in Mesopotamia from 1914-1919, with particular focus on the Kut-al-Amara area on the Tigris River. It will analyze the defenses employed by both the British, with their Indian sappers and miners, and the Turkish-Arab coalition that fought so tenaciously from their entrenched defensive positions. Finally this study compares and contrasts the defenses used by both forces in the Mesopotamia campaign with those used in the current Persian Gulf War. Are there meaningful similarities? This comparison includes consideration of doctrine, mission, enemy, terrain, troops available, time, and the impact of weather. The analysis is mostly viewed through the eyes of British writers and military analysts.

The first battle of Kut and the second battle or seige of Kut-al-Amara offer excellent examples of the difference a coordinated defense conducted from strongly fortified positions can make in the outcome of a battle. The Tigris River valley was a critical line of communication and transportation for both of

these battles. The Tigris and Euphrates River valleys, sometimes referred to as the granary of the region, provided both the source and road network for agricultural products. But transport of supplies of any type on the limited number of roads was very unreliable. Floods from the rivers would quickly turn the surrounding land into a quagmire, impassible for any type of vehicular traffic.<sup>1</sup>

The Tigris River stretches some 502 miles from Basra to Baghdad. In 1914 there was virtually no wharfage at Basra, where the Euphrates and the Tigris join to form the Shatt-al-Arab River, which runs for approximately 60 miles to the Persian Gulf. The Shatt-al-Arab is the primary fresh water source for Kuwait.<sup>2</sup> Since there were no warehouses at Basra, supplies had to be off loaded onto wooden sailing craft known as mahailas.<sup>3</sup> But they did not have the capacity to handle the tonnage necessary to support the expeditionary force. With a maximum capacity of 70 tons, the mahailas' top speed on the Tigris was 10 miles per day going upstream.<sup>4</sup>

Between Basra and Kurna, the Tigris River flows for about 50 miles. This segment of the river runs more than 7 1/2 feet deep in the dry season and more than 12 feet during the flood season. Above Kurna to Kelat Salc, a 28 mile distance, navigation is extremely hazardous because of sharp bends, hairpin turns, and a four-knot current. Amara, which is 90 miles above

Kurna on the Tigris, has an average depth of 4 1/2 feet in the dry season. Kut then lies 150 miles above Amara, but navigation between the two cities becomes easier and the river is broader.<sup>5</sup>

The only trees in the country are date palms. Therefore, wood for fuel or entrenchments is virtually non-existent, nor is there stone except for a quarry southwest of Basra.<sup>6</sup>

The river valley is intersected by swamps. Only a caravan road leads to Baghdad. The soil consists of a sandy loam, which even a light rainfall turns into a tenacious mud. During the flood season vehicular traffic is impossible; and it is very limited during the dry season. Even in the dry season, broken irrigation canals cause flooding that greatly impedes wheeled vehicle traffic. Overall, military movement to Kut was quite difficult. It was totally dependent upon navigating the difficult Tigris River.<sup>7</sup>

In 1914 engineer class IV barrier type materials--such as steel and lumber, with the exception of a sandy soil--did not exist. Therefore, a secure supply line was absolutely necessary to get the required barrier materials forward. If the field commander decided to hold a defensive position for any period of time, he needed a reliable line of communication. As we have noted the Tigris River from Basra to Kut-al-Amara flows a difficult 300 miles. In fact the British underestimated the Tigris River and its valley in their logistical estimates for an



extended military campaign. Even steam navigation was limited on the Tigris. Specially designed steamers were necessary to cope with the difficulties of navigating the Mesopotamia rivers-- steamers the British did not possess.<sup>9</sup>

The first battle at Kut-al-Amara pitted the British-Indian Expeditionary Forces led by Major General Charles V. Townshend against Nur-ud-Din Pasha, the Turkish commander. Nur-ud-Din had several months in which to construct defensive positions covering Kut while awaiting Townshend's attack.<sup>9</sup> On the Tigris River's right bank (see Fig. 1), the Turkish trenches followed the line of an abandoned ancient canal whose banks stood 20 feet above ground. Mesopotamia is covered with ancient irrigation canals that once distributed water to the agricultural fields. The Turk's extreme right flank rested on a redoubt.<sup>10</sup> This redoubt was nothing more than a temporary outlying fortification used on the flanks of entrenchments.

On the Tigris River's left bank, the Turkish forces used three marshes--Ataba, Suwada, and Horse Shoe--to anchor their defenses. Here numerous redoubts were connected by solidly constructed trenches. To protect themselves from a frontal assault, the Turks emplaced wire entanglements, land mines, and knife-like stakes protruding from the bottom of pits. Many of the wire entanglements were not readily visible because they were constructed in deep depressions. Pumps also had been installed

throughout the area to deliver brackish water from the river to flood designated sectors. Thus an attacker had little choice but to advance over flat land completely devoid of cover.<sup>11</sup>

The Turks also blocked the Tigris by lashing together sunken iron barges connected by wire cables. The entire obstacle was covered from both banks by machine guns and artillery. A boat bridge five miles to the rear of the defensive positions provided a line of communication for the split Turkish forces.<sup>12</sup>

Nur-ud-Din commanded two Turkish divisions consisting of some 6,000 infantry, 38 artillery pieces, 2 cavalry regiments, and 400 camelry--besides several thousand Arab horsemen. About one-fourth of his force consisted of reliable Anatolian Turks. The remainder had been recruited from Arab and Kurdish elements, a force that was not considered very reliable. Nur-ud-Din used his artillery soldiers to build the trenches on each bank of the Tigris; he held about half of his force in reserve near the boat bridge.<sup>13</sup>

General Townshend, the British-Indian force commander, had the distinct advantage of "air supremacy" due to his fleet of four airplanes. The pilots did not have a means of aerial photography; however, they could provide highly accurate sketch maps of the enemy defenses from simple aerial observation. Their over-flights uncovered a gap of 3,000 yards between the southern edge of the Ataba marsh and the most northerly work of the

northern sector of the Turkish position. The gap was probably caused by the unforeseen circumstance of the marsh drying up. General Townshend based his plan on two principles of war that the British did not frequently employ: deception and surprise. His plan of attack was to charge his cavalry and two infantry brigades through the gap; one brigade would simultaneously attack the center and southern sectors of the left river bank position. The plan depended upon one of the principles of war--surprise. The units shooting the gap included one company of Indian sappers and miners to assist in breaching the gap if it had been mined or blocked with other obstacles.<sup>14</sup> Thus this attack group, under General Delamain, would occupy the Turks' left flank.

Townshend also developed a plan for deception, which was set into motion on 27 September alongside the river at Nukhailat. This plan included the use of an infantry brigade and a pioneer battalion. His pioneer battalion erected a boat bridge. One of his infantry brigades set up tents and dug entrenchments--a demonstration which also protected the camp and shipping. He then ordered one of his two generals, General Fry, to dig in along a line 2,000 yards from the center sector of the Turkish position. The overall plan was to turn the Turkish left flank with General Delamain's column. The attack would commence at night to use the cover of darkness. But because of the table top nature of the terrain, there were no distinguishable features upon which to

take a bearing. Thus the British pilots dipped their wings over the desired turning point on the enemy's left flank. Daylight flights would allow triangulation techniques to determine location based on the pilots' earlier sketch maps of enemy positions. Routes of march could then be developed to successfully outflank the Turks in their defensive positions.<sup>15</sup>

On the evening of the 27th, the British employed an interesting noise discipline technique on their boat bridge at Nukhailat. This simple but innovative technique was to place dirt and straw on the bridge planks to muffle the sound of wheels and hoofs.<sup>16</sup>

During this advance, the British encountered problems because of their total reliance on aerial observer sketch maps. The British overlooked the fact that the enemy continually improved their defensive positions, particularly at night. Thus, when they unexpectedly ran into a partially constructed redoubt, they became confused. This caused delays and resulted in an uncoordinated advance.<sup>17</sup> A sapper/infantry reconnaissance team could have prevented the debacle if the route had been properly reconnoitered.<sup>18</sup>

On the 28th, an attack by General Delamain's column was accompanied by a company of sappers and miners. The engineers were to breach obstacles as they gallantly pushed forward with the infantry over an open plain. The open, featureless terrain

made low-lying Turkish trenches almost impossible to see until the advancing troops were right on top of the Turkish positions.<sup>19</sup> The Turks provided a determined defense from their trenches, even counterattacking with artillery support to resist the British assault. The ensuing battle resulted in heavy British losses; some units suffered as high as fifty percent casualties. Eventually the Turks were overcome, at the point of the bayonet, after approximately two hours of intense fighting. Smoke, dust, and mirage made artillery observation difficult for both sides. These obscurants also prevented effective communication by flags and helio when communication wire lines became overextended.<sup>20</sup>

After the successful British attack, units stopped to reorganize, resupply, and dig in. The leadership finally realized the exhausted condition of their troops after 16 hours of movement and 10 hours of strenuous desert fighting. Men suffered from thirst because of the blazing sun, intense heat, and the hot dust-laden wind.<sup>21</sup> The only available water was taken from the surrounding marshes, but it was so salty that it proved to be undrinkable.<sup>22</sup> Only the camels could drink the brackish water.

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British cavalry also learned some painful lessons. It was severely impeded by the irrigation cuts that ran in every direction. Mounted action thus became impracticable. The cavalry were forced to use the irrigation cuts as defensive trench

positions and engage the Turks as infantry in the defense. This severely minimized their scheme of maneuver. It negated the cavalry tactical advantage of speed and surprise. The Turks augmented their defensive positions well with the man-made irrigation cuts. The "last straw" for the cavalry was when they were fired on by their own artillery. The entrenched cavalry had been mistaken for entrenched Turks. This last disaster, which resulted in numerous cavalry casualties, caused the British mounted force to withdraw. Thus the undetected, unplanned for irrigation cuts rendered British cavalry ineffective.<sup>24</sup>

The commander of the 18th British Brigade, General Fry, spent the night of the 27th awaiting the advance of General Delamains' units. The 18th Brigade was concealed in a ravine, thereby using one of nature's few natural protective terrain features in an otherwise open field. The only safety for either side was in trenches, nullahs (ravines), irrigation cuts or ancient canals which were all used to the fullest extent for protection and deception.<sup>25</sup>

From a wooden observation tower built by the British engineers, General Townshend observed the battle.<sup>26</sup> But in one way the observation tower worked to his disadvantage. It provided him a too comfortable position and thus prevented him from being forward with his troops where he could influence the action. His forward presence could have made a difference when one of his

brigades was confused and lost. The observation tower was useless once night fell. Nightfall was described as a "black curtain," because at Mesopotamian latitudes there was practically no twilight. So a frustrated Townshend, at the most critical point, could not communicate with or even see his brigades.<sup>27</sup>

The Turks had an effective river obstacle that consisted of two sunken iron barges and a floating wooden boat (mahaila), which were wired together. The barges had to be breached to prevent cross reinforcement of Turkish forces that were positioned on the two banks. A British naval flotilla of three boats set off upstream at night with all lights dimmed; it was intent on sinking the wooden boat by gun fire. But gunfire soon proved inadequate to sink a wooden boat. Men even went over the sides of the boats to attempt to cut the steel wires.<sup>28</sup> The river obstacle proved too much for the British flotilla primarily because the Turks ensured the obstacle was covered by effective machine gun fire and rifles. Further, it was within reach of artillery.<sup>29</sup>

Many of the British troops who had been moving by foot since 0200 hours on the 28th fought a good part of the day and now found themselves at nightfall exhausted, thirsty, and chilled. The British soldiers sought the only available protection from enemy sniper fire in damp ditches. Without greatcoats, which were too heavy to carry on the march and in the attack, the men froze

in the bitter 50 degree night cold.<sup>30</sup>

The Turks suffered heavy losses. But they used the night to slip away from their trenches to reorganize in Kut. They always left a rear guard in the trenches to deceive the enemy into believing that the full force was still intact.<sup>31</sup>

A few days later, on 1 October, the British cavalry caught up with the Turks rear guard about 40 miles above Kut. However, the entrenched Turks offered strong resistance and the cavalry were forced to wait until the infantry arrived by steamer on 3 October. Townshend's aircraft reported that Nur-ud-Din's force had retreated and was occupying a previously prepared position at Ctesiphon, covering Baghdad.<sup>32</sup>

This first battle at Kut for Townshend was a British success--but not a complete success. Nur-ud-Din got away, thus averting a total defeat.

The Turks had indeed been deceived by Townshend's tactics at Kut. They suffered 1,700 casualties, 1,300 surrendered, and 17 guns were lost. In all, Nur-ud-Din lost about half his armed strength. The British endured 1,200 casualties, five-sixths of which were sustained by six battalions of Delamain's column.<sup>33</sup> Townshend had estimated casualties to be six per cent at Kut; however, the actual number of casualties was twelve per cent--a figure his higher headquarters recognized as unavoidable.<sup>34</sup> But attacking across open, flat, featureless terrain using suicidal



frontal assaults was avoidable. Townshend's poor tactics still managed to achieve victory. His operation was seen by his superiors as a success because Nur-ud-Din retreated up the Tigris.<sup>35</sup>

However, the failure to completely defeat Nur-ud-Din had a significant impact two months later at Ctesiphon. There Nur-ud-Din was reinforced by two more divisions. This force held against Townshend--inflicting heavy casualties on the British force. Nur-ud-Din had planned to withdraw to Ctesiphon, where he had previously dug entrenchments as a withdrawal contingency from Kut.<sup>36</sup> Townshend overextended his lines of communication to Ctesiphon. He was too far up the treacherous Tigris river, thus he was unable to get reinforcements. Townshend was then forced to withdraw to Kut, where he finally had to surrender with his whole force after a five month siege. The British force that tried to relieve him suffered 23,000 casualties.<sup>37</sup>

An assessment of the first battle at Kut reveals that a two battalion British infantry force with a sapper and miner company could attack and take an equivalent Turkish force in the defense; however, heavy casualties would occur over the "billiard board" terrain. The Turks had prepared excellent entrenchments. They were narrow and deep, with huge jars of water strategically placed for sustaining the defenders. Mines and sharpened stakes were integrated well into the defense. Redoubts were constructed

with overhead cover, similar to defensive fortifications found in the Korean War years later.<sup>38</sup> However, the British did not win decisively. Their second attack force sat in front of Turkish trenches all day, awaiting another attack force that never arrived. The knife was poised at the jugular, but the killing thrust did not come. This failure to seize the initiative allowed the Turks to fight another day. Thus they lost a battle but eventually lived to win the war against Townshend's Sixth Division.<sup>39</sup>

Cavalry on both sides was ineffective due to poor tactics by both commanders and due to the unforeseen impact of the irrigation cuts that stymied the British cavalry's ability to maneuver.<sup>40</sup>

The advantage of "air supremacy" and the use of an observation tower were negated at night. Smoke, dust, and mirage impeded aerial and tower observation during the day. The battlefield was far from under total scrutiny.

Parallels in our present Gulf War situation could be drawn with respect to the terrain, air supremacy, and observation platforms. The effects of blowing dust, mirages, and featureless flat terrain made land navigation and weapons sighting difficult. It also apparently made Nap-Of-the-Earth (NOE) flight initially very hazardous. Thirst, heat exhaustion, and bitter evening cold all have the same impact on the soldier today as they did in 1914. The use of observation platforms from Townshend's simple

wooden tower to today's satellite dependency can as well place a commander in a too comfortable position--too far removed from the field of battle to influence the progress of battle. The reliance on technology can prevent a commander from going forward where his soldiers are to get the feel of the battlefield. Air supremacy provided an advantage; however, it had its limitations. The Turks learned to deceive the aerial observer by moving units and building new fortifications at night.

The Iraqis underestimated the coalition forces believing that the same disastrous frontal assaults would be used again against a well dug in force. Tenacity, determination, and a toughness still became the key ingredients in determining success at the first battle of Kut-al-Amara--ingredients that were lacking in the hearts of the beleaguered Iraqi soldiers in Kuwait.

Following General Townshend's victory, at the first battle of Kut, he pursued the Turks up the Tigris River to Ctesiphon. Two strong lines of enemy entrenchments filled with 11,000-13,000 enemy awaited Townshend's Sixth Division.<sup>42</sup>

Townshend attacked the first line on 22 November, taking 1,300 prisoners in a severe fight. He then penetrated the second line but received a heavy counterattack from Turkish reinforcements and was forced back to the first line. Townshend now found himself outnumbered and short of supplies. He feared

that he was being enveloped. The tide had turned against Townshend, since he had overextended his supply line and underestimated the enemy resolve and determination. His confident and arrogant British attitude was beginning to cost the lives of his men, as they continued to fall back. Nur-ud-Din's coordinated defensive planning with fall-back positions from Kut to Ctesiphon began to pave the way for his ultimate success. The British retreat began on 25 November. When it ended on 3 December, at Kut-al-Amara. Townshend had lost 30 per cent of the total advancing force before he reached Ctesiphon. Townshend decided to stand fast in Kut, even without barrier materials or mines for survivability or for countermobility operations.<sup>43</sup> (Fig.2)

The second battle of Kut-al-Amara developed into a Turkish seige of Townshend's retreating British force. It would be a generally defensive operation for both forces, with sporadic unsuccessful frontal attacks over open plains. The town of Kut was always under British control until the British surrender.

A relief force to assist Townshend at Kut was headed by British General Aylmer. But this relief mission failed for three reasons--premature attacks, inadequate transport, and poor weather. A British commission which studied the causes of failure added yet another reason: "insufficient numerical superiority over a strongly entrenched enemy."<sup>44</sup> The tenacity of the Turks coupled with sound defensive planning thus should be credited

with stopping the British relief force. In one instance, at Umm-el-Hanah, Turkish entrenchments were 2 miles deep. A concentration of 12 British artillery batteries of various calibers pounded the Turkish trenches which covered a 1,400 yard front, for 20 minutes. Thus the British sought to demoralize the Turks. But it did not work. It merely indicated to the Turks the exact point where the attack would come.<sup>46</sup> Only when the Turks left their trenches to counterattack did they suffer heavy losses, cut down in the open by British machine guns. The independent British commission also noted that Aylmer's relief force was not strong enough in artillery and high explosive shells, which significantly hampered the attack against the modern Turkish entrenchments.<sup>46</sup> The siege at Andrianople in 1913 had demonstrated that modern trenches with shrapnel proof overhead cover provide sound protection against artillery.<sup>47</sup> But it appears that the British soon forgot their lessons learned from Andrianople--that only the most modern artillery rounds would harm the Turkish defenses.

The embarkation and disembarkation of two British relief divisions at Basra was haphazard and destined to failure from the beginning.<sup>48</sup> A British engineer stated that, "Basra, the main port of Mesopotamia through which all supplies had to pass on their way up to the relief force, was nothing more than an anchorage and swamp. The entire camp was a huge quagmire scattered about

with heaps of rotting stores."<sup>47</sup> The lack of suitable docks for unloading and offloading ships delayed and in some cases prevented men, ammunition, food, and wood and steel for field fortifications from being transported up the Tigris River to Kut. At times, ships had to wait up to six weeks to be offloaded.<sup>48</sup> The lack of suitable steamers capable of navigating the Tigris further complicated matters.<sup>49</sup>

The advance of General Aylmer's relief force on the ground was generally futile because of the deep mud; also the open terrain was devoid of cover. It was not uncommon to find a British soldier's rifle clogged with the despicable mud.<sup>50</sup> In December the mud at Basra measured 15 inches deep.<sup>51</sup> In addition to the climate, Aylmer's relief force had psychological problems. Part of the force had just come from a miserable and demoralizing trench warfare experience on the French-German front. Additionally, his units were ill-trained and ill-equipped--not a cohesive team.<sup>52</sup> Again they were facing enemy entrenchments--but this time, under even worse terrain and climatic conditions. Extreme heat, wet cold nights, mirage that magnified objects in the day, and inadequate medical care all indicated to the British relief force that something was "dead wrong" with this campaign. Aylmer had no choice but to employ frontal attacks due to the excellent positioning and entrenchments used by the Turks. The Turks thus were able to make the relief force fight on their

terms.<sup>33</sup>

In December, during the first month of the seige, severe trench fighting occurred at Kut; each of the Turkish attacks was repulsed. The British had suffered 1,840 casualties and the Turks 4,000 by the end of the month.<sup>34</sup> Townshend estimated he could survive for two months before the real enemy crippled his division--starvation.<sup>37</sup>

The British lacked material for the construction of overhead cover to protect soldiers in their trenches from artillery fire. The Turks had the same problem in obtaining materials for overhead cover. The Turks had ordered railroad ties that were available in Baghdad, but they were never delivered.<sup>38</sup> So the Turks generally strengthened their positions with sandbags and timber.<sup>39</sup> Limited construction materials for field fortifications were available in Kut. The town had approximately 650 homes and 200 shops, the best being built of burnt brick. Brick kilns existed in the east end of Kut.<sup>40</sup>

The town itself was about 1,000 yards x 600 yards and oblong in shape. Outside of town were date plantations and orchards of oranges, lemons, figs, peaches, and pomegranates. The town had a population about 6,000 civilians. The British gave the local residents the option to remain or leave--they decided to stay.<sup>41</sup> The British force with Arab followers totalled about 13,000. Leaders feared that residents of Kut could become hostile if the

soldiers stripped the meager Arab homes of wood and brick. Some looting of building materials by British soldiers did occur.<sup>42</sup>

Bringing building materials up the Tigris in the popular local transport, mahallas, was very unreliable because of the adverse effects wind and current had on them for travel of any significant distance.<sup>43</sup>

The British soldiers at Kut were deprived of barbed wire, wire cutters, and even entrenching tools because of poor planning in equipping the men to counter the more modern Turkish force. The poor training and leadership demonstrated by the Anglo-India generals was evident in their reliance on outdated mid-Victorian maneuver tactics and logistics planning. This backwardness doomed the British at Kut.<sup>44</sup>

The Indian sappers and miners constructed their field fortifications principally with sandbags. A soldier in the early stages of the seige could make 250 bricks per day at the local brick kiln in Kut for use in field fortifications. Four months into the seige, the average soldier could produce only 10 per day due to his weakened physical condition.<sup>45</sup> Soldiers were unable to improve their defensive positions during the last days of the seige. Men were dying at a rate of 30 per day in the last week due to exhaustion.<sup>46</sup> Significantly the floods came in March and the Tigris River spilled over its banks and flooded the existing trenches. The flooding thus required the British to repair or



construct new defensive positions. But the men were too weak to reconstruct their trenches. As a result, the floods caused the front lines to go from a 200-300 yard separation to a 1,000-2,000 yard separation between foes.<sup>67</sup>

Until the surrender of Kut in April, Turkish/German artillery shelled the town daily with heavy bombardments.<sup>68</sup> Field fortifications were critical to the survival of the garrison.

Today's Iraqis are descendants of the same Arabs that assisted the Turks in the Mesopotamia Campaign. A delegation of 11 Iraqi military officers visited the USSR for four weeks in September 1960. Their purpose was to attend the yearly maneuvers of the Red Army, to study Soviet training and mobilization methods.<sup>69</sup> The Iraqis have used Soviet military advisors to teach them how to fight in the defense according to this doctrine: definition: " a type of combat action conducted for the purpose of repulsing an attack mounted by superior enemy forces, causing heavy casualties, retaining important regions of terrain, and creating favorable conditions for going over to a decisive offensive. Defense is based on strikes by nuclear and all other types of weapons; on extensive maneuver with firepower, forces, and weapons; on counterattacks (or counterstrikes) with simultaneous stubborn retention of important regions which intercept the enemy direction of advance; and also on the extensive use of various obstacles. Defense makes it possible to

gain time and to effect an economy in forces and weapons in some sectors, thereby creating conditions for an offensive in others."<sup>70</sup>

" Soviet defense doctrine established a forward security zone which may extend to a depth of 30 kilometers at any level to 15 kilometers at division level. It is at least far enough forward to prevent aimed direct fire from being placed on the main defensive area. Obstacles and barriers are used extensively. When faced with encirclement or decisive engagement, the forces of the security zone attempt to withdraw under cover of artillery fire and return to the main defensive area."<sup>71</sup>

" The Soviet main defensive area may appear as bands, belts, or layers, but it is simply a defense in depth. The basic element of the main defensive area is the company or platoon strong point. The sub unit occupying the strong point prepares an all around defense with alternate and supplementary firing positions for all weapons. Fires are planned to be mutually supporting as well as provide for fire sacks. Vehicles are dug in, and a network of communication trenches is constructed linking weapon positions with supply, command and control, and fighting positions. Everything that can be is dug in and given overhead. Obstacles are always covered by fire."<sup>72</sup>

" Soviet fire sacks similar to American kill zones are based on key terrain, enemy avenues of approach, defensive strong

points, obstacles and barriers, and preplanned fires. Obstacles and barriers are planned, along the edge of the fire sack to contain the enemy force and reserves are placed where they can counterattack into the "sack" after the fires are lifted to destroy any remaining enemy. Soviets use minefields and obstacles to slow the enemy advance, disorganize the attackers, force a concentration of vehicles, strip the enemy armor from its infantry and overall provide easier targets to kill for the defenders. The Soviets use engineer mobile obstacle detachments to employ hasty antitank minefields by mechanical minelayers or by helicopter. Artificial obstacles are also used as antitank ditches, wire entanglements anti-helicopter and airborne stakes."<sup>73</sup>

" The defense is based on an eventual offense that secures victory. Counterattacks are planned at every level for use if the enemy succeeds in breaching forward defensive positions. This force is generally launched from a flank, spearheaded by tanks, preceded by an intense air and artillery preparation, and supported by fires of adjacent units."A sketch of a normal defensive frontage and depth of a motorized rifle division is described in Figure 3."<sup>74</sup>

During the Iran-Iraq War, the Iraqis effectively used Soviet defensive tactics in 1982, in the Iran-Iraq War, fighting from entrenched positions. The main difference from the fighting that

occurred in 1915 and in 1982 was the use of extensive minefields and kill zones in front of the trenches. The Iranians fully accommodated the Iraqis by assaulting across open plains with human waves, making easy targets of themselves for the entrenched Iraqis.<sup>75</sup>

But in their attempt to employ the Soviet doctrinal defense, the Iraqis are severely handicapped as long as they have no air capability to support counterattacks. In the Iran-Iraq War, they did not effectively use air to support counterattacks.<sup>76</sup>

The following chart cites Soviet unit defense frontages and depths:

	<u>DIV</u>	<u>REGT</u>	<u>BN</u>	<u>CO</u>	<u>PLT</u>
Frontage (KM)	20-30	10-15	5-7.5	1-1.5	800 meters
Depth (KM)	10-15	7-10	3-4	1	-

" If a company defends from a strongpoint it then reduces the frontage to 500-1,000 meters and the depth to 500 meters. Normal distances between tanks or antitank weapons within a battalion on open terrain can be as much as 100-200 meters with each tank having primary and secondary sectors of fire and

primary and alternate positions. Both antitank and antipersonnel minefields are laid forward of the FEBA and throughout the depth of defensive positions."??

The Iraqis defense against the Iranians consisted of a half million dug-in troops and about 4,000 tanks. They defended an area that the Afrika Korps commander Ervin Rommel described as "a war at sea, a battle of continual movement decided only by the destruction of the enemy's forces."??

" The Iraqis dug along a line that approximates 150 miles, a zigzagging network of trenches and foxholes with machine guns and antitank missiles, antitank ditches, antiaircraft and artillery emplacements and current fortified tank positions," according to the 20th Engineer Brigade commander in Saudi Arabia, COL Robert B. Flowers.??

An Iraqi division defense is estimated to have a five mile deep security zone, then an obstacle arrangement one-half to two miles deep with antitank berms and ditches, minefields, razor wire fences and high sand berms used as firing points. The strong points, covered by artillery and antitank guns, come next in the defense in depth. The obstacles with strong points can be six to eight miles deep. This Iraqi defense is patterned much like that described in Soviet doctrine. The Mesopotamia Campaign's trench fighting, which led to a war of attrition, possesses a striking similarity to Iraq's preparation for war. Mr. James Blackwell

from the Center for Strategic and International Studies describes the Iraqi forces as employing Soviet defensive doctrine with a World War I mentality.<sup>90</sup>

The concept of digging in to trenches and bunkers, with overhead cover, has not changed over the years. The main differences in warfare are mechanical, based on new technology. High-speed tanks, armored personnel carriers, helicopters, gunships, fighter planes--all of these offer speedy maneuver, firepower, and intelligence capability unknown in 1915. Survivability now depends on how much more quickly a unit can fortify itself with Small Emplacement Excavators (SEE), Armored Combat Earthmovers (M-9 ACE), and bulldozers. Further in the recent Persian Gulf War, the enemy had months to fortify itself in Kuwait with concrete bunkers and overhead protection. In 1915, the five-month siege at Kut required only quickly dug entrenchments that required periodic maintenance. The maintenance was required because of the effect of artillery shelling and the flooding of the Tigris. The lack of construction materials in 1915 was not a problem for the Iraqis in 1990, due to a military infrastructure that was established during the eight year war with Iran. The Iraqi's construction experience in building permanent type fortifications was apparently put to use quickly on the Saudi-Kuwaiti border following their invasion of Kuwait.

Yet the Iraqi defense cracked because of the continual

aerial and naval bombardment which destroyed and demoralized the force. United Nations forces avoided assaulting the teeth of the enemy defensive belts with sappers breaching the minefields, ditches, and berms, thereby saving many lives. The avoidance of the 1915 frontal type assaults, over open terrain, demonstrated that the Coalition Forces' leaders had carefully studied military history. We have learned from the seige at Kut what caused the surrender of 13,000 weakened and demoralized British troops. The key was to avoid cracking the Iraqi defense with an engineer-led ground attack. The use of Coalition air power to bomb enemy positions, to cut off their supply lines, and to hit other strategic targets, coupled with Naval forces to shelling shore defenses, achieved the objective. A siege requires a campaign plan that must be executed with determination and patience. The aerial bombardment that preceded the ground attack in the Persian Gulf was similar to the siege used by the Turks to defeat the British at Kut.

The battle of Kut-al-Amara proved that a highly trained and spirited force--cut off from supplies and reinforcement--could be beaten if the force enforcing the seige could be patient and determined to keep up the fire. Like the Turks, the Allied Coalition continued its deliberate course of action; it eventually demoralized the Iraq army and obviated its elaborate defense. The Iraqi soldier had lost the will to fight under the

intense bombardment. Patience and determination won the battle at Kut. The addition of firepower to this formula won the war in the Persian Gulf. He who waits with a full gullet, a full belly, a full magazine will always prevail over he who waits without these soldierly (and human) amenities!



THE BATTLE AT ES SINN  
 28th SEPTEMBER 1915  
 WHICH LED TO  
 THE CAPTURE OF KUT

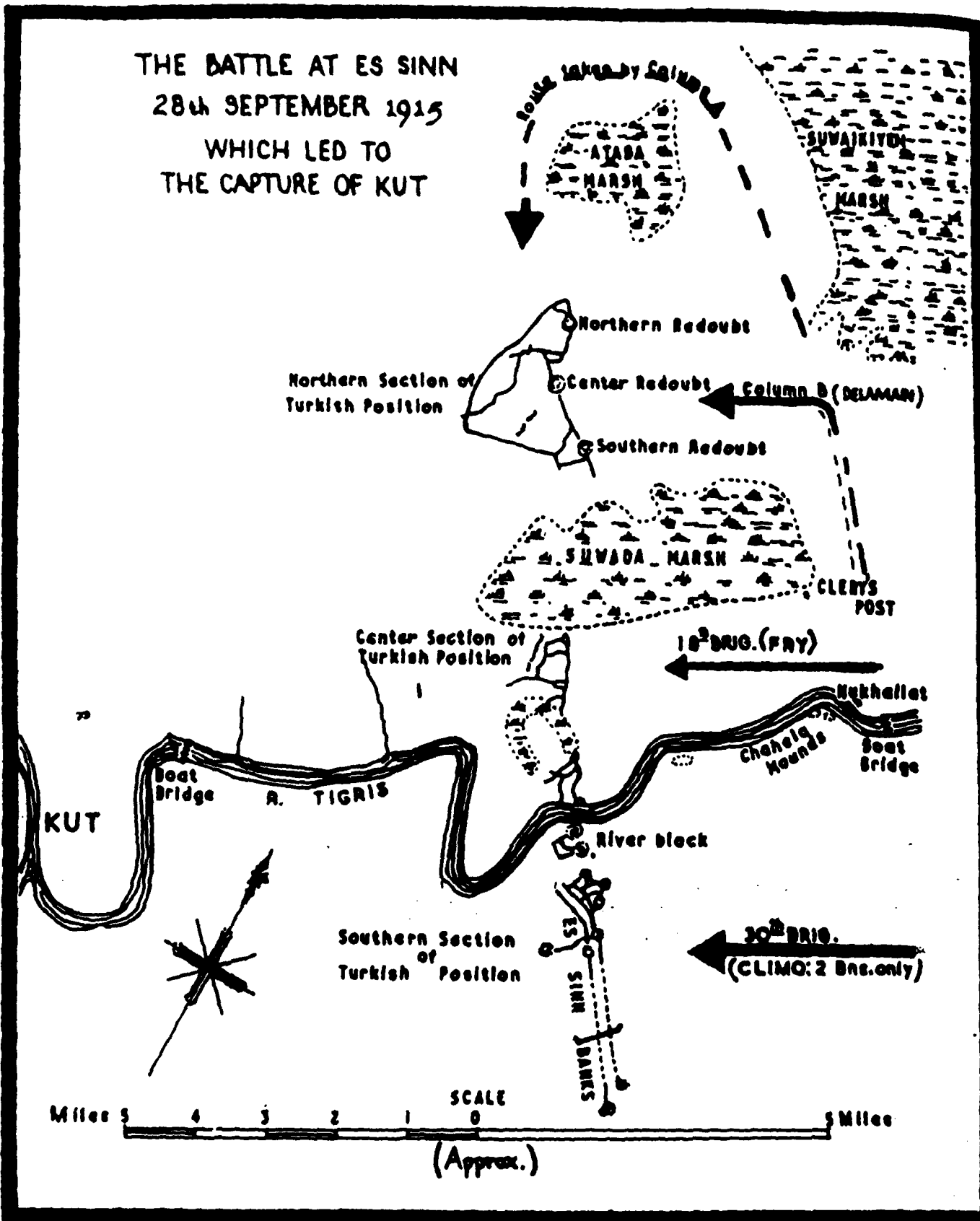


FIGURE 1

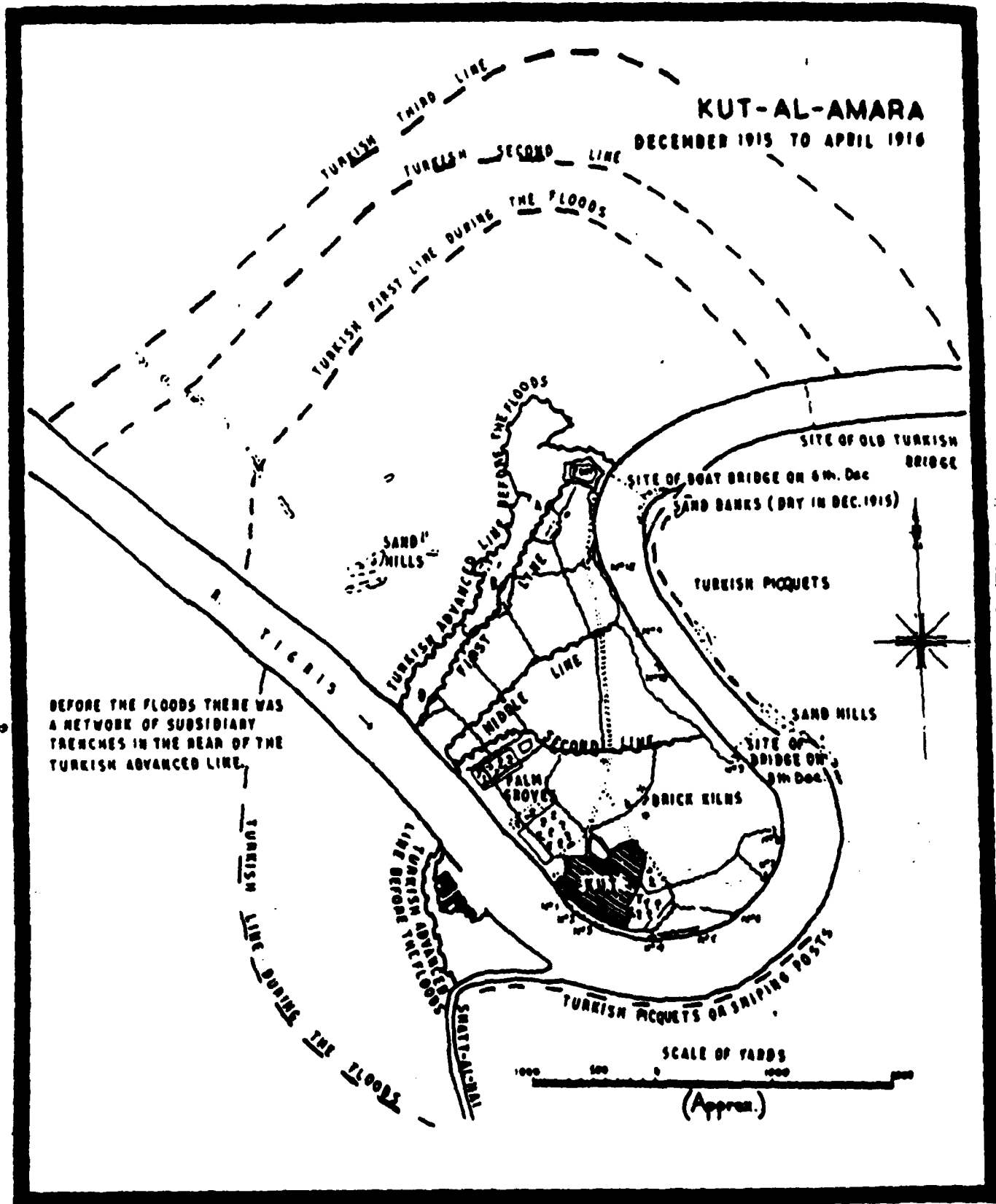


FIGURE 2

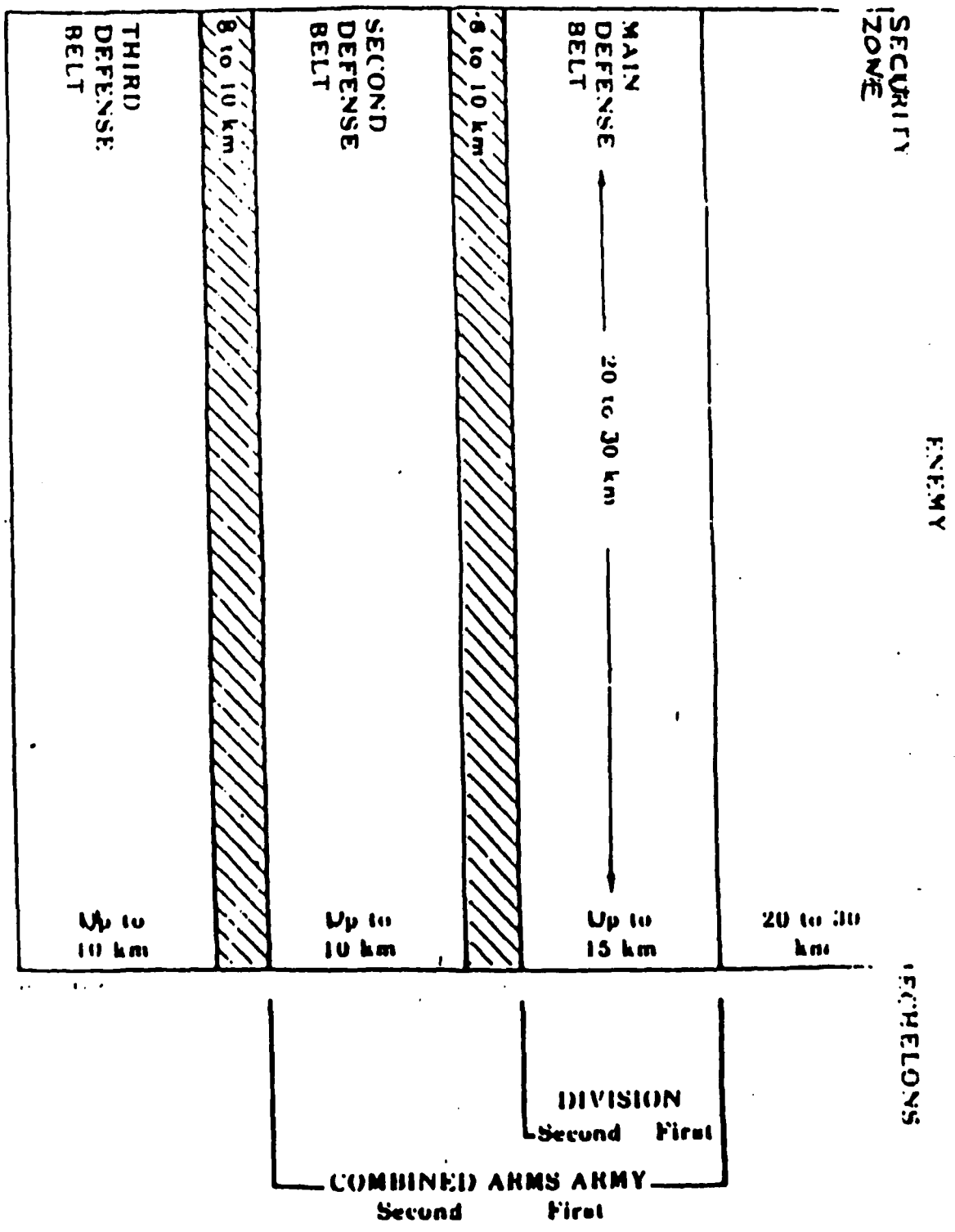


FIGURE 3

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