Southern New Hampshire University

Firing For Effect,
The Use of Field Artillery in the Normandy Campaign

A Capstone Project Submitted to the College of Online and Continuing Education in Partial Fulfillment of the Master of Arts in History

By

David F. Lloyd

Framingham, Massachusetts

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Student: David F. Lloyd

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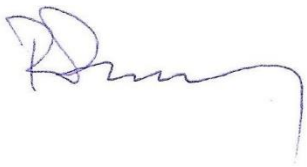

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Abstract

Unlike today's global political situation, World War II was a time of great cooperation between nations, the Allies that encountered and defeated the Axis powers in Europe and the Japanese in the Pacific basin. This cooperation extended down to the battlefield, where individual types of military units operated in concert with each other to present an integrated front to their adversaries. Field artillery units represented one component of this highly-integrated battlefield, contributing heavily to Allied victories around the globe. Nowhere is the use of field artillery better demonstrated than during Operation OVERLORD, the campaign to invade Northern Europe in June of 1944.

Historians have however generally ignored the use of field artillery during Operation OVERLORD, instead understandably choosing to concentrate on the D-Day Allied landings on the Normandy beaches, an operation that represents one of the most dramatic days in the history of modern warfare. Those historians that do address the following Normandy Campaign (the Campaign) to gain an Allied foothold in Northern Europe address the campaign more from the perspective of the invading Allied infantry, while largely ignoring the contribution made by the field artillery.

This work will examine in detail the use of field artillery during Operation OVERLORD in an effort to gauge the contribution that artillery made to the overall Campaign. By using secondary sources to discuss the planning and execution of the Operation, it will provide the reader with an understanding of how OVERLORD came into existence, how it was planned and how the Campaign unfolded. Then, by using archival primary-source material, compiled

contemporaneously by the field artillery units involved in the Campaign, it will demonstrate that the use of field artillery was vital to the Allied victory in Northern France in June of 1944.

Dedication

This work is dedicated to then Lieutenant John R. Lloyd, forward observer with the 230th Field Artillery Battalion, 30th Infantry Division, United States Army. His work as an artillery observer during the Normandy Campaign helped to rid Europe of fascist aggression during World War II, the greatest global conflict in modern history.

The work is also dedicated to Seaman Erik R. Lloyd, proudly serving his nation as a Corpsman with the United States Navy, and to all those who have ever donned a uniform in the service of this country.

Acknowledgments

Thank you to all the faculty and students at Southern New Hampshire who supported me in developing and reviewing this work.

A very special thank you to my wife, personal advisor and chief proofreader Sharon, who has put up with my often erratic and taxing behavior over the years and without whose help and everlasting patience and support my academic career would not be possible.

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List of Abbreviations

AFHQ..... Allied Force Headquarters in Algiers.

BN..... Battalion

CCOS..... Combined Chiefs of Staff, United States, Great Britain

COPPS..... Combined Operations and Pilotage and Beach Reconnaissance Party

COSSAC..... Chief of Staff to the Supreme Allied Commander

DUWK..... Designed 1942, Utility, K, All Wheel Drive, W, Dual tandem rear axel

ETOUSA..... European Theater of Operations, United States Army

FA..... Field Artillery

FABN..... Field Artillery Battalion

FUSAG..... First United States Army Group

FDC..... Fire Direction Center

INF..... Infantry

JCOS..... Joint Chiefs of Staff, United States

LCVP..... Landing Craft, Vehicle, Personnel, or Higgins Boat

LST..... Landing Ship, Tank

RAF..... Royal Air Force, Great Britain

SHAEF..... Supreme Headquarters, Allied Expeditionary Force

Glossary

Allied Force Headquarters in Algiers	Headquarters for Allied operations in Africa from 1943 onward. Commanded by General Dwight D Eisenhower.
Allied Powers (Allies)	The combined governments and military powers fighting the Axis powers during World War II, consisting of mainly the United States, Great Britain and Commonwealth Countries, the Union of Soviet Socialist Republics and France.
Axis Powers (Axis)	The combined governments and military powers engaged in European conquest during World War II, consisting mainly of Germany and Italy.
Battalion	A military unit consisting of between 300 and 800 men and commanded by a Lieutenant Colonel. Battalions often specialized into infantry, artillery or airborne units.
Brigade	A military unit consisting of three to six battalions and supporting elements.
British Chiefs of Staff	The collective heads of the individual military organizations (army, navy, etc.) of Great Britain.
Chief of Staff to the Supreme Allied Commander	The British group that performed the initial planning for Operation OVERLORD and was in temporary command of the operation. These functions later fell to the Supreme Allied Commander.
Combined Operations and Pilotage and Beach Reconnaissance	British reconnaissance party led by Major Logan Scott-Bowden and consisting of Sergeant Bruce Ogden-Smith that surveyed the beaches of Normandy to determine if the composition of the beach sand would support Allied landings.
Combined Chiefs of Staff	The collective heads of the individual military organizations (army, navy, etc.) of the United States and Great Britain.
Company	A military unit consisting of between 80 and 150 soldiers and commanded by a major or captain.
Corps	A military unit consisting of two to three divisions.
D-Day	June 6, 1944, the day that Allied forces invaded the Normandy region in Northern France in an effort to dislodge the Axis powers from the European continent.
Designed 1942, Utility, K, All Wheel Drive, W, Dual tandem rear axle (DUKW)	A light amphibious boat carrying personnel and light equipment and capable of driving on land or over water.

Division	A military unit containing 10,000 to 20,000 consisting of several regiments or brigades. Several divisions make up a corps.
European Theater of Operations, United States Army	The designation for all United States Army operations in Europe and Africa during World War II.
Field Artillery	Category of mobile artillery used to support armies in the field. Specializing in mobility and short to long-range target engagement.
Field Artillery Battalion	A military unit consisting of 300 to 800 personnel specializing in the use of field artillery.
Fire Direction Center	A centralized unit, typically at the Division level, that provides timely tactical control for the operations of one or several Field Artillery Battalions.
First United States Army Group	The overall United States Army group used in Operation OVERLORD, consisting of V and VII Corps and their subsidiary units.
Infantry	Soldiers or groups of soldiers that fight on foot, equipped with rifles, machine guns, mortars and other light weapons.
Joint Chiefs of Staff, United States	The collective heads of the United States branches of military service (Army, Navy, etc.).
Landing Craft, Vehicle, Personnel, or Higgins Boat	A light watercraft used to carry personnel or small vehicles. Capable of beaching and returning to sea. Front ramp lowers to unload contents.
Landing Ship, Tank	Large vessel capable of carrying heavier vehicles including tanks. Capable of beaching and returning to see. Front of vessel opens to unload contents.
MULLBERRIES	Temporary breakwaters consisting of sunken ships and other debris used to create calm waters close to landing beaches during Operation OVERLORD.
OMAHA Beach	Code name for eastern area of United States amphibious landings during Operation OVERLORD.
Operation ANVIL	Codename for Allied Landings in the south of France during World War II. The operation never occurred but caused logistical conflicts with Operation OVERLORD.
Operation BOLERO	The buildup, starting in 1942, of American soldiers in Great Britain in preparation for an invasion of France.
Operation HUSKY	Codename for Allied operations in Sicily during World War II.

Operation NEPTUNE	Codename for Allied operation to ferry Allied military units across the English Channel and land them on the shore of Normandy in France. Commonly referred to as D-Day.
Operation OVERLORD	Codename for the Battle of Normandy that launched as successful Allied campaign against the Axis powers occupying Europe.
Operation POINTBLANK	Codename for allied bombing campaign to cripple or destroy Axis air forces, drawing them away from frontline operations and ensuring that they would not be an obstacle to Operation OVERLORD.
Operation ROUNDUP	Codename for initial Allied planning to invade northern Europe. Replaced by Operation OVERLORD.
Operation SLEDGEHAMMER	Codename for Allied contingency planning to invade France via the Cotentin Peninsula in 1942 or 1943. Seen as emergency measure to be taken in case Russia seemed in imminent danger of collapsing on the eastern front.
Operation SKYSCRAPER	The last plan developed by the Combined Chiefs of Staff prior to the formation of COSSAC. Called for simultaneous landings on the Cotentin Peninsula and at on the Normandy coast near Caen. Work on this plan led directly to Operation OVERLORD.
Operation TORCH	Codename for the American landings on the coast of western Africa in 1943, the first major land operation in the western hemisphere during World War II.
Regiment	Military unit consisting of two or more battalions and commanded by a colonel.
Royal Air Force	The military air force of Great Britain. The oldest independent air force in the world.
Supreme Headquarters, Allied Expeditionary Force	Headquarters of all Allied forces fighting in Europe and Africa during World War II.
Supreme Allied Commander	Commander of all Allied forces in Europe during World War II.
UTAH beach	Code name for western area of United States amphibious landings during Operation OVERLORD.

Cast of Characters

Alexander, General Harold Rupert Leofric George (1891-1969)	1st Earl Alexander of Tunis, a veteran of World War I, Dunkirk and British commander of various other military campaigns in Burma, North Africa and Italy. Briefly considered as commander of the British 21st Army Group for the Normandy Campaign.
Bradley, General Omar N. (1893-1981)	American Army general. Transformed 82nd Infantry Division into airborne division, commanded American II Corps in operations TORCH and HUSKY, commanded American 1st Army Group during Operation OVERLORD.
Brooke, General Alan Francis (1883-1963)	1st Viscount Alanbrooke, commander of the British Expeditionary Force (1939), Chief of the British Imperial General Staff (1941–1946).
Churchill, Sir Winston L. Spencer- (1874-1965)	British Prime Minister during World War II
Eisenhower, General Dwight D. (1890-1969)	American Army general, commander Operation Torch (1943), Supreme Allied Commander, Allied Expeditionary Forces, Europe (1943-1945), 34th American president (1953-1961).
Ghormley, Rear Admiral Robert L. (1883-1958)	American naval admiral who served in World War I and World War II. Served as first military observer in Europe during World War II (1940) before being transferred to the pacific theater.
Hughes-Hallett, Commodore John (1904-1972)	British naval planner and commander. Purported to be the inventor of the MULBERRIES.
Higgins, Andrew J. (1886-1952)	New Orleans shipbuilder, developer and supplier of the Higgins Boat (LCVP).
Hopkins, Harry L. (1890-1946)	American social worker and Secretary of Commerce (1938-1940). One of President Franklin Roosevelt's closest advisor and chief emissary between Roosevelt and British Prime Minister Winston Churchill.

King, Admiral Ernest (1878-1956)	Senior American naval admiral and Commander-in Chief, United States Naval Operations during World War II.
Leahy, Admiral D William. (1875-1959)	Chief of American naval operations (1937-1939), Governor of Puerto Rico (1939-1942). United States Ambassador to France (1940-1942), chief of staff to presidents Franklin Roosevelt and Truman (1942-1949).
Leigh-Mallory, Air Marshall Sir Trafford (1892-1944)	Senior commander and planner in the Royal Air Force and air force commander for Operation OVERLORD. Killed while in route to Ceylon to take post as Commander-in Chief, South East Asia Command.
Little, Admiral Sir Charles (1882-1973)	Commander of British raids across the English Channel (1941-3), temporary commander of Allied Naval Expeditionary Force (1943).
Marshall, Jr., General George C. (1880-1959)	Chief of Staff, United States Army under presidents Franklin Roosevelt and Harry Truman, chief American planner for Operation OVERLORD. Once considered for post of Supreme Allied Commander, Allied Expeditionary Forces, Europe.
Molotov, Vyacheslav (1890-986)	Minister of Foreign Affairs, Union of Soviet Socialist Republics (1939-1949) who urged an invasion of Europe to take pressure of the USSR on the eastern front in World War II.
Montgomery, Field Marshall Bernard Law (1887-1976)	British Army general, commander of British forces in Africa (1942-1943), commander of British forces in Italy (1943), commander 21st Army Group (British and Canadian) during Operation OVERLORD.
Morgan, General Sir Fredrick (1894-1967)	British military general who fought in World War I and World War II. Temporarilly served as Chief of Staff to SHAEF. Chief planner of Operation OVERLORD and head of COSSAC.
Mountbatten, Admiral Louis (1900-1979)	Commander, Combined Operations (British), stressed lessons learned during unsuccessful Dieppe Raid should be applied to Operation OVERLORD. Later Supreme Allied

	Commander South East Asia Command (1943-1945).
Paget, General Sir Bernard (1887-1961)	British Army general and commander of 21st Army Group from June to December 1943 when replaced by Field Marshall Montgomery. Commander-In Chief, Middle East Command (1944-1943).
Roosevelt, Sr., Franklin Delano (1882-1945)	32nd American president (1933-1945).
Smith, General Walter Bedell (1895-1961)	American general, served as Chief of Staff to Eisenhower at AFHQ (1942-1943) and at SHAEF (1944-1945). Later Ambassador to the Union of Soviet Socialist Republics (1946-1942), director of the Central Intelligence Agency (1950-1953) and United States Under Secretary of State (1953-1954).
Stimson, Henry L. (1867-1950)	Served as an American artillery officer in France during World War I, Governor-General of the Philippines (1927-1929), United States Secretary of State (1929-1933), United States Secretary of War (1940-1945).
Tedder, Marshall of the Royal Air Force Arthur (1890-1967)	Served as British pilot in World War I, Air Officer Commanding in Chief, RAF Middle East Command (1941-1943), Commander, Mediterranean Air Command (1943), Deputy Supreme Commander SHAEF (1944-1945), special envoy to the Union of Soviet Socialist Republics (1945).

Chapter 1: Introduction

In this time of political difficulties in the United States, where the present administration has alienated many countries around the globe, it is important to remember that there was a period when we worked closely with our allies, united against a common foe. World War II is an example of this high level of cooperation, where the United States worked diligently with countries such as Great Britain and her Commonwealth Countries, The Union of Soviet Socialist Republics, France and others to stamp out the aggression of the Axis powers in Europe and the Japanese in the Pacific Ocean basin. This level of cooperation created a powerful force for good, thwarting one of the greatest threats to society than has been seen in modern times.

The levels of cooperation seen on the world's diplomatic stage filtered down to the armed services, with countries' armies and navies working in concert with each other to mutually achieve victory. By the mid-twentieth century, not only were countries working with each other, but the battlefield had become fully integrated, with various armed services, including the navy, air force and army working in concert to support each other projecting a highly effective combined force that could challenge the enemy far behind the front lines.

The integrated battlefield has ramifications beyond just decreasing an enemy's chance of victory. Effective integration meant that the attacking or defending armies became more efficient, and able to operate together for a more effective offense or defense. This would shorten wars, resulting in a loss of life that would be less than in a non-integrated conflict where combatants fought for years at a time, with neither gaining ground while expending their manpower in a war of attrition. The lessening of loss of life would benefit the combatant countries in more ways than just on the battlefield. Fewer casualties would leave the countries' militaries more intact, allowing

them to be better prepared to fight another conflict should the need arise. More soldiers would return home, and the loss of post-war productivity would be less. Economies would be better able to expand after the conflict and family life would be less disrupted because more soldiers would return home to their loved ones.

The process of battlefield integration started early, with cavalry in the form of chariots being used as far back as bronze age China.[1] Napoleon Bonaparte further integrated the battlefield with his combined and highly effective use of artillery to support the movements of infantry.[2] The integration process continued through World War I, with some limited air power and artillery fully supporting battlefield movements and reaching far behind enemy lines. World War II, with improved telephone and radio communications, saw refinements in battlefield integration, allowing the artillery to fully support infantry advances, disrupt enemy movements behind the front lines and suppress fire from opposing artillery installations.

World War II clearly benefited from the integrated battlefield. Air power was able to project far into the enemy's territory, disrupting or destroying the enemy's supply chain and naval power was able to project power across oceans and shell shore installations. On the battlefield itself, infantry could proceed forward with the support of artillery fire covering their assault. Counter battery fire could reduce or eliminate the fire from the enemy's artillery batteries.

By World War II, field artillery had become a major component of the highly-effective, fully-integrated battlefield. It is clear that field artillery played a part in the fighting that took place throughout the war and in the Normandy Campaign (the Campaign). Each division that landed on

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[1] Robin D. S. Yeats, "Law and the Military in Early China," in *Military Culture in Imperial China,* ed. Nicola Di Cosmo (Cambridge, MA: Harvard University Press, 2011), 23.
[2] Peter Paret, "Napoleon and the Revolution in War," in *Makers of Modern Strategy, from Machiavelli to the Nuclear Age,* ed. Peter Paret (Princeton: Princeton University Press, 1988), 125-7.

the Normandy beaches, and those that followed them as the Campaign unfolded, had in its composition several field artillery battalions, each of which fired tens of thousands of artillery rounds in support of infantry advances, harassment of the enemy or counter-battery fire intended to suppress enemy artillery.

Much has been written about the initial D-Day landings in Normandy on June 6, 1944. Many historians have studied and written about both the amphibious landings and the paratroop drops that comprised the opening of the Normandy Campaign. There are a great number of books, articles and research papers that detail the planning for Operation NEPTUNE, the D-Day landings in Normandy on June 6, 1944 and the paratroop drops inland from the Normandy beaches. These topics comprise the bulk of the historiography on the Campaign and historians have given less attention to the ongoing Campaign, Operation OVERLORD, after D-Day.

Relatively few authors have concentrated on the following Campaign to move inland after the amphibious landings secured Normandy beaches. Some popular authors have written about the later stages of the Campaign, but the bulk of these accounts tend to come from official governmental historians who were tasked with recording the Campaign as a whole, not just its dramatic opening stages. Works that discuss the Campaign as a whole tend to concentrate more on the infantry than other branches of the military effort, particularly the contribution made by field artillery in supporting the infantry. What few works that do discuss the use of field artillery during the Campaign do so mainly when discussing the infantry and field artillery is only discussed superficially in this context.

This project will examine the role that American field artillery played in supporting infantry movements and suppressing enemy movements throughout the Campaign and will show

that, despite historians' reluctance to cover the use of field artillery, that field artillery played a major role in making the Campaign a success. The project will support the thesis that although historians have generally neglected the role that field artillery played during the Campaign and that this role was significant to the successful prosecution of the Campaign after its opening days.

This work is divided into several chapters, the first of which will discuss the author's research methods and his use of sources. This section will discuss how the author chose sources, where these sources were located and what the author gained from each source type.

Next, the project will examine the historiography of the Campaign to determine how selected authors have treated the Campaign as a whole. The project will look for inconsistencies and conflicts between various authors' works and catalog the difference between governmental and non-governmental sources.

The project will then examine the political and military factors that led to the invasion of Northern Europe. This section will discuss the conflicting wartime priorities that caused difficulties in planning the invasion, as well as the several iterations of plans that were discussed prior to settling on the final formula.

The fourth part of this project will provide an overview of the Allied effort to gain a foothold in Northern Europe during World War II. It will discuss the planning for Operation OVERLORD, discussing the overall tactics employed, the training given to various military units and provide an overview of the troops that were used throughout the Campaign.

Next, the project will discuss the history and development of field artillery from its inception up until the time or World War II. It will provide an overview of how artillery developed from its earliest days, how it became mobile and how it historically fit into military campaigns.

The project will provide additional detail on the American field artillery used in World War II, discussing its technology, principles of operation and the training of its users. This is intended to provide the reader with an understanding of the organization and capabilities of the field artillery that was used in the Campaign.

The final part of this document will examine the role of artillery, specifically field artillery, in the Normandy Campaign, an area that has been largely untouched by past historians. Little if any work has been done to analyze the role that field artillery played during the Campaign. What work that does exist in the secondary sources is superficial and artillery is generally discussed in the context of infantry maneuvers only. Governmental sources do a somewhat better job at cataloging the movements of field artillery than do popular authors, but little analysis has been completed to show how field artillery contributed to the overall Campaign. The development of this narrative proposes that examining the use of field artillery will provide a more complete picture of the Campaign and allow future historians to more completely gauge how successful field artillery was in contributing to the Campaign, the level of integration of the World War II battlefield and how the lessons learned during the Campaign can be applied to modern warfare.

By using field artillery as a basis, we can follow the Campaign after its opening days, shedding new light on how the campaign unfolded and providing scholars with new avenues for further research. In addition, using field artillery for study will show how well the World War II battlefield was integrated and how well field artillery supported infantry units in general and how well it supported the specific infantry units involved in the Campaign. This will provide for a more complete understanding of how the World War II battlefield was an integrated one, with differing types of units supporting each other for a more effective fighting force. This analysis

can then be used to provide a deeper understanding of the origins of today's fully integrated battlefield tactics.

The conclusions that will be gained from this project are twofold. First, the project will conclude that there was more to the Campaign than just D-Day and that the fighting was just as intense and just as important as in the Campaign's opening days and that field artillery played an important role in supporting infantry advances throughout the Campaign. It will illustrate that there is virtually no historiography surrounding this important topic.

These conclusions will differ substantially from those of previous historians, particularly non-governmental historians. By illustrating that these historians have neglected the overall use of field artillery throughout the Campaign, the project will conclude that an important piece of history has been overlooked. By examining the role of field artillery throughout the Campaign, the project will show that the conclusions that previous historians have implied, that field artillery was not an important part of the overall Campaign, will be refuted.

As with all history, one event or series of events builds upon the last. Because a significant piece of the Campaign has not been addressed by previous historians, this project will break new ground in completing the historiography of the Campaign as a whole. The implications of this will be to provide historians and military scholars with new avenues of research into how the fight for Northern Europe started, how the integrated battlefield performed and the lessons that can be learned from the role that field artillery contributed to the Campaign.

Chapter 2: Research Methods and Use of Sources

When selecting source material for a writing project, the researcher must use fair and balanced research methods. A wide variety of sources for the area of study must be included in the selection process. The researcher must not select only sources that agree with his assumption and the researcher must faithfully follow the research path that all sources, even those with which he disagrees, take him.

When reviewing these sources, researchers must give careful consideration to reviewing the entire work and not to simply quoting the pieces that agree with the reviewer's point of view. The reviewer has the responsibility to represent the source objectively, understanding the author and their intended audience.

The project author freely admits some bias in selecting this topic for study. His father, then 1st Lt. John Russell Lloyd, Jr. participated in the Campaign as a forward artillery observer with the 230th Field Artillery Battalion, 30th Division, United States Army. Although his unit was engaged in the Campaign, this narrative is not a discussion on his career or on his unit. The 230th Field Artillery Battalion is used in places in the narrative, but only in a balanced manner that reflects its contribution to the Campaign. The project author will make every attempt not to interject his bias into the analysis of this unit, its movements and the results of its engagements.

When researching this narrative, it quickly became apparent that two types of sources would be required. The project will use primary sources to record and analyze the use of field artillery in the Campaign and secondary sources as additional information on the Campaign and to discuss how historians have treated the Campaign as a whole. A third category of sources, the governmental narrative, is more fully explained below.

To obtain detailed information on the support provided by field artillery units, primary sources were consulted. These represent a variety of source types, including unit histories compiled shortly after World War II, daily orders, diaries, logs and reports that were generated contemporaneously by the field artillery units involved in the Campaign and after-action reports that were recorded during or shortly after individual segments of the Campaign. These sources were retrieved from the National Archives in College Park, Maryland in July of 2018. Some source types, including map overlays, short memorandum and personal notes included in the archive set were disregarded either because they were deemed unimportant or because, particularly in the case of map overlays, their condition rendered them unusable. These sources, when juxtaposed against governmental and other secondary sources that provide information on the movements of individual infantry units, will chronicle when field artillery units entered the Campaign, where they travelled, what fire missions they performed, which specific infantry units they supported and which enemy formations they fired against.

Some additional difficulties were experienced when using these sources due to the nature of the original recordkeepers. Some military units studied were quite detailed in their recording of activities while others were substantially less so. For this reason, some field artillery battalions that may figure prominently in the Campaign are not mentioned, or only covered by secondary sources.

Reviewing all the documentation for all the field artillery units involved in the Campaign would be a very daunting task. There were nine divisions involved in the initial phases of the Campaign (four that landed on D-Day, and five others that followed shortly thereafter). Each division was initially supported by four field artillery battalions and by as many as twelve battalions due to replacements being attached to a specific division. The collection in the National

Archives in Cottage Park, Maryland consists of an average of three boxes of records for each field artillery battalion, each consisting of between 800 and 1600 documents. Researching archival material for all the battalions involved in just the initial phases of the Campaign (36 in total) would result in a review of between approximately 86,000 and 175,000 individual documents.

Because of the volume of archival material noted above, some limitation was placed on which field artillery units will be included in the final project narrative. For this narrative, research has been limited to the four divisions that landed on D-Day; the 1st and 29th divisions that landed on Omaha beach and proceeded eastward and the 4th and 90th divisions that landed on Utah Beach and progressed westward. For each of these divisions, only two to four field artillery battalions have been included in the research, providing a project of manageable size while maintaining diversity in the battlefield conditions that were met by the individual field artillery battalions during the Campaign. The documents examined in this set included approximately 1,200 individual items.

One additional unit has been examined in this research, the 230th Field Artillery Battalion. Even though this unit was primarily attached to the 30th Division, which followed the first assault wave by several days, the 230th FABN is included in this narrative because it was, on June 9, 1944, temporarily attached to the 29th Division as a replacement for the 111th FABN, much of whose artillery was lost while landing in the Normandy surf. Again, the author admits some bias in including this unit for study.[1]

[1] The author's father was associated with this unit and the author is happy to report that he was able to locate his father's Bronze Star citation, which read in part, "1st Lieutenant John R. Lloyd, 0-26298: June 10 1944 to June 12 1944; under the most adverse conditions of terrain and observation, his aggressiveness and courage under fire made it possible to give effective artillery support to the advancing infantry."

Other primary sources have been researched to provide background information on the use of field artillery in World War II. These include field artillery specification and manuals used in conjunction with World War II artillery units and after-action analyses compiled by Army military analysts after the war. These sources were obtained through inter-library loan from military libraries such as the Department of the Army's Command and General Staff Library in Fort Leavenworth Kansas, the National Defense University Library in Washington, D.C. and the Army Armor School in Fort Benning Georgia. An additional number of these items were sourced from the author's personal collection. These sources are used throughout this narrative to provide detail on how field artillery units performed during the Campaign, additional analysis developed after the Campaign, and to provide an insight into how field artillery units were trained, equipped and deployed.

Secondary sources for this project have been carefully chosen to represent a broad spectrum of opinion on the Normandy landings and the subsequent Campaign. These represent sources that have been compiled by popular authors, as well as more technical works compiled by ex-military officers. The sources contain narratives that describe the Campaign, its preparations and results and, at times, the individuals who participated. Sources in this group has been found to be at times more or less faithful to the recording of the Campaign as it unfolded. These sources will be used to discuss the historiography of the Campaign to determine how popular authors have treated the Campaign as a whole, what areas they may have omitted and how they treated the use of field artillery throughout the Campaign. Additionally, the bibliographies of this source group have been studied to research additional primary and secondary sources.

The third source group studied is the governmental narrative. This group contains narratives of specific segments the Campaign or groups that participated in the Campaign that were

compiled by official governmental historians shortly after the Campaign or at the conclusion of the war. The source group provides detail on the Campaign as it unfolded, the movements of infantry, and some information on the field artillery that supported them. These are being treated as primary sources, due to the date they were compiled and the nature of the documents themselves.

It is felt that these sources, when taken together, will provide a comprehensive snapshot of the historiography surrounding the Normandy Campaign. This process is intended to eliminate any bias that could be interjected into the final project narrative by the use of selected sources that represent only a narrow historiological position.

Chapter 3: Historiographic Discussion

Many historians have studied and written about both the amphibious landings and the paratroop drops that comprise the opening of the Normandy Campaign. There are a great number of books, articles and research papers that detail the planning for Operation OVERLORD, the D-Day landings in Normandy on June 6, 1944 and the paratroop drops inland from the Normandy beaches. Relatively few authors have concentrated on the following Campaign to move inland after the Normandy beaches had been secured. What few of the works that do discuss the Campaign only superficially cover the use of field artillery.

There has not been a serious analysis of the historiography surrounding the Normandy Campaign. Few if any narratives have been developed that discuss the myriad of secondary works about the D-Day landings and the subsequent battle for Normandy. The analysis of secondary works, both governmental and non-governmental, that will be developed in conjunction with this project will shed light on the body of work that comprises the historiography of the Normandy Campaign and provide future historians with a roadmap when studying not just the opening days of the Campaign, but the Campaign as a whole.

Much has been written about the initial D-Day landings in Normandy and about the use of paratroopers that were dropped behind German lines on the morning of the invasion. But little has been written about the use of infantry in the ensuing land campaign and even less has been written about the artillery that supported the infantry as it moved inland. This project will examine these topics and show that, despite historians' reluctance to cover the later stages of the Campaign, there was significant fighting after the initial beach landings and that field artillery played a great role in supporting American infantry.

Little if any work has been done to analyze the role that field artillery played during the Campaign. What work that does exist in the secondary sources is superficial and artillery is generally discussed in the context of infantry maneuvers only. Governmental sources do a somewhat better job at cataloging the movements of field artillery, but little analysis has been completed to show how field artillery contributed to the overall Campaign. The development of the narrative that this project proposes in regard to field artillery will provide a more complete picture of the Normandy Campaign and allow future historians to more completely gauge how successful field artillery was in contributing to the Campaign, the level of integration of the World War II battlefield and how the lessons learned during the Campaign can be applied to modern warfare.

When examining the secondary source information for this project, a great deal of information was available on the opening days of the Campaign, but little work had been done on the later stages of the Campaign. Examples of this include Stephen Ambrose's *D-Day, The Climactic Battle of World War II*[1] in which he discusses the planning of Operation OVERLORD and covers the D-Day landings in great detail but does not cover the subsequent Campaign to any great extent. Even his follow-up work, *Citizen Soldiers, The U.S. Army from the Normandy Beaches to the Bulge to the Surrender of Germany, June 7, 1944-May 7*[2] covers the balance of World War II in Europe, but only devotes one short chapter to the unfolding Campaign.

Like Ambrose's work is that of Gordon A. Harrison. In his book *Cross Channel Attack.*[3] Harrison covers the planning for Operation OVERLORD and does cover some of the later phases

[1] Stephen E. Ambrose, *D-Day, The Climactic Battle of World War II* (New York: Simon & Schuster, 1994).
[2] Stephen E. Ambrose, *Citizen Soldiers, The U.S. Army from the Normandy Beaches to the Bulge to the Surrender of Germany, June 7, 1944-May 7, 1945* (New York: Simon & Schuster, 1997).
[3] Gordon A. Harrison, *Cross Channel Attack. Washington* (D. C.: Center of Military History, United States Army, 1951).

of the Campaign but concentrates much more heavily on the amphibious landings and does not mention the use of field artillery in his narrative.

These works are similar to that from Jay Winik. In his work, *1944, FDR and the Year That Changed History*[4] Winik discusses the political and military considerations that led to Operation OVERLORD and discusses the D-Day landings but pays little attention to the Campaign after its opening days.

Even those authors that do discuss the Campaign to a greater extent do not fully discuss the use of field artillery as a battlefield component. Carlo D'Este, in his work *Decision at Normandy*[5] covers the Campaign from its planning stages through the fall of Cherbourg but only briefly touches on the use of field artillery.

As seen from the above, non-governmental historians have tended to concentrate almost exclusively on the opening of the Campaign, the amphibious landings and parachute drops, while largely neglecting the balance of the Campaign, which comprised most of the fighting for the liberation of Normandy and set the stage for further allied advances in Europe. This differs significantly from official governmental reports of the Campaign as a whole.

Governmental publications tend to be more balanced, detailing the Campaign as a whole. Maj. Roland G. Ruppenthal, in his work for the United States Army, *Utah Beach to Cherbourg, 6-27 June 1944,*[6] chronicles the Campaign from the D-Day landings to the fall of Cherbourg, which is generally considered to be the end of the Campaign and the start of the greater European land

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[4] Jay Winik, *1944, FDR and the Year That Changed History* (New York: Simon & Schuster, 2015).
[5] Carlo D'Este, *Decision at Normandy* (Old Saybrook, CT: Konecky & Konecky, 1994).
[6] Maj. Roland G. Ruppenthal, *Utah Beach to Cherbourg, 6-27 June 1944* (Washington, D.C.: Center of Military History, United States Army, 1990).

war. But, even in this analysis, Ruppenthal concentrates much more heavily on the use of infantry and field artillery is only noted in passing and its use is not fully explored.

The War Department's own work, *Omaha Beachhead*[7] is similar to that of Ruppenthal's in that it covers the entire Campaign but does so from the viewpoint of the troops landing on Omaha rather than Utah beach. Again, this official government narrative does a good job chronicling the movement of infantry troops, but generally does not discuss the use of field artillery.

From this initial analysis, it would appear that general, non-governmental military historians have competed with each other to bring fresh, new approaches to researching the D-Day operations, while governmental historians were tasked with providing more complete histories of the Campaign for future training and analysis purposes. Those historians that do discuss the later phases of the Campaign write almost exclusively about the movements of infantry units. Little coverage or analysis is given to field artillery and its supporting role in the Campaign. Again, there is a difference between non-governmental and governmental historians in this area, with governmental sources providing more complete coverage of various stages of the Campaign, including the use of infantry, but still little discussion on the use of field artillery and the interaction between this artillery and the infantry they support.

[7] War Department, Historical Division, *Omaha Beachhead* (Washington, D.C.: Center of Military History, United States Army, December 20, 1945).

Chapter 4: The Invasion Idea

World War II was one of the seminal events of the twentieth century. The war saw global conflict in both the eastern and western hemispheres that killed millions and redrew the world's social, economic and political maps. The German war machine, later aided by Italy in the form of the Axis Powers, consumed country after country, eventually spreading its occupation throughout Europe and into Northern Africa. In the Pacific, Japanese forces extended their reach virtually unchecked throughout the Pacific basin and into Southeast Asia. As one European country after another fell, Great Britain became the sole opponent to the Axis juggernaut in Europe.

This would change on December 7, 1941 with the highly successful Japanese raid on Pearl Harbor on the island of Oahu, then an American territory. The United States would enter World War II by declaring war on Japan on December 8, 1941.[1] Three days later, on December 11, 1941, the United States would declare war on Germany[2] and Italy.[3]

The decision by the United States to ally with the European countries in the fight against fascist aggression in Europe represents one of the greatest collaborations in modern times. Although United States shipping had been harassed by German submarine fleets, the American continent was never threatened in any way. The United States decision to support Europe by declaring war against Germany and its Axis allies did create a single united block that was strong

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[1] "S.J.Res. 116: Declaration of War with Japan, WWII," United States Senate, December 8, 1944, accessed June 8, 2018, https://www.senate.gov/artandhistory/history/common/image/SJRes116_WWII_Japan.htm.
[2] "SJ Res 119, Declaration of War with Germany, WWII," United States Senate, December 11, 1941, accessed June 8, 2018, https://www.visitthecapitol.gov/exhibitions/artifact/sj-res-119-joint-resolution-declaring-war-germany-december-11-1941.
[3] "S.J.Res. 120: Declaration of War with Italy, WWII," United States Senate, December 11, 1944, accessed June 8, https://www.senate.gov/artandhistory/history/common/image/SJRes120_WWII_Italy.htm.

enough to stamp out fascist aggression around the globe and that has had lasting benefits to this day.

The American war to liberate Europe would start in Africa with Operation TORCH, an amphibious landing in Western Africa that assisted Great Britain in expelling German and Italian troops from the African continent. Next would come the invasion of Italy, via Sicily, which would represent the first major American military presence in Europe.[4] The liberation of Northern Europe via the Operation OVERLORD landings in Normandy in Northern France would come on June 6, 1944.

Demonstrating the cooperation between the Allies, the invasion of Northern Europe was originally conceived as a way to help the Russian war effort on the eastern front, as well as to help contain what the British Prime Minister Winston Churchill saw as a way to combat future Russian aggression in Europe. Churchill, as early as 1940, viewed British action on the continent as inevitable, but considered the Mediterranean theater more important and contemplated interdiction in the Balkans as the prescribed course of action. Churchill however, fearing that the Allies would be unable to mount the required troop strength, would continue to dread the prospect of having to act in Europe, even after the United States entered the war.[5] The decision to come to the aid of the Soviet Union would however become inevitable.

The Soviet Army, up until the Allied landings in Sicily in 1943, was the only effective fighting force opposing Germany on the European continent and Moscow had been requesting assistance from England and its allies for some time. By the summer of 1942, both England and

[4] "World War II Information Fact Sheets," United States Department of Defense (1941-1945): 67-93, accessed June 8, 2018, https://files.eric.ed.gov/fulltext/ED406277.pdf.
[5] D'Este, 28-9.

the United States agreed with Moscow's position that a land invasion of Europe should be considered and conceived of Operation SLEDGEHAMMER, an emergency measure that could be put in place to capture a French port, possibly the port of Cherbourg in northwestern France, to provide an Allied base on the European continent. Churchill in particular believed that an operation of this sort would force the German Luftwaffe into a destructive air battle with the RAF, thus eliminating effective German air power for the balance of the war.[6] An attack in 1942 was however deemed an act of desperation, due to the German strength on the continent and the fact that the Allied strength was widely dispersed, with American forces concentrated in the Pacific and the British heavily engaged in Africa.[7]

Operation SLEDGEHAMMER was originally planned as an attack on the Pas de Calais, but this was deemed unworkable due to the area being the closest to England and too obvious a choice. Additional difficulties were determined to be the exposed beaches in the area that were dominated by high ground inland on which the German Army had placed virtually impenetrable defenses. The area also lacked sufficient exists from the beach area to allow ingress for landing troops and no large ports through which subsequent operations could be the staged. British planners soon eliminated the Pas de Calais area as a feasible alternative and started to concentrate their planning on the Caen and Cherbourg areas.[8]

From the start, the British and Americans held very different views on an invasion of Europe. The British, due to their close geographical proximity to France saw an invasion of Northern Europe as not only feasible but immediate. They concentrated their thoughts on the

[6] Harrison, 12.
[7] Ibid, 13.
[8] Ibid, 57.

difficulties of assault, tactics and logistics, seldom wavering from a cross-channel attack as a strategic imperative. The United States, with its wide-spread military commitments, and with its leadership 3,000 miles from London, took a much wider view of overall wartime strategy. This would leave, with American acceptance and cooperation, the initial planning for an invasion of France to the British.[9]

The roots of Anglo-American military cooperation for possible joint action against the Axis powers were laid as early as 1940, well before the United States entered the war. The United States Navy Department was first to establish a permanent observer, Rear Admiral Robert L. Ghormley, in London in the summer of 1940 and the United States Army had observers in England as early as the summer of 1940, however a permanent liaison was not set up by this branch of the service until the spring of 1941.[10]

In January of 1942, a formal military alliance between Great Britain and the United States was formalized and the formal cooperative structure of the British and American Combined Chiefs of Staff had been established.[11] By March of that year, the Operations Division of the United States War Department had been given the task of starting planning for a full-scale invasion of Europe concentrating on the Le Harve area and on April 2 of that year, General George C. Marshall, Jr, the Chief of Staff of the United States Army presented President Franklin D. Roosevelt with an outline plan for a cross-channel operation, tentatively scheduled for 1943. This attack was envisioned to be comprised of some 48 infantry divisions supported by 5,800 aircraft. At this point, Marshall's main objective was to establish a strategic objective, so production,

[9] Ibid, 10.
[10] Ibid, 1-2.
[11] Ibid, 2-4.

training and allocation of troops and materials could begin, although a 1943 invasion was considered too soon to properly amass the needed troops and supplies and stage the attack early enough in the year to obtain any French ports before winter set in.[12]

Although the British had dismissed a cross-channel attack as impractical until the United States joined the war, the British Chiefs of Staff, at the request of Winston Churchill, in April of 1942, directed British Louis Mountbatten, Chief of Combined Operations and General Sir Bernard Paget, Commander in Chief, Home Forces, to begin planning for an invasion of northern Europe, initially codenamed Operation ROUNDUP. Mountbatten first saw potential for an invasion of Normandy, considering the Pas de Calais too difficult to attack and too obvious a target. He noted that the Normandy area had sufficient deep-water ports to support a subsequent campaign against German occupied France, while still in range of Allied air support.[13] Planning for ROUNDUP had, in fact, been quietly proceeding since early 1941.[14]

With Operation ROUNDUP, England had envisioned a weakened Germany. The British felt that Germany could not sustain their presence in France and would at some point be forced to withdraw. ROUNDUP was conceived to disrupt any German withdrawal, weakening that army and, although planning was made to include American forces if Japan and the United States entered the war, the operation was never taken seriously as a combined operation. [15] The principles of a cross-channel attack had been established, but definitive planning would proceed haphazardly.

In early 1942, American strategic policy called for containment of Japan in the Pacific, but with primary emphasis being given to the defeat of Germany. The first British and American

[12] Ibid, 16-17.
[13] D'Este, 32.
[14] Harrison, 6.
[15] Ibid, 8.

combined efforts at developing a European strategy began in January 1942 at the Arcadia conference held in Washington, DC. But the two countries were still at odds with each other on how to proceed, with the United States envisioning direct military actions above political considerations and Churchill seeing a wider strategy which included the containment of what he perceived as Russia's inevitable quest for expansion. Marshall opposed Churchill on military grounds. Rather than Churchill's approach of a slowly but ever-tightening ring around Germany, he felt that decisive military action, at the earliest possible date, was called for and that only a cross-channel attack would suffice.[16]

Although the Arcadia conference did result in an agreement, the overall Allied strategy of combatting Germany first, there was little agreement going forward. The British were opposed to any early invasion of the continent, while Marshall began to push for a cross-channel attack; a revised Operation ROUNDUP, codenamed Operation SLEGEHAMMER. His chief planner for this operation was a then obscure officer named General Dwight D. Eisenhower.[17]

President Roosevelt, in a meeting with the Russian foreign minister to Washington, Vyacheslav Molotov, on May 29, 1942, discussed American strategy for assisting Russia in their fight in Eastern Europe. Roosevelt felt the need to cooperate with the Soviet Union and one result of this meeting was the president issuing a memorandum to the Joint Chiefs of Staff that stated in part, "At the present time, our principal objective is to help Russia. It must be constantly reiterated that Russian armies are killing more Germans and destroying more Axis material than all the 25 united nations put together."[18] Churchill was upset at this intimation that the United States

[16] D'Este, 23-4.
[17] Ibid, 24.
[18] Memorandum from President Franklin Delano Roosevelt to the Joint Chiefs of Staff, May 29, 1942.

supported a cross-channel attack in 1942 and flew to Washington to meet with Roosevelt, arriving on June 18. At their meeting of June 20, the President and the Prime Minister received the news that the British forces at Tobruk had fallen to the Germans. To help support the British war effort in Africa, Roosevelt immediately ordered that American tanks and artillery be provided to the British forces in the region and suggested that the United States immediately open a second front in Africa, an operation that became to be codenamed TORCH.[19]

After years of sea-saw campaigns in Africa, the Allies were buoyed by the news that the British has achieved a victory against the German Afrika Corps at El Alamein on November 11, 1942. This, coupled with the Russians holding out against the Germans at Stalingrad gave the Allies the feeling that the war was turning in their favor. The Americans would tip this balance even further by staging an amphibious invasion of West Africa. The invasion force would consist of some 670 vessels and over 100,000 American soldiers. Amphibious landings started on November 8, 1942 and the supreme commander for the operation was Dwight D. Eisenhower.[20] Although Operation TORCH was successful, it was not without its issues. The initial amphibious landings went smoothly, but the fighting quickly became bogged down due to the inexperience of the American soldiers and the tougher than expected resistance from German and Italian troops and also resistance from the Vichy French, who were expected to quickly capitulate. TORCH would also have a significant impact on the planning for a cross-channel invasion.

From the start of 1941, the United States War Department had been making plans to stage up to 1 million troops in England for an offensive in 1942 and an invasion of the continent in 1943. The codename given to this buildup was Operation BOLERO. In January of 1942, the Americans

[19] Winik, 273-5.
[20] Ibid, 335.

sent their first contingent of 4,000 troops to Ireland (the number had been cut from 17,000 due to the need of emergency reinforcements in the Southwest Pacific area) and by the end of May, the number has risen to over 32,000, including the 34th Division, the 1st Armored Division and the V Corps headquarters. At the same time, the United States Air Force started the deployment of 4,648 aircraft to the area, including 64 bomber groups and 10 pursuit fighter groups.[21]

With the start of Operation TORCH, available American troop strength designated for a cross-channel invasion became greatly reduced. By September of 1942, American troop strength in England had been about 188,000, including one armored division and three infantry divisions. Operation TORCH took about 150,000 of this total and, even though replenished to a strength of 107,000, this total was deemed too low to mount any effective offensive. The American Air Force was similarly reduced, with the 8th Air Force depleted to set up the 12th Air Force for use in Africa. In the fall of 1942, Allied planners felt that the invasion of the continent could proceed as soon as April 1943, but this was later deemed unworkable. Planning for Operation ROUNDUP was postponed indefinitely and what planners had envisioned as the invasion of Northern Europe was to be delayed. It was felt that, at best, the Allies would only be able to mount 25 of the required 48 divisions before the end of 1943, too late in the year to stage any offensive.[22]

By the time of the Casablanca Conference in January of 1943, the Allies felt for first time that they could determine time and place to bring the war to the Axis Powers. Africa was mostly contained, and the Russians had stopped the Germans at Stalingrad. Still pressing was the U-Boat menace that continued to inflict ever-increasing losses on Allied shipping.[23]

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[21] Harrison, 19.
[22] Ibid, 33-7 & 46-7.
[23] Ibid, 39-40.

At this conference, the British felt that the gains made in Africa should be exploited. The last of the German and Italian resistance in Tunisia was crumbling and it was time to expand the Allied offensive beyond Africa.[24] It became immediately clear that a cross-channel invasion of France was currently impossible, and the British proposed Operation HUSKY, invasion of Sicily to free up shipping lanes in the Mediterranean and to force Italy out of the war. They felt that, with troops stationed in North Africa, the offensive could be mounted quickly, resulting in immediate Allied success. Roosevelt agreed to cooperate with Churchill on this idea and the operation was quickly approved.[25]

Marshall saw the logic in this approach, but he and Churchill still wanted to pursue planning for a cross-channel invasion of France, then codenamed Operation SLEGEHAMMER, which was the designation given to a cross-channel attack in 1943.[26] The Combined Chiefs of Staff proposed setting up a planning organization, and planning continued for several months, but little in the way of strategy was decided upon. This prompted the Combined Chiefs of Staff to issue an official directive, dated April 23, 1943, for "A full scale assault against the Continent in 1944, as early as possible."[27] What had started as Operation ROUNDUP, renamed Operation SLEDGEHAMMER was now to be designated as Operation OVERLORD.[28]

[24] D'Este, 33.
[25] Winik, 352-3.
[26] D'Este, 33-4.
[27] Combined Chiefs of Staff, 169 series.
[28] Harrison, 48-9.

Chapter 5: Operation OVERLORD

With the joint British and American decision made to open a second front in Northern Europe, the Allies turned to planning the invasion. This process would take months and, at times be quite contentious, frequently leading to differences of opinion between the British and American planning groups. In time, however, the spirit of cooperation between the two countries would result in a solid plan for invasion of the European continent.

As early as April 1942, the British Chiefs of Staff had directed Mountbatten and General Sir Bernard Paget, who had commanded the British withdrawal from German-held Norway in 1940, to more formally plan for a cross-channel operation, what had become Operation ROUNDUP. The plan had been envisioned as a series of relatively small commando raids along the French coast, both to secure lodgements on the continent and to harass what would be withdrawing German troops. It was felt that, with the operations contemplated for Africa and later the Mediterranean, Germany would need to fall back from its positions in western France and that ROUNDUP would provide an opportunity to weaken German troop strength before it could be deployed elsewhere. However, as time went on, the need for a larger scale invasion was realized because a series of smaller landings were deemed to be too susceptible being defeated piecemeal by the German opposition. The larger plan was what was submitted to the Americans in Casablanca and the United States accepted this plan, subject to alteration.[1]

But, where the moving forward with OVERLORD had been decided, leadership for the operation had not. There was considerable debate between the British and Americans as to who

[1] Harrison, 45-6.

would lead the operation during its planning and execution phases, and it was determined that significant additional planning could not take place until a supreme commander had been named. But even the schedule for establishing the planning for the invasion would cause friction between the Allies, with the British reluctant to release senior staff officers to the planning process, while the Americans, seeing that any planned invasion would be massive and require long lead times, were interested in moving forward as quickly as possible.[2]

This disagreement went to the very heart of the nature of the operation itself. The British, feeling that they would be contributing the majority of the troops to be used in OVERLORD, wanted the head of planning for the operation to be British and, at the end of February 1943, the British Chiefs of Staff drafted a directive that planning should take place by a predominantly British organization. This was unacceptable to the Americans, who amended the directive to state that the chief of staff for the cross-Channel attack should report directly to the Combined Chiefs and limit his responsibility strictly to planning the operation. The spirit of cooperation between the two countries would again prevail and the change was accepted by the British. The Combined Chiefs of Staff issued a directive on March 5 setting up the new planning organization.[3]

Even if the Allies agreed on the composition of a new planning organization, they did not agree on the priority the planning process should be given. The British saw resources diverted from BOLERO to the Mediterranean as making a cross-Channel campaign impossible in 1943 and urged that staff resources be utilized elsewhere. Instead, they urged that a chief staff officer be appointed, reporting to the Combined Commanders, to be charged with "co-ordinating and driving forward the plans for a cross-Channel operations this year and next year." With Churchill's

[2] Ibid, 47-8.
[3] Ibid, 48.

approval, Chief of the Imperial General Staff General Alan Brooke did appoint Lt. General Fredric K. Morgan to the position, an appointment that was agreed to by the U.S. Chiefs of Staff.[4]

The planning debate took an abrupt turn for the better when Morgan suggested that the Allies form a compact, cooperative and integrated planning organization comprised of American, Canadian and British planners, that this organization to be a "complete amalgamation of British and American personnel" and it be granted "the highest possible degree of autonomy" in operational planning.[5] This organization, which would be codenamed COSSAC (for Chief of Staff to the Supreme Allied Commander) met for the first time on April 17, 1943. Initially COSSAC was divided into five branches, Army, Navy, Air, Intelligence and Administration and Logistics. Each branch had a Principle Staff Officer and their organizations were to be split by both nation and function.[6] With the planning organization set, more detailed planning for OVERLORD could commence.

In March of 1943, Morgan was given information on a cross-Channel attack, which amounted to little more than a collection of notes and proposals, and by the end of April had started to formulate an initial plan.[7] He agreed that the invasion should take place in either the Das de Calais or Caen-Cotentin areas, but favored Calais due to its close proximity to British airfields in the southeast of the country, making supplying the required air cover relatively easy. This plan would call for landing a strength of three divisions, primarily because the landing areas were relatively small. COSSAC rejected the Calais area because they felt that the landing force would be too small and easily defeated by the intense German resistance in the area.[8] The idea of landing

[4] Ibid, 49.
[5] Memorandum, Morgan to the British Chiefs of Staff, Cross-Channel Operations, March 21, 1943.
[6] Harrison, 51-2.
[7] D'Este, 43.
[8] Ibid, 34-6.

in overwhelming force went back to November of 1942 and after the Dieppe Raid of that time, British general Baker and Major General J.A. Sinclair suggested the concept of concentration of forces versus small commando raids, which became accepted as British doctrine for any cross-Channel attack.[9]

Morgan continued to believe in the Pas de Calais option, and continued to work on it. He favored the site because he felt that the Allies immediate objective should be the Rhine-Ruhr Region and that Holland and Belgium had deep-water ports that could be seized quickly after any initial landings. But others contended that Calais was too close to German Luftwaffe bases and too easy for Germany to reinforce with reserve divisions, either taken from the German homeland or even as far away as the eastern front. Due to its port facilities, Le Havre was also considered, but discarded because attacking forces would need to be deployed on either side of the Seine River, which would make them unable to support each other. Morgan ordered the British to continue work on the Calais and Le Havre options, while the Americans considered other areas, including the Caen-Cotentin region.[10]

There was little disagreement on the characteristics for any proposed invasion site. The area chosen would need to be able to be supported by air cover and have airfields that could be quickly seized and converted to Allied airbases for subsequent air operations. The landing beaches needed to be large enough to support the required landing force, the size of which had yet to be determined, have easy access to the interior and be capable of providing access for additional forces that would be required to match the expected German reinforcements that would arrive in the area. The area inland would need to have road networks that would allow Allied troops to

[9] Harrison, 55.
[10] Ambrose, *D-Day, The Climactic Battle of World War II*, 71-2.

move forward once a lodgement had been created. German beach fortifications needed to be able to be reduced by naval gunfire and the area would need to have access to a major port that could be taken and used to support an ongoing campaign after the opening phases of the invasion.[11]

It was Mountbatten and his Combined Operations Team, having rejected the Pas de Calais area as having insufficient landing grounds and being too obvious a target, that first saw potential for Normandy as an invasion site.[12] Normandy had the beaches that would be needed to support an assault force, access to the port of Cherbourg and the Orne River represented the seam between the Wehrmacht's 15th Army to the east and their 7th Army to the southwest, a weak area that could be exploited in an attack.[13]

One additional characteristic was needed to support the beach operation; the character of the beach itself. The beach sand needed to be firm enough to support the weight of heavy assault vehicles while being soft enough not to present obstacles or do damage to the vehicles or the assaulting infantry. The only way to determine this was to obtain samples of the beach sand itself and the Combined Operations and Pilotage and Beach Reconnaissance Party (COPPS), consisting exclusively of Maj. Logan Scott-Bowden and Sgt. Bruce Ogden-Smith, obtained samples of beach sand by being dropped off by a mini-submarine and then surveying the beach. The samples they obtained on several missions, most notably from what would become Juno and Gold beaches in the British landing area on New Year's Eve, 1943, an operation in which they spoke to a somewhat inebriated German soldier, proved suitable for the Allied purposes.[14]

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[11] Harrison, 56.
[12] D'Este, 32.
[13] Ambrose, *D-Day, The Climactic Battle of World War II*, 73.
[14] Ibid, 74.

By June of 1943, an outline plan had been developed by COSSAC. Even though Morgan continued to champion the previously rejected Pas de Calais alternative, American planners were committed to the Normandy area, with the decision being made to attack the area around Caen with forces landing on three assault beaches, the maximum number that they felt an invasion could support with the resources available, still considered to be three divisions. The beaches chosen for assault were Lion-Sur-Courseulles, Courseulles-Arromanches-Les Bains and Colleville-sir-Mer-Vieville-sir-Mer. Additional landings on the west side of the Cotentin Peninsula were discarded due to the lack of resources, particularly landing craft.[15] However, before more detailed planning could be contemplated, the leadership of OVERLORD had to be finalized.

[15] Harrison, 72-3.

Chapter 6: Invasion Planning and Organization

Continued planning for OVERLORD meant working on the details of tactical planning and this could only be accomplished from a combined tactical headquarters that was fully staffed by the leaders that would have direct control of the troops that they would be deploying. Needed to be established were operational groups with direct command of army, navy and air groups and the Combined Chiefs of Staff gave this responsibility to Morgan pending the appointment of a permanent supreme commander. The Quebec Conference, held in August of 1943, approved in principle one supreme commander with total responsibility for the operation.[1]

In the months prior to the Quebec Conference it was assumed that the overall leadership of OVERLORD was to be British, partly to offset General Dwight D. Eisenhower being named the supreme commander of operations in the Mediterranean and partly because OVERLORD would be staged from England and the British would provide the majority of the fighting forces. Churchill, in a nod towards diplomacy between the Allies preferred General Marshall, then the chairman of the American Joint Chiefs of Staff, feeling that he had the executive ability and sufficient respect with all Allied commanders to lead the operation. He also made it clear that if he could not have Marshall, he preferred Eisenhower. Brooke agreed with Churchill's choice of Marshall but felt that Eisenhower did not have the required planning ability, although he appreciated his growing battlefield experience.[2]

Marshall had the support of the U.S. Secretary of War, Henry L. Stimson and foreign policy advisor Harry L. Hopkins, but was opposed by Admiral Ernest King, Commander and Chief of

[1] D'Este, 42.
[2] Ibid, 45.

United States Naval Operation and Navy Chief of Staff William D. Leahy, both of whom felt that Marshall was too valuable to lose as Chairman of the Joint Chiefs of Staff. [3] Roosevelt too agonized over this decision, appreciating Marshall as a leader, but concerned over the possible loss of Marshall's favorable relationship with a Republican Congress. In the end, the spirit of cooperation between all parties prevailed. Roosevelt sided with Churchill, King and Leahy, recommending Eisenhower as Supreme Commander Allied Expeditionary Forces. Eisenhower was formally named to lead OVERLORD at the Cairo Conference in December of 1943.[4]

In June of 1943, Air Marshall Sir Trafford Leigh-Mallory was appointed as Air Commander in Chief and the British and American staffs were amalgamated into a single unit, what would become the Supreme Headquarters, Allied Expeditionary Force, or SHAEF.[5] In October of that year, the British pushed for complete integration of all air forces under a single commander, but the American Chiefs of Staff believed this was "unsound," feeling it was unfair to name an air boss before the supreme commander had been named. This issue would illustrate a basic difference of attitudes between the Americans and the British. The Americans felt that the supreme commander should exercise maximum freedom of command, including the naming of his staff officers, while the British felt the Combined Chiefs of Staff should designate staff officers for OVERLORD. Further, the Americans felt that the British and American battlefield commanders should exercise tactical control over their own divisions, still reporting to the overall SHAEF commander, while the British preferred more centralized control. Both of the Allies felt that the supreme commander should come from the army and, in a change from British original thinking, the Americans pressed for an American SHAEF commander because at the Casablanca

[3] Ibid, 41-2.
[4] Harrison, 113.
[5] Ibid, 52.

Conference it had been agreed that the supreme commander should come from the country supplying the most troops and it was becoming apparent that the majority of the fighting force for OVERLORD would be American.[6]

At the same time SHEAF was being set up, the British were proceeding with the structure of their invasion force. They formed the 21st Army Group comprised of the 2nd British and 1st Canadian armies, with General Bernard L. Montgomery commanding. Montgomery was a controversial pick for this post. Churchill had a good relationship with General Harold Alexander, a veteran of World War I and Dunkirk, but did not care for Montgomery, finding him loud and condescending. Churchill did however respect Montgomery's work with the 8th Army in Africa and, when it came time to choose a commander for the 21st Army Group, Churchill felt that he had found a tough, blunt, no-nonsense commander. Montgomery also had Brooke's backing for the position.[7] Eisenhower preferred Alexander for the position finding Montgomery abrasive, while Montgomery thought of Eisenhower as an amateur soldier, unable to command the organization which would be demanded to execute OVERLORD. But, Eisenhower was willing to overlook what he viewed as Montgomery's shortcomings and the appointment stood.[8] The spirit of cooperation between these two high-level commanders would become one of the cornerstones of OVERLORD's final success.

This would place Montgomery in temporary command of OVERLORD, pending the arrival of Eisenhower. A directive from the Combined Chiefs of Staff dated November 29, 1943, stated that Montgomery and his staff would be "jointly responsible with allied Naval Commander-

[6] Harrison, 108-12.
[7] D'Este, 46.
[8] Ibid, 50-1.

in Chief, Air Commander-in-Chief, Allied Expeditionary Air Force, for the planning of the operation, and, when so ordered, for its execution until such time as the supreme Allied commander allocates an area of responsibility to the Commanding General, First Army Group." The directive further stated that the assault phase of OVERLORD would be commanded by the "General, First (US) Army [who would] retain in immediate control of land operations until such time as the forces landed warrant…the introduction of a second [British] army headquarters…to take over that portion of the front."[9] This directive would, in effect, make Montgomery the commander of OVERLORD until the arrival of Eisenhower and the commander of all land forces until the arrival of General Omar Bradley, who would command the American 1st Army Group. Bradley had been chosen to establish the 1st Army in England in September of 1943, but was not told that he would be leading the group, and all land invasion forces, until later.[10] The Combined Chiefs of staff officially gave him leadership of this group, as well as designating him the OVERLORD land forces commander on October 19, 1943, when the First United Sates Army Group (FUSAG) was activated.[11]

Eisenhower would staff the principal staff positions for SHAEF mostly from officers from Allied Force Headquarters (AFHQ) in Algiers. In this he would have more difficulties than the British in choosing their staffs, primarily due to the conflicting priorities between OVERLORD and operations in the Mediterranean. The British had fewer conflicts in their organization and Montgomery quickly named Lt. General Miles Dempsey as the commander of the British 2nd Army, Lt. Gen John Crocker as commander of 1st Corps, Lt. General Neil Ritchie as commander of the 12th Corps, Lt. General Sir Richard O'Connor commander of the 8th Corps and Lt. General

[9] Letter, COSSAC to Commander in Chief, 21st Army Group, Operation OVERLORD, November 29, 1943.
[10] D'Este, 45.
[11] Harrison, 114-5.

G. C. Bucknall commander of the 30th Corps.[12] With the naming of Tedder as deputy to Eisenhower, as well as Commander in Chief, Allied Air Forces and Ramsey as Commander in Chief, Allied Naval Forces, the high-level organization for OVERLORD was set.[13] Detailed operational planning could now move forward.

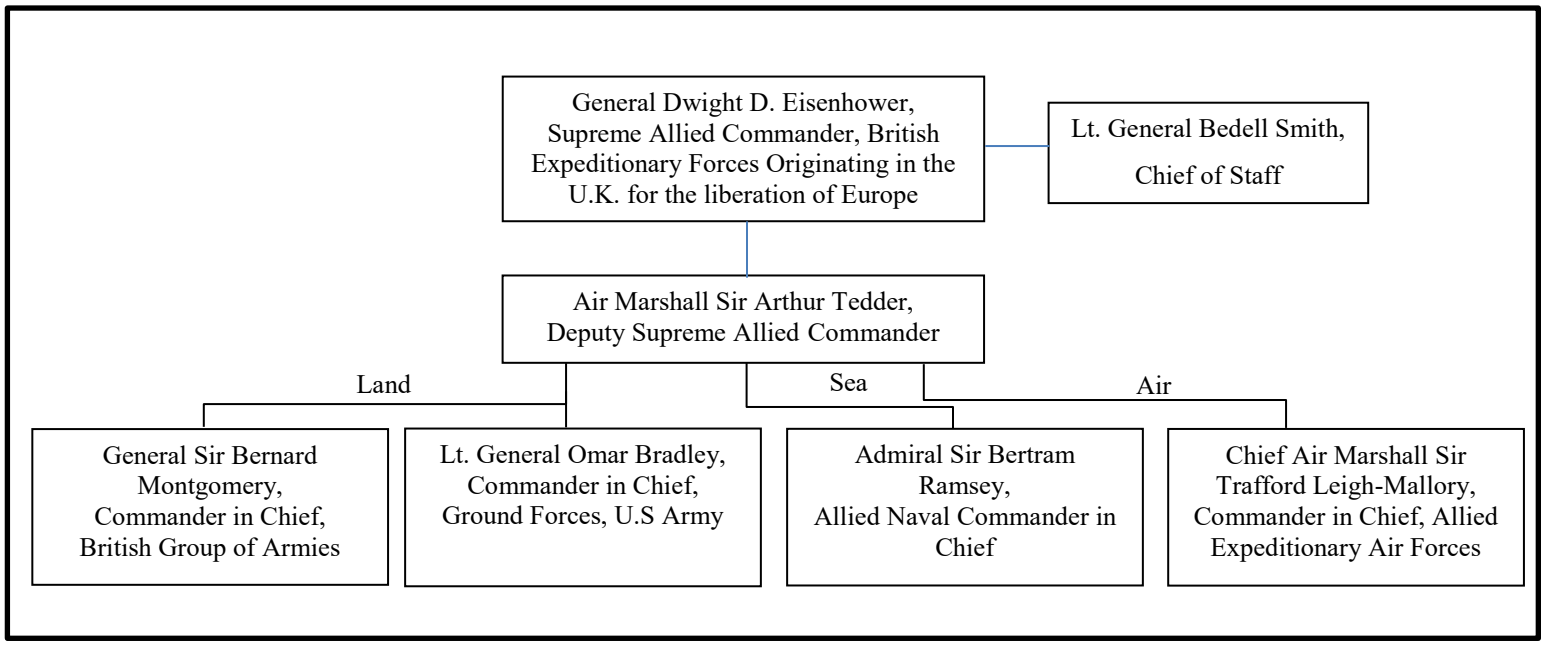

Figure 1: Operation OVERLORD High-Level Command Structure.[14]

Throughout the OVERLORD planning, resources were an issue. Ongoing operations in the Mediterranean consumed not only personnel, but aircraft, vehicles and artillery and, most notably, landing craft.

Where Allied planners had long been contemplating, ROUNDUP, the Allies' priority would change at the Washington Conference in May of 1943. At this meeting, both the British and Americans agreed that the focus be officially changed to the Mediterranean and the British

[12] D'Este, 60-61.
[13] Ibid, 52-3.
[14] SHAEF news release, April 1944.

proposed Operation HUSKY, the invasion of Sicily.[15] The Joint Chiefs of Staff agreed with this decision, but noted that the Italian campaign would not immediately help the Russians or draw German troops away from France, although they felt that the Soviets would still need help in 1944. Roosevelt felt that the Allies should not be lured into a war of attrition in Italy but agreed with the decision. He also felt that the Allies should not be idle in their invasion planning for Europe and the target date for the cross-Channel invasion of France was set for May 1, 1944. The United States agreed to limit operations in Italy, in deference to the cross-Channel attack, and also agreed to the deployment of British diversionary schemes in the Channel area for the balance of 1943.[16]

COSSAC was acting under considerable constraints in their planning, mostly imposed by the Joint Chiefs of Staff, who required resources in other areas.[17] They were also operating against an enemy of unknown strength. COSSAC expected German strength, excluding static coastal defense troops that planners thought would be defeated on D-Day, to amount to about three German divisions, two in the Caen area and one reserve division from the Cotentin area, in the first counterattack that would take place around D-Day plus two. They expected opposition from no more than nine German divisions by D-Day plus eight and no more that twelve divisions by the end of the campaign. The issue was that, more than a year in advance, no one could predict with any degree of reliability what the actual opposition would be. Due to these uncertainties, the COSSAC planners aimed high in their estimates for required Allied troops.[18]

When Montgomery and Smith were formally briefed on the COSSAC plan of landing three divisions in the first assault wave with one division in reserve, Montgomery criticized the number

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[15] D'Este, 33.
[16] Harrison, 68-70.
[17] Ambrose, *D-Day, The Climactic Battle of World War II*, 71.
[18] Harrison, 77.

as too small to be successful. He also criticized the American insistence on continuing Operation ANVIL, which both he and Churchill thought to be both too small and too far away (over 500 miles) from Normandy to be effective in prompting the Germans to divert resources from the OVERLORD area.[19] COSSAC planners revised the number of assault troops to landing ten divisions on the first four tides (D-Day to D-Day plus one) This left the Americans suspecting that the British were inflating their troop estimates in an effort to back out of an assault in 1944 and ordered a reexamination of the capabilities of landing craft production and came to the conclusion that landing craft freed from operations in the Mediterranean could support an assault force of five divisions, three for the initial assault and two for follow up.[20]

Americans had no landing craft experience until 1937, when they experimented with some craft supplied by the British. The first successful American landing craft was built by New Orleans shipbuilder Andrew J. Higgins, from whom the United States Navy ordered a small number of light landing craft capable of carrying light vehicles and personnel through shallow water to the beach; the LCVP (Landing Craft, Vehicle, Personnel), or Higgins boat. American planners continued to discount the capabilities of landing craft until 1942, at which time they ordered not only LCVPs in large numbers, but additionally a myriad of larger landing craft that would be critical to OVERLORD. Landing craft production, practically nonexistent in 1941 ramped up to 106,146 tons in 1942 and proceeded at a rate of 60,000 tons from there until the end of the war.[21]

[19] Ibid, 165.
[20] Ibid, 60-5.
[21] Harrison, 69.

Figure 2: LCVP Ferrying Members of the American 1st Division at Normandy.[22]

The issue continued to be ANVIL. A five-division assault for OVERLORD would require 174,320 men and 20,018 to be landed in the initial assault and follow-up and, with ANVIL still being planned, there were simply not enough landing craft to support these numbers. Recognizing the issue, Eisenhower accepted a one-month delay, to June of 1944, for OVERLORD while lamenting the loss of the good campaigning weather that the delay would mean[23]

Together, Montgomery and Smith would cooperate to tackle the landing craft issue. On January 5, 1944, Smith cabled Eisenhower, who was in Washington, to say that he and Montgomery felt that they required a five-division assault force, the landing craft for which could only be obtained from the ANVIL operation. They recommended releasing half of the ANVIL landing craft for use by OVERLORD. Eisenhower, still believing in ANVIL's importance, proposed a further delay for OVERLORD, to August of 1944. The American Joint Chiefs of Staff

[22] National Archives, College Park, MD photographic collection.
[23] D'Este 64-5.

agreed with this recommendation, feeling that more favorable weather conditions in Russia would benefit any combined operations. While the United States continued to champion ANVIL, the British increased their opposition.[24]

It was perhaps the Germans themselves that settled the landing craft debate. Increased Wehrmacht resistance in Italy led Allied, particularly British, planners to see the need to reinforce HUSKY which would not require additional landing craft. The American Joint Chiefs of Staff soon agreed with this position and on March 21, 1944 Eisenhower ordered the cancellation of ANVIL and the movement of the required landing craft to England for use in OVERLORD. Final planning could now continue.[25]

[24] Harrison, 165-9.
[25] Ibid, 172-3.

Chapter 7: Eisenhower and the Final Plan

The planning for Operation OVERLORD represents one of the greatest collaborative military planning efforts in modern history, with the British and Americans operating together to develop an integrated, cooperative plan that would involve tens of thousands of soldiers, hundreds of ships and thousands of planes.

By the time of Eisenhower's arrival in London on January 24, 1944, the tempo of OVERLORD planning had already changed significantly. With a firm go-ahead for the invasion, the tempo increased, much of the uncertainty was gone and army and corps headquarters had been established and cooperating well with each other. Bradley had taken control of the American troops to be used in the operation and Montgomery had been replaced by Paget as the 21st Army Group commander. These leaders would complete the OVERLORD planning.[1]

In October of 1943, Eisenhower had received the initial SKYSCRAPER plan and Montgomery reviewed the plan with Churchill in Marrakech on December 1. Montgomery and Smith discussed the plan on December 27 and all agreed that the landing force was too small. Eisenhower insisted on an initial assault strength of five divisions, with two in immediate reserve. This request was granted, and more detailed planning would continue.[2]

The updated SKYSCRAPER called for an assault by four divisions in the first wave, followed by six divisions in immediate follow up and four airborne divisions to interfere with movement of enemy reserves, securing roads and airfields. The plan also called for the taking of the ports of Cherbourg and Le Havre, although the latter, because it would require additional

[1] Harrison, 161-2.
[2] D'Este, 55-8.

landings, was considered too resource intensive and was quickly dropped. Simultaneous landings would take place by two British divisions in the Caen, and by two American divisions to their west and two American divisions in the area of the Cotentin Peninsula. The latter two American divisions were latter aimed at moving up the Peninsula and securing Cherbourg while the former intended to protect the American left flank and assisting the British and to stage the way for opening ports on the Seine River, which were deemed critical to the ongoing invasion because Cherbourg was too small and too remote to support the expected 29 divisions that would be required for a long-term campaign.[3]

Eisenhower's updated plan called for landings on five beaches. In the American 1st Army, under VII Corps, the American, 4th Division would land at les Dunes de Vorreville at the base of the Cotentin Peninsula, codenamed UTAH Beach and move to the northwest to secure Cherbourg. The American 1st and 29th divisions, under V Corps, would land on the beaches of Vierille-sur-Mer and Colleville-sur-Mer, codenamed OMAHA and move inland to create a lodgement that would protect the 4th Division's left flank and the British right. Under the British the 30th Corps, the 50th Division would land at Arromanches-les Bains, codenamed GOLD and under the British 1st Corps, the 3rd Canadian Division would land at Courseulles-sur-Mer while the British 3rd Division would land at Lion-sur-Mer, codenamed SWORD. The British and Canadian landings were intended to protect the American left and pave the way for proceeding towards Le Havre.[4]

[3] Ibid, 57-9.
[4] Ambrose, *D-Day, The Climactic Battle of World War II*, 77.

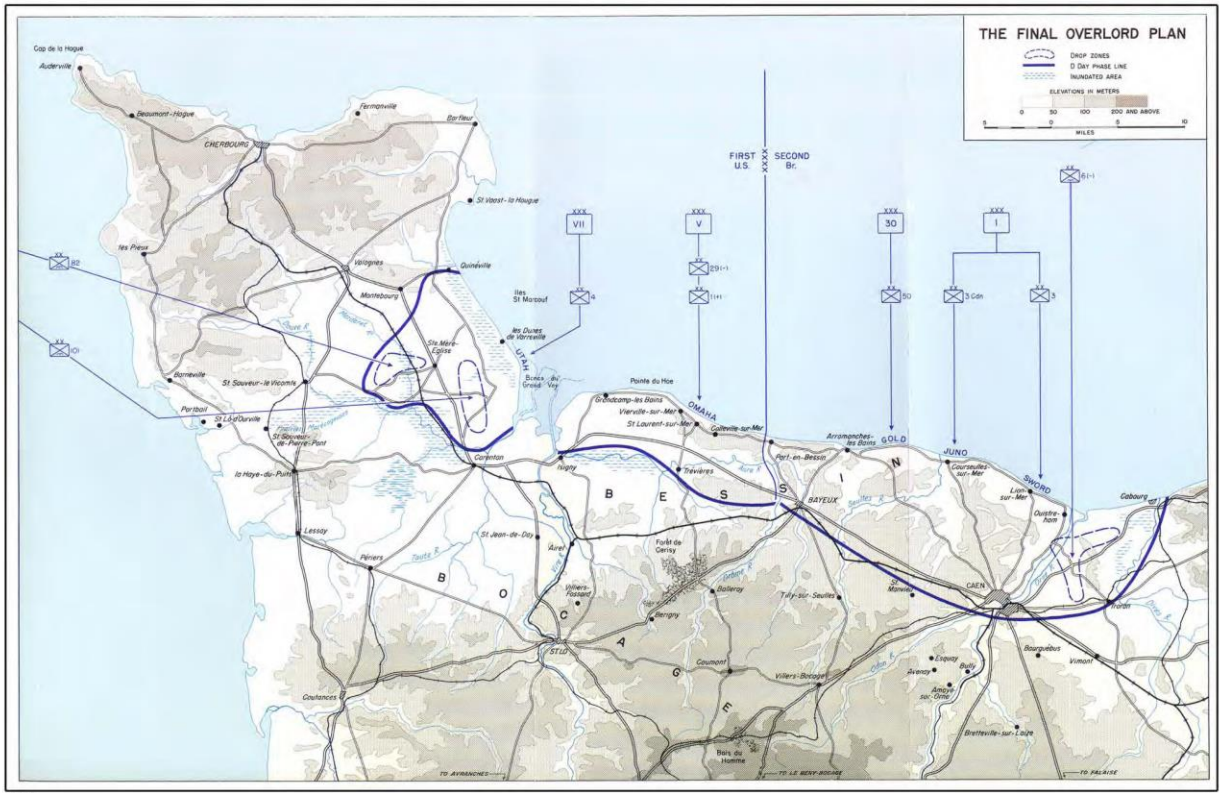

Figure 3: The OVERLORD Plan.[5]

In addition to the five assaulting divisions, Allied planners had determined that airborne troops would be required to reduce the costal batteries at Grand-camp-les Bains and Ouistreham-Riva-Bella and to assist in securing the town of Caen and the area south of the town that could be used as airfields for rapid forward deployment of air power. Eisenhower felt that a small deployment of these units would subject them to encirclement and capture and insisted on large units being deployed. The units designated for this task were the United States 82nd and 101st Airborne divisions and the British 6th Parachute Regiment.[6]

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[5] Gordon A. Harrison, *Cross Channel Attack* (Washington, D. C.: Center of Military History, United States Army, 1951), Map II

[6] Ambrose, *D-Day, The Climactic Battle of World War II*, 92.

At the time of the Normandy invasion, the United States Army was arranged much the same way that it is today. The highest level of organization was the field army consisting of two to five corps, each of which consisted of two to five divisions. Each corps was comprised of several divisions, which were made up of several brigades. Each brigade consisted of up to three battalions. It is at the battalion level that units become specialized, with differing battalions specializing in infantry, armor or artillery. Several battalions of differing specialties were often grouped together to form integrated combat teams designated for individual missions.

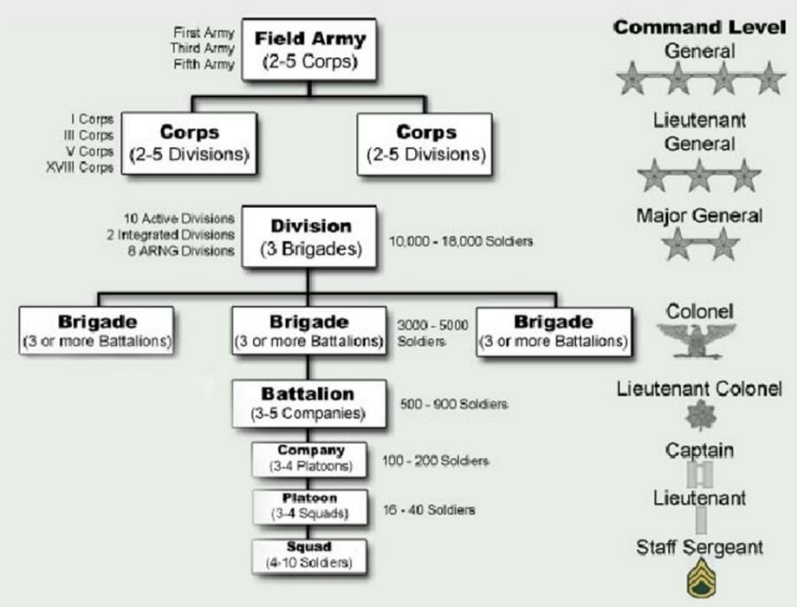

Figure 4: Typical United States Army Unit Hierarchy.[7]

The composition of the American assaulting units for OVERLORD were similar to those shown above. The composition of British units, while exhibiting some minor differences, were much the same. The following table illustrates the actual composition of the American forces that were to comprise the first assault wave on the Normandy beaches.

[7] Ezoic Limited, accessed July 27, 2018, www.olive-drab.com.

United States First Army				
	V Corps		VII Corps	
Infantry Divisions				
	1st Infantry Division	29th Infantry Division	4th Infantry Division	90th Infantry Division
Infantry Regiments	16th Infantry 18th Infantry 26th Infantry	115th Infantry 116th Infantry 175th Infantry	8th Infantry 12th Infantry 22nd Infantry	357th Infantry 358th Infantry 359th Infantry
Artillery Battalions	1st Division Artillery 5th Field Artillery 7th Field Artillery 32nd Field Artillery 33rd Field Artillery	29th Division Artillery 110th Field Artillery 111th Field Artillery 224th Field Artillery 227th Field Artillery	1st Division Artillery 20th Field Artillery 29th Field Artillery 42d Field Artillery 44th Field Artillery	90th Division Artillery 343rd Field Artillery 344th Field Artillery 345th Field Artillery 915th Field Artillery
Other Associated Units	1st Signal Company 701st Ordnance Light Maintenance Company 1st Quartermaster Company 1st Reconnaissance Troop 1st Engineer Combat Battalion 1st Medical Battalion 1st Counter Intelligence Corps Detachment 1st Military Police Platoon 1st Infantry Division Band Headquarters, Special Troops, 1st Infantry Division	29thSignal Company 729th Ordnance Light Maintenance Company 29th Quartermaster Company 29th Reconnaissance Troop 121st Engineer Combat Battalion 104th Medical Battalion 29th Counter Intelligence Corps Detachment 29th Military Police Platoon 29th Infantry Division Band Headquarters, Special Troops, 29th Infantry Division	4th Signal Company 704th Ordnance Light Maintenance Company 4th Quartermaster Company 4th Reconnaissance Troop 4th Engineer Battalion 4th Medical Battalion 4th Counter Intelligence Corps Detachment 4th Military Police Platoon 4th Infantry Division Band Headquarters, Special Troops, 4th Infantry Division	90th Signal Company 790th Ordnance Light Maintenance Company 90th Quartermaster Company 90th Reconnaissance Troop 315th Engineer Battalion 315th Medical Battalion 90th Counter Intelligence Corps Detachment 90th Military Police Platoon 90th Infantry Division Band Headquarters, Special Troops, 90th Infantry Division
Airborne Divisions				
			82nd Airborne Division	101st Airborne Division
Infantry Regiments			325th Glider Infantry 505th Parachute Infantry	327th Glider Infantry 401st Glider Infantry 502nd Parachute Infantry HHB,
Artillery Battalions			82nd Airborne Division Artillery 319th Glider Field Artillery 320th Glider Field Artillery 456th Parachute Field Artillery 80th Airborne Antiaircraft Artillery	101st Airborne Division Artillery 321st Glider Field Artillery 907th Glider Field Artillery 377th Parachute Field Artillery 81st Airborne Antiaircraft Artillery Battalion
Other Associated Units			82nd Airborne Signal Company 782nd Airborne Ordnance Maintenance Company 407th Airborne Quartermaster Company 307th Airborne Engineer Battalion 307th Airborne Medical Company Military Police Platoon, 82nd Airborne Division	101st Airborne Signal Company 801st Airborne Ordnance Company 426th Airborne Quartermaster Company 326th Airborne Engineer Battalion 326th Airborne Medical Company 101st Counter Intelligence Corps Detachment Military Police Platoon, 101st Airborne Division

Figure 5: Composition of American Assault Units.[8]

[8] U.S. Army Center of Military History, accessed July 27, 2018, https://history.army.mil/html/reference/Normandy/asltforce.html.

The first official joint plan for the invasion was published by Montgomery, Ramsey and Leigh-Mallory on February 1, 1944. Following this, Montgomery had asked each army commander to submit general plans for their groups, these to be used as frameworks for more detailed planning and the issuance of field orders by subordinate brigades and battalions. The American 1st Army submitted their plan on February 25 and the 2nd Canadian Army submitted theirs on March 21. What would become Montgomery's own 21st Army Group never submitted a formal plan for the invasion.[9]

The American V and VII corps were to land on either side of Vire River and the V Corps' main objective was to secure the tableland north of Aire and prepare for enemy counterattacks. V Corps' 29th Division was to capture the town of Insigny on D-Day if possible. VII Corps' objective was to clear the land south of the Cotentin Peninsula as far west as Douvre, then push northward towards Cherbourg to prepare for a combined effort with the 90th Division to take the port around D-Day plus fifteen.[10]

First objective was to secure Grandcamp, Bayeux, Caen by end of D-Day; secure Caen-Bayuex-Caen area, the Orne River and Dives rivers and to make sufficient depth for a turning movement to attack up Cotentin towards Cherbourg. This would take place in the first 8 days, by which time a total of twelve American divisions would be ashore. By day 14, it was presumed that Cherbourg would be captured and start functioning as a port for the resupply of troops on the ground. After that, the Supreme Allied Commander would determine the next objectives of the

[9] Harrison, 174.
[10] Ibid, 167.

campaign.[11] Montgomery also stressed that rapid armor thrusts into the interior would be required to cover the infantry's advance from the beaches inland and that engineers would be required to clear enemy minefields from the areas of advance.[12]

Planners assumed that the greatest difficulties would come not on D-Day, but in the days immediately following as German reinforcements were moved into the area. Protecting against this threat would require that reinforcements be brought in to supplement the divisions already on the ground and that the existing divisions be resupplied. Not being able to take the port of Cherbourg until two weeks after the initial landings represented a significant problem. Reinforcement and resupply would need to come through the Normandy beaches, which had no natural harbor.

With these difficulties, the idea of sending in an additional division on D-Day plus one was abandoned, and it was determined that only a reinforcement of four regiments, prioritized to provide armor and anti-aircraft support would be provided at that time.[13]

Allied planners accepted that cross-beach replenishment would be required and two artificial ports, based on MULLBERRIES, breakwaters to supply shelter so small craft could ferry supplies, and floating piers connected by tread ways to beach where larger vessels could unload directly into trucks were developed. These subsequently proved useful, although less than completely reliable.[14]

A coordinated air campaign, aimed at hitting enemy airfields and transport systems would start prior to the invasion and immediately before attack, would focus on rail and road nets directly

[11] Ibid, 78.
[12] D'Este, 65.
[13] Harrison, 74.
[14] Ibid, 73-4.

feeding into the battle area in an effort to delay German reinforcements. On D-day air would be re-tasked to attack beach defenses and provide air cover for the beach assault troops. This action was to be held until the last possible moment and feints were conducted in the Pas de Calais and in the south of France to conceal the true assault.[15]

The use of air power to support the invasion had sparked a debate between the American General Cark Spaatz of the US 8th Air Force and Air Chief Marshal Sir Arthur Harris, head of RAF Bomber Command, who felt that strategic bombing alone could win the war and that Allied air forces should not be wasted in OVERLORD and Eisenhower and the SHEAF staff who wanted air power to be used for a period of time prior to the invasion to attack rail lines, road hubs and communications centers. Eisenhower petitioned Churchill to give him control over RAF bomber resources for the duration of OVERLORD, but the Prime Minister would not back him in this request. He felt so strongly about the issue that, without control of RAF bomber resources, he would "simply have to go home."[16] Churchill took the issue to Roosevelt, who agreed with Eisenhower. Allied bombers would support OVERLORD.[17]

Every soldier, vehicle and crate of supplies to be used in the opening days of OVERLORD would need to be transported across the English Channel by ship, an effort that was codenamed Operation NEPTUNE. Each division was to be landed by a naval task force responsible for embarking troops and protecting them after landing. Task Force U was to land the 4th Division on UTAH Beach, Task Force O the 1st Division on OMAHA Beach with Task Force B carrying 29th Division as backup for OMAHA Beach. Assaulting infantry units were to be carried to the beach

[15] Ibid, 76.
[16] Entry, March 3, 1944, "Diary of C in C" in Ambrose, *D-Day, The Climactic Battle of World War II*, 96.
[17] Ambrose *D-Day, The Climactic Battle of World War II*, 93-97.

from 11 miles offshore in US zone and from 7 miles offshore in British zone, where troops would be loaded into LCVPs or LCAs then ferried into the beach. Once the troops had been embarked, warships from each task force would provide naval artillery cover to the assaulting troops.[18] Ships firing from the Channel would be supported by nine naval fire support teams and 9 naval fire spotting teams placed within the assault forces.[19]

The landings would begin one hour after first light, to allow for a preparatory naval bombardment. Darkness would be needed to cover the preparation and loading of troops into landing craft. The assault troops would need to attack on a rising tide so landing craft could get off again, but not too high to make for too wide beach where assault troops would be exposed to enemy fire for a long period of time. Additionally, moonlight would be required for the airborne drops to find their landing fields. All of these factors pointed to an invasion date of the 5th, 6th or 7th June 1944.[20]

[18] Harrison, 190.
[19] Ibid, 197.
[20] Ibid, 189-90

Chapter 8: A Brief History of Field Artillery

The origin of the term "artillery" has been lost to time, but several possibilities exist. John Norris suggests that the term may be rooted in the Latin *arcus*, meaning bow, and *telum* meaning projectile or in the Latin *ars tolendi*, meaning the art of catapulting or shooting. He suggests a third possibility could be the Latin phrase *ars telorum*, meaning the use of long-range weapons. The French artillery engineer Sebastien le Prestre de Vauban traced the term back to the old French work *artillier* meaning to fortify or to arm, although the German philologist Diets believed the term dated to the German word 16th century German work *artilha.*[1] Whatever the origins of the word "artillery," it is clear that the origins of artillery are found in China.

It has been suggested that the origins of gunpower were the results of Chinese experiments to find the elixir of life, a rather ironic coincidence with that gunpowder would become one of the most destructive substances the world has ever seen.[2] The earliest reference to gunpowder comes from a 9th century Tang manuscript, which cautioned chemists not to mix potassium nitrate with sulfur and carbon rich material (such as charcoal) because the result would be a "fire-drug" that violently combust. The Chinese did not initially use gunpowder for weaponry, instead experimenting with naphtha, known in the west as Greek Fire, which they obtained from Arab traders as early as the 10th century Five Dynasties period. Gunpowder would prove more effective than naphtha and by the early 11th century, the Chinese had improved their basic gunpower formula and were using it in a great variety of weapons, including early types of bombs, mortars, grenades and landmines. By about 1280, in the late Sung Dynasty, they had invented the first true gun, a

[1]John Norris, *Artillery, a History* (Gloucestershire, UK, Sutton Publishing, Limited, 2000), vii.
[2] Ibid, 1.

cannon with a metal barrel that projected a spherical projectile. This weapon quickly spread throughout Eurasia.[3]

There is uncertainty on how gunpower came to Europe. Some suggest that it arrived via the Arab trade route. Another theory suggests that it was brought to Europe by the Mongols, who did use crude gunpowder weapons, with their invasion of 1241-2. The Franciscan monk Francis Bacon knew of the formula for gunpower, which he recorded in 1242. The English King Henry, in 1267, was reported to have used gunpowder weapons in "making daily assaults when guns and other ordinance were shot into the city" of London.[4]

The first recognizable cannon appeared in Europe at the end of the 13th century and were in limited use in France by 1314. The earliest illustration of artillery in action dates from 1326, which depicts the Battle of Metz of 1324. The Battle of Crecy in 1346 was a pivotal point in the history of artillery, for it was in this engagement that the English utilized artillery for the first time.[5]

Gunpowder weapons of this era were large, unwieldy and of relatively low power. Cannon of any size had to be strapped to a trestle or simply a board that was placed on an earthen ramp and aimed roughly at its target, typically castles or other fortifications, and projectiles were crudely shaped from stone, often ill-fitting their barrels, causing a loss of projectile velocity or the rupture of the barrel if the projectile became stuck.[6]

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[3] Scott C. Levi, "Asia in the Gunpower Revolution." Oxford Research Encyclopedia. Accessed May 2, 2018. http://asianhistory.oxfordre.com/view/10.1093/acrefore/9780190277727.001.0001/acrefore-9780190277727-e-186.
[4] Ibid, 3-4.
[5] Ibid, 8-9.
[6] Ibid, 11-2

By the turn of the fifteenth century, improvements in metallurgy had improved cannon barrels, which were now cast in a single unit, rather than the collection of wooden or iron bars strapped together with rope, as had been the practice in the past. The weapons of this time were still quite large and cumbersome, having to be dragged to the battlefield on sledges or on ox-drawn carts and deployed on earthen ramps that would elevate the cannon's barrel. Elevation adjustments were made either by changing the angle of the ramp or adding or removing wooden wedges. These weapons, used primarily for siege warfare due to their great size and immobility, were known as bombards, one of the largest and most famous being *Mons Meg* that could fire a stone projectile 2876 yards and was presented to King James II of Scotland in 1457. James' relationship with artillery ended sadly at the siege of Roxborough on August 6, 1460 when one of his own artillery pieces exploded, killing him instantly.[7]

In the mid-fifteenth century, cannon design had been advanced considerably, principally by the French. Cannon barrels averaging about eight feet and cast mostly of lighter, stronger bronze allowed for the use of two-wheeled carriages for transport, which made artillery pieces much more maneuverable and easier to deploy. King Charles VIII used some three-hundred artillery pieces in his campaign in Italy in 1494 and his artillery was effective against high-walled castles. The Italians had anticipated the use of artillery against them and had developed new styles of fortification building, resulting in enclosures that were lower with thicker walls, which were much more resistant to cannon fire. These new designs also included gun emplacements, allowing for an early form of counter-battery fire.[8]

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[7] Ibid, 22-3.
[8] Ibid, 34-7.

Around the end of the seventeenth century, barrel making had become more sophisticated, but the main type of projectile was still the round iron ball of some 30 to 200 pounds. Advances in military formations and other military technologies were forcing changes in the use of artillery and gunners were developing hollow shells filled with gunpowder and fused to explode either in the air or upon landing within enemy formations.[9]

By the time of the American Revolution, artillery was in use against not only static fortifications, but also against relatively mobile infantry formations as well. Artillery technology had changed relatively little since the turn of the eighteenth century, but barrels and their carriages had become lighter and more maneuverable and gunpowder and projectiles had continued to become more refined. This new use of artillery led to specialized artillery organization within the army.

The American colonists, in their bid for freedom, would employ much the same artillery organization as their English oppressors. In 1775, the Massachusetts Committee of Safety took the lead in Colonial artillery formation by distributing field guns to selected town militia regiments. In the same year, the state formed the Massachusetts Train of Artillery, commanded by Richard Gridley, the chief engineer for all militia forces in the state, which amounted to ten artillery companies, which were taken under the command of General George Washington later in the year and formed the nucleus of the artillery for the Army of the United States.[10]

Artillery weapons of the time consisted of a variety of muzzle loaded smooth bore weapons and their size and type were not uniform among the American regiments. Classified as mortars,

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[9] Ibid, 72-3.
[10] Janice E. McKenney, *The Organizational History of Field Artillery, 1775-2003* (Washington: Center of Military History, United States Army, 2007), 3.

howitzers or cannon, most were made of either bronze, which was lighter and stronger than iron but in limited supply or cast iron which was abundant but heavier and used primarily for larger cannon to be used as siege weapons against fortifications. All artillery pieces were carried on two wheeled timber carriages which contained small side boxes to carry ammunition and power, however more complete supplies were carried in tumbrils or wagons.[11]

Three types of artillery weapons were in use at the time. Guns or cannon fired at relatively low trajectories and were principally used against cavalry troops in column or flanked infantry lines and fired shot that was measured in weight (for example four pounds). The effective range of these weapons was limited to approximately 1,200 yards. Mortars, short squat weapons that fired explosive shells, were measured by the diameter of their bores because they could fire projectiles of differing weights from the same barrel. Shells had the advantage of exploding on impact or in the air, frightening men and horses and these weapons were used primarily against field fortifications or against enemy artillery emplacements. Sharing characteristics of both the gun and the mortar, the howitzer was lighter and more maneuverable than the mortar and, because they were lighter in proportion to their projectile, they used smaller charges to fire larger projectiles than field guns of similar weight. They could be aimed in either a low or high trajectory to directly assault troops or fire over fortifications. The howitzer could fire not only explosive projectiles, but also grape and canister shot.[12]

The Continental Army initially relied on English artillery pieces, either imported before the Revolutionary War or captured during the war. Most field guns were in the three to six-pound range while howitzers were of a 5.5-inch diameter. As the war progressed some cannon were

[11] Ibid, 10.
[12] Ibid, 10-11.

forged in Philadelphia, while others were imported from France, the most popular being the four-pound gun, due to its better firepower and maneuverability than other field guns.[13]

By 1794, recognizing the threat that the war between Great Britain and France represented, the United States had reorganized its armed forces. Congress formed the Corps of Artillerists and Engineers, brought together due to their similar training needs for reducing fortifications, and formed the school at West Point for training of these personnel. At this time, Congress also authorized the building of twenty-one coastal fortifications, stretching from Portland, Maine to St. Mary's, Georgia to provide for coastal defense. Although much of the artillery authorized for these fortifications was never delivered, the policy of coastal defensive fortifications continued until World War II.[14]

Napoleon Bonaparte is credited with being the father of modern artillery. In 1802, he appointed a committee, headed by then General (later Marshal) Auguste de Marmont, to introduce standardization in artillery. The result was a simplification in the types and sizes of artillery pieces, replacing four and eight-pound guns with six-pounders and twelve and six howitzers with a 5.5-inch model. Increased mobility of artillery was gained by mounting gun crews on horseback, allowing them to maneuver with the infantry. Light field pieces were deployed with the infantry, able to support their efforts by firing at enemy infantry formations. Napoleon also standardized training and procedures across the Grande Armee for artillery personnel. The result was a highly-mobile, highly-effective artillery train that became the forerunner of all modern artillery.[15]

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[13] Ibid, 11.
[14] Ibid, 22.
[15] Bruce McConachy, "The Roots of Artillery Doctrine: Napoleonic Artillery Tactics Reconsidered, "The Journal of Military History," 65(3) (2001), 617-640, accessed July 26, 2018, http://ezproxy.snhu.edu/login?url=https://search-proquest-com.ezproxy.snhu.edu/docview/195616738?accountid=3783.

The outbreak of the American Civil War saw a rush of Americans on both sides of the conflict to enlist in the infantry, but artillery was a forgotten service. Some private artillery companies had been raised before the War, but the need for increased education, particularly mathematics, the need to be supplied by the state or federal government and the sheer terror of becoming a target of enemy artillery kept enlistments in the artillery branch low.[16]

In the typical firing battery of six guns of the time, each gun was pulled by a team of six horses, arranged in three pairs and, including the need to pull ammunition resupply wagons and other required equipment, each battery required seventy-two horses. A full battery compliment was 155 men, including officers.[17] The most popular field gun of the time was a light muzzleloading twelve-pound howitzer cast of bronze based on a French design, affectionately named the "Napoleon." This weapon could fire solid shot, explosive shells and was most effective at close range when firing cannister shot against infantry. Although it lacked the range of six-pound guns, with its heavier load of shell or case shot, it was more destructive at close range and in heavily wooded or rough terrain, over which most of the War was fought.[18]

The turn of the twentieth century saw the end of muzzle loading guns. In 1897, the French introduced the "Canon de 75 Modele 1897," which used an innovative hydro-pneumatic recoil system to cushion the rearward thrust when the gun was fired, improving firing accuracy and range significantly. Although they attempted to keep this new technology secret, word soon leaked out and the recoil system was widely copied by many other countries.[19] Breach-loading designs were

[16] John Norris, 143.
[17] Ibid, 146.
[18] McKenney, 49-50.
[19] Michael D. Grice, *On Gunnery, the Art and Science of Field Artillery From the American Civil War to the Dawn of the 21st Century* (North Charleston, NC, Booksurge Publishers, 2009), 37.

adapted from smaller rifles and used in artillery pieces of all sizes, greatly decreasing reload times and improving the safety of gunners attending their guns.[20]

There were significant changes to the projectiles as well. Black powder gave way to more powerful smokeless power, which was more stable in transport and had the advantage of reducing smoke around the battery, making it less likely to be seen at any distance. Round shot, explosive shells and canister shot were improved upon and new types of projectiles were introduced, including high explosive, chemical (poison gas), star shells to illuminate areas at night and shrapnel. The last type was similar to canister shot, containing a large number of lead balls and was particularly devastating to the enemy because the projectile's shape allowed the balls to be ejected forward like a shotgun blast when the shell exploded near enemy formations. Timing of the explosion was accomplished via a mechanical fuse.[21] These improvements greatly increased the accuracy and range of artillery. To take advantage of the improvements, new artillery techniques would need to be developed.

Traditionally, gunners had to see their targets before firing. Increased ranges made this no longer necessary and allowed batteries to be concealed behind terrain features well behind friendly lines. Improvements in battlefield communications allowed batteries to be dispersed, but still coordinate their fire on individual targets. Instead of laying their targets by sight, gunners now relied on mathematical calculations and tabular firing tables to determine the location of their target and the aiming point of their guns.[22] Improved mapping technologies allowed observers placed forward of the batteries to reference target map coordinates back to the gunner, who would

[20] McKenney, 95.
[21] Grice, 39-41.
[22] Grice, 41-2.

calculate the azimuth and elevation of the gun barrel and fire. The observer would view where the shells dropped and relay adjustments back to the gunners.[23] These new "indirect-fire" techniques were first widely employed in the Russo-Japanese War of 1904-5, in which both sides saw significant improvements in the effectiveness of their artillery. The lessons learned in this conflict would drive doctrinal improvements in the United States and Europe in the years leading up to World War I.[24]

Major changes came to American artillery when in 1907 Congress separated the Army's artillery corps into two distinct branches, coastal artillery and field artillery, authorized six additional field batteries and established six artillery regiments each containing two battalions of three to four-gun batteries. The structure of artillery units would change again in 1912 with the overall changes that were taking place to the structure of the American Army at the time. Each Army division was to have two artillery regiments with a combined total of forty-eight guns and sixteen howitzers. In each regiment, two battalions were to be equipped with three batteries of three-inch guns and one battery of 3.8-inch howitzers while the other regiment would be equipped with three batteries three-inch guns and one battery of 4.7-inch howitzers. This would result in a ratio of 3.16 artillery pieces to every one thousand infantry rifles.[25] This number was later revised to include three artillery regiments per division, with a division personnel strength of 1,377 supporting 195 artillery pieces. Some functions that had been performed by the individual batteries were centralized into a headquarters company consisting of 92 enlisted men, including the 28-member regimental band.[26] Twelve small trench mortars were often added to the battalions.[27]

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[23] Ibid, 42-3.
[24] McKenney, 99-100.
[25] Ibid, 101.
[26] Ibid, 107-8.
[27] Paul Gaujac, US Field Artillery in World War II (Paris: Historie and Collections, 2009), 5.

Artillery would prove highly effective during World War I, with all sides of the conflict employing field and larger siege artillery, up to the massive German "Dicke Bertha" (Big Bertha), a 16.5-inch, railroad-carried howitzer.[28] The most popular American field piece of the conflict was the three-inch gun.

Figure 6: 3-Inch Field Gun, Model 1902.[29]

Predicted fire, using mathematical formulas to compensate for environmental factors such as temperature, humidity, wind and elevation above a prespecified point made highly accurate fire control without the use of a forward observer possible. Introduced by the German army, which introduced simple tables in the place of complex calculations, this allowed artillerymen to accurately determine where their shells would land in advance of a fire mission. These techniques

[28] Encyclopedia Britannica, "Big Bertha," *Britannica Online*, 2014, accessed July 27, 2018, http://www.britannica.com/EBchecked/topic/64937/Big-Bertha.
[29] Janice E. McKenney, *The Organizational History of Field artillery, 1775-2003* (Washington D. C.: Center of Military History, United States Army, 2007), 100.

quickly spread to all combatant armies and artillery, which was already devastating against enemy forces, became even more so.[30]

The inter-war period saw further developments in the organization of field artillery, with the War Department directing that "The role of field artillery is to assist the other arms in service, especially the infantry and the cavalry…" Artillery battalions were designated either at the corps level, which generally provided counter-battery fire or at the division level which followed and supported infantry units.[31]

By World War II, American artillery had evolved into an almost dizzying array of field and fixed pieces. In use at the time were weapons such as the 12-inch mortar, with and without a disappearing carriage, weighing in at 385,000 pounds, the 16-inch howitzer, either fixed or railway mounted, 8-inch and 24mm mobile howitzers and 8 and 4-inch railway mounted guns. Antiaircraft artillery consisted of 105 mm and 3-inch guns mounted on either fixed or mobile platforms. Field artillery consisted mostly of 75, 105 and 155 mm howitzers and 155 mm guns.[32]

The M2 variant of the 105mm howitzer was effective against personnel in the open, light breastworks, automatic weapons and light obstacles while the mobile M7 was used to travel with and support armored formations. The 155mm howitzer was used for barrage fire, destroying enemy entrenchments, buildings and dug in gun batteries, while the 155mm mm gun, with the same destructive capacity as the howitzer but longer range, was used for harassing enemy formations and counter-battery fire. 8-inch howitzer and guns were used against heavy fortifications and the 24mm howitzer was used for long-range destruction of enemy

[30] Grice, 107-15.
[31] Gaujac, 6.
[32] Colonel Thomas J. Hayes, *Elements of Ordnance* (New York: John Wiley & Sons, Inc., 1938), 284-370.

communications or fortification lines. The 8-inch gun fired a 60-pound shell with an effective range of approximately 14,500 yards and 155mm howitzer fired shells up to 100 pounds at an effective range of up to 15,500 yards.[33]

Figure 7: A 29th Infantry Division 105-mm Howitzer Battery.[34]

Mobility for field artillery pieces were provided by a variety of vehicles. The quarter-ton Jeep carried personnel and officers, the three-quarter ton Dodge truck towed the 75mm howitzer while the 6x6 two-and-a-half-ton GMC, the famous "deuce and a half," towed 105mm howitzers and 3-inch guns, transported personnel and equipment provided shelter for signals staff or acted

[33] Gaujac, 12-13.
[34] Janice E. McKenney, The Organizational History of Field artillery, 1775-2003 (Washington D. C.: Center of Military History, United States Army, 2007), 161.

as a mobile workshop. The 6x6 4-ton Diamond T truck towed 155mm howitzers and guns. All played role in replenishing supplies.[35]

The technology of ammunition had also continued to improve. Trench mortar ammunition included grenades, pyrotechnics and bombs, while larger-caliber ammunition included low explosive, high explosive, armor-piercing and chemical rounds.[36] Shells now consisted of an "explosive train," where the primer, igniter and propellent charge were attached to the "bursting train" that included a primer, delay mechanism, if used, and the bursting charge that would explode the projectile when it contacted the ground or at a predetermined time.[37] Shells were either crimped closed prior to the arrival at the battlefield and contained a predetermined charge or open, which allowed changes to the propellent charge on site. Calibers of 155mm and above used a separate propellent charge packaged in fixed-size bags, a varying number of which could be employed to change the charge when firing. Low-flash powder was used for night firing to limit enemy's ability to locate the battery. Due to differences in charges, only power from one batch was used per barrage.[38]

The new capabilities of field artillery brought about organizational changes within the artillery corps, changes that were intended to make the use of artillery more flexible within the division. The majority of artillery was no longer contained at the division level and individual artillery battalions were formed, providing the division commander with the ability to organize individual combat teams containing an infantry regiment, a field artillery battalion, and other

[35] Ibid, 20.
[36] Hayes, 551-2.
[37] Ibid, 572.
[38] Gaujac, 17-8.

supporting elements. One regiment, with its supporting artillery, could assault the enemy, fixing them in position, while the other could maneuver into position to strike a decisive blow.[39]

Division artillery staff designated the battalions that would be in specific combat teams and allocated all or part of a specific target area to the battalion. Divisional personnel could have battalions act in concert or in a decentralized manner and battalions could be tasked to support an individual infantry regiment, or division or corps artillery. Light support battalions employed 105mm towed howitzers while medium battalions employed 155mm howitzers. Both were commanded by a Lieutenant Colonel.[40] General reserve battalions could be employed by the division as replacements for battalions that were decimated with casualties or required repair and refit.[41]

Fire control was achieved in each battalion commanding three batteries by the Fire Direction Center (FDC) that was linked by field telephone or radio to observers that directed the fire. A graphing system and an improved slide rule invented by National Guard Capt. Abbott H. Burns, greatly simplified trajectory calculations and a divisional topographical officer fixed coordinates of an arbitrary reference point transmitted to each battalion.[42]

Forward observation was done by forward-deployed personnel and by aircraft. Slow speed planes had been tested in 1942 and aerial observers first saw action with the TORCH landings in Africa in 1943. Each headquarters battery would employ two planes that would relay back enemy position information to be passed along to the specific firing battalion.[43]

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[39] Janice E. McKenney, "More Bang for the Buck in the Interwar Army," *Military Affairs* 42 (April 1978): 80–86.
[40] Gaujac, 14-28.
[41] Ibid, 55.
[42] Ibid, 16.
[43] McKenney, 161

Night, bad weather or other conditions of low visibility would render aerial observation ineffective, making ground observation required. Forward observation teams were placed well forward of the artillery battery and operated in two-man teams, one officer to direct the fire and one enlisted man to carry the team's radio and relay enemy position information back to the battalion or division batteries. [44] Each artillery battalion furnished their own forward observation teams.[45] This was a monumental shift in authority; the responsibility for the selection of targets and the direction of fire now shifted to the forward observer, who could direct fire from several batteries at one time, and away from the battery commander.[46]

With new technologies and, new procedures and a new organizational structure, field artillery was now better than ever and ready to go to war.

[44] The author's father was a forward observer officer with the 230th Field Artillery Battalion, 30th Division, United States Army. Lt. Lloyd was wounded in action on June 13, 1944 and spend several months convalescing England.
[45] John R. Walker, Bracketing the Enemy, Forward Observers in World War II (Norman: University of Oklahoma Press, 2013), 3-8.
[46] Ibid, 19.

Chapter 9: The Normandy Batteries

In its essence, the use of field artillery to support infantry was a practice of cooperation between the two types of units. Infantry would advance, call for fire support and this support would be supplied by the field artillery battalions. This allowed the combined infantry/artillery units to operate as one highly effective fighting unit, capable of projecting its firepower well into enemy territory.

There were four American divisions that landed in Normandy on the initial day of the invasion; the 1st and 29th divisions that landed on OMAHA Beach and attacked to the east and the 4th and 90th divisions that landed on UTAH Beach and spread out to the west. Each of these divisions initially contained four field artillery battalions, although this number was augmented in the later stages of the battle and some of the original battalions never made it into battle. In the days immediately following the initial amphibious landings, additional divisions also landed on the Normandy beaches.

We often view the infantry as the "tip of the spear," directly confronting the enemy and paying the price with high casualties in an attempt to secure enemy strongholds and take disputed ground. Where this is true, the field artillery units employed in battle were often deployed quite close behind the battle line and frequently sustained casualties while supporting the attacking or defending infantry.

The field artillery battalions employed in the Campaign were continually positioned to be as close to the front lines as practical. These units would move with the infantry, moving forward as the infantry advanced, or back as the infantry retreated or consolidated their positions. The After Action Report of the 20th FABN, attached to the 4th Infantry Division, shows that the

battalion, in addition to landing on UTAH Beach on June 7, moved their position five times in the first twenty days of the conflict, following the specific infantry units that they supported.[1] The 42nd FABN, also attached to the 4th Division, changed their position no less than forty-eight times between their landing on June 6 and June 30. Many of these positions were within 1,000 yards of the front line, and at times the battalion was stationed within 100 yards of the fighting.[2]

This close proximity to the fighting often brought the artillery battalions in conflict with the enemy, either directly or via enemy counter-battery fire, and the battalions received their share of casualties. The 42nd FABN reported an average of two casualties per day. The battalion reported their first casualty from sniper fire shortly after they arrived on UTAH Beach.[3] The 29th FABN also reported being attacked by sniper fire on June 7.[4] For the same period, the 32nd FABN, which landed with the 1st Infantry Division at OMAHA Beach, reported 48 wounded and 3 killed in action.[5]

Danger could from elements other than the enemy infantry. The beach landings themselves could present problems. The 111th FABN reported that during their landings on OMAHA Beach, "All DUKWs reported sunk except one. One DUKW landed but returned to Transport Area because of heavy firs [sic] on the beach and impossibility of leaving beach, all exits being closed."[6] This unit was subsequently replaced with the 230th FABN, which was reassigned from the 30th

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[1] 20th Field Artillery Battalion, 4th Infantry Division, United States Army, "After Action Report, June 1944," in box 304-FA (20)-0.3, National Archives #2, College Park, MD, entry for June 7, 1944.
[2] 42nd Field Artillery Battalion, 4th Infantry Division, United States Army, "Daily Unit Log, June 6 to June 30, 1944," National Archives #2, College Park, MD.
[3] 42nd Field Artillery Battalion, 4th Infantry Division, United States Army, "Operations Reports, June 1944," National Archives #2, College Park, MD.
[4] 29th Field Artillery Battalion, 4th Infantry Division, United States Army, "Unit Journal, June 1 to June 30, 1944," in box 304-FA (29)-0.7, National Archives #2, College Park, MD.
[5] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, Jun 1, 1944 to June 30, 1944," in box 301 FA (32)-0.3, National Archives #2, College Park, MD.
[6] 111th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, Jun 1, 1944 to June 30, 1944," National Archives #2, College Park, MD.

Infantry Division to support the 29th Division, that landed on OMAHA Beach on the afternoon of June 10.[7] The 42nd FABN lost one landing craft containing guns to an enemy mine while attempting to land at UTAH Beach.[8] The 7th FABN, attached to the 1st Division, was attacked by a total of 28 German aircraft; 16 Focke-Wulf Fw 190s, 11 Messerschmitt Bf 109s and 11 Messerschmitt Me 210s, of which they engaged 23 and destroyed one, damaging two others.[9]

Figure 8: DUKW Landing on Normandy Beach.[10]

Registration, or aiming for artillery fire support missions, could come from direct observation, done either from aircraft or by forward observers, or from requests from the infantry units that the battalions supported. However, these communications could at times become

[7] 230th Field Artillery Battalion, 30th Infantry Division, United States Army, "Unit Journal, Jun 1, 1944 to June 30, 1944," National Archives #2, College Park, MD.
[8] 42nd Field Artillery Battalion, "Daily Unit Log" entry for June 6, 1944.
[9] 7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Report, June 1944 to June 30, 1944," National Archives #2, College Park, MD.
[10] Ezoic Limited, accessed July 27, 2018, http://www.olive-drab.com/idphoto/id_photos_dukw.php3.

difficult due to weather or enemy activity. Spotter planes were ineffective at night or in times of low visibility. Communications telephone lines to forward infantry positions could be disrupted by enemy activity and radio communications were subject to jamming or adverse atmospheric conditions. However, even with the difficulties of attack by the enemy, poor communications and other issues, the field artillery units did provide support to their associated infantry battalions during the Normandy Campaign.

Chapter 10: In the East, Omaha Beach to St. Lo

OMAHA Beach is roughly crescent shaped, about 7 kilometers long with 500 yards of sand before the beach gives way to a series of high bluffs. The German army had studded the entire area with anti-invasion obstacles including steel structures, barbed wire and mines.

The June 6, 1944 Allied landings on OMAHA Beach in Normandy were some of the most difficult ever performed. Successive waves of Allied troops coming ashore were met with stiff resistance from the German Wehrmacht, a situation made worse due to the coincidental presence of the German 726th Infantry Regiment of the 716th Division, a force of 800-1,000 men, that happened to be staging a training exercise against amphibious landings on that very day.[1] The Allied air bombardment of the past several days did little to destroy the German defenses and beach obstacles, machine gun emplacements and artillery batteries were left mostly intact.[2]

Carrying out the first wave of the assault would be 96 tanks, a special engineering task force to blow gaps in the beach defenses and eight companies of assault infantry. These units, and the next wave that followed them, became disoriented and scattered after naval personnel inaccurately placed them on the beach, resulting in gaps in the assault force, limiting their combat efficiency and increasing their casualties.[3]

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[1] Bob Carruthers, and Simon Trew, *The Normandy Battles*, (London: Orion Publishing Group, Limited, 2000), 138. Michael Frank Reynolds, *Eagles and Bulldogs in Normandy,1944: the American 29th Infantry Division from Omaha Beach to St Lô and the British 3rd Infantry Division from Sword Beach to Caen* Barnsley, South Yorkshire: Pen & Sword Military, 2010), 15.
[2] Martin Blumenson, *The European Theater of Operations, Breakout and Pursuit* (Washington, D. C.: United States Army Center for Military History, 1961), 41.
[3] Ibid, 47.

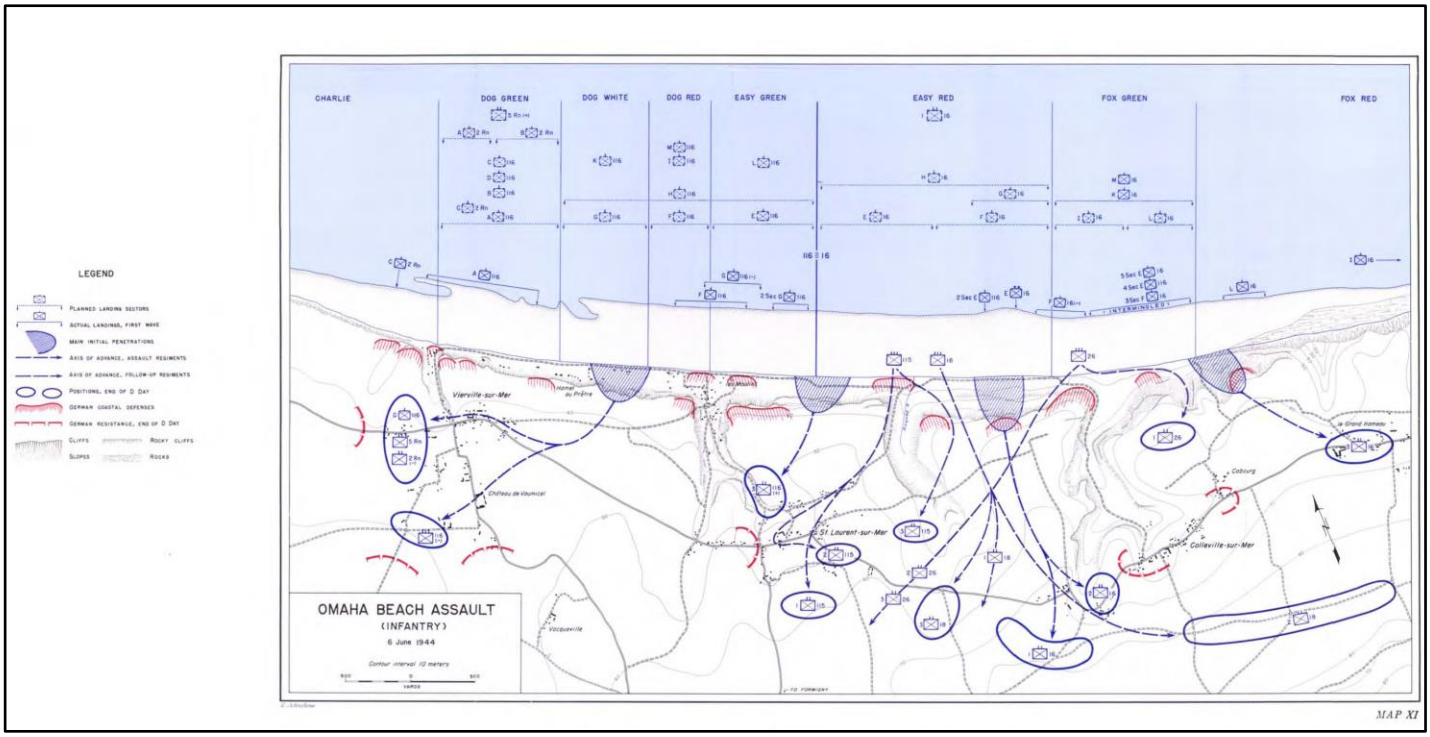

Figure 9: The Normandy Landing Beaches.[4]

One of the major casualties on the day was the 111th FABN, but their demise was not at the hands of the enemy. This unit was scheduled to bring their twelve guns ashore between 8 and 9 AM, but their guns and the DUKWs bearing them to shore were swamped in the Normandy surf and sunk. Even though this battalion did manage to land their command staff and forward observers on the beach, the unit was not to be in service until they were resupplied on June 13.[5]

The first infantry units ashore were from the 29th Infantry Division, including the 116th Regimental Combat Team. This unit made two beach penetrations, one east and one west of les Moulins. By 10 AM they had coordinated their movement inland and made effective advances assisted by tanks.[6]

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[4] Harrison, Map XI.
[5] Joseph H. Ewing, *Twenty-Nine, Let's Go: a History of the 29th Infantry Division in World War II* (Washington: Infantry Journal Press, 1948), 51.
[6] Ibid, 51-3.

As the landings continued, field artillery continued to come ashore. The 58th FABN was ashore, but their commander and much of their command staff had been killed, leaving the battalion in disarray. The 32nd FABN was ashore and took position with the 58th and fired in mutual support with what was left of the 58th FABN. These battalions fired at targets of opportunity, but their effectiveness was limited because the targets were individual snipers or small groups of enemy infantry and the situation on and near the landing beaches was chaotic, leading to a greater risk of friendly fire incidents.[7]

As these units were landing, they were preparing to go to work. The 5th FABN of the 1st Infantry Division landed around 8:30 PM and established communications with their division liaison and with the 7th FABN, also of the 1st Infantry Division.[8] The 32nd FABN landed on the "Easy Red" sector of the Normandy beach around 10:30 AM and was in position north of St. Laurent-sur-Mer by 8:45 PM. Even though they suffered 32 casualties and the loss of two guns and 25 other vehicles, their batteries were registered, and they were in position to fire.[9]

[7] Ibid, 54-6.
[8] 5th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, June 1944," In Box 301-FA (5)-0.7 National Archives #2, College Park, MD, entry for June 6, 1944.
[9] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944," entry for June 6, 1944.

Figure 10: Contemporary Map Showing the Landing Area of the 110th FABN and the 115th Infantry Regiment.[10]

Meanwhile, the 110th FABN was having problems getting ashore. The battalion command staff had landed at Coleville-ser-Mer, and assisted the beleaguered 58th FABN, but the beach was too disorganized for them to land on D-Day. Battery C attempted a landing at Les Moulins, but the rough weather prohibited them from getting through and one gun was lost to the surf. The balance of the battalion was to land at St. Laurent, but the Navy would not permit this operation due to heavy fire on the beach. Battery C was later able to land and completed two fire missions on June 7, one of which was on a church steeple in Laurent-sur-Mer that eliminated a nest of German snipers. The rest of the battalion attempted another landing at Vierville, but this beach was not cleared of obstacles and the unit could not land. It was finally able to get ashore at 8:50

[10] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944," In box 329-FA (110)-0.7, National Archives #2, College Park, MD

PM on June 7 but suffered thirteen casualties and lost two guns to German 88 mm artillery fire in the process.[11]

With the first wave of landings completed, it was time to move inland and the first obstacle to overcome was a series of high bluffs leading down to the beach. The first movement inland was made by Company C of the 116th Infantry, together with elements of the 5th Ranger Battalion and the 115th Infantry Regiment, both of which had landed intermingled with the 116th. This group proceeded at 7:30 AM and by 8:30 they had breached a line in the outer German defenses about 300 yards wide. Further east, companies B and F of the 116th Infantry met less resistance and the units were able to join with the other companies to expand the lodgement and bring increased fire on the German defenders.[12] The scene was much the same up and down the Normandy beaches. Field artillery was not yet effective, due to the chaotic situation on the beach, the limited space in which to operate and the scarcity of well-defined targets. But, as the lodgements were expanded and the battle became more organized, the field artillery battalions would provide their contribution.

The objectives that were scheduled for achievement on D-Day would not be completed until June 8. Although a lodgement of up to 2,000 yards deep had been attained in the area of Colleville, some remnants of the German beach defenders were still holding out. Much of the artillery and tank support had been lost in the landings and there were still significant issues in organizing the beaches and getting supplies ashore.[13]

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[11] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944," In box 329-FA (110)-0.7, National Archives #2, College Park, MD, entries for June 6 &7, 1944.
[12] War Department, Historical Division, *Omaha Beachhead* (Washington, D.C.: Center of Military History, United States Army, December 20, 1945), 59-62.
[13] War Department, Historical Division, *Omaha Beachhead,* 116.

One unit that would be critical to supplying the field artillery battalions was the ordinance ammunition teams. These units carried thousands of rounds of artillery ammunition ashore, either in DUKWs or in Rhino ferries, large barges made of pontoons and powered by outboard motors. These boats were capable of carrying a loaded two-and-a-half-ton truck but were slow and hard to control which made them easy prey for enemy artillery. Once ashore, the ordinance team would set up ammunition dumps, either on the beach or following near the units that they supported. This allowed for rapid resupply of not only field artillery units but also small arms rounds for infantry units and machine gunners.[14]

June 7 would basically be a repeat of the previous day, with an increasing number of Allied units expanding the beachheads that they had made the previous day. Because the unit was decimated in the landings, the 16th Infantry Regiment was augmented with the 1st Battalion of the 26th Regimental Combat Team and together these units moved on the Trévières-Tour-en-Bessin area while other units moved southeastward towards Mandeville-Mosles and Colleville in an effort to link up with the right flank of the British invasion which had landed further to the east.[15] In support of these operations, the 7th FABN, still located on the beach, fired several missions,[16] while the 32nd FABN moved forward to the Colleville-ser-Mer area and fired six missions, starting near midnight.[17] With even this somewhat meager assistance from the field artillery, the infantry was able to make good progress towards their objectives.

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[14] United States Army, "The Far Shore of Normandy," United States Army Center of Military History, accessed May 10, 2018, https://history.army.mil/html/reference/Normandy/TS/OD/OD14.htm.
[15] Harrison, 337.
[16] 7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1944 to June 30, 1944," in Box 301-FA (7)-0.7 National Archives #2, College Park, MD, entry for June 7, 1944.
[17] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944," entry for June 7, 1944.

The 3rd Battalion of the 16th Infantry Regiment was detached to advance eastward towards Port-en-Bessin and were supported by tanks from the 745th Tank Battalion. The 62nd Armored Field Artillery Battalion fired five missions amounting to 683 rounds in support of this operation and reported the destruction of a battalion of enemy artillery. The action resulted in the juncture of the American units and the British 50th Division, closing the gap between the two countries' forces.[18]

As the infantry units advanced, so did the field artillery. The 5th FABN, which had been firing from the beach, moved forward to the vicinity of Russy late on the evening of June 8.[19] The 7th FABN had moved up to Colleville-sur-Mer and, in conjunction with the 32nd FABN, continued fire missions in support of the 16th Infantry advances.[20]

On June 8, the 2nd Battalion of the 18th Infantry Regiment had secured a second bridgehead across the Aure River, to the east of the original lodgement area and close to the British area of operation.[21] To support this advance, the 32nd FABN fired 13 missions totaling 379 rounds.[22]

Further to the west, the 29th Infantry Division was moving slowly, in part due to the depleted strength of the 59th and 111th FABNs. On June 7, units from the 115th and 116th Infantry Regiments were able to clear St-Laurent and move towards Vierville, which was easily taken. The 2nd Battalion of the 116th then moved south towards Louvières, where heavy enemy resistance was

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[18] War Department, Historical Division, *Omaha Beachhead,* 117.
[19] 5th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, June 1944," entry for June 8, 1944.
[20] 7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, entry for June 8, 1944.
[21] War Department, Historical Division, *Omaha Beachhead,* 118.
[22] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944, entry for June 8, 1944.

encountered, and the unit had to pull back.[23] The 110th FABN had just arrived to support the 115th Infantry but were hit by enemy artillery fire, with the loss of two guns and 17 men.[24]

With the landing of the 175th Infantry Regiment, as well as additional field artillery, the 29th Division was set to move further forward. Their first objective would be the town of Insigny, which was an important road center and the key with linking up with the VII Corps lodgement to the west. One battalion of the 115th Infantry Regiment would be moved to the vicinity of Forgmingy to protect the division's right flank and ensure communications with the 1st Division.[25] Elements of the 116th Infantry Regiment attacked the coastal town of Grandcamp-les-Bains and, after a fierce firefight, had partial control of the area. In supporting this operation, the 58th FABN fired 123 rounds from their positions north of Longueville.[26] The town of Longueville itself was taken by the 115th Infantry Regiment on June 8, without enemy opposition. 178 artillery rounds fired by the 110th FABN helped prompt the Germans to leave the area.[27]

Up to this point in the V Corps campaign, artillery support had been minimal. Difficulties getting the FABNs ashore resulted in significant losses to both guns and personnel and the hedgerow nature of the topography had made observed fire difficult. This was to change as more artillery battalions came ashore and when observation started to be made from airplanes, starting on June 9.[28]

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[23] War Department, Historical Division, *Omaha Beachhead,* 123.
[24] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944," entry for June 7, 1944.
[25] War Department, Historical Division, *Omaha Beachhead,* 127.
[26] Ibid, 129-30.
[27] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944," entry for June 8, 1944.
[28] War Department, Historical Division, *Omaha Beachhead,* 131.

While the Allies continued to land, the Wehrmacht was also increasing its strength in the conflict. On June 9, the Germans were moving the 12th SS Panzer and the SS Hitler Jugend Divisions east and they were then within 70 miles of the Allied lodgement. While these units were advancing, the German 30th Mobile Brigade, which represented the last of the local Wehrmacht reinforcements, was put into the line. These would augment the three divisions currently facing the Americans. But the American strength was also increasing. By June 9, four additional FABNs were ashore and the American 2nd and 9th Infantry Divisions had also landed and become operational.[29]

On June 9, V Corps started its first major offensive, using three divisions abreast to move southward on a line that stretched some fifteen miles, from Tour-en-Bessin in the east to Insigny in the west. The newly arrived 2nd Infantry Division would cover the center and attack towards the Cerisy Forest, while the 1st Division would cover the right and move towards the Drôme River and the 29th Division would stay to the west, cross the Aure River and move towards the Elle River Valley and establish contact with VII Corps.[30]

The 1st Division pushed off somewhat in disarray and two hours late. The 26th Infantry Regiment, with the support of the 33rd FABN had the mission of advancing to Dodingy and Agy and maintaining contact with the British on their left flank, while the 16th Infantry Regiment would advance to Vaucelles with the 7th FABN attached. Four additional FABNs were held in general support to support the fire of the front-line artillery units. The 2nd Division was in much the same

[29] Ibid, 136.
[30] Ibid, 137.

situation, lacking transport, heavy automatic weapons and had only two battalions of field artillery that were in position and ready to act.[31]

By the morning of June 10, many of the divisions had met, or come near, their D-Day objectives. The 1st division was on a line near the St-Lô-Bayeux Highway, assisted by their field artillery battalions. The 7th FABN started firing in support at noon and continued the move to the vicinity of Le Courdary at 11 PM.[32] The 32nd FABN advanced to the vicinity of Houtenville and fired 356 rounds in thirteen missions against the enemy.[33] These units, along with the 33rd FABN used mostly unobserved fire, due to difficulties in observation because of the nature of the terrain.[34]

The 2nd Division was having somewhat more difficult time advancing. Lacking heavy weapons, they were unable to combat German automatic weapons fire and friendly artillery fire from an unknown FABN fell on the division command post, causing 17 casualties. The division was able to regroup and, with heavy weapons starting to arrive, and were able to advance to the Cerisy Forest by the morning of June 10. In support of this operation, the 15th and 38th FABNs fired 3,652 rounds, mostly at the town of Trèviéres, which continued to be a German stronghold. The following morning, the FABNs fired additional concentrations into Trèviéres, which was entered without opposition. The following day, the division was consolidating their gains and the 38th Infantry Regiment was attempting to secure the crossroads at Haute-Litée, which was heavily defended by German infantry units. Concentrations of artillery fire from the 38th and 12th FABNs

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[31] Ibid, 138.
[32] 7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, entry for June 9, 1944.
[33] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, June 1 to June 30, 1944 to June 30, 1944, entry for June 9, 1944.
[34] War Department, Historical Division, *Omaha Beachhead,* 139.

neutralized the resistance and allowed the regiment to move forward. The 38th FABN had fired 1,015 rounds during this action.[35]

The 29th Infantry Division continued their drive south and west on June 9. Elements of the 115th Infantry Regiment approached Canchy, where they found the enemy disorganized due to concentrations of artillery fire.[36] During this engagement, and another smaller counter-battery fire mission against a German artillery battery, the 110th FABN fired a total of 154 rounds "with great effect."[37] Other elements of the 115th Infantry Regiment crossed the Aure Valley and then met strong resistance, then advanced into the Calett Wood, where artillery fire from the 29th Division field artillery had scattered the German forces.[38]

The 175th Infantry Regiment had been tasked with protecting the V Corps' right flank and linking up with VII Corps. After the regiment took Isigny on the June 9, they turned south towards their objective of Lison-la Fotelaie. Some resistance was met in the town which delayed the advance by about two hours, but the town was soon taken. Further to the west, other elements of the 175th had crossed the Vire River and on June 10 made contact with units from the 101st Airborne Division, starting to close the gap between the V and VII Corps and consolidating their two respective lodgements into one single larger one.[39] Throughout the day the 110th FANB fired 288 high-explosive rounds in support of this operation and advances by the 115th Infantry Regiment.[40]

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[35] Ibid, 141-3.
[36] Ibid, 143.
[37] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944," entry for June 9, 1944
[38] War Department, Historical Division, *Omaha Beachhead,* 144.
[39] Ibid, 144-5.
[40] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entry for 9 & 10, 1944

Also on June 10, the 29th Division's artillery capabilities would be augmented by the arrival of the 230th FABN, which disembarked from their landing craft on the 10th and was in position to fire on the 11th.[41] The unit, which was staged in England, received emergency orders to move to Southampton in preparation for joining the conflict. Lt. Col. Lewis D. Vieman later remarked that, at the time, he did not know where they were heading and for what reason, but only that "General Bradley needs artillery on Omaha Beach."[42]

In the east, the 5th FABN completed fire mission to harass enemy columns in the vicinity of the 16th Infantry Regiment's advance.[43] The 7th FABN fired multiple missions from their positions in Colleville-sur-Mer and La Roach in support of 32nd FABN targets[44] while the 32nd FABN itself expended 335 rounds in 25 missions against enemy machine gun and mortar emplacements from their position near Har du Croay.[45] Each of these missions helped support the broadening American advance. On the left flank, the 33rd FABN, positioned east of Ranchy fired 9 missions expending 420 rounds to support the defensive positions of the 26th Infantry Regiment, including one mission on a column of enemy armor that was threatening to overrun the position of the positions of the 3rd Battalion.[46]

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[41] 230th Field Artillery Battalion, 30th Infantry Division, United States Army, "Periodic Reports, June 1944. In box 330-FA (230)-0.7, National Archives #2, College Park, MD, entries for June 10 & 11, 1944.
[42] Battalion History Staff, 230th Field Artillery Battalion, *On The Way, A Historical Narrative of the Two-Thirtieth Field Artillery Battalion, Thirtieth Infantry Division*, (Germany: United States Army, 30th Division, 1945), 13-4.
[43] 5th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, June 1944," entry for June 10, 1944.
[44]7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944, entry for June 10, 1944.
[45] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944, entry for June 10, 1944.
[46] 33rd Field Artillery Battalion, 1st Infantry Division, United States Army, "After Action Report, June 1, 1944 to June 30, 1944," entry for June 10, 1944, in box 301 FA (33)-0.7, National Archives #2, College Park, MD.

After the gains of June 9 and 10, V Corps was ready to advance again. Their next objective was Caumont, which was assigned to the 1st Infantry Division. To the right of the 1st Division, the 2nd and 9th Divisions were to take objectives south of the Cerisy Forest and the Elle River. These operations were closely linked to the British advance to the east which had been unable to break the German defense around the city of Caen. It was felt that an American advance would be seen as a flanking maneuver that would take enemy pressure off the British divisions.[47]

The 1st Infantry advance would include the 18th and 26th Infantry Regiments supported by six battalions of field artillery and other supporting units. The 18th initially encountered minimal enemy resistance and by late in the day were ordered to stop at the Caumont-St-Lô Highway.[48] The 32nd FABN moved forward with the infantry, displacing three times during June 12, finally ending up in the vicinity of Carmalain, but fired no missions on the day due to lack of targets.[49] The 26th had a similar experience, meeting light resistance and proceeding to the edge of the town of Caumont by nightfall. There they met more solid resistance but cleared out the town by 9 PM on June 13th.[50] During the battle for Caumont, the 33rd FABN operated from positions in the area of La Butte, firing ten missions against enemy personnel, guns and tanks. During the night assault, 33rd FABN forward observers ran from house to house with the attacking infantry to call in fire missions.[51]

On June 13, the 18th and 26th Infantry Regiments were occupied in consolidating their positions in the east. In the Caumont area, strong enemy patrols were sighted, leading the

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[47] War Department, Historical Division, *Omaha Beachhead,* 150-1.
[48] Ibid, 151.
[49] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944, entries for June 11 & 12, 1944.
[50] War Department, Historical Division, *Omaha Beachhead,* 151.
[51] 33rd Field Artillery Battalion, 1st Infantry Division, United States Army, "After Action Report, June 1, 1944 to June 30, 1944," entry for June 12, 1944.

Regiment to believe that they were going to come under a counterattack.[52] 895 rounds fired from the batteries of the 33rd FABN scattered the German patrols and the counterattack warning was soon lifted. The following day, the FABN fired 422 rounds in 40 missions against what again appeared to be a German offensive.[53]

Further to the west, the 2nd Infantry Division started their advance towards St Lô and had advanced to the Littcau Riege, south of the Cerisy Forest on June 12, meeting increasing enemy opposition in the afternoon which continued through June 13. To help stem this opposition, the 15th FABN fired 828 rounds on the 12th and 1,320 rounds the next day.[54] On the 2nd Infantry Division's right, the 23rd Infantry Regiment had the task of crossing the Elle River and occupying the Berigny-Hill 192 area, which was strongly defended by a German observation post, while the 2nd Battalion of the 23rd Regiment was to cross the Elle and proceed to Berigny. These attacks jumped off after a 20-minute artillery preparation by the 37th and 38 FABNs which fired over 2,600 rounds in support of the advance. In ongoing support on June 13, the 12th FABN fired 1,445 rounds, the 37th FABN fired 4,400 rounds and the 37th FABN fired 841 rounds.[55]

The 115th Infantry Regiment of the 29th Division was also attempting to cross the Elle with its objective St-Clair-sur-Elle, an operation that would protect the 2nd Division's right flank. In support of this advance would be the 230th FABN,[56] the 110th FABN and the 187th FABN, all of which fired both preparatory and interdiction missions during the engagement.[57] The advance

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[52] War Department, Historical Division, *Omaha Beachhead,* 152.
[53] 33rd Field Artillery Battalion, 1st Infantry Division, United States Army, "After Action Report, June 1, 1944 to June 30, 1944," entry for June 13 & 14, 1944.
[54] War Department, Historical Division, *Omaha Beachhead,* 153.
[55] Ibid, 153-4.
[56] 230th Field Artillery Battalion, 30th Infantry Division, United States Army, "Unit Journal, January 1944 to December 1944, entry for 12, 1944.
[57] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entry for June 12, 1944

towards St Lô was halted on June 13 by order of General Bradley, who felt that the line between V and VII Corps was still to tenuous and could be disrupted by a German counterattack.[58]

By June 15, more divisions had come ashore, including the 30th Infantry Division of XIX Corps, to which the 230th FABN had been reassigned back to on June 14.[59] The 29th Infantry Division was reassigned to XIX Corps on June 13. At this point V Corps would hold and consolidate their positions while XIX Corps advanced southward towards their objective of St. Lô, with their initial objective to secure the high ground on a line from St. Georges de Bohon to le Hommet d'Arthenay. This attack, started June 15, made very slow progress, partially due to the small support of the 30th Infantry Division which had not yet landed all its troops. [60] The 110th FABN did fire two missions totaling 33 rounds in support of the advance[61] and the freshly resupplied 111th FABN was registering their guns and preparing to come into the line.

On June 16, the 110th FABN was ordered by their commanding officer, Lt. Col. Cooper, not to fire at night on German planes seen overhead.[62] The antiaircraft rounds that they were firing left tracers that could be used by the German artillery batteries to locate and then attack the American antiaircraft batteries.[63]

When Bradley made his decision to halt the V Corps advance on June 13, he did so with Cherbourg in mind. He was concerned about landing supplies on the Normandy beaches and

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[58] Harrison, 376.
[59] 230th Field Artillery Battalion, 30th Infantry Division, United States Army, "Unit Journal, January 1944 to December 1944, entry for 14, 1944.
[60] Harrison, 377.
[61] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entry for June 15, 1944.
[62] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entry for June 16, 1944.
[63] Joseph Balkoski, *Beyond the Beachhead, the 29th Division in Normandy* (Mechanicsburg, PA, Stackpole Books, 1999), 206.

deemed the taking of the port critical to the future of the American campaign. He directed the majority of supplies and ammunition towards VII Corps to speed their advance up the Cotentin Peninsula. This left XIX Corps with only limited objectives for the balance of the month of June. The newly-arrived 30th Infantry Division was to defend their current line while the 2nd and 29th Infantry Divisions were to advance towards St. Lô, with the first objective being a new attack on hill 192, starting on June 16. In heavy fighting, the division did develop a salient on the hill, which remained in German hands, that was to be held through the end of June, as the 2nd Division, per XIX Corps order was placed into a defensive posture.[64]

The attack of the 29th Division starting on June 16 started off well with the division meeting only light resistance as it advanced towards the Martinville. Around noon, enemy opposition stiffened, with the 3rd Battalion of the 115th Infantry Regiment being stopped near les Foulons by enemy tanks, while the 116th Infantry Regiment was stopped short of St. Anddré-de-l'Epine by artillery fire and a strong German counterattack.[65] Even though the unit noted poor visibility that limited observation, the 110th FABN fired ten missions that were mostly ineffective, expending 313 rounds, in support of this operation.[66]

The 175th Infantry Regiment made more rapid advances, attacking towards the Vire River. This led 29th Infantry Division commanders to feel that German opposition was crumbling and that the Americans would be in St. Lô in a matter of days. But what was truly developing was a stalemate that would last throughout the month. Artillery fire was also becoming less effective, as

[64] Harrison, 380-1.
[65] Balkoski, 209-12.
[66] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entry for June 16, 1944.

the Germans developed the tactic of thinly dispersing their front-line units and then advancing additional troops from the rear after artillery preparations were concluded.[67]

The positions occupied by V Corps on June 18 would remain static for the balance of the month, with little forward movement by the V Corps divisions. But this did not mean that the field artillery would be silent. During the period of June 17 to June 30, the 5th FABN was ordered to conserve their ammunition and fired very lightly. They reported no firing missions during the period.[68] Daily figures for the 7th FABN are not available, but the battalion reported 351 missions totaling 8,394 shells for the month of June 1944.[69] The 32nd FABN reported 321 missions totaling 4,838 rounds from June 17 to June 30[70] while the 33rd FABN fired 384 missions totaling 7,772 rounds for the same period.[71] These were counter-battery fire missions and harassing fire missions against enemy positions and troop movements.

The situation was much the same in XIX Corps. Although moderate gains were made in the Villars-Fossard and St. Andre-de l'Epine areas, the corps remained mostly in position for the balance of June. Again, field artillery performed harassing and counter-battery fire missions, with the 110th FABN reporting 303 missions totaling 5,154 rounds[72] while the 111th FABN reported 404 missions totaling 4,258 rounds.[73] The 230th FABN fired 392 missions comprised of 4,264

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[67] Harrison 382.
[68] 5th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, June 1944," entry for June 17, 1944.
[69] 7th Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, entry for June 30, 1944.
[70] 32nd Field Artillery Battalion, 1st Infantry Division, United States Army, "Report After Action, June 1, 1944 to June 30, 1944, entries for June 17 to June 30, 1944.
[71] 33rd Field Artillery Battalion, 1st Infantry Division, United States Army, "After Action Report, June 1, 1944 to June 30, 1944," entries for June 17 to June 30, 1944.
[72] 110th Field Artillery Battalion, 29th Infantry Division, United States Army, "After Action Reports, June to December 1944, entries for June 17 to June 30, 1944.
[73] 111th Field Artillery Battalion, 1st Infantry Division, United States Army, "Unit Journal, Jun 1, 1944 to June 30, 1944," entries for June 17 to June 30, 1944.

rounds. Interestingly, 22 of these missions were comprised of propaganda shells containing 6,300 pamphlets urging the German soldiers to surrender.[74]

Even in this time of relative quiet in the Normandy Campaign, American field artillery performed over 2,000 individual fire missions totaling over 30,000 shells. Despite their efforts, the battle for St. Lô would need to wait for July.

[74] 230th Field Artillery Battalion, 30th Infantry Division, United States Army, "Unit Journal, January 1944 to December 1944, entries for June 17 to June 30, 1944.

Chapter 11: In the West, Utah Beach to Cherbourg

The campaign to secure the Harbor of Cherbourg, which was critical to Allied success due to its port which could resupply the military units serving on the ground, fell to the VII Corps, and the 4th Infantry Division would make the initial assault. The operation would entail three general phases; to isolate the Cotentin Peninsula from the rest of France, clear the peninsula itself of enemy forces and then capture the port of Cherbourg itself.

The first division to land on UTAH beach was the 4th Infantry Division, which was able to get ashore without major opposition, although the B battery of the 29th FABN was lost at sea, likely due to an enemy mine prior to landing, resulting in the loss of three guns and 60 men. The landings were supported by paratroopers from the 82nd Airborne Division that landed in the area of St. Mere-Eglise and was to secure the southern approaches to the peninsula[1] and the 502 Parachute Regiment of the 101st Airborne Division, which landed north of the town of Carentan at the base of the peninsula and helped secure the area immediately inland from the landing areas.[2]

One of the first tasks for the 4th Division after landing was to cross the "inundated area," a series of marshlands that were connected to the landing beaches by a series of causeways. These causeways became quite crowded with the flow of men and vehicles into the interior of the peninsula, and some organization was required. The 42nd FABN, whose large guns would have severely taxed the capacity of the causeways, decided to move their artillery pieces from the beach to the interior by battery (three guns at a time), which was accomplished by 2 AM on the morning of June 7. From this position, the battalion was ready to fire from their position approximately

[1] Ruppenthal, 30.
[2] Ibid, 16.

800 yards from the front lines in the vicinity of Andouville-la-Hubert.[3] By early in the day on June 7, exits from the beaches had been created and units started moving inland. The 90th Infantry Division had started to land and with it came the batteries of the 343rd FABN,[4] and he 344th FABN.[5] The danger of a major German counter attack on the landing areas and the ground immediately inland had not passed, particularly in the southwest, where the front lines had not yet been fully established.[6] Artillery was effective in stemming German incursions into the operating area, as the following account by Captain Harry L. Hooper, Jr. of the 42nd FABN explains:

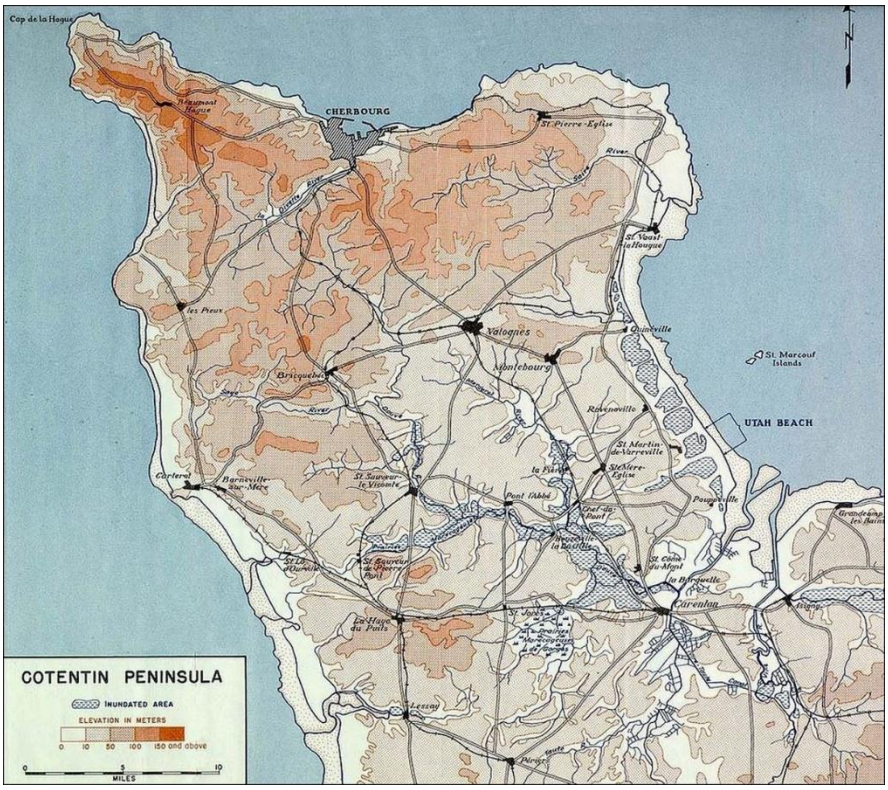

Figure 11: Map of Cotentin Peninsula Showing UTAH Beach Location.[7]

[3] 42nd Field Artillery Battalion, 4th Infantry Division, United States Army, "Unit History, June to December 1944," entry for June 7, 1944, accessed July 9, 2018, in box 304-FA (42)-0-2National Archives #2, College Park, MD.
[4] 343rd Field Artillery Battalion, 90th Infantry Division, United States Army, "Unit History, June to December 1944," entry for June 7, 1944, accessed July 9, 2018, in box 390-FA (343)-0-2, National Archives #2, College Park, MD.
[5] 344rd Field Artillery Battalion, 90th Infantry Division, United States Army, "Combat History," 8, box 390-FA (344)-0-2 accessed July 9, 2018, in box 390-FA(344)-0-2, National Archives #2, College Park, MD.
[6] Ruppenthal, 75.
[7] Ruppenthal, Map No. 1.

> On June 8, the 1st Battalion, 12th Infantry was advancing on Edmondville, France. They had no contact with friendly units on either flank and the route to the rear was not entirely cleared of German resistance. At 1500, a large German force staged for a counter-attack against the 1st Battalion's positions. This counter-attack was repelled by a large concentration of artillery fire…The 42nd Field Artillery Battalion was able to bring down point detonating fire without adjustment…Had the German attack been successful, they could have carried through and since all reserves had been committed the beachhead would have been seriously threatened."[8]

The first major engagement of the campaign would be the battle for Carentan to the south of the initial landing areas, an operation intended to start isolation of the peninsula and thwart the advance of German reinforcements, which occurred between June 8 and June 15. When General Eisenhower visited OMAHA Beach on June 7, he was concerned about the German Army being able to drive a wedge between V Corps, which had landed on OMAHA Beach and VII Corps, which had landed to the west on UTAH Beach. This would have separated the Allied effort into two pieces and seriously jeopardized OVERLORD. General Bradley gave top priority to linking the two beachheads and ordered V Corps to drive westward, while VII Corps was to seize the town of Carentan.

In preparation for this operation, the 42nd FABN fired preparation fires to clear the way for the 3rd BN, 501st Parachute Infantry Regiment of the 101st Airborne Infantry,[9] which cleared the village of Droueries and rapidly advanced southward. The battalion later lost communications with their artillery support and had to pull back and consolidate their positions.[10]

The full assault on Carentan started on June 10 and was led by the 506th Parachute Infantry Regiment of the 101st Airborne Division. Prior to the assault and during its operation, artillery fire was provided by 65th Armored Field Artillery Battalion (l05-mm. self-propelled guns) and the

[8] 42nd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 8, 1944.
[9] 42nd Field Artillery Battalion, "Daily Unit Log, June 6 to June 30, 1944," entry for June 8, 1944.
[10] Ruppenthal, 77.

907th Glider Field Artillery Battalion (75-mm. pack howitzers). Most of the artillery fire was laid on the suspected and known enemy positions and later artillery fire was placed on a farmhouse acting as German headquarters. This fire had little effect on the farmhouse and the advance was called off for the day. The operation was resumed the following day, with artillery support from the same units. At 6:15 AM, the artillery fired smoke rounds into the vicinity of the farmhouse, to cover the Allied infantry advance, as well as on other enemy positions. The enemy, with the help of this artillery, was quickly routed and the enemy resistance on the path to Carentan was eliminated.[11]

When approaching to within half a mile of Carentan itself on June 12, the 1st and 2nd battalions of the 357th Glider Infantry, 101st Airborne Division were pinned down by enemy machine gun and small arms fire from the houses on the outskirts of the town and unable to move. Field artillery was called in but was unable to stem the German fire. However, by the following morning the artillery fire had taken its toll on the German defenders and the American units were able to safely withdraw.[12]

Later in the same day, the 506th and 501st Parachute Infantry Regiments, supported by the 502nd attacked Carentan from the east and north, while elements of the 2nd Armored Division attacked from the west. These units were supported by 14th Armored Field Artillery Battalion, which shelled and virtually eliminated enemy positions in the town. The combined efforts of artillery, infantry and armor cleared the town and on June 14 and the gap between V and VII Corps had been closed. The threat to OVERLORD was essentially over.[13]

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[11] Ruppenthal, 82-5.
[12] Ibid, 89-92.
[13] Ibid, 92-3.

While Carentan was being secured, VII Corps had been prosecuting the campaign to the north and for this operation, VII Corps would employ the 4th, 9th and 79th Infantry Divisions.

The western arm of the 4th Infantry Division started out from the town of St. Mere-Eglise on the morning of June 8, supported by field artillery and attacked up the Ste. MereEglise--Montebourg Highway. This attack was opposed by enemy artillery, but the American field artillery replied. The 20th FABN fired 6,992 rounds in 175 missions in preparation of the infantry advance and against interdictions against "enemy tanks, strong points, guns and troop concentrations."[14] In the operation, other FABNs were active as well. On June 8, the 29th "supported infantry units [that were] advancing rapidly," although they noted observation was generally poor. On the 9th, the battalion fired 785 rounds in 30 concentrations to support the advancing infantry. They noted "Enemy resistance stiffened. One enlisted man injured, one wounded.[15]

On June 8, the Americans started their advance northward, up the Cotentin Peninsula. Their first objective would be the villages of Crishbecq and Azeville to the southeast of the town of Montebourg. This area was assigned to the 22nd Infantry Regiment of the 4th Infantry Division. After a twenty-minute preparation by naval gunfire and barrages from the 20th FABN[16] and the 29th FABN[17] which proceeded into a rolling barrage that went ahead of the advancing infantry by 200 yards, the infantry was able to reach the fortifications surrounding the town but had to fall back in the face of continued enemy resistance. Their withdrawal was covered by smoke laid in by the field artillery.[18]

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[14] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for 8, 1944.
[15] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entries for June 8 & 9, 1944.
[16] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for 8, 1944.
[17] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entries for June 8, 1944.
[18] Ruppenthal, 104.

With the temporary abandonment of Crishbecq, the infantry set its sights on Azeville, further to the west, although naval and field artillery gunfire continued to pound Crishbecq. The fort at Azeville, was located on the east side of the village, roughly circular in shape and was armed with 150-mm. guns and turreted machine guns which were interconnected by a series of trenches. The entire area was surrounded by barbed wire entanglements and small outlying pillboxes and mine fields. The task of taking the fort fell to the 3rd Battalion of the 12th Infantry Regiment. The 44th FABN fired 1,500 rounds into the fort in preparation for the attack, which was successfully carried out, with the Germans surrendering their garrison of 169 men.[19]

Also on June 9, a coordinated attack by the 1st and 3rd battalions of the 8th Infantry Division, and the 2nd Battalion of the, 325th Glider Infantry Regiment of the 101st Airborne Infantry Division was launched against the German line between the MereEglise-Montebourg Highway and the town of Merderet to the west.[20] In preparation for this advance, the batteries of the 20th, the 29th and the 42nd field artillery fired continuously for over half an hour. The 42nd FABN noted that observation was restricted due to the terrain, which was hilly and wooded, and "our forward observers and liaison officers took many chances to give the infantry the supporting fire it needed. The supported infantry came to know and want its supporting artillery."[21]

Late in the day, the 2nd battalion of the 505th Airborne Infantry and the 2d Battalion, 325th Glider Infantry were called up to round out the advance. These units were to be supported by the 456th and 319th Field Artillery Battalions, but due to communications issues, the artillery was not available, and the attack was cancelled.[22]

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[19] Ibid, 104-7.
[20] Ruppenthal, 97.
[21] 42nd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 9, 1944
[22] Ruppenthal, 98.

On June 10, the 1st Battalion of the 505th Infantry Regiment was tasked with advancing up the Montebourg-le Ham Highway. They started off at 7:30 AM following an artillery preparation by the 42nd FABN[23] and the 343rd FABN[24]. As the operation progressed, air strikes were called in to strike significant enemy targets, while artillery from the 20th[25] and 343rd[26] FABNs continued to pave the way for the infantry advance, rolling (advancing) their artillery fire so that it immediately proceeded the infantry as they moved forward.[27] While the 1st battalion of the 325th Infantry Regiment performed a holding action to the north of le Ham, which would prevent the movement of Germans out of the town, the 2nd Regiment attacked the town from the east following a fifteen-minute fire concentration by the 456th Parachute FABN that was part of the 82nd Airborne Division. This unit not only destroyed enemy targets within le Ham, but also provided dropped smoke rounds in the open fields through which the infantry would advance, to create a smoke screen obscuring the enemy's vision of the advancing infantry soldiers. When the Allied infantry entered le Ham, they found only a badly shaken German force, which had been traumatized by constant artillery fire. With this artillery assistance, the town was secured, and the Americans were on the outskirts of their next objective, Montebourg.[28]

Montebourg is one of the larger towns on the Cotentin Peninsula and represented roughly the half-way point between UTAH Beach and Cherbourg. The town is surrounded by a strong wall raised during medieval times and was a German stronghold during their occupation of France. The 12th Infantry Regiment of the 4th Infantry Division was tasked with securing Montebourg and

[23] 42nd Field Artillery Battalion "Operations Reports, June 1944," entry for June 10, 1944.
[24] 343rd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 10, 1944.
[25] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for June 10, 1944.
[26] 343rd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 10, 1944.
[27] Ruppenthal, 101.
[28] Ibid, 102.

the area to the east. Securing the area would effectively eliminate any German southern infiltration on the eastern half of the Cotentin Peninsula. The 2nd Battalion of the 12th Infantry skirted the eastern edge of the town, which was considered too strongly defended by German antitank and machine guns and the 1st and 3rd battalions were to advance northward to the east of the 2nd. Instead, the regiment was to contain Montebourg and proceed northward to the east of the town. Seeing this advance, the Germans counterattacked from the north and west, a maneuver that was thwarted by artillery fire from the 20th FABN[29] and 42nd FABN, the latter of which describes firing on positions in Montebourg, various machine gun and mortar emplacements to the east of the town and firing white smoke to cover the American pull back from the area.[30]

With the enemy pulling back from Crishbecq and Azeville, the next American objective was Ozeville, to the east of Montebourg, which was assigned to the 22nd Infantry Regiment. Preparation for this June 12 attack was to be an air force bombardment and preparatory fire from the 20th FABN[31] and 44th FABN. The air bombardment was subsequently cancelled, and increased fire from the FABNs was called to fill the gap. The attack went off as scheduled at noon, with the infantry meeting only minimal resistance after the artillery had done its work and the German garrison in the village promptly surrendered.[32]

With the surrender of Ozeville, the 12th Infantry Battalion was freed to move on the village of les Fieffes-Dancel, which was quickly reduced after an enemy counter attack, and led to the infantry taking a commanding position to the east of Montebourg. A force was quickly assembled to move eastward towards Quinéville but met heavy resistance. It would not be until June 14 that

[29] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for June 10, 1944.
[30] 42nd Field Artillery Battalion "Operations Reports, June 1944," entry for June 10, 1944.
[31] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for June 12, 1944.
[32] Ruppenthal, 109

this town on the east side of the Cotentin Peninsula was secured. This was a major victory for the Americans because it moved the usable beach area northward from UTAH Beach some ten miles, allowing for more rapid resupply of units in the field. The German main line of defense in the north had also been broken, depriving the Germans of their best natural defense and leading to further Allied advances northward.[33]

While other units were moving northward, the 82nd Airborne Division was moving west. On June 9, after some preparatory maneuvering for the past couple days, the 3rd Battalion of the 325th Glider Regiment, reinforced by a company from the 507th Parachute Infantry Regiment moved to cross the Merderet River at la Fiere, some 700 yards of St. Mere Eglise. A field artillery preparation allowed American tanks to move to within 100 yards of the river crossing and subsequent rounds of field artillery smoke allowed the infantry to start crossing the causeways over the river. This smoke concentration was however not dense enough and the infantry units crossing the causeways came under enemy machine gun fire. Some units did make it across the bridge over the river and into the village of le Motey. These units then came under American artillery fire from 345th FABN that had been requested to repulse an anticipated German counterattack in the area.[34] Unable to communicate with the field artillery to request that the barrage be called back, the Americans fell back across the river, to remain in reserve for the next few days.

With the 82nd Airborne Division temporarily in reserve, the task of moving westward fell to the 90th Infantry Division, whose mission was to cross the Merderet at both la Fiere and Chefdu-

[33] Ibid, 110-4.
[34] 345th Field Artillery Battalion, 90th Infantry Division, United States Army, "Unit History, June to December 1944," entry for June 9, 1944, accessed July 9, 2018, in box 390-FA (345)-0-2, National Archives #2, College Park, MD.

Pont and attack westward. The 357th and 358th Infantry Regiments attacked and cleared Amfreville early on June 11 and later in the day the 1st Battalion of the 357th Regiment made a flanking maneuver to the south to rout the enemy from its fortifications around les Landes but fell short of their objective. At the same time, they made an attack on Pont L'Abbe, which met with stiff German resistance. This effort was supported by the combined guns of the 343rd FABN,[35] the 344th FABN which had suffered 20 casualties to German bombing just that morning,[36] the 345th FABN[37] and the 915th FABN.[38]

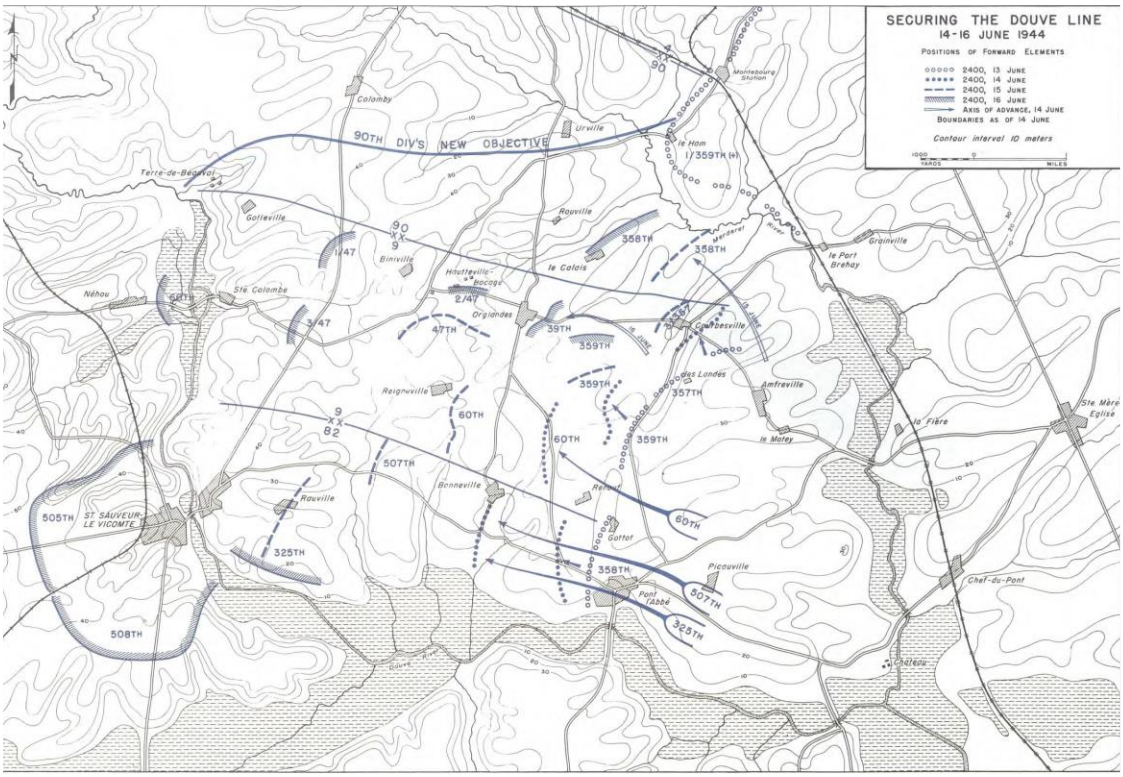

Figure 12: The Drive Westward.[39]

[35] 343rd Field Artillery Battalion, "Unit History, June to December 1944,", entry for June 11, 1944.
[36] 344th Field Artillery Battalion, 90th Infantry Division, United States Army, "Combat History," 8-9.
[37] 345th Field Artillery Battalion, "Unit History, June to December,1944," entry for June 11, 1944.
[38] 915th Field Artillery Battalion, 90th Infantry Division, United States Army, "Unit Journal, June to December 1944,", entry for June 11, 1944, accessed July 9, 2018, in box 390-FA (915)-0-7, National Archives #2, College Park, MD.
[39] Ruppenthal, Map X.

The main objective for the day was Pont l' Abbe, which contained a commanding position astride one of the only causeways permitting access to the Cotentin Peninsula from the south. This was attacked by the 358th Infantry Regiment with all four batteries of the 90th Division field artillery again committed to this engagement, performing a rolling barrage that advanced one hundred yards toward the enemy at five-minute intervals. The regiment was initially able to move forward but was soon stopped by heavy machine gun fire from the town. On the morning of June 12, the regiment was ordered to leave one battalion to contain the town and the other two to bypass the town and attack westward. Fearing that if the Pont l' Abbe remained in German hands it would imperil the westward movement of the 508th Parachute Infantry, the attack was renewed later in the day. Preparation by the field artillery was effective and the town was easily taken. The regimental commander, when entering the town, commented that the artillery bombardment was so effective, "all he saw alive were two rabbits, and one of them wasn't very spry."[40]

On June 12, the 82nd Airborne Division and the 9th Infantry Division, which had landed on UTAH Beach on June 10, were fully committed to a drive westward to isolate the Cotentin Peninsula from the rest of France and to keep German reinforcements from approaching from the south. The 82nd Division would advance on the right and the 9th on the left as both units proceeded westward on a line north of the Dover River. The operation stepped off on June 14 with its objective being the village of Gourbesville under concentrations of fire from the field artillery battalions of the 9th Division. These concentrations were poorly aimed due to coordination issues between the infantry and the artillery and some shells fell on American units, causing them to

[40] Ruppenthal, 125-9.

become disorganized and disbursed. The barrages were again fired later in the day but failed to dislodge enemy resistance.[41]

On the afternoon of June 15, elements of the 325th Glider Infantry, the 505th Parachute Infantry, and the 508th Parachute Infantry regiments were overlooking the town of St. Sauveur-Ie Vicomte and could see the enemy withdrawing from the town. Realizing their advantage, American leadership quickly had these units advance and directed interdictory field artillery fire to the north, west and south of the town, disrupting any German attempts to withdraw or send in reinforcements. By nightfall, the Americans had established a firm bridgehead across the Douve River and were meeting only minimal resistance. The town was secured the following morning, allowing for further moves westward by the 9th Division.[42] Field artillery fire was used to suppress enemy activity in the Orglandes area that night.[43]

The Cotentin Peninsula was cut off from the rest of France on the night of June 17. Realizing this, the enemy attempted to attack from the north and east, with disastrous results. Field artillery fire from the 60th FABN of the 9th Division concentrated on the head of German relief columns and then adjusted to sweep five miles up the congested roadway which the Germans were using for their advance. Infantry and antitank fire joined the artillery, resulting in the destruction of thirty-five vehicles (including trucks, half-tracks, cars and one a tank), ten artillery pieces, and numerous machine guns and mortars, as well as several supporting vehicles.[44]

While events in the south were progressing well, the Americans were moving towards Cherbourg. This would be a three-division drive northward, with the 4th Infantry Division on the

[41] Ibid, 135.
[42] Ibid, 137.
[43] Ibid, 141.
[44] Ibid, 144.

right, the newly arrived 79th Infantry Division in the center and the 9th Infantry Division on the left.[45] In advance of the move northward, the town of Montebourg, still in German hands, needed to be taken. This task was left to the field artillery, with the 20th FABN,[46] the 29th FABN[47] and the 42nd FABN[48] contributing their barrages on the city for about a week, after which the Germans abandoned the city.[49] The road to Cherbourg was now open.

The 313th Infantry Battalion of the 79th Infantry Division advanced to the Bois de Ia Brique, northwest of Valognes with little resistance after barrages by the 310th, the 311th, and the 312th FABNs had softened enemy resistance. Artillery would continue to support the advancing units for the balance of the campaign.[50] The advance towards Cherbourg would continue until June 21, by which time the Americans surrounded the port. Field artillery was in constant use at this point. During the campaign, the 20th FABN fired forty missions, twenty-seven of which were counter-battery fire and the balance against either static or mobile enemy columns or positions.[51] The 29th FABN fired almost 4,000 rounds in support of the advancing infantry,[52] while the 42nd FABN conducted over sixty individual fire missions during the period.[53]

On June 19, the highest tides of the year combined with a four-day storm damaged landing craft, floating piers and roadways, seriously threatening the American resupply efforts and adding new urgency to securing the port of Cherbourg. The move into the city commenced on June 22, with two battalions attacking northward. These movements were observed by the Germans who

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[45] Ibid, 150.
[46] 20th Field Artillery Battalion, "After Action Report, June 1944," entries for June 10 to June 20, 1944.
[47] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entries for 12 to June 20, 1944.
[48] 42nd Field Artillery Battalion, "Daily Unit Log, June 6 to June 30, 1944," Entries for June 12 to June 20, 1944.
[49] Ruppenthal, 153.
[50] Ibid, 165-163.
[51] 20th Field Artillery Battalion, "After Action Report, June 1944," entries for June 10 to June 20, 1944.
[52] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entries for 12 to June 20, 1944.
[53] 42nd Field Artillery Battalion, "Daily Unit Log, June 6 to June 30, 1944," Entries for June 12 to June 20, 1944.

provided stiff opposition that was answered with field artillery fire from the 42nd FABN,[54] and other field artillery units, which quickly put down the opposition. Once again on the move, the advancing battalions came under increasing machine gun and mortar fire, which was again put down by artillery fire from the 42nd FABN.[55]

A piecemeal approach to the advance into Cherbourg was abandoned and on June 23, the 22nd Infantry Regiment of the 4th Infantry Division was charged with securing the high ground surrounding Cherbourg. Again, heavy fire from the 29th FABN,[56] the 42nd FABN,[57] as well as other units from 9th and 79th Divisions[58] supported the infantry in these operations. After the artillery concentrations were completed, it took the infantry just two hours to achieve their objectives.[59]

[54] 42nd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 22, 1944.
[55] Ibid.
[56] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entry for June 23, 1944.
[57] 42nd Field Artillery Battalion, "Unit History, June to December 1944," entry for June 23, 1944.
[58] These units were not studied in detail for this account.
[59] Ruppenthal, 182.

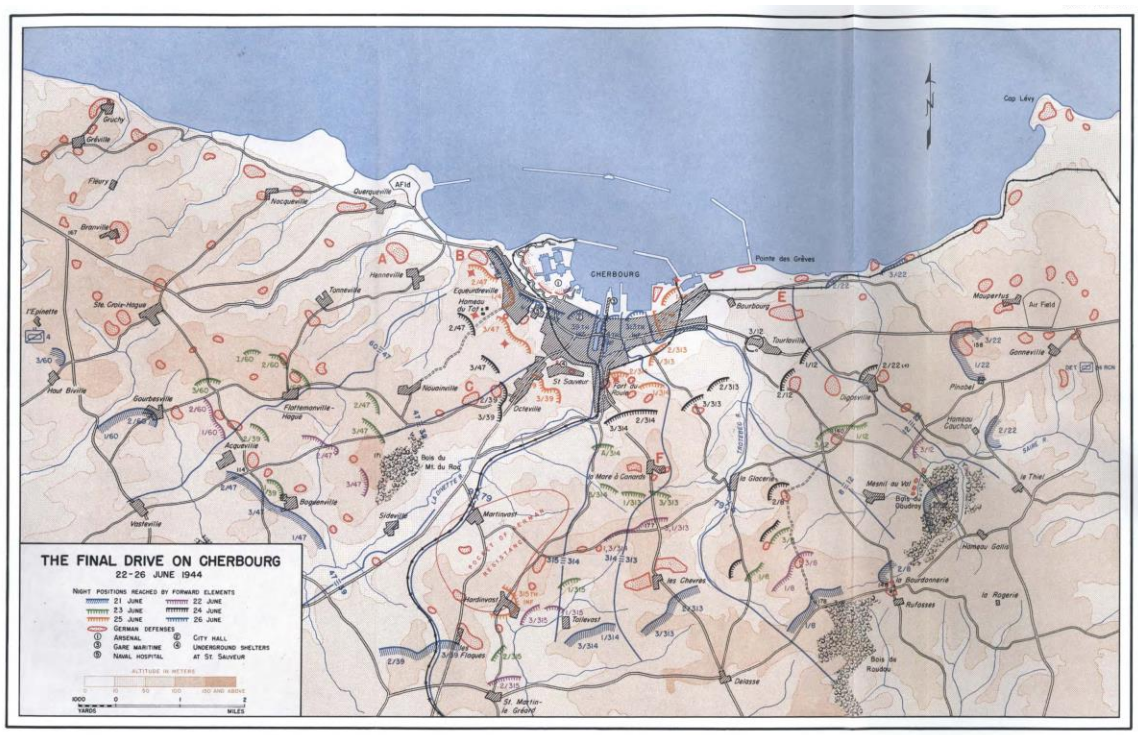


Figure 13: The Attack on Cherbourg.[60]

Artillery would continue to pour into Cherbourg for the next five days, until the city fell on June 27. During this time, the 20th FABN assisted the American efforts by firing concentrations on enemy targets, which included a battery of 75mm antiaircraft guns that was completely destroyed and at the Central and West Forts in the outer Cherbourg harbor. These later targets were attacked with concrete-piercing projectiles and eleven direct hits were recorded on the Central Fort alone.[61] The 29th FABN would fire 758 rounds in 18 concentrations on June 23, 807 rounds in 13 concentrations on June 24, 100 rounds in two concentrations on June 25 and one counter-battery concentration on June 26.[62] The 42nd FABN would provide direct artillery support

[60] Ibid, Map XIV.
[61] 20th Field Artillery Battalion, "After Action Report, June 1944," entry for June 27, 1944.
[62] 29th Field Artillery Battalion, "Unit Journal, June 1 to June 30, 1944," entries for June 23 to June 26, 1944.

from June 22 to June 28, at which time they moved forward and commenced shelling the last German holdouts in the forts of the outer Cherbourg harbor.[63]

[63] 343rd Field Artillery Battalion, "Unit History, June to December 1944,", entry for June 28, 1944

Chapter 12: Conclusion

"I do not have to tell you who won the war. You know, the artillery did."
– Gen George S. Patton

A review of the historiography pertaining to the Normandy Invasion reveals that most popular authors concentrate on the D-Day landings themselves and pay less attention to the ongoing Campaign. This is understandable because the landings on the beaches of Normandy and the parachute drops associated with them represented the largest combined amphibious and airborne invasion of a country the world had ever seen and one of the most dramatic military maneuvers in history. The specter of young Allied soldiers resolutely storming the beaches or falling from the skies on parachutes is the stuff of which legends are made and it is not surprising that popular authors, interested in selling their books, should concentrate on these topics for study and writing.

Military historians, particularly those that were employed by the United States government and tasked with creating a complete and accurate record of the Normandy Campaign, treat the subject more faithfully, and there exist a reasonable number of works that cover the Campaign, or individual segments thereof. There are however issues with this historiographic set. Minor material differences were noted between the works of individual authors and there is a great deal of overlap in their works. Where these writings cover individual aspects of the Campaign, there are very few that cover the Campaign as a whole. The possible exception to this is Harrison's work which represents the most complete treatise on the subject, starting well before World War II and including much of the Campaign, but stopping before the capture of St. Lô. Other works pick up where Harrison left off, but these were not studied for this narrative. An area for further

study would be to consolidate works that cover individual aspects of the Campaign and consolidate them into a single, all-encompassing work.

Singularly missing in the extant work on the Campaign is a thorough discussion on the work performed by the Campaign's various field artillery units. The secondary works that do discuss field artillery do so in passing and in reference to the support that they provided to the infantry units. There exist few if any works that fully discussed the training, equipping and movement of field artillery units and contribution that they made to the Campaign. This work has attempted to bridge that gap by not only detailing the reasons behind the Campaign and planning for the invasion but also by juxtaposing the works that discuss the movements of infantry with primary-source records from the field artillery battalions themselves. This attempt has helped to more completely define the movements and actions of the Campaign's field artillery battalions, but also to determine how they functioned on the battlefield and supported the Campaign as a whole. Further research into this area is still required. Future historians could study a larger set of artillery units than have been discussed in this narrative, combining these into a more complete narrative that discusses the use of Field Artillery throughout the entire Campaign.

Clearly, the Normandy Campaign represents one of the greatest military collaborations of the twentieth century. British and American planners, politicians and military leaders were time and again able to put aside their conflicting priorities, political ambitions and military philosophical differences to meld into a single unit that was able to achieve victory over their determined fascist foes. They were able to collaborate on strategy, tactics and deployment of troops, making an Allied victory at Normandy, and throughout Europe and the rest of the globe possible. This would have lasting benefits after World War II, helping to form Europe into a single determined unit, capable of withstanding the post-war Communist aggression and more recent

terrorist activities. The collaborative lessons learned during World War II and the invasion of Northern Europe have stood the test of time well.

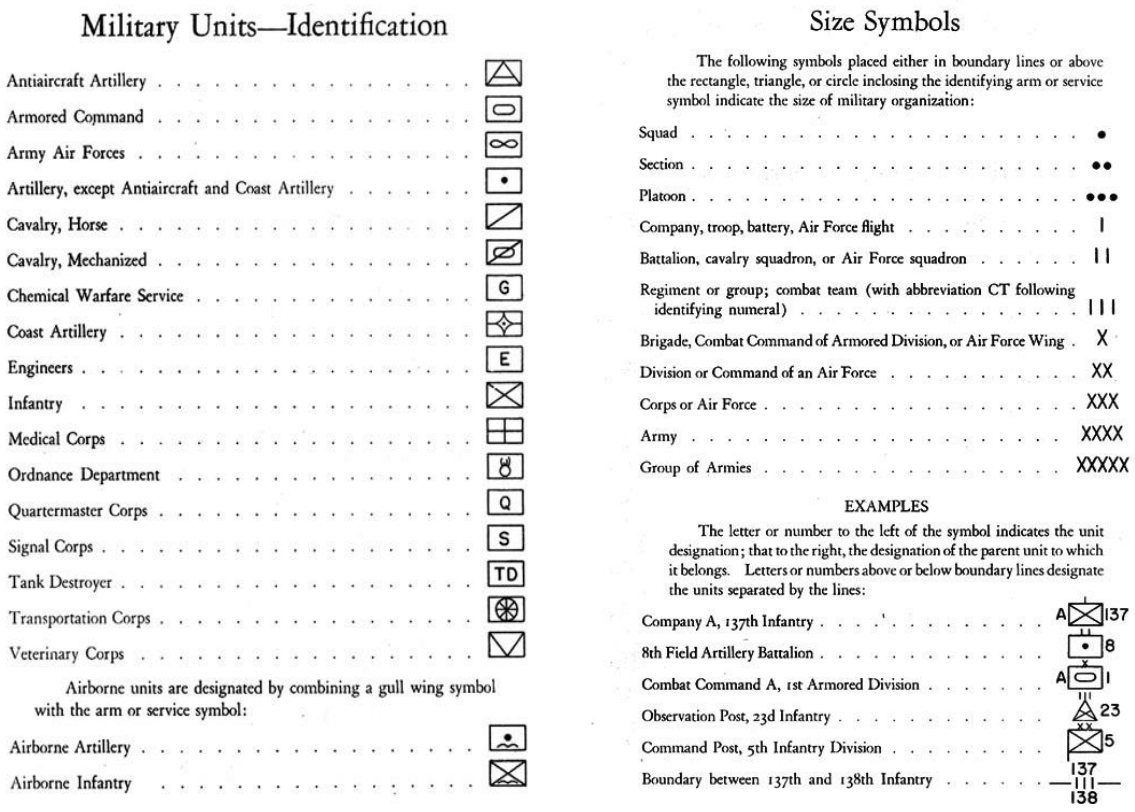
Despite General Patton's glowing quote to the contrary, the record of Field Artillery use in the campaign is somewhat mixed. Initial attempts to bring artillery pieces ashore on D-Day resulted in several disasters, making field artillery of somewhat limited use in the early stages of the Campaign. Difficulties in terrain often made observation difficult, particularly before the introduction of observer planes, which did not occur until several days after the initial landings. Changes in German tactics, thinly manning their forward posts and reinforcing them only after preparatory artillery barrages were completed, resulted in less effectiveness in supporting infantry advances as the Campaign wore on. Friendly-fire incidents, due to poor observation or poor gunmanship occasionally cost the lives of American soldiers.

But it is also clear that field artillery did have a positive effect on the battlefield and the Campaign. The field artillery units studied poured hundreds of thousands of rounds into the German ranks. Harassing missions disrupted enemy columns, destroyed German positions and keep the enemy at bay. Preparatory fire missions paved the way for American infantry advances. Almost constant harassing fire kept the enemy at bay, allowing the Americans to stage their campaign as it was planned. Even the morale of the enemy was affected by the use of American field artillery to drop leaflets on their adversaries. Field artillery fire was, at times, decisive in helping infantry units advance toward their objectives, or protect them from enemy attack. Often the use of field artillery, whether used for a specific mission, or in general support, was decisive to the outcome of a particular engagement.

Field artillery did not, as Patton suggests, win the war or even the Normandy Campaign on its own, but certainly contributed favorably to the outcome of the fighting. It is difficult to envision an Allied victory in Northern Europe without the contribution of the field artillery units and their brave and dedicated gunners. The action of field artillery contributed to the effectiveness of the combined battlefield, helping to shorten the war and saving American lives. These lives saved left the United States in a better position to perform post-war actions, such as intervening in the Soviet Union's encroachment in Eastern Europe or combatting Communist spread in Korea. The saving in lives also allowed the American post-war economy to continue its expansion and kept more families intact, adding to the post-World War II domestic social harmony.

Field artillery may not have one the war on its own, but it did significantly contribute to a World War II Allied victory, and the post-war benefits that resulted from it.

Appendix A: Military Map Symbols



Source: https://history.army.mil/books/wwii/5-2/5-2_Symbols.htm

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