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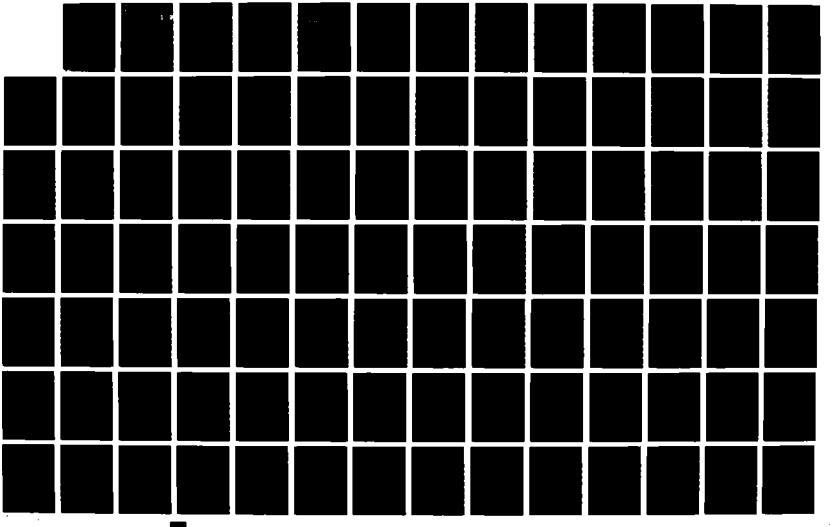

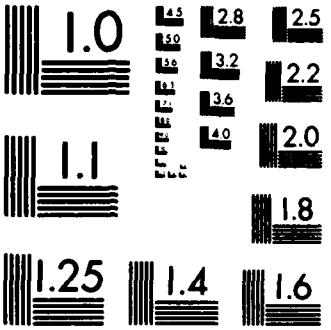

# COMBAT OPERATIONS IN MOUNTAINOUS TERRAIN -- ARE UNITED STATES ARMY LIGHT INFANTRY DIVISIONS PREPARING PROPERLY?

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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over

Investigation reveals that a rapid deployment force must be ready today to fight in any terrain to which they may deploy. With this requirement comes a responsibility to conduct the training necessary for them to fight and win in any of the likely environments. Virtually every contingency area for the United States contains extensive mountain ranges.

Light infantry divisions do not have to be terrain specific in their training, but historical evidence proves the necessity of their being terrain adaptable. Although most divisions

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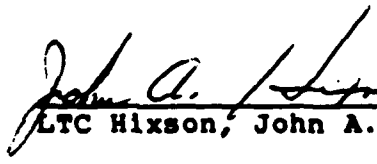
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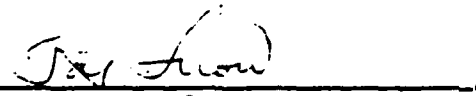
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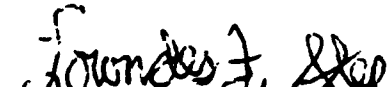
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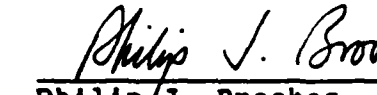
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## ABSTRACT

COMBAT OPERATIONS IN MOUNTAINOUS TERRAIN -- ARE UNITED STATES ARMY LIGHT INFANTRY DIVISIONS PREPARING PROPERLY?: A historical analysis of the need to conduct specialized mountain operations training, and its relationship to the training requirements for light infantry divisions of the 1980's, by Major Melvin E. Richmond, Jr., USA, 111 pages.

This study explores the experiences of the Army's only World War II era divisional unit designed specifically for employment in mountainous terrain, the 10th Mountain Division. It examines the reasons for its activation, its organization, training, and combat performance. Using this as a historical precedence, it then analyzes the current training programs for operations in mountainous terrain, drawing parallels between the training of the 10th of 1944 and that of the light infantry divisions of 1987.

Investigation reveals that a rapid deployment force must be ready today to fight in any terrain to which they deploy. With this requirement comes a responsibility to conduct the training necessary for them to fight and win in any of the likely environments. Virtually every contingency area for the United States contains extensive mountain ranges.

Light infantry divisions do not have to be terrain specific in their training, but historical evidence proves the necessity of their being terrain adaptable. Although most divisions currently train in desert, jungle, urban and forested terrain, almost none conduct training in mountainous terrain. The experiences of the 10th Mountain Division and Fifth Army in World War II illustrate the absolute necessity of units training in mountain operations if they are to be successful in combat in mountainous terrain.

This thesis concludes that the Army leadership cannot ignore the peculiar requirements of combat in mountainous terrain. Rapid deployment forces, specifically light infantry divisions, must begin a concerted program of training in mountainous terrain. The problem is identified. Facilities are available for training. The risk of not beginning such a program is too high to ignore the problem any further.

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# CHAPTER 1

## INTRODUCTION

The purpose of this study is to assess the preparedness of the United States Army's light infantry forces to undertake conventional warfare in mountainous terrain. When examining the United States Army's likely contingency areas, the possibility that light infantry forces may deploy to an area containing mountainous terrain is evident. This study highlights the unique training requirements mountainous environments impose on a combat force. It then determines how the 10th Mountain Division[1] of the 1940's fulfilled these requirements, and how light infantry units of today are meeting these training needs.

This thesis explores the experiences of the Army's only World War II era divisional unit designed specifically for employment in mountainous terrain, the 10th Mountain Division. It looks at reasons for its activation, its organization, training, and combat performance. Using this as a historical precedence, it then examines current training programs for operations in mountainous terrain, attempting to draw a parallel between the training of the 10th of 1944 and that of light infantry units today.

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[1]NOTE: In November 1944, the 10th Light Division (Alpine) was redesignated the 10th Mountain Division. The appropriate names will be used during correct time period discussed.

Numerous contingency missions for our Armed Forces involve committing ground forces to locations with varying types of terrain. Mountainous terrain covers forty two percent of the Earth's surface.[2] As the Army studies its contingency areas, it must not only recognize a need for possessing forces capable of rapid deployment, but also for forces adaptable to combat in a myriad of different environments. Mountainous terrain is just one of these environments.

In the late 1970's and early 1980's then Chief of Staff of the Army, General Edward C. Meyer, and the current Chief of Staff of the Army, General John A. Wickham, directed the formation of units uniquely armed and equipped to rapidly deploy to any of the United States' possible contingency areas. The Army charged these units with the mission of fighting and winning on arrival. With this requirement for rapid deployment comes the responsibility of having conducted the necessary training prior to deployment which will ensure success wherever deployed.

The Army did not give light infantry divisions a forced entry capability. The organizational goal was to equip them such that during a low- to mid-intensity level of combat they would be capable of conducting sustained combat operations with minimal combat support or combat service support augmentation. In a mid- to high-intensity

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[2]U.S. Army, FM 90-6, Mountain Operations (1980): 1-3.

environment, the plan was to design them such that they could fight in highly restrictive terrain thus making available organizations less suitable for combat in restrictive terrain for more fluid operations. This includes jungles, urban areas, heavily forested areas, and most important for this study, mountainous terrain. Although many may argue as to the success of this design, light infantry units are better organized to fight in these environments than are other forms of infantry. In these types of terrain, light infantry forces are often more maneuverable, more survivable, and more effective than their mechanized counterparts.

Now that the Army has activated the light infantry divisions it must continue to examine the variety of special skills required to successfully accomplish their wartime missions. Combat in mountainous terrain is, and has been in the past, an environment where light infantry organizations can operate effectively. This thesis will show that though doctrinal principles may apply across the entire spectrum of conflict in all types of terrain, application of these principles does vary with terrain. These changes are so dramatic that special training is a necessity for units operating in a mountainous environment. If the United States commits the Army's light infantry divisions to this highly demanding environment, it is imperative that the Army

establish training guidelines, as well as standards of performance for the conduct of this training.

The need for units to train for specialized purposes is not a new problem. Its historical context is of great importance to this study. In the late 1930's and early 1940's, the Army evaluated the need for specialized mountain operations training. As has often occurred throughout history, the more universally accepted requirements for training a rapidly expanding Army received top priority from the Army's leadership. There was little training time or resources allocated for anything else. In 1939 and 1940, even General George Catlett Marshall, the Chief of Staff of the Army, felt that there were more important problems to be solved for a mobilizing Army than training in mountain and winter warfare. He felt that the initiatives for specialized units would have to wait. Thus, the development of specialized units and the conduct of specialized training assumed a lesser degree of importance as America prepared for war.

Following the bombing of Pearl Harbor on 7 December 1941 many Americans, civilian and military alike, began to press for the formation of a mountain unit. Combat actions in the European theater buttressed their positions. On 15 July 1943, the Army activated the 10th Light Division (Alpine). By December 1944 the 10th deployed into combat in northern Italy.

The 10th's combat performance marked it as one of the most outstanding divisions of the US Army during the war. It was the first US division to cross the formidable Po River, spearheading Fifth Army's advance to the Alps. In spite of its performance, the 10th became a victim of the Army's massive demobilization program after the war and was inactivated on 15 October 1945.

Mountain units are currently organized in those NATO European countries possessing borders contiguous to the various European mountain ranges. The historical invasion routes into France, Italy, Germany and Spain are located in the mountain passes and as a result each nation has had a historical need to maintain trained mountain soldiers. They have also recognized that should a protracted war occur in the European theater today, mountain operations will certainly play an integral role in the hostilities. Spain, for instance, talks of the Pyrenees mountains allowing the use of its nation as a redoubt should Soviet forces sweep across the German border. As such, they have highly elite and expertly trained mountain units capable of operating independently or in cooperation with other units of their respective Armies and those of the NATO alliance.

The United States' primary threat, the Soviet Union, has not organized specialized mountain units. Since the bulk of their units are expected to operate on the vast plains of northern and central Europe, this is the type of

terrain in which they conduct most training. However, they, like the European countries mentioned above, have extensive border areas lined with mountainous terrain.

Military districts such as the Trans-Caucasus Military District that have large areas of mountainous terrain train extensively in mountain operations.[3] The primary emphasis of this training appears to be in physical fitness and movement in mountainous terrain; both mounted and dismounted. Additionally, the Soviet troops in these districts train in "ascending and descending cliffs, methods of securing, roped movement, negotiation of mountain rivers and canyons and transportation of the wounded and cargoes over them."[4] Training progresses from these individual skills to collective tasks up to and including combined arms operations for motorized rifle battalions in mountainous terrain.

Soviet experience in Afghanistan has sharpened their skills in mountainous terrain. Seizure of a mountain pass remains an important training program for the Soviets. Although the Soviets do not train all of their troops for this highly demanding environment, they do train those

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[3]The Soviets have designated ten theaters of operation (TVD) within which are located sixteen Military Districts. The Trans-Caucasus Military District is located adjacent to the Caspian Sea, Iran and Turkey and within the Southwestern TVD.

[4]Yuri Maximov (General of the Army, Hero of the Soviet Union), "Mountain Training," Soviet Military Review 12 (December 1984): 6.

likely to fight in this terrain. As General of the Army Yuri Maximov said as recently as 1984:

> The knowledge of the specifics of mountainous terrain, the ability to use them in training practice and the high training standard of the personnel ensure the high level of troops' combat readiness and their ability to deal in a moment's notice a crushing blow on any aggressor[8].

Unlike the Soviet's emphasis on publishing mountain operations doctrine, current US Army doctrine concerning combat in mountainous terrain is very limited and general at best. It may need revision to include more specific guidelines to the field on the "how to" of fighting in mountains. Neither is there a centralized, nor even a recommended, Army doctrine for unit training in mountainous terrain. Rather, every unit trains its own way in this arena.

How and why did the 10th Mountain Division conduct its training in preparation for deployment to Italy during World War II? How did it perform during operations in Italy? And, what training strengths and weaknesses were discovered as a result of their participation in combat operations? The answers to these questions form the basis of the historical precedent for the need to conduct specialized mountain warfare training on a regular basis.

Current doctrine and training programs are examined to subsequently draw a comparison with the training and combat experience of the 10th Mountain Division. This

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[8]Maximov, "Mountain Training": 7.

establishes requirements of mountain warfare training for infantry forces, and serves to assess the effectiveness of the Army's current light infantry divisions' preparation for combat in mountainous terrain. To facilitate the research for this thesis, the conclusions are based on the assumption that the training and performance of the 10th Mountain Division of the 1940's can reasonably be compared to the training and performance of a modern light infantry division. This also assumes a conventional war fought with modern technology and weapons. This is a fair assumption since, with the significant exception of the helicopter which will be discussed later, technology has probably made little impact on the tactics and doctrine of operations in mountainous terrain.

When reference is made to light infantry forces in this study, it implies infantry units whose primary means of transport once introduced to the battlefield is by foot. This includes the Army's airborne and air assault divisions.

Before proceeding further, it is imperative to clarify an incorrect perception that the United States Army currently possesses a specialized mountain division in the 10th Mountain Division (Light). This division is a light infantry division, not a mountain division. It has no expectations of becoming a specialized unit, and plans to do no more than other divisions in this regard. The 10th was given the name 10th Mountain Division merely for heraldic

purposes. It instills a sense of history and pride in the soldiers of the 10th. A pride in those who have gone before.

Because of their splendid combat record, veterans of the 10th Mountain Division, as well as members of Congress such as Senator Robert Dole (R-Kansas) lobbied to commemorate the 10th. This was accomplished by reactivating the 10th Mountain Division, even if only in name.

This thesis does not suggest detailed training programs for combat operations on mountainous terrain. It simply determines the existence of effective training programs in the Army's light infantry divisions for what is an extremely likely contingency.

## CHAPTER 2

## REVIEW OF LITERATURE

Resources were plentiful for the historical research into the 10th Mountain Division of World War II. Conversely, information about training programs in operations in mountainous terrain by modern divisions was more difficult to find. The reason for this appears to be that most units are simply not conducting any significant, organized, or regularly scheduled training in mountainous terrain.

### Overview

The Ski Troops, Hal Burton (1971), provides a very good overview of why the Army formed the 10th, how the 10th was organized, how it trained, and how it performed in combat in northern Italy. Burton introduces the key people, dates, locations, and operations associated with the 10th Mountain Division.

Mountaineers, published by Artcraft Press in Denver, Colorado (1945) is another source that provides an overview of the 10th Mountain. It provides a very brief overview of the 10th's history, however, it was much too general to be of serious analytical use.

To get a strategic overview of operations in the Mediterranean theater the first source must be US Army in World War II: Mediterranean Theater of Operations: Cassino

to the Alps, Ernest F. Fisher, Jr. (1977). It provides the most objective chronicle of the 10th Mountain Division's combat operations of any of the sources. It covers all aspects of the Italian campaign from Cassino to the capitulation of German forces in Italy, and specifically addresses the 10th Mountain Division where appropriate.

Fifth Army History, Part VII, The Second Winter (1947) contains the official history of Fifth Army during that period. It covers the operation used as a historical example in this thesis, Operation Encore. Fifth Army History, Part IX, Race to the Alps (1947) follows the Fifth Army, and thus the 10th Mountain Division, through to the end of the war. It provides excellent background into the character of the 10th, as well as the soldiers assigned to the division.

## Combat Experience

Several sources provided a significant amount of information about the 10th's combat record. Some were very factual and detailed, while others, although factual in every respect, tended to glamorize the historical record. Night Climb, the Story of the Skiing 10th, Frank Harper (1946), is one such source in this category. Despite its glamorizations, it is essential for the researcher to gain an insight into some of the humanistic aspects of the 10th when fighting in the mountains.

Combat History of the 10th Mountain Division, Charles Hauptman, Company I, 87th Mountain Infantry Regiment, by CPT George Earle, and PFC Hugh Graves (1945), and 10th Mountain Division, America's Ski Troops, by Kenneth S. Templeton (1945), all provide detailed accounts of the 10th Mountain Division's actions in northern Italy. Hauptman provides a day by day history, and was a constant source of referral when analyzing the operations.

Training of the 10th Mountain Division (1940's)

The training programs undergone by the 10th were similarly well documented. Since the 10th was a unique organization in the Army of the 1940's, and it was initially only experimental, Army Ground Forces (AGF) Headquarters conducted several inspections of their training programs. These reports and those of Fifth Army Headquarters on combat in mountainous terrain were very detailed. Additionally, AGF and Fifth Army followed through on their reports on training with detailed after action reports of the 10th's combat performance. These reports were very useful.

The most definitive sources for training, organization, and equipment of the 10th Mountain Division were the studies conducted by the Historical Section, Army Ground Forces, Training in Mountain and Winter Warfare, Study No. 23 (1946), History of the Tenth Light Division (Alpine), Study No. 28 (1946), and Mountain Warfare Training Center,

Study No. 24 (1946). These were the most factual and useful sources concerning the training of the 10th.

## Current Training

Various units in the field were questioned as to their current training programs for mountain operations. These included each of the light infantry divisions-- the 6th, the 7th, and the 25th Infantry Divisions (Light), and the 10th Mountain Division (Light). Also questioned were the 82d Airborne Division and the 101st Airborne Division (Air Assault). Correspondence included requests for copies of these divisions' commander's training guidance, a copy of the divisions' Mission Essential Task List (METL), and any other information they could provide on how their unit conducts mountain training.

In the event of hostilities, it is highly probable that many of the units mentioned in the preceding paragraph will deploy to contingency areas where they will come under the command of one of the various major commands. Thus, it was necessary to survey the commanders of several of the major commands, including the commanders of United States Army Western Command (WESTCOM), United States Army Europe (USAEUR), Eighth United States Army, United States Central Command, and United States Southern Command. The focus of questions here was for the commanders' views concerning the importance of mountain training for units who will be a part

of their wartime force. Copies of their training guidance to subordinate wartime units and their METL were also requested.

The final source of information concerning infantry efforts in the area of mountain operations training was directed toward the existing mountain warfare schools. The primary souces of information here were the Army National Guard Mountain Warfare School at Ethan Allen Firing Range in Vermont, and the Northern Warfare Training Center, Fort Greely, Alaska. The Combined Arms and Tactics Department of the United States Army Infantry School was also helpful in providing current doctrinal writings on mountain operations.

The Marine Corps Mountain Warfare Center provided insights into the views of mountain training by other services. They provided a complete Program of Instruction (POI) for their courses as well as the Marine Corps' philosophy on mountain warfare training.

In sum, the replies from the various respondents were both candid and informative. Where training was conducted, units explained how the training was conducted. Where training was not conducted, units attempted to explain the reasons why.

When examining training and its importance in today's situation, it was imperative to look at how the Soviets view training in mountainous terrain. A name familiar to those studying Soviet doctrine surfaced in the search for

material. C. N. Donnelly's article in International Defense Review, "Soviet Mountain Warfare Operations," (1980) is the most complete source on how the Soviets view mountain warfare. The various articles written by Soviet military officers in Soviet Military Review uphold Donnelly's views on Soviet training and doctrine.

## Acquisition of Primary Sources

The acquisition of many primary sources of reference for this thesis was impossible. These consisted primarily of 10th Light Division (Alpine) memorandums, training letters, and other unit documents. The Combined Arms Research Library (CARL) did not have the necessary documents, nor could they obtain them through their Inter-library Loan Program. These documents were also unavailable from the 10th Mountain Division Association's archives as a request for documents sent to Mr. Andrew Hastings, the Association's archives historian, went unfilled. He was unable to locate even one of the over thirty items requested.

In spite of the lack of primary sources, the secondary sources did not seem to contradict each other and provided detailed notes as to their sources. Thus, their information was accepted as being accurate.

## CHAPTER 3

## THE NEED FOR MOUNTAIN TRAINING BECOMES APPARENT

As the United States surveyed the world situation in the late 1930's and early 1940's, it was faced with numerous military options. On the one hand, military leaders saw developments in Asia and the Pacific. Here they saw proficiency in amphibious and jungle operations as being extremely important. They could also look to Africa where desert skills would be critical. Europe posed military planners unique problems by confronting them with areas which were heavily urbanized, heavily forested, and in some cases areas covered by rugged mountainous terrain.

By 1942 it was apparent that the Army needed to prepare for operations in a variety of different types of terrain under extreme climatic and physical conditions. In response to this realization the Army inaugurated four new training centers. The Army built training centers for operations in airborne, amphibious, desert, and mountain warfare. By August 1942 Japanese actions in the Pacific necessitated a center for the training of jungle warfare.

In addition to the new training centers, the Army activated three new light divisions; the 89th Light Division (Truck), the 71st Light Division (Pack, Jungle), and the 10th Light Division (Pack, Alpine). Of these, only the 10th Alpine concept survived the initial viability tests. For

the time being it retained its organization and specialized mission.[1]

Although this was the activation date for the 10th Light Division (Alpine), it did not mark the origins of the units comprising the 10th. As early as 1939 many Americans saw a need for an organization capable of fighting in alpine regions. One such activist was Charles Minot "Minnie" Dole, founder of the National Ski Patrol System in 1938.

Dole viewed the war erupting on the European continent and became concerned about the United States' ability to defend itself from a continental invasion by either Japan or Germany. In a letter to the Chief of Staff of the Army, General George C. Marshall, Dole cited several inconsistencies with the Army's lack of mountain or cold weather trained units. His position centered around the fact that the United States' northern boundaries were under snow at least four months of the year, and much of the European fighting to date had been in the snow. He also pointed to the fact that Germany had fourteen trained mountain divisions. He contrasted this capability with that of the divisions of the United States Army whose training was primarily conducted in the heat of the South. Finally, as was pointed out earlier, America could not predict where it would have

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[1]George Forty, Fifth Army at War (1980): 129.

to fight. It was Dole's conclusion that the Army should therefore have units prepared to meet these possibilities.[2]

Army authorities were quick to point out that the reason most European nations had mountain trained troops was that historically, the only barrier separating them from their ancestral enemies was the mountain ranges extending across their borders. Thus, threats to their sovereignty meant advances by the enemy through these mountain barriers. For them, well trained mountain forces were a matter of national survival.

The United States was not faced with such a threat since ocean barriers provide much of its security. Additionally, unlike many other nations, the United States could not know exactly where it would fight. Its small regular army had neither the men nor the money for the formation of the various specialized units. Units which Dole felt may be required if and when the nation enters a war in one of the many of its possible theaters of operation. It was the Army's position that, "the primary objective of the new army was necessarily the creation of an adequately prepared officer group, and the basic, normal training of individuals for standard units."[3]

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[2]Gene Harper, "Of Men and Mountains," Soldiers 40, (1985): 44.

[3]CPT Thomas P. Govan, Training in Mountain and Winter Warfare: Study No. 23 (1946): 2.

As events continued to unfold in the European theater the War Department began to take note of operations conducted in mountainous and cold environments. One such action which spurred interest in alpine training was the Finnish-Soviet War. Although ultimately defeated, the Finnish Army was able to delay and inflict heavy casualties on the invading Soviet Army. They did this, in part, by using experienced and well trained ski troops, clad in white camouflaged uniforms, to disrupt the Russian supply columns.[4] In the end, it was the Soviet's overwhelming numbers that defeated the Finnish Army, not their superior tactical methods.

The performance of the Finnish Army sparked an interest within Americans for the use of troops trained in cold weather and mountain operations. Advocates of the activation of a mountain unit found allies in a report by an Army Ground Forces study group which credited the success of the German Army in the Balkans to the presence of armored and other units specifically trained for mountain operations. Additionally, they blamed the British failure in Norway to be a partial result of not having troops trained to operate in mountainous terrain.

A report submitted to the War Plans Division by the United States' military attache in Italy summarized the actions of the Italian divisions in Albania.

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[4]Govan, Training in Mountain and Winter Warfare: 1.

> The divisions were not organized, clothed, equipped, conditioned or trained for either winter or mountain fighting. The result was disaster...An army which may have to fight anywhere in the world must have an important part of its major units especially organized, trained and equipped for fighting in the mountains and in winter. The army and equipment must be on hand and the troops fully conditioned, for such units cannot be improvised hurriedly from line divisions.[5]

Many members from within the Army's ranks were also calling for the formation of a mountain division. Notable among them was a letter written to Lieutenant General Lesley J. McNair, Chief of Staff, General Headquarters. LTG McNair would later assume duties as the commanding general, Army Ground Forces, and direct the training of all Army units in preparation for deployment to combat. The letter was from a Lieutenant Colonel Mark W. Clark, then G-3 at the War Department and later to be the commander of Fifth Army in Italy. LTC Clark wrote in response to a letter to the War Department recommending formation of a mountain division, "Recommend we concur; at least we may get one more division; its proposed equipment, including particularly artillery, is such that it could readily be moved by air."[6] Rapid deployment was, and remains today, a critical factor in the organization of Army units.

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[5]Govan, Training in Mountain and Winter Warfare: 3.

[6]Hal Burton, Ski Troops (1971): 91.

## CHAPTER 4

## COMBAT OBSERVERS REPORT THEIR FINDINGS

As the war continued in the European theater, Army observers sent their observations of the conflict to the War Department. They highlighted the peculiarities of mountain warfare where appropriate. As is the case today, observers found that the general doctrinal principles for the conduct of combat operations laid out in FM 100-5, Operations, were just as applicable to combat in mountainous terrain as to combat on flat terrain. Combat experience, however, dictated that some of these principles be applied differently.

Thus, success in operations on mountainous terrain depends more heavily on the proper adaptation of the combat assets available than upon the raw use of firepower. A proper analysis of the factors or METT-T (Mission, Enemy, Terrain, Time, and Troops available) will often be as significant a combat multiplier as increased numbers of personnel or weapons systems. But what are these considerations? What are the characteristics of mountain warfare, and how do they differ from other forms of combat?

### General

Besides the obvious fact that mountainous terrain has steep slopes, mountainous terrain is also characterized by inadequate road networks. This makes the existing roads

much more important. Likewise the heights surrounding these passes also assume critical importance. Fifth Army's main problem in the mountains of the northern Apennines was in dealing with the "lack of roads, trails and a seemingly endless series of ridges, and peaks dominating narrow valleys."[1] They concluded that the key to mountain warfare was the control of the heights, passes, ridges, and transportation nets.

Combat operations in mountainous terrain are normally small unit actions. Units are often separated from one another, while leaders of these units are often left with only their understanding of the "commander's intent" to guide them in their actions. Fifth Army relied on its commanders to "possess great initiative, and...exercise utmost vigor in execution of assigned missions."[2]

Fifth Army recognized the necessity of decentralized command and control in mountain operations. As such, commanders normally attached weapons such as the 60mm mortar directly to rifle platoons to provide them responsive fire support. Conversely, during standard operations, 81mm mortars were normally found at company level. But, in mountain operations the 81's were centralized at battalion level due

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[1]Martin Blumenson. The United States Army in World War II: The Mediterranean Theater of Operations, Salerno to Cassino (1969): 378.

[2]Headquarters, Fifth Army Invasion Training Center. Notes on Warfare in Mountainous Terrain (nd, approx. 1940): 1.

to the difficulties of transport, and resupply of ammunition.

Combat observers in the Mediterranean theater encouraged the use of encirclement and envelopment operations versus the more common frontal attack. Attacking troops were directed to penetrate in several weak spots and break through across a wide front. This would ensure the withdrawal of enemy forces along the entire sector of the front, but had to be executed by rapidly outflanking and encircling the enemy.

Lessons the United States Army was learning anew had already been learned by the Germans during World Wars I and II. As related in his book Attacks, then Captain Erwin Rommel continually emphasized the use of a small penetrating force followed by a larger force to roll up the enemy flanks during operations in the mountains of northern Italy. He then stressed that rapid pursuit into the depths of the enemy's position was critical.

## Reserves

Due to the severity of the terrain in Italy, the location of the reserves became especially critical. "The location of the reserves must be well thought out. Late arrival will spoil the exploitation of successes."[3] Fifth

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[3]Headquarters, Fifth Army Invasion Training Center, Notes on Warfare in Mountainous Terrain (nd): 3.

Army reports indicate once the decision is made to commit a regimental size reserve, a time lag of from twenty-four to forty-eight hours would likely occur before they would come into action.[4]

Fifth Army observers recommended reserves for use as the exploitation force as they should be physically fresh. They felt it critical to maintain a force close to the front of line troops. This force could stay rested for the exploitation, and once committed they could push rapidly and deeply to the flanks against the enemy forces adjacent to the penetration. Fresh troops were thought to be necessary since the attacking troops would probably be too tired to conduct the pursuit. It was this action that would ensure the attacker could sever the enemy's lines of communication.

Instead of concentrating the reserve into one strong force, as in normal operations, an attacking force in mountainous terrain will often split the reserve. Each element would then follow each leading tactical group.

## Artillery

Artillery was found relatively ineffective against German defenses in the mountains. The German positions were widely separated, well camouflaged, and well protected by the natural terrain and the deeply dug positions. During winter operations, snow nullified the effects of exploding

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[4]Lessons from the Italian Campaign: 66.

artillery and mortar rounds. Area concentrations of artillery were not effective against well fortified mountain defenses. Artillery was found to be of more value after an attack was launched to disrupt the enemy's counterattack preparations.[5]

The doctrinal literature of the day contended that due to the high trajectory of artillery rounds, counter-battery fire was much less effective in the mountains than in flatlands. However, because the terrain canalized the enemy into relatively predictable chokepoints, interdiction missions could be fired with a high likelihood of success.[6] Combat experience confirmed these beliefs.

Additionally, commanders were encouraged to locate artillery forward observers and survey parties with the forward units. Forward observers had to be capable of gaining the dominating terrain in order to quickly and accurately direct fires in support of the infantry.

## Engineers

Engineers were needed in much greater numbers due to the nature of combat in mountainous terrain. The engineer's main task in mountain operations was one of clearing and

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[5]AGF Report. Report on Mountain Warfare (1944): 7.

[6]U.S. Army, FM 100-5, Operations (1941): 216.

maintaining mountain trails and roads.[7] To do this, a significant engineer force had to move with the forward reconnaissance forces to expedite the advance of the main body. "Engineer operations determine the rate of movement of any unit in the mountains, and a large proportion of troops must be engineers or pioneers."[8]

The Army's manual for mountain operations of the 1940's called for special training for the engineers, such as in the construction of aerial tramways for use in resupply and medical evacuation operations. Additionally, the rocky nature of most mountainous terrain made additional training in demolition work critical. This allowed the engineers to use these skills to assist in the construction of defensive positions. Specialized training for the engineers also included assault climbing, mountain road construction, and bridge construction.[9]

## Logistics

One of the most significant problems faced by commanders in the Italian theater was one of maintaining logistical support throughout the battlefield. The terrain imposed severe limitations on the logistical system. Colonel

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[7]U.S. Army, FM 70-10, Mountain Operations (1944): 37-38.

[8]AGF, Report on Mountain Warfare (1944): 12.

[9]U.S. Army, Mountain Operations (1944): 38.

Fredericks, the commander of the First Special Service Force which operated extensively in the mountains, said that he used up to fifty percent of his troops for resupply activities.[10]

Much more coordination must be made with the next higher headquarters than in normal operations to adequately support assault units logistically. When possible, subordinate unit schemes of maneuver were integrated into the directing headquarter's order. This ensured unity of effort and full logistical support by having as much of the subordinate's plan as possible in the higher headquarter's order.

## Medical

Like logistics, medical considerations were uniquely critical to all Fifth Army operations in mountainous terrain. As was stated in FM 70-10, Mountain Operations (1944), "Since the infantry adopts tactics based on the maneuverability of semi-independent small units...the conventional distribution of medical installations is usually abandoned."[11]

Units adjusted to these changes in medical evacuation, treatment, and resupply in various ways. Litter bearers were considered a serious problem because dedicating

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[10]AGF, Report on Mountain Warfare (1944): 11.

[11]U.S. Army, Mountain Operations (1944): 48.

soldiers to serve as litter bearers reduced the foxhole strength of the forward positions. Some units used their entire anti-tank company to serve as litter bearers. The 34th Infantry Division used its command post defense platoon to evacuate the wounded. Units found that two to three times the normal number of litter bearers were necessary during active combat in mountainous terrain.[12]

The nature of casualties in mountain combat differed substantially from the casualties sustained in other forms of combat. Illness caused sixty percent of all casualties. The majority of these casualties were due to exhaustion. The 34th Infantry Division provides an example of the severe toll this took on the foxhole strength of units. During operations in mountainous terrain they evacuated an average of fifty men per day for illness. The French Army claimed that fifty percent of their casualties during mountain operations during World War II were due to weather and lack of winter equipment.

Company aidmen had to be proficient in environmental specific skills. Naturally, they had to be much more proficient in the handling of cold weather injuries. They also had to be cognizant of the needs of the wounded in these harsh conditions, as the cold environment made the conservation of body heat of the wounded a critical task.[13]

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[12]AGF, Report on Mountain Warfare (1944): 13.

[13]U.S. Army, FM 70-10, Mountain Operations (1944): 50.

## Summary

Combat reports provided a basis for continued training in mountain operations. Observers noted many of the key discrepancies in the application of doctrinal principles, upholding the principles themselves. The reports emphasized a need for small units capable of independent action and for leaders with initiative. They stressed differences in the application of infantry, artillery, engineer, logistical, medical, and command and control doctrine, and provided tested solutions to many issues.

By integrating the necessary skills into the pre-deployment training of American soldiers and units, the United States Army attempted to minimize the repetition of previous mistakes. The 10th Light Infantry Division (Alpine) would play an integral part in this training.

## CHAPTER 5

## MOUNTAIN TRAINING BEGINS

As a result of growing concern for America's ability to successfully conduct operations in alpine terrain, an initial mountain training program was begun with the organization of the Mountain and Winter Warfare Board. It was organized to develop, test, and recommend various alpine training techniques, doctrine, organizations, and equipment. The Army activated the 1st Battalion, 87th Mountain Infantry Regiment on 15 November 1941 to serve as the testing unit. The initial training programs were not designed to build a combat force of ski troops, but instead to lay a foundation for future mountain and winter training.

The National Ski Patrol System served as the recruiting center for the new mountain unit. Its recruiting criteria for the mountain organizations included a requirement for potential recruits to submit three letters of recommendation attesting to the applicant's skiing ability and character. This highly selective recruiting program resulted in many recruits knowing one another. It also made for a common bond within the recruits of the division as most shared a common interest in skiing, mountain climbing, and outdoor

craft. This bond would prove to be a key element in the combat success of the 10th Mountain Division.[1]

Many of the recruits had college educations. The average education level of the division was two years of college. The intelligence level of the soldiers was higher than in any other division of the day. The average AGCT score for the 10th was 117 versus 100 for the Army as a whole.

Physically, the men recruited for the 87th, and subsequently the 10th, were also in much better shape than the average army recruit. Most had come from a rugged background of physically demanding lifestyles such as logging, trapping, and forest ranger duties. The lure of working with the pack trains attracted cowboys, mule skinners, and horsemen. Many recruits also came from college campuses and American business. Most of these college recruits were those who loved winter sports and saw an opportunity to serve their country in a unit where they could also take part in activities they enjoyed. It was indicative of the type soldier recruited that the first recruit for the 87th was the ski team captain from Dartmouth College.[2]

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[1]Edward N. Luttwak, Historical Analysis and Projection for Army 2000, Paper No. 2. The United States Army of the Second World War: The 10th Mountain Division (10th Light Division [Alpine]) (1983): 24.

[2]Harper, "Of Men and Mountains,": 44.

In addition to the National Ski Patrol System screening recruits, enlisted men wishing admittance to alpine units had to adhere to certain other physical standards. These were much more stringent than for the normal Army enlistee. Veterans of the 10th Mountain Division who were present at the 10th's inception, relate that even wearing glasses was often enough to disqualify an enlisted recruit.[3] These standards were as follows:

1. Age, maximum - 35 years.

2. Second degree pes planus, even if symptomatic, to disqualify.

3. Other physical requirements and standards to be as presently prescribed for Class 1-A inductees in Mobilization Regulation 1-9, and such standards to be rigidly adhered to.

4. Waivers of the above standards in the cases of selected individuals to be made at the discretion of the senior commander concerned.

5. Definite and conclusive evidence of chronic "altitude sickness" will disqualify.[4]

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[3]Interviews, LTC (AUS, Ret.) Weaver and Hasting. LTC Weaver, who initiated this statement, was an officer in what would now be called the Medical Service Corps in the 10th. He was originally disqualified as he wore glasses, and could only finally enter by going to OCS. His specialty in the medical field was greatly needed, thus he was accepted.

[4]Govan, History of the Tenth Light Division (Alpine), Study No. 28, (1946): 3.

Unfortunately, these same rigorous standards did not continue to apply as the recruiting pool diminished. However, recruiters did maintain the overall advantage in quality enlisted personnel achieved by the mountain units.

The officer corps of the 10th did not come from this same pool. Rather, they were picked from existing divisions, and did not necessarily possess the mountaineering skills displayed by many of the enlisted soldiers.

The need for the special physical requirements for the mountaineers became more and more evident as training progressed. Training became much more physically demanding for the soldiers as they struggled to maintain their endurance in the rarefied air in high altitudes. At 9,600 feet, the normal training altitude for the 10th, there is thirty percent less oxygen than at sea level. Therefore, sustained physical training was much more difficult. As a result of their failure to adapt to the environmental conditions at high altitude during the training at Camp Hale, almost one thousand soldiers originally assigned to the 10th were transferred to other infantry divisions stationed at lower altitudes.*

The 87th began its training in February 1942 on the slopes of Mount Rainier in Washington State. In April, the 87th Mountain Infantry Battalion expanded to a regiment thanks to the aggressive recruiting efforts of the NSPS.

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*Govan, History of the Tenth Light Division: 4.

From February to June 1942, each unit of the 87th was given two months of extensive ski training. A group of instructors specially picked by the NSPS for fulfilling these duties provided the instruction.

A problem which beset the 87th, and would later be continually encountered by the 10th Light Division (Alpine) was a clear disparity in capabilities between the officers and enlisted soldiers. The officers were well groomed in military skills, but had little if any knowledge of winter or mountain warfare. The enlisted men had a wealth of knowledge in civilian ski and mountain techniques, but no military knowledge. This often resulted in unreasonable demands placed on the soldiers by officers imposing flatland standards in mountainous terrain. An example of this lack of understanding occurred when a commander marched his unit over rugged terrain at a normal 120 step pace, only to arrive at his destination with soldiers too exhausted to assault the final objective. Other statements such as one battalion executive officer's to a group of newly arrived soldiers stating that, "Anywhere my dog can climb, you can climb,"[6] failed to endear the officer corps to the hearts of the enlisted soldiers.

Training methods were slow to develop. However, due to a growing respect by the officers for the accomplishments and abilities of the enlisted soldiers and non-commissioned

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[6]Hal Burton, Ski Troops (1971): 125.

officers, the training began to yield significant results. Training sessions in skiing or mountaineering were soon often taught by lower ranking enlisted men who were champion skiers or accomplished mountaineers in civilian life.

On 3 September 1942, the Mountain Training Center (MTC) was activated at Camp Carson, Colorado. It assumed primary responsibility for the development and conduct of mountain training, and for the development and testing of new mountain and cold weather equipment.

Training for the new recruits was conducted in three phases. In the first phase of training, recruits were required to master winter warfare skills necessary for any standard infantry division. The goal of the second phase of instruction was to present training in combat operations in low mountains. Once again, this training would focus on those skills needed by any standard infantry unit. The third phase would involve the alpine training of specialized mountain units.[7]

Authorization for the organization of a mountain unit any larger than the current regiment was by no means assured at this point. Responding to a War Department G-3 recommendation for acceleration of the activation of a mountain unit of division size, General McNair wrote:

> The development of...mountain...training in this country is believed to depend primarily

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[7]Albert H. Jackman, "The Tenth Mountain Division, A Successful Experiment," The Alpine Journal (1946): 189.

> on the urgency of the need. The strategic demands in this connection are far from clear to this headquarter....Standard training invariably suffers when any type of special training is undertaken.[a]

Although formation of a mountain division had been put on hold by this decision, the three phased training program continued. The MTC and the 87th began exporting what would today be called mobile training teams. These teams trained cadres of other infantry divisions in the fundamentals of rock climbing and elementary mountaineering, snowshoeing, skiing, and winter operations. They also discussed problems associated with operations in deep snow and extreme weather conditions of cold. Teams were sent to Camp Edwards, Massachusetts and Lincoln, New Hampshire to train the 36th Infantry Division; and to Camp McCoy, Wisconsin to train the 2d Infantry Division, the 602d Tank Destroyer Battalion, and the 456th Coast Artillery Battalion.

The conclusions drawn from these training ventures were that, should the need arise, troops of almost any background could readily adapt to the techniques and conditions of winter warfare. But they had to have participated in adequate periods of alpine training and have been provided the minimal changes in equipment necessary. However, "winter operations require long and careful planning, and

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[a]Govan, Training in Mountain and Winter Warfare: 6.

should never be undertaken without special training and equipment."[9]

Drawing on these conclusions and the success of the initial training programs, cadres of the MTC were sent to Buena Vista, Virginia to prepare the 36th and the 45th Infantry Divisions for likely mountain operations during the Allied invasion of Sicily. The regiments of these divisions were given five days of preliminary training to acclimate them to movement over rugged mountainous terrain. After this initial training period, they participated in a free play, two sided exercise.

Five to ten men from each rifle company, an artillery liaison team from each light artillery battalion, and five men from each regimental intelligence platoon were taken aside during the training. These unit representatives were given technical rock climbing instruction.[10] This gave their units skilled climbers for use as artillery observers, snipers, and scouts. It also gave the units a cadre of trained personnel who could, in the event the unit operated in mountainous terrain, precede the less trained bulk of the unit. They were trained to prepare the route for the main body by emplacing fixed ropes and artificial climbing aids.

This program proved so successful in preparing these units for the rigors they would soon face in Sicily that it

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[9]Govan, Training in Mountain and Winter Warfare: 7.

[10]Govan, Training in Mountain and Winter Warfare: 9.

was continued for each division assigned to XIII US Corps. From 2 August 1943 to 1 July 1944, the MTT's from the 87th and the MTC trained regimental combat teams from the 28th, 31st, 77th, 35th, and 95th Infantry Divisions prior to their deployment overseas.

> The training given at the West Virginia Maneuver Area introduced standard units to some of the problems which they would encounter in combat in difficult terrain, but no attempt was made to transform these units into mountain troops or to fit them for operations at high altitudes.[11]

After studying operations in the European theater, Army Ground Force inspection teams made several recommendations to the War Department concerning training for mountain operations. They recommended that all divisions and replacements bound for Italy, the Balkans, Norway, Austria, southern Germany, or northern Japan need two weeks of mountain training. Subjects included in these sessions would be care and use of mules, mountain marching, and basic rope work. In addition, the teams suggested that each army and corps staff have one field grade officer assigned to their headquarters who was knowledgeable of mountain training and equipment. The liaison officer would advise the army, corps, and division staffs during the planning and execution phases of operations in mountainous terrain.[12]

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[11]Govan, Training in Mountain and Winter Warfare: 9.

[12]US Army Report, Report on Mountain Warfare (1944): 8-9.

Fifth Army Headquarters also recognized the need for units to be proficient in combat operations in mountainous terrain. While operating in the Italian theater, Fifth Army had encountered numerous mountainous areas during its movement north from the Salerno beachhead. As has historically been the case, Fifth Army found that more casualties were inflicted on the Army by natural dangers rather than by actual enemy action. These included casualties due to the effects of sudden winter storms, avalanches, rock falls, individual falls, physical exhaustion, exposure, mountain sickness, and freezing weather.

In an attempt to minimize these casualties, Fifth Army attached mountain training detachments to its divisions prior to commitment in the mountains. These detachments normally stayed with the divisions for about one week prior to deployment. They assisted the divisions in training for the highly specialized techniques necessary to effectively operate in mountainous terrain. They provided demonstrations, recommended training schedules, and conducted officer professional development classes for the deploying units. They also trained the soldiers in logistical support for mountain operations and in how to maintain pack trains.

These training programs were not designed to make mountain specialists out of the infantry soldiers of the Fifth Army. Rather, they were designed to acquaint soldiers

likely to fight in mountainous terrain with the conditions they would encounter. Its goals were to:

> ...condition the men to the point where they could negotiate rugged slopes; accustom them to heights; give them confidence in their ability to negotiate heights without ill effect; and to teach them to employ their weapons and equipment to the maximum usefulness.[13]

Training centered on fundamental mountaineering skills. Included were sessions in walking in mountainous terrain, carrying heavy packs, route selection, avoidance of natural dangers, selection of proper pace, control of units, survival skills, winter bivouacking, correct use of special clothing, and methods of overcoming obstacles such as cliffs and deep snow. They also stressed, as has already been noted, that some soldiers had to be trained in the installation of fixed ropes so that supplies and men who were not trained in mountaineering could move over very steep terrain in day or night.[14] (See Appendix A: Fifth Army Mountain Training Program)

During this period the Army saw a need for specialized mountain units. To establish the necessary doctrine, to test equipment, and to implement training techniques, the Army formed the Mountain and Winter Warfare Board, the Mountain Training Center, and the 87th Mountain Infantry

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[13]Headquarters, Fifth Army Invasion Training Center, Notes on Warfare in Mountainous Terrain (nd): np.

[14]Headquarters, Fifth Army, Mountain Warfare Training (1943): 2.

Regiment. These organizations and the men recruited to fill them formed the basis of what would later become the 10th Mountain Division. Further, these training cadres served the Army well by preparing standard infantry units for the rigors they would soon face in mountain operations in combat.

## CHAPTER 6

## ORGANIZATION AND TRAINING OF THE 10TH LIGHT DIVISION (ALPINE)

The Army activated the 10th Light Division (Alpine) on 15 July 1943 at Camp Hale, Colorado. The 87th Mountain Infantry Regiment deployed in August 1942 to Kiska on the Aleutian Islands. Therefore, it was not initially a part of the newly formed 10th. Not until the division moved to Camp Swift, Texas would it replace the 90th Infantry Regiment as the 10th's third regiment.

The 10th Light Division (Alpine) was composed of three mountain infantry regiments; the 85th, the 86th, and the 90th. The 86th had been formed with recruits provided by the efforts of the NSPS. All recruits were either qualified or showed an aptitude for high altitude operations. These soldiers provided a cadre for each of the other regiments as cross leveling of mountain experience throughout each regiment took place. (See Appendix B: 10th Light Division (Alpine) Organization)

The 604th Field Artillery Battalion, the 605th Field Artillery Battalion, and the 616th Field Artillery Battalion formed the 10th Light Division's artillery organization. Prior to activation of the division, the 604th and the 605th had already undergone mountain training as a part of the MTC, while the 616th had participated in training at the

Center. Like the infantry regiments, expertise in mountain operations was spread equally throughout each artillery battalion.[1]

The mission of the 10th Light Division (Alpine) was to test the organization and equipment "best suited to the employment of a division in high mountain warfare, and to attain a combat efficiency for operations in such terrain." The Army had still not fully accepted that it would ever commit this division to combat as a unit. Rather, one of the 10th's prime missions was to develop doctrine and test equipment. Its training focus was to train to primarily operate in "mountains and primitive terrain where road nets were poor or nonexistent, and under adverse and extreme weather conditions."[2]

Most of the training the 10th underwent was a direct result of programs developed by the MTC. This was no surprise since much of the cadre from the Center transferred to the division upon its activation. However, the division was yet to test many of its training programs. As a result, when training techniques were developed they were often a matter of trial and error.[3]

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[1]Govan, History of the Tenth Light Division: 1.

[2]Govan, Training in Mountain and Winter Warfare: 10.

[3]Interview, LTC (AUS, Ret) Weaver, 11 Jan 1987, 10th Mountain Division Association Archives.

Training for the 10th fell into four basic areas. First, new recruit training was conducted for soldiers reporting directly to the division from the reception stations. Second, soldiers transferring from other units had to be assessed and training deficiencies corrected. Third, training required by higher headquarters had to be fulfilled. And finally, the new unit had the additional burden of conducting specialized training necessary for its soldiers to operate individually as well as collectively under the unique conditions of high mountain warfare.

The 10th's training calendar had three distinct phases. The division headquarters designated 26 July to 15 August for cadre training and preliminary training for the recruits and soldiers of the division. It set aside 15 August to 6 November for unit training, and 10 January to 31 March for combined training. This was in consonance with the Ground Force Training Requirement specifying three phases of training; individual, unit, and combined.[4]

The 10th instituted an initial training program for cadre personnel from all infantry units. It enabled units to conduct their own specialized mountain training. While this took place, units conducted preliminary marksmanship instruction. All soldiers who had not previously fired their weapons were given range firing training.

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[4]Jackman, "The Tenth Mountain Division" (1946): 190.

Soldiers were also introduced to the first of many road marches. These increased in length and in load carried as the training progressed. The division also instituted other exercises designed to acclimatize the newly arrived troops.[5]

The 10th organized a separate school to train soldiers who came to the 10th directly from the reception centers. This school was graduating fully qualified replacements after six weeks of training in basic military skills. These soldiers were then able to assume their places within the combat units.

From 30 August 1943 to 16 October 1943, each infantry battalion and selected individuals from the artillery battalions took part in a one week bivouac at a mountaineering school. This training was performed under the auspices of the MTC and the battalion's training cadre. Training conducted during this period was rock climbing, more mountain marches, route selection, and land navigation. Culminating the week's training was an extensive cross country road-march through the rugged terrain of Holy Cross Mountain.[6]

One of the division's biggest organizational deficiencies was the lack of a dedicated intelligence unit. In an attempt to rectify this situation, intensive combat intelligence training was given to all soldiers. This

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[5]Govan, History of the Tenth Light Division: 5.

[6]Govan, History of the Tenth Light Division: 6.

training emphasized scouting, patrolling, use of the compass in mountainous terrain (navigation and target location), map reading, intelligence reporting procedures, reconnaissance by ground foot patrols, techniques of observing, use of air photos, movement of individuals and patrols through mountainous terrain, mountain climbing, skiing, survival, operations in snow and extreme cold, sketching, communications and combat records keeping.[7]

Although all soldiers of the 10th were trained to use skis, ski training concentrated on those individuals who were most likely to conduct reconnaissance and patrolling type activities. Ski training was held for these soldiers plus a ten percent overage for use as replacements. It is interesting to note that skis were used by members of the 10th in combat only once, that being for a reconnaissance patrol.

An important factor in the division's training program rested in the division's location, Camp Hale. Camp Hale was situated in the Rocky Mountains of Colorado, located at an altitude of 9,600 feet. The very nature of the rough mountainous terrain complicated each task performed by the mountaineers. The flatter and less difficult firing ranges in the valleys were forsaken by the 10th. Instead, all range firing was done on mountain ranges. Here the men

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[7]Govan, History of the Tenth Light Division: 6.

faced similar conditions to those under which they would most likely be employed.

Between 22 November and 18 December the division administered Infantry Platoon Combat Firing Proficiency Tests to each infantry platoon. Conditions were almost unbearable as the ground was covered with snow and the temperatures dipped well below zero. However, each platoon scored well on the tests.*

Virtually all of the 10th's training was in the mountainous terrain. A typical training day for the men of the 10th began with a road-march starting at the 9300 ft base camp of Camp Hale. The men road-marched while carrying ninety pound rucksacks up to the 10,500 foot level of the mountain range. Upon arrival to this level the soldiers turned around and returned to the base camp. Each rucksack contained a tent, stove and cooking utensils, snow shoes, rations, a ski repair kit, and a shelter-half. The M-1 rifle rounded out the soldiers' load as it laid strapped to the rucksack. As has already been mentioned, range firing was an important part of the training. It was often conducted in temperatures of thirty below zero.

Survival in the mountains and during adverse weather conditions was an integral part of all training. During field exercises the soldiers built snow caves. They often slept in them during the conduct of field exercises, but

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*Govan, History of the Tenth Light Division: 7.

more commonly slept in the open air with only their sleeping bag providing shelter. Naturally, movement techniques were of paramount concern during training.

The men of the division artillery also had much to learn. In order to master the art of winter firing, they had to learn special techniques for spotting targets in a white, featureless background. Range estimation was also a skill to be relearned as the rarified clean air tended to deceive the untrained eye as to actual observer to target distances.

With over six thousand mules assigned to the division, mule handling also occupied much of the training schedule. The division depended on these animals for logistical resupply and medical evacuation so this became a very important skill.*

To hone their command and control skills the division conducted Command Post Exercises (CPX's) for the divisional, regimental, and battalion leadership and staffs. The prime lessons learned from these exercises were techniques for computing the time/distance factors for the movement of units. Experience showed that in determining the rate of march of a unit, operational planners had to add one hour of movement time for every one thousand feet rise in altitude.

From 26 March until 15 April 1944, the 10th Light Division (Alpine) underwent its D-Series exercises. The D-Series was similar to today's unit certification exercises.

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*Gene Harper, "Of Men and Mountains,": 45.

During the exercise, the temperatures varied from a high of thirty nine degrees to a low of minus twenty five degrees. Snow covered the ground to a depth of two to three feet in the flat areas, while in the wooded areas the snow reached depths of eight to ten feet. Near the mountain summits, soldiers of the 10th encountered snow drifts with depths of up to forty to fifty feet.

Although the Army terminated the test early due to the harsh weather conditions, the division satisfactorily completed the exercises. The results of the test confirmed the division's mastery of the techniques necessary for operating in rugged terrain under adverse weather conditions.[10]

This having been said, the Army was confident that the 10th was well prepared to conduct operations in mountainous terrain. However, could they perform equally well in flat terrain?

On 22 June 1944 the division was transferred from Camp Hale, Colorado to Camp Swift, Texas for participation in September in the Louisiana Maneuvers.[11] The maneuvers themselves were cancelled, however organizational changes within the division kept the unit training at a fast pace. Replacements arrived and old members of the division had to

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[10]Govan, Training in Mountain and Winter Warfare: 11.

[11]Govan, Training in Mountain and Winter Warfare (1946): 12.

learn new jobs. Additionally, the dramatic change in terrain and weather conditions allowed the division to hone its skills on flat terrain, as they had already done in the mountains.

This reorganization was completed by November 1944 and on 7 November 1944 the 10th Light Division (Alpine) was redesignated the 10th Mountain Division. On 6 November 1944 the 10th received its readiness dates for deployment to combat. By mid-January 1945 the 10th Mountain Division had assumed its position along the front line as a part of IV Corps, Fifth Army.

## CHAPTER 7

## COMBAT: OPERATION ENCORE

The situation along the Italian Front in late fall and early winter of 1944 was one of preparation. The Allies had sought to break the Gothic Line before the onset of winter, and subsequently seize the Po Valley in northern Italy. They planned to use Bologna as a winter quartering area and communications center for the advance into the Po Valley. However, stiff German resistance had ground their progress to a halt, while the unpredictable winter weather of the Apennines suspended most air activity. Without air support, any further major offensive operations had to wait until spring.

Both sides used this lull in the battle to rearm and reequip their units. They rotated units off the line so that they could rest and prepare for the upcoming offensive. Fifth Army received fresh units from other theaters to replace badly attrited units. It was during this period that the 10th Mountain Division arrived in Italy. It assumed positions alongside the Brazilian Expeditionary Force (BEF), and Task Force 45 of Fifth Army.

The War Department had offered the 10th to numerous Army headquarters in the German and Asian Theaters. All had declined believing that due to its special training and equipment, and more importantly its relatively low personnel

strength compared to a standard infantry unit, the 10th would be more trouble to sustain than it was worth. General Mark Clark, commander of Fifth Army, recognized the unique skills of the 10th. He readily accepted the 10th for his Army. As General Clark said in his book Calculated Risk, "I was happy to get any division at that time and, of course, the 10th Mountain was ideally suited for the high Apennines."[1]

During the winter stalemate, General Clark sought to achieve two goals in addition to sustaining Fifth Army. First, to keep the enemy off balance, and second, to improve his own positions in preparation for the spring offensives. He felt the best way to accomplish these goals was to conduct several limited offensives.

He decided to open an avenue to Bologna and thus the Po Valley along Highways 64 and 65 (Map 1). This operation was dubbed Operation Encore, and General Clark decided that his freshest combat division, the 10th Mountain Division, would spearhead the attack. Protecting the 10th's right flank would be the BEF (Maps 3 and 5).

Major General George P. Hays, the newly assigned commander of the 10th Mountain Division, was given the mission of seizing the Belvedere-Gorgolesco-Torraccia Ridge. This would give the Americans the high ground overlooking the Panaro River on the West and Highway 64 on the East.

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[1]General Mark W. Clark. Calculated Risk (1950): 417.

Looking to the North from Mount Belvedere, the Po Valley could be seen some thirty miles away. Paramount in General Hays' thoughts were the two previous attempts by elements of Fifth Army to seize Belvedere. Both had ended in failure. His task was to find a new way to assault Belvedere which would ensure success.

The southern faces of the mountains in this area were all extremely steep. The northern sides sloped relatively gently down to the Po Valley. Several attempts had been made to seize the heights using the doctrine of the day, bypassing the steep approaches and attacking the heights from the North (rear). These slopes, though much more gradual in their ascent, were heavily mined by the enemy, thereby making the advance of attacking forces very difficult. Attacking forces had sustained severe casualties seizing the heights, only to be pushed back again by determined German counterattacks.[2]

The Belvedere-Gorgolesco-Torraccia Ridge rested about five miles west of Highway 64, one of the two main routes leading to Bologna. Its heights averaged 3,800 feet, providing excellent observation of the highway by the entrenched German forces.[3] This denied Highway 64's use by the Allies as a logistical or tactical line of communications for

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[2]Kenneth S. Templeton. 10th Mountain Division, America's Ski Troops (1945): 26.

[3]Fisher, Cassino to the Alps (1977): 426.

further offensive operations. The ridge consisted of, from southwest to northeast, Riva Ridge, Mount Belvedere, Mount Gorgolesco, Hill 1053, Mount Castello, and Mount della Torraccia.

After studying the terrain, General Hays decided to conduct the battle for the Belvedere-Gorgolesco-Torraccia Ridge complex in two phases. First, the 10th would seize a series of mountains in the western portion of his sector known as Riva Ridge. Riva Ridge dominated the approaches to Mount Belvedere. It had to be seized in order to protect the division's left flank as it approached the 10th's main objective of the second phase, Mount Belvedere. "The Riva Ridge paralleled the left flank of the division's zone of operation for four miles. The side of the ridge facing the division was a cliff, rising in some places almost 1,500 feet above the valley floor."[4]

The German's 232d Infantry Division opposed the 10th and the BEF. They were firmly entrenched and held all the high ground along both ridges (Map 3). However, their lines were thin as they defended an eighteen mile front along the mountainous terrain. From East to West, it had elements of the 1043d Grenadier Regiment on Mount Castello, the 1045th Grenadier Regiment along the Belvedere-Torraccia Ridge, and the 1044th Grenadier Regiment positioned astride the Serriccia-Cappel Buso Ridge. "Originally intended for rear

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[4]Fisher, Cassino to the Alps (1977): 427.

area duty, most of the division's (232d) troops were either older men or convalescents intercepted en route to their former units on the Eastern Front."[5] The strength of their defensive positions and the seemingly impassable terrain between them and the units of Fifth Army made their position very defensible. This made the defenders extremely effective in turning back all previous assaults to seize the high ground. In reserve were the 232d Fusilier Battalion, the 114th Reconnaissance Battalion, and at least two companies of the 4th Separate Mountain Battalion.[6]

Major General Hays' plan called for the 1st Battalion, 86th Mountain Infantry to climb the southern face of Riva Ridge during the hours of darkness. This, he felt, would optimize his chances of achieving total surprise. It was thought that this approach would be the most lightly defended due to the steep ascent to the top.

Major General Lucian K. Truscott, Jr., the commander of IV Corps, was concerned with the 10th's lack of organic fire support. Therefore, he reinforced the division with the 175th Field Artillery Battalion (105mm howitzers), the 84th Chemical (4.2 inch) Mortar Battalion, two tank destroyer battalions, and a tank battalion. Vehicular support

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[5]Ernest F. Fisher, Jr. The United States Army in World War II: The Mediterranean Theater of Operations: Cassino to the Alps (1977): 428.

[6]LTC Philip H. Smith. "Historical Example - 10th Mountain Infantry Division in the Apennines," (CGSOC Instructor's Manuscript 1947-48): 6.

would be very limited due to the terrain. The bulk of the transportation requirements would be carried by the pack mules, full tracked "Weasels", and the jeeps. The tanks were initially able to move only as far forward as Quericola (See Map 2).[7]

At 1930 hours 18 February, the men of the 86th, reinforced by Company F, set off on the 10th'a first major engagement with the enemy. Under the cover of total darkness, climbing teams led the men of the 86th. To assist in achieving surprise the attack was conducted without illumination. The climbing teams drove steel pitons into the rock face and hooked snap links and ropes to them for use by the main body. Using these ropes, called light lines, the men of the 86th hauled automatic rifles, machine guns, and even 75mm pack howitzers up the fifteen hundred foot ridges. Preparatory fires on enemy positions along the ridge began at about 1830 hours to help cover the noise of the climbers and keep the defending enemy inside their defensive positions. The haze extending over the low ground also assisted in concealing the advance of the 86th.

The advance of Company A up Mount Mancinello, the southernmost of the objectives, was uneventful. The objective was secured by 0300 hours on the 19th of February.

Company C drew the center objective, Mount Serriccia. The lead platoon arrived at the objective by 0210 hours, but

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[7]Fisher, Cassino to the Alps (1977): 428.

due to the extremely difficult climb up the sheer face, the remainder of the company did not arrive until 0508 hours.

Company B assaulted Mount della Buso, and by 0027 hours the lead platoon was on its objective. As second platoon attempted to move up to their position, however, they were engaged by small arms and machine gun fire supported by mortars. This engagement lasted for about an hour, continuing sporadically until 0210 hours when Company B secured the objective.

The resistance encountered by Company B was typical of the disjointed and confused defense offered by the surprised Germans. This confusion was multiplied by the fact that the 1044th was being relieved in place by the 232d Fusilier Battalion just as the Americans reached the German positions.

Following nine hours of intense climbing, the final peak, Pizzo di Campiano, was seized without serious incident by a platoon detached from Company A. Riva Ridge was in Allied hands by 0544 hours 19 February.* Command of this ridge protected the rest of the division's left flank, and provided flanking fires over the entire objective of the next day, the Belvedere-Torraccia Ridge.

Total surprise was achieved as the men of the 86th appeared from what the Germans had considered impenetrable

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*Charles M. Hauptman. Combat History of the 10th Mountain Division (1977): 16.

terrain. General Hays' scheme of maneuver for the first phase capitalized on the German's belief that the south-eastern face of Riva Ridge was too steep to support an infantry attack. The 10th Mountain's ability to use this approach virtually assured the seizure of Riva Ridge without serious incident, thus setting the stage for seizing the main objective of Fifth Army's first phase, the Belvedere-Gorgolesco-Torraccia Ridge.

The 86th repulsed numerous German counterattacks as the Germans attempted to regain their positions. While the Germans were occupied with retaking Riva Ridge, the remainder of the 10th Mountain Division began its assault of the Belvedere-Torraccia Ridge as it attacked at 2300 hours 19 February. To do this, they conducted another non-illuminated night climb, only this time without the benefit of any preparatory artillery fires.

The 87th attacked the western slopes of Mount Belvedere with the 1st Battalion 86th Mountain Infantry protecting their left flank from Riva Ridge (Map 4). To their east, attacked the 85th, and then the 2d and 3d Battalions of the 86th Mountain Infantry Regiment attacked on the division's right flank. Considerably more resistance was encountered on this day as the German's were more alert to an impending attack. Several of the approaches to the objectives were heavily mined by the Germans, and the defender's machinegun positions were well dug in. In accordance with

the doctrinal premise of decentralized control during the execution phase of an engagement, individual's of the 10th had been ordered to continue the attack to their objectives should they become separated from their unit. This made possible the rapid advance. By mid-day on the 20th, Mount Belvedere was secure.

The Germans mounted several counterattacks to regain their lost ground. However, all were turned back. The most intense of these was against the 3d Battalion, 85th Mountain Infantry on Mount Belvedere. Here, elements of the 714th Jaeger Division attacked in conjunction with part of the 232d's division reserve, the 1043d Infantry Regiment. This counterattack was unsuccessful, but did manage to slow the advance North along the ridge to Mount della Torraccia.

It was in seizing Mount della Torraccia that the stiffest resistance was encountered. At mid-day on the 21st the 85th Mountain Infantry resumed the attack to seize Torraccia. Casualties were so high that the 2d Battalion's strength drew down to four hundred by 22 February. To salvage the attack, General Hays relieved the 85th Mountain Infantry with the 86th. Supported by artillery, and close air support, the 86th secured Mount della Torraccia by early afternoon on the 23d.

By the evening of 23 February, the entire Belvedere-Gorgolesco-Torraccia Ridge complex was in Allied hands. In its first major engagement as a division, the 10th Mountain

Division had accomplished all assigned tasks. It was not without cost, however, as they sustained over nine hundred casualties, 203 of which were killed.*

The second and final phase of Fifth Army's Operation Encore was to continue northeast to secure the final objectives. These positions laid just west of Vergato and would later serve as the jump off points for the spring offensive (See Map 5). From Vergato the terrain began to open up, and it was all down hill to Bologna, gateway to the Po Valley. These objectives were, from West to East, Mount Grande d'Aiano, Mount della Spe, Mount della Castellana, and Mount Valbura (See Map 5). Once again, the 232d Infantry and the 714th Jaeger Divisions defended these heights.

With the 87th and 86th Mountain Infantry Regiments leading the attack, and the BEF again protecting the division's right flank, the 10th made a rapid, though heavily contested advance. By 4 March the 10th had secured all intermediate objectives, and captured Mount d'Aino as well. At this time, the division's reserve, the 85th, was committed. They promptly seized Mount della Spe, and Mount della Castellano. The resistance had been extremely heavy, but once again, the 10th carried each of its objectives.

One of the most significant results of Operation Encore was that Kesselring was forced to commit his major reserve, the 29th Panzer Grenadier Regiment. The rapid

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*Fisher, Cassino to the Alps (1977): 432.

advance of IV Corps toward Bologna made it appear that city was in immediate jeopardy. Thus he committed his major reserve force before they had completed their reconstitution efforts. Although their counterattacks were determined, and actually penetrated the 10th lines in several places, they were beat back after fierce hand-to-hand fighting.

Since German resistance had stiffened with the commitment of the reserves, all objectives had been secured, and IV Corps was in an excellent position from which to begin its spring offensive, General Truscott halted IV Corps. This second phase of Operation Encore had cost the 10th 549 casualties of which 106 were killed, but they had also led IV Corps' successful attacks in preparation for spring.

The 10th Mountain Division went on to seize all of its assigned objectives throughout the Italian campaign. It spearheaded the Fifth Army advance to Lake Garda at the base of the Alps until German forces in Italy surrendered on 2 May 1945. In its brief combat history, the 10th never gave up a position it captured. They were the first to break out of the Apennines, the first to cross the Po River.

Generalleutnant Fridolin Von Senger und Etterlin, commander of XIV Panzer Corps, who surrendered German forces in Italy, claimed that the 10th Mountain Division was the best division he had faced on either the Russian, Sicilian,

and Italian fronts.[10] During interviews with staff officers of General Field Marshall Albert Kesselring, commander of all German occupied territory in central Italy, and commander of Army Group C, both he and the members of his staff lavishly praised the combat performance of the 10th:

> This division was noted for its excellent equipment for mountain warfare, and the very good type of men in it....After some time, the German Command realized that this division was a tough and tenacious formation with a high combat morale. The positions in which this division was fighting were considered to be the strongpoint of the sector....This division was probably the main factor in achieving the successful break-through of the Apennine front.[11]

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[10]Gene Harper. "Of Men and Mountains," Soldiers. (Aug 1985): 47.

[11]US Army. "Report of Interviews with General Felmarshall Kesserling and Staff Concerning Italian Campaign, 3 September 1943 - 2 May 1945.": 204-205.

## CHAPTER 8

## REASONS FOR SUCCESS

What made the 10th Mountain Division so effective? Why was it able to succeed where others had failed? The 10th's success is attributed to five major factors; use of effective tactics; effective leadership from the division commander down to the lowest levels; a high quality of soldier; a firm cohesion and strong sense of identity; and most important for this study, having conducted most of its training in mountainous terrain.

### Tactical Expertise

By the time the 10th went to combat, they had a firm basis for tactical operations in mountainous terrain. They were the beneficiaries of several AGF reports on operations in the Mediterranean theater[1], and had more than ample opportunity to test various techniques and training programs during their long training period.[2] This knowledge and the capability to exercise the tactics necessary for success in mountain operations gave them the ability to minimize the problems normally associated with an untried unit. Thus, the division was successful in its initial engagements although begun with minimal combat experience.

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[1]See Chapter 4.

[2]See Chapter 5.

## Effective Leadership

The 10th Mountain division was blessed with numerous outstanding leaders throughout its history. As was discussed earlier, although the division had a serious gap in understanding of mountain operations between the enlisted men and the officer corps, these problems were solved prior to entering combat.[3] The high caliber of soldier and officer alike who were able to successfully complete the 10th's training assured this to be the case. This was due in part to the practice of promoting from within the ranks of the division thereby ensuring the division retained the skills and experience of its soldiers.[4]

Dynamic leadership was another key to the 10th's success. General Hays had proved himself to be a proficient and courageous soldier during World War I and was awarded the Medal of Honor, and continued to serve well in the inter-war period and during World War II. Other officers also showed this same dedication and leadership. Brigadier General Robinson E. Duff was famous within the division for continuously walking the forward line of troops even in the face of enemy fire. When Brigadier General Duff was finally wounded, another soldier noted for his abilities took his

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[3]See page 34.

[4]Luttwak: 21.

place, Colonel William O. Darby, founder of the U.S. Army Rangers.

Mountain operations are characterized by small unit actions, the success of which often depends on the ability of junior leaders to take action independently while still staying within the bounds of the commander's intent. Qualities such as this can only be found in intelligent, disciplined, well trained, and highly motivated soldiers. The recruiting and training programs of the 10th ensured the division had just such high caliber soldiers.[9]

## Unit Cohesion

Unit cohesion was another factor contributing to the success of the 10th Mountain Division. Although the 10th did not have a long combat record, it had been together as a division for almost eighteen months. Many within the division remarked that never had a unit trained for so long to fight for so brief a period. It had trained extensively as an integral unit prior to its deployment to combat in December 1943.

Unlike many untried units deploying to combat, the 10th had a unit history of which to be proud. Although operations by the 87th on Kiska in the Aleutians could hardly be considered "battle hardening," the men of the 10th associated the performance of the 87th with the entire

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[9]See pages 30-33.

division, giving them a sense of identity few other untried units possessed.[6]

The recruiting program resulted in the men of the 10th sharing common interests with each other as the division seemed to attract like-minded individuals. Virtually all of the recruits came from an outdoors background, whether it be in skiing, mountaineering, trapping, or the like. Since many shared common interests, many of the recruits knew each other prior to enlistment further enhancing the unit cohesion.[7]

## Training

The importance of specialized mountain training to the 10th Mountain Division cannot be overstated. Its value is substantiated by its invaluable contribution to the success of Operation Encore, especially in scaling the cliffs of Riva Ridge.[8] However, even more important than the mountain training was the training in the mountains conducted by the 10th at Camp Hale. The difference may be minute to some, however, it is significant. Whereas <u>training in mountain techniques</u> prepared the 10th for the brief periods when those techniques were necessary, the <u>training in the mountains</u> hardened the soldiers such that they were able to

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[6]Luttwak: 24.

[7]See page 30.

[8]See Chapter 7.

endure the hardships of extremely rugged terrain under combat conditions for extended periods of time.

The training conditioned the soldiers physically and mentally for the rigors of combat. The training helped to mold the already effective leadership of the division. It was the prolonged training that helped develop the cohesion discussed earlier. Finally, it was the training in the tactics necessary for successful combat operations that ensured proper application of those tactics on the battlefield.

In a letter to his father, LT Kenneth Templeton, a platoon leader in the 10th, who later served as aide-de-camp to Brigadier General Duff, and Colonel William O. Darby, assistant division commanders for the 10th Mountain Division, described the value of the training as so important that the seizure of Mount Belvedere could not have been done without the training conducted at Camp Hale prior to deployment overseas.*

Sudden storms, avalanches, rock falls, individual falls, physical exhaustion, exposure, mountain sickness, and freezing weather were all conditions the 10th had become acclimated to over their eighteen months of training prior to deployment. It is interesting to note that during reunions many years after the conclusion of the war, veterans of the 10th looked back on their greatest challenge being the

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*Templeton, America's Ski Troops, 61.

D-Series in 1944, not combat in Italy.[10] Training had prepared the men of the 10th well for their baptism under fire.[11]

The training program undergone by the men of the 10th Mountain Division was gruelling and realistic, well designed for the type of combat they faced. It was rather prophetic that an inspection team from Fifth Army wrote in 1943, "Men must be taught to install fixed ropes so that supplies and men can move over cliffs at night."[12] It would be men employing these specific skills, the soldiers of the 10th Mountain Division, who would lead the way for the Fifth Army in smashing the Winter Line of 1944-45.

Although training was not the only determinant of combat success for this division, it was certainly a prime contributing factor. Without the training, and the confidence instilled in each soldier by his previous training, it is highly unlikely that they could have made that treacherous climb up the walls of Riva Ridge in 1945, continuing the fight to successfully end Operation Encore. It was this training that gave them the skills which were lacking in other units who tried, and failed to capture these same heights. Their rock climbing skills, and their ability to use ropes and pitons allowed General Hays to confidently

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[10]See page 48.

[11]Hastings, Interview on 5 February 1987.

[12]"Mountain Warfare Training," 2.

select the indirect approach, thus defeating an unsuspecting and unprepared enemy. As Sun Tzu said over 2500 years ago:

> He who wishes to snatch an advantage takes a devious and distant route and makes of it the short way. He turns misfortune to his advantage. He deceives and fools the enemy to make him dilatory and lax, and then marches speedily.[13]

The mountain training undergone by the 10th Mountain Division was necessary for their success, and served them well throughout their tour of combat until the end of the war. Summarizing the training of the 10th Mountain Division Edward Luttwak said:

> The experience of the 10th Division provides a valuable US example of the process whereby specialization serves to create a distinctive esprit de corps which stimulates morale and intensifies cohesion, which in turn makes the force more effective whether or not it is infact employed for its ostensibly specialized purpose.[14]

Their training made them expert in mountain warfare. But more importantly, as General Field Marshall Kesselring noted, it made them a "tough and tenacious formation with a high combat morale."

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[13]Sun Tzu, The Art of War, 102.

[14]Luttwak, "Historical Analysis," (1983): preface.

## CHAPTER 9

## TODAY'S NEED FOR TRAINING IN MOUNTAIN OPERATIONS

With forty two percent of the Earth's surface covered by mountains, chances are good that the United States will deploy to a part of the world where mountain ranges of some sort exist. By possessing the skills necessary to operate in mountainous terrain, US soldiers will be better able to exploit operations in mountainous terrain, while minimizing the difficulties inherent in such operations.

The forces most likely to deploy into mountainous terrain, and also the best suited, are the newly formed light infantry forces. Light infantry forces may be the unit of choice to operate in this very demanding and formidable environment.

Although their organization and equipment lend themselves quite well to operations in mountainous terrain, light infantry forces will be less effective in the mountains unless the Army adds another key ingredient, TRAINING. This is a key lesson learned from the 10th Mountain Division's experience in World War II. Once again referring to the adages of Sun Tzu:

> To rely on rustics and not prepare is the greatest of crimes; to be prepared beforehand for any contingency is the greatest of virtues.[1]

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[1]Samuel B. Griffith, translation of The Art of War by Sun Tzu (1963): 83.

The Army leadership has determined that the Army does not need specialized mountain troops such as organized in other NATO nations. It does however, need infantry soldiers trained to conduct combat operations in all types of terrain, including mountainous terrain. In short, although terrain specificity is not desirable for a division size unit, terrain adaptability is indispensable to a rapid deployment force. But just what does this training entail?

Infantry units currently conduct regularly scheduled training in several specialized types of terrain; jungle operations in Panama, urban operations in the new standardized MOUT (Military Operations in Urbanized Terrain) facilities, desert operations at the National Training Center, Yakima, WA, and the Sinai. Few units have made a conscious effort to devote this same emphasis to training in mountainous terrain.

The skills needed by modern light infantrymen differ little from the skills needed by soldiers operating in the mountains during World War II. The most critical skill for a light infantryman is mountain movement techniques. Much like the Fifth Army Mountain Training Program (See Appendix A), this training should include mountain walking, both as individuals and as a unit, route selection, rock climbing, bivouacking in mountains and in snow, use of fixed ropes to ascend steep inclines, survival, employment of weapons in mountainous terrain, and proper use of special clothing and

equipment. All soldiers should also be trained in logistical resupply and patient evacuation in mountainous terrain. Experience has shown that there are simply not enough support or medical personnel to fulfill these requirements in mountainous terrain without augmentation by standard infantrymen.[2] Training in these areas requires a two to three week annual training period for the majority of the soldiers.

While it is sufficient to simply provide a two week training program for the bulk of the soldiers, it is imperative that a small core of soldiers receive intensive training in mountaineering. This training develops the soldiers who lead the way for the main body, much as the mountaineering specialists did for the 1st Battalion 86th Mountain Infantry during the climb of Riva Ridge.[3] Infantry reconnaissance platoons and long range surveillance units are best suited for this role. These units should receive the training necessary to become expert in mountaineering skills.

The Army National Guard Mountaineering School currently operates courses to fulfill the needs of units as a whole as well as smaller, more specialized units. In the summer course it emphasizes "techniques that will provide military access to the otherwise inaccessible rugged

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[2]See pages 26-28.

[3]See page 56.

mountainous terrain throughout the world," while in the winter it stresses "the fundamentals, principles, and leadership techniques required to cope with extreme cold, deep snow, and vertical envelopment of mountainous terrain."[4] Each course is conducted over a two week period.

The Northern Warfare Training Center (NWTC) conducts two courses aimed at instructing normal light infantry units for combat in mountainous terrain, the Infantry Company Course, and the Assault Climbers Course. It also conducts a three week course designed for unit reconnaissance/scout platoons to instruct them in tactical movement in mountainous terrain. Although the emphasis at the NWTC is on arctic operations, the school is well suited for and does conduct training in mountain operations.

The United States Marine Corps Mountain Warfare Training Center is also an existing training facility providing the training necessary to Marine units for conducting mountain and cold weather operations. This course is almost a full month in duration, however it is conducted from individual to battalion level training.

Several foreign countries also provide mountaineering training instruction for American soldiers. In May 1986, the commander of the Spanish Mountain Infantry Training Center in Jaca, Spain expressed a desire for American

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[4]State of Vermont, Office of the Adjutant General, Army National Guard Mountaineering School Program of Instruction (May 5, 1986): 3-4.

participation in their training program. Germany, Great Britain, Italy, and Chile, to name a few, all offer excellent mountain operations training with which the United States could begin to build a core of mountain experts.

Many believe that the tactical principles applicable to combat in relatively flat terrain can simply be juxtaposed to operations in mountains. History clearly contradicts this thesis. Although the principles may remain similar, their application can be significantly different. As was said by LTC Marcus Powell, a military geography instructor at the United States Military Academy,

> ...in each new campaign involving operations in mountainous regions, we have had to learn anew how to apply these principles...only after much bitter fighting with heavy losses in personnel, equipment, and prestige.[8]

It is through training that the Army will minimize this initial loss of life. It is through training that the initial engagements in the mountains will be won. And it is through training today, that the Army will be prepared to fight and win the war in mountainous terrain which may start tomorrow.

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[8]LTC Marcus L. Powell, Jr. "Readings in Military Geography", Military Review (Jan 1952): 6.

## CHAPTER 10

## CURRENT PREPARATIONS BY THE ARMY FOR COMBAT IN MOUNTAINOUS TERRAIN

After having corresponded with the training offices of every light infantry division in the active force, as well as the 82d Airborne Division and the 101st Airborne Division (Air Assault), and after interviewing the Assistant Division Commanders of all of these save the 25th Infantry Division (Light) and the 6th Infantry Division (Light), it is apparent that training for operations in mountainous terrain is not being conducted in a deliberate manner by any of these divisions except the 6th Infantry Division (Light). The only other division size units found who regularly operate in mountainous terrain are the 25th Infantry Division (Light), and the 2d Infantry Division in Korea.

There are many valid reasons for why some units train for mountain operations, and why other units do not. The simplest and most obvious reason for the conduct of training in the mountains for the 6th, the 25th and the 2d is their location. These units, like the 10th Light Division (Alpine), possess training areas in mountainous terrain, although admittedly not high mountains. However, geographic location forces these units to conduct their training in mountainous terrain.

General William J. Livsey, Commander, Eighth United States Army, in the Republic of Korea, fully expects all of his "wartime subordinate units, including light infantry, to come to us (Eighth Army) prepared to fight in this (mountainous) environment."[1] Throughout Eighth Army's training guidance, wartime mission and planning guidance, and the mission essential tasks list, reference is made to the necessity of units being familiar and proficient with the environmental aspects of the Korean Peninsula.

> A major part of our concern with soldiers fighting in this terrain is the physical stamina required to cope with the rugged environment. Not just the stamina required to negotiate the terrain, but also the mental stamina to cope with the extreme climatic environments as well.[2]

Because of its mission, and unique location, the 6th Infantry Division (Light) also trains extensively in mountain operations. They are better able than most units to capitalize on the training offered by the Northern Warfare Training Center to augment their programs. They also take regular advantage of foreign mountain operations schools, and as a result have developed a core of highly specialized mountain experts who are able to share their expertise with the remainder of the division.

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[1]Letter, MG Dennis J. Reimer, Headquarters, Eighth United States Army, Assistant Chief of Staff, G-3, dtd 5 February 1987.

[2]Letter, MG Reimer.

Emphasis must be made at this point that these divisions, the 2d Infantry Division, the 6th Infantry Division (Light), and the 25th Infantry Division (Light) are unique. They have unique capabilities because of their geographic location and their mission. Based on their mission and terrain, they have a great advantage over the other divisions of the Army in mountain warfare operations. However, it would be remiss to say that because the other divisions lack these advantages, they can afford not to train for such a likely exigency as operations in mountainous terrain.

There were three main themes explaining why other units do not conduct mountain training on a regular basis. They are lack of a statement of need by their higher headquarters, lack of time, and lack of training facilities.

Before discussing these valid explanations, another not so valid excuse for not conducting this training must be discussed. It is the feeling that the prevalence of helicopters has negated the need for such training. That mountains are merely an obstacle to movement, and helicopters can easily overcome those obstacles. This is an invalid argument. The Army cannot be assured that mountain operations will only be conducted in clear weather, and at altitudes conducive to acceptable Allowable Combat Loads. Thus it must be prepared to operate under all conditions.

However, what happens when the visibility is not within the minimum safety limits, and the altitudes are so

high that the helicopters are unable to lift the necessary combat loads? Other countries have found that although the helicopter is very effective, there may be times, even for periods lasting up to several days, in which they will be unable to fly. Spain, for example, has maintained its mules as a means of transport in the mountains for just this very reason. This is not to say that the United States Army should adopt the use of mules again, but it must be prepared to conduct operations in mountainous terrain without the use of helicopters. This can only be done through training in this environment without helicopters.

Army divisions train in accordance with the Mission Essential Tasks List (METL) they develop. They are developed to support their higher headquarter's training guidance, and the METL the higher headquarters develops for itself. "METL is an unconstrained list developed <u>without consideration of resource availability</u>, unit manning levels, equipment on hand or the ability to train."[3] In short, it is a list of tasks the division must accomplish in order to meet its wartime contingencies. So, the wartime mission establishes the training missions, and the METL expresses these missions by clearly stating the fact that no matter what resources are available, those tasks must be trained for the unit to be combat ready.

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[3]US Army. <u>FC 25-100, Training the Force</u> (1986): p. 2-14.

The proposed METL for Light Infantry Divisions in a Foreign Internal Defense (FID) operation includes "Defense in Restricted Terrain (Forest/Mountains/Mountain Pass/River/ Critical Site)" as a core task.[4] Although this document is not in the field as of this date, units should have drawn the same conclusions as the Low Intensity Conflict (LIC) Proponency Office did, in that operations will certainly be conducted in mountainous terrain. Thus, units must be prepared for such a contingency.

The annual training guidance prepared by the XVIII Airborne Corps, the 82d Airborne Division, and the 101st Airborne Division (Air Assault) all recognize a need to be proficient in combat in mountainous terrain. Because of their world wide deployment responsibilities, all also include desert and jungle terrain in their list . Almost all light infantry units, the 82d, and the 101st regularly train in jungle and desert operations as evidenced by their participation at the Jungle Operations Training School, Panama, and at the National Training Center. However, none of these units conduct an institutionalized program of training for combat in mountainous terrain.

General Livsey has recognized the special training needs of soldiers when operating in mountainous terrain, so

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[4]Disposition Form, "METL for LID in FID," by LTC Paul J. Kalowski, Chief, Low Intensity Conflict Proponency Office, US Army Combined Arms Center, Fort Leavenworth (21 January 1987)

much so that it is a point of emphasis in his training guidance. He also expects units which will serve with Eighth Army in Korea in the event of hostilities to be prepared to conduct operations in mountainous terrain. Light infantry forces and other rapid deployment forces will certainly be among the forces deployed to Korea should war break out.

## Summary

Historical precedence has been established by the 10th Mountain Division in World War II with regards to the value training in mountains had to the success of their combat mission. Also, the training they and the Mountain Warfare Training Center conducted for other divisions of the Army contributed significantly to the success of these divisions.[a]

The Army leadership has determined, much like it did in 1941, that the Army cannot afford a specialized mountain division. With current limitations on personnel strengths, as well as budget constraints, this is probably a valid determination. However, the Army cannot ignore the peculiar requirements of combat in mountainous terrain, and not train for such a likely contingency. The risk is too high. Training in mountainous terrain does not take away from training in other areas. Instead, it enhances much of that

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[a]See pages 37-38.

training by conducting those tasks in a much more arduous environment.*

Units with a high probability of deploying to a mountainous area of the world, which certainly includes the Army's light infantry divisions, must begin a deliberate training program for combat in mountainous terrain. Although the entire division does not need to be expert in mountaineering, there is a need for a small group of highly trained experts in each division, perhaps only a platoon in each battalion, able to lead the way in preparation for the main body. This was done by several divisions in World War II, and proved highly successful.

Additionally, units must train periodically in mountainous terrain so that every soldier will be aware of the special skills required in such an environment. This is critical so that soldiers will not view the terrain as more of an enemy than the enemy itself.

If a unit has to deploy to combat rapidly, it will fight with the skills it has developed prior to deployment. These units will not have the luxury that some units in the past had before deploying to Europe in the 1940's. Two weeks of training for the environment they are about to enter will certainly not be available. Thus, since the Army is unable to predict with any accuracy as to where it may fight next, light infantry forces must posses terrain

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*See page 69.

adaptability. This is already being accomplished for jungle, desert, and urbanized terrain. A view of the topography of likely contingency areas points to the necessity of immediately beginning this environmental training in mountainous terrain.

# APPENDIX A

## APPENDIX A

### FIFTH ARMY MOUNTAIN TRAINING PROGRAM[1]

Training Subjects:

a. Mountain walking - individual

b. Mountain marching - unit

c. Mountain dangers

d. Route selection

e. Bivouacking in mountains and snow

f. Rock climbing

g. Back packing and portage techniques

h. Use of fixed ropes

i. Proper use of special clothing and equipment

j. Snow shoeing (high mountains)[2]

k. Skiing (high mountains)

l. Ice climbing (high mountains)

m. Trail breaking, and construction (high mountains)

n. Operation of snow vehicles

o. Camouflage techniques in mountainous and snow covered terrain

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[1]Headquarters, Fifth Army, Mountain Warfare Training (1943): 2.

[2]Author's Note: Snowshoeing was much easier for the soldiers of the 10th to master. All soldiers participated in ski training, however snowshoeing was the primary emphasis. Skiing was used primarily for reconnaissance, and liaison missions. During combat operations, the 10th Light Division actually only used skis in combat once, and this was during a reconnaissance patrol.

p. Construction of snow and ice breastworks

MEDICAL TRAINING: Evacuation of casualties is one of the most difficult tasks during mountain operations, and cold weather simply compounds these problems. Not only do the cold conditions make the evacuation more difficult physically, but also requires the evacuation to be accomplished in a much more timely fashion. During cold weather conditions mortality rates increase drastically with time. Litter bearers required a lot of endurance, thus Fifth Army focused on this problem in its training program.

Training subjects:

a. Mountain evacuation

(1) Litter bearer relays

(2) Evacuation route selection

(3) Pace during litter evacuation

(4) Reinforcement of litter bearers

(5) Use of pack animals for medical resupply, and evacuation

(6) Evacuation of casualties down cliffs, and over chasms

b. Construction, and maintenance of warming posts

c. Wear of winter clothing

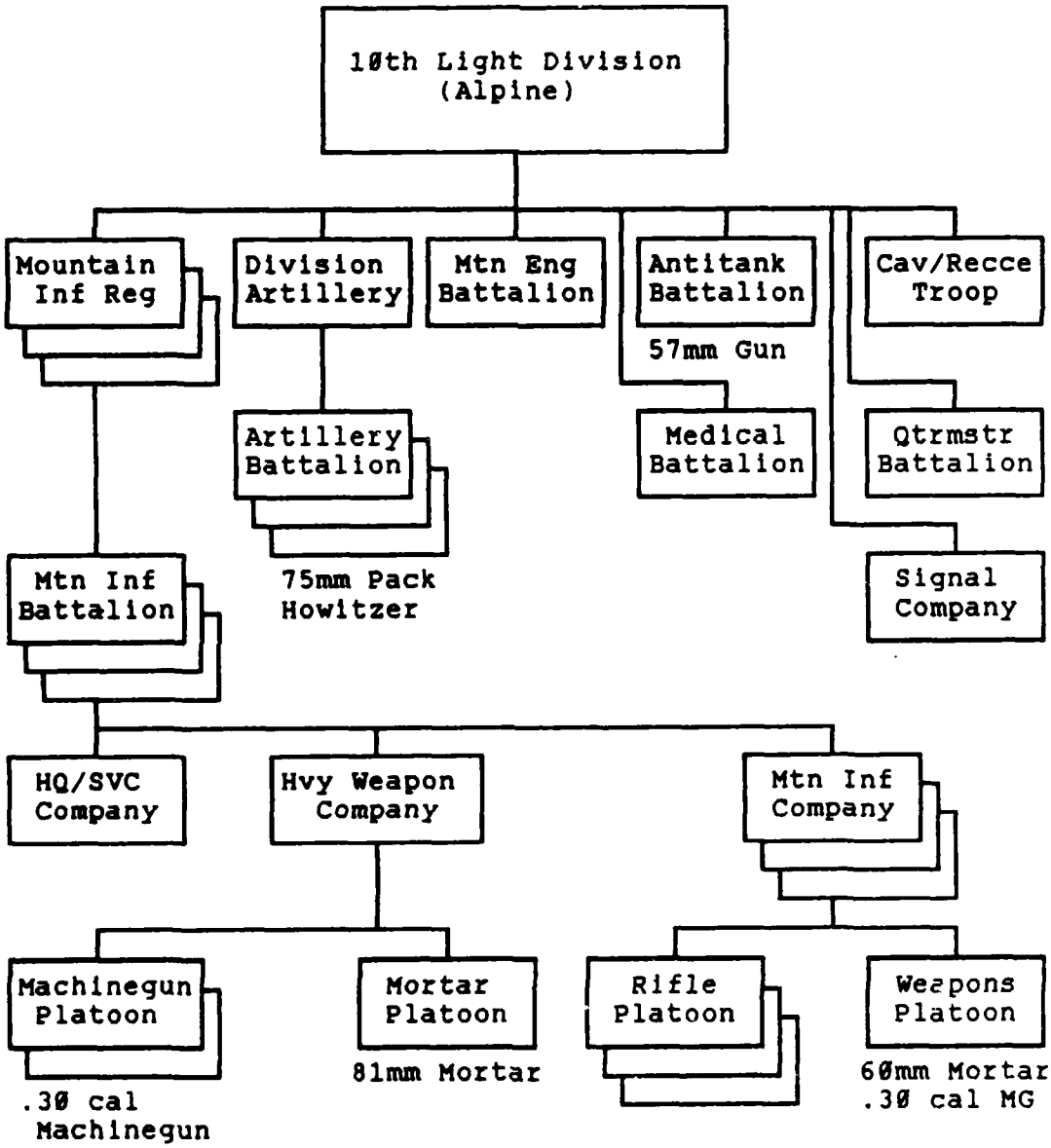
d. Rock climbing

e. Treatment, and prevention of altitude sickness, frostbite, and exhaustion

# APPENDIX B

APPENDIX B

10TH LIGHT DIVISION (ALPINE) ORGANIZATION




The organization for the standard light infantry division was found to be inadequate for the 10th Light Division (Alpine), and was therefore adjusted. It grew from

AD-A184 866 COMBAT OPERATIONS IN MOUNTAINOUS TERRAIN: ARE UNITED STATES ARMY LIGHT IN..(U) ARMY COMMAND AND GENERAL STAFF COLL FORT LEAVENWORTH KS M E RICHMOND 05 JUN 87 2/2

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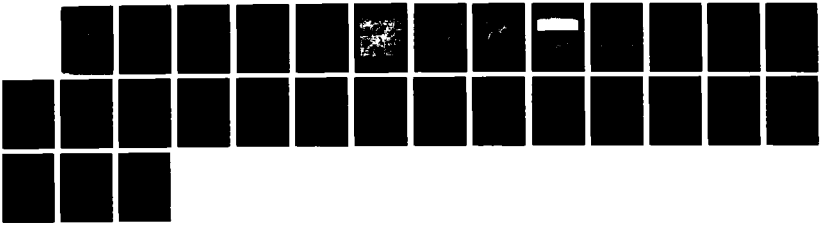

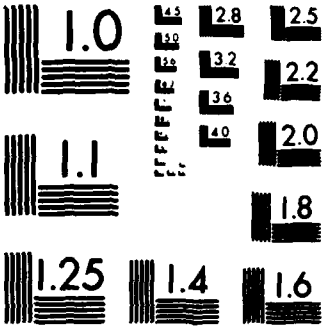

nine thousand to fourteen thousand men, and from 1,700 pack animals to over six thousand. It became a much heavier division, with more weapons, as well as heavier weapons than had been originally envisioned.

The one exception to these heavier weapons was in the artillery battalions. The 105mm howitzers were found to be to heavy to transport in the mountainous terrain, and was substituted with the 75mm pack howitzer. This howitzer could be transported by the mules, and had sufficient firepower for the divisions purposes. When committed to combat, the 10th's needs for heavier artillery was provided by Corps artillery.

Because of the reduction in the amount of firepower resulting from the loss of the 105's, the early organizers sought more direct fire weapons. They had twice the normal number of Browning Automatic Rifles, and more .30 caliber machineguns.

The 10th was a triangular division, with three mountain infantry regiments, and three mountain infantry battalions in each regiment. The mountain infantry regiment differed from the standard infantry regiment in that it had neither an antitank company nor a cannon company.

The mountain infantry battalion was very similar to the standard infantry battalion, except in regards to its service company (not depicted in wiring diagram) which was much larger, and gave the regiment greater autonomy from the

division support base. This was in consonance with the doctrine for operations in mountainous terrain which called for subordinate units to act more independently than in normal infantry operations.

The division's antitank assets were centralized into an antitank battalion, unlike all other infantry divisions. Additionally, the engineer battalion, the medical battalion, and the signal company were all increased in size from the normal infantry division due to the increased demands mountain operations placed on these units.[1]

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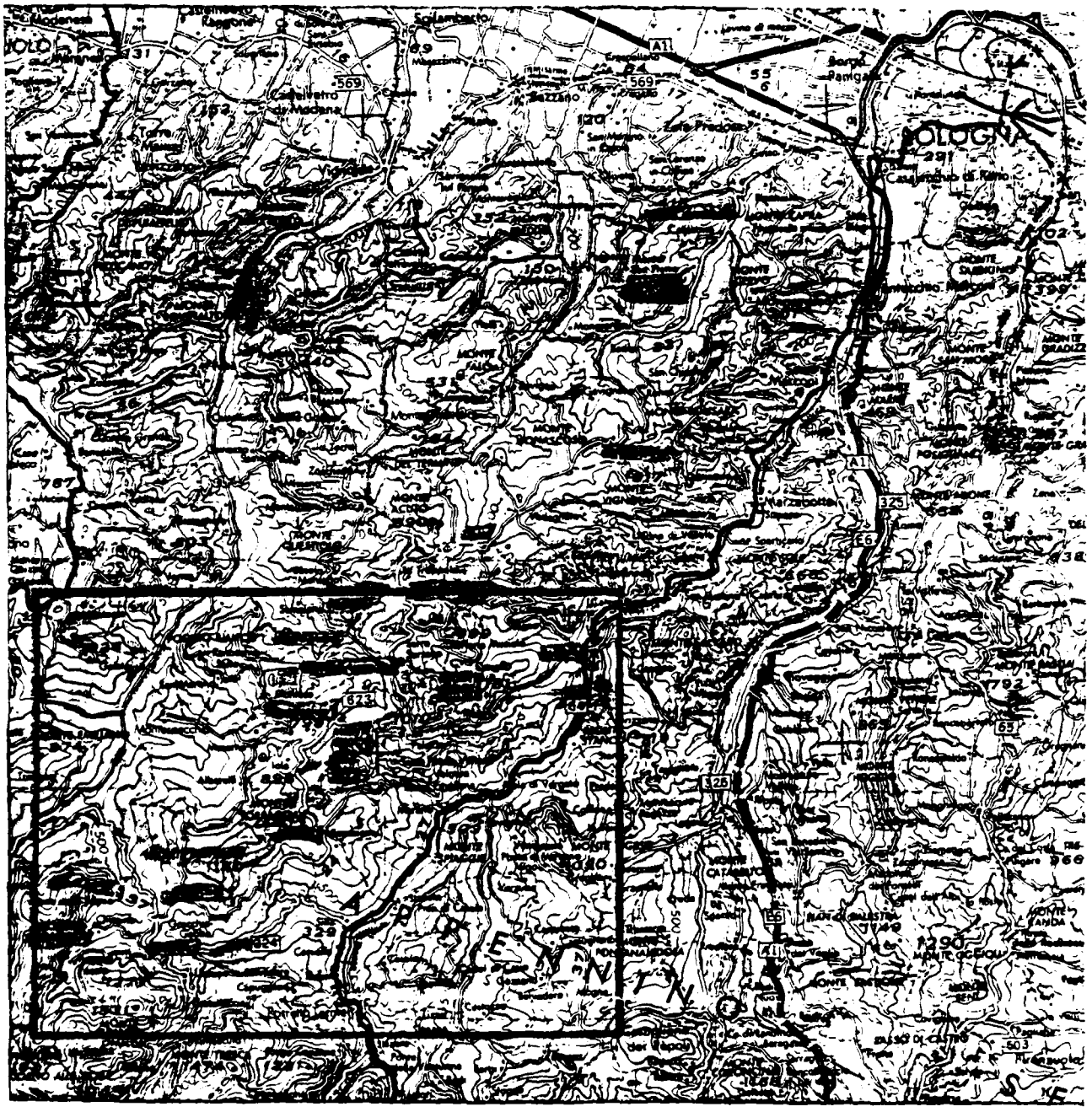
[1]Luttwak, Historical Analysis: 5-15.

# APPENDIX C

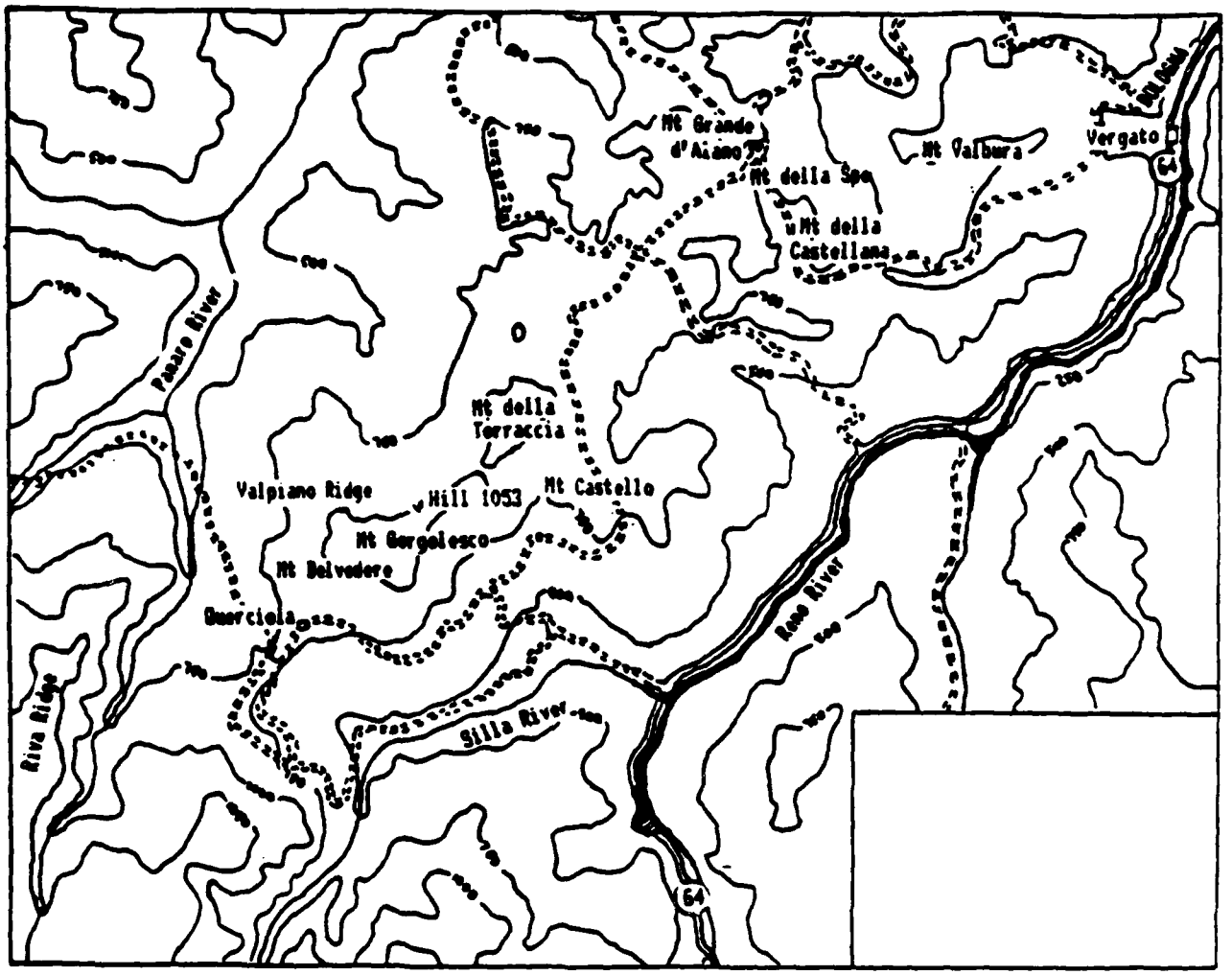
## APPENDIX C

## EXAMPLES OF WORLD TROUBLE SPOTS CONTAINING MOUNTAINOUS TERRAIN

| | |
|---|---|
| Afghanistan | Hindu Kush and Alpine Himalayan Mountains |
| Argentina | Andes Mountains |
| Bolivia | Andes Mountains |
| Chile | Andes Mountains |
| Columbia | Andes Mountains |
| Ecuador | Andes Mountains |
| India | Lesser, Southern and Outer Himalayan |
| Iran | Armenian Knot, Zagros and Elburz Mountains |
| Libya | Tibesti Mountains |
| Mexico | Sierra Madre Mountain Range |
| Pakistan | Western Himalayan |
| Peru | Andes Mountains |
| Syria | Jabal al Nusayriyah, and Anti-Lebanese Mtns |
| Turkey | Alpine-Himalayan Mountains |
| Zaire | Ruwenzobi and Marungu Mountains |

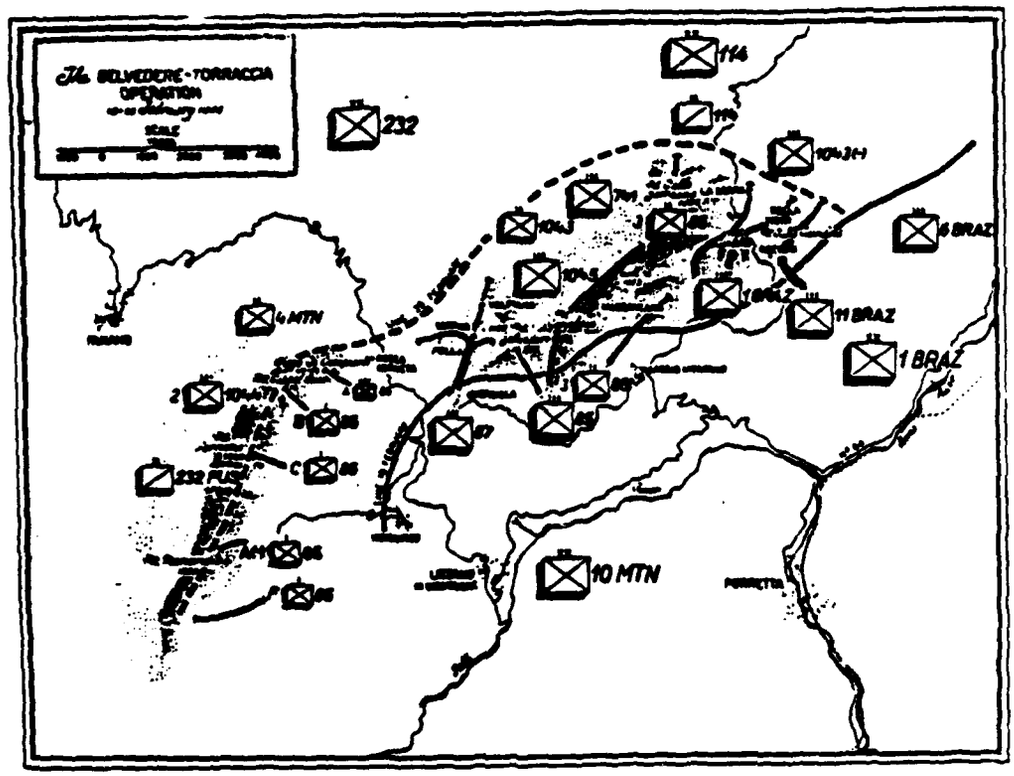



MAP #1: North Central Italy




MAP #2: Operational Area - Operation Encore

Inset from Map #1 is depicted here.




MAP #3: Fifth Army Phase I - Operation Encore[1]

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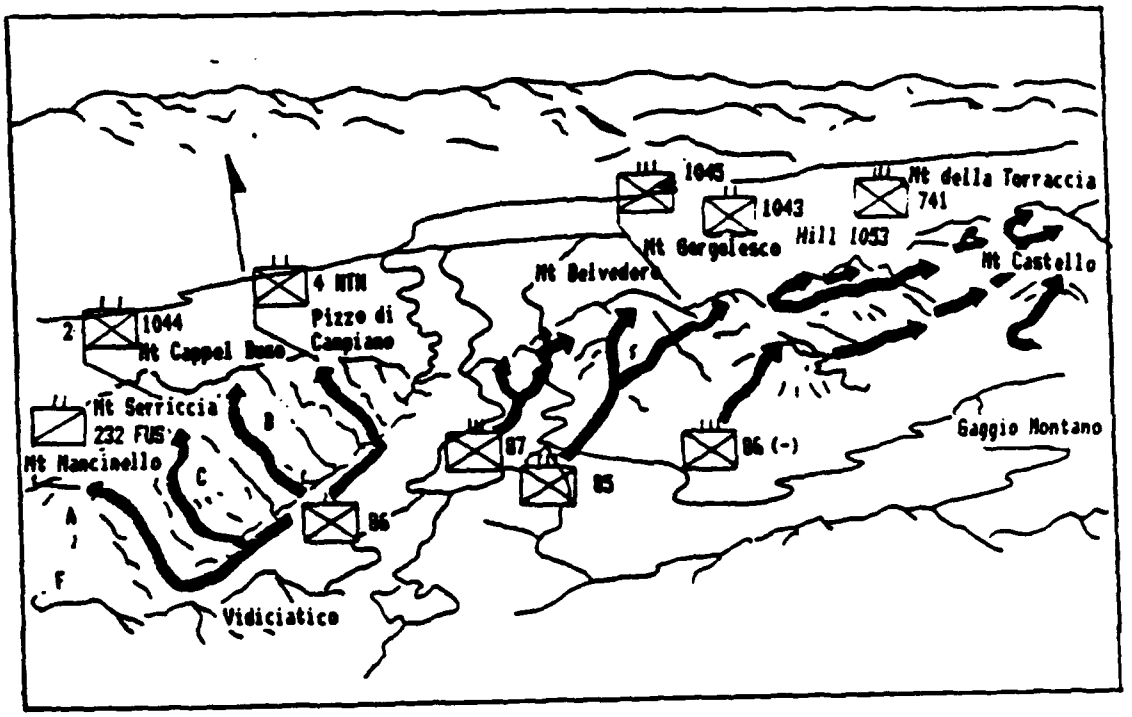
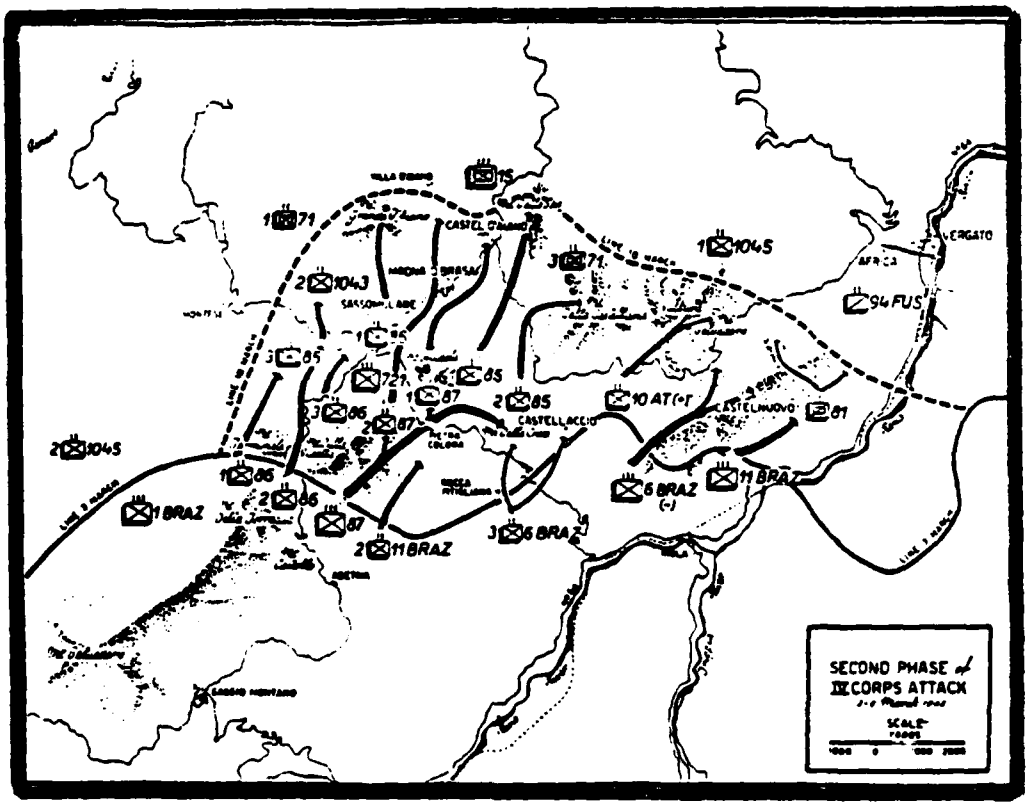
[1]US Army, Fifth Army History, Part VIII, The Second Winter (1947): 82.

Riva Ridge VIEW FROM VIDICIATICO Mount Belvedere




MAP #4: Fifth Army Phase I - Operation Encore

Sketch and Photograph




MAP #5: Fifth Army Phase II - Operation Encore [2]

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[2]Fifth Army History, Part VIII: 83.

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