National Archives Catalog
U.S. National Archives and Records Administration

========== Result 1 ==========

Operations Reports-Lessons Learned, 01/1967-06/1967
National Archives Identifier: 39054468
Creator(s): Department of Defense. Department of the Army. U.S. Army Pacific. U.S. Army Vietnam. Command Historian. 1965-1973 (Most Recent)
From: Series: Department of the Army, Office of the Adjutant General, Operations Report-Lessons Learned, 1966 - 1968
Record Group 472: Records of the U.S. Forces in Southeast Asia, 1950 - 1976
Container Identifier: 319
Level of Description: File Unit
Type(s) of Archival Materials: Textual Records
The creator compiled or maintained the series between: 1966 - 1968
Access Restriction(s): Unrestricted
Use Restriction(s): Unrestricted
ARC Identifier: 39054468
HMS/MLR Entry Number: A1 900
Copy 1: Preservation-Reproduction-Reference
Contact(s): National Archives at College Park - Textual Reference(RDT2)
National Archives at College Park
8601 Adelphi Road
College Park, MD, 20740-6001
Phone: 301-837-3510
Fax: 301-837-1752
Email: Archives2reference@nara.gov
Copy 1 Media Information: Specific Media Type: Paper
Container ID: 319
URL: https://catalog.archives.gov/id/39054468
Tag(s) for Image 1 out of 257: An Loc, Tay Ninh, Phan Thiet, Bien Hoa, SAIGON
Transcription for Image 1 out of 257: [HANDWRITTEN] OPERATIONS REPORTS LESSONS LEARNED - 1-67 - 6-67

[BARCODE]
472-0070-1-2

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 2 out of 257: OPERATIONS REPORTS LESSONS LEARNED, 1967

1-67 "Observations of a Platoon Leader"
2-67 Counter-Guerilla Tactics
Sec. I - "Semi-Guerilla Tactics"
Sec. 2- The Enemy
Sec. 3- Description of Pay/Warfare Operations

3-67 Engineer Notes # 2
4-67 "Observations of a Battalion Commander"
5-67 [handwritten] x
6-67 "Observations of a Brigade Commander"

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 3 out of 257: DECLASSIFIED AUTHORITY NND 994025

OPERATIONS REPORT
LESSONS LEARNED
REPORT 1-67
Transcription for Image 4 out of 257: DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D .C. 2.0310

IN REPLY REFER TO
AGAM-P (M) (24 Jan 67) FOR OT RD
30 January 1967

SUBJECT: Operations Report - Lessons Learned 1-67 - "Observations of a Platoon Leader"

TO: SEE DISTRIBUTION

1. This is the eleventh of a series of reports from operations being conducted by US Forces in Vietnam.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during the current combat operations. The lessons cited in this report may be adapted for use in developing training material.

3. Observations of a Platoon Leader is an account by 1st Lieutenant Patrick H. Graves, Jr. of the lessons that he learned as a platoon leader while serving with the 1st Brigade of the l0lst Airborne Division in Vietnam. The opinions stated herein do not necessarily reflect official Department of the Army approved doctrine.

4. The war in Vietnam has been characterized as a small unit leaders war. This report addresses the small unit leader and should be of particular value to all junior officers and senior non-commissioned officers . It is anticipated that portions of this report will appear in a future publication of the Infantry Magazine.

5. Previously published reports of the Operations Report - Lessons Learned series were:

a. Summary of Lessons Learned, Vietnam, 2 November 1965, UNCLASSIFIED.

b. Operations Report - Lessons Learned, Report 1-66, Operation CRIMP, 22 March 1966, marked FOR OFFICIAL USE ONLY.

c. Operations Report - Lessons Learned, Report 2-66, The Battle of Annihilation and the BONG SON Campaign, 1 April 1966, CLASSIFIED.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 5 out of 257: d. Operations Report - Lessons Learned, Report 3- 66, The PLEIKU Campaign, 10 May
1966, UNCLASSIFIED (Limited Distribution).

e. Operations Report - Lessons Learned, Report 4-66, Evasion and Escape RVN, 24 May 1966, CLASSIFIED.

f. Operations Report - Lessons Learned , Report 5-66, Combat Service Support - RVN, 10 June 1966, UNCLASSIFIED.

g. Operations Report - Lessons Learned, Report 6-66, Lessons Learned in Vietnam -- 1966 , 1 July 1966 , UNCLASSIFIED .

h. Operations Report - Lessons Learned, Report 7-66, Operations COCOA BEACH and HAPPY VALLEY, 11 Aug 1966, CLASSIFIED.

i. Operations Report - Lessons Learned, Report 8-66, Engineer Notes #1, 13 October 1966, UNCLASSIFIED.

j. Operations Report - Lessons Learned, Report 9-66, Equipment, 7 December 1966, CLASSIFIED .

5. Addressees other than US Army are provided copies of Operations Report - Lessons Learned in accordance with the provisions of DJSM 545-66, dated 2 May 1966.

BY ORDER OF THE SECRETARY OF THE ARMY:

[signature]
1 Incl KENNETH G. WICKHAM
Lessons Learned 1- 67 - Major General, USA
"Observations of a Platoon Leader" The Adjutant General

DISTRIBUTION:
Office, Secretary of the Army
Office, Chief of Staff, US Army
Deputy Chiefs of Staff
Comptroller of the Army
Chief of Research and Development

Chief, Office of Reserve Components
Assistant Chiefs of Staff
The Adjutant General
Chief of Engineers
Chief of Finance

2

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 6 out of 257: DISTRIBUTION (cont'd)

The Surgeon General
The Inspector General
Chief of Communications,-Electronics
Chief, National Guard Bureau
Chief of Information
Chief of Military History
Chief, Army Reserve
The Provost Marshal General
Chief of Support Services
Commanders in Chief
US Army, Europe
US Army, Pacific
Commanding Generals
US Continental Army Command
US Army Matériel Command
US Army Combat Developments Command
CONUS Armies
US Army Strategic Communications Command
US Army Security Agency
US Army Intelligence Command
Commanding Generals
US Army, Alaska
US Army, Hawaii
US Army, Japan
US Army, Ryukyu Islands
Eighth U.S. Army
US Army Training Centers
Army Corps
Army Divisions CONUS
US Army Deseret Test Center
US Army Electronic Command
Commander
U.S. Army Forces Southern Command
US Military Academy
Commandants
US Army Command and General Staff College
US Army War College

US Army Air Defense School
US Army Armor School
US Army Artillery and Missile School
US Army Chemical Corps School

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 7 out of 257: DISTRIBUTION (Cont'd)

US Army Engineer School
US Army Military Police School
US Army Infantry School
US Army Intelligence School
US Army Medical Field Service School
US Army Ordnance School
US Army Quartermaster School
US Army Security Agency School
US Army Signal School
US Army Transportation School
US Army Special Warfare School
US Army CBR Weapons Orientation Course
US Army Aviation School
US Army Civil Affairs School

COPIES FURNISHED:
Chief of Naval Operations
Chief of Staff, US Air Force
Commandant of the Marine Corps
Director, Joint Staff, JCS
Commanders in Chief:
Alaska
Atlantic
Pacific
STRIKE Command
US European Command
Southern Command
Pacific Fleet
US Air Force, Pacific
Fleet Marine Force, Pacific
Commanders:
US Military Assistance Command
Thailand
Vietnam
Commandants:
Armed Forces Staff College
Industrial College of the Armed Forces
National War College

Director, Military Assistance Institute
Senior Army Advisors
Naval War College
Marine Corps School
Air University

4

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 8 out of 257: Copies furnished: (Continued)

US Exchange Instructor
Tactics School, Royal School of Military Engineering
Chatham, Kent, England
Security Officer, ICR, University of Pennsylvania
USA Standardization Group, Ottawa , Canada
Corps of Engineer Class II Installations and Activities
Director Air University Library
US Army Map Service

DECLASSIFIED AUTHORITY NND 994025

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 9 out of 257: CONTENTS

FOREWORD

DECLASSIFIED AUTHORITY NND 994025

X. COMMUNICATIONS

Transcription for Image 10 out of 257: l '

FOREWORD

The material contained herein has been prepared in the hope it will be of value to junior officers, especially those subject to duty in Vietnam. I believe this text offers a fresh approach to the subject material since I, a platoon leader, address platoon leaders.

The various topics of particular importance are titled and subtitled for special consideration.

Information has been compiled largely through personal experience, and through conversation with fellow officers. In addition, I was fortunate to have observed the 1st Battalion, Royal Australian Regiment, for one month, two weeks of which were on operations against the enemy. One of these operations was the important Operation Crimp, during which the Australian forces discovered a complex tunnel system near Ben Cat.

The experience within these pages has been derived from a tour in Vietnam with the 1st Battalion (Airborne), 327th Infantry, 101st Airborne Division. This material does not necessarily reflect the policy of the unit .

Many points herein may be controversial. I qualify Observations of A Platoon Leader only by the fact that I was a rifle platoon leader in a-Platoon Leader's War.

[signature]
PATRICK H. GRAVES, KR.
1ST LT, INF

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 11 out of 257: OBSERVATIONS OF A PLATOON LEADER

In any situation presented in combat, the leader is the control center. He makes an estimate of the situation, designs on a course of action, and directs his unit to completion of the mission. Whether these actions take place in a few minutes under the roar of a firefight or and hours of deliberate planning, the leader is the center of control.

In counter-insurgency operations, small unit actions are prevalent. For this reason, the small unit leader frequently functions alone, thus this type of warfare becomes the small unit leader's war. Now, because this is true, the squad

and platoon leader can expect to share a greater burden of combat activity. The small unit leader is to control center and the units' actions are his responsibility.

Many other aspects of the war in Vietnam are unique in that they have not been experienced by the American Army during recent wars. New lessons are being learned and new techniques are being developed each day of the war.

Based on my personal experience as a leader, I have accumulated the following information to aid the small unit leader. It should prove a guide for those who are destined to be small unit leaders in Vietnam.

TERRAIN:

Force distinct classes of terrain exist in Vietnam: the Central Highlands, the flat coastal areas, the Delta Region, and the jungle. Each area has its peculiar advantages and disadvantages to the infantry unit.

Central Highlands. The Central Highlands as found around An Khe requires extensive use of the file formation since undergrowth is thick. Here the terrain is dominated by mountains providing excellent navigational aids. Mountains break into hills and deep streambeds which contained the densest vegetation in the area. Movement is limited to a crawl. Occasional open areas consist of cultivated land or fields of elephant grass. Numerous mountain passes provide excellent ambush sites.

Control is difficult in this thick vegetation. During movement the point team of a unit provides frontal security and performed trail-blazer duties. Flank security of the column poses unmanageable problems because such elements are difficult to control. Also this requires cutting three paths as opposed

DECLASSIFIED AUTHORITY NND 994025 POP
Transcription for Image 12 out of 257: to one, thus impeding rapid movement. Noise is a factor here also. Observation is often limited to several meters and fields of fire are non-existent. These factors do not favor the enemy ambush on other than we11 defined routes.

Flat Coastal Areas. Here completely different terrain is encountered, therefore, tactics and formations must be altered. These areas are entirely flat between mountain ranges and occasional lone mountains. Only slight changes in elevation exist otherwise. Rivers, streams, and canals, often unfordable, are plentiful, and cut the large fields where otherwise unhampered vision may exist for thousands of meters. Although they are comparatively narrow, canals present a great obstacle due to their depth and foliage along the banks. Fords are frequent in the area and may be used with caution. Such crossings are easily located along paths. Bridges of bamboo poles laced together with vine are more common than concrete or wood structures.

Many villages built-up above the rice paddies dot the entire area. Access to the larger villages is by well defined roads and trails, and to the smaller villages by foot paths along dikes bordering the paddies.

The flat coastal areas are not entirely made up of rice paddies as described above. In some areas such as that around Phan Thiet, Phan Rang, and Cam Ranh Bay, the flat land consists of sparse shrub and few trees. This resembles to a great degree the western United States. Vegetation density increases closer to the bordering mountain ranges, but observation in the area is generally excellent.

The rice regions of Southeast Asia are not confined to any particular area. They exist inland and on the coast. Rice paddies are danger areas by virtue of the excellent observation and fields of fire afforded the enemy. During the cycle of each rice crop, the paddy is flooded much of the time. Due to the muddy bottom and water level, movement through the paddies is slow, noisy, and during the rainy season, very dangerous.

During the dry season when the paddies have been plowed, movement is again hampered by the roughness of the ground. This condition is almost as bad as the wet rice paddy.

To add speed to movement, dikes may be used provided the route is not restricted to one dike. Dikes are often very narrow requiring constant attention to where one walks. Observation of the surrounding terrain is thus neglected. Well traversed dikes which provide a high speed approach may often be mined.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 13 out of 257: [PHOTOGRAPH]

IN THICKLY VEGETATED AREAS, THE FILE FORMATION IS FREQUENTLY USED.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 14 out of 257: In the open terrain, the wedge and echelon formations have proven to be very

useful. When using the file or column, flank and point security should be pushed well out. Unless movement is conducted at night, troops must be trained to disperse in such open areas.

The Delta Region. This region most closely resembles the rice paddy areas previously described. Here, however, water is more abundant and canals, streams, and rivers are influenced by tidal changes. Many march areas exist and present a formidable obstacle to foot and vehicular movement. Sugar cane brakes and pineapple crops are more abundant here than in the coastal regions.

The Jungle. In and around War Zones C and D west of Ben Cat and north of Bien Hoa, respectively, much of the jungle terrain in Vietnam is encountered. The jungle may

further be classified into distinct type of growth, primary and secondary growth. Primary jungle - the canopy, consists of towering trees often 250 feet high, which block out the light of day. A heavy rain becomes a steady trickle on the jungle floor below lasting long after the rain has subsided.

The absence of this canopy gives way to dense undergrowth or secondary jungle. Movement is rapid where the primary jungle or canopy exists as compared to movement through secondary jungle. Secondary jungle growth is perhaps the thickest vegetation in Southeast Asia.

Frequent use is made of the file formation in the jungle since control is a major concern. Problems of movement in the jungle resembles those in the dense vegetation of the Central Highlands.

Because clear areas are scarce in the jungle and other densely vegetated terrain, landing zones are marked in the same manner as rallying points. The preparation of LZs is difficult and time consuming and requires a large effort.

NAVIGATION:

Thorough understanding and professional use of map reading and navigation are essential to the accomplishment of the mission. The importance of map reading ability is often not meaningful, nor appreciated, through the long hours of tedious classroom instruction. Practical exercise in the field is where professional ability is founded. Believe me, you must be able to put your classroom knowledge of map reading to practical application in Vietnam.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 15 out of 257: [handwritten] 9

The junior officer proficient ln map reading and navigation is a most notable asset to his unit whether it be an American or Vietnamese unit. In counter-insurgency operations in Vietnam where movement ls critical, this ls especially valid.

The platoon leader who fails to use and trust his noncommissioned officers with the map is creating a problem for himself. Most senior NCOs have had many years of experience in map reading and navigation. They can offer much assistance. This does not, of course, relieve the leader of the responsibility for the actions of his unit. The platoon leader is a supervisor at all times and must be aware of, and check, the actions of his subordinates.

Maps. Units have been fortunate to have excellent maps of operational areas of Vietnam. Maps are scaled 1:50,000. Aerial photographs are often of a larger scale. Large terrain features as a rule, are accurate for navigational purposes as are villages and rice paddies to a lesser degree. Map errors do exist, however, and

this should be considered, especially when using fire support. In plotting a course of movement, the G-M angle for Vietnam is not so large to require consideration. A good map reconnaissance is invaluable to any mission and should be included as an integral part of the planning phase. Such a reconnaissance does not stop at squad leader level but is conducted with each member of the unit.

Compass and Pace. The compass is used extensively everywhere in Vietnam. In the jungle and other densely vegetated areas where noticeable landmarks do not exist or are not observable, one must rely solely on the compass and pace for navigation. A compass issued down to each fire team leader is desirable. Once in a semi-permanent or permanent base area, a unit should set up a compass check and pace course.

FORMATIONS AND TACTICS:

In discussing the tactics used by the American forces in Vietnam, I must note that our small unit tactics are for the most part conventional. Most officers have the idea that duty in Vietnam means divorcing oneself from former tactics instruction. This ls not true. Although the peculiarities of the war in Vietnam have resulted in the revision of certain tactics and the formulation of new techniques basic infantry tactics form a foundation for any operation or action. Further, this conflict gives the Army the opportunity to test and perfect old and new tactical concepts in a counter-insurgency environment.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 16 out of 257: [handwritten] 10

Movement. Let me first discuss movement. In a guerrilla infested area, the leader must keep one principle in mind above all else - SECURITY. It is mandatory to move with all around security when terrain permits. This is executed by providing point, flank, and rear security teams. A platoon file may look like this:

[diagram]

An explanation of the duties of each element and team would be repetitious of selected manuals and training. some points, however, are worthy of comment. The machine gun positioned behind the platoon leader gives him control of a forward gun while the weapons squad leader or platoon sergeant controls the rear gun.

Notice the security provided on all sides. The rear security element drops away from the column periodically to detect and destroy a trailing enemy. Such security is essential for the common used file and column formations.

The wedge formation is used for relatively open areas where danger exists on both flanks and to the front. It may look like this:

[diagram]

6

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 17 out of 257: [PHOTOGRAPH]

SECURITY - STAY ALERT

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 18 out of 257: [handwritten] 12

Notice here too the placement of weapons and the firepower to front and flanks. Security is provided where needed, to the front and flanks, by virtue of the formation. When a danger area such as a river exists on the flank, the echelon formation is used. It looks like this:

[diagram]

Again security is provided to a particular flank.

The Vee formation is used also. None of these formations are new. I demonstrate here the use of conventional formations against an unconventional enemy and emphasizes the important principle, SECURITY. (See WEAPONS: M-60, Light Machine Gun, for a discussion on the placement of this weapon in the above illustrations.)

The difficulty of movement in the terrain common to the Central Highlands and jungle is lessened greatly by the proper selection of routes prior to a mission. As stated in the FMs, avoid crossing compartments because such a practice is time consuming and tiring. Instead plan routes along ridge lines and other arteries. Stream beds and river banks provide high speed avenues of advance. Time limitations often make the use of such routes mandatory in order to accomplish the mission.

The old proverb derived from past experiences in counterinsurgency situations -- "Never use roads and trails"--has a sequel that applies here. "Never use roads and trails unless the route can be se cured. "

Enemy Sniper. More often than not the enemy will be encountered in small numbers. The sniper is a good example of the type of small unit action frequently encountered. The mission of the sniper varies. Most often he is employed to harrass. The sniper, however, is used in areas where enemy strength is nominal. Here he is used to demonstrate to the inhabitants of the area that the Viet Cong can resist a larger government or American force. Primarily, such light resistance is for propaganda purposes.

8

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 19 out of 257: [handwritten] 13

In a delaying mission the sniper is very effective. A single sniper can hold up a greatly superior force while his comrades effect withdrawal. Very often too, the sniper is utilized to bait an ambush by withdrawing into the prepared trap.

The effectiveness of the sniper depends on the type of enemy and the terrain. When the enemy is greatly outnumbered or when his experience and equipment make him other than a regular, he will usually engage at ranges which will allow immediate retreat after initiating the action. Main force Viet Cong and NVA snipers are bolder and possess better weapons, often complete with sniperscope. This type of sniper will allow forces to closely approach his position before engaging them. Obviously the latter sniper is more effective and casualties are higher for opposing forces.

Terrain plays a role here too. The open areas predominately found in the flat rice regions are critical danger areas. Here, well emplaced small forces and snipers taking advantage of terrain obstacles such as rivers and canals can effectively delay a greatly superior unit. On the other hand, densely vegetated areas cause engagement to be at much closer ranges. The sniper presents a particular problem. In closing with and destroying the sniper a problem arises in the range involved. Closure must be executed with speed and aggressiveness by virtue of the sniper's ability to escape on preplanned avenues. This is where fire and maneuver comes into play. Utilize grenade launchers to the utmost, concentrating on trees and other suspected sniper locations. Aggressiveness is often the key to success or failure in destroying a sniper. A unit adept in rapidly neutralizing snipers will discourage further use of snipers in their area of operations.

Artillery and mortar support may be employed. Such support, however, requires valuable time in obtaining and adjusting the fire, time which slows rapid closure. Heavy support can be used effectively to close off suspected avenues of withdrawal. This support, however, is most often neither needed nor desired in engagements with the sniper unless fire and maneuver cannot be executed.

Avoid over-reaction to the situation involving the sniper. Be cautious of the baited ambush.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 20 out of 257: [handwritten] 14

Fire and Maneuver/Movement. Fire and maneuver/movement demand special consideration here. These are the most basic of tactical lessons, the first learned in training but often the first forgotten in combat. The common

communication, "My unit is pinned down by fire," is an impossibility unless the enemy enjoys superiority in number or a superior position. In almost any combat situation involving an engagement with the enemy, fire and maneuver is the immediate solution. This lesson is so often violated by the small unit leader that it is rapidly becoming absurd.

Search and Clear/Destroy. The basic difference between a search mission and the movement to contact mission is the time allotted. Proper execution of the search mission requires adequate time, while the latter is concerned with contact and pursuit and, therefore, is conducted quite rapidly.

A common example presents itself many times. A unit receives fire from a village or inhabited area. Upon closing on the village, it is found that the enemy has fled. Now the question confronts the leader whether to pursue or to search the village. In a counter-insurgency environment to gain and maintain contact is the goal and thus the unit should pursue. If there is reason to suspect that the village may contain supplies, weapons, or
intelligence data, a unit may elect to leave a group in the village to deny it to the enemy while the remainder offers pursuit. Any such separation of forces should not be made over a great distance unless each group is strong enough to sustain itself. Remember here too that over-reaction is dangerous.

The systematic and thorough search of a village is rarely conducted. Time limitations or a situation requiring pursuit is often the cause. If the mission dictates a search, time must be allocated to make the search thorough.

The mine detector is excellent in village searching to locate caches and hidden weapons in addition to its primary role The sniper or harasser will often hide his weapon in a nearby rice paddy, a well, or a dung heap after initiating the act ion. He then carries on normal activity in the presence of troops. Unless located the weapon will be cleaned and used again.

During village clearing operations, use villagers to precede point elements through the Village. They will avoid booby traps and concealed enemy.

DECLASSIFIED AUTHORITY NND 994025

.,

Transcription for Image 21 out of 257: [handwritten] 15

In villages, huts may contain bunkers for protection against artillery. These bunkers may be inside or close to the hut. If a bunker is to be destroyed, insure that no civilians are hiding inside. Smoke or tear gas are good means to drive persons from a bunker. The same results are obtained by indicating in the presence of villagers that· a grenade will be thrown into the bunker. This will encourage villagers into talking friends and perhaps the enemy from underground shelters.

The absence of children in an area frequently is a good indication of enemy activity. This situation should trigger caution, observation, and alertness.

The mission may call for the search and destruction of an enemy controlled area. Civilians will be encountered. Never make the mistake of believing everything found belongs to the enemy. For example, if rice is located in a large amount, estimate the amount required to feed the family present until the next rice harvest. The remainder may be extracted or destroyed as orders dictate. Viet Cong rice taxes are heavy, but villagers are usually allowed to retain enough to sustain themselves.

Suppose a large rice cache is found during the search and it is decided that it must be destroyed! What is the most effective method to destroy the rice? This is often a difficult problem. Burning or dumping it in a stream have proven to be effective means of disposal. Burning rice, however, is difficult without fuel. A white phosphorus grenade will not suffice since only the surface grain is charred. When burning or dumping is not feasible, the rice can be scattered over the ground, as a last resort.

Ambush. The night ambush is used frequently outs ide the defensive perimeter. Good ambush habits must be established early in a unit's training in order for the ambush to be effective. Light and noise discipline is a major problem area. The frequency of ambush missions and the infrequency of contact tends to increase the natural impatience of the American soldier and to cause a breakdown in light and noise discipline.

Each ambush mission must be initiated with the belief that each mission will net a kill. Planning must be thorough and precise since poor preparation serves to increase the soldier's indifference to the mission. The most common pitfalls for conventional forces in a counter-insurgency role are the bad habits and indifference formed by the infrequency of contact with the enemy.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 22 out of 257: [photograph]

OPEN AREASARE DANGER AREAS BECAUSE OF THE EXCELLENT OBSERVATION AND FIELDS OF FIRE
AVAILABLE TO THE ENEMY.

DECLASSIFIED AUTHRITY NND 994025
Transcription for Image 23 out of 257: [handwritten] 17

The planning phase of the ambush, however, is often shortened greatly by time limitations imposed by last-minute missions. Therefore, SOPs must be formed to eliminate some of the time consuming steps in preparing a unit for a mission. These procedures are explained to all new personnel soon after arrival in the

unit. The SOP is reviewed and revised periodically. A reconnaissance by the platoon leader is essential to the successful accomplishment of the ambush mission. Lack of knowledge of the terrain will cause confusion at the ambush site and often will lead to the selection of a poor location. In the event a leader 's reconnaissance is not possible during the planning phase due to time limitation or inaccessibility of the proposed location, it may be conducted as the unit moves into the area. This technique is especially useful when danger of enemy or native observation of movement into the ambush site exists. The entire unit is able to observe the proposed location as the patrol moves through the area. The patrol then moves to a location prefer ably at some distance away to plan the layout of the ambush. Count on all movements being observed by the inhabitants or the enemy thus lessening the chance of surprise.

The ambush must be conducted with aggressiveness and speed. Here explosives and automatic weapons play a decisive role. Special care is taken in placement of the automatic weapons and explosives. Claymores are ideal for the ambush and are used by both security and killer elements. Detonating cord is effective when laid linearly over suspected routes of escape from the killing zone.

Fire support is an important part of a successful ambush and must be included in the planning phase. It can be used to protect flanks and to secure the withdrawal. Concentrations registered on the proposed ambush location compromise its intended use.

Most frequently the ambush mission will be assigned to the squad or platoon. Supporting distance is of prime consideration and is determined from the intelligence analysis of the enemy's capability.

Open Areas. Rice paddies and other flat terrain present the problem of crossing large open areas. First, such areas are always considered danger areas. Second, movement across danger areas is conducted only as a last resort and then with utmost caution. Movement is conducted making use of available cover and concealment. Very large open areas may be crossed with little danger if the route is out of effective range of possible enemy locations.

If a danger area must be crossed, cover the move with available supporting fires. Concentrate machine guns aid grenade launchers. Move by bounds.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 24 out of 257: [handwritten] 18

Open areas present a formidable problem when attempting to close with the enemy. Regular enemy forces such as main force Viet Cong and NVA units will allow troops to gain close proximity to the enemy defenses before engaging. Again, move in open areas exercising great caution.

Do not close with a well entrenched enemy, commanding excellent fields of fire,

without first utilizing artillery and air support. After or in conjunction with this support, close with and destroy the enemy. Avoid practicing routine in any tactical situation. Routine and repetition lead to indifference and carelessness. The enemy takes advantage of such a situation. Rely heavily on former tactical instruction to form a base for any operation. Fire and maneuver/movement must be conditioned responses in each soldier.

Breeching Minefields. Unmarked minefields exist in Vietnam. In some instances these minefields were left by the French over a decade ago. More recently unmarked minefields have been laid by the Vietnamese. In breeching these obstacles, utilize existing trails or cattle paths if present. Keep in mind that such avenues may be covered by enemy fire.

CONDUCT OF THE NIGHT DEFENSE:

Units will find themselves confronted with the night perimeter defense more often than any other single situation. It is imperative, therefore, that the night defense provide the greatest possible security for the unit.

The successful conduct of the night defense depends on a strong and thorough planning phase. Precise initial planning allows creation of unit SOPs which simplify and hasten the preparation of the defensive posture. The following are important points to consider.

Selection of Terrain. Terrain plays a decisive role in the success of any defense. The limitations on observation imposed by darkness and dense undergrowth often allows the selection of terrain other than is suitable to the daylight defense.

Except for moonlit nights, the defense relies to a large extent on a listening post type of defense. The dense jungle undergrowth, for example, has few clear areas making movement easily audible. To allow grenades to be utilized overhead frontal clearance, and fields of fire must be prepared.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 25 out of 257: [handwritten] 19

In clear areas, the defense will take different form. Positions will be further apart because visual observation is a greater consideration than in dense vegetation. In open areas bounded by a woodline, the perimeter should be entrenched out of grenade range from the woodline. Plan on booby trapping with trip flares and noise making devices.

In the flat rice paddy areas, the best defendable position may be a small village. Villages are built on mounds above the surrounding paddies and command excellent fields of fire in all directions. Visual observation is excellent. Sounds of movement in the wet rice paddies are easy to detect. Grazing fires make this

position a machine gunner's dream. In the rice paddies, use the dikes to provide protection for the prone position.

It is not difficult to understand why the enemy very frequently chooses such locations for the defense.

Clear the area in and around the proposed defensive position. This is especially important when the perimeter includes huts and tunnels. If inhabitants are within the perimeter, they are guarded. (See ENEMY DEFENSES AND DEVICES: Tunnels.)

The Perimeter. The next step in the conduct of the night defense is the preparation 0f the perimeter. Maximum advantage of the terrain is utilized.

Select the distance between positions by considering the terrain, observation, the size of the unit, and the enemy 's capability. The tendency is to make the perimeter too large thus decreasing security.

Each position is manned with a minimum of two personnel and 50% alertness is maintained. If the situation allows, three and four man positions are desirable to permit each soldier to get more rest. Alertness is also increased.

Foxholes are dug and all personnel sleep below the level of the ground. A poncho or tent for sleeping compromises the fighting position if erected nearby and not camouflaged. One method to eliminate sleeping in or near the fighting position is to prepare the sleeping positions at a near distance from the fighting positions. A piece of communication wire, WD1, or string is tied to the sleeping man. A tug on the wire from the fighting position alerts the off duty soldier of his turn for duty. The individual on duty

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 26 out of 257: [handwritten] 20

thus does not leave the fighting position.

Do not neglect observation and listening posts. These early warning systems apply in Vietnam as in former wars.

Maximum use is made of explosives and early warning devices in the night defense. Claymores, trip flares, and noise makers are positioned at dusk or after dark if possible. Remember here that trip flares are very difficult to rig utilizing the pressure-tension device. Squad leaders should supervise the use of this device. Most comrn0nly the pressure device, activated by tripping the safety release, is used. Never under-emphasize the use of explosives and early warning devices.

During the positioning of the perimeter, a unit is extremely vulnerable. Therefore, proper security must be established during occupation of the defensive

position. At each position a minimum of one man on alert is maintained, one individual on guard, the other working to improve the position. All automatic weapons are always manned. Remember, unless you supervise, the troops will drop their equipment and sit down with little regard for security.

Proper communications are vital to the success of the defense. Visual or noise signals are used if radios or telephones are not available in sufficient amount. Communications must be established with parent and subordinate units, with any outposts, and with each fighting position. Thus, when a position becomes engaged, the leader can rapidly determine the situation. This also eliminates the necessity to examine the perimeter after darkness, a dangerous practice which may compromise the positions. No movement should exist inside the perimeter once darkness falls, except in an emergency.

Plan fires to secure avenues of approach into the perimeter and safeguard dangerous flanks. Illumination fires must also be planned.

Perhaps it is unnecessary to tell small unit leaders to check each position before and after the perimeter is formed. However, be aware of the fact that failure to do so may mean the difference between success and failure. The individual soldier will find little interest in his position or fields of fire if the leader shows no interest in them. A leader's presence does much to influence the situation by adding a sense of urgency to an otherwise routine mission.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 27 out of 257: [handwritten] 21

Engagement. The perimeter has been established and the conduct of the night defense begins. The mission of the defense is to repel and destroy the enemy. In order to execute this mission successfully the individual soldier must know what, when, and how to engage.

First, what does he engage? The soldier must overcome any fear of darkness and gain confidence in his advantages as a defender. He must learn that darkness can be his friend, if properly used, or an enemy if improperly used. For example, the soldier who engages a noise at other than close range rarely destroys the enemy. He does, however, compromise his own fighting position. Instead, the defender should identify the sound as an enemy and not a "night noise." When does he engage? The proper time is when he is sure that he can destroy his target. The appropriate trait here is self-confidence.

How is the target to be engaged? What are the best weapons with which to engage the enemy at night? Explosives play a decisive role in the night defense. The large killing radius of the claymore and grenade, for example, overcome the difficulty of pinpointing a target. In addition, the friendly perimeter is not compromised.

The effectiveness of the rifle is greatly decreased by poor visibility caused by darkness. Automatic rifles such as the M-16 should be fired in three round bursts under such conditions. Machine guns and M-79's prove very effective.

Illumination is planned in advance in the fire support plan. Illumination, however, is often misused. Leaders tend to call for this support before the situation is developed. For example, if an enemy is believed moving toward a unit's perimeter or location, illuminating the area will alert the enemy to the fact that he has been observed. He will know that a unit is in the immediate area. Develop the situation. Make contact and then illuminate and destroy.

Stand To. Stand to is the condition of having 100% alertness during critical hours of the day. For example, in some areas the enemy has repeatedly attacked between 0001 and 0200 hours. In other areas attacks may be likely at dusk or dawn.

During stand to troops are required to be at their fighting positions with weapons and equipment at the ready. Light and noise discipline is enforced and no movement exists inside the perimeter. Stand down is gradual and disciplined to avoid

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 28 out of 257: [handwritten] 22

alerting the enemy to this condition by excessive talk, movement, or fires.

Before and after stand to, the Australian Army sends clearing patrols out and around their defensive perimeter to locate hiding enemy and to check on possible movement during the night. Some units practice the procedure of spraying the entire area around the perimeter with all weapons. This, however, is very ineffective since a prone enemy can avoid detection. In addition, valuable ammunition is expended and the extent of the defensive perimeter is compromised.

ENEMY DEFENSES AND DEVICES:

Usually only main force and NVA units in Vietnam are supplied with good equipment and weapons. What the enemy lacks in weapons, he makes up in the use of certain tactics and devices.

Villages. An enemy controlled village usually differs in its defense system from that of a government controlled or loyal village. The defenses of the former are constructed to avoid aerial detection as much as possible. A camouflaged trench system usually tie s together prepared foxholes, gun emplacements, bunkers, and an avenue of escape around the village perimeter.

Entrances into the village are blocked by felled trees and thorny brush and barbed wire. Roads and trails are pocked with holes and trenches or poles buried upright

to waist height. Bridges may be completely demolished or may have a single span missing with the approaches blocked by large pits. To provide protection for an enemy column caught by artillery or aerial bombardment, trails inside the villages contain staggered one man holes every five meters with overhead cover. Roads and trails may also be mined or may contain mantraps. Punji sticks are used to deny entrance to an enemy controlled area by means other than obvious avenues.

Tunnels. Just west of the infamous Iron Triangle near Ben Cat while operating with the 1st Battalion, Royal Australian Regiment, I observed what has been described as one of the most elaborate tunnel and trench systems yet encountered in the war to that date. This occurred during Operation Crimp in January 1966. The extent of these defenses demonstrates the high degree of patience of the enemy and his workers, and the large human reservoir of labor at the enemy's disposal.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 29 out of 257: [handwritten] 23

Villages in the area are less built up than the tunnels beneath them. Each hut contains an underground bunker able to accommodate all occupants of the hue. The entrance may be inside under the bed, for example, or on the outside near the hut. Such bunkers also hide arms, ammunition, and equipment caches on occasion. More often, however, such caches are entered through other concealed entrances. Each system of tunnels contains an escape exit at a distance from the entrance and in a concealed position, such as in the surrounding jungle. Exits have been found with a concrete slab neatly concealed away from any access route.

The surrounding jungle may contain large underground rooms which may be located by finding the ventilation holes on the surface. One such hole consisted of a large diameter, hollow bamboo pole, driven perpendicular to and level with the ground.

Tunnels have accommodations to allow the enemy to live underground if it becomes necessary. Tables, beds, and even wells were discovered in underground passageways three levels deep.

An example will give a more accurate picture of the enemy's ability to tunnel. In the area mentioned above, two machine gun bunkers were found dug into well concealed positions, commanding excellent fields of fire across an open field. A gully cut the side of the otherwise flat area near the woodline leaving a small mound, 15 feet by 4 feet and shoulder height, exposed where the gully divided.

One bunker was concealed at the edge of the woodline and was connected by a tunnel to a second position five meters away. This second position had been constructed in the small mound by a connecting tunnel under the gully. Firing slits too small to allow a grenade were cut into three sides of the mound.

Effective? The platoon did not discover the positions until the enemy fired on

individuals walking between the two positions. Light friendly casualties resulted but the advance of the company was delayed for over an hour. The enemy was able to escape through their tunnel network.

During a search and clear operation, tunnels and bunkers should be searched if possible. Great caution must be exercised, however, since booby traps, hiding enemy, and narrow passages can make the tunnel a death trap. The use of smoke and tear gas is one method to locate tunnel exits and to drive the enemy from underground hideouts. Gas masks

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 30 out of 257: [handwritten] 24

are needed here. Dogs have also been found effective in locating enemy in the tunnels. When the tunnel search is concluded, all entrances and junctions are blown by a demo1ition team.

Tunnels can be located in jungle terrain near excessive piles of dirt. This indicates an entrance nearby. such refuse dirt heaps are distinguishable from large ant hills, also found in some areas. Since ant hills have been in existence much longer, trees and bushes usually grow from their surfaces. Refuse soil taken from tunnels partially buries the tree trunks. Probing is another method of locating tunnel entrances and caches. A pole or bayonet sounds out covered entrances and buried cache barrels which have been dispersed throughout the undergorwth around a built up area. This procedure is a must if such an area is to be used for a friendly base of operations for any length of stay. Failure to locate tunnels and spider holes inside or near the friendly perimeter leads to enemy infiltration.

Landing Zones. In terrain where open areas are scarce, the enemy makes it practice to deny that area for use as landing zones. In rice paddy areas large mounds containing graves are at times the only dry landing areas. Large punji stakes up to three feet in length are utilized. Other open areas cleared for crops contain tree stumps cut at chest level for antihelicopter poles. Such devices are capable of piercing the hull of a helicopter.

In areas where enemy activity is greater, probable LZs are protected in a more sophisticated manner. Here the entire clear area may be encircled by a trench with frequent holes in the trench walls to provide overhead cover. Another sophisticated defense consists of scattered foxholes and in some areas concrete bunkers. LZ perimeters have been found cut by a small four inch deep trench for laying wire for claymore type device. In addition, any woodline is usually well booby trapped with trip wire grenades and mines.

Caution is most important in dismounting on all LZs. Bunkers and foxholes provide excellent cover that cannot be neutralized by anything less than a direct or near

hit by explosives. Even preparation with air strikes leaves much to be desired. Napalm is the best LZ preparatory means and will usually demoralize the enemy and drive him from the area. Experience has proved that the first lift of an airmobile assault must secure the adjacent terrain before the second lift touches down.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 31 out of 257: Mantraps. Mantraps are very difficult to detect and are effective casuality

producers. A variety of these devices exists but the pit is more frequently encountered.

These pits, often a cubic yard in size, contain two foot punji sticks protruding from the bottom. Along the sides are shorter sticks canted toward the bottom of the pit, over the hole is placed a loosely woven mat of thin bamboo strips. On this mat large leaves provide a base for dirt covering. This dirt top will sometimes show foot prints to add concealment. A heavy woven mat of thumb- sized poles is placed over the trap to a l low villagers and cattle to walk over it. This mat is removed when dangerto the village exists.

A typical pattern for mantraps on a road or trail may look like this :

[diagram]

It is extraordinary how well concealed these mantraps are. The most expert observation often cannot detect their presence. One clue here is dirt taken from the hole. It may have been thrown to the roadside nearby or scattered over the road. When such danger exists, stay off roads and trails. Otherwise, the point man should use a probing stick or movement should be made to the side of the road with each man walking in the same path.

Punji Sticks. The punji stick is a very simple but dangerous device. The punji stick is made from bamboo cut down to the desired length, sharpened, and burned on the tip for hardness. Often it is dipped in dung or human waste to accelerate infection. Compared to the little time and effort required to prepare this weapon, its casualty producing rate makes it most effective.

Punji sticks are placed so as to defend approaches to a village or camp. Stuck in the ground pointing away from the village or wedged into a cut in a tree at waist or head height, punji sticks are difficult to see. Night movement in such an area is especially hazardous. Normal walking speed will create sufficient force to run a punji stick through the leg. Shin guards used in softball and soccer have proven effective countermeasures.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 32 out of 257: [handwritten] 26

Booby Traps. Booby traps are used to a great extent. The unsophisticated enemy uses spears and other pointed objects given velocity by a bent tree or a counterweight. The more sophisticated enemy uses explosives. Explosive booby traps are commonly found along trails and roads, on a door, or around a gun emplacement.

A common explosive booby trap is the grenade with trip wire activation. A vine, transparent fishing line, or wire may be used to trip the grenade. The trip wire may be routed across the mouth of a small concealed hole. The wire is drawn tight and detonates the grenade when an intruder steps into the hole. Such devices can be located if care in movement and observation is utilized.

Enemy grenades and explosive devices vary in size, shape, and purpose. Many approximate the old MK11, fragmentation grenade, with its segmented casing. The fuse assembly is often machined from aluminum. Another type resembles the white smoke grenade. This grenade is smaller but has the cylindrical shape and gray finish as does the white smoke grenade used by friendly forces.

Two types of explosives exist with a heavy tar paper cover Both are cylindrical, one approximately three inches in diameter and eight inches long, the other five by twelve inches. The former explosive contains wires protruding from the top for electrical detonation.

The varying purposes for which enemy grenades and explosives are employed make them dangerous to handle once set. On occasion friendly troops have activated unfamiliar grenades in preparation for throwing. Such a grenade could very well have an instantaneous fuse. For safety purposes, such devices should be left untouched for a demolition team.

Mortar and artillery rounds either dug out of the ground after failing to detonate or procured from raids and ambushes are hung from trees. Detonation approximates an airburst. Overhead observation, therefore, is required to detect these devices.

Concussion booby traps are plentiful in certain areas. A C-ration or beverage can, filled with an explosive, may be activated in any number of ways. Such a device may be hidden in tall grass or buried near the surface of the ground.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 33 out of 257: [handwritten] 27

Because the enemy makes use of refuse, care is taken to destroy any items of use to him. C-ration cans, for example, should be opened at both ends and flattened or pierced with a bayonet.

When detonating explosive device left by the enemy care must be utilized. Tripwire

explosives may be activated by use of a long cord. A grenade laid a beside an enemy device does not ensure sympathetic detonation. Instead, the explosive is made more sensitive. C-4 composition wrapped around the enemy device works well.

Mines. Bombs and artillery and mortar rounds are used as electrically detonated mines. Such a mine is detonated by means of a battery or other electricity producing device, activated from a concealed position nearby. The mines are buried under a road, on the shoulder, or in a filled crater.

A means of siding is required in order to for the explosive to occur precisely at the right point under a vehicle. A paddy dike or trail running perpendicular to the main roadway, or a tree by the roadside, our typical sites.

Proper interval of 50-100 meters between vehicles in convoy is mandatory. Drivers should be further instructed to increase speed when passing any probable siding instrument along a dangerous route. Sandbagging the truck bed and requiring troops to sit in the center of the bed, facing out, reduces casualties.

In the event a vehicle is hit by an explosive, every effort should be made to keep the remainder of the convoy moving. A small group is left to secure the vehicle and to affect evacuation of casualties. The area on both sides of the road is well covered with fire, concentrating on likely unsuspected enemy locations. Wires, if not buried, will pinpoint a hiding enemy. Such an enemy position will often be covered by automatic weapons to secure withdrawal.

FIRE SUPPORT:

The excellent fire support available to the infantry commander finds varied use from unit to unit. Because such valuable support is available it should be used to it maximum in almost any type of situation.

The following comments pertaining to weapons organic to infantry units and their supporting units.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 34 out of 257: [PHOTOGRAPH]

USE YOUR ORGANIC FIRE SUPPORT.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 35 out of 257: [handwritten] 29

Mortars. Personal experience has shown that many small unit leaders consider the accuracy of the 81 mm mortar erratic. This holds true also for the 4.2 inch mortars which are organic to the rifle battalion. Erratic firing in short rounds have caused friendly casualties and endangered friendly troops on too many

occasions. In most cases, the fault cannot be placed on forward observers. On the contrary, old ammunition appears to be one problem area. The major problem, however, is the lack of training of the mortar crews. The weapon platoon usually receives the brunt of administrative details in areas other than Vietnam. Mortar crews are thus denied adequate training, training which should rely heavily on live fire exercises.

Despite this shortcoming and to correct the problem, small unit leaders must place reliance on the use of organic fire support. Often the tendency is to call for artillery fire support in lieu of organic mortars. The mortar crews cannot be expected to respect the capability and value of this weapon if seldom uses made of the mortar. The frequency of use is usually proportional to the capability of the mortar crews.

The 81 mm mortar may be displaced over long distances by foot with moderate difficulty. On operations this makes organic fire support available to the leader. Usually one mortar per company -sized unit is sufficient during foot marches.

It is most desirable for the weapons platoon to carry the ammunition, so it will be readily available for use. It is difficult for the rifleman to carry an 81 mm mortar round and its bulk weight decreases his effectiveness. The number of rounds carried varies with the number of mortars carried.

The 60 mm mortar is in even better weapon in providing organic fire support for the moving unit. This weapon is lighter, thus allowing more mortars and rounds to be transported greater distances with less effort.

When transported by foot the mortars covered with some type of material to prevent noise and glare. This is essential for night moves.

Mortar crews should be capable of placing around on target within 2 minutes from a moving posture. Squad leaders must commit charge numbers and elevations to memory for ranges less than 600 meters to allow rapid action.

DECLASSIFIED AUTHORITY NND 994025

Units may choose to use the 81 mm mortar forward observer's radio as a second radio within each rifle platoon. Fire missions, therefore, are given over the company command net, either by the platoon leader or the forward observer traveling with the platoon leader. Of course, it is desirable for the forward observers to be utilized since it frees the platoon leader of an additional responsibility. The platoon leader that learns to use the mortar effectively, has his own hip pocket artillery.

Artillery. No better fire support exists than that provided by artillery. Locations do arise where the mortar is more useful but these are in frequent.

A variety of artillery rounds and fuzes exist, each finding special use. The HE round with PD fuze naturally finds the greatest use. It's burst on impact will give an airburst in primary jungle areas. To penetrate this canopy, delay fuze is employed. The latter is especially useful in destroying a bunker or trench system.

The VT fuze should be used sparingly. The flat, open terrain common to rice paddies is excellent for use of this fuze. For safety purposes VT fuze is never used in support closer than 200 meters to friendly troops, except in emergencies.

The White Phosphorus round is good for starting fires. It's demoralizing effect is excellent too. The round is used for laying a smokescreen and for observing fire support in heavily vegetated areas.

Illumination rounds are adjusted vertically as well as in range and deflection. This serves to give maximum illumination at the proper altitude. The correction is given at 50 meter increments by UP and DOWN displacements. Wind direction is taken into consideration to compensate for drafts. (See CONDUCT OF THE NIGHT DEFENSE: Engagement.)

The inaccuracy of maps requires a safety margin in using mortars and artillery. Giving coordinates several hundred meters behind the target on the initial round provides this margin. Another method utilizing SMOKE for the initial round provides this margin. Anything other than a direct hit will not injure personnel. Remember here, however, that an HE round will travel farther than the SMOKE around for a given target. Personal experience has been that this compensation has not always been made by the Buyer Direction Center.

A "marking" round may be called for at a point on the map to check location of ground personnel. The round will

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 37 out of 257: [handwritten] 31

explode in the air, high above the point desired on the ground.

Calling and adjusting fire support properly and rapidly is a must in any situation. Therefore, the individual soldier as well as the leaders must know how to execute a prior mission.

Helicopters. The use of the various types of aerial fire support available to ground units demands good communications. This is especially true for helicopter fire support since no forward air controller is provided. However, good communications alone is not the key. An understanding between ground and air

personnel is the necessary achievement.

Helicopter fire support is a most valuable and necessary arm but frequent lack of understanding results in friendly casualties or useless sorties. Utilizing radio, terrain features, magnetic directions, smoke, and panel markers to ground soldier must make the target known with reference to his own position. It remains the task of the air soldier to determine these relative positions and to deliver accurate fire in support of ground operations. As with artillery fire support, along the margin of error in aerial support. Unless an emergency situation exists, do not rely on helicopters for close in support.

This in no way should discourage the use of helicopter fire support. On the contrary, respect the versatile capacity of helicopter but realize to its limitations. Understanding is the ingredient to proper employment and accuracy of aerial fire support.

WEAPONS:

The United States Army is equipped with the finest firearms in the world's arsenal of weapons. It is one thing to make this statement and another to see it qualified.

M-16 Rifle. Much publicity has been given the M-16 rifle. Certainly, it is a very outstanding weapon. There are, however, some misconceptions and false about the weapon.

First, it's good points. For airmobile and counterinsurgency use, the M-16 cannot be topped. It's combined lightweight and firepower give the soldier what he needs and situations peculiar to the war in Vietnam. The 460 meter maximum effective range is sufficient for any situation, except sniping. The maximum rate of fire out automatic gives firepower never before available to the rifle platoon. This firepower is especially useful in the ambush or counter-ambush posture.

DECLASSIFIED AUTHORITY NND 994025

To touch on the misinformation and bad points of the weapon in no way overrides its excellence. Many troops, for instance, believe the weapon to be rustproof. Southeast Asia contains an accumulation of the worst conditions to which any weapon or equipment can be subjected. The barrel, muzzle, dust cover, modified bolt closer, and front and recite assemblies all our rust catchers.

The protruding gas tube in the upper receiver catch as much carbon as does the bolt carrier key. The latter must be freed of deposits after extensive firing. Built up carbon deposits here will cause the weapon to malfunction.

The chamber catch as much trash also and cleaning is somewhat difficult. To correct many of these areas of difficulty, practice good cleaning habits frequently. Oil the bolt and all moving parts of the weapon thoroughly.

On occasion the M-16 experiences a ruptured cartridge or a like malfunction, which results in an unexpected shell casing. Immediate action for this situation requires the use of the rifle rod to dislodged around. A pointed object such as a band that will not suffice since the shell rim is soft. Preventive maintenance calls for a copious amount of oil down the barrel several times a day when the weapon is in constant use.

The above malfunction is so frequent and very dusty and sandy areas that it presents a critical problem. Suppose, for instance, this problem occurs during an engagement with the enemy, as it has on occasion. The soldier must piece his rifle rod together and push the spent rounds from the chamber. The solution to this problem would be a special device that may be used through the receiver to free the casing. Another solution, but less effective, visualizes mounting the rifle rod in one piece on the weapon.

The method of carrying the M-16 depends on the enemy situation and not on the weapon itself. The time involved to swing the rifle into action may be vital. This is especially true in the counter-ambush. To provide flame security for the file formations, for instance, those individuals assigned to right flank security hold their weapons pointed to that flank. This requires holding the pistol grip in the left hand with the thumb controlling the selector. Since the M-16 rifle is usually held pistol grip in the right hand, practice must be exercised to increase proficiency in this carrying technique.

Another technique allows freedom of movement of one hand.

DECLASSIFIED AUTHORITY NND 994025

The rifle is carried vertically with the rifle but resting on the right ammunition pouch. This method is useful in dense vegetation with little overhang, or in rugged terrain.

The General Purpose (GP) strap may be used as a sling for the M-16. This sling is routed over the left or right shoulder which supports the weight of the weapon. The rifle is carried in the horizontal position. Again, one hand is left free.

In conjunction with the various caring techniques, practice and using the selected on the M-16 is imperative. Personnel must be able to switch from SAFE to SEMI automatic and from SAFE to AUTOmatic with ease and speed since only those individuals on point security should be allowed to carry their weapons with the selector off SAFE.

A major problem, which results from the use of the M-16, is the tendency to disregard use of semi-automatic fire. Although the selector provides each soldier with maximum firepower for emergency situations, control and supervision must be exercised by leaders in its use. The unit which expands a basic load in a brief insignificant encounter is ineffective.

Magazines for the M-16 are never taped together to provide speed in changing magazines. In this position, the spare magazine is easily clogged with foreign matter.

The 5.56mm round is a very lethal projectile due to its velocity. The round causes a low very large hole leaving the body if it strikes the bone. At great ranges, this effect also occurs to some degree when the round strikes a fleshy portion of the body. However, the round is not cut through undergrowth as effectively as does the 7.62 mm round.

M-79 Grenade Launcher. The most effective weapon produced in recent years for use by infantry units is the M-79, grenade launcher. I refer to it as the platoon leaders "artillery battery" and in many respects it is just that. The six M-79's organic to the rifle platoon deliver an explosive accurately up to 375 meters. This is especially valuable in the many situations particular to contra-guerrilla warfare. If you ever have a situation where the squad is understrength, make sure you fill the position of grenadier.

This weapon has proven to be useful against snipers which cannot be pinpointed for the riflemen. In a deer's fire into the surrounding trees and effectively destroy the sniper.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 40 out of 257: The grenade launcher is ineffective and dense undergrowth due to the lack of

fields of fire. Here it is wise also for the weapon to be carried round-in-chamber and breach open to avoid accidental discharge. The thumb holds around in the chamber.

The grenade launcher can provide indirect fire support and dense undergrowth for ranges less than 100 meters by marking foot positions on the sling as with the rifle grenade launcher. A new shot round has recently been issued for the M-79. This is excellent for use in close contact situations and overcomes the weapon's inability to be used effectively in dense vegetation.

Very often grenadiers are not convinced of the effectiveness of their weapon and will, therefore, show little confidence in its ability. In units which allow the grenadier to carry the rifle as a secondary weapon, the grenade launcher is often not used effectively.

As with the M-16 rifle, the basic low for the M-79 is usually doubled by many units. The grenadier may, therefore, carry a 36 round basic load.

M-72 LAW. The M-72, Light Anti-Tank Weapon (LAW), is a major improvement over its predecessor, the 3.5" rocket launcher, due to its light weight and the fact it can be discarded after firing. This allows more men to carry the weapon, thus eliminating the two rocket crews in the weapon squad, if so desired.

The M-72 is useful again slightly fortified positions. Many bunkers and entrenchments will, however, withstand the explosive projectile.

The rubber protective covers of the trigger and other parts are easily torn away after repeated exposure to dense undergrowth.

M-60 Light Machine Gun. The M-60, like machine-gun, is an excellent weapon. Much of the trouble experience in blank firing does not occur in life firing. In units armed with the M-16, M-60 is the only weapon which will cut through the dense undergrowth effectively.

Placement of the machine guns during movement is critical. In the illustration in FORMATIONS AND TACTIC the placement of guns may be controversial. This, of course, may vary among leaders. For example, two lines of reasoning are generally

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 41 out of 257: used in the deployment of the machine guns.

First, keep the guns together in a platoon to provide maximum fire support for the maneuvering element. This is the role for which the weapon was designed. The guns are used in pair most advantageously in open terrain, terrain which allows supporting fires. Fields of fire are prevalent in these open areas and grazing fire is excellent.

On the other hand, a leader may elect to disperse the machine guns in the platoon. He does so to lessen the possibility of the destruction of both guns in a surprise engagement. An environment in which ambush or sniper activity is expected or encountered makes dispersion of the machine guns necessary. Also fire support is distributed throughout the unit and firepower is brought to bear on the enemy more quickly. This method finds use in densely vegetated terrain where the fire support role is virtually impossible.

Ammunition belts are not carried "Poncho Villa" style with bandoleers draped over the shoulders. Except for the belt carried in the gun, ammunition is left in the waterproof can to prevent foreign matter and corrosion from collecting on exposed ammunition.

.45 cal Pistol. Due to carelessness, the .45 cal pistol has proved to be a very dangerous weapon in that it has accounted for a great percentage of accidents involveing weapons. Rigid control must be exercised by leaders in the loading of this weapon. Unit SOPs should state that a round will be chambered in the pistol only as a last resort in action with the enemy.

EXPLOSIVES:

M-26, Fragmentation Hand Grenade. The new model of the hand grenade, the M-26, makes no snap and hissing noise as did its predecessor, the MK 11, which is also used in Vietnam. Use an explosive such as the grenade whenever possible in lieu of small arms fire. In the night ambush, for instance, the grenade is very effective since it has a large killing radius and does not compromise the friendly position.

The primary weapon is not standard but rather depends on the situation.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 42 out of 257: [handwritten] 36

Repeated carrying of the M- 26 causes the safety release to break, exposing the striker. The grenade is not dangerous in this state but is difficult to carry. Proper securing of the grenade to the LBE prevents exposing a dangerous dangling blasting cap. The grenade should be checked periodically to insure a tight fit of body and fuze assembly. Guard against the tendency to rely on the rifle, rather let the situation determine the weapon.

White Phosphorus Grenade. This grenade is not often used in training but it finds varied use in Vietnam. It is often utilized to start fires and to signal in addition to the demoralizing effect caused when used against personnel. As a signal, it gives a large volume of white smoke in a very short time. This proves effective in overcoming the jungle canopy.

Claymore Mine. The Claymore mine is another relatively new weapon in our arsenal . Its use in the ambush and defense demands no explanation here. A piece of luminous tape affixed to the back of the mine will provide a visible guard against the enemy's ability to turn the Claymore around or to take it.

The Claymore is a special purpose explosive. Troops must be cautioned and supervised in its employment. This is one of those not-always-available items and thus should be used only against massed enemy personnel.

EQUIPMENT:

No one can discount the fact that the American is the best equipped fighting man in the world although such equipment may not be best suited for the area in which

he must fight. The American soldier, however, relies heavily on reissue and resupply. Supervision here is a must to prevent unserviceability and loss of equipment. Proper accountability and requiring good maintenance habits in the field is the key.

Load Bearing Equipment. The LBE withstands the Vietnam climate and terrain exceptionally well. Major rust catching items are the entrenching tool and bayonet. The snap on the grenade retaining straps on each side of the ammunition pouch will also rust and prevent opening. These should be cleaned and oiled periodically.

To allow rapid retrieving of magazines from the ammunition pouch raise the center magazine slightly above the others.

DECLASSIFIED AUTHORITY NND 994025

This is done by placing a bottle of water purification tablets or a rock at the bottom of the pouch.

The combat pack is a poor means for the soldier to carry his supplies. First, it cannot hold enough supplies to sustain operations over a long period of time, a condition desired in a counter-insurgency environment. Second, the pack cannot be detached from the soldier with ease. This means he must take the pack with him when he maneuvers against the enemy. Such action reduces agility and increases fatigue. Third , when a soldier uses the prone position, the combat pack presents a high silhouette as evidenced by the many hits it has sustained in hostile action.

The problem is remedied by the use of the ruck sack, either the older model or better still, the new type adopted by Special Forces. The ruck sack is large and can be detached or dropped easily. Supervision is required here, however, to dissuade individuals from utilizing unnecessary carrying capacity.

Clothing. Jungle fatigues as the name implies are designed to wear in tropical terrain. The light weight material dries rapidly by body heat and controls heat casualties caused by high humidity. The material is easily torn in dense vegetation and constant mending is required.

For field use fatigues should be stripped of conspicuous rank and insignia. Darken all name tapes if any are to be worn. This procedure denies the sniper a select target.

The jungle boot again as the name implies is designed especially for terrain common to Southeast Asia and other like climates. Canvas sidings and drainage holes at the arch allow fast drying. Some argue that this boot causes the feet to

get wet in shallow water while the standard combat boot remains dry inside until boot-top water in encountered. Only on rare occasions is shallow water encountered where deeper water is not a step away.

The canvas siding will t ear over the inside ankle bone after extensive use. A small leather patch sewn over this area eliminates the problem. In addition, the sole cracks in the center exposing a metal plate. This, however, does not render the boot useless. Another bad point is that the boot is not well adapted to mountain operations because the ankle does not receive adequate support.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 44 out of 257: [handwritten] 38

The jungle boot is not always readily available through supply channels. Its substitute, the standard combat boot, does not hold up well and dries slowly. After repeated use the leather becomes hard and cracks.

COMMUNICATIONS :

Control is essential for the success of any mission. Good communications is a necessary aid to good control. Do not, however, over-estimate the range of communications equipment. For each type of terrain, the range of equipment may be more or less than that listed in the manuals.

AN/PRC- 25. The new AN/PRC-25 radio features the new squelch in the SQUELCH position, eliminating the constant annoying noise experienced in the ON position at slight cost in range. This is beneficial when silence is of paramount importance as in as in the conduct of ambushes and night moves.

The handset is new also and cuts out much background noise. The thin plastic membranes over the mouth and ear pieces are easily broken. Moisture here leads to transmitting and receiving difficulties. The cellophane or plastic protecting the C-ration spoon is a field expedient. The plastic protective bag of the BA 386, battery, provides a better means of protection. The bag is placed over the entire handset and taped at the open end.

The handset is the most delicate part of the radio. Repair is often slow and replacements are difficult to obtain. The handset deserves primary care and maintenance.

The radio-telephone operator (RTO) is an important target to the enemy. By directing fire at and around the radio operator, the enemy expects to kill leaders as well as to destroy the unit's communications.

A leader may choose to move with several personnel between his RTO and himself . This does not eliminate the problem since valuable men are still exposed. The

solution is to conceal the radio as much as possible. This may be done by fitting the radio in the combat pack and routing the antenna through the webbing. The ruck sack may al so be used in the same manner.

AN/PRC-6. The AN/PRC-6 radio provides control needed at platoon level. This radio experiences many difficulties and is often non-operational. When the action is fast and heavy, the PRC-6 proves the importance of radio communications at platoon level. In the roar of a firefight, proper and effective control of a unit, utilizing voice and hand and arm

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 45 out of 257: signals, is virtually impossible.

In the event PRC-6s are non-operative, a solution is to use two PRC-25s, at platoon level, with the extra radio being controlled by the Platoon Sergeant . Additional PRC- 25s are made available from the weapons platoon at a cost of forward observers.

Develop and maintain proper radio procedure and security. Use brevity. This proves its worth when communication is critical.

Antennas. Counterinsurgency operations frequently require dispersion of units over a large area, often in rugged terrain. Thus, communications becomes a major problem.

At small unit level, the field expedient antenna is helpful. A 50 foot length of WD1, telephone wire, serves as a directional line-of-sight antenna. Coupled with a 600 ohm resistor, this antenna will give even greater selectivity.

The RC 292 antenna provides greater range for the platoon and company. It is good practice for an RC 292 to be used at company level during operations. To lessen the load, the mast sections may be taken out of the kit and the remaining parts of the kit distributed among several individuals. The antenna head is mounted in a tree for use.

Smoke. Smoke grenades are used primarily in ground to air signaling. For example, in directing an air strike, red smoke may be used to identify the enemy and yellow smoke, the location of friendly forces. For helicopter resupply, airmobile missions, and medical evacuation, smoke identifies the landing zone and gives wind direction to the pilot. In this situation, the pilot tells the ground personnel the color of the smoke he identifies. This serves to avoid the possibility of a helicopter landing for an enemy using smoke. The color of smoke used must be changed often to avoid routine.

Because of the wide use of the smoke grenade, leaders should always carry them on any mission.

Smoke from the grenades will not easily penetrate the jungle canopy. To overcome this obstacle, the grenade is attached to a tree top or to a sapling bent over and allowed to spring to its upright position.

The White Phosphorus grenade is excellent in penetrating the jungle canopy. The large volume of dense white smoke rises quickly in comparison to the slow burning smoke grenade .

DECLASSIFIED AUTHORITY NND 994025

Hand and Arm Signals. Use of hand and arm signals is, essential if proper noise discipline is to be practiced. The Australian Army uses this type of signaling to a maximum during movement. Consequently, their patrols are conducted with minimum noise as compared to American units. This is not to say that the US Army does not have adequate signals. Rather the situation is present because hand and arm signals taught in basic training are not practiced in subsequent training and consequently are not present on the field of battle.

Platoon leaders should emphasize the use of hand and arm signals as an integral part of control and stealth. Additional signals can be developed to meet requirements.

ANIMALS, INSECTS, REPTILES, AND DISEASES:

The hot, humid climate of Southeast Asia fosters perfect conditions for a teeming insect population and diseases. Basic preventative measures must be exercised and supervised at small unit level to reduce non-battle casualties.

Water Buffalo. The water buffalo is encountered often in the-rice lands. This animal is very tempermental and should be avoided if possible. With no apparent reason, it may charge
personnel and inflict serious injury.

Mosquito. Malaria is perhaps the greatest non-battle casualty producer in Vietnam. Certain areas of the country are termed "malaria regions" due to the high casualty rate in these areas.

Mosquito bites are easily infected by conditions present. Sores often develop on the legs and feet causing the temporary loss of personnel. Medical treatment is required as a preventative measure. In rear areas, troops with foot problems are allowed to wear shower shoes in order for sores and foot infection to dry and heal readily.

Ants. Ants exist everywhere in country and are a nuisance. There'd ant is vicious

although not poisonous. This insect is usually found in dense brush and falls on the intruder causing much discomfort.

Leeches. Two types of leech exist in Vietnam. The water leech is found in standing water and to a lesser extent in streams and rivers. The rice paddy is a common location for the water leech which may grow to be six inches in length.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 47 out of 257: The land or jungle leech presents a greater problem than the water leech. It is so named because it is found in the thick jungle undergrowth. Its movement and size resemble the inch worm.

The leech and more especially the jungle leech is capable of finding and entering the smallest opening. Once on the skin, it leaves a hole which bleeds freely due to the leeches ' anticoagulant saliva. These holes, if left unattended, will infect easily.

The solution to this problem is to prevent the leech from gaining access to the skin. For this reason, the proper blousing of trousers in the boots is important. The draw string provided on the jungle fatigues proves inadequate unless a tight union of trousers and boots is made.

The Australians have developed an effective method. The boots are laced and the excess boot string is routed through a hole out in the trousers at boot top level. The string is then wrapped around the leg securing the trousers leg to the top of the boot.

Scorpions. Scorpions are found in most areas of the country but most frequently on dry high ground. The sting of this insect is very painful but is not considered dangerous enough to warrant extensive medical treatment.

Snakes. Snakes are numerous in Southeast Asia. Snakes as a rule, however, will not often be encountered. The noise of movement will usually drive them away. The light green bamboo viper is encountered most frequently in the flat lands. Other dangerous snakes include the krait and cobra.

Diseases. The platoon leader must be concerned with the many diseases contracted in Vietnam. Diseases are capable of rendering a unit inoperative. Supervision in personal hygiene is the solution. Require medical aid men to perform frequent checks on unit personnel to prevent and arrest diseases. Insure that all personnel practice proper sanitation.

SUMMARY OF LESSONS LEARNED:

I would like to re-emphasize those points that I think best illustrate the lessons that I learned as a platoon leader in Vietnam. It has been said that the effectiveness of a unit is measured by the quality of its leaders, and

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 48 out of 257: [PHOTOGRAPH]

DON'T BUNCH UP.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 49 out of 257: [handwritten] 43

the aggressiveness of its men. I would like to think that the quality of the leaders and the aggressiveness of the men are interrelated and that both will be enhanced by the proper application of lessons earned in actual combat operations. One measure of leadership is the display of professionalism. The reader may well note that much of this material is a review
of infantry fundamentals. If, however, the information has served to stimulate thought and to confirm t hat past tactics
instruction are applicable in Vietnam, then my purpose has been accomplished. Each conflict of arms has had its peculiarities. One of these peculiarities of the war in Vietnam it that it is a small unit leaders war. Certainly, in such a war, the role of the infantry leader is complex and demanding. The leader, however, will never realize a comparable satisfaction as t hat which is derived from commanding Americans in combat at the small unit level. This is a summation of my lessons learned:

1. TERRAIN.

a. Learn to use the terrain to your advantage.

b. In densely vegetated terrain, make use of the excellent concealment . Use the compass and pace for maintaining direction.

c. In the Central Highlands, use terrain feat ur es for cross country navigation . Remember control is difficult in thick vegetation. Use the file and column formation. This may often mean emphasizing point and rear security.

d. In the flat coastal areas and river valleys, open areas such as rice paddies are danger areas because of the excellent observation and fields of fire available to the enemy. The dry plowed rice paddy is as difficult to move in as the wet rice paddy. Movement along dikes speeds the advance , but the advance must not be confined to one trail. Look for mines, for

it is here the enemy most frequently uses them . In the open areas, the wedge and echelon formations are most frequently used because t hey provide dispersion and fire power to vulnerable flanks.

2. NAVIGATION.

a. Be a professional when it comes to map reading.

b. You will need a thorough and comprehensive knowledge of techniques of cross country navigation and amp and aerial
photograph reading.

3. FORMATIONS AND TACTICS.

a. Don't forget basic tactics. Apply former instructions as a base for all action.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 50 out of 257: b. Secure movement. Never move without providing for all around security. You must
be ready for immediate action if you use roads and trails. Disperse critical. weapons to spread the fire power out in the unit. Avoid the herd instinct. Carry weapons ever ready. Avoid overreaction to the situation involving the sniper, but be aggressive.

c. Fire and maneuver is the immediate solution to almost any combat situation.

d. During the search and clear/destroy mission, be thorough but maintain contact and pursue when possible. The use of the mine detector is an excellent way to locate caches and hidden weapons during village search. Remember the point that the absence of children in the village area is a good indication of the presence of the enemy.

e. The difference between success and failure of the ambush mission is often dependent upon the leader's attitude and his thorough preparation and planning. Some of the common errors that have been made during the ambush are poor noise discipline, springing the ambush prematurely, poor selection of the ambush site, and indifference to the mission.

f. Always plan and use fire support when closing with the enemy across an open area.

g. Avoid establishing patterns and practicing routine in any tactical situation. Do the unexpected.

4. CONDUCT OF THE NIGHT DEFENSE.

a . Keep fighting positions cl ose together at night and in areas of limited visibility.

b. Dig deep. Check each hole verifying the assigned sectors of fire and the correctness of positions.

c. Sleeping positions should be below the level of the ground. Keep in mind that the more men at one single position, the more rest each man will receive.

d. At night the enemy can be engaged effectively only at close range.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 51 out of 257: '
e. Plan to use grenades and claymore mines to avoid compromising your position.

f. Clear the area around the defensive perimeter at dusk and first light.

5. ENEMY DEFENSES AND DEVICES.

a. Booby traps are the favorite devices of the enemy. They are often found along trails, in moats, and entrances to
villages, in gaps and fences or thick bush, at fording sites and at bypasses to obstacles.

b . A camouflage trench system tieing together prepared foxholes, gun emplacements, bunkers, and an avenue of escape will normally be found in the enemy controlled villages.

c . In terrain suitable for landing zones, the enemy frequently will utilize punji stakes up to three feet in length and spike foot and man traps. The spike devices are generally placed in camouflaged holes along routes of movement from the LZ.

d. Don't attempt to defuze enemy explosive devices - leave it to the experts.

6. FIRE SUPPORT.

a. Plan on it and use it. Never before has an infantry platoon had so much fire support at its disposal.

b. Master the use of a mortar, and use it frequently. The platoon leader that learns to use mortars effectively has his own organic artillery.

c. A variety of artillery rounds and fuzes exist, each designed for its own special use. Learn how to identify the type of artillery needed and how to call for it. The VT fuze should be used sparingly. For safety purposes, do not call for VT fuze in situations where support is closer than 200 meters to friendly troops.

d. The key to success in the use of aerial fire support is a mastery of communication and understanding of procedures to be followed in requesting and directing fire support.

41

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 52 out of 257: [handwritten] 46

7. WEAPONS.

a. The combined light weight and fire power of the M-16 rifle makes this weapon desirable for airmobile and counterinsurgency use. The bore and magazine of the rifle must be kept free of grit and mud. Weapons and magazines
must be checked frequently to prevent jamming and misfiring. To allow freedom of movement of one hand, the rifle is carried
verically with the rifle butt resting on the right ammunition pouch. This method i
s particularly useful in dense vegetation
and in rugged terrain.

b . In my opinion, the most effective weapon produced in recent years, for the infantryman, is the M-79, grenade launcher. If you ever have a situation where a squad is understrengthed, make sure that you fill the position of grenadier.

c. The M-72, LAW, has proven to be useful against lightly fortified positions. Heavy bunkers and entrenchments however, will withstand the explosive projectile.

d. The M-60 machine gun is an excellent weapon and is the only weapon which will cut through undergrowth effectively.
Keep the guns together in the platoon to provide maximum fire support for the maneuvering element but disperse during movement. Ammunition belts should not be carried "poncho villa" style with bandoleers draped over the shoulders.

8. EXPLOSIVES.

a. M-26 fragmentation hand grenade, makes no snap and hissing noise and is excellent for use in the night ambush since it has a large killing radius and does not compromise the friendly position.

b . The white phosphorus grenade is often utilized to start fires and as a signaling device as well as for the demoralizing effect caused when used against personnel.

c . The claymore mine is a special purpose explosive. A piece of luminious tape affixed to the back of the mine will provide a visible guard against the enemies ability to turn the claymore around or to take it.

9. EQUIPMENT:

a. Exercise strong supervision to prevent unserviceability and loss of equipment.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 53 out of 257: b. Insist upon proper accountability in the formation of good maintenance habits.

10. COMMUNICATIONS.

a. All members of the platoon must know the company radio frequency, call signs, and must be familiar with the AN/PRC-25 and its operation.

b. The radio telephone operator is an important target to the enemy. Learn to conceal the radio as much as possible.

c. Use of hand and arm signals or a system to attract attention is essential if proper noise discipline is to be practiced. There is a tendency for the leader to yell, while moving through areas of limited visibility, in an effort to control his command.

11. ANIMALS, REPTILES, INSECTS, AND DISEASES.

a. The hot humid climate of the jungle fosters perfect conditions for a teaming insect population and diseases.

b. Preventative measures and maintenance of personal health requires good habits of personal hygiene and strict adherance to rules and regulations.

c. Avoid the water buffalo, it is very temperamental and will charge personnel for no apparent reason.

d. Malaria caused by the bite of the mosquito is perhaps the greatest non battle producer in VN . The anti-malaria pill must be taken faithfully.

e. Ants exist everywhere and are a nuisance.

f. The water leech and the jungle leech are common. Bites from the leeches if left unattended will become infected.

g. The platoon leader must insist on preventative measures being employed to avoid diseases which are capable of rendering his unit inoperative.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 54 out of 257: DECLASSIFIED AUTHORITY
NND 994025

[STAMP] FOR OFFICIAL USE ONLY

OPERATIONS REPORT
LESSONS LEARNED
REPORT 2-67

[HANDWRITTEN] VC TACTICS
[HANDWRITTEN] US TACTICS
[HANDWRITTEN] PSYOPS

[STAMP] FOR OFFICIAL USE ONLY

Transcription for Image 55 out of 257: FOR OFFICIAL USE ONLY
DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D. C. 20310

IN REPLY REFER TO
AGAM-P (M) (27 Feb 67) FOR OT RD 13 March 1967

SUBJECT: Operations Report - Lessons Learned 2-67 - Counter-Guerrilla Tactics

TO: SEE DISTRIBUTION

1.This is the twelfth of a series of reports from operations being conducted by US Forces in Vietnam.

2.Information contained in this report is provided to ensure appropriate benefits in the future from lessons learned through the current combat operations. The lessons cited in this report may be adapted for use in developing training material.

3.This report consists of three sections. Section 1 1 is an extract of a letter written by Regular Gen. William Pearson, Committing General, 1st Brigade, 101st Airborne Division which reports information on tactics that have proven successful. Read your General peers and calls these tactics "Semi-Guerrilla" tactics. Section 2 is a discussion of the enemy that has been encountered in Vietnam. Section 3 is a detailed description of a Psychological Warfare action that occurred on 11 November 1966. The results achieved by the Psychological Warfare Team in this operation emphasize the effectiveness of psychological warfare when employed in conjunction with a successful ground action.

4.Previously published reports of the Operations Report - Lessons Learned series were:

a.Summary of Lessons Learn, Vietnam, to November 1965, UNCLASSIFIED.

b.Operations Reports - Lessons Learned, Report 1-66, Operation CRIMP, 22 March 1966, marked FOR OFFICIAL USE ONLY.

c.Operations Reports - Lessons Learned, Report 2-66, The Battle of Annihilation and the BONG SON Campaign, worn April 1966, CLASSIFIED.

d.Operations Reports - Lessons Learned, Report 3-66, The PLEIKU Campaign, 10 May 1966, UNCLASSIFIED (Limited Distribution).

e.Operations Reports - Lessons Learned, Report 4-66, Evasion and Escape RBN, 24 May 1966, CLASSIFIED.

MARKING FOR OFFICIAL USE ONLY
IS CANCELED WHEN SEPARATED
FROM PROTECTED MATERIAL

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 56 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

f. Operations Report - Lessons Learned, Report 5-66, Comments Service Support -RVN, in June 1966, UNCLASSIFIED.

g. Operations Report - Lessons Learned, Report 6-66, Lessons Learned in Vietnam - 1966, 1 July 1966, UNCLASSIFIED.

h. Operations Report - Lessons Learned, Report 7-66, Operation COCOA BEACH and HAPPY VALLEY, 11 August 1966, CLASSIFIED.

I. Operations Report - Lessons Learned, Report 8-66, Engineer Notes #1, 13 October 1966, UNCLASSIFIED.

j. Operations Report - Lessons Learned, Report 9-66, Equipment, 7 December 1966, CLASSIFIED.

k. Operations Report - Lessons Learned, Report 1-67, Observations of a Tune Leader, 30 January 1967, UNCLASSIFIED. [Handwritten] MISSING

5 . Addressees other than US Army are provided copies of Operations Report - Lessons Learned in accordance with the provisions of DJSM 545-66 dated 2 May 1966.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl
Lessons Learned 2-67 -
Counter-Guerrilla Tactics.

DISTRIBUTION:
Office, Secretary of the Army
Office, Chief of Staff, US Anny
Deputy Chiefs of Staff
Comptroller of the Army
Chief of Research and Development
Chief, Office of Reserve Components
Assistant Chiefs of Staff
The Adjutant General
Chief of Engineers
Chief of Finance
The Surgeon General
The Inspector General
Chief of Communications-Electronics
Chief, National Guard Bureau
Chief of Information
Chief of Military History
Chief, Army Reserve
The Provost Marshal General

Transcription for Image 57 out of 257: DECLASSIFIED AUTHORITY NND 994025

FOR OFFICIAL USE ONLY

DISTRIBUTION (CONTtd)
Chief of Support Services
Commanders in Chief
US Army, Europe
US Army, Pacific
Commanding Generals
US Continental Army Command
US Army Materiel Command
US Army Combat Developments Command
CONUS Armies
US Army Strategic Communications Command
US Army Security Agency
US Army Intelligence Command
Commanding Generals
US Army, Alaska
US Army, Hawaii
US Army, Japan

US Army, Ryukyu Islands
US Army Training Centers
Seventh US Army
Eighth US Army
Army Corps
Army Divisions CONUS
US Army Deseret Test Centers
US Army Electronic Command
Commander
US Army Forces Southern Command
Superintendent
US Military Academy
Commandants
US Army Command and General Staff College
US Army War College
US Army Air Defense School
US Army Armor School
US Army Artillery and Missile School
US Army Chemical Corps School
US Anny Engineer School
US Army Military Police School
US Army Infantry School
US Army Intelligence School
US Army Medical Field Service School
US Army Quartermaster School
US Army Security Agency School
US Army Signal School
US Army Transportation School
US Army Special Warfare School
US Army CBR Weapons Orientation Course
US Army Aviation School
US Army Civil Affairs School

Transcription for Image 58 out of 257: FOR OFFICIAL USE ONLY

COPIES FURNISHED:
Chief of Naval Operations
Chief of Staff, US Air Force
Commandant of the Marine Corps
Director, Joint Staff, JCS
Commanders in Chief
Alaska
Atlantic
Pacific
STRIKE Command

US European Command
Southern Command
Pacific Fleet
US Air Force, Pacific
Fleet Marine Force, Pacific
Commanders
US Military Assistance Command
Thailand
Vietnam
Commandants
Armed Forces Staff College
Industrial College of the Armed Forces
National War College
Director, Military Assistance Institute
Senior Army Advisors
Naval War College
Marine Corps School
Air University US Exchange Instructor
Tactics School, Royal School of Military Engineering Chatham, Kent, England
Security Officer, ICR, University of Pennsylvania
USA Standardization Group, Ottawa, Canada
Corps of Engineer Class II Installations and Activities
Director, Air University Library
US Army Map Service

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 59 out of 257: FOR OFFICIAL USE ONLY

SECTION 1

"SEMI-GUERRILLA TACTICS"

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 60 out of 257: FOR OFFICIAL USE ONLY

[PHOTOGRAPH]

Requirement: For successful semi-guerilla tactics, soldiers must be instilled with patience.

Transcription for Image 61 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

AN EXTRACT FROM A PUBLICATION FROM HEADQUARTERS, l ST BRIGADE
101ST AIRBORNE DIVISION, SUBJECT: SEMI-GUERRILLA TACTICS
DATED 23 DECEMBER 1966

1. Although the Brigade had an excellent kill rate in Operations JOHN PAUL JONES and SEWARD (208 VC KIA (BC) and 236 VC KIA (BC) respectively) our biggest problem has been and remains one of target acquisition. Our second major problem is the need to reduce reaction time once the enemy is detected.

2. To improve our kill rate during forthcoming operations, I desire that battalion commanders and the cavalry troop commander more fully exploit, develop, and utilize the concept of "semi-guerrilla tactics". By this I mean we must become more like guerrillas, i.e., adopt guerrilla tactics, during search and destroy operations until contact is made. Then we remove the cloak of being a guerrilla and operate conventionally using all available firepower, mobility, and reserves.

3. Listed below are some techniques of stealth, deception, and surprise which I desire be employed more fully in our forthcoming operations. I am confident that the airborne soldier, once imbued with the necessity to "out-guerrilla the guerrilla", will, with his native ingenuity and resourcefulness, devise additional effective techniques and tactics.

a. Clandestine Entry into the Battlefield: Move into the battlefield by foot rather than ride by helicopter, the noise and sight of which reduce the possibility of surprise. Enter the battlefield at night.

b. Night Operations: Steal the night away from the guerrilla. Night airmobile assualts, ambushes, patrols, and movement must become routine.

c. Stay Behind Forces. When a unit is extracted following engagement, leave or insert a stay behind force on the battlefield.

d. Long Range Reconnaissance Patrols (LRRP's). More aggressive and frequent employment on long range missions. Insert at dusk or dawn along likely avenues of enemy movement vary on occasion by insertion overland and resupply by air drop. Experiment with platoon size LRRP's to provide for an immediate offensive capability when enemy is sighted.

Transcription for Image 62 out of 257: FOR OFFICIAL USE ONLY

e. Reinforced Rather than Extract: When a stay behind force or a LRRP makes contact, plan to reinforce promptly rather than extract. For this employ an immediate reaction force (platoon) on airstrip alert with helicopters on standby, or insert platoons in advance on the ground concurrently with the LRRP or stay behind unit. They float soon and helicopter pilots asked airstrip alert must be briefed in as much detail as possible and motivated to react promptly.

f. Reaction Force: Since the helicopter reveals the presence of US forces, C&C ships should not be the first helicopters in the area in which a reaction force is to be committed. As long as there is excellent radio communications the first helicopter in the area should carry combat troops. Upon arrival at an LZ the reaction force should probably move out to block the enemy escape routes while final coordination is being made between the unit on the ground and the reaction force commander.

g. Limit Helicopter Traffic: Provide stay behind force, LRRP's, and units entering battlefield clandestine with a minimum of 3 to 5 days rations to obviate need for helicopter resupply which promptly telegraphs to the enemy the presence of our courses. Prior to contact with the enemy use helicopters for med evac or tactical emergencies only.

h. Resupply Techniques: Unlike the VC guerrilla who lives off the land, we are limited in our clandestine operations by the bulk and weight of C rations, which limit the number of days our troops can operate without resupply by helicopter. The following are suggested ways to solve this problem.

(1) Use LRRP rations when available or in combination with C rations.
(2)Use rice and powdered soup alternately with C rations or the LRRP ration.
(3)Cache supplies and operates clandestinely from a base carrying only one day's supply on the soldier.
(4)Resupply by helicopter at night.
(5)Resupply during the day with the helicopter flying nap of the earth and supplies "kick" out onto a DZ.

i. Silence the Battlefield: Eliminate artillery H&I fires, long-range artillery, and TAC air strikes near friendly troops unless promptly exploited by ground forces.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 63 out of 257: FOR OFFICIAL USE ONLY

j. Dummy Positions: Construct and occupy obvious positions during daylight hours and then abandon them during the hours of darkness to move to ambush sites or to attack suspected enemy positions.

k. Doubling Back: Move out from a position in the afternoon and after darkness falls, radically change direction of March to attack a prescribed target before dawn.

l. Use of Trails: "Beat the brush" rather than move along main trails. The enemy employs trail watchers along main trails where he can generally observe advancing troops. Search along secondary and tertiary betrayals used by Game which offer the guerrilla excellent concealment as well as an escape route.

m. Spraying the Trap. When feasible, follow or observe a single or small party of enemy to locate larger forces or determine critical intelligence such as enemy positions, supply points, CP's etc. Then maneuver forces to ensure closing the trap and killing or capturing the enemy force involved. Move on a wide front supported by reserves and firepower.

n. Cordon and Search: Encircle a village at night as secretly as possible, then search at first light using PF, RF, and ARVN forces. Rehearse using same forces until this type operation can be accomplished effectively. Consider use of stay behind forces after the search.

o. Improved Marksmanship: Marksmanship is extremely important in fighting guerrillas. Generally the enemy will offer only fleeting glimpses of himself while trying to escape the advancing US soldiers. Therefore, if a continuous and supervised marksmanship program is established — each man firing 20-40 rounds daily except when on clandestine operations — the enemy casualty statistical rise, enemy morale will be lowered; and the enemy will be forced to engage US troops at a maximum range. This will reduce the effectiveness of his buyer and give us time to commit immediate reaction forces.

p. Improved Effectiveness of the Sniper: Greater emphasis should be placed on the role of the sniper. Too often we receive reports of the enemy escaping at ranges of 400-500 m. A well trained sniper should be able to kill or wound the enemy at that range. Platoons should habitually employ the sniper.

q. Counter Enemy Snipers: Enemy snipers are a great deterrent to US morale. Therefore, companies should organize sniper killer teams to operate semi-independently to harass the enemy. Sniper with the sniper rifle and telescopic sight could selectively kill while another team member adjusts artillery on the target.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 64 out of 257: FOR OFFICIAL USE ONLY

r. Get specialized Training: To be successful gorillas, troopers must be

instilled with patience and taught the fundamentals of camouflage, concealment, light and noise discipline, and to remain still for long periods of time. Too often a potentially effective ambush is prematurely disclosed by coughing, scratching, movement to relieve oneself and other restless activities. Our troops camouflage religiously at night but seldom camouflage for day operations. Training should give added emphasis to proper conduct of the individual during ambush operations.

s. Squad Area of Operations: Consistent with communications capabilities, emphasize squads operating in areas of operation for 3 days without resupply. For example, one company operating by squads and zones, separated but mutually supporting, can cover a large area with thoroughness and stealth. Mission of squaws; and was denied, observed during daylight, and engage small enemy groups. Upon locating a significant enemy force the platoon/company consolidates on the squad to fix the enemy and the battalion (-), standing by as an immediate reaction force, is brought to bear on the enemy to destroy him.

4. Once contact is made react rapidly to destroy the enemy with all available firepower and reinforcements without further regard to deception, stealth, or surprise. Following the engagement with the enemy, revert to semi-guerrilla tactics until a subsequent contact is made.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 65 out of 257: FOR OFFICIAL USE ONLY

SECTION II
THE ENEMY

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 66 out of 257: FOR OFFICIAL USE ONLY

[PHOTOGRAPH]

Two Viet Cong being interrogated.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 67 out of 257: FOR OFFICIAL USE ONLY

AN EXTRACT FROM A PUBLICATION FROM 1ST BRIGADE, 101ST AIRBORNE DIVISION, ENTITLED "TIPS FOR DIPLOMATS AND WARRIORS"

THE ENEMY

1. The Individual

a.You will encounter a variety of enemy troops, ranging from the poorly trained and equipped Hamlet guerrilla to the well-trained, indoctrinated, and equipped North Vietnamese soldier. In either case, he is an elusive and determined foe. He must endure many hardships, and he is often very dedicated. He is an expert in the arts of camouflage, deception, and ambush. He is a hardy and ruthless fighter, but he is not invincible.

b.The enemy is considered in three general categories.

(1) The local hamlet, village, or district guerrilla is poorly educated and trained. He may be armed with a few grenades, and old French or German rifle, or a captured US weapon. Although he may only be a part-time soldier, he is an important part of the VC effort. The local gorilla knows the people and the terrain. He controls the local populace and supports VC units operating in his area. He may serve the VC as a porter, guide, or trail watcher; he may maintain a local cache and prepare village fortifications, or provide an early warning screen for regular units; he may conduct acts of terrorism, harassment, or sabotage; and he may serve as an intelligence agent.

(2)The Main Force Viet Cong is a full-time soldier. He may have gained combat experience against French, ARVN, or US Forces, or he may be a recent recruit from the local forces. He is usually well trained and equipped. He is outfitted with his weapon, if you grenades, pack, a tubular shaped sack of rice which he slings around his shoulder, a hammock, a set or two of black pajamas, and a pair of rubber sandals. He may carry a variety of weapons, usually of US, French, German, Russian, or Chinese origin. His ammunition is obtained from local caches; his unit participates in operations against friendly forces usually only in his own province.

(3)The North Vietnamese soldier has, in most cases, been carefully indoctrinated and trained before his long march into South Vietnam. He has been provided a simple, but lightweight and well adapted set of equipment, including khaki uniforms, a son helmet, standard loadbearing equipment, a plastic canteen, canvas rubber-sold shoes, and rubber sandals. He carries a modern and effective Chicom copy of a Russian family of weapons (SKS carbine, AK-47 assault rifle, RPD LMG, and PRG-2 rocket launcher).

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 68 out of 257: FOR OFFICIAL USE ONLY

The carbine, assault rifle, and light machine gun all use a standard 7.62 mm cartridge. He has trained and infiltrated with his unit into South Vietnam.

2. Military Organization:

The highest enemy Military headquarters in the Republic of Vietnam is the Central Office, South Vietnam (COSVN) which receives instructions from Hanoi. COSVN has overall responsibility for VC military operations in RVN and exercise direct control over certain units. Six VC military regions are subordinate to COSVN. The military region is a political headquarters with the closely integrated military component which directs military operations of subordinate units. At provisional and district levels, the VC political and military structure closely parallels that of the Government of South Vietnam. Each VC political headquarters at province, district, village, and hamlet levels includes a military component which exercises control over Viacom military units assigned to his area of jurisdiction. This organization techniques subordinates the military to the political and promotes unity of effort. The BC organization is patterned after that used in Viet Nam. North Vietnamese Army and Main Force VC units are organized into squads, platoons, companies, battalions, regiments and divisions. All these units follow the "Triangular" concept, i.e., three squads per tube, 3 platoons per company, etc.

The squad includes ten men organized into three cells. The first cell consists of the squad leader and three other men. The remaining six personnel are organized into two cells of three men each. The assistant squad leader is the leader of one of these, and the senior member leads the third cell. The squad is armed with carvings, assault rifles, and hand grenades.

The rifle platoon has three rifle squads and a weapon squad. The weapon squad is equipped with light machine guns.

The rifle company has a strength of 60-130 men and includes three rifle platoons in a weapons platoon. The weapons platoon is armed with the 60 mm mortar, 57 mm RR, and light machine guns.

Each battalion (300-600 men) has three or four rifle company, a heavy weapons company, and special purpose platoons (signal, engineer, reconnaissance). The heavy weapons company employs the 81 mm or 82 mm mortar, the 57 mm RR, and heavy machine guns.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 69 out of 257: FOR OFFICIAL USE ONLY

(5) A typical regiment (1400-2000 men) consists of 2 to 4 rifle battalions, a heavy weapons battalion, and special-purpose companies (anti-aircraft, signal, engineer, reconnaissance, and medical). The heavy weapons battalion employs 81 mm or 82 mm mortars, 75 mm recoilless rifles, and heavy machine guns. (On occasion,

enemy use of the 120 mm mortar, and 70 mm or 75 mm pack howitzers has been reported.)

(6) Recent indications are that the enemy is beginning to use the division level headquarters, conducting multi-regimental operations.

(7) Local force units are usually encountered in squad and platoon strength. However, local force companies and battalions are known and operate in many areas.

(8) Military units vary considerably in strength and equipment, depending upon subordination, location, health rate, availability of food in recruits, degree of VC control and results of recent engagements with FWMAF forces.

3. Tactics and Techniques:

a. General:

(1)The basic tactical code of the VC is "When the enemy advances, withdraw; when he defends, harassed; when he is tired; attack; when he withdraws, pursue." Emphasis is placed upon speed, security, surprise, and deception. The VC exhibit great skill in making the most of their enemy's weaknesses.

(2)Enemy operations are planned in detail in are based upon careful reconnaissance and collection of intelligence. Troops are prepared for a mission with detailed rehearsals, including the use of mockups, sand tables, and similar terrain. Once the plan has been prepared and rehearsed, the VC seem reluctant to depart from it. A certain inflexibility is apparent in many VC operations, but on some occasions, VC forces have shown themselves to be capable of improvisation.

(3)The VC are very cautious and attempt to determine in detail the size, disposition, and direction of movement of their opponents before engaging them. They would rather let an opportunity slip by than act hastily without proper intelligence and preparation. For this reason, a meeting engagement, which usually does not provide a marked advantage to the VC, is avoided at all costs. However, should such an action take place, they are taught to "Be the first to deploy troops to critical terrain, be the first to open fire, be the first to us all." The purpose of this aggressive action is to seize the initiative and to delay and disorganize the enemy by causing him to deploy rapidly under fire. During the resultant confusion, the VC break contact and withdraw.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 70 out of 257: FOR OFFICIAL USE ONLY

(4)Local Viet Cong forces tend to operate near roads and villages where they may

control the local populace, and assist the regular units which cannot so easily avoid detection. Main force and NVA units normally move in established bases in more remote areas, usually along natural lines of drift, such as trails, streambeds, and valleys. They take maximum advantage of heavily vegetated terrain which provides them concealment from aerial observation. They moved deep into difficult terrain, such as high mountain ranges, only when pressed by our forces.

(5)The VC will normally make use of every opportunity to harass, to delay, and disorganize our forces through the use of snipers, mines, booby-traps, probing attacks, etc. They will usually attempt to disengage and withdraw when faced with superior firepower, or when they no longer enjoy an advantage. In contrast, NVA units may defend tenaciously, or vigorously present attack, even in the face of overwhelming US firepower. They frequently attempt to apply "close embrace" tactic, or engagements at very close range, to prevent our use of supporting fires. They often disengage and withdraw only after suffering severe losses.

b. Offensive Tactics:

(1) An important VC tactic is the raid. It may be conducted by units from squad to regimental size, and is most often executed during the hours of darkness. Two basic types of VC raids have been noted. The surprise rate is the most common. Securacy and speed are key considerations in this type of action because the VC raiding party may have less numerical strength than the defending force. The power raid is one in which the VC employ overwhelming strength and firepower in order to annihilate the defending unit. The time the raid begins may be a clue to its nature. Raids begun after 0200 hours are rarely power raids.

(2)The ambush is one of the most effective VC offensive tactics. Ambushes are normally established along roads, trails, streams, and other natural routes of movement. Friendly forces patterns are studied in detail, and then ambushes are established along regularly traveled routes. VC ambushes are established along regularly traveled routes. VC ambushes are usually short, violent actions followed by a rapid withdrawal. Frequently the VC have established ambushes behind friendly patrols after they left their patrol bases. When the patrol retraced their routes, they were caught in ambushes when patrol members were tired and security was lax.

(3)The "lure an ambush" is a commonly used VC tactic. The basic principle is to draw the attention of friendly forces, and lure them into prepared ambushes. Many variations of this tactic have been noted.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 71 out of 257: FOR OFFICIAL USE ONLY

(a)The VC have attacked an outpost or vulnerable unit and then attempted to ambush relief forces at nearby landing zones or along principle avenues of approach.

(b)Withdrawing VC units have attempted to lead friendly forces into ambushes of other VC units.

(c)Snipers have drawn the attention of friendly units and entice them into ambushes.

(d)The VC have warded friendly base camps and then ambushed friendly forces in search of mortar positions.

(e)The VC have use some of the above methods to entice friendly units into heavily booby-trapped her mind areas.

(4) Harassment is a basic tactic of VC guerrillas. Sniper activity and probes are used to demoralize, confuse, and mislead friendly forces. Diversionary harassing attacks have been used to draw friendly forces away from vulnerable VC installations.

(5) The VC are experts at infiltration. They have infiltrated friendly positions during periods of reduced visibility and adverse weather, often combining the infiltration with a faint or ruse. Frequently they have infiltrated friendly positions disguised as local civilians. Objects of VC infiltration are sabotaged, assassination, demoralization of friendly troops, collection of intelligence, and disorganization of friendly units. Rapid deterioration of organized defenses and many accidental casualties have been caused by these infiltration tactics.

(6) the VC have been known to follow a friendly unit to a helicopter or truck pick-up point. They then lost an attack as the last units are leading, when they are most vulnerable and least prepared mentally to react quickly.

c. Defensive Techniques:

(1) The Viet Cong avoid defense because they cannot withstand friendly firepower. However, they may defend vulnerable units, bases, and installations for short periods of time.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 72 out of 257: FOR OFFICIAL USE ONLY

(2) The Viet Cong prepare extensive defensive positions throughout their

operational areas. If surprised by friendly forces, they will, if possible, withdraw to a previously prepared position and defend until they can break out, most probably during the hours of darkness. VC positions are characterized by the defense in depth, mutual support, overhead cover and maximum use of natural cover and concealment. Defenses are oriented along trails and other obvious avenues of approach. Booby-traps are often incorporated in the defenses, particularly in VC base areas.

(3) As a reaction to friendly heliborne operations, the VC have prepared defensive positions at the edges of prominent landing zones in their operational areas. In some instances they have remained covered in a second line of fortifications several hundred yards from the landing zone while friendly artillery and Tech Air prepares the landing zone. When the preparation ended, the VC moved forward to defend at the edge of the landing zone, and then withdrew to the second line of trenches when necessary.

d. Withdrawal Techniques:

(1)The Viet Cong include a withdrawal plan with every offensive and defensive plan. As soon as the situation becomes unfavorable to their forces, they withdrawal rapidly along preplanned, concealed escape routes. They often break down into small groups and withdraw along the same route to the used in their approach.

(2)During the withdrawal, the VC make extensive use of rearguard personnel whose mission is to delay the pursuing friendly force until withdrawal of the VC main force is accomplished. Ambushes designed to slow friendly forces are also frequently employed.

(3)A typical withdrawal technique used by small VC forces endangerment unfavorable, close range contact is to drop their packs and run. Friendly forces have been inclined to slow their pursuit in order to inspect the pack.

(4)The VC may also evade capture by hiding or by blending in with the local populace. Hiding places used by the VC are almost limitless, although underground locations appear to be the favorite. Underground means of hiding troops and equipment range from simple "spider holes" to elaborate, reinforced rooms. From the surface these underground installations are most difficult to detect.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 73 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

Critical points are entrances and exists, which are usually concealed in gardens,

animal pen, under piles of straw or dung, in or under structures, and in riverbanks.

(5) extensive and ingeniously constructed underground tunnel systems are one of the unique features of underground hiding places. Most are constructed in such a manner that they permit short-term underground habitation. They are usually built in zig-zag, multilevel form with ventilation holes at various intervals. This type of construction may provide protection from grenades or discovery. When cornered underground by friendly forces, the VC will often eject the grenade from one of these holes and attempt to escape through another exit during the resulting check and smoke.

e. Booby Traps and Minds:

(1)Booby-traps are favorable advices of the VC. Grenades, spike traps, poison arrows, unexploded ordnance (duds), and a variety of other means are employed to harass, slowdown, confuse, and kill friendly forces. The forms of these weapons are limited only by the imagination of the designer.

(2)Booby-traps have most often been used along trails, in moats and entrances to villages, in gaps in fences or thick brush, at fording sites, and bypasses to obstacles, in doorways, and on abandoned bodies, weapons, and equipment.

(3)Grenades are commonly used as booby-traps because they are lightweight, easy to carry and conceal, and readily adaptable. They are frequently putting trees or bushes along trails friendly forces are expected to use, with trip wire strung across the pass rate.

(4)Spikes put in man traps are common types of booby-traps found throughout Vietnam. The spikes may be sharpened bamboo sticks, or they may be Barb would or metal spikes in placed in wooden, concrete or metal blocks. The spiked devices are placed in holes along the routes of movement, and carefully count laws to prevent detection, or they may be placed in rows on top of the ground.

(5)The VC also employed crude but effective tripwire type devices along trails and paths which release arrows, bamboo whips, and other swinging, barbed, club-typed object. Barbs are often dipped in poison to compound casualty effects.

FOR OFFICIAL USE ONLY
Transcription for Image 74 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

(6) Anti-personnel and anti-tank mines are used extensively in VC operations. They may be of the crude homemade variety or they may be similar to these in the US inventory. When AT mines are employed, they are used exclusively on roads and

trails capable caring vehicular traffic. The VC have not been known to Mix AT and AP mines in their minefields. However, AP mines are employed on defensive terrain nearby so that personnel taking to the high ground to protect a disabled vehicle are than subjected to the AP mines and booby-traps. AP mines are used to defend entrances to BC underground hiding places and along trails.

(7) AT mines are placed in Hallowed-out places on bridges or in holes which have been dug in roads. In order to make the whole debacle to discover, the VC may scatter dirt across the road for several hundred meters or dig several dummy holes or deception or for mine employment at a later date. Water buffalo dung has also been used for camouflage. Shoulders along the roads are often minds, and occasionally the VC tunnel in from the shoulders to plant electrically controlled mine directly in the center of the road. This latter practice permits "selective targeting" of vehicular traffic. On some occasions the VC have buried wire leading to a road, but have not emplaced the mine. When friendly forces failed to discover the wire, the VC then emplaced the mine and destroyed the next target of their choosing.

g. Miscellaneous Observations:

(1) The VC are very nonchalant in areas they believe are safe. They travel almost exclusively entrails, and security is very lax. [When they know friendly units have moved into an area, they shift from the major trails to low terrain, streambeds, etc.]

(2)Although the VCR accustomed to moving along trails at night and conducting well rehearsed night attacks or probes in familiar terrain, they are not experienced tonight combat and are often surprised and confused when engaged unexpectedly by friendly forces at night.

(3)Typical signs of enemy presence or did foliage which may be camouflage for a trap, tiedown brush which may be a firing lane for a defensive or ambush position and villages which have been recently abandoned by women and children.

FOR OFFICIAL USE ONLY
Transcription for Image 75 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

(4) Enemy caches are usually at convenient locations, beside secondary trails, etc. Typical hiding places for VC equipment are rafters, fast roofs, rice or rice bags, haystacks, dung piles, and wells.

(5)Local guerrillas prefer to live in villages with their families at night. Movement of guerrillas out of villages at dawn and into villages at dark is a

pattern in many areas.

(6)The BC attempt to locate distinguishing features of friendly forces when engaged. They will fire most often upon personnel distinguished by radio antennas or backpacks, insignia or rank, or automatic weapons with bipods. They will concentrate fires upon anyone who appears to be giving commands.

(7)In preparation for an engagement, the VC will restock the battle area and rally points with three supplies of ammunition, medical supplies and equipment.

(8)The VC often prepare covert mortar firing positions for use without a base plate. An angled (pregame) cylindrical hole is dug at the mortar position. During the attack, the VC move forward to the hole, and placed the mortar to, fire the desired number of rounds, and then hide the tube in another location, or withdraw with the tube.

(9)The VC often uses a creeping pattern in support of ground attacks. In other words, the mortar rounds fall very closely in front of the advancing troops.

(10)The VC are experienced in breaching unobserved wire which is not been supplemented with detection devices.

(11)As an adjunct to their operations orders, the VC prepare elaborate plans to ensure the recovery of dead, wounded, weapons, ammunition, and equipment from the battlefield.

FOR OFFICIAL USE ONLY
Transcription for Image 76 out of 257: FOR OFFICIAL USE ONLY

SECTION III
DESCRIPTION OF PSYCHOLOGICAL WARFARE OPERATIONS

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 77 out of 257: FOR OFFICIAL USE ONLY

DESCRIPTION OF ACTIVITY

Early in the morning of 11 Nov, the 1st Brigade, 10 first Airborne Division Psychological Warfare Team was airlifted from the CP to the 2d Battalion (Airborne), 502d Infantry two in LZ close to the point where the 2/502d Inf was engaged with the 5th Battalion, 95th NVA Regiment. The Psy War Team moved to the forward positions and placed speakers in a nearby tree. The latest enemy

intelligence was obtained and molded into an appeal to fit the existing situation by deliberately capitalizing on the enemy's weak position and low morale. After approximately 20 minutes, the first NBA soldier walked directly to the speakers, following instructions explicitly, and surrendered with his weapon. After the prisoner was spread, the psychological warfare team convinced him that the Government of Vietnam and its American allies did not want to harm him, and that his comrades' senseless struggle could only end in death. An appeal was devised with the concurrence of the prisoner to urge his fellow soldiers to surrender. Current intelligence was acquired from the prisoner and used to make the basic appeal more personalized and meaningful. Shortly thereafter, five more NVA soldiers walked in. At this time, it was learned that the executive officer of the opposing enemy battalion was killed. This information was immediately incorporated into the appeals and more soldiers chose "to rally to the GVN with honor than to continue to fight and be killed and buried in an unknown grave." Approximately one hour later, the time commander of the 2/502d Inf directed the team to move to his vantage point, a tall tree located on the crest of the hill, and continue the mission. From this location appeals were broadcasted in several more NVA soldiers surrendered.

It was during these broadcasts that an intense firefight broke out in the A Company area. These Psychological warfare Team was immediately displaced forward to this position, the speakers were set up during the first lull in the fire fight and broadcasting was begun "face-to-face" with the enemy (See PAGE 18 Sketch of Position). The team emphasized that the Soldiers of the Screaming Ego were everywhere, that the NVA cause was lost and that death was soon to be there only honor". Greater impact was gained by using a wounded NBA soldier lying nearby. Five more "hard-core" soldiers chose life rather than death.

By 1800 hours, the enemy's position have been overrun, and the Psy War team returned to the Battalion CP. During the day's action 18 prisoners were used in live broadcast, four special personalized appeals were made and a total of 9 hours of speaker time was recorded. These appeals were modified as fresh intelligence and changing better conditions dictated (See PAGE 19). The 2d Battalion (Airborne), 502d Infantry captured a total of 35 prisoners.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 78 out of 257: FOR OFFICIAL USE ONLY

[handwritten] 26

It should be pointed out that it is most likely that the results achieved would not have been possible, had it not been for the constant pressure placed on the surrounded enemy by this 2/502d Infantry. In this case Psychological crap worker had the unique advantage of being in the right place, at the right time, with the right appeals. The enemy was under great pressure from the Infantry, and

Psychological Warfare offered an "honorable" way out. The choice was theirs - life or death.

Lessons Learned:

Many critical lessons were learned which stressed the fact that Psychological Warfare is most effectively utilized on the ground in direct support of the ground troops. Briefly they are:

1.In jungle-terrain the enemy often finds it easy to detach himself from air appeals since the aircraft is often hidden from view by the sick foliage and the message is sometimes garbled by aircraft and atmospheric conditions. However, when made on the ground the appeal is direct and personal and is not distorted by the jungle canopy. The sound appears to reverberate off the ground and the jungle canopy achieving a surprising range.

2.On the ground the appeal can be instantly molded to fit everchanging battle conditions, and it can employ spontaneous prisoner appeals.

3.A loudspeaker appeal on the ground during lulls in intense fire fights helps to stress the magnitude of American technology and has a definite demoralizing effect on the enemy.

4.It was also noted that although leaflets were on the ground, many were inaccessible due to sick vegetation. Trails seem to be the most profitable target were leaflet dissemination.

5.During lulls in ground contact psychological warfare is most effectively employed by using aircraft were broadcasts and leaflet dissemination. However, once significant contact with the enemy is made, the Psychological Work or effort should be on the ground the units in contact.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 79 out of 257: FOR OFFICIAL USE ONLY

NVA POSITIONS

[VARIOUS DIAGRAMS AND ILLUSTRATIONS]

REMAINDER OF FRIENDLY FORCES

1. Ground Speaker Team Location.
2. Friendly platoon (minus) location.
3. Route NVA soldiers took when they surrendered.

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 80 out of 257: PURPOSE AND USE ONLY

SPECIAL APPEALS

SOLDIERS OF THE 5TH BN, 95TH NVA REGIMENT

THE DVN AND ITS ALLIES ARE YOUR FRIENDS AND DO NOT WANT TO HARM YOU WE GIVE YOU A CHOICE-LIFE OR DEATH. IF YOU COME IN NOW YOU WILL HAVE LIFE-IS IT NOT BETTER TO RALLY NOW TO THE GVN WITH HONOR THAN TO CONTINUE TO FIGHT AND BE KILLED AND BURIED IN AN UNKNOWN GRAVE (AND HAVE YOUR SOUL WANDER THE EARTH FOREVER). THIS CHOICE IS YOURS-LIFE OR DEATH. YOUR FAMILY AND YOUR LOVED ONES ONE NO HARM TO COME TO YOU. THEY NEED YOU. THE CHOICE IS YOURS. LIFE OR DEATH.

SOLDIERS OF THE 5TH BN, 95th NVA REGT

DO YOU WANT TO BE BURIED IN AN UNMARKED GRAVE? THAT IS THE ONLY HONOR YOU'LL HAVE IF YOU CONTINUE YOUR SENSELESS FIGHT. DO YOU THINK WHAT THAT'S RIGHT? THE SOLDIERS OF THE STRIKEFORCE AIRBORNE DIVISION ARE EVERYWHERE. APPROACH THE AMERICANS WITH YOUR HANDS ABOVE YOUR HEAD. WAIVE SOMETHING WHITE. HAVE YOUR WEAPON MUSCLED DOWN AND YOU WILL NOT BE HARMED. WAIVE SOMETHING WHITE. THIS IS YOUR LAST CHANCE AND ONLY HOPE. LIFE OR DEATH-THE CHOICE IS YOURS.

SOLDIERS OF THE 5TH BN, 95th NVA REGT,

YOUR LIFE IS ABOUT TO WIN! ARE YOU READY TO DIE? THE SOLDIERS WITH THE EAGLE ON THE SHOULDERS ARE EVERYWHERE. THEY ARE NOW CLOSING IN. THIS IS YOUR LAST CHANCE, THIS IS YOUR LAST CHANCE. IF YOU DO NOT COME IN NOW, YOU WILL BE KILLED WITHOUT MERCY. WAIVE SOMETHING WHITE, HAVE YOUR HANDS UP, BRING YOUR WEAPON WITH YOU,

NOZZLE DOWN. THIS IS YOUR LAST CHANCE. THIS IS YOUR LAST CHANCE.

COMRADES, THIS_____ OF_____
(NAME) (UNIT)

I HAVE COME INTO THE AMERICANS AND THEY DID NOT LIKE. I AM BEING WELL TREATED.

THEY GAVE ME FOOD, WATER, AND TREATED MY WOUNDS. THE AMERICANS DO NOT WANT TO HURT

US. I AM BEING TREATED VERY WELL! I URGE YOU

_____ TO COME IN. THEY WILL NOT HURT YOU

(NAME IF KNOWN)

IF YOU COME IN NOW. HAVE YOUR HANDS UP. COME IN, COME IN NOW BEFORE ITS TOO LATE.

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 81 out of 257: FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 82 out of 257: OPERATIONS REPORT

LESSONS LEARNED

RPORT 3-67

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 83 out of 257: DEPARTMENT OF THE ARMY

OFFICE OF THE ADJUTANT GENERAL

WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGM-P (M) (3 Apr 67) FOR OT RD

6 April 1967

SUBJECT: Operations Report-Lessons Learned 3-67-Engineer Notes #2

TO: SEE DISTRIBUTION

1. This is the thirteenth of a series of reports from operations being conducted by US Forces in Vietnam.

2. Information contained in this report is provided to ensure appropriate benefits in the future from lessons learned during the current combat operations. The lesson cited in this report may be adapted for use in developing unclassified training material.

3. Report 3-67 is an account of lessons learned by US Army Engineer Units operating in southeast Asia. Source material for this issue is derived from "Engineer Notes" prepared by the Office, Chief of Engineers, Department of the Army. Additional Engineer Lessons Learned will be published as source material becomes available. The series number for "Engineer Notes"will always be indicated on the first page of the basic report.

4. Previously published reports of the Operations Report-Lessons Learn series were:

a. Summary of Lessons Learned, Vietnam, to November 1965, UNCLASSIFIED.

b. Operation Report-Lessons Learned, Report 1-66, Operations CRIMP, 22 March 1966, marked FOR OFFICIAL USE ONLY.

c. Operation Report-Lessons Learned, Report 2-66, The Battle of Annihilation and the BONG SON Campaign, 1 Apr 66, CLASSIFIED.

d. Operation Report-Lessons Learned, Report 3-66, The PLEIKU Campaign, 10 May 1966, UNCLASSIFIED (Limited Distribution).

e. Operation Report-Lessons Learned, Report 4-66, Evasion and Escape RVN, 24 MAY 1966, CLASSIFIED.

f. Operation Report-Lessons Learned, Report 5-66, Combat Service Support - RVN, 10 June 1966, UNCLASSIFIED.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 84 out of 257: g. Operations Report - Lessons Learned, Report 6- 66, Lessons Learned in Vietnam - 1966, 1 July 1966, UNCLASSIFIED.

h. Operations Report - Lessons Learned, Report 7-66, Operations COCOA BEACH and HAPPY VALLEY, 11 Aug 1966, CLASSIFIED.

i.Operations Report - Lessons Learned, Report 8-66, Engineer Notes #I, 13 October 1966, UNCLASSIFIED.

j. Operations Report - Lessons Learned, Report 9-66, Equipment, 7 December 1966, CLASSIFIED.

k. Operations Report - Lessons Learned, Report 1-67, Observations of a Platoon Leader, 30 January 1967, UNCLASSIFIED.

l. Operations Report - Lessons Learned .2-67 - Counter- Guerrilla Tactics 13 March 1967, marked FOR OFFICIAL USE ONLY

5. Addressees other than US Army are provided copies of Operations Report - Lessons Learned in accordance with the provisions of DJSM 545-66, dated 2 May 1966.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl[signature]
Engineer Note #2KENNETH G. WICKHAM
Major General, USA
The Adjutant General

DISTRIBUTION:
Office, Secretary of the Army
Office, Chief of Staff, US Army
Deputy Chiefs of Staff
Comptroller of the Army
Chief of Research and Development
Chief, Office of Reserve Components
Assistant Chiefs of Staff
The Adjutant General
Chief of Engineers
Chief of Finance
The Surgeon General
The Inspector General
Chief of Communications-Electronics
Chief, National Guard Bureau
Chief of Information
Chief of Military History
Chief, Army Reserve
The Provost Marshal General

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 85 out of 257: DISTRIBUTION (CONT'D)
Chief of Support Services
Commanders in Chief
US Army, Europe/Seventh U.S. Army
US Army, Pacific
Commanding Generals
US Continental Army Command
US Army Materiel Command
US Army Combat Developments Command
CONUS Armies
US Army Strategic Communications Command
US Army Security Agency

US Army Intelligence Command
Commanding Generals
US Army, Alaska
US Army, Hawaii
US Army, Japan
US Army, Ryukyu Islands
US Army Training Centers
Eighth US Army
Army Corps (Including Reserve Components CONUS)
Army Divisions (Including Reserve Components CONUS)
US Army Deseret Test Centers
US Army Electronic Command
Commander
US Army Forces Southern Command
Superintendent
US Military Academy
Commandants
US Army Command and General Staff College
US Army War College
US Army Air Defense School
US Army Armor School
US Army Artillery and Missile School
US Army Chemical Corps School
US Army Engineer School
US Army Military Police School
US Army Infantry School
US Army Intelligence School
US Army Medical Field Service School
US Army Quartermaster School
US Army Security Agency School
US Army Signal School
US Army Transportation School
US Army Special Warfare School
US Army CBR Weapons Orientation Course
US Army Aviation School
US Army Civil Affairs School
US Army Ordnance School

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 86 out of 257: COPIES FURNISHED:
Chief of Naval Operations
Chief of Staff, US Air Force
Commandant of the Marine Corps
Director, Joint Staff, JCS
Commanders in Chief
Alaska

Atlantic
Pacific
STRIKE Command
US European Command
Southern Command
Pacific Fleet
US Air Force, Pacific
Fleet Marine Force, Pacific
Commanders
US Military Assistance Command
Thailand
Vietnam
Commandants
Armed Forces Staff College
Industrial College of the Armed Forces
National War College
Director, Military Assistance Institute
Senior Army Advisors
Naval War College
Marine Corps School
Air University
US Exchange Instructor
Tactics School, Royal School of Military Engineering Chatham, Kent, England
Security Officer, ICR, University of Pennsylvania
USA Standardization Group, Ottawa, Canada
United States Air Force Special Air Warfare Center
Director, Air University Library
US Army Map Service

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 87 out of 257: LESSONS LEARNED

ENGINEER
NOTES

NUMBER 2
DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 88 out of 257: HIGHLIGHTS

1. Inventory of Major Storage Insulations - under current reporting criteria, selected Department of Defense major supply installations are required to report storage space utilization and occupancy data semi--annually as of 30 June and 31 December to the Office of the Secretary of Defense. As of 31 December 1966, 193 such installations reported; this was a decrease of one from the number that reported six months earlier. The decrease of one represents the net difference

resulting from the deletion of seven inactivated installations, the addition of six insulations reporting for the first time, and the reclassification of one installation from minor to major in of another insulation from major to minor. Army submitted the Initial installation reports consisting of five installations in Vietnam and one in Italy. A list of these installations will be found on page 7.

2. Total DOD-Owned Storage Space at Major Supply Installations - Gross covered space decreased by 4.5% from 296.6 million square feet on 30 June 1966 to 283.1 million square feet as of 31 December 1966; and that covered space (which excludes unusable space and space use for support functions) decreased 3.5% - from 167.5 million to 161.7 million. Gross improved open space decreased 3.6% from 251.0 million to 241.9 million during the same six months. Gross covered space includes Igloo and Magazine space unless otherwise noted.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 89 out of 257: [PHOTOGRAPH]

Figure 1. Rome K/G Clearing Blade for Caterpillar D7E tractor. Note center protection for tractor engine. All wearing parts may be replaced by welding-on a factory-supplied replacement kit.

[PHOTOGRAPH]

Figure 2. Rome K/G Clearing Blade attached to Caterpillar D7e tractor.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 90 out of 257: [illustration] Figure 3. Cutting vegetation to ground level and piling cut

material by the counterclockwise method.

Another method is shown in figure 4. Again, long areas are laid out in 200- to 400-foot widths, but the cutting is done from the center toward the sides in a clockwise direction, allowing the cut material to fall toward the center which becomes the windrow site. The piling is done with the Rome K/G Clearing Blade, following the pattern outlined on the right side of figure 4. When windrowing, the operator keeps the cutting edge on the ground while pushing into the windrow, and raises it when backing away. This allows accumulated soil to sift away and lessens soil deposits in the windrow.

On extreme slopes, rapid production is obtained by working in a semicircular pattern from left to right approximately at right angles to the windrow (fig 5). If the terrain is steep, the windrows should be on the contour and the tractor should work from the uphill side and Push downhill to the windrow.

Where the vegetation is dense and small, highest production can be obtained by cutting and windrowing simultaneously. By working from left to right at a 900 angle to the windrow, with the trailing edge of the Rome K/G Clearing Blade working against the uncut material, an operator can prevent cut material from sliding off the moldboard, and allow the cut material to accumulate on the moldboard. When the moldboard is filled, the operator should stop the tractor and deposit the cut material, then reverse to the starting point and repeat the operation to the right, as shown in figure 6. This reduces the time lost in backing up. When the tractor reaches the previously cut material, the operator should deposit cut material and form another windrow.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 91 out of 257: [illustration]

Figure 4. Cutting vegetation to ground level and piling cut material by the second method; an alternate method is shown on figure 3.

[illustration]

Figure 5. Clearing on steep slopes where a significant amount of vegetation is composed of large trees.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 92 out of 257: [ILLUSTRATION]

Figure 6. Cutting and piling dense growths of small diameter vegetation on level terrain.

campy area of vegetation should be laid out as shown in figure 6, working in patches — from inside to outside — in a counterclockwise direction and at right angles to the windrows. Sweeping and piling of the resulting debris can be accomplished must faster when tractors are used in a team of five abreast.

In the event that a tractor equipped with a Rome K/G Clearing Blade is deadline for extensive repairs, a reserve tractor with a regular dozer blade should be made available for an exchange of blades so that the cutting mission can continue. This preparation will save six to eight hours of welding time when the cabs are exchanged. The standby tractor should be equipped with fabricated floor braces to hold the cab. Also, heavy screens should be fabricated for the size of the engine compartment to prevent vegetation from entering. There should be a fine mesh screen on the inside of the heavy screen to prevent leaves and other debris from being drawn into the interior radiator grill. The exterior radiator grill requires reinforcement to prevent damage from trees. The hydraulic fill pipe at the base of the radiator should be removed and the whole sealed with a fabricated plate.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 93 out of 257: New operators for tractors equipped with the Rome K/G Clearing A require at least
one full day of on-the-job training with an experience operator prior to solo operations on the equipment.

The only maintenance required for the Rome K/G Clearing Ladies occasional lubrication of the adjusting arms and daily sharpening of the cutting edge with the portable gasoline-powered grinder (fig 7) designed for this purpose. Performed properly by a trained operator, wearing safety goggles, daily sharpening of the blade should take only 10 to 12 minutes.

The cutting edge and Stinger are replaced by burning off the morn stubs at predetermined points and welding on new edges. Replacement is normally accomplished at the end of one or two thousand hours of operation and requires approximately one or two man-days of work.

It can be concluded from recent test results that the Rome K/G Clearing Blade is superior to a standard bulldozer blade for clearing operations. It is imperative that commanders utilize the Rome K/G Clearing Blades in a proper manner in order to gain maximum production. It must be noted that the Rome K/G Clearing Blade is not a piece of earthmoving equipment nor a grass cutter; it is designed for speedy clearance of dense and heavy vegetation. Properly used, displayed undoubtedly will aid the engineer mission.

[Photograph]
Figure 7. Rome Model XL-100 GRC Blade Grinder. Weight 37 pounds.

DECLASS5IFIED AUTHORITY NND 994025
Transcription for Image 94 out of 257: The analysis which follows is based on the data as reported at the end of each
reporting period; no attempt is made to adjust the earlier data which may have been revised in subsequent reports.

Inventory of Gross Storage Space at Major Supply Installations.

Department of Defense-owned gross storage space (covered and improved open) at active major supply installations total 525.0 million square feet as of 31 December 1966. This is a decrease of 4.1% from 30 June 1966 when the reported gross store space was 547.6 million square feet.

Gross covered space dropped from 296.6 million square feet to 283.1 million; gross improved open-space decrease for 251.0 million square feet to 241.9 million (See table II).

About

Transcription for Image 95 out of 257: CRUSHER BUMPER

Dumping into the crusher hopper can introduce additional impact that stresses on the crusher supportive attraction back into the hopper. The installation of a bumper, log or beam, across the hopper front will stop the truck from backing into the hopper. Alignment can be maintained by the installation of a pole which can serve also as a guide to release the dump bed. In areas where there are a number of crushers, one individual in a tower can oversee the entire crushing operation and designate hoppers to be filled by use of lights installed on the guide poll.

HAUL ROAD MAINTENANCE

An area generally overlooked in quarry operations is maintenance of the haul road. Proper grading and drainage will decrease haul time and increase truck life. Every time a "dozer" runs along the road it should be back waiting without engaging the scarifeirs (back rippers). A greater should be assigned, as necessary, to maintain a smooth and well-drained surface.

PRIMARY HOPPER

The apron theater in the primary hopper receives the initial impact of the dumped material. This impact increases in proportion to the depth of the hopper. A question of material should remain in the hopper at all times to absorb and defuse the impact of the dumping operation.

CRUSHER STARTING

In either the jaw or gyratory primary crusher, action is initiated by movement of the crushing surface. Excessive engine where can be eliminated by starting the crushing operation with an empty job. Every effort should be made to stop and start crushing with an empty crushing job.

LARGE ROCK REMOVAL

The introduction of oversize material into the primary crusher decreases production and contributes to downtime in operation. Every effort should be made to separate large material at the quarry site

Transcription for Image 96 out of 257: to avoid material handling and secondary blasting or breakage. In the event

oversize material becomes lodged in the jaws, to methods may be employed to decrease downtime.

A clam tooth supported by chain or cable a short distance into the primary jaws

will prevent a rock from becoming stuck by this spacer waits. It also will provide an impact point that will eventually break the rock. This tooth should remain suspended in the jaws at all times, thereby eliminating the possibility of personnel injury during rock removal. (See figure 8).

[Diagram]
Figure 8. A clam tooth supported by cable into jaws of rock crusher.

Transcription for Image 97 out of 257: [Illustration]

Figure 9. Removing large rocks from crusher with "shepherd's cane."

A second method of rock removal is accomplished by use of a "shepherd's cane": 3/8-inch rod bent in the form of a hook and affixed to a long handle is used in conjunction with a lightweight cable having a hook on one end and a loop on the other. First, the machine is stopped; then, the looped end of the cable is pushed down and around the rock with the shepherd's cane; next, the cable hook is attached to the loop, so that the cable encircles the rock. The free end of the cable is attached to the towing pencil of a dump truck and the rock is removed as the truck pulls away. This method saves time and use of additional equipment, since a truck is normally available at the helper (figure 9).

ENGINE AIR FILTER

The large dust cloud that hovers over the crushing complex affects engine life of equipment. Modification of the engine air breather will correct the type and amount of air received by the engine. Clean air for the engine may be obtained by installation of a 40-foot breather pipe (invasion pipe or similar type of six inches or greater diameter), to the air filter. The dry cartridge air filter can be reused if it is properly cleaned. Because high pressure air impels dirt particles through the paper filter, it destroys filtering properties. Shaking or pounding of the filter twists and bends the seating grooves and allows dirt particles to enter the

Transcription for Image 98 out of 257: engine. A substitute air filter can be made from the oil filter found on crawler
tractors. This modification is highly recommended, but use of this filter requires frequent oil changes in order to sustain the life of the engine.

SAFETY

Quarry blasting requires exceptional control and safety precautions owing to the remote and dispersed locations of quarry sites. A standard blasting signal is required to notify all personnel with in the area that a shot is forthcoming. This signal should be used for all primary and secondary blasting and a brief

description of it, in both the local language and English, should be posted throughout the area. Whistles attached to the air compressor reservoir tank or electric sirens are effective warning signals.

The nature of quarries and their operations tend to increase the number and degree of accidents. It is imperative to have adequate communication facilities from each working location to the operation building; and, if an aid man is not present, communication to the nearest medical facility. First aid equipment, stretchers and emergency vehicles should be on hand at all times.

Commanders and leaders at each echelon should be fully conversant with AR 75-85, AR 385-63, TM 9-1300-206 and CE manual EM 385-1-1.

Periodic classroom instruction is necessary to reemphasize lessons learned and unit SOP on operations and safety procedures to be initiated by the quarry personnel. A properly informed unit can reduce operational accidents and hazards and continue to maintain production.

MAINTENANCE

The entire quarry and rock production operation depends on proper and adequate maintenance of the equipment. Units operating in Southeast Asia have learned that because of dust and adverse operating environments the time required for equipment maintenance must be increased above that described as normal in the TMs. A supervised program of maintenance, including a step by step procedure, is recommended on each piece of equipment.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 99 out of 257: The removal of loose rock from the quarry floor will result in fewer flat tires and lesser problems with crane tracks and main drive shafts.

MAINTENANCE INCREASES PRODUCTION OF CRUSHED ROCK

No time limits should be set for maintenance. When a good system of maintenance is implemented, it will take a minimum of 30 days to see significant changes in production output. The idea is to take time for maintenance when it is required. The most effective maintenance program is characterized by timely performance and aggressive supervision of maintenance at the organization level. The way to stay ahead of maintenance is to eliminate the common problems normally resulting from poor maintenance so that time is available to evaluate and solve the more sophisticated problems. More operating time at the sacrifice of maintenance will result in lower overall production.

AIR COMPRESSOR REPAIR

The receiver filters of the Ingersol-Rand Rotary Vane 600-cubic feet per minute (c.f.m.) air compressors sometimes become filled with extraneous matter, causing excessive oil consumption and interstage overheating. If no receiver filters are available, as an expedient this can be corrected by wrapping the filter elements with 1-inch fiberglass matting.

SECONDARY DRIVE SHAFT IDLER BEARING MAINTENANCE

The secondary drive shaft idler bearing is located on the flywheel shaft at the opposite end of the box from the flywheel. This bearing is dependent on gr ease-in-the-maze type seal on one side, while the other side of the bearing is open to the roll gear box. As quarry dust enters the maze seal, it makes a compound that becomes stiff and abrasive. Grease flows freely into the gearbox, but no pressure will develop to push fresh grease into the maze seal. The grease-dust compound works rapidly into the bearing causing failure to occur in two to four weeks. One solution to this problem is to block the gearbox s ide of this bearing so grease will flow through the maze. This can be accomplished by welding a plate over the end of the bearing housing on the inside of the gearbox. This modification requires the removal of only one inspection plate and will extend the life of a drive shaft idler bearing to approximately six months.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 100 out of 257: BUILDING AGGREGATE STOCKPILES

A stockpile of quarried materials built in layers by use of trucks will provide a better continuity of the end product; it minimizes segregation and production of material which either is rich or lean in fines.

DECOMPOSED GRANITE

During damp rainy weather, some materials, locally classed as decomposed granite, tend to clog a rock crusher's discharge chutes and to adhere to the finished product, thus producing a poor quality of crushed rock. An improved quality of crushed rock can be produced at a reduced rate in rainy weather by the addition of water to the feed material.

This makes the otherwise sticky decomposed granite soupy and allows it to separate more readily from the rock. The clogging of chutes can be prevented by building a catwalk around the discharge chute and below the vibrating grizzly on the 75-ton per hour primary unit. This permits stationing a man armed with push-poles (straight poles or poles with hoe-like attachments) in a position to clear the chute. Even with these preventive measures, the product pile will contain some decomposed granite; however, the product is acceptable as a coarse aggregate for a road base. If allowed to dry, the mixture of crushed rock and decomposed granite can be recycled through a tandem crusher to provide an acceptable crushed rock aggregate.

AIR MANIFOLD SYSTEM

The construction of an air manifold system from a central air compressor location ·to the drilling site will support any quarry operation. An expedient, 4-inch, lightweight pipeline hooked up to two 600 c.f.m. compressors will provide 375 c.f.m. of clean air to three separate rock drills at a distance of approximately 1200 yards from the central air compressor site. The pipeline should be constructed so that the amount of air pressure lost to friction and leaks will not be more than 10 percent of the total number of pounds per square inch of compressed air at the compressor(s). The pipeline should also be equipped with a water condensate drain at each low point and at the end of the pipeline. A central air compressor location will provide for efficient operation of the compressor(s), efficient maintenance of the equipment in use, and a uniform supply of fresh, clean air for the entire quarrying system.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 101 out of 257: ELECTRIC MOTOR PROTECTION

A metal shield placed over the top of the electric motors located in the vicinity of the hopper of the 75-ton-per-hour rock crusher's primary unit will reduce damage from falling debris during quarry operations.

OPERATION OF SECONDARY CRUSHER UNITS

Secondary crushing units on various types of crusher complexes have proved to be unreliable under constant operation. The result is a great deal of downtime for the entire complex. By removing the secondary unit and inserting a dry screening plant in its place, a more efficient operation with less stoppage is obtained. In addition, the dry screening plant produces sufficient amounts of fines to sustain asphalt and concrete operations where the secondary crusher does not.

MAINTENANCE OF ROCK CRUSHER ROLLS AND JAWS

A good preventive maintenance program for the rolls and jaws of a rock crusher will result in more aggregate production and less wear and tear on the crusher. The constant jarring and impact to which a rock crusher is subjected will cause well-tightened bolts to work loose resulting in damaged bearings, keys, key ways, and mounting lugs. Performance of daily pre-operational inspections to detect loose bolts requires only a short time and saves hours and days of "downtime."

Proper operation of a rock crusher also aids the preventive maintenance program. The crushing efficiency of the roll crusher is maintained through strict attention to the feeding system. Rock being fed to the roll must be regulated to provide a uniform flow across the roll and to avoid uneven wearing of the roll surface.

When the silica content of the rock exceeds 90 percent, the rolls and jaws should be work-hardened prior to use. Work-hardening is one of the properties of the manganese alloy steel of which crusher jaws and rolls are made. A work-hardened manganese alloy steel surface resists impact and abrasion because it is flexible as well as hard. Instead of shattering under impact like a brittle material, manganese s t eel flows slightly. As the blows continue, it takes a permanent shape, one that more blows cannot change. When manganese steel reaches this condition, the outer surface has hardened, yet the inner part or core, remains relatively resilient, forming a
cushion against shock.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 102 out of 257: Work-hardening can be accomplished by one of two methods: (1) river run gravel or
a quarry run material with a low silica content can be run through the crusher to harden both the jaws and the rolls, or (2) the rolls can be hardened by welding a layer of hard-surfacing material over their surfaces. As this surface is worn away by the silica ~n the rock, the original surface of the roll becomes work-hardened.

REBUILDING OF OLD COMPONENTS

No matter how complete the preventive maintenance program, jaws and rolls are going to wear to the point where they must be replaced. If replacements are not readily available, then the old components must be rebuilt with arc-welding material. The rebuilding of jaws is not recommended, as the high temperature associated with arc welding makes it extremely difficult to keep the jaws from warping and cracking. Because of their greater mass and cylindrical shape, rolls will not warp as easily, especially if they remain bolted in their mountings during welding. However, if rolls are to be successfully rebuilt, the effects of overheating the roll, cracking in the surface, and work-hardening must be overcome.

Skip welding is employed to avoid overheating the roll shell and causing the manganese steel to become brittle. It is accomplished by the following steps: leave the roll in the crusher, apply three or four beads transversely across the roll shell and leave about 6 inches between each bead; rotate the roll 180° and. again apply three or four beads with the same 6-inch spacing; rotate the roll 90° and repeat bead deposit; rotate 180° and repeat the same performance; continue the sequence until successive spaces between the original beads are gradually closed in and the entire area of the roll is overlaid; secure the welding ground directly to the roll shell to avoid damaging the roll's bearings.

Since the surface of a manganese steel alloy becomes work-hardened during use, a welded overlay applied to this surface may tend to spall off. It is therefore desirable to grind down the areas to be welded to a more ductile sublayer. Determination of whether sufficient surface has been ground off can be made with a

center punch. Grinding should continue until a deep indentation is readily produced by the center punch: The rolls should then be cleaned with a wire brush to prevent arc interference, weld metal contamination, and possible porosity.

Finally, the characteristics of cracks that occur in manganese steel should be considered. Cracks propagate more slowly in manganese steel than in carbon steel. Careful consideration should be given

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 103 out of 257: before a hairline crack is cut out and welded. The decision to cut out and weld

the crack is often too hasty. If it appears that the crack is growing or opening up, a single "V", the depth of crack, should be torched or ground out as small as possible in order that the welder can maintain his electrode. When the crack is 5 or 6 inches long and has opened up, the wedge bolts should be loosened after the "V" has been three-fourths filled with weld beads. The beads a r e run toward the unrestricted end of the crack and toward the edge of the rolls hell. The weld deposit should be peened after each bead is applied. Peening actually stretches the weld material, hampers contraction of the cooled weld metal, and minimizes cracking.

Further precautionary measures are: Do not overheat the casting and do not forget to tighten the wedge bolts after the roll shell has cooled to room temperature. Only then should the crusher be placed in operation. After the surface is prepared, then the roll shell is ready for welding.

A roll that is badly worn and is no longer cylindrical is first built up to its approximate size with manganese electrodes. It is brought to final size with layers of hard-surface electrodes. The build-up weld is applied in a crescent weave of 1/2- to 3/4-inch bead width using the skip weld procedure and covering only the deeply worn center section of the roll. When the first layer has been completed, the same process is repeated: layers of longer length are welded until the roll is restored to a cylinderical shape and to its approximately correct size. Generally two layers are sufficient to restore a roll.

A hard-surface weld can be applied to a rebuilt roll, a new roll, or a roll worn less than 3/16 inch. Again the skip-welding process should be employed with the welding bead applied in a straight line and stopped within 1/2-inch from the roll edge. An easy way to do this is to deposit the beads along chalked lines. After the hard-surfacing material has been applied, small cracks will appear on the surface. This is not serious as they provide a form of stress relief. Once a roll has been hard-surfaced it can be resurfaced several times as long as the base metal is not exposed and the original diameter and contour can be restored with two layers or less of hard-surfacing weld. Wear on the rolls is uneven and eventually thick layers of hard-surfacing weld develop severe cracks. When this occurs, the roll may be continued in use until the hard-surfacing weld is worn off

and the shell casting has worn 1/8 to 3/16 of an inch. The roll can then be restored by buildup any new hard-surfacing.

The welding required for rebuilding can be done manually or with a semiautomatic welding machine. For manual welding the following commercial rods are suggested:

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 104 out of 257: REBUILD

MANUFACTURER	ELECTRODE
Lincoln Electrode	Mangjet
Stoody	Manganweld C
Mckay	2110 electrode
Amsco	Hardalloy 118
	Chrome-Mang
	Nicro-Mang electrode

HARD SURFACING

MANUFACTURER	ELECTRODE
Mckay	Hardalloy 139
	Hardalloy 55
Ams co	X53 electrode
Lincoln Electrode	Abrsoweld FSN - 3439-255-8915

Procedures for rebuilding and hard-surfacing crusher rolls vary greatly. A particular alloy and method of application may work effectively for one situation, but produce only mediocre results in another. Individual welder skill s and techniques play a vital role in roll reclamation. The methods and techniques discussed here have worked and are presently being used in several commercial quarries.

PSP PROBLEMS

LOADING OF PIERCED STEEL PLANKING (PSP)

PSP must be securely bundled to be loaded properly. By placing five 1-inch steel straps on each bundle, with the placement of one strap 12 inches from each end, field loading equipment (5-ton wrecker or 20-ton crane) can be used efficiently to load and unload PSP without bending it. TM 5-337 has numerous suggestions covering the handling and spotting of bundled PSP.

SPOTTING PSP PRIOR TO LAYDOWN

The distance interval between bundles of PSP must be calculated prior to spotting the bundles and is critical in an efficient laying operation. A loss factor for damaged parts must be included in the distance calculation. An initia1 calcu1ation, using a loss factor of 10 percent, may be used for the first few hundred feet; then the loss factor can be adjusted according to the average number

of nonserviceable panels that are found.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 105 out of 257: REMOVING PSP FROM AN ASPHALT RUNWAY

Rolling PSP into tubes is the fastest way to remove PSP from an asphalt runway, but very little PSP can be salvaged after removal by this method.

ALINEMENT OF PSP RUNWAYS

Alinement of long strips of PSP is difficult to maintain during the laying operation and during stretching. If alinement imperfections are noticeable after the strip is completed, corrections can be made by staggering the placement pattern as required.

STRETCHI NG BRACKET FOR PSP

An excellent stretching bracket may be made by welding a hook to a half-panel of PSP. The half-panel is then inserted into the PSP to be stretched and the load is distributed across the length of the panel.

BULGING PSP

PSP placed on slopes exceeding 3 percent tends to slide downhill under heavy traffic. This causes bulges and rises at the joints. Whenever PSP is placed on slopes of 3 percent or greater, care should be taken to remove all slack. Furthermore, it should be anchored frequently to preclude sliding.

GRADING NEXT TO PSP

When laying PSP, every fourth row is extended and the ends are bent over and buried Considerable difficulties have been encountered in the grading of shoulders over the buried ends. Inexperienced operators need to be instructed how to avoid tearing the ends of PSP during grading of shoulder areas. Grading operations should parallel the long edge of PSP (perpendicular to the shoulder) and run away from the PSP. The blade should be allowed to ride lightly on the last foot of PSP and then depressed as it leaves the PSP. This action produces excellent shoulders for drainage purposes and does not tear the PSP.

DETERIORATION OF PSP RUNWAY

PSP laid on an asphalt base course will show rapid deterioration under heavy C-130 C-123 CV-2 and OV-1 traffic. Two major failings have been noted: PSP panels slit lengthwise at the base of the corrugations and the end L-shaped locking devices break. Both types of breaks cause conditions that are extremely hazardous to aircraft tires. PSP should not be used on a heavily used runway, if other

surfacing methods are available. PSP runways should be limited to CV-2 and OV-l traffic then no deterioration will occur. Where use either PSP or the solid steel M8A-l mat directly over existing

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 106 out of 257: granular base or asphaltic concrete becomes necessary, improved performance will result if a 2 to 3 inch soil cushion, preferably sand, is employed beneath the mat to permit proper "seating."

AIR MOVEMENT OF THE M4T6 BRIDGE

PACKING FOR C-130 TRANSPORT

In order to permit a minimum of delay in reshuffling and reorganizing bridge components at the loading area and the erection site, complete bays of the M4T6 float bridge should be prepacked into separate bay units for transportation by C-130 aircraft. The C-130, owing to its length, will accommodate two bays of palletized M4T6 float bridge, if packed in the manner illustrated in figure 10.

The foundation or base, consisting of the 22 pieces of balk in a standard bay, is constructed by placing 11 balk side-by-side with lugs up and the remaining 11 balk on top of them with their lugs down, so that the lugs of the two layers of balk are interlocked. This base is then banded with four straps of l ¼-inch, 8000-pound test-steel banding. The saddle assembly in its normal preassembled configuration, with its balk connecting stiffeners, is set in place on the balk base and banded as shown with four straps of banding material. The pneumatic ponton is then rolled, placed on the center of the saddle assembly, and banded with two lateral straps. Thirty-four bay units packed in this manner will provide 510 feet of float bridge.

Wooden crates, containing miscellaneous bridge parts and erection tools, can be placed atop the saddle assembly with the ponton and shipped as they are needed a t the erection site.

METAL SHEETING

Large requirements for cutting metal sheeting may be efficiently accomplished by using two known expedient methods.

1. Lay a 2" x 8" piece of lumber on the ground perpendicular to your front. Lay a small, flexible wire down the length (centered) of the 2" x 8". Fasten one end of the wire to the 211 x 8" board. Attach a nail (for a handle) on the other end of the wire Lay two 2" x 4" boards flat on top of the 2" x 8" board and hinge them to the 2" x 8" board, on the same end to which the wire is fastened. Space the 211 x 4" boards to allow the handle to pass between them. Fasten the unhinged end s o f

t h e 2"x 4" boards together so that they both swing simultaneously. To use, place a piece of metal sheeting

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 107 out of 257: Figure 10. One packed bay of M4T6 bridge.

LENGTH 20' 10"
WIDTH 8' (11 NORMAL BALK)
HEIGHT 4'

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 108 out of 257: Figure 11. First method for cutting metal.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 109 out of 257: over the wire, down the center of the 2" x 8" board. Swing the 2" x 4" boards down

on top of the metal sheeting. Stand on the 211 x 4" boards, grasp the handle on the wire, and pull so that the wire will tear the metal sheeting along the line defined by the spaced 2" x 4" boards. Result: a straight, quick cut. (See figure 11).

2. Take two cutting edges from a used grader blade. Bolt the blades together a t one end. Weld the bottom blade to a heavy metal base plate. Weld a handle to the top b1ade. The device then works on the same principle as a paper cutter. (See figure 12).

To avoid possible injury to personnel and damage to materials, extra caution should be observed during periods of high or gusty winds, rainy weather, or electrical storms.

[illustration]
Figure 12. Second method used for cutting metal.

EXCESSIVE CLEARING

Construction planning should allow for the preservation of protective vegetation whenever possible. When existing soils are disturbed by clearing with heavy equipment or by addition of fill, the drainage problem increases. In sandy areas as little fill as is absolutely necessary is placed for roads and pads and all remaining areas a r e left undisturbed. In bivouac areas fill should be used only

under tents buildings, and on access routes. This reduces an existing dust, problem and allows rainfall to drain through the sand, causing no puddling nor mud problems. In clay soil areas, hand clearing reduces the dust problem and allows the rainfall to

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 110 out of 257: infiltrate naturally into the soil. Where areas have been disturbed, the damage can be rectified by re-sodding the area.

MAINTENANCE OF T-17 MEMBRANE

After having placed 500,000 square feet of T-17 membrane in Vietnam, it has been found that the anchorage system in sand or other loose materials must be modified from the deep V- shaped ditch to a shallow L-shaped ditch, with reliance on the sand backfill to hold the membrane in place.

When surfacing an area with T-17 membrane, significantly longer wear will be achieved by a moderate use of the non-skid compound and great care in joining adjacent sheets. At points where the sheets overlap, both sheets should be glued together and any wrinkles smoothed out by hand to prevent the admission of water. The anchors should be driven so that the heads are not so deformed that they create an air pocket between the sheets. The same care should be taken with the protective strip covering the joint. The non-skid compound provided is actually too effective, for the surface created is so abrasive that when a heavy plane makes a turn there is little or no slippage under the stationary wheel. The result is that frequently a hole is worn in the membrane after a single turning movement by a heavy plane. It is advisable to omit the use of the non-skid compound on parking aprons, access taxiways, and other areas where planes are likely to turn. Experience has shown that if the non-skid compound is not painted over the joints of the runway, the joints last longer and the non-skid compound on the remainder of the sheets is more than sufficient to prevent skidding.

Designed originally as a moisture barrier and dust cover to be utilized in the construction of tactical landing strips over a plastic soil base with a CBR rating of 10 or higher, T-17 membrane has been utilized successfully as a C-130 unloading apron over a compacted rock base. The success of this construction was due to the complete policing and brooming of all loose rock from the surface and the addition of a 3-inch sand cushion. Although the latter shifts and ruts from heavy wheel loads, the confinement offered by the membrane prevents abrasion and cutting by the base course.

The resin used for applying a non-skid surface to T-17 membrane can be used as a substitute for adhesive.

Membrane-covered medium-lift airstrips must be checked daily for base failure and

once after each C-130 sortie for tears in the membrane. Repeated C-130 traffic has the most damaging effect on an airstrip.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 111 out of 257: All dirt and sand must be removed from the area to be repaired, and glue applied

to the surface of both the torn membrane and the patching material. If the tear is more than 6 feet long or in irregular tears, membrane tacks should be used at points of greatest stress. Five minutes should be allowed for the patch to attach itself securely to the torn membrane.

Tears less than 6 feet long require approximately 8 minutes of work time, while a larger right-angle tear (20 x 30 feet), takes 30 to 40 minutes to repair.

A six-man maintenance crew is sufficient to keep a T-17 membraned airfield repaired and operational at all times. A 3/4-ton vehicle, equipped with an AN/PRC-25 radio and appropriate patching materials, will enable the maintenance crew to perform its assigned mission and keep in contact with the airfield control station.

BUILDING ROOF VENTS

Roof vents are necessary in tropical climates to achieve maximum circulation of air throughout a building, but proper allowances must be made for the monsoon rains. Roof vents providing coverage against rain incidence 60 degrees from the vertical have proved satisfactory against wind-blown rain in Southeast Asia. Roof vents not so constructed can be improved by adding facia boards to provide the required protection against rain. A new design, which provides an approximate 2-foot overhang with· a 7-inch clearance, has been found to be effective when used with a roof-rafter pitch of
6:12. (See figures 13 and 14).

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 112 out of 257: [two illustrations]

Figure 13. Roof vent construction for tropical climates.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 113 out of 257: [PHOTOGRAPH]

Figure 14. Constructing roof and louvers for H-type mess hall.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 114 out of 257: SANDBAGGING VEHICLES

Effective sandbagging of vehicles decreases the number of personnel killed by mine explosions, but many people are still injured by the presence of sand and pieces of the sandbags driven into the flesh of wounds sustained, thereby providing the risk of rapid infection (when incurred in tropical climates) and the necessity for surgery.

The sandbagging of vehicles can be improved by placing one-inch rubber carpeting over the sandbags. The rubber carpeting should be resistant enough to block the passage of stones, but elastic enough to offer no stiff resistance to the blast of landmine's explosives charge. If rubber carpeting is not available, scraps of T-17 membrane or similar material may be used.

PORT CONSTRUCTION

SOIL CONDITIONS FOR PILE FOUNDATIONS

When pile foundations are to be used, or any project using piles is anticipated, soil borings should be taken, carefully analyzed, and the results used in designing the pile foundations.

USE OF A TEMPLATE IN DRIVING SHEET PILE

Sheet pile should always be set in a template, several piles at a time, and plumbed before driving is started. Driving sheet pile walls one pile at a time without any lateral restraint tends to cause gross misalinement, which slows down progress and results in an unsatisfactory finished product.

SHEET PILE CORNERS

Sheet pile corners (45°, 60°, or 90°) can be fabricated by slicing a pile in welding or bolting it back at the desired angle.

USE OF SWINGING LEADS

Swinging leads should be used in place of fixed leads in driving sheet pile, adjacent piles are in the way of fixed leads in the sheet pile cap must be alined with the sheet pile. In doing so, the swinging leads are attached to one of the toys lines in pile hammer, to the other.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 115 out of 257: SHEET PILE COPPER DAMS

Sheet pile cofferdams should be thoroughly checked for sufficient pile penetration and lateral stability to prevent bending of sheet file, overturning of wall, and

soil blowout.

When pumping out cofferdams, the pumping action must be continuous, and requires at least two reliable, heavy-duty, large capacity pumps.

Leaks in sheet pile cofferdams may be staffed by pouring a sealer, such as wet sawdust, into the water next to the joints on the outside of the wall.

EXTRACTING SHEET PILE

Always have a sheet pile extractor insufficient air compression to operated on hand while driving sheet pile. Make sure that the sheet pile pickup holes are large enough for the extractor pin.

LST RAMPS

The gentle sloping inclined concrete slab ramp is the least desirable type of LST ramp. Since the LST must rest for a large portion of the time on the concrete slab, considerable wear on both the steel Hall of the LST in the concrete deck can be expected. Redesign of the recommended 3: 1.75:1 reduces the ramp length and allows the LST to remain floating at all times.

And LST that is firmly grounded on a ramp at high tide will remain in place as the tide recedes. As a result, a heavy concentrated load is applied to the ramp slab. In one known instance this load was sufficient to break up a 6-inch reinforced concrete slab and terror out a portion of the subgrade.

NAVY PONTOON BARGE DECKS

The application of a heavy wooden deck over the steel deck of a Navy pontoon barge deck protect the steel deck and fastness, and facilitates the safe movement of equipment and personnel on the deck. Bent or warped steel plates and bowls create a safety hazard for personnel and equipment.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 116 out of 257: PILE DRIVING ALONG UNSTABLE BANKS

A class 60 M4T6 draft provides a stable, maneuverable platform for a pile-driving rig used to drive piles along the shoreline where there is insufficient stability to hold equipment or fill. By anchoring the raft to the shore with strong lines of cable and using powerboats to maneuver the raft, piles can be easily and rapidly driven with little time lost in maneuvering the ring. Driving piles from the waterside will enable a constructing unit to complete other phases of the project onshore without being held up by the piledriver.

TREATED STRUCTURAL TIMBER MEMBERS IN WATER STRUCTURES

treated structural timber members are necessary in salt water structures built in Southeast Asia. Untreated structural timber members become victims of Marine borders and have to be replaced within six months.

POSITIONING POSITIONING OF WALES ON SHEET PILE STRUCTURES

Wales used on sheet pile structures should be positioned above the high water mark. Experience has shown that boils on a bulkhead or cofferdams positioned below high water create significant maintenance problems. Holes for the anchoring system which penetrate the structure must be sealed. Continuous tide and wave action causes the foundation fill to be drawn through the piling and undermines the supported facility. Wales placed above the high water mark are not subject to these forces. Furthermore, any maintenance effort required would be facilitated by the dry location. Provided available materials and design criteria will allow it, the above-high-water position is recommended even at the expense of some structural inefficiency.

FORMATION OF SAND BOILS OR SPRINGS

As soon as sand boils or Springs are observed they should be covered with a surcharge consisting of gravel or sand type material. For best results the surcharge should meet filter specifications; however, a good field expedient is obtained by using sandbags filled with clean sand. The surcharge serves two purposes. First, it will prevent the washing the way of fines which could lead to a sudden law -like failure caused by "piping" or loss of bearing by the soil resulting from water erosion. Second, the weight of the surcharge by the upward flow of water. Sand boils or Springs are especially dangerous when found in fine, non-cohesive soils. If the source and direction of subsurface flow can be established, the field expedient relief well system to intercept and control the flow outside an operational or construction area, may have application.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 117 out of 257: WORK BARGES

a unit in Southeast Asia reports that a 6 x 18 steel ponton work barge propelled by two 165-b.h.p. Units can be operated safer, easier and quicker by one operator, if a "flyway bridge" walkway is built approximately 7 feet above the rear section of the work barge. Through the use of mechanical linkages, the control of both propelling units can be transferred to one central location on the "flyway bridge" walkway. Under standing operating procedures, each unit is operated independently of the other. This requires an operator for each propelling unit and a third crew member, located forward, to provide directions and coordinate the two operators, thus causing a great deal of difficulty in maneuvering the barge.

CULVERT CONSTRUCTION

SIZE

The nature of the soil in the area should be the determining factor in deciding the size of the culvert to be constructed or placed under a road. Small culverts (18 inches or less) should not be placed in areas where the soil has a high silt content. Rapid silting reduces the effective culvert opening and limits the amount of runoff that the culvert can carry. Silting may be further reduced by increasing the slope of the culvert so become self-cleaning.

PROTECTION

two layers of PSP placed in an "X" pattern over the top of a newly in place culvert helped distribute wheel loads of vehicles passing over newly compacted backfill. This temporary expedient permits the backfill to consolidate and try out without excessive displacement and damage to the culvert.

EXPEDIENT CULVERTS

Expendable napalm bomb containers (26 3/8 inches x 9 feet 5 inches) are easy to install and adequate to handle most excessive drainage problems. The "C" clamps are very effective for connections, thus eliminating the need for welding. Since the napalm container walls are approximately 0.6 inches thick, 2 feet of cover are required when they are used as culvert material to prevent heavy equipment from crushing them. In cases where 2 feet of cover is difficult to achieve, the use of a well compacted sand or soil cement backfill may be considered.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 118 out of 257: HEAD WALL CONSTRUCTION

Where rock is abundant, masonry headwalls should be used in the construction of permanent culverts, since they require less time to construct, no forming material, less concrete, and are simple and inexpensive to build when using local labor.

BUILDING CONSTRUCTION IN THE TROPICS

PREFABRICATION

Prefabrication of tropical buildings is recommended when many buildings are being constructed. A carpenter shop utilizing skill saws, jigs, and local skilled labor can produce standard prefabricated sections in sufficient quantities to keep in the entire company fully supplied. Prefabrication of rafters, louvered gable ends, and end and side panels reduces the need for skilled carpenters at the erection site. The four basic tasks — erection of prefabricated wall sessions and insulation of bracing, erection of rafters and purlins, erection of screening and siding, erection of roofing in the bracing — at the building site can be

accomplished most effectively by work parties of three to five men. By forming specialized work parties, work is always in progress and for buildings, once the project is underway.

Prefabrication of tropical buildings in a central location, and control issue of the buildings as a package permits other units to construct their own facilities under the technical supervision of engineer troops. This results in a savings and engineer effort that can be applied elsewhere.

ALINEMENT OF CORRUGATED STEEL ROOFING AND SIDING

Pre-fastening two or three sheets of corrugated steel together before final placement increases the speed and accuracy of alinement.

CONSTRUCTION OF STEEL PREFABRICATED BUILDINGS

Design dimensions should be checked against construction members before constructing steel prefabricated buildings. The welding of additional metal onto tie beams is not uncommon. Also, shortages of sway braces have occurred as a result of loss and shipment and damage. Sway braces can be fabricated by welding turnbuckles two lengths of steel reinforcing bar. Wire rope with cable clamps may be used instead of the reinforcing bar.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 119 out of 257: DRAINAGE AROUND PREFABRICATED BUILDINGS

Have sections of small (12" or 18") culvert pipe dug into the ground level around the perimeter of the building will catch the roof runoff and channel it to nearby ditches; also, it will prevent washing out around the building and possible flooding of the building interior.

CONCRETE CONSTRUCTION

HOT WEATHER PLACING AND CURLING

In the construction of 70' x 140' buildings in which large quantities of concrete are required, and effective methods which is achieved by first pouring the foundation for the walls, leaving openings at door areas for drainage; then constructing the building; and, finally, completing the pouring of concrete inside the building during inclement weather. This permits the screeding and final finishing of concrete inside of the building to be done when climatic conditions are unsuitable for outdoor work.

PROTECTION OF FRESH CONCRETE

Difficulties encountered in placing sizable slabs of new concrete during periods

of frequent or intermittent rainfall can be avoided by erecting one or more 25' x 50' canvas-covered steel pipe frames over the freshly poured concrete. Use of this type of protective framework will do away with delays and concrete work during rainy weather. Furthermore, the frames can be dismantled and re-erected at other job sites, when needed.

MOBILE CONCRETE FACILITY

A mobile concrete facility can be constructed by mounting two 16 S concrete mixers on a 10-ton low-bed trailer and fabricating a chute to poured directly into the forms. The mounting of a water tank on the neck of the trailer increases the efficiency of the facility and reduces water distribution requirements. The facility can be pulled with a five-ton tractor on well-compacted surfaces or a crawler tractor on low-bearing pressure services. By utilizing this mobile method of placing concrete, it is possible to reduce the

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 120 out of 257: number of personnel required to operate two separate concrete mixers, resulting in an increased efficiency in the amount of concrete placed per man hour.

CONCRETE VIBRATING

When placing reinforced concrete walls with a sickness of 8 inches or less, the use of pneumatic nail drivers aqs external for vibrators has proved to be very satisfactory field expedient for the elimination of air pockets without disturbing the reinforcing material.

CONCRETE FINISHING

An ingenious and simple method has been devised to vibrate the surface of concrete during finishing by the screed method. Vibrations are produced by means of a 3-inch pipe, long enough to spend the pad, which hasn't external concrete vibrator attached to each end of the pipe. The vibrations of the pipe-vibrator assembly bring enough mortar to the service to allow for final troweling with little or no and bloating and eliminate depressions on the finished concrete slab.

DUMMY JOINTS IN CONCRETE SLABS

A straight joint can be formed before concrete sets by dragging a long piece of re-bar open phrases with the formations) from endpoint to endpoint of the desired joint. After the concrete has set, the joint can be dressed or finished.

CHARGING THE 16S CONCRETE MIXER Speed of charging the 16S concrete mixer is a significant factor in determining speed of placing concrete. By welding a divider in the skip at the proper location, sand and gravel may be sold directly into the

mixer from trucks or stockpiles. This method increases the concrete output per man hours expended. It also eliminates the need for volume boxes for the production of quality concrete.

34

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 121 out of 257: MAP READING

MAP COORDINATES

Units occupying unfamiliar terrain, terrain that is devoid of prominent terrain features, or heavily forested areas have difficulty locating their positions from maps. Misjudgments of the actual location through erroneous map reading may result in injury to personnel by friendly artillery. Map coordinates should be verified by an airborne observer whenever possible.

POINTS OF ORIGIN

Points of origin are easily identified on the maps and corresponding terrain. For example, a main road crossing could be one point a more urgent in a river crossing, bridge, or prominent hill could be the second point. The two points can be given a code designations such as Alpha and Bravo. The line connecting the points of origin provides an accurate means of locating friendly forces without compromising their positions. Any point can be located by stating a distance along this line in a perpendicular distance to the right or left from this line. Since the enemy is not familiar with the selected points origin or their designations, the resulting system can be used without compromise. The system also provides an accurate and simple can encode them or passing target information.

There are several things that should be considered when the point of working system is established: (1) the system should be published at the highest level necessary to ensure that all interested agencies have access to it. It should be published for use during field operations and had base camps and change periodically to prevent compromise; (2) system should incorporate the use of broad categories are quick reference.

CEMENT-DECOMPOSED GRANITE STABILIZATION

ROAD PROBLEMS AT CAM RANH BAY

One of the principal engineering problems encountered in the development of Cam Ranh Bay was the construction of a road base capable of withstanding the heavy load requirements necessary for the voluminous movement of critical bulk supplies. Suitable construction of materials, such as rock and asphaltic cements, were in limited supply or difficulty produce insufficient quantity to sustain a maximum road construction effort. The quantities of rock

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 122 out of 257: required for a suitable base, not to mention the wearing surface, were of such magnitude that all available products from the existing quarry operation the Cam Ranh Bay area would have been needed.

Beach sand is not suitable for use in rock, as it fails exceedingly in shear and does not hold the rock. This problem was solved by uniform distribution of a load of the compose granite to the sand in order to make use of its maximum bearing capacity. Through the use of the compose granite, a quarry waste product available in large quantities, a suitable base having the required characteristics was constructed.

Decomposed granite is a product of the chemical weathering of the silica molecule from the feldspars in the granite rock. It produces a residual claim material containing a high percentage of small quartz crystals. Decomposed granite is not to be confused with lateritic soils which are common in Southeast Asia.

AVAILABLE CONSTRUCTION MATERIALS

The well-rounded, wine-grain, poorly graded beach sand is undesirable as a construction material. Subgrade failure occurs when beach sand is used as a subgrade material with a 6- to 8-inch sub- base of 3-inch-minus crushed rock. Test results indicate beach sand is an undesirable aggregate the for use with cement as a sand-based cement stabilize road base. Laboratory tests and field test strips of berries bleach sand-cement ratios all produced similar results of slow strengths and poor wearing ability.

Laboratory tests were performed on decomposed granite relative to its acceptability as a construction material. Sieve analysis optimum moisture curves, and test specimens all produced send spec results. Based on test results, a 12-inch test roadway was designed and constructed consisting of a 6-inch sub-base of 50 percent decomposed granite and 50 percent beach sand, followed by a 6-inch base of cement and decomposed granite. In addition to decomposed granite about 6 to 12 percent by weight of other non-plastic fines such as crusher tailings limestone dust and rock flour which generally pass a 200 mesh sieve can be mixed with beach sands to permit cement stabilization.

PROCEDURES

The test area was excavated to a grade 9 inches below the desired final grade of the wearing surface and they 3-inch lift of decomposed granite was placed, spread, and blended with a rototiller. This mixture was compacted at optimum moisture content to 90 percent-plus, using a sheepsfoot roller and a 13-wheel "wobbly" roller pulled intended.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 123 out of 257: A second 6-inch lift of decomposed granite followed after test results indicated a

90 percent-plus compaction have been obtained throughout. The second lift was compacted and shaped to final grade. This portion of the procedure has since been modified to eliminate the compaction of the second lift is a necessary effort. The first compaction was found to be unsatisfactory also in that the rototiller blade experience considerable wherefrom lending. Cement was placed on the base course at intervals which would yield a 10 percent-by-volume cement to decomposed granite ratio when rototilled to a 6-inch depth. The cement was rototilled into the 6-inch base. Three passes of the rototiller were required to achieve a uniform blend of material. When properly blended, the service was a uniform gray color. Water was added through the rototiller during the third pass to obtain optimum moisture content.

Constant testing was required to determine the exact quantity of water to be added. Constant supervision was required to ensure that the optimum moisture content is not exceeded. The latter was necessary because it optimum moisture content the mixture appeared dry to the touch and personnel tended to add more water. The blended material was again compacted with a sheepsfoot roller and a 13-we'll roller pulled in tandem and finish-rolled with a 10-ton steel wheel roller. Some finish grading was required to achieve the desired road shape.

DEHYDRATION DEMANDS SPEED

Speed and construction procedures was essential from the time the water was added. It was necessary to complete the entire operation in less than four hours. This timeframe was necessary in order to prevent a breakdown of the hydration of the cement by the compactive effort.

After completion of the final shaping, the surface was kept moist for a period of seven days to allow proper curing. All traffic was kept off the road until the cure period was completed. Periodic checks of the surface were necessary, since additional water was required to aid curing if surface cracks developed. After curing, the cement-decomposed granite base was covered with a hot asphalt road mix wearing surface laid by an asphalt paver.

EXPERIMENTAL ACHIEVEMENTS USING DECOMPOSED GRANITE

The decomposed granite-cement stabilized base that was constructed was bound capable of caring the loads for which it was designed. The 1000-foot road constructed by the foregoing procedures has

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 124 out of 257: withstood the test of time and use. It has not required maintenance and has not

developed a base course or subgrade failure of any time; nor has a service failure of any kind occurred since completion.

The use of a decomposed granite-cement stabilized base would release a considerable quantity of rock for other uses. The only requirement for rock in this procedure is that which is required for the hot mix in the wearing surface. Decomposed granite is an abundant waste product of quarry operations and would remain available to meet the needs of a large-scale roadbuilding operation.

Further experiments in this field to determine other possible mixtures, including a 45 percent decomposed granite-45 percent beach sand-10 percent cement mixture, are presently under consideration. If other successful mixtures are found to reduce the requirements for decomposed granite, it would then be available for other uses.

EQUIPMENT

MULTIFUEL ENGINES

Multifuel engines must be run at idle speed to avoid uneven cooling during the sub- done phase of operation. Failure to do this results in the cracking of the cylinder heads.

HYDRAULIC CYLINDER GASKETS

Replacement hydraulic cylinder gaskets for the track mounted 20-ton crane shovel that are made from old inner tubes have been used with excellent results.

EXCESSIVE WEAR ON TRACTOR RADIATOR TUBES

Operation in sandy areas produces a great deal of wear on the Allis Chalmers tractor radiator tubes, causing pinhole leaks. Drivers must be caution, when walking this equipment, to drive forward — not backward — thereby reducing the amount of sand and dust pulled into the radiator.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 125 out of 257: FENDER FAILURES

A unit in southeast Asia reports that extra brace supports welded to the right vendors of the M51A2 five-ton dump truck will keep the fender from being pulled loose, or cracked, around the fender-mounting bolts, by the excessive weight of the turbocharger air cleaner.

GENERATORS

Coal generators should be run for at least 10 minutes before applying a load. Circulation of air around the stator windings will tend to remove the accumulated moisture inside equipment, which is the case of most generator breakdowns.

Proper protective measures must be taken to keep generators. Excessive water and sand. Sandbags placed 4 feet from the generator at a minimum height of 2 feet, with a protective covering (such as a tire for 10) placed over the generator, will cut down unnecessary exposure of a generator to whether elements which will cause deterioration of the equipment.

Short-circuits of 45-kilowatt, 400-cycle generators during rain storms may be substantially reduced by disconnecting the "Hercules" power outlets.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 126 out of 257: centralization of 45-kilowatts generator maintenance results in significantly

lower deadline rates and improves responsiveness when generator troubles occur.

The elevation of generators a few feet off the ground will reduce the amount of sand drawn into the stators while the generators are in operation.

When a unit is deployed under field conditions for sustain operations, suitable "downtime" should be scheduled in order to accomplish required maintenance on each electrical power generator. When scheduling "downtime", consideration should be given to the electrical power requirement for operating electrical equipment usually powered by each generator. For continuous operation at least one generator should be maintained on a standby basis at all times.

Generators damaged by rats or other small rodents can be repaired and/or protected from further damage by ordinary plastic insulating tape and fungus proofing spray. The damaged wires or insulation should be sprayed with fungus spray, then wrapped with plastic tape, given a final coding of the fungus spray. The advisability of subsequent treatment of the area with fungus spray has not been determined, but it is known that rats will not return to the treated area after the area has been repaired in this manner.

Click cheesecloth, loosely draped, but adequately secured, around the air filter and/or relays will reduce the amount of dust drawn into the inter-working parts of the generator. However, there should be a minimum clearance of 1 foot between the cheesecloth and filter in order to prevent overheating of the generator motor.

Although power generators and their attached auxiliary equipment weigh approximately 5000 to 6000 pounds, they still must be firmly anchored to the truck bed, pad, or base from which they are operated. If not, they will "walk-off" owing to sound and mechanical vibrations produced by the operation of the equipment.

Fuel lines from shallow-buried or unburied fuel tanks, supplying fuel to electrical power-producing generators, also should have been above-ground auxiliary fuel tank that has a draincock at its base. Use of the auxiliary tank (located above ground) will cause any water collected by condensation to separate from the fuel or main source of supply. The draincock will permit daily removal of the collected water without disrupting the supply of fuel to the generator motor.

When fueling small Kurs & Root generators (30 KW or smaller) from a direct supply line, the day-tanks should be removed or bypassed,

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 127 out of 257: and a settlement bowl or draincock inserted in the fuel line in its place. The latter will remove dirt and moisture from the fuel and eliminate the problem of a sticking float valve. Also, a return fuel line should be installed from the fuel pump to the fuel source to eliminate overflow or excessive fuel pressure.

Starter cutout relays (or safety relays) from any size generator (not powered by a turbine engine), will work on a 45-kilowatt generator. However, the actual bidding of these relays must be accomplished by trial and error methods, since the generator schematics do not relate how this can be done.

Diodes, fuses, and resistors are interchangeable on practically any generator used by the military services, although generator specifications do not so specify.

If the starter lockout relay becomes inoperative on the 45-kilowatt, trailer-mounted, consolidated diesel unit, as a last resort can be started by carefully actuating the starter solenoid with a piece of lumber or tree branch used as a lever.

LUBRICATION RACKS

A masonry wall built with a 8- to 12-inch rock and re-bar cross bracing, compacted fill, and a concrete top is a good substitute for the grease rack. These materials are usually available in an area, and can be constructed easily by using local labor.

OPERATION AND MAINTENANCE OF THE 155-GPM SUMP PUMP

The 155-GPM Sump Pump, used with the high c.f.m. air compressors found in most Engineer units, can be a valuable piece of equipment. Its reliability is primarily due to the small number of moving parts in the pump, coupled with the dependability of the compressors with which it is used. Proper operation and maintenance of this pump is extremely important if it's full value is to be realized.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 128 out of 257: These pumps, like any piece of mechanical equipment, will have material failures

for a various number of reasons. Four of these failures are quite common, cause the most downtime, and are the easiest to prevent or repair.

The most common failure is the binding of the impeller and shaft owing to an accumulation of debris. The impeller, rotating within the base housing, picks up debris along with the water. Mounting legs on the base of the pump which raises the pump off the bottom, or places the pump in a perforated 5-gallon can, are too easy methods for preventing this buildup of debris.

Failure of the pump, in some cases, may be found to result from lack of lubrication. Use of the lubrication order and proper lubrication must be stressed of each operator. Excessive wear will occur whenever the intervals established by the lubrication order are not met. After several periods of operation, the where plates and bushings may become worn. When this is found, shorter intervals of lubrication must be established. The shorter interval will permit a buildup of lubricant between the shaft and bushings, thus taking up the clearance resulting from the worn bushings and reducing further wear.

Another common failure of the pump is freezing of the driveshaft to the bushings, caused by rust forming on the shaft. This happens when the clearance between the main shaft and the support bushing becomes enlarged. Water entering through this clearance will deteriorate regular grease, causing early failure of the lower support bushing. By using a non-water-soluble grease, this can be prevented and the life of the pump will be greatly increased.

Failure of the pump owing to seizure of the fiber vanes within the motor housing is normally caused by careless handling of the pump during installation and storage. Dirt, entering through the air inlet, will cause the fiber vanes to bind or freeze within their slots. This will either freeze the pump or cause the fiber vanes to break.

Proper maintenance after operation can illuminate most failures. After the pump is been used, the base screen should be removed and the impeller cleaned and a light coat of oil applied to all metal parts. When the pump is stored, or during handling, care must be taken to prevent dirt from entering the air inlet. After every operation, each grease insert should be serviced in accordance with lubrication order.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 129 out of 257: TURBOCHARGERS

By using turbochargers on diesel engines, the rated horsepower can be increased from 20 to 50 percent. This is accomplished by forcing air into the combustion chamber in order to increase the compression pressure. During operation the turbocharger reaches speeds of 20,000 to 50,000 r.p.m.

Lubrication of a turbocharger operating at these speeds is an extremely important function. Location to the sleep type bearings is from the crankcase oil pumps and does not present a problem during operation. Extensive damage can occur, however, if the proper shutdown procedures are not followed.

The engine should be operated at idle speed for a minimum of three minutes prior to shutting it down, this allows the turbocharger to slow down. When the engine is it shutdown at high r.p.m. the turbocharger continues to rotate, but because the engine is no longer operating there is no oil being pumped to the turbocharger sleeve bearings. As such high r.p.m. the sleeve bearings will burn out rapidly because of a lack of oil.

MAINTENANCE OF GASOLINE ENGINE DRIVEN CHAINSAWS

The gasoline engine driven chainsaw is a rugged tool and it will tolerate a limited amount of abuse without being rendered unserviceable; however, for optimum performance it is absolutely necessary that routine and unscheduled maintenance be performed when prescribed or when necessary.

Operator abuse is a major factor in chainsaw failures. Improper lubrication is one of the most frequent causes of inability to start. Lubricating oil of the prescribed weight and type must be mixed with gasoline in the correct proportions, no more, no less, if the size expected to operate properly. Too much oil will cause spark fouling and excessive smoking at the exhaust; too little will cause excessive engine wear. All preventive maintenance services must be performed before attempting to start the engine.

A clock muffler or exhaust ports may be the cause of failure to start, hard starting, or loss of power. The muffler and exhaust ports should be cleaned up carbon periodically. Remove and scrape carbon from the muffler. Scrape carbon from the exhaust port. CAUTION: Before attempting to clean the exhaust port, the piston must be moved to the bottom of the cylinder to avoid damage to the piston and piston rings. If the exhaust port is divided, care must be exercised not to break out the divider. After the exhaust port

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 130 out of 257: has been cleaned, the engines should be cranked over rapidly by hand several times
with the muffler removed in order to blow out any carbon remaining in the cylinder.

After starting in while operating the sock, it should be stopped immediately unusual noises are heard or erratic operation is observed. The trouble should be located and corrected before again starting the saw. The cutter bar and chain must be lubricated at intervals while the saw is in operation. The chain must be sharp and properly adjusted.

To minimize the possibility of flooding when starting, the saw should be stopped by shutting off the fuel supply at the tank. If it is found that failure to start is caused by flooding, the engine should be cranked with the fuel shut off and spark plug removed until the excess fuel mixture has been purged from the cylinder and crankcase.

Spark plug should be thoroughly dried or replaced with a new one; and the starting procedure repeated. CAUTION: In instances where a spark could cause a fire, the sparkle and cable should be firmly grounded to the engine when the engine is cranked with the spark plug removed.

When the saw is not being used, and while it is stored, it should be treated with the same care as any other precision tool or piece of machinery. It should not be callously thrown on the ground are tossed into the body of a truck. It should not be needlessly exposed to dust and other abrasives. Above all, it should not be laid on rock, concrete, or gravel services. In summary, if supervisors and operators ensure that chainsaws are properly maintained and handled with care they will be ready for the big job where required.

EQUIPMENT IMPROVEMENT RECOMMENDATION

Several recommended equipment modifications have been received by various agencies in the United States, and referred to USAMEC for action; however, USAMEC is unable to act on many of them because of a lack of data in the report.

Equipment improvement recommendation (EIR) is submitted on D.A. Form 2407 and it is used to suggest changes that will improve the reliability, maintenance, and operational safety of a given place of equipment.

Equipment improvement recommendations can be initiated that any maintenance level by an individual directly or indirectly connected with the piece of equipment.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 131 out of 257: There are three submission priorities used with the equipment improvement

recommendation. The three priorities are: Emergency, Urgent, and Routine. For proper use of the parties, TM-38-750 should be consulted.

Whenever and equipment improvement recommendation is submitted, it should have the

correct priority denomination, a sketch of the improvement requested and, if deemed necessary, it should be accompanied by an exhibit of the defective component to make it easier for Mobility Equipment Command to evaluate the problem. If an exhibit is submitted with the equipment improvement recommendation, it should be tagged with a properly completed DA Form 2402.

COMPRESSED AIR STARTING MOTORS

When using air starting motors to start diesel engines, it is important to use a compressor with a water separator or drain on the receiver tank. The discharge of water through the compressed air lines damages the vanes in the starting motor, allowing slides and rust to accumulate in the starting motor cylinder, which in turn also causes damage to the vanes.

It is recommended that a water separator be installed in the discharge line of the compressor capable of accommodating the capacity of the compressor.

MAINTENANCE EMPHASIZED IN HEAT, HUMIDITY, SAND AND DUST

It is necessary to instruct all personnel periodically on the proper use and maintenance of their equipment while serving under conditions involving heat, humidity, sand, and dust. Vehicles and equipment are lubricated more frequently; heavier oil is used in hydraulic systems, and electrolyte in batteries is diluted because of excessive heat. Continuing emphasis must be placed on keeping clothing dry and vehicles and equipment clean, as well as lubricated, in order to maintain their useful life. Personnel should be required to be fully aware of the operator maintenance requirements prescribed by TM 38-740.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 132 out of 257: ENGINEER RECONNAISSANCE

LOCATING CONSTRUCTION MATERIALS

An Engineer reconnaissance technique developed in Vietnam for the location of construction materials in seemingly inaccessible areas employs artillery and air bombardment as well as aerial photography. This technique has proved helpful in locating and uncovering laterite deposits. With the assistance of color photography, laterite deposits uncovered by artillery are easily detected owing to laterite is distinctive red coloring. In addition, color photography is a distinct aid in determining the amount of overburden and the best access routes to the area. The method also has another advantage, in that it eliminates any requirement for a large. security force to protect a reconnaissance party and makes the area untenable for enemy forces. Repeated success of this reconnaissance technique in Vietnam has made it an invaluable aid for planning and executing combat construction operations deep into enemy controlled areas.

PREPARATIONS FOR RECONNAISSANCE

Planning for an engineer reconnaissance utilizing this technique should include the following preparations:

1. A detailed study of geological information contained in available Engineer intelligence studies.

2. A detailed map study of the most likely construction material sources as close as possible to the work site, bearing in mind requirements for haul roads, enemy activity and economy of haul.

3. Scheduling artillery fire and/or pre-planned air strikes on selected areas.

4. Scheduling of reconnaissance aircraft and color photography as soon after strikes as possible.

5. A study of the color photography taken.

6. Determination of the personnel and equipment requirements needed to exploit any construction materials located by using this technique.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 133 out of 257: DECLASSIFIED AUTHORITY
NND 994025

FOR OFFICIAL USE ONLY

OPERATIONS REPORT
LESSONS LEARNED
REPORT 4-67

FOR OFFICIAL USE ONLY
Transcription for Image 134 out of 257: FOR OFFICIAL USE ONLY
DEPARTMENT OF THE ARMY
OFFICE OF T HE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO
AGAM-P (M) (26 May 67) FOR CT RD 7 June 1967

SUBJECT: Operations Report - Lessons Learned 4-67 - "Observations of a Battalion Commander"

TO: SEE DISTRIBUTION

1. This is the fourteenth of a series of reports from operations being conducted by US Forces in Vietnam.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during the current combat operations. The lessons cited in this report may be adapted for use in developing training material.

3. Observations of a Battalion Commander is an account by Lieutenant Colonel William S. Hathaway of the lessons that he learned as a Battalion Commander while serving with the 2nd Battalion, 16th Infantry, 1st Infantry Division in Vietnam. The opinions stated herein do not necessarily reflect official Department of the Army approved doctrine.

4. The war in Vietnam has been characterized as a small unit war where the combat is brief and violent. The problems experienced in this war are neither new or startling. They cannot be attributed to the mysteries of warfare. They are the same problems experienced by small unit leaders in WW II and the Korean War. This report addresses some of these problems and illustrates how one battalion commander resolved them. Although it reflects the experience of an infantry unit commander, this report can be read with profit by all small unit leaders.

5. Previously published reports of the Operations Report - Lessons Learned series were:

a. Summary of Lessons Learned, Vietnam, 2 November 1965, UNCLASSIFIED.

b. Operations Report - Lessons Learned, Report 1-66, Operation CRIMP, 22 March 1966, marked FOR OFFICIAL USE ONLY.

c. Operations Report - Lessons Learned, Report 2-66, The Battle of Annihilation and the BONG SON Campaign, 1 April 1966, CLASSIFIED.

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 135 out of 257: FOR OFFICIAL USE ONLY

d. Operations Report - Lessons Learned, Report 3-66, The PLEIKU Campaign, 10 May 1966, UNCLASSIFIED (Limited Distribution).

e. Operations Report - Lessons Learned, Report 4-66, Evasion and Escape RVN, 24 May 1966, CLASSIFIED.

f. Operations Report - Lessons Learned, Report 5-66, Combat Service Support - RVN, 10 June 1966, UNCLASSIFIED.

g. Operations Report - Lessons Learned, Report 6-66, Lessons Learned in Vietnam -

1966, 1 July 1966, UNCLASSIFIED.

h. Operations Report - Lessons Learned, Report 7-66, Operations COCOA BEACH and HAPPY VALLEY, 11 Aug 1966, CLASSIFI ED.

i. Operations Report - Lessons Learned, Report 8-66, Engineer Notes #1, 13 October 1966, UNCLASSIFIED.

j. Operations Report - Lessons Learned, Report 9-66, Equipment, 7 December 1966, CLASSIFIED.

k. Operations Report - Lessons Learned, Report 1- 67, Observations of a Platoon Leader, 30 January 1967, UNCLASSIFIED.

1. Operations Report - Lessons Learned 2-67 - Counter-Guerrilla Tactics, 13 March 1967, marked FOR OFFICIAL USE ONLY.

m. Operations Report - Lessons Learned 3-67, Engineer Notes # 2, 6 April 1967, UNCLASSIFIED .

5. Addressees other than US Army are provided copies of Operations Report - Lessons Learned in accordance with the provisions of DJSM 545_66 dated 2 May 1966.

BY ORDER OF THE SECRETARY OF THE ARMY:

[signature]
1 InclC. A. STANFIEL
Observations of a Battalion Colonel, AGC
Commander.Acting The Adjutant General

DISTRIBUTION:
Office, Secretary of the Army
Office, Chief of Staff, US Army
Deputy Chiefs of Staff
Comptroller of the Army
Chief of Research and Development
Chief, Office of Reserve Components

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025

DISTRIBUTION (Cont'd)
Assistant Chiefs of Staff

Chiefs of Engineers
The Adjutant General
The Surgeon General
The Inspector General
Chief of Communications-Electronics
Chief, National Guard Bureau
Chief of Information
Chief of Military His tory
Chief, Army Reserve
The Provost Marshal General
Chief of Support Services

Commanders in Chief
US Army, Europe /Seventh US Army
US Army, Pacific

Commanding Generals
US Continental Army Command
US Army Materiel Command
US Anny Combat Developments Command
CONUS Armies
US Army Strategic Communications Command
US Army Security Agency
US Army Intelligence Command

Commanding Generals
US Army, Alaska
US Army, Hawaii
US Army, Japan
US Army, Ryukyu Islands
US Army Training Centers
Eighth US Army
Army Corps (Including Reserve Components CONUS)
Army Divisions (Including Reserve Components CONUS)
US Army Deseret Test Centers
US Army Electronic Command

Commander
US Army Forces Southern Command

Superintendent
US Military Academy

Commandants
US Army Command and General Staff College
US Army War College
US Army Air Defense School
US Army Armor School

US Army Artillery and Missile School
US Army Chemical Corps School

FOR OFFICIAL USE ONLY

3

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 137 out of 257: FOR OFFICIAL USE ONLY

DISTRIBUTION: (Cont'd)
US Army Engineer School
US Army Military Police School
US Army Infantry School
US Army Intelligence School
US Army Medical Field Service School
US Anny Quartermaster School
US Army Security Agency School
US Army Signal School
US Army Transportation School
US Army Special Warfare School
US Army CBR Weapons Orientation Course
US Army Aviation School
US Army Civil Affairs School

COPIES FURNISHED:
Chief of Naval Operations
Chief of Staff, US Air Force
Commandant of the Marine Corps
Director, Joint Staff, JCS

Commanders in Chief
Alaska
Atlantic
Pacific
STRIKE Command
US European Command
Southern Command
Pacific Fleet
US Air Force, Pacific

Commanders
US Military Assistance Command
Thailand
Vietnam

Commandants
Armed Forces Staff College

Industrial College of the Armed Forces
National War College

Director, Military Assistance Institute
Senior Army Advisors
Naval War College
Marine Corps School
Air University

US Exchange Instructor
Tactics School, Royal School of Military Engineering Chatham, Kent, England

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 138 out of 257: FOR OFFICIAL USE ONLY

DISTRIBUTION (Conttd)

COPIES FURNISHED:
USA Standardization Group, Ottawa, Canada
Corps of Engineer Class II Installations and Activities
Director, Air University Library
US Army Map Service
United States Air Force Special Air Warfare Center, Eglin AFB, Florida
US Exchange Instructor
American Embassy, APO San Francisco
Office Director of Defense Research and Engineering, ODD (SEAM) (ODDR&E)
National Aeronautics and Space Administration
Editor, Infantry Magazine

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 139 out of 257: FOR OFFICIAL USE ONLY

F O R E W O R D

This text has been prepared for the sole purpose of assisting Infantry Unit Commanders, particularly those in, or en route to Vietnam. It is based on my experience as the Italian Commander of the 2nd Battalion, 16th Infantry, 1st Infantry Division, from February 1966 to January 1967. During this time, the 1st Infantry Division operated in the area of the III ARVN Corps, primarily in War Zone C and D. Although the terrain in other parts of Vietnam will require changes in some of the tactics and ideas set forth, I believe many of the lessons learned are basic to any area of the country.

Despite the many comments that the war in Vietnam is different from WW II and Korea, I do not believe that this is true at Battalion level, and it is certainly not true at Company and below. The exact same problems faced Junior leaders today as did 1942-45 and 1950-53. And Infantry Unit need only do as it has been trained to do in order to survive and when.

This is a small unit more where combat is brief and violent. The small unit leader carries the biggest load. His actions prior to contact, and in the first few minutes of battle will usually tell the story.

The techniques described herein, are based on the experiences of one Italian only, and are not of necessity uniform throughout the 1st Division. They were, however, techniques which proved to be successful, in which I hope will be of use to other Infantrymen.

[Signature]
WILLIAM S. HATHAWAY
Lieutenant Colonel
Infantry

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 140 out of 257: FOR OFFICIAL USE ONLY

OPERATIONS REPORT - LESSONS LEARNED 3-67
OBSERVATIONS OF A BATTALION COMMANDER

CONTENTS

SKETCHES

ILLUSTRATIONS

FOR OFFICIAL USE ONLY
DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 141 out of 257: FOR OFF!C!AL USE ONLY

ILLUSTRATIONS

FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 142 out of 257: FOR OFFICIAL USE ONLY

OBSERVATIONS OF A BATTALION COMMANDER

The problems in Infantry combat in Vietnam are primarily a Company level and below. Problems which affect battalions, or larger units, are usually recognized and solved, because the resources and experience needed to solve them are available. On the whole, the Commanders and Staffs at Battalion (and higher) are experienced and well trained; much more so then there counterparts in WW II or Korea. The same is not true at company and lower. As the real load is carried at Company, Platoon, and Squad level this further complicates the problems. Where we need the most talent and experiences where we have the lease.

If we could solve the problems within the Company, we could cut our casualties by almost 75%. It is not so much a matter of success in battle, as units seldom fail in any given mission, rather it is a matter of success at a cheaper price. Division, Brigade and Battalion Staffs can usually recognize the big problems and solve them. The Companies don't. Many times they don't recognize that a problem exists, and when they do, they sometimes have a hard time coming up with a practical solution. The American soldier is, like always, a little lackadaisical. When called upon to fight, he will do so with unusual courage. He will do anything that is required of him, but it must be required. Here lies the problem.

The majority of the following observations will be pointed to these lower levels, however, on occasion certain problems peculiar to battalion will be discussed.

LESSONS LEARNED IN ADMINISTRATION

Administration is not a heavy load in Vietnam even though units operating base camp as well as conducting extended field operations. The approach to all administrative problems has been very practical, and there is a minimum of harassment and pressure from above. The AG, IG, JAG, etc., take to heart the idea that their primary mission is to assist in any way.

DECLASSIFIED AUTHORITY NND 994025

There are, however, to administrative matters that she receives special comment. These are awards and promotions. These are the two fields where much can be done to show an individual that his efforts for a year have not gone unrecognized.

Promotion quotas are sufficient to be able to promote those individuals who are deserving. The grades of E-4 and E-5 are handled at company level. E-6 at Battalion, E-7 at Brigade and E-9 and E-9 at Division. At Company and Battalion, the decision is made by the Commander, since at that level you know the individuals concerned, and there is no need for a board. The higher grades (E-7 through the E-9) are handled by board action. This is necessary as commanders at this level usually do not personally know those being considered. The combat situation is such that these boards are practical and impose no real delay in promotions. I know of no case where an enlisted man who was truly deserving of a promotion did not get it within his to her.

The current Army system for officer promotions is completely satisfactory and presents no problems.

The award system has improved tremendously in the last year. In early 1966, a division commander had the authority to award decorations no higher than the Bronze Star, USARV the Silver Star, USARPAC the DSC, and the Medal of Honor of course, went to Washington for approval. The practice was in the 1st Infantry Division of the Commanding General giving verbal approval of any award (within his authority to award) has further reduced any delay. In reality, this means that a commander at any level (squads through brigade) is only to recommend a deserving individual verbally, up through the chain of command for him to receive an award. Sometimes this takes only a matter of hours. The necessary written recommendation must be forwarded as soon as possible so that the appropriate orders and citation can be prepared. Of course, this privilege cannot be abused or it will lose its effectiveness.

In general, administration should be done as far forward as possible. Too often men are return to base camp for several days for minor administrative problems which could be handled in the forward area. This is the matter which must

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 144 out of 257: DECLASSIFIED AUTHORITY NND 994025

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Visibility in the jungle is limited to 10 to 15 meters.
Transcription for Image 145 out of 257: DECLASSIFIED AUTHORITY NND 994025
FOR OFFICIAL USE ONLY

receive constant command emphasis to be effective.

LESSONS LEARNED IN INTELLIGENCE

The primary problem in the field of intelligence is timely change of information. When a US Unit first moves into an area the intelligence is, of necessity, general in nature. Although experience has shown that the ARVN units in the area do not have as complete and intelligence picture as they should, at least what they have is a starting point. Too frequently this information never reaches the US Unit. This is due to a lack of real effort on the part of the US Commander, at the lower level, to obtain all available information.

Good intelligence is the real key to success in Vietnam. This is particularly true at the battalion level. There is no place in Vietnam that a US Infantry Italian cannot go, it's almost complete freedom, as long as it is within range of its supporting weapons. The trick then is determining where to go in order to deal the VC a blow. This is the job of combat intelligence. In WW II or Korea (even though the destruction of enemy forces was the primary mission) it was very closely tied to seizure of terrain. In Vietnam, the VC seldom place any importance on terrain unless it contains a supply or base complex. The primary purpose of combat intelligence therefore, is to locate the enemy. This we are doing with only a fair amount of success. There are many ways to improve upon this. Most of these (agents, electronic means, etc.) are not within the capability or scope of an Infantry Unit. The one thing which can be done at this level is to ensure rapid, free, and complete exchange of information. This is not being done (sometimes even within the battalions of a brigade) sees fast enough.

If the battalion is on a pacification mission, the need for intelligence is

paramount. Not only must they know where the VC units are, but they must be able to identify, by name, the local guerrillas who are the members of the cadre or infrastructure. In guerrilla warfare, it is almost impossible to separate tactical military intelligence from political intelligence, but the problem is the same. Everyone (ARVN, National Police and US) must have access to all available information. There is a risk of a security leak under these conditions, but this risk is less serious than the exchange of information at all.

Transcription for Image 146 out of 257: FOR OFFICIAL USE ONLY

Our intelligence personnel are surprisingly well-trained considering the lack of emphasis placed on combat intelligence in peacetime. This does not present a real problem. The problem is that we don't hurt exchange information up, down, or crosswise quickly enough to become useful to the recipient.

LESSONS LEARNED IN OPERATIONS

As mentioned earlier, the big problem in the operational field is the individual soldier. Our training centers do an excellent job of training individual soldiers, however, the same soldier will become lax, indifferent, and slovenly unless he is forcefully and skillfully led. This leadership must be exercised constantly. Soldiers in combat tend to become lazy. They spend many hours waiting, or merely doing nothing. This leads them to form bad habits which are fatal when under fire. A soldier will fail to dig, disperse, or to clean his weapons unless he is required to do so; even though he knows such a failure could well lead to his death.

Is not that soldiers don't know what to do, or what is right or wrong. It is that they fail to do these things unless made to do so. Our junior leaders, both officer and NCO, don't practice the military added checking on everything. Some of this is caused by the mistaken idea that looking after the men means to be easy on him. Allowing meant to ride, when for safety's sake they should walk, and letting them dig prone shelters rather than fighting holes are but a few examples of this. In the main, a soldier will do only what is required of him. If junior leaders don't check, the man will not perform properly. It has been said with a great deal of insight into the problem that if we could get every man to do three things every day we would have no problems. The first of these is to dig. The second is to keep clean. Not only himself, but his weapon, and his area. The third is to stay alert. This includes keeping spread out, keeping scouts or security out at all times, and staying off of well used trails. Constant application of these three rules would solve the vast majority of the troubles in infantry units in Vietnam.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 147 out of 257: FOR OFFICIAL USE ONLY

Individual Equipment. In going into lessons learned during the past year, I would like to start with the individual soldier and his load. In addition to his M-16 (usually without a sling) the rifleman carries about 300-350 rounds of M-16 ammunition. As each rifleman has fifteen magazines, this is sufficient to handle this number of rounds. A few extra rounds (50 or so) may be carried in the original box. These magazines are carried both in magazine pouches and in the soldiers pack. At least half of these fifteen magazines are loaded with full tracer. (More about this later). If the soldier is a grenadier, carries about 25-30 rounds of M-79 ammunition plus a pistol (if he can get one) with a couple of extra clips. Machine gunners carry only about 100 rounds in addition to the gun. However, ammunition bearers carry 400 rounds plus and M-16. Men must be made to keep ammunition in its original caring case until just prior to use. Most gunners and ammunition bearers will carry machine gun ammunition slung across her chest and belt. This leads to the ammunition becoming dirty and corroded. Shotguns are very seldom carried as they tend to be unreliable. Men should not be allowed to carry anything other than an issue weapon because of safety and supply reasons. This includes personal pistols. Each man also carries two or three hand grenades. As each weapons platoon has two 60mm mortars to be used in lieu of the 81mm mortar went all equipment has to be hand carried; man in the mortar section might be required to carry half of a 60 mm mortar (on a pack board) or 3 to 5 rounds of ammunition. The 90 mm Recoilless Rifle is seldom use except on ambush in which case only three or four rounds per gun I carried.

Each of the platoons three radio operators carries an individual weapon and ammunition in addition to his radio and an extra battery. A minimum of two handheld flares are carried in platoon headquarters.

As his weapon and ammunition load is so great, the soldier carries is little else as possible. The standard uniform is a pair of jungle boots with cushion sold socks, jungle fatigues, and no underwear. Headgear is a steel helmet. Soft caps are not permitted in the field due to the danger of pen training had, as well as for the sake of uniformity.

The soldier generally wears a harness and an issue pack. Somewhere rucksacks, and ammunition bearers wear

Transcription for Image 148 out of 257: FOR OFFICIAL USE ONLY

pack boards at their own discretion.

The pack will contain either an air mattress or a nylon poncho liner for sleeping; sometimes both. In the rainy season a poncho was included, but is seldom mourn. It is use (usually in pairs) to make a shelter for the night. The minimum of toilet

articles or carry. A razor and shaving soap being the only essentials, as shaving is required every day. A toothbrush and toothpaste is a sometimes thing. If a towel is carried it is usually worn around the neck and is used to wipe off perspiration. Each soldier carries a gas mask, either a machete or an entrenching tool, and two canteens of water (some carrier third). No canteen caps or eating utensils are carried. A "C" ration can and the "C" ration plastic spoon serve the purpose. When "A rashes are brought in, so our mess kits or paper plates and plastic utensils.

Seldom are there more than two "C" ration meals issued to an individual soldier at one time. When "C" rations are issued the soldier promptly throws away what he does not want, and push the rest in a sock he ties on his harness. This way it is easy to carry, and is accessible without having to open his pack. Usually he heats his "C" rations over a small peas (about the size of a marble) of C-4 plastic explosive. This burns quickly, without smoke, and at a high enough temperature to do the job in a few seconds. C-4 is easy to carry and is absolutely safe to use in this manner. Issue heating pills are not nearly as efficient.

Nylon Vietnamese hammocks are discouraged except in the swamp. Even though they are light and comfortable, they are dangerous in the event of an attack or mortar fire as the individual does not have enough protection of being on the ground.

A good pocketknife or hunting knife is handy, but not essential. There is no issue knife that is suitable with the exception of the sheath my from the Air Force survival kit.

Extra socks to be carried, but this is one of those things that a man will not do unless checked. The same is true of identification tags. All soldiers will not wear them around her neck, 10% to 15% will lose them every month.

Transcription for Image 149 out of 257: FOR OFFICIAL USE ONLY

Unit Equipment. In addition to that equipment carried by the individual for his own personal use, there is equipment which must be carried for unit use. Needless to say, this equipment is added to the load of the soldier as there is no other way to carried except by distributing it among the members of the unit. On occasion, some of this equipment can be brought into a unit by helicopter when required, but this is not always practical.

In addition to the normal medical equipment carried by the aidman, each company should carry one hard litter and for folding litters. This hard litter, although difficult to carry is an immense help when a casualty has a broken bone or is severely wounded. When evacuation is by air, that litter is exchanged with the empty litter on the aircraft. The folding litters will serve for normal casualties.

At least one flashlight per squad should be carried; one per fire team if they are available. A red filter should be used in order not to violate life discipline.

Each squad should carry at least two claymores while on the move. If helicopter resupply is available in the afternoon, additional claymores should be brought in so that there is one for every two men. One per man is even better, but this presents a supply problem. If a unit is going to be in a defensive position for several days, one per man is a practical minimum. For the sake of safety, these claymores should be taken in during the day.

Each squad should have a compass. These are hard to obtain, but if a unit is going to operate over extended areas, and patrol properly, compasses are needed.

He squad should carry at least one rope for crossing streams and narrow rivers. A ¼ inch nylon rope about 25 meters long is best. Mountain climbers snap rings are also very helpful. Each man can carry one of these on his shoulder harness.

Each company should carry about 10 pounds of explosives with the necessary blasting caps and fuze. C-4 plastic explosives is the best, but TNT is a satisfactory substitute. Detonation cord is also handy. The plosives are useful in destroying enemy booby-traps, etc., found while

on the move. It is not practical to carry enough explosives destroy bunkers and tunnels, but a small amount has countless uses. Training a team to use these demolitions is not difficult. Such a job is best given as an additional duty to several men in the weapon's platoons.

One Starlight Scope or platoon should also be carried. This is an excellent piece of equipment. Although it is a little heavy, it is worth the trouble to carry. The greatest problem with scopes is that if the lens is exposed to direct sunlight the scope must be repaired. The zipper on the light proof case is of a poor quality and break quite easily. This allows light to hit the lens necessitating repair. A new carrying case is, therefore, needed for this item of equipment.

In connection with the gas mask carried by the individual, each squad should carry about six riot control agent grenades. These are useful in clearing brokers, the jungles, or sugarcane. In two instances to my knowledge RCA grenades have been used against masked enemy attacking forces. Though not lethal, in each case they were credited with stopping the attack.

Engineer hand tools should be kept at the trains area to be brought forward if needed. Each company should have at least two chainsaws, axes, picks, and shovels.

This equipment has numerous uses in the jungle, but is normally not used frequently enough to justify carrying it at all times.

Trip flares should be carried by every other man. As the new flares way only a few ounces they are not an added burden.

About six small grenades per squad should be carried. Their use is discussed under COMMUNICATIONS.

As flamethrowers are designed primarily to be used during an assault on bunkers were pillboxes they are very seldom used. Considering the VC tactic of withdrawing when artillery and air (it's practically napalm) is are placed on a position, assaulting a bunker with a flamethrower is a costly way of getting the job done.

Mighty Mites can be used to clear a tunnel or bunker complex. However, they are only practical after the fight is over, and a unit is attempting to drive out VC who are in hiding.

Weapons. As a general rule, only one man per squad will carry an M-79 grenade launcher. All others will be armed with the M-16.

The M-l6 is light and easy to handle, as is its ammunition. For this reason, it is popular with the troops. However, it is unreliable unless kept absolutely clean. This, of course, is not always possible in the field. The primary failure of the weapon is caused by an expended round "freezing" in the chamber. When this happens, a second round usually jams in the receiver, and clearing the weapon is difficult and slow. Cleaning rods must be carried so that the "frozen" cartridge can be pushed out of the chamber from the muzzle end. Carrying the same round in the chamber over an extended period of time (12 to 24 hours) increased the chance of the round "freezing." Ammunition must also be kept absolutely clean or this will add to the possibility of a malfunction.

As mentioned before, the weapon is popular because of its light weight, balance, carrying handle, and high rate of fire; but something must be done to improve its field reliability. I also believe that the elevated front and rear sights are the main cause of the inability of the rifleman to snap shoot accurately.

Three or four men in each squad should carry bipods for their M-16's, however, they will only do so if required. This furnishes the necessary stability when the weapon is used as an automatic rifle. The average rifleman is not a good shot with an M-16. As a result, most kills are made at ranges of from 10 to 20 meters. I, personally know of no VC being killed by rifle fire over 75 meters. Most shots are at fleeting targets; therefore, the soldier must be good at snap shooting. It

is next to impossible to see the strike of a bullet in the jungle, so when a man is snap shooting (either automatic or semi-automatic) he must have some way to adjust his fire. Tracer ammunition is the answer. Even at night tracer is recommended. It does little more than ball ammunition to give away a position, and

the advantage gained in fire adjustment more than compensates. Most men tend to fire high, and fire adjustment of small arms is a continuing problem.

The M-79 grenade launcher is an excellent weapon, and well liked by the troops. It is accurate, deadly, and can deliver a high rate of fire in the hands of the average soldier. Its great advantage is that it helps to overcome the fact that most soldiers cannot throw a hand grenade over 20 meters, and in the jungle even less than this. The M-79 is simple, reliable, and gives a squad a responsive HE weapon that they can depend on. Its effectiveness is somewhat reduced in thick jungle, but it is still a favorite with the troops.

Most rifle platoons have obtained a third M-60 machine gun since arriving in country. Unless prevented from doing so, they will permanently attach one gun to each rifle squad. This is generally done for two reasons, first, from the point of view of control, it is the easiest way, second it places a reliable automatic weapon up front to be used in the initial burst of firing. If the M-16 rifle were more reliable, as an automatic fire weapon, this practice would become less popular. The platoon leader must be required to keep his machine guns under his control. He then can influence the fight by placing these weapons where they will do the most good. To place a machine gun in a rifle squad, as a matter of practice, means that you are using it to maneuver with, and this doesn't make the most of its capabilities. However, since most fire fights are short, but furious, until we get an automatic weapon into the rifle squad that is more reliable than the M-16, this practice is going to be hard to curb.

The LAW has limited use in Vietnam. Although it is light and fairly accurate, it is not reliable. LAW's that have been carried in the jungle for at least a week will misfire about 50% of the time. The target against which a LAW is most effective is a bunker, and this only marginally so, due to the fact that a hit must be made on the firing aperture. Its shape charge is not as effective against dirt and logs as against armor plate, thereby reducing its usefulness in the jungle. This weapon does have limited use as a direct fire weapon along rivers against small river craft.

Recoiless rifles also have only limited use in the jungle. I know of no case where the 106mm RR has been

used in the last year. As it must be carried by vehicle, the distances and terrain in the jungle, plus a lack of suitable targets make it excess to the needs of an Infantry Battalion. As such, most battalions have turned them in. The 90mm RR has some use in ambushes, or when known enemy fortifications are being attacked. Thus it is considered a special purpose weapon (like the flame thrower) and is employed only on rare occasions. As a result, many companies have kept only two 90mm RR.

The 8lmm mortar is an excellent weapon, and is used as often as possible. The weight of this weapon (and its ammunition) make it impractical to handcarry through the jungle. Added to this is the constant problem of overhead clearance. It is therefore usually brought into night defensive positions by helicopter at the same time as supplies It may then be extracted by the same means in the morning, prior to the unit starting its move. Any number of mortars can be brought in by helicopter, but the total of nine for the battalion is seldom used unless a reasonably static position is to be maintained. The minimum number of rounds should be about 60 per tube. These should be 85% HE and 15% illuminating WP has no real use in adjustment as more often than not this is done by sound. The use of WP as an incinerating agent is not effective in the jungle.

Crews are generally well trained, but the new panaramic sight complicates fire control. This is further complicated by the fact that firing tables are written in degrees whereas the sights, plotting board etc, are made up for mils. The above are not serious problems, but are time consuming inconveniences which should be eliminated.

The ammunition is erratic about 2% to 5% of the time. This is caused by old ammunition and climatic conditions in Vietnam. It should not therefore, be fired over a friendly village, or over the heads of troops without extreme caution.

If all three 8lmm mortars are not available the company, it is still best to have whatever mortars echo company has available under company control. This gives the company commander already means of fire support or illumination. The battalion commander still has artillery fire under his control, and in an emergency all mortars can be fired in support of one company. Ammunition can also be redistributed

if it becomes necessary.

To supplement the 8l mm mortars, each company within the 1st Infantry Division has

two 60mm mortars which were obtained in country. These can be carried on pack boards, as can the ammunition. These are a good substitute for 8lmm mortars when all supplies must be hand carried. The mortar section of the weapons platoon can usually carry about 30 or 40 rounds. The problem of fire control and sights with the 60mm mortar are the same as those with the 8lmm mortar. One of the strong points in the use of mortars is the speed of reaction, therefore, complicated fire control is a real drawback. The ammunition for the 60mm mortar is even less reliable than that of the 8lmm mortar. It is used for overhead fire only in real emergencies.

The 45 caliber pistol is an excel lent weapon, and I required all officers to carry it as an individual weapon. This was brought about by the practice of platoon leaders and company commands of getting personally involved in a fire fight when armed with an M-16 or some other weapon, thereby depriving the unit of leadership and control at a crucial time. With a little practice, every officer in the battalion could hit a 55 gallon drum four out of seven times at 200 meters. No officer was ever wounded or put in personal danger by this policy, and the effectiveness of control was greatly increased.

Organization. An Infantry Battalion should be able to put about 530-540 men into the field at any given time. This is based on a figure of 700 present for duty. Certain personnel of necessity must remain in base camp. The rear area personnel in Headquarters Company usually run about 110, and in each rifle company about 20 each. Even though a unit has a base camp security requirement, this can be handled within the above figure of 160-170 man rear detachment. It is almost impossible to get the rear detachment below 140, but when it gets up around 190 it is getting too high and 200 is unacceptable. The breakdown of this number is covered under REAR AREA DETACHMENTS.

Of the 530 men in the field, each rifle company should run about 130-140 including their mess personnel. Headquarters Company in the field will run about 110-120. The Command Group will number about 25, the communication platoon 20, the reconnaissance platoon 50,

the medical platoon 10, and the S-4 section (to include the support platoon) about 15.

The rifle platoons will run about 30-35 men each, organized into three rifle squads of 7 or 8 men, a MG squad of 6 or 7 men, and a platoon headquarters of 5 or so. Each rifle squad has one grenadier armed with the M-79. All other members are armed with an M-16. The squad is divided into two f ire teams of about equal size. The MG squad has two guns, with three men per crew, and a squad leader in command. Three men per crew is a minimum due to the rate at which ammunition is expended.

It is better to have only two guns with two ammunition bearers each, than it is to have three guns with one ammunition bearer each. If the platoon has enough men, the MG squad may have a third gun and crew, as al l platoons have acquired an extra MG since coming into country. The platoon headquarters consist of a platoon leader, platoon sergeant, medic, and at least one radio operator. As each platoon has three PRC-25 radios there will be two radios with operators elsewhere in the platoon. These are moved as needed by the platoon leader to control his platoon.

The weapons platoon has an anti-tank section which is used as a modified rifle squad of about 15 men. On very rare occasions, they may be carrying 90mm Recoiless Rifles. The mortar section is also used as a modified rifle squad when it is not servicing its mortars. The platoon headquarters is similar to that of the rifle platoon. On a whole the weapons platoon must be trained and prepared to fight as a rifle platoon.

Company headquarters is about ten men (in addition to the mess personnel who are at the field trains area). The company commander, first sergeant, medic, two RTO 's, communications sergeant, plus the Artillery FO team of three men is the usual composition.

The battalion command group consists of the CO, XO, S-2, S-3, Headquarters Company Commander, S-3 Air, Sergeant Major, Operations Sergeant, Intelligence Sergeant, five RTO's, CO's and XO's drivers (for security), S-4 representative, interpreter and the three man Artillery liaison team.

The communications platoon will have about five the field. They are used primarily to handle The remainder will be at the trains area as radio relay.

The reconnaissance platoon is augmented by the battalion's anti-tank platoon (less platoon leader and anti-tank weapons) and by the ground surveillance section (less its radar). This gives the platoon leader roughly a fifty man force. In addition to its normal reconnaissance mission, it is also used as a battalion reserve, CP security, ready reaction force, or economy of force unit. The platoon leader should be the best junior leader in the battalion.

The medical platoon establishes an aid station of about ten men at the forward supply base. The battalion surgeon may either operate from there, or be forward with the battalion. As casualties are usually evacuated by air from the company area directly to the hospital; the aid station is not involved to the extent that its WW II or Korean counterpart was.

The battalion S-4, along with the support platoon operates the field train area with about fifteen men, which includes a supply representative from each company.

Experiments were made with a 8-10 men sniper squad. Under battalion control, they operated in conjunction with the reconnaissance platoon. This idea was abandoned as there were not enough opportunities to employ it in its designated role.

While in the field, the only attachment which can be used on a regular basis is an engineer squad. The men of the battalion can perform the demolition work and simple field engineering done by this squad; however, this takes them from their primary duty. There is not enough work to require a platoon, but a well trained engineer squad is a great help.

Movement. Movement of an Infantry unit is slow. To move properly, a unit must be given the time to do so. A good rule of thumb is 500 meters per hour in straight line movement while in jungles. Time to check out clearings,

streams, and trails obviously add to this. The safest manner to move has been proven to be the "clover leaf". (See Figure 1). For example, assume that a battalion has made an assault landing on a landing zone in the jungle, and their mission requires them to search out a suspected VC base camp about 1500 meters to the north. The battalion first would secure the perimeter of the LZ, and each company would clear its sector. The distance to which this clearance would go will depend on the time and terrain, but 500 meters is a good average in thick jungle. The lead platoon would move by first sending a scout team (3 to 5 men) in their direction of march for about 50-100 meters. The second team in the squad would move behind the first team in an "overwatch" position, far enough so that any enemy fire would not hinder their movement, but close enough to come to the aid of the first team if needed (about 15-25 meters in thick jungle). Remember that in jungle terrain visibility is usually limited to about 5-10 meters. Once this squad had moved about 100 meters, it would halt, set up a perimeter and the rest of the platoon would close on it. In closing on this lead squad, the platoon would also move by fire teams, or at most by squad. Each fire team would move in a wedge. formation (or as close thereto as possible) with the fire team leader at the point of the wedge, and the squad leader at the base of the lead fire team.

When the platoon had closed on the lead squad, it would then set up a base, or perimeter, and send squads out in all directions to a distance of about 50 meters. This would include back in the direction from which they had come in order to insure that they were not being followed. Each of these squads would then return to the platoon base except the one sent in the direction of the march. This squad would set up a base, and the platoon would close on it. Once the platoon had moved about 200 meters from its original starting point, the other platoons of the company would close on it. At this time, the company commander would send platoons out to "clover leaf"· Once each company had cleared their area to about 500

meters, all units would close back to the battalion base except the company which moved in the battalion direction of march, i.e. north. No unit would "clover leaf" with any more than two (preferably one) of its sub-elements at one time. This is to insure that the unit does not get into two different fight s at one time. It also

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 158 out of 257: DECLASSIFIED AUTHORITY NND 994025

DIRECTION OF MARCH

[illustration with arrow pointing to center: INITIAL AREA OF OPERATION]

CLOVER LEAF

Transcription for Image 159 out of 257: FOR OFFICIAL USE ONLY

insures that the unit minus is consolidated and in the position to come to the aid of any element which may be in contact. This applies at the time, company, or platoon level. Normally, a squad would not send out fire teams clover leafs, since the average squad is only six or seven men. However, if it were a full-strength, or overstrength squad, it could and should.

The entire idea behind the "clover leaf" is to locate the enemy with his few men as possible in order to have the freedom of movement to proceed with the action as you wish. To move in any other way could (and usually does) lead to having a large number of men involved in a fight under conditions of the enemy's choosing. The unit is then handicapped in his freedom of movement and cannot apply for comment power (particularly air and artillery) to his best advantage.

In the event night movement is desirable or required, reconnaissance is a must. If ground reconnaissance is not possible, the maximum number of personnel given the opportunity to make an aerial reconnaissance.

The route must be carefully planned and followed, and all leaders must be thoroughly briefed. A well trained unit can move extended distances by use of the compass at night, however, any aids to navigation (artillery, illumination, etc.) are a great help.

Security at night is a problem, as units must close up in order to maintain contact. The best solution to this problem is for the main body to halt frequently and since security patrols to front, flanks, and rear. This has the added advantage that the patrol which is sent to the front can scout the route, and provide guidance for the main body as it closes on this forward security element.

As the VC do not expect US units to move at night, a well executed night movement can bring good results. The one danger is the lack of dispersive troops.

Air Mobile Operations. No air mobile assault should ever by made beyond the range of supporting fires. These supporting fires may or may not be used in a preparatory role, but they must be immediately available. Normally the surprise loss by firing preparatory fires is more than compensated for by the security grained.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 160 out of 257: DECLASSIFIED AUTHORITY NND 994025

[PHOTOGRAPH]

Each trail and clearing must be carefully checked.

[PHOTOGRAPH]

All men dismount on the side closest to their objective, and doubletime for cover.
Transcription for Image 161 out of 257: FOR OFFICIAL USE ONLY

The key to successful air mobile operation is good planning, tight scheduling, and good communications.

A reconnaissance by the CO, S-3, Artillery LNO FAC, and all company commanders is essential. The XO, and the S-2 should be included if possible. The plan must be simple, and must have enough flexibility so that late changes can be made if necessary. The arti1lery should be registered before hand, and the registration checked just prior to the firing of the preparation. The FAC must have time to make a thorough reconnaissance, and to advise the commander on the best use of tactical air. He must also have time to request the proper type ordnance for the target concerned. Normally bombs (250 lbs, 500 lbs, or 1000 lbs) and napalm are the best aerial weapons to be used against a prepared enemy position. Cluster bombs and 20mm cannon fire are spectacular, but generally ineffective. In addition, cluster bombs have a high enough "dud" rate that if the ground unit has to move through the bombed area there is a safety problem.

Once the type and extent of the preparatory fires have been decided upon, then a schedule of fires must be made. The artillery should not be lifted during the air preparation. It should be shifted to a secondary target. Since by its nature artillery is much more responsive than air, and is more accurate, it should be the fire that is the last to fall. For example: Artillery fire could cover one portion of a proposed LZ from H-30 to H- 20. Air would then be planned from H-20 to H-10,

during which time the artillery shifts only enough to allow for aircraft safety. At H-10, artillery shifts back to the LZ and continues until a cease fire is called. Normally the artillery will again shift away from the LZ at H-2. This allows a safety margin for the assault helicopters.

During the preparation and the assault, the battalion CO must be airborne in a command and control helicopter. He has with him his S- 3, FAC, and Artillery LNO. With these staff members immediately available, he can control the fires, and the more responsive artillery can shift both in time and area to cover any gaps left by tactical air.

The CO of the lifting helicopter unit should be in the C&C aircraft with the ground unit commander. Therefore,

Transcription for Image 162 out of 257: FOR OFFICIAL USE ONLY

[PHOTOGRAPH]

Supporting fires shift, but continue to fall. The air assault is swift and violent.

Transcription for Image 163 out of 257: FOR OFFICIAL USE ONLY

if any changes are necessary during the conduct of the assault, the lifting unit commander is immediately available to transmit these changes to his pilots through his own command net.

In planning the tactical lift, as many troops as possible must be placed on the LZ as quickly as possible. Obviously then, the more aircraft available, and the shorter the turn around time, the better the assault will go. The loading plan must be worked out in advance by the lifting and the lifted unit commander. The formation, number of aircraft, and the direction of landing and take off must be agreed upon. A representative of the ground unit must be on the pickup zone to control loading and to adjust to any changes. Non Battalion Ground Control Personnel (Pathfinders) have proven to be particularly ineffective. As they usually have not acquainted themselves with the overall plan (neither the air movement or the ground tactical plan) their attempts to control and load the aircraft leads to confusion. The S-3 Air, and guides from the ground unit have shown themselves the best solution to this problem. This is particularly true when the number of aircraft is greater or smaller than that planned on; or if there is a last minute time change.

The ground troops must be well briefed. There must be no hesitation on their part

once they are on the LZ. To divide the perimeter of the LZ by means of the clock system is a simple and effective means of providing for all around security. The assault must be swift and violent. As the assault aircraft are about 2 minutes out from the LZ the commander instructs his artillery LNO to shift the artillery fire to allow for a safe approach. Either the C&C ship or the accompanying gun ships mark the LZ with colored smoke. This is done to insure that the LZ is properly identified. As the assault aircraft land, the gun ships fire suppressive rocket, 40mm, and machine gun fire on suspected enemy locations around the LZ. The door gunners of the assault aircraft in the first lift also fire suppressive fire. All of the infantrymen dismount from their aircraft on the side closest to their objective and double time to cover, firing assault fire.

The battalion XO takes an alternate command group into the LZ as soon as possible. Once he is on the ground and has established control the CO and S-3 land. The Artillery LNO and FAC who arrive with the CO may go back airborne, to control their respective fires, until the situation has stabilized.

Transcription for Image 164 out of 257: FOR OFFICIAL USE ONLY

[PHOTOGRAPH]
During a tactical extraction, aircraft are called in as needed, and troops are assembled only at the last minute.

[PHOTOGRAPH]
FOR OFFICIAL USE ONLY
Close control is necessary at the departure area to allow for last minute changes.

Transcription for Image 165 out of 257: FOR OFFICIAL USE ONLY

Good clear communications is a must. The battalion commander must be able to communicate with brigade, his company commanders, the alternate command group, and the battalion's departure area (pick-up zone). Through the aircraft intercom, he must. be able to talk to the lifting unit (or Air mission) commander. Through his artillery LNO and FAC, he must be able to control his supporting fires. The lifting unit commanders will in turn control the accompanying gun ships.

A command and control helicopter with a radio console is helpful, but not essential. The PRC-25 with earphones has proven to be a good substitute. With this, radio communications can be maintained even while the assault units are airborne enroute to the objective area.

On extraction from a pickup zone that is secured only by the unit being extracted,

the reverse procedure is used. Artillery and air preparations are fired on known or suspected enemy locations; or are prepared to do so on order. If the air mission commander is in the C&C ship with the ground commander, extraction aircraft can be called in at the rate and number required by the ground situation and units are assembled on the pickup zone only as aircraft become available.

The last lift should be made up of the security elements only. There should be enough aircraft to lift all of this element out at one time, plus one or two spare aircraft in the event that someone has miscounted. The best technique for extracting this security element is to have them dispersed around the perimeter of the pickup zone in groups of six or seven men (i.e. one aircraft load) with the control group in the center. Each of these security groups should have a colored smoke grenade, and should have set out about 3 or 4 claymore mines each. As the last lift approaches the pickup zone, each group throws its smoke grenade on signal. One aircraft lands as near to each group as possible. Just prior to "touch down", all claymores are detonated. This discourages. the VC from attempting to slip up to the edge of the PZ and fire on this last (and most vulnerable) lift.
The members of each group may also spray the woodline with small arms and automatic weapons fire. They then load as quickly as possible. As the aircraft clear the ground, door gunners, and escort gun ships fire suppressive fire. After the lift is on the way, a gun team of armed helicopters should make a low level pass to insure

that no one has been left on the PZ (as mentioned earlier, extra ships go in on the last lift to insure that there are enough aircraft to get everyone). The ground commander and the air mission commander, both being in the same aircraft, also make a radio check with their respective units to insure all is clear. Once this is done, artillery and air may be called in directly on the PZ.

It is also a good technique to wait several hours after the extraction and then place artillery or air on the PZ. The Viet Cong quite frequently will move into an area recently occupied by U.S. troops to check for any lost equipment or intelligence information. In this respect, men must be taught to leave nothing.
The VC can put to good use the smallest item of equipment. "C" ration cans can be made into drinking cups or homemade hand grenades. Batteries not strong enough to operate a radio will still detonate a claymore. Even discarded plastic eating utensils will be picked up and used. This is a matter that NCO's must constantly check.

Small airmobile assaults, designed to be on the ground for a few hours only, are commonly referred to as Eagle Flights. Eagle Flights are one of the most effective techniques used in an area known to be inhabited by small VC units. These flights should be no smaller than a platoon and no larger than a company.

An Eagle Flight may land at a previously selected area, or the area may be selected by the commander once the flight is airborne. In any case, the techniques used in a normal airmobile assault must be followed. Of these, the two most important facts to remember are that the ground commander and the air mission commander must be in the same aircraft; and that the flight must never operate out of the range of supporting weapons. These are essential due to the flexible nature of Eagle Flights which often result in changes.

Once the Eagle Flight is on the ground, they should search out only the area immediately adjacent to their landing zone. To spend more than two or three hours in one spot is defeating the purpose of the operation. Of course, if they become heavily engaged and have to be reinforced, the operation is no longer an Eagle Flight. For this purpose,

Transcription for Image 167 out of 257: FOR OFFICIAL USE ONLY

FRONT VIEW
[ILLUSTRATION]
FIRING TO THE FRONT

[ILLUSTRATION]
FIRING TO THE SIDES

TOP VIEW
[ILLUSTRATION]
FIRING TO THE FRONT

[ILLUSTRATION]
FIRING TO THE SIDE

Transcription for Image 168 out of 257: FOR OFFICIAL USE ONLY

a reserve must always be kept available. In addition, if the Eagle Flight finds something that should be exploited the commander has a ready force. This flexibility is one of the advantages of the operation.

Defense. In establishing a defensive position, the first consideration is the priority of work. The first priority is the organization of the terrain and the siting of weapons. Once the general trace of the perimeter has been established by the battalion commander, leaders all down the line start to pick actual locations. To insure that individuals pick positions which make the most of natural cover and

concealment and offer good fields of fire, leaders at all levels should double check locations. Although a great improvement has been made in this respect lately, the average soldier is careless and shows little imagination in selecting a spot for his fighting position.

Once a suitable site is selected, the priority goes to concurrently digging, clearing fields of fire, and camouflaging. If time permits, overhead cover and connecting trenches should be added.

A good rule of thumb for foxhole depths is "arm pit deep". The soil must be placed to the left and right of the holes as well as to the front: (See Figure 2) A cut is made in the berm on the two front corners to inable the soldier to fire interlocking fire while having protection from the front. This cut should be wide enough so that the occupant can also see and fire to the front if necessary.

Two man foxholes are the rule. At night, the two men in every third hole may be allowed to 1nove one each to the hole on their right and left. This means that there will be two positions with three men each, and empty hole, followed by two more positions of three men each. With this arrangement, two out of the three men are required to be awake at a time. This gives each man someone else to keep him awake. In two man holes, one man should be awake at all times; if he falls asleep both men are likely to remain asleep all night. With the three man arrangement, this chance is reduced. In the event of an alert, or an attack, the positions are reoccupied by two men each.

Men must not be allowed to put up sleeping shelters immediately by their positions. This they will

Transcription for Image 169 out of 257: FOR OFFICIAL USE ONLY

LOG OVERHEAD COVER
[ILLUSTRATION]
SIDE VIEW

[ILLUSTRATION]
PROTECTION AGAINST OVERHEAD FIRE

Transcription for Image 170 out of 257: FOR OFFICIAL USE ONLY

inevitably do unless properly supervised, despite the fact that it negates any camouflage they put on their holes.

As mentioned before, claymores and trip flares must be set out. A minimum of one each for every position.

Each platoon is required to put out one listening post at least 100 meters to their front, and each company one ambush about 300-500 meters to their front. The size of the ambush should be a reinforced squad, or at most two squads. Anything smaller is not big enough to do the job. Anything larger too cumbersome. The establishment of ambushes takes skill and time. It is something that the U.S. soldier has never really mastered. An ambush site must be reconnoitered with extreme stealth. Enough detail must be seen to determine a good site, and route to that site. However, if the reconnaissance is too thorough the location may be compromised.

The ambush must be laid so that maximum fire power can be brought to bear at once. "L" shaped and triangular ambushes have proven to be the best. In any event, the shape of the ambush must be such that it has all around protection and can be centrally controlled.

The weapons used must be such that the initial burst of fire is devastating. Claymores and automatic weapons are definite requirements. LAW's and 90mm Recoiless Rifles are particularly effective if the ambush is on a river.

As trip flares may cause premature activation of the ambush, they should not be used. The signal to open fire must be at the discretion of the leader.

During the conduct of a night ambush, no more than one third of the men involved should be allowed to sleep at one time. Silent signals such as pull wires should be used.

The patrol which establishes an ambush uses as much care in returning to friendly lines as it used in going out. Too frequently units have been discovered, and are themselves ambushed while returning.

Artillery defensive fires are plotted, and registered prior to darkness. One good method of enabling

Transcription for Image 171 out of 257: FOR OFFICIAL USE ONLY

[illustration]
TRIANGLE SHAPE AMBUSH

[illustration]
"L" SHAPE AMBUSH

Transcription for Image 172 out of 257: FOR OFFICIAL USE ONLY

every man to call for artillery is to give each platoon a permanent concentration number. Each man in the platoon knows this number. The company FO "fires in" this concentration, so that each man also then knows its location. When anyone finds he needs artillery fire, he can then call for his platoon's concentration, or can adjust from it. If he can't remember the number, he need only identify his platoon and the company FO or Battalion LNO can then fire the correct concentration.

Each morning a half an hour before dawn, all personnel are awaken, move to their fighting positions and remain in place until given permission to move. This serves the purpose of getting everyone up and prepared for a dawn attack which is so common with the VC.

After daylight, each platoon sends a clearing patrol across its front to a depth of about 100 meters. This determines if any enemy mines, booby traps, or troops have been set out or moved in during the night. This is done prior to all owing troops to stand down from the dawn alert.

As a general rule in a perimeter defense, all three companies will be placed on line. The reconnaissance platoon is then used as battalion reserve. The companies may or may not keep a platoon for company reserve.

The problem of feeding in a defensive position is a difficult one. Men must be fed quickly, yet only a few can be withdrawn from the line at one time. At best, tactical feeding requires dangerous bunching of troops. One solution to this problem is to pack food in cardboard boxes to be carried to the perimeter. The food must be something that can be eaten by hand, and that needs no utensils. Chicken, pork chops, cheese, biscuits, fresh fruits, and canned Juice are examples. It is realized that such rations are not always available, but with a little prior planning, a suitable meal can be prepared. This type of meal takes no plates or utensils, and requires no extraction of containers after the meal. Feeding such a meal should not be a regular practice; but when a complete hot meal cannot be served, it is an expedient. It takes no more effort than serving "C" rations, and is certainly more desirable.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 173 out of 257: FOR OFFICIAL USE ONLY

Attack. A planned attack Israeli conducted. Usually an attack is just an extension of a search and destroy operation. The main consideration is to find the enemy with as a small force as is possible. Once the enemy is located, then small unit (squad or fire team) probes are made to determine the size, weapons, and limits of the enemy. This must be done without getting the probing unit so involved that

they have to be extricated with the help of additional units.

Once the enemy's position and strength has been determined, the attacking units should withdraw a safe distance, and then call all available artillery and tactical air in on the target. After this perforation, the unit then probes again. It has been found that the VC will very seldom defend a given piece of terrain wants air and artillery have been placed upon it. This is due to the nature of guerrilla warfare. Even the VC Main Force units realized that they cannot withstand the determined attack by an American unit which is properly supported. For them to attempt to do so would only lead to unnecessary losses in men and equipment. They wisely prefer to break contact and withdraw. This is not to infere that they will not fight stubbornly and skillfully up until the time that the decision to withdraw is made.

A well-prepared enemy position of only four or five men can easily hold up to with tunes, and cause high casualties if the attacking units does not make complete use of all available supporting fires.

Again the main point is to kill VC. Do not use all available air and artillery (the primary killers) at every opportunity is playing directly into the hands of the guerrilla, and is a failure to use the difference between our combat power in the combat power of a comparable VC unit.

One of the main tactics of the VC is to draw a larger unit into the killings on a small unit which is well located, dug in, camouflaged, and protected by claymore type minds and booby-traps. The enemy will inflict a great number of casualties in the initial firefight (which is on their terms) and then withdrawn while the US unit is recovering from the initial stock. The VC will attempt under any conditions to open fire first, from a concealed prepared position. The physicians the pending any VC base camp are, in effect, built in ambushes.

Transcription for Image 174 out of 257: FOR OFFICIAL USE ONLY

Communications. An Infantry Battalion must rely on radio communications in Vietnam much more than in previous wars. This is required by the great distances covered in by the rapid movement involved in most operations.

Each battalion must maintain a station at their base camp, at their field trains area, and if there tactical command post. This is in addition to a log-admin net between the tactical command post in the field trains.

As a general rule the permanent and semi-permanent locations (these camping trains area) use the VRC-46 and VRC-47 radios. These may be used with a RC-292 antenna for with the vehicular mounted whip antenna. Communications for distances up to 15 miles are not uncommon with the sets. The mobile units of the battalion use the

PRC-25 radio. This is use with either the short (AT 892/PRC-25) or long (AT 271-A/PRC) antenna while on the move, and with the RC 292 and stationary for more than about two hours. Distances up to 7 or 8 miles can be obtained with this set. As all of these radios can net with each other, communication has been greatly simplified since the adoption of the new family radios.

The battalion command group carries five PRC-25's when in the field. One of these is on the brigade command that, one is on the battalion command that one on the battalion log net, one on the artillery fire control that, and one is a spare to be used for air-ground, medical evacuation, or in the event one of the other radio spells. The air-ground and medical evacuation it are not normally monitored at all times. To RC 292 antenna are carried for use that halts. One is for the brigade command that, the others for the battalion Commandant.

Within the company, there are fifteen PRC-25 radios. Three in each of the four platoons and three in company headquarters. Of these three in company headquarters, one is on the battalion Commandant, one on the company Commandant, and the last on the artillery fire control met. The fourteen that are organic to the company are in excess to that authorized by the TOE, but they are the minimum number acceptable for satisfactory operations. Even this number requires that one set must be diverted from its primary use if the company has to transmit on the air-ground or medical evacuation it. Each company is required to carry

Transcription for Image 175 out of 257: FOR OFFICIAL USE ONLY

an RC 292 intended to be erected on halts of more than two hours for use on the battalion command net.

Wires should be used whenever possible. This cuts down on radio traffic and reduces the chances of security violations. As a minimum, interior lines are run within the company and battalion area while at halts in the field. The distances which usually separated battalion from brigade made wire at that echelon impractical.

Radio security is a constant problem. Due to the range and reliability of the new family radios, plus the normal manner of tactical employment, radios are used constantly. This leads to carelessness; and security violations are the rule rather than the exception. An extension of this problem is the tendency of personnel to be "long-winded" on the radio. The less said the better. Not only does excessive transmission created security problem, but it ties of the net unnecessarily. The use of the brevity code as outlined by the SOI is a must.

In general, the number and types of radios within and Infantry battalion is adequate except at company level. As mentioned before, each platoon must have three PRC-25's to exercise proper control in the jungle and maintain contact with

patrols and outpost. Other than this, the radios within the battalion are sufficient in number although they must be reallocated to make best use of their capability.

In the field of visual communications, three items should be maintained. First, company recognition symbols on the side of helmet covers has proven to be very helpful. The design of any type (he diamond, circle, cross, etc.) color-coded for each company, and speed reorganization on an LZ or in the jungle. Second, called smoke for "fixes" from the air, marking enemy location, marking LZ's etc. color coding of smoke is also useful intends to cut down radio traffic. Finally, the use of single panels. In addition to their normal use, they may be cut into small pieces (one foot square) sees and used as hand held signals.

One other communication problem is the shortage of allocated frequencies. For example: a battalion being attached to a brigade other than his normal parent one, may find that it's command that frequency is the same as the flawed-admin that frequency in the new parent brigade.

Also the allocation of only one frequency per company means that all fourteen radios must be on this one frequency. This problem can be minimized by careful control of transmissions.

Rear Area Detachments. Each battalion has the responsibility to establish and secure a base camp. If not controlled closely, the number of personnel used on this mission can become excessive, and thereby reduce the battalion, and effectiveness.

A minimum number for a battalion rear detachment is 100 men. This is broken down to 74 Headquarters Company, and 10 each for the three rifle companies. Within the 70 allocated for headquarters are those personnel such as the maintenance section, S-4 section, S-1 section, etc., Who can best perform their assigned function at base camp, or who are needed to support the base camp personnel such as a mess, medical detachment etc. This number can be reduced by eliminating unnecessary logistical and administrative functions. For example, a unit should turn in all unneeded vehicles, or at least put them into administrative stores. And Infantry Italian does not need the 116 vehicles allowed on its TO&E. Each rifle company Form easily all needed supply and administrative functions with the 10 men allocated.

In addition to the 100 men, there will always be personnel who are on light duty, in-processing or out-processing, going or coming from R&R and the like. If this number gets over 60, it is excessive.

Security of the base camp is also a consideration. This will require about 40 minutes day when you consider that both day and night security patrols must be sent out.

It is possible to accomplish the security mission with the 160 men mentioned about. However, this does present some problems. To use mechanics and clerks for a security mission takes them from their primary task and slows their output. To take personnel who are on light duty may retard their recovery and eventual return to the field. Incoming personnel will also be delayed in getting to their units are used in this manner.

In summary, a rear detachment of 100 men can perform the needed administrative and support functions

in base camp. However, if they are also required to perform their own security their primary duty will suffer. A detachment of 160 (including light duty, etc.) is sufficient to do both, and a detachment of 200 been is excessive and can usually be reduced.

One added problem in rare detachment is that of their radio communications. Proper security (to include day and night patrols) require radios over that authorized. Units must, therefore, be allocated additional communication equipment for this task.

Operations with ARVN. In working on a joint operation with an ARVN unit, the commander must remember that Vietnamese units do not have the staying power in the field that US Units have. This is due to their limited logistical system. They have no way to adequately resupply their troops in the field. Even if US transportation is furnace, their supply system is not adequate to make the most of it. Consequently, and ARVN units's effectiveness will start to reduce after about four days of field operations.

Security is also a problem when working with an ARVN unit. This is particularly so when dealing with RF/PF units. The best procedure to follow in this case is to disclose no more than you have to until the last minute. That portion of your plan that you must reveal should be as general as possible. A well conceived and executed deception plan is also well worth the effort.

ARVN units, like units of any other army, vary in ability. One thing, however, that seems to be common throughout their entire army (even in the Ranger and Airborne units) is a carelessness and lack of tactical security on the part of the individual. They carry transistor radios to the field, walk on well used trails, bunch up, sleep in hammocks, and are generally lax. This, course, increases the

danger to any US unit working closely with them.

Pacification. In executing a pacification program, since of necessity, a US unit must work with the local GVM forces, all of the comments made in reference to working with ARVN apply. In addition, there are several points peculiar to pacification.

The first of these is that a unit must constantly be on the lookout for new and different ways to operate. If a pattern of any kind is established, the VC will soon notice and take advantage of it. However, a unit must guard against being two different and unusual. In a desire to come up with new ideas and innovations, it is very easy to forget the principles of basic security and common sense. This can be as disastrous as setting a pattern.

Second, is span of control. In attempting to use all of the assets available (civic action teams, engineer unit, National Police, etc.) it is possible to become over committed. Units will find that they have more things going at one time then can be controlled efficiently.

Next is the problem of keeping up the interest in alertness of truth. Familiarity with an area, going day after day with no contact, and being fairly sure that no large VC unit is in the vicinity leads to carelessness and bad habits. The reaps possibility to see that this does not happen is that of the junior officer and NCO. To do less will lead to excessive casualties with little tactical gain. High standards of alertness are more important here than in conventional operations.

The final problem is that of interpreters. This is a obvious problem, but for a pacification project to succeed, the unit must break down and operate at squad and platoon level. Also to succeed these squads and platoons must be able to communicate with the local population. Interpreters are scarce, and plans must be made ahead of time to obtain those needed.

Health. The primary health problem that a unit commander, within a battalion, must concern himself with his skin disease. Ringworm, skin rashes, emergent put, and infections caused by thorn or bamboo scratches, cause loss of time if not treated at once. This is particularly true during the rainy season.

Time lost due to skin disease can be kept to a minimum if the commanders are alert. Squad leaders and fire team leaders must check every day to ensure that men wash and shave, that they change their socks, and that minor cuts and scratches are treated. If this is not done, infection is sure to set in, and a man is lost for several days or weeks.

Transcription for Image 179 out of 257: FOR OFFICIAL USE ONLY

Malaria is not a serious problem in the III Corps area. Men will take their malaria pills. If checked to make sure that they roll down their sleeves and night, and use insect repellent, malaria can be kept at a minimum.

Diseases connected with a lack of sanitation (hepititis, diarrhea, and parasites) must be watched, but no more than would be expected under the circumstances.

Military Leadership, Courtesy and Discipline. Leadership in and Infantry Italian must be simple and direct. The American soldier as well trained; he is courageous; and once started, he is a willing worker. The problem is not that he does not know what to do, but rather that he doesn't do it on his own. He is not a self-starter. Here is where the problem of leadership lies. Our leaders at fire team, squad, platoon and company level must constantly check to ensure that the simplest task is done, that the basic rules of security are followed, and that routine assignments are carried out in a professional manner. Inspirational leaders are few and far between; and in fact are not needed at this level. Our service schools spend hours teaching the principles of leadership, techniques etc. this does nothing but mislead our junior leaders. Leadership at company level and below takes courage, but other than that it is just plain hard work.

To discipline (the immediate compliance with orders) is not hard to maintain. Again, it merely requires that the leader check every detail. The American soldier will seldom willfully disobey an order. Rather, he will do only what is required of him, and what he knows will be checked. This applies particularly to standing orders. Such things as wearing identification tag, shaving daily, carrying extra socks, keeping his area police, are all things which he will do only if checked by the leader.

Multicurrency is an indication of morale. When men stand, slough, smile, and speak this is an indication that they are a good unit and know it. Those units where soldiers will pretend not to see an officer or stare blankly at him as he passes usually means that they have something to hide, or are trying to cover up a short coming by resentment toward authority or by appearing to be "tough". Physical hardship and battle casualties do not adversely affect courtesy. Units who have done a good job are always cheerful

Transcription for Image 180 out of 257: FOR OFFICIAL USE ONLY

unless absolutely exhausted.

The older NCO's with few exceptions are good. The company commanders are fair, and they learn quickly. Our greatest problems in leadership lie at the fire team leader, squad leader, and platoon leader level. This is to say with the specialist fours, sergeants (E-5) in the lieutenants. The problem seems to be a reluctance on the part of the leaders mentioned to be hard. The junior NCO's in many cases, have been promoted while in country. They have had little or no leadership experience prior to the time of promotion. There used to being "one of the boys". When the responsibility of leadership is placed on them, they hesitate to accept this responsibility or to exercise their authority to the utmost. The same is true of the average young lieutenant. Unless he was an NCO before going to OCS, he finds himself faced with a new situation. He has been so indoctrinated with the necessity of looking after his men, so filled with stories from WW II and Korea about the common seven battle, and so filled with a desire to be accepted by his men, that he looses sight of the fact that looking after his men really means keeping them alive. They tend to feel that looking after the welfare of their men means to be easy on him; that their creature comforts must come before doing the job properly. They are not completely to blame as this feeling has gained strength throughout the Army in recent years. The battalion and company commander must constantly battle this trend.

Road Clearing and Convoys. Road convoys should not be conducted over roads that have not been cleared and secured. The exception to this is when the convoy is being used as bait for a counter ambush.

Road clearing is a slow and dangerous operation. The road and it's shoulders must be cleared by quit troops using engineer mine sweeping teams. The sides of the roads must be cleared to ensure that no claymore type mind have been put in place. Clearing must include trees, and must go to a distance of at least 100 meters. If possible, a plow or rooter should be run along both sides of the road to secure that wires leading to command detonated mines are cut. If the area is such that there is no danger to the civilian population, H and I fires should be placed along the route using VT fuses. This will discourage the temps by the BC to slip in between security forces to mine the road or set up ambushes.

In the conduct of a convoy, all personnel and vehicles must wear steel helmets and flak jackets. The seats in the rear of all trucks should be folded up in the tailgate hooked horizontal. All personnel riding in the rear should stand facing out with their weapons at the ready. A helicopter that is in radio contact with these convoy elements to fly overhead to assist in Conway control. Speed and distance between vehicles will vary with road conditions and terrain.

LESSONS LEARNED IN SUPPLY

Our supply procedures are adequate to support activities in Vietnam. The organization and functioning of the
S-4 section is the secret to proper logistical support in the field.

The support platoon leader is primarily responsible for organizing, supervising, commanding and controlling the aerial resupply point located within the trains area. He is assisted by a RTO. He controlled his activities the use of AN/GRC-46 and AN/GRC-47 radios vehicular mounted.

The battalion ammunition Sgt. serves in a dual capacity as the NCOIC of the ARP (aerial resupply point). In addition to his primary role as custodian of the Class V yard and ensuring that stock levels of ammo are maintained at desirable levels, this NCO in fact, controls the aircraft arriving and departing the ARP. He controls the aircraft by using pathfinder techniques and must be well trained to give proper arm and hand signals. The NCOIC selects the exact sites where the aircraft will land, plans the loads, and supervises the fabrication of the loads. He also supervises the loaders to ensure that loads are quickly and properly loaded on the aircraft.

Ordinarily there are four personnel at the ARP was principal job is that of a loader. By TOE, these men are truck drivers and perform the job when not involved in the actual loading of helicopters. Accordingly, these four men serving dual capacities. The loaders must be trained to work as a team and are required to meet certain standards when putting loads on aircraft.

Each company (the three line companies and the Headquarters From the) sees will have a representative at the field train locations. These individuals primary function is

to protect the interest of their unit commander and perform such tasks as identifying, tagging, and securing equipment of personnel medically evacuated from the forward area package, turn-in, and pick up laundry from the QM laundry, etc. it should be mentioned here that the equipment (it particularly weapons) should not be evacuated with combat casualties. If the carbon is evacuated on a medical evacuation aircraft, it is seldom recovered by the unit. Even if it requires an uninjured man caring to weapons, this should be done to ensure that critical items of equipment are not lost.

Ideally there will be a minimum of four technical type personnel in the trains - a, supply representative, a medical supply representative and two motor mechanics. Of course, their primary jobs involve procurement and distribution of

communication equipment and medical supplies. A radio repairman is most useful as he can perform limited 2d echelon maintenance of, equipment and/or evacuate to DS contact teams and equipment which needs upper echelon maintenance. The two motor mechanics perform 2d echelon maintenance on vehicles located at the trains. These four technical representatives are also cross-trained as loaders and work as a team.

The company kitchens also operate in the trains area. As delivery of a hot meal takes only a little more effort than "C" rations, "A" rations should be fed as often as possible. Two meals a day should be the minimum. In the event that a complete hot meal cannot be served an alternate means is recommended in the section entitled DEFENSE.

The system described above places the support that the leader in its proper role as an operator. This leaves the S-4 free to function in his role as a staff officer and planner.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 183 out of 257: FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 184 out of 257: FOR OFFICIAL USE ONLY

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 185 out of 257: DECLASSIFIED AUTHORITY NND 994025

OPERATIONS RPORT
LESSONS LEARNED
REPOR 6-67

OBSERVATIONS OF A BRIGADE COMMANDER
Transcription for Image 186 out of 257: DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D. C. 20310

IN REPLY REFER TO
AGAM-P (M) (22 Dec 67) FOR OT RD27 December 1967

SUBJECT: Operations Report - Lessons Learn 6-67 - "Observations of a Brigade Commander"

TO:SEE DISTRIBUTION

1.This is the sixteenth of a series of reports dealing with lessons learned during recent operations. Information contained in this report is provided to ensure the appropriate benefits are secured from the lessons learned during recent combat operations.

2.Much has been said concerning operations in Vietnam. The attached, as its title indicates, is a comprehensive report of a brigade commander's experiences. The opinions stated herein do not necessarily reflect Department of the Army doctrine. However, the lessons cited an implied may be adapted for use in developing training material and in preparing recommendations for modification of doctrine.

3.Previously published reports of the Operations Report - Lessons Learned series are:

a.Summary of Lessons Learn, Vietnam, to November 1965, CLASSIFIED

b.Operations Report - Lessons Learned, Report 1-66, Operation CRIMP, 22 March 1966, marked FOR OFFICIAL USE ONLY.

c.Operations Report - Lessons Learned, Report 2-66, The Battle of Annihilation and the BONG SON Campaign, one April 1966, CLASSIFIED.

d.Operations Report - Lessons Learned, Report 3-66, of The PLEIKU Campaign, 10 May 1966, UNCLASSIFIED (Limited Distribution).

e.Operations Report - Lessons Learned, Report 4-66, Evasion and Escape RVN, 24 May 1966, CLASSIFIED.

f.Operations Report - Lessons Learned, Report 5-66, Combat Service Support - RVN, 10 June 1966, UNCLASSIFIED

Protective marking canceled
upon separation from enclosures.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 187 out of 257: g. Operations Report - Lessons Learned, Report 6-66, Lessons Learned in Vietnam -
1966, 1 July 1966, UNCLASSIFIED.

h. Operations Report - Lessons Learned, Report 7-66, Operations COCOA BEACH and HAPPY VALLEY, 11 August 1966, CLASSIFIED.

i. Operations Report - Lessons Learned, Report 8-66, Engineer Notes #1, 13 October 1966, UNCLASSIFIED.

j. Operations Report - Lessons Learned, Report 9-66, Equipment, 7 December 1966, CLASSIFIED.

k. Operations Report - Lessons Learned, Report 1-67, Observations of a Platoon Leader, 30 January 1967, UNCLASSIFIED.

l. Operations Report - Lessons Learned, Report 2-67, Counter-Guerrilla Tactics, 13 March 1967, marked FOR OFFICIAL USE ONLY.

m. Operations Report - Lessons Learned, Report 3-67, Engineer Notes #2, 6 April 1967, UNCLASSIFIED.

n. Operations Report - Lessons Learned, Report 4-67, "Observations of a Italian Commander," 7 June 1967, marked FOR OFFICIAL USE ONLY.

o. Operations Report - Lessons Learned, Report 5-67, "Civil Disorders - TF Detroit," 20 September 1967, marked FOR OFFICIAL USE ONLY.

BY ORDER OF THE SECRETARY OF THE ARMY:

[Signature]
1 InclC.A. STANFIEL
"Observations of aColonel, AGC
Brigade Commander"Acting The Action General

DISTRIBUTION

2Office, Secretary of the Army
2Office, Chief of Staff, U.S. Army
2Deputy Chiefs of Staff
2Comptroller of the Army
2Chief of Research and Development
2Assistant Chiefs of Staff
2Chief, Office of Reserve Components
2The Adjutant General
2The Inspector General
2The Surgeon General
2The Provost Marshal General
2Chief of Engineers

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 188 out of 257: 2Chief, National Guard Bureau
2Chief of Information
2Chief of Military History
2Chief, Army Reserve
2Chief of Support Services

2Chief of Personnel Operations
Commanders-in-Chief
30U.S. Army, Europe
30U.S. Army, Pacific
Commanding Generals
5US Continental Army Command
5Conus Armies
3U.S. Army Materiel Command
50U.S. Army Combat Developments Command
2U.S. Army Strategic Communications Command
2US Army Security agency
2U.S. Army Intelligence Command
10U.S. Army, Alaska
10U.S. Army, Hawaii
5U.S. Army, Japan
2U.S. Army Ryukyu Islands
3Eighth U.S. Army
25U.S. Army Corps (Including Reserve Components Conus)
25I Field Force Vietnam
25II Field Force Vietnam
10U.S. Army training centers
16U.S. Army Division (Including Reserve Components Conus)
5U.S. Army Forces Southern Command
2U.S. Army Desert Test Center
50U.S. Army, Vietnam
5U.S. Army Separate Brigade (Including Reserve Components Conus)
5Commanding Officer, U.S. Army Armored Cavalry Regiment (Including Reserve Components Conus)
15Superintendent, US military Academy
Commandants
25U.S. Army Command and General Staff College
250U.S. Army War College
5U.S. Army Air Defense School
50U.S. Army Armor School
50U.S. Army Artillery and Missile School
5U.S. Army Aviation School
5U.S. Army Chemical Corps School
5U.S. Army Civil Affairs School
5U.S. Army Engineer School
50U.S. Army Infantry School
5U.S. Army Intelligence School
5U.S. Army Medical Field Service School
5U.S. Army Military Police School
5U.S. Army Ordnance School
5U.S. Army Quartermaster School
5US Army Security Agency School

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 189 out of 257: 5U.S. Army Signal School

5U.S. Army Special Warfare School
5U.S. Army Transportation School
5U.S. Army CBR Weapons Orientation Course
COPIES FURNISHED
2Chief of Naval Operations
2Chief of Staff, U.S. Air Force
2Commandant of the Marine Corps
2Director, Joint Staff, JCS
Commanders-in-Chief
5Alaska
5Atlantic
5Pacific
5STRIKE Command
5Southern Command
2Pacific Fleet
2U.S. Air Force, Pacific
Commanders
US Military Assistance Command
5Korea
5Taiwan
5Thailand
5Vietnam
Commandants
600Armed Forces Staff College
200Industrial College of the Armed Forces
110National War College
10Marine Corps School
10Air University
Directors
2TAC Library
2The Air University Library
2Military Assistance Institute
5Senior Army Advisors
5State Adjutant General, U.S. Army National Guard
2US Exchange Instructor, Tactics School, Royal School of Military Engineering, Chatham, Kent, England

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 190 out of 257: FOREWORD

Several hundred reports are submitted annually to the Office of the Assistant chief of staff for Force Development for review under the Army's Lessons Learned Program. Colonel Berry's "Observations of a Brigade Commander" stands out as one

of the best.

The present brigade organizational concept is relatively new to United States Army; therefore, the observations and comments made by Colonel Berry are both timely and valuable. They present the views and experiences of an officer who has been there; who has commanded a brigade in combat in Vietnam. His observations present careful analysis of the situations he faced in the manner in which he tackled them. They provide practical ideas for commanders at all levels in a stimulating basis for examination of concepts for the employment of maneuver units.

I recommend Colonel Berry's "Observations" to all who command, or aspire to command, American Soldiers.

[signature]
A.S. COLLINS, JR.
Assistant Chief of Staff
for force development

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 191 out of 257: PREFACE

The purpose of this paper is to assist other soldiers to prepare for service in Vietnam, particularly at Brigade level. These observations are based on my experience as Commanding Officer 1st Brigade, 1st Infantry Division, from June 1966 to February 1967 and the many lessons I learned from soldiers with whom I serve.

Several aspects of operations in Vietnam merits special mention. First, commanders must understand and always be sensitive to the political purposes and aims of the Allied effort in Vietnam ensure that their military operations support and advance those goals. Second, the helicopter is central to operations. Tactics, reconnaissance, command-and-control, fire support - all rely heavily on the helicopter. Third, this is a war of dots and circles, rather than the more familiar linear war. Commanders visualize and maps portray a war of tactical areas of operations, landing zones, defensive parameters, patrol and fire support basis, 6400 mil range fans, and blocking positions. Fourth, this is a war of quick reaction. Commanders and units must be constantly alert and ready for the immediate, unexpected operation. Finally, the war is characterized by vast differences of terrain, enemy and local conditions in the various parts of Vietnam. The experience of each individual and each unit must be viewed in the context of the particular circumstances, time and place in which they took place.

The tank commander is the single most important commander on the Vietnamese battlefield, in my opinion. It is true that squads, platoons and companies carry the burden of the fighting. But the battalion commander organizes, trains,

establishes goals and standards of performance for, and commands the small units during their combat. After combat, he does whatever is necessary to increase the combat effectiveness and performance of squads, platoons and companies before their next combat. In the battalion commander bills basic unit esprit around the battalion color.

Simply put, the brigade commander's job is to employ battalions and make them more effective in doing their jobs. While he deals principally with battalions, battalion commanders and battalion staffs, the brigade commander must know and understand companies, platoons and squads and talk with and listen to the lieutenants, sergeants and privates.

Every commander worth his salt must do certain basic things. He must build a staff dedicated to serving the units and soldiers of the command and capable of functioning professionally in his absence. He must be at the critical point to influence the action and to make timely, informed decisions. Once the enemy is located, the commander must rapidly, decisively and aggressively employ overwhelming supporting firepower and commitment over units to block the enemy's escape and destroy him. The commander must communicate freely with his soldiers, teaching them, learning from them, broadening their perspective, deepening their understanding and adding meaning to their service by relating their grimy, grubby, hazardous daily tasks to the nation's purpose in fighting the war.

The essence of successful command is shouldering responsibility, making decisions, accomplishing assigned missions, caring for soldiers and being a winner.

[Signature]
SIDNEY B. BARRY, JR.
Colonel, Infantry

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 192 out of 257: III CORPS AREA

SOUTH VIETNAM

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 193 out of 257: [handwritten] 11

TABLE OF CONTENTS

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 194 out of 257: [handwritten] 12

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 195 out of 257: CIRCUMSTANCES OF COMMAND

These are observations of a brigade commander whose brigade operated under the following circumstances:

1. This was a divisional brigade of a division whose units were all based in a single province and which all usually operated under the division commander's control. The brigade planned its operations within the broad framework of resources available to the division and conducted its operations confident that the combat power of the entire division backed the brigade.

2. The brigade had a separate base camp for the normal brigade force plus some non-divisional units, a total of almost 5,000 soldiers. The brigade commander had all the responsibilities of a base camp commander as well as those of a tactical unit commander.

3. The brigade spent about 70% of the time in field operations away from its base camp. For long periods of time, all maneuver battalions were away from base camp. Therefore, base camp security and defense rested primarily upon those who usually remained at base camp, usually between 1,500 and 2,000 men.

4. The normal brigade force was three infantry battalions, one 105mm howitzer (towed) artillery battalion, an engineer company, a medical company, an ordnance company and smaller elements of combat support and combat service units. Armor was attached as the situation warranted, which was often.

5. Operationally, there was complete interchangeability of maneuver battalions among the division's three brigades. The division commander freely attached and detached battalions to and from brigades. Consequently, the brigade commander would find himself commanding as many as six or seven battalions on one occasion and as few as one or two battalions on another occasion. Any given battalion could expect to operate under each of the three brigades at one time or another.

6. Administratively, the brigade commander retained certain responsibilities for the maneuver battalions normally attached to his brigade, regardless of where they might operate. These responsibilities mostly related to personnel matters such as assignments and efficiency reports, training of replacements and base camp matters.

7. The brigade fought two kinds of Viet Cong forces: main force and local guerrilla units. Main force units operated as battalions and regiments under division control. Local guerrillas operated as squads, platoons and companies.

Each kind of enemy force presented a different threat and operational problem. On every operation, the brigade had to

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 196 out of 257: be prepared to encounter both kinds of enemy. The brigade occasionally

encountered Viet Cong provincial battalions (which combine the characteristics of main force battalions and local guerrillas) and North Vietnamese Army regiments.

8. Vietnamese army units in the division's operational area were mostly tied down on static security and pacification missions near
population centers and along main roads. Generally, they were incapable of handling Viet Cong battalions and regiments.

9. The brigade's main effort was to find and destroy the enemy's main force regiments and divisions and their major bases and
installations. Because of the interlocking nature of the enemy's organization, the division spent almost half its time and energy against the provincial battalions and local guerrilla units. The division's revolutionary development of pacification activities were intertwined with these military efforts.

10. Jungle and roads were the principal terrain features that influenced the brigade's operations. Based in the Vietnamese III Corps
area north of Saigon, the brigade centered its operations in the jungles and along the main roads in and between War Zones C and D. The brigade's base camp, located in the western edge of War Zone D, required periodic resupply over about 40 kilometers of road which had to be cleared and secured for each convoy.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 197 out of 257: THE ENEMY

The enemy's characteristics, composition, organization, weapons, tactics, methods, habits and aims directly influence the operational tactics and techniques used effectively against him. Each type of enemy force presents a different threat and a different operational problem.

JUNGLE BASE CAMPS

The jungle base camp is central to Viet Cong operations. From the base camp, the Viet Cong launches his attacks; to the base camp he retires for security and refitting. Viet Cong mobility depends to a great degree upon a chain of secure base camps. Therefore, finding and destroying jungle base camps and the forces therein is central to Allied operations against the Viet Cong. It is also one of the most difficult of Allied operations.

Four operational problems are involved: finding the base camps; attacking fortified positions; destroying Viet Cong forces before they escape; and destroying extensive networks of earthworks and reinforced tunnels.

One would not be far wrong in stating that every piece of jungle in the Vietnamese III Corps area conceals one or more Viet Cong base camps. The base camps range from squad to regimental size. They are well concealed, tactically well organized, well fortified and usually surrounded with protective positions, mines and other explosive devices and with warning and delaying forces. A small number of men fighting from base camp installations can inflict disproportionate casualties and delay on a much larger force, particularly when enjoying surprise.

MAIN FORCES

Viet Cong and North Vietnamese Army battalions, regiments and divisions (Viet Cong and North Vietnamese Army units are essentially interchangeable) are well armed and equipped, skilled in both offensive and defensive warfare, and frequently mass regiments under division control. Main force battalions can destroy American platoons, threaten the survival of companies and seriously damage American battalions. Although they are masters of guerrilla warfare, main force units pose their principal threat to American units in more conventional, large-scale combat between two regularly organized and equipped military forces.

Main force units are armed with modern Communist weapons, including automatic small arms, machine guns, rocket launchers, 57mm and 75mm recoil less rifles, 8lmm and 82mm mortars, and a growing number of antiaircraft machine guns. Recently t heir armament has been supplemented by 120mm mortars and larger caliber rocket launchers. Main force and NVA battalions with organic and commonly attached weapons have roughly

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 198 out of 257: the same manpower and firepower as an American battalion in the field with its
organic weapons.

Logistical support of main force units is based on a series of jungle base camps and supply installations in which materiels are stockpiled and where sick and wounded are given medical care.

Living and operating separate from the population, main force units move frequently from jungle base camp to jungle base camp, seeking always to avoid detection. When they consider it to their advantage, they emerge from the jungle to attack Allied units, convoys or installations and withdraw immediately into the jungle. When detected and attacked in a base camp, they defend themselves viciously and skillfully, break contact as soon as possible and withdraw to still

another base camp.

The operational problem is to find and destroy the main force units and their base camps. There are three ways of destroying the enemy: by going into the jungle in search of him; by quick reaction when he attacks us; and by luring him from his jungle hideouts into an area where he is more vulnerable and where we can destroy him more easily.

LOCAL GUERRILLAS

The main threat presented by local guerrillas is their ability to inflict serious damage on convoys, small units, isolated installations,
and even on large units by mine and booby trap warfare, small ambushes and continual harassing attacks. Given favorable circumstances, including lack of alertness or skill in our own units, local guerrillas are capable of threatening the survival of an American platoon and of doing serious damage to a company. Over an extended period of time, local guerrillas can inflict heavy cumulative damage to us at low cost to themselves.

Comprised of local personnel intimate with the terrain in which they operate, guerrillas live among the people, spending their time
both in the hamlets and villages and in nearby jungle base camps. Their base camps, smaller and less remote than those of main force units, are usually surrounded with a maze of mines, booby traps, claymores and other explosive devices that enable a small force to inflict disproportionate damage and delay on a much larger force.

Guerrillas provide security to local Viet Cong political and economic infrastructure, attack and harass Allied units and installations
reconnoiter for and guide main force units and mine, booby trap and ambush roads.

The operational problem is to carry on with daily tasks and operations while minimizing losses from the guerrilla's attacks and to find
the guerrilla among the people and destroy him and his organization without doing damage to innocent people. In some ways, it is more difficult to solve the problem of the local guerrilla than the problem of the main force unit.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 199 out of 257: PROVINCIAL BATTALION

The elite of local guerrilla forces, the provincial battalion appears organizationally between main force units and local guerrillas. The provincial battalion's arms, equipment and combat capability are similar to those of a main force battalion. Its members are recruited from the people in the area in which the battalion operates. It combines the combat power of the main force battalion with the skills and knowledge of the local guerrilla. Its operations are generally

restricted to the local province from which it recruits its members and draws its logistical support.

Living mostly in jungle base camps, but occasionally visiting hamlets and villages, the provincial battalion is much closer to the people than the main force unit. The provincial battalion has great psychological influence among the people, acting as big brother to local guerrillas and creating and nourishing legends of great victories and invincibility.

The provincial battalion poses a double threat: that of the heavily armed battalion which can inflict serious damage on Allied units and that of guerrilla attack and operations.

The operational problem dealing with the provincial battalion is a combination of the problems of dealing with main force units and with local guerrillas.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 200 out of 257: INTELLIGENCE

Finding the enemy is the primary purpose of Brigade intelligence activities. Acquiring or training a good S2 is the brigade commander's first step in building an effective Brigade intelligence section. Assuring that the S2 and S3 were closely is his second step. The S2 is as important as the S3 to a brigade's successful operations.

The intelligence problem at brigade level is essentially to locate and use all available sources of information and assistance, plan and organize the collection effort, systematically evaluate and analyze what is collected, and disseminate monthly useful information to all interested parties. The commander must ensure that intelligence activity support operations and that operations make full use of intelligence bindings.

There are three general sources of information upon which the brigade can draw: those available through higher headquarters; those within the brigade and its units; and those lying outside the chain of command and regular intelligence system.

From the vision and higher headquarters comes a massive reports and material, including translations of captured enemy documents, interrogation reports from captives and Viet Cong who have returned to government control, reports from past operations, sidings and intercepts from various units and agencies, and interpretive reports and analyses. By the time he reaches brigade, much of this material was largely historical can be helpful as background information to the brigade and as a starting point for seeking specific information more directly applicable to the brigade's needs.

The brigade can get specific assistance from division and higher headquarters in the form of specimen type, special maps, visual and other kinds of reconnaissance of specified areas, special studies of given Viet Cong units, requested analyses and answers to specific questions. Also available are IPW teams, special intelligence teams (and funds) and long-range reconnaissance forces. These flatter forces can come either from the division itself (probably the armored cavalry squadron) for from teams trained and supervised by the United States Army Special Forces.

In order to get maximum assistance from the vision and higher headquarters, the brigade must know what is available and then requested. The brigade that plans ahead is the one that has aerial photographs of the landing zones it uses an of the hamlets it seals and searches and special maps of areas in which it operates. It is also the brigade that augments its own recounts his forces with those from other sources.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 201 out of 257: Within the brigade itself are many units and agencies that contribute to the

intelligence effort. The usual cluster of attachments surrounds the S2 who has funds for intelligence. A considerable potential for aerial surveillance and reconnaissance resides with the brigade: forward air controllers from the Air Force, airborne artillery observers, pilots and crews of organic and attached helicopters, and the pilots and crews of every fixed and rotary wing aircraft that flies in or through the brigade area. The problem is to organize a sound aerial surveillance and reconnaissance program and a reporting and evaluating system which can make timely contributions to brigade operations.

Once units of the brigade gain contact with the enemy, battlefield intelligence becomes the most important, most lucrative source of information; the small unit commanders and the battalion S2's become the most important people in the intelligence system; rapid, accurate, factual reporting becomes the single most important link in the intelligence chain. Early reports of the enemy's weapons, uniforms, state of supply, physical condition, and unit designation are governing factors in the way the brigade reacts to the enemy.

The key to finding the enemy often lies in using sources of information frequently ignored. Such sources are: Vietnamese District and Province Chiefs and their American advisors; Vietnamese commanders of Army, Regional Force, and Popular Force units and their American advisors; Vietnamese National Police; private citizens; Allied units operating .in an area; Special Forces personnel and the units with which they work; resident artillery units and their airborne observers; local Air Force forward air controllers; and locally-based helicopter units who keep records of areas from which their aircraft have received enemy ground fire. Pilots of C-130's, Cl23's and CV-7's flying in and out of airfields often acquire information useful to the brigade. Again, the burden is on the brigade to avail

itself of all these sources of information.

Collecting and evaluating information, and placing it in the brigade Commander's hands, is only part of the intelligence process. Quick dissemination is important, especially so when units of the brigade are in contact with the enemy. Details important to the brigade commander are equally important to his subordinate commanders who might soon be committed into the fight, to the division commander from whom additional resources may come, and to fellow brigade commanders who may be given a share of the battle. Most of all, commanders of units in contact with the enemy need information about the enemy they are fighting.

The commander who insures that information is disseminated rapidly and broadly within his command and that soldiers who capture prisoners and documents are quickly informed of the findings and results of interrogations and translations realizes many dividends in quicker better reports and even more prisoners and documents captured.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 202 out of 257: Most importantly, commanders and their staffs must continually study and analyze

both the enemy's and their own operations to insure that they are exploiting their own advantages against the enemy's weaknesses.

Such an analysis follows. Listed in the left-hand column are certain operational observations gleaned from review of enemy and friendly operations. Listed in the right-hand column are operational lessons derived from the observations.

Operational Observations [upper paragraph] and Derived Operational Lessons [lower paragraph]

1. A Viet Cong battalion with its organic and commonly attached weapons has about the same manpower
and firepower as an American battalion in the field with its organic weapons.
1. Units must use supporting firepower to gain a marked fire superiority over equivalent Viet Cong units.

2. Viet Cong battalions are capable of destroying separate American platoons and threatening destruction of separate American companies. Only under exceptional circumstances can they threaten destruction of an American battalion.
2. Platoons and companies must operate within quick reinforcing distance of their parent unit when there is risk of attack from enemy battalions. Battalions can operate separately without incurring undue risk.

3. Viet Cong--particularly guerrillas--skillfully use mines, booby traps, claymores, ambushes and harassing fires to inflict casualties on Allied forces. These casualties, which can be cumulatively heavy over a period of time, are

frustrating and erode morale more markedly than casualties taken in big battles.
3. Operations must be conducted in a manner that minimizes enemy advantages and exposes fewest soldiers to enemy mines, booby traps, ambushes and harassment.

4. Battles often develop in the jungle as follows. The enemy's initial burst of fire or mine detonation causes casualties in the lead unit. Unharmed members of the lead unit then tend to concentrate first on removing casualties from the line of fire, rather than on eliminating enemy weapons. In doing so, they receive additional casualties and lose combat effectiveness. The next higher commander commits additional forces to extricate the depleted lead unit from its predicament.
4. Train small unit leaders to concentrate on eliminating or neutralizing enemy weapons as the first and most effective step in caring for their casualties. Educate commander s to recognize and guard against the tendency to be drawn into battle on the enemy's terms.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 203 out of 257: Commanders at all levels tend to be drawn into a battle whose terms are dictated
by circumstances of the initial contact rather than by their own plan to destroy the enemy the lead unit found. [Extensive discussion of this observation may be found in DA Pam 525- 2, Vietnam Primer.]

5. Almost without exception, the lead unit seriously underestimates the size and strength of the opposing enemy force.
5. Expect the enemy to be present in greater strength than that reported and estimated by units in contact. React accordingly.

6. When units first engage the enemy, their early reports are usually slow, vague, sketchy and deal in generalities rather than specifics.
6. Small unit leaders must report quickly and report facts and specifics.

7. The type of weapons the enemy employs is the dey indicator of his type and strength. Automatic weapons, rocket launchers, recoilless rifles or mortars -- separately or in combination--usually indicate presence of a Viet Cong battalion or regiment.
7. Train soldiers and their leaders to identify and report promptly types of enemy weapons they encounter.

8. Battles are usually of short duration, lasting three or four hours at most, growing quickly into intense firefights and ending abruptly with the enemy's withdrawal. During battles, enemy forces move in a relatively wide area around the point of contact, seeking to encircle, reinforce, or withdraw. Once he begins his withdrawal, the enemy can rapidly move long distances.
8. Act quickly and decisively to destroy the enemy once he has been located. Immediately put an overwhelming volume of supporting firepower on the point of contact and on other appropriate places over a broad surrounding area.

Simultaneously commit maneuver units to block the enemy's withdrawal and assist in his destruction.

9. The Viet Cong inflicts the most disproportionately heavy casualties on us when we attack him in his jungle fortified positions and base camps. We inflict the most disproportionately heavy casualties on the enemy when he attacks our defensive perimeters and convoys.
9. Lure the enemy into leaving his base camps to attack our defensive positions and convoys in preference to attacking him in his jung1e fortified positions and base camps.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 204 out of 257: 10. A Viet Cong attack on our defensive perimeters usually includes three phases:
claymores and flat trajectory fire directed against the outer perimeter; mortar fires directed against all parts of the perimeter; and an assault to penetrate and overrun the perimeter. These phases occur simultaneously or in rapid succession. The assault often comes just before daybreak.
10. Construct foxholes and defensive positions to afford soldiers and installations frontal protection against flat trajectory fires and overhead protection against mortar fires. Require units to conduct a stand-to and full alert prior to daybreak.

11. The enemy attacks our convoys in two ways. First, his guerrillas attack and harass the convoy along its entire routes, using mines, claymores and booby traps supplemented with harassing attacks and small ambushes. Secondly, his battalions and regiments set major ambushes to destroy all or a major portion of convoys. The enemy uses these two methods of attacking convoys both singly and in combination.
11. Plan route clearing and securing and related convoy operations to cope with two threats: mining and harassing attacks by guerrillas and ambush by major forces.

12. The principal tactical advantages American forces have over Viet Cong forces derive from superior supporting firepower; mobility afforded by helicopters, tracked and wheeled vehicles, and water-borne vehicles; and the constructive and destructive power of our engineers.
12. American tactics must maximize use of these advantages. Tactics of American units, therefore, depend to a large degree on fire support bases, landing zones, airstrips and routes of communication.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 205 out of 257: OPERATIONS

Operations are the brigade commander's principal concern. His brigade exists "to

execute the division's combat mission" and "to destroy or capture the enemy by fire and maneuver."

The chief characteristics of American operations are high mobility, massive firepower, instant and constant communication and quick reaction. Infantry is usually committed by helicopter . Artillery is positioned--frequently by helicopter- -in fire support bases, isolated small perimeters protected by infantry or armor or both, from which it gives 360° fire support. Commanders in helicopters have constant radio and frequent visual contact with small units and often l and to join small units at critical times.

[photograph]
Once the enemy is engaged, immediate assault helicopter reinforcement reduces the possibility of losing contact with the enemy.

Tactics vary with the enemy sought. Against main force units and provincial battalions, the tactic is mass ive combat reconnaissance by small infantry elements--usually delivered by helicopter--supported with heavy firepower and followed by immediate commitment of several battalions at or near the point of contact. Against the guerilla, the tactic is

DECLASSIFIED AUTHORITY NND 994025

.,

Transcription for Image 206 out of 257: saturation patrolling and ambushes--night and day--and cordon and search of

hamlets together with Vietnamese police forces, followed by thorough police interrogation and population identification procedures.

In his operations, the brigade commander seeks to inflict maximum damage to the enemy with minimum cost to his own soldiers' lives. He employs to the fullest the firepower, mobility and mechanical advantages American forces have over the enemy. He uses his soldier s to find and fix the enemy and supporting firepower to destroy the enemy. He spends firepower as if he were a millionaire and husbands his men's lives as if he were a pauper. His constant and governing operational aim is to find the enemy and destroy him.

Key factors in every operation are fire support bases, landing zones, landing strips for fixed-wing aircraft and routes of communication. Every operation should be conducted within range of supporting artillery. Often, establishment of fire support bases is the first step in launching an operation. Location of landing zones influences location of fire support bases and employment of maneuver battalions. Location, condition and capability of landings trips influence fire and maneuver, engineer and logistical support and ultimately helicopter requirements and allocations.

It is essential during each action to have overhead an airborne commander who can

see the battlefield, direct supporting fires, commit additional maneuver units, make decisions and command the action. When the brigade commander goes on the ground, he must have available in the air overhead a responsible staff officer, normally his executive officer or S3, who can assume airborne control and coordination. Or he may, if appropriate, request an assistant division commander or even the division commander to assume airborne control while the brigade commander is on the ground.

PLANNING

From the planning standpoint, the brigade has two kinds of operations: quick reaction and planned. The quick reaction operation is unexpected and immediate; it is planned as it unfolds. For the planned operation, advanced warning and planning time are available.

When time permits, the brigade commander can transform the planning process into a uniquely valuable educational and training experience for his staff, commanders and himself and thus create a marked improvement in the brigade's operational effectiveness. He does this by having a maximum number of commanders and staff officers participate in each phase of planning, by encouraging free discussion, by directing extensive reconnaissance between planning phases, and by war-gaming the plan as it develops.

This method of planning has several benefits. Commanders members become familiar with one another's thinking, methods, missions, and problems. Important ideas and concepts that may be slighted or

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 207 out of 257: overlooked in more routine planning are incorporated into the plan. Standard practices and techniques are developed. Each participant comes to have a vested interest in the final plan and a thorough understanding of its overall objectives and underlying philosophy. Then, during the actual operation, the brigade commander can operate flexibly and freely, directing the inevitable modifications and changes in the plan, confident that his commanders and staff officers understand the overall purpose of the operation. This planning technique is particularly useful for new commanders and staff officers.

The state of readiness once associated primarily with alerted airborne units must be standard for all combat units in Vietnam. The brigade commander should habitually travel with key members of his command group and have map coverage of areas into which the brigade may be committed. Each man must be prepared to function as a soldier and as a member of his unit, whether combat, administrative, or support. At any time, the brigade must be ready to move out on a quick reaction operation.

The brigade commander must always be prepared to fly to an unexpected battlefield, assume command of a battle already underway, make his plans in mid-air, issue orders by radio and commit units into combat without ever having seen the commanders face to face. The brigade staff must be ready and able to visualize the developing situation from fragments of radio messages, anticipate the commander's needs and take the commander's barebones radio guidance and transform it into full-bodied actions and orders. One of the distinguishing characteristics of brigade combat in Vietnam is the requirement for alertness and readiness for instant action. Although everyone must be mentally alert, quick, flexible and ready for anything, the key to success is the mental readiness of the commander. Staffs and troops will respond to whatever their commander requires of them.

AI RMOBILE OPERATIONS

The commander must assume that the enemy is defending every landing zone the brigade uses. Therefore, with the possible exception of landing small reconnaissance forces, every airmobile landing should be within range of supporting artillery. Often the commander conducts airmobile operations for the express purpose of establishing artillery bases which can support other airmobile assaults and subsequent ground operations. As a rule, all as sault landings should be preceded either by small reconnaissance parties or by preparatory fires; security gained for the assault force usually far outweighs any attendant loss of surprise.

The brigade can perform routines in advance that will facilitate airn1obile operations. For planning aids, brigade should maintain maps and overlays showing current condition of roads, trails, bridges, streams and stream crossings; air fields; location of Allied units and installations; and location, type and range fans of Allied artillery. The staff can prepare, keep current and distribute landing zone overlays for areas in which the brigade operates or is likely to operate. These overlays

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 208 out of 257: should locate, list the capacity and assign designations to each landing zone.

This is particularly helpful during quick reaction operations and speeds reconnaissance and decision-making during all operations.

In advance of operations, brigade should obtain aerial photographs—both vertical and oblique--of landing zones and ground operational areas. One simple, quick technique of getting photographic coverage of specific limited areas is that of using 35mm or polaroid cameras from helicopters or light aircraft during reconnaissance flights.

Systematic burning-off of vegetation on likely landing zones will reduce the possibility of preparatory fires setting the landing zone aflame just before an

assault landing and the consequent danger of accidents caused by charred vegetation, ashes and dust being stirred up by the assault helicopters. All who fly reconnaissance and surveillance missions can participate in the landing zone burning off program. They can use tracer ammunition, rockets and smoke and incendiary grenades to start fires. Ideally, landing zones are burned off far enough in advance of an assault landing to permit rain and wind to settle and dissipate the ashes and charred material that pose the major problem to helicopter pilots. This technique is more necessary and applicable during the dry than wet season. This practice should be so routine that burning-off a potential landing zone does not indicate to the watching enemy that an airmobile assault is about to occur.

Although the bulk of planning and execution of an airmobile operation is done at battalion level, the brigade commander prepares the overall plan. He assigns missions and allocates resources to the battalions assures the availability and coordination of adequate fire support, monitors planning, and positions himself and his staff at critical places during loading, preparation of the landing zone and the assault landing.

Planning. Since the whole purpose of an airmobile operation is to place troops on the ground to conduct operations, the ground tactical plan is the starting place for planning an airmobile operation. Everything else is developed backwards from the plan for ground operations.

The ground commander, air mission commander (commander of the lifting helicopter unit) and the fire support coordinators--both artillery and air force--participate in planning an airmobile operation. The ground commander, the air mission commander and the aviators and artillerymen work out a detailed plan that incorporates each one's contributions and requirements and supports the ground commander's needs and plans.

During execution, the ground commander and his command group ride with the air mission commander as they direct and supervise the beginning of the loading of the troops into helicopters, the preparation of the landing zone and the assault landing itself. The air mission commander must so organize the airlift that he is free to give full attention and support to the needs and desires of the ground commander who is his passenger. Should this arrangement become impossible, the ground commander may choose to ride in a separate helicopter. But the two commanders must have dependable and continuous communication.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 209 out of 257: Loading. The first critical point of execution of an airmobile operation is the

loading area. Loading is essentially a matter of having troops and equipment organized into individual helicopter loads and waves so that helicopters can land directly in front of each load, take troops and equipment aboard, and take off,

having spent minimum time of the ground.

[photograph] Through organization, helicopter loading becomes comparable to a parade ground formation.

It is basically a problem of organization and supervision. Experienced battalions reduce helicopter loading operations to almost a parade ground formation complete with lines and files of markers (made of C ration boxes and sticks) for each wave and aircraft load. An experienced battalion staff officer acts as loading zone officer. The brigade commander himself often finds it worthwhile to be at the loading zone until certain that the loading is smoothly underway.

Preparing the Landing Zone. Once the decision is made to fire preparatory fires before making an assault landing, it is the personal responsibility of the ground commander to insure that the preparation is adequate. His tools are artillery, air strikes and armed helicopters. His problem is to assure optimum, coordinated use of all firepower. His chief concern is the security of the landing force.

The enemy offers three main threats to assaulting airmobile forces. First, explosive devices placed in the landing zone itself and in trees immediately adjacent can be detonated either electrically or by pressure against helicopters and troops. Sometimes enemy troops and anti-aircraft weapons are dug in the landing zone itself. Secondly, enemy personnel and

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 210 out of 257: weapons located in prepared positions around the edge of the landing zone and

several meters back in the surrounding vegetation can resist the landing. Thirdly, enemy forces located several hundred meters from the landing zone can rush in and attack the assault forces during or immediately after the landings. Preparatory and supporting fires must be planned to deal with each of these potential threats. Artillery fire, using a combination of VT and fuze delay, and bombs with instantaneous fuzes are effective means of destroying or disrupting mines in the landing zone. Enemy occupying positions in or on the edge of the landing zone and mines in and surrounding the landing zone a r e the greatest immediate threat to an assault landing.

A combination of air strikes and artillery should be used on enemy emplacements around the perimeter of the landing zone. This ordnance should be delivered from the edge of the landing zone at least 50 or 75 meters back into the vegetation. Medium and heavy artillery firing fuze delay and air-delivered heavy bombs and napalm are the most effective weapons for these emplacements. Bombs weighing at least 500 pounds are required to destroy landing zone defenses; 750- or 1000-pounders are even better. Aircraft making runs perpendicular to the tree line can splash napalm back under the jungle canopy and, hopefully, into embrasures and firing apertures of enemy emplacements. These same fires will usually disrupt the

enemy's use of mines and explosive devices placed in trees surrounding the landing zone.

CBU and strafing attacks are largely ineffective against targets underneath jungle canopy. They may be helpful when placed along the edge of the landing zone or in the center where mines may be located and along trails and streams leading to the landing zone.

The deeper targets located several hundred meters away from the landing zone are best taken care of by artillery, although air support may be shifted there during and after the landing. As the enemy observes our pattern of concentrating preparatory fires around the landing zones and immediately adjacent areas, he can be expected to use the tactic of holding his forces one or two kilometers from landing zones and then moving quickly to attack the assault forces before they dig in. Defense against this enemy tactic requires continuous airborne surveillance over an area extending several kilometers around the landing zone and use of heavy blocking and destructive supporting fires to interfere With the enemy's movement to attack the friendly forces in their landing zone. The assault forces themselves must quickly prepare defensive positions and dispatch patrols to find the enemy and bring destructive fires to bear on him.

Air strikes and artillery fires must be planned and coordinated so that both weapons are used simultaneously and full time. A simple coordination is to draw a line through the center of the landing zone then work airstrikes on one side and arti1lery on the other side. Everyone in the fire support business must know and coordinate the artillery gun-target line, the maximum ordinate of the artillery fire, the flight

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 211 out of 257: path of the troop-carrying helicopters and the direction of attack and break away

pattern of fixed wing aircraft and armed helicopters. Air and artillery supporting fires must be planned to permit continuous employment of both weapons with no lulls in fire on essential targets. Once one type of supporting fire is being placed effectively on a target, it should not be shifted to permit placing another type of supporting fire on the same target, unless there is some over-riding reason for doing so. Shifting one supporting fire to permit employment of another on the same target inevitably results in minutes of lull in supporting fires on what, for the · ground commander, may be a critical target at a critical time. Armed helicopters may be used to make low reconnaissance and strafing passes over the landing zone to see if they can locate enemy positions or draw enemy fire.

In order to guarantee that preparatory fires are on desired targets and do the necessary job, either the brigade commander or the battalion commander, or both, must observe and direct the preparatory fires during their entire period. The

ground commander must be satisfied that the preparatory fires have done an adequate job before he puts his troops into the landing zone. He should not be reluctant to delay the landing and prolong the preparatory fires if he considers it necessary.

There are three ways of having the ground commander observe and supervise the preparatory fires: the brigade commander can direct the preparation, the battalion commander can do so, or the brigade commander can begin the preparation and have the battalion commander take over the final portion. Any one of these methods is effective and might be appropriate under differing circumstances. Ideally, the battalion commander himself controls the preparation of the landing zone into which he puts his troops. If, however, a brigade commander plans to land several battalions in rapid succession in separate landing zones, it may be appropriate for him, assisted by his airborne command group, to control the preparatory fires.

Often duties at the loading zone and fuel considerations make it impossible for the battalion commander and the air mission commander to supervise the entire period of the preparatory fires. In that event, the brigade commander can begin the preparatory fires and then pass their control to the battalion commander when he arrives over the landing zone.

Another option is for the battalion commander to ride in the same helicopter with the brigade commander during the preparation; but this has serious disadvantages to both commanders, limiting their flexibility, freedom of movement and the size of their command groups.

Assault Landing. The most critical phase of the airmobile operation is the assault landing. About two minutes before touchdown, air strikes and artillery fires shift from the immediate landing area; and armed helicopters make rocket and strafing runs and mark with smoke the landing points for the lead helicopters. If the landing zone is large enough, it is both feasible and desirable to keep either air strikes or artillery fire along the treeline on one side of the landing zone while the assault landing is made beside the other treeline.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 212 out of 257: If the landing zone is large enough to afford a choice between landing in the center or near the treeline on one side of the zone, it is usually advisable to land near the treeline. Landing troops adjacent to the treeline and having them take up assault fires immediately upon landing and attack into the trees exploits shock action of recently shifted preparatory fires and reduces exposure time of troops in the open. While the troops are debarking from the side near the treeline, the helicopter's door guns fire into the far treeline. Once the landing zone is secured and landings completed, the ground unit gets on with its operations. The unit must be prepared to repel an attack within minutes of the landing.

Extraction from a Landing Zone. Extraction is the reverse of the assault landing. Here again the battalion is the basic level of planning and execution. Organiza:ion of the pickup zone and snappiness and efficiency of pickup are even more important than in the original landing zone. Every man must know what to do and do it without confusion. As troop strength and combat power in the landing zone are depleted, the role of supporting fires becomes more important. Helicopters must remain on the ground only a minimum time; and until the final pickup, a tactical unit must provide security to the landing zone. The last remaining unit on the ground should be no smaller than a platoon and all of its squads should be extracted simultaneously. Supporting fires should be placed around the landing zone during extraction and on and around the landing zone after the unit has been extracted.

JUNGLE SEARCH AND DESTROY OPERATIONS

The basic problem of jungle search and destroy operations is that of finding the hidden enemy. Complicating factors are: difficulties of land navigation, movement, target location and identification, evacuation and supply, and constant danger of ambush.

[photograph]

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 213 out of 257: Commanders at all levels should seek to find the enemy with minimum forces and then use maneuver units to block the enemy' s withdrawal and supporting firepower to destroy him. They should not seek to avoid heavy infantry attack on or entanglement in enemy fortified positions. The key to success in this operation is massive use of supporting firepower when the enemy is located and rapid commitment of additional maneuver units. Additional maneuver units and their transportation must be alert and ready for instant commitment to support searching forces. A company should be able to reinforce a platoon within 30 minutes; a battalion should be able to reinforce a company within 60 minutes.

Units must move through jungle areas cautiously, methodically and systematically, searching along their route of march and constantly maintaining all-around security. Enemy ambush is the constant threat.

Secure movement through jungle is painfully slow. Systematic, thorough search techniques make the movement even slower. Commanders must expect units on jungle search and destroy operations to move no faster than 400-600 meters per hour. And commanders should refrain from demanding faster rates, which are attained only by sacrifice of security and thoroughness of search.

Movement through jungle is a matter of platoon and squad tactics. Sound platoon

and squad tactics lead to finding the enemy while exposing to enemy ambush at most a squad or fire team. Unsound platoon and squad tactics lead to enemy ambush and destruction of entire platoons. It is inexcusable for a unit larger than a squad to get ambushed.

Lieutenant Colonel William S. Hathaway, in Operations Report 4-67, "0bservations of a Battalion Commander," dated 7 June 196 7, describes very well the method of moving through jungle known as "clover-leafing" in the 1st Infantry Division. Important here are the simple, basic squad and platoon tactics employed; the tight control exercised by small unit commanders; the continuous all-around security and thorough search provided; and the principal of using the squad as the basic search and operational unit and of seeking to find the the enemy while exposing the smallest friendly force to his ambush.

The object of the "clover leaf" is to locate the enemy with as few men as possible. This retains freedom of maneuver. While the clover leaf is basically a squad maneuver, it lends itself to any size unit from squad through battalion.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 214 out of 257: [diagram]

The cloverleafing organizations move front, rear, left and right from a central point as the diagram shows Direction of movement of all units must be the same (either clockwise or counterclockwise, not both) to preclude running into each other.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 215 out of 257: The brigade commander can assist the battalion commander in several ways. He can insure the availability of adequate supporting fires and airborne artillery observers and forward air controllers constantly overhead. He can place at the battalion commander's full-time disposal at least one and preferable two helicopters. The brigade commander can assist most by realizing that movement through the jungle takes time and by refraining from pushing the battalion commander to increase the speed of movement of his units. Haste through the jungle leads to disaster. Brigade commanders and their staffs realize many benefits by occasionally accompanying small units during movement through jungle. This is particularly true during the first days of one's command. Only by moving through the jungle with a small unit can one fully understand why movement is so slow and appreciate the problems of small units and their leaders. Not only do brigade commanders and staff members learn a great deal from jungle walks, but it does the troops good to see them there.

Units moving through the jungle i n search and destroy operations should stop soon enough to prepare a defensive perimeter before night. It is desirable to locate the defensive position in or around a landing zone. The landing zone facilitates command and control, evacuation and resupply.

In summary, during search and destroy operations, commanders should look upon infantry as the principal combat reconnaissance force and supporting fires as the principal destructive force. Commanders should seek to avoid being drawn into infantry assault against concealed, fortified positions.

Yet, the nature of ground warfare is such that infantry assault ultimately may be the only way to take a position and dig out the enemy.
Therefore, the commander and his soldiers must possess and cultivate the toughness of mind and spirit, the guts and determination, the professional know-how, and the will to close with and destroy the enemy in straight infantry assault. These traits and particularly this will to fight distinguish the real combat soldier from the parade ground soldier and are the stuff of victory.

DEFENSIVE POSITIONS

The defensive position in Vietnam is habitually a perimeter from which units must be prepared to def end against harassing attacks from guerrillas and all-out attacks from main force battalions and regiments. The defensive perimeter should be located in or around a landing zone to permit evacuation and resupply by helicopter.

The battalion is the basic defensive unit. It is the smallest unit that--unsupported by armor--can be expected to withstand successfully a prolonged, all-out attack by main force battalions. Reinforced companies may, on occasion, establish separate defensive positions for one or two nights but should not stay any longer in one position. Even then, they should have heavy supporting fires and be in quick reinforcing

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 216 out of 257: FRONT VIEW
[Illustration]
FIRING TO THE FRONT

[ILLUSTRATION'
FIRING TO THE SIDES

TOP VIEW
[ILLUSTRATION]
FIRING TO THE FRONT

[IILUSTRATION]

FIRING TO THE SIDE

Fighting positions should provide front and side firing positions and overhead and side protection from enemy fire.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 217 out of 257: distance of their parent battalion. The presence of armor in a defensive position

changes the situation. An American rifle company which is well dug-in, reinforced with armor, and well supported by artillery and air can survive the attack of an enemy battalion or even a regiment. As a rule of thumb, the infantry company is the smallest unit which should be allocated to secure an artillery battery.

Preparing good defensive positions requires of enlisted men basic soldierly skills and of the officers and non-commissioned officers constant supervision. The unit that is good in defense is also good in offense; both require the same soldierly habits, attention to detail, discipline and constant training and supervision from leaders. Digging the soldier's fighting positions is the single most important phase of establishing a defense. Design and construction of the fighting positions demand the attention of all commanders. Commanders should establish minimum standards which all fighting positions meet and t hen encourage soldiers and units to improve upon the minimum standards. When units compete to prepare the best defensive positions, everybody wins except the enemy.

At minimum, fighting positions should house two soldiers and afford them overhead cover from mortar fire, frontal and side protection from flat trajectory fires and positions from which they can fire on the enemy. A useful addition is a small rear entry which affords a defiladed place for the night sentry to sit with improved hearing and observation and from which grenades can be thrown, M79' s fired and occupants can fight to the rear. Staggered positions add depth to the perimeter. Sleeping trenches, if separate from fighting positions, should be located right behind fighting positions. Every soldier must sleep below the surface of the ground, preferably in his fighting position.

The three-man fighting position offers many advantages. It is superior to the two-man position in combat and staying power and all-around fighting capability. A three-man team tends to have more cohesiveness than a two-man team. Individuals in three-man holes can get more rest during the night, while maintaining a higher degree of alertness and security. An obvious disadvantage of the three-man hole is that it reduces the length of perimeter a unit can man.

Soldiers must know the location of adjacent positions, who is manning them, what weapons they have, and their sectors and principal directions of fire. Supporting fires should be registered before dark and soldiers should know the location and designation of the registration nearest them. Large numbers of flares and

claymores should ring the defensive position, concertina wire set out when feasible and ammunition stockpiled on fighting positions. At least one claymore--preferably two--should be set outside each fighting position. Many commanders conduct random firing of claymores, M-79's and mortars around their positions to discourage enemy activity.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 218 out of 257: If the position is for one night only, defensive materiel can be flown in by helicopter before dark and lifted out the following morning.

Weight and volume of materiel and ammunition flown into a defensive position must be carefully considered versus helicopter availability. Long steel pickets and sand-bags plus power saws used to cut wood locally, facilitate the rapid construction of overhead cover. Unit positions must be improved throughout occupancy.

Use of ambushes, outposts, listening posts and patrols around the perimeter is a matter for the battalion commander's decision, based on the terrain and his own experience. A sound practice is the frequent use of ambushes, consisting of a reinforced squad of 10-12 men whose armament includes at least one claymore per man and at least one machine gun. If listening posts are placed outside the perimeter, they should consist of a minimum of two men and be so located that they will provide early warning without getting swept up in an enemy's attack against the perimeter. Neither ambushes nor listening posts should be positioned so as to inhibit the employment of supporting fires.

Once a defensive perimeter comes under attack, the outcome of the battle is largely in the hands of the defending commander and his soldiers. During the fight, the brigade commander ensures that massive fire support is placed at the defending commander's disposal and employs supporting fires upon enemy reserves and routes of reinforcement and withdrawal. He also insures that evacuation and resupply are promptly initiated for the defending unit.

Artillery observers, forward air controllers, armed helicopters and the next higher commander should be airborne over a defensive position under attack. C-47's armed with door-mounted rapid fire machine guns and capable of dropping flares are often useful. The ground commander should approve before flares are dropped; flares sometimes give the enemy a greater advantage than they give the friendly troops. When several aircraft are in the air at night, one airborne person should be designated "airspace coordinator." The forward air controller is usually the logical choice since he can communicate by radio with all aircraft over the area.

The brigade commander should look upon an enemy attack of one of his defensive positions as an opportunity to launch his own offensive action against the enemy. Assuming that the unit under attack can take care of itself without reinforcements, and this should be the case by design, the brigade commander

responds immediately with massive supporting fires and commences planning commitment of additional units to block the enemy's withdrawal. Since most enemy attacks come at night, the commitment of additional maneuver units will usually occur just after daybreak. One major reason for establishing defensive positions strong enough to defend themselves without need for reinforcement is that a favorite tactic of the enemy is to attack one unit for the purpose of ambushing forces coming to their relief; thus, night reliefs are to be avoided.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 219 out of 257: Defensive perimeters often include artillery batteries and command posts other than that of the defending unit. For instance, the brigade command post and the direct support artillery battalion fire direction center, plus one or more artillery batteries, will often be placed in a battalion's defensive perimeter. Where several units or facilities are co-located an overall defensive perimeter commander must be designated, usually the commander of the largest infantry unit located in the perimeter.

ROAD CLEARING AND CONVOY OPERATIONS

Most Vietnamese roads must be cleared of mines, roadblocks and enemy forces before convoys use them. All convoys must be secured both against mining and harassing attacks by guerrillas and major ambush by main force units.

There are five phases to a road clearing and securing operation: (1) positioning the troops; (2) clearing the road of mines, booby traps and roadblocks; (3) securing the route against ambush; (4) running the convoy; and (5) rolling up the forces.

(1) Positioning troops along the route involves establishing fire support bases, command posts and defensive positions which facilitate clearing and route security operations. Units are assigned sectors of the road to clear and secure areas of operation; troops are placed along the road; a reserve is held ready for quick commitment; infantry and armor units are placed in operation on the flanks of the route to guard against ambush.

(2) Infantry, armor and engineers are organized into road clearing teams which methodically clear the roads, shoulders, ditches and adjacent areas of mines, booby traps, command electrical wires and roadblocks. Mine sweeping teams are followed by a pair of bulldozers pulling engineer rooters that plow 18-inch trenches on either side of the road, breaking or exposing most electrical wires leading to command detonated mines set in the road or along the shoulders. Tanks precede the bulldozers and rooters to set off pressure detonated mines that can seriously damage the bull dozers. The Armor School probably disapproves of using tanks in this

manner, but tanks and their crews survive mine explosions far better than bulldozers and their operators.

Increasingly, Viet Cong use plastic, non-metallic mines which are virtually impossible to detect with minesweepers. All members of the clearing team check visually for mines, booby traps, wires and evidence of enemy activity. They must look up in trees along the road, for the enemy places claymores and mortar and artillery rounds in trees and electrically detonates them.

Roadblocks are usually booby-trapped or conceal mines. When the friendly situation permits, tanks can remove roadblocks effectively
by firing cannister rounds against them. Grappling hooks at the end of long ropes remove the debris. Bulldozers or tank dozers push earthen or laterite roadblocks aside.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 220 out of 257: Working behind the rooters AND Minesweeper teams, dump trucks filled with laterite
or gravel fill holes in the road, while graders and bulldozers improve the surface and drainage of the road. Other engineer teams replace culverts, repair bridges and stream crossings, and pushed vegetation back from the edge of the road.

With the exception of the rooting process, which can be done a single time along the entire route on both sides, the road clearing process is repeated each morning before the passage of the convoy. The Viet Cong is quite skilled at placing additional minds during the night or arming those already in position.

[photograph]
An advance patrol is engaged in road clearing operations.

(3) Security against ambush and attack is provided mainly by infantry and armor patrols are to either flank of the route to intercept and discover enemy forces before the to get into position from which to launch an ambush. The further out from the route these patrols range, the less likely is the chance of ambush.

Airborne artillery observers, forward air controllers, armed helicopters and staff officers on reconnaissance increase the security provided by the flanking infantry and armor operations by flying systematic reconnaissance and surveillance missions on either flank of the route. Artillery fires and airstrikes are placed on potential enemy locations and installations.

DECLASSIFIED AUTHORITY NND 994025 '

Transcription for Image 221 out of 257: At night, although most troops withdraw into defensive perimeters, many ambushes
are set along the road and the approaches to the road. Scout dogs are useful in

detecting would-be layers of mines. The enemy is discouraged from mining the road by placing artillery fires with VT fuze over the road and ditches and by periodic overflight of armed helicopters equipped with searchlights and starlight scopes. A major disadvantage of placing artillery fire over the road is the additional metal put on and in the road which reduces the effectiveness of minesweepers in locating enemy mines. None of these measures eliminates the need to methodically clear the road early each morning.

Pushing the vegetation back from the road's edge has long-term benefits: it increases difficulty in mining the road, reduces the threat of ambush and facilitates aerial observation and airmobile operations along the road. Rome-plows, which are designed for the job, are the most efficient jungle clearing machines. Bulldozers are next best. Since there is always too little equipment and too few troops to do all the jobs desired, the brigade commander must establish a work priority and see that it is adhered to.

(4) The convoy moves under its own commander, subordinate to a single area commander, who should be the commander of the clearing and security forces. The convoy commander maintains his own command radio net and monitors the brigade command net.

Standard operating procedures govern convoy operations. The convoy commander controls from a helicopter flying over the column. Forward air controllers and airborne artillery observers constantly fly over the column. Armed fixed-wing aircraft fly column cover and armed helicopters are on call for immediate commitment. Some armor accompanies the convoy under command of the convoy commander. Engineer bulldozers and loaded dump trucks are on call along the route to repair holes in the road caused by mines. The bulk of the infantry, armor and engineer forces are used with the security forces. Their mission is to secure the uninterrupted passage or the convoy and to engage and destroy any enemy force that attacks the convoy. Each vehicle in the convoy has a soldier riding shotgun. Members of the convoy wear helmets and armor vests and are instructed to return fire only if under direct attack. Otherwise, they rely on protection by the security forces located on either side of the road, usually beyond the observation of those in the convoy.

The brigade commander spends most of his time flying from one security position to another until the road is cleared and secured for the passage of the convoy. Then he flies over the convoy, trying to anticipate time and place of possible attack. His principal radio contacts are with commanders of the security forces and the convoy commander.

Whenever a mine is detonated underneath a vehicle or the convoy receives any fire, the brigade commander assumes that an attack is beginning on the convoy and reacts accordingly. He is prepared to employ supporting fires immediately and to commit ready battalions into designated landing zones. Once the convoy actually comes under attack, the brigade

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 222 out of 257: commander's main mission is to destroy the enemy and minimize damage to the convoy. The convoy commander's job is to act according to a clearly defined SOP and get the convoy out of the danger zone. Commanders of the convoy and route security forces must maintain liaison with Vietnamese forces to gain their assistance and to avoid clashes between friendly forces.

(5) Rolling up the forces after completion of a convoy is similar to extracting from a pickup zone. There must be no letdown in alertness and supporting fires must be constantly available.

HAMLET SEAL AND SEARCH OPERATIONS

Surprise is the key to success in hamlet seal and search operations. Capture of Viet Cong, particularly members of the hamlet infrastructure is a major aim. Given the slightest warning, the quarry disappears. Thoroughness in planning and precise timing in execution must characterize this operation.

Seal and search forces a r e organized into three elements: (1) the seal force which puts the cordon around the hamlet; (2) the airmobile cavalry force that, simultaneously with the seal, conducts aerial reconnaissance and eagle flights in a radius of two or three kilometers around the hamlet, capturing persons fleeing the seal area; and (3) the search force that searches the hamlet and checks the inhabitants.

The brigade commander, who is the overall commander, usually retains direct command of the seal force, which may consist of several battalions, and designates separate commanders for the airmobile cavalry and hamlet search forces.

Timing of the seal operation depends on the habits of the local Viet Cong. If intelligence reports indicate that the Viet Cong enter the hamlet in late afternoon and leave about midnight, then the seal can be put in place just before dark. If the Viet Cong enter hamlets after dark and leave before daylight, then a night seal is in order.

The psychological aspects of the seal and search are particularly important and must be considered carefully. Depending on the purpose of the operations, the nature of the hamlet population and the Vietnamese Government's future plans for the hamlet, the commander must establish the prevailing attitude of friendliness or forcefulness that characterizes the operation. The S5 will recommend if there is to be a hamlet festival; of what it will consist; the propaganda theme of tapes, broadcasts, leaflets, posters and speeches. The S2 will recommend the handling of suspects and prisoners; the S3 will consider what follow-up there should be to the operation.

(1)The seal force will usually consist of more than one battalion. During a daylight seal, simultaneous landing of seal forces by helicopter is the fastest method. Night p1acement of seal forces is usually by foot. Armor, which normally arrives immediately after the

32

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 223 out of 257: infantry, is helpful in establishing a cordon. Sometimes it is appropriate for

armor to participate in the initial seal.. At any rate, the aim is to seal the circumference of the hamlet suddenly, completely and unexpectedly. The seal force remains outside the hamlet, denies exit to the inhabitants protect itself and the search force against enemy attack; its defensive perimeter faces both inward and outward.

Coincident with the establishment of the seal around the hamlet, airborne loudspeakers announced to the people in the hamlet than the surrounding fields what is happening and what they are to do. Those working in the fields are directed to return to the hamlet. Those in the hamlet are directed to assemble in a designated place.

[Photograph]
Each member of the seal and search team should know when to use force.

33

DECLASSIFIED AUTHRITY NND 994025

Transcription for Image 224 out of 257: (2) Also coincident with the establishment of the seal, the airmobile cavalry

force reconnoiters the area surrounding the hamlet, lands forces to detain those whose action are hostile or suspicious, encourages people to return to the hamlet and returns fire when fired upon. This force, exploiting surprise, often accounts for a disproportionate share of enemy captives and casual ties. It is most effective when terrain permits the landing of soldiers to check out people on the ground.

The airmobile cavalry force must be strictly controlled and must be cautioned not to harass or harm innocent persons. They should fire only when fired upon and then on definite targets. Peasants and water buffalo naturally tend to run when helicopters wheel overhead. Running in itself does not give license to shoot. The guide for these forces would be that it is better to let suspects escape than to harm innocent people.

(3) Vietnamese are usually more appropriate and better qualified than Americans to conduct the search and to deal with the people. The hamlet search force should consist primarily of Vietnamese assisted by Americans. There must be an American

coordinator through whom the brigade commander can direct the search, but the search force should include representatives of the Province Chief and the District Chief, National Policemen, intelligence personnel and members of the Vietnamese Armed Forces. American dog teams and minesweepers assist with the search American doctors and dentists open treatment stations.

The entire operations should be conducted under the aegis of the Government of Vietnam and be calculated to improve the Government's image of strength and effectiveness. As a general rule, Americans interrogate and evacuate prisoner s they capture, while Vietnamese interrogate and evacuate those they capture.

Division is most helpful when it forms a permanent task force staff whose functions are to plan and coordinate revolutionary development operations and to assist brigades with planning seal and search operations and maintaining liaison with Vietnamese search forces. Such a task force appropriately named "Task Force Helper" in the 1st Infantry Division, provides great assistance to the brigades. Its members speak Vietnamese and form close personal and professional relationships with Vietnamese officials whose assistance is needed in planning and conducting seal and search operations; it works under the brigade commander' s control during the actual seal and search operation.

Seal and search operations prove most successful when forces remain in position for several days, the search force remaining in the hamlet and the seal force conducting area domination operations in the surrounding areas. People begin to give information to the search force and the Viet Cong hiding in the hamlet have to come out for food and water.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 225 out of 257: This type of operation can be profitably coupled with other operations. For

example, a B-52 strike can be placed in a nearby jungle base camp to drive Viet Cong into the hamlets. Or road clearing and securing operations can begin with seal and search of hamlets along the road. Or a seal and search operation can begin the Government's systematic effort to bring the hamlet under its control and to introduce revolutionary development cadres into the hamlet.

AREA DOMINATION OPERATIONS

"Area domination" describes a military operation intended to dominate and disrupt enemy activities in an area for a longer time than a "search and destroy" operation and for a shorter time than a "clear and hold" operation. An area domination operation can do serious damage to the enemy, provide the Government a shield behind which to move into and gain control of an area and give commanders an opportunity to develop professional small unit membership within their units.

The purpose of such an operation is to dominate with operations a given area long

enough to disrupt enemy operations and damage or destroy the enemy economic and political infrastructure.

This is done by placing several battalions in an area critical to the enemy, thus disrupting his use of communication routes, base camps and recruiting and logistical bases. The battalions are assigned tactical areas of operation and establish patrol bases and conduct extensive ambushing, patrolling, eagle flights and seals and searches of hamlets. Intensive aerial observation and surveillance is maintained over the area, and known or suspected enemy base camps are hit with air strikes and artillery fire, followed up with infantry combat reconnaissance. Units do everything within their capability to force the enemy to move or to attack, to disrupt his usual activities and to capture his people.

While the daily results of an area domination operation rarely capture headlines, the cumulative damage to the enemy, particularly to the infrastructure and to local guerrilla units, often exceeds that of pitched battles and has more lasting effects.

The decentralized nature of the area domination operation affords small unit commanders much freedom to exercise initiative and imagination. This is an excellent training ground for leaders, units and soldiers. When the threat of main force battalions is eliminated, American units will undoubtedly turn more and more to area domination operations as preliminary steps to introduction of permanent government control into areas.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 226 out of 257: [photograph] Area domination can often lead to enemy detection overlooked by initial seal and search operations.

LURING THE ENEMY INTO ATTACKING

We kill the most enemy in the shortest time at least relative cost to ourselves when he leaves his base camps and attacks one of our units which is prepared to defend itself. We lose most heavily when we search out and attack the enemy on his own ground, particularly in his jungle base camps. It is a logical tactic, therefore, to establish defensive positions and to run convoys expressly designed to draw the enemy into attacking us on our terms.

While every defensive position and fire support base must always expect and prepare for attack, units may be placed in defensive positions selected for the express purpose of attracting the enemy to move out of his protected base camps and to attack. To fully exploit the opportunities offered by the enemy's attack, fire support elements and designated maneuver battalions together with their transportation (usually helicopters) must be ready to react immediately. The commander who uses a unit

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 227 out of 257: as a lure is obligated to create a situation of such strength that he is confident
he is not exposing the lure or the exploitation forces to unacceptable damage.

If the lure is to be a convoy, the enemy must be made aware that a convoy is to be run. This must be done subtly. Normally, advance notification to civil authorities that a thin-skinned vehicular convoy will be run at a specific time and place suffices to inform the Viet Cong. At the appointed time, an armor column, prepared to fight, replaces the announced convoy. No clearing and securing force precedes the armor force on its route.

Key elements of planning are fire support plans and location of landing zones. Before the convoy commences its move, fire support bases are established and maneuver battalions positioned at loading zones beside the helicopters that will lift them into action. Maneuver units are assigned one of three roles: they are committed as road assault forces, as battlefield relief forces, or as blocking forces. The road assault force is the armor unit that moves along the road to attract the enemy's attack. It is an exceptionally deadly lure. The first infantry battalion committed after the ambush is sprung is the battlefield relief force. This force is landed by airmobile assault near the embattled road assault force with the mission of relieving pressure on the armor unit by attacking the enemy in his flank and destroying him. Additional infantry battalions are committed as blocking forces behind the enemy to block his withdrawal and assist in his destruction.

The road assault force itself should consist entirely of armored vehicles. Necessary trains, protected by armor, follow at a safe distance. The road assault force commander flies overhead in a command and control helicopter; also airborne are armed helicopters, artillery observers, forward air controllers, fixed wing aircraft providing column cover and the brigade commander with his airborne command group.

Air strikes and artillery fires precede the road assault force's movement, striking areas immediately adjacent to the road and as deep as 400 or 500 meters from the road. While the initial ambush force may be located in ditches and vegetation beside the road, reinforcements and supporting weapons are often located several hundred meters away. Experience shows that once the enemy has deployed his forces to conduct an ambush, he will carry on with the attack even though we bring him under fire.

Fire support coordination must be simple and easy. The road itself offers the simplest fire coordination line. The air can strike one side of the road, while the artillery fires on the other. Zones parallel to the road can be designated so that air can strike in the zones immediately adjacent to the road and artillery

can fire into zones once removed from the road, or vice versa. Locating fire support bases on or near the road permits the artillery to shift its fire to either side of the road with least interference with air strikes.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 228 out of 257: Napalm strikes placed within 50 meters of the road, with the aircraft making their

runs parallel to the road, often expose ambush positions and inflict casualties on ambush forces. CBU runs are effective against enemy personnel located along the ditches and shoulders of the road immediately in advance of the road assault force. Heavy bombs and artillery placed in areas of thick vegetation often expose ambush positions and inflict casualties.

Once the enemy attack begins, the brigade commander must determine the direction from which the main attack comes so he can properly commit his blocking forces. The enemy habitually withdraws in the same direction from which he launches his main attack, moving back upon his supporting weapons, reserve units and his line of communications. The beginning of the enemy's attack is the beginning of the opportunity to destroy him. Immediately, the road assault force commander directs his armored vehicles to close up into a tight formation which masses their firepower; he directs massive supporting fires on the attacking enemy. The brigade commander directs supporting fires on deeper targets and areas; he assesses the situation to determine where he can land the battlefield relief force and the blocking forces. Speed of execution is essential. Thus, the road assault force commander handles the immediate fight while the brigade commander handles the expansion of the battle.

The battlefield relief force lands by airmobile assault as near as possible to the road assault force, places one flank on the road to facilitate coordination with the road assault force, attacks into the enemy's flank, seeks to roll up his line and destroy him, and thus relieves pressure on the road assault force. The relief force attack should extend 300-500 meters off the road in order to sweep up all elements of the ambush force. There is the possibility that the enemy will be defending the landing zone; therefore, the battlefield relief force commander must place heavy preparatory fires on and around his landing zone; or the road assault force commander, if able, may dispatch forces to secure the landing zone. To assure unity of command in the fight along the road once the landing has been made and the relief force is ready to begin its attack, the battlefield relief force comes under command of the road assault force commander.

Following landing of the battlefield relief force, the blocking forces must be landed, quickly, far enough behind the ambush force to assure getting between the enemy and the area to which he plans to withdraw. Each blocking battalion makes an airmobile assault, preceded by preparatory fires. Once in their landing zones, battalions move to designated blocking positions or establish patrol bases from which they send patrols to intercept the enemy's withdrawal.

The elements of successful exploitation of the situation created by attracting an attack are thorough planning, extensive reconnaissance detailed war-gaming, rapid decision-making, quick employment of massive supporting firepower and decisive commitment of maneuver units.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 229 out of 257: SPECIAL OPERATIONS

[photograph] Interrogation of prisoners is often a combined American-Vietnamese operation.

COMBINED OPERATIONS

Combined Vietnamese-American operations offer benefits to both parties. Americans gain new sources of information, insights into Vietnamese problems, assistance in those phases of operations better done by Vietnamese than Americans and help from native soldiers who know the ground. Vietnamese gain additional firepower and logistical support, added confidence and opportunities to undertake operations they cannot handle alone.

Combined operations are best initiated and planned at the lowest possible level--between an American brigade commander and Vietnamese regimental commander, for instance--approval is then sought from higher levels. The American advisor plays a major role in combined operations and must always be consulted about the capabilities of the unit and commander he advises. Cordial relations between commanders is vital, and command relations must be clearly defined from the beginning to assure professional operations and to avoid misunderstandings. It is frequently useful to co-locate the American and Vietnamese command posts

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 230 out of 257: and to combine planning, briefings, fire direction and coordination, and to

exercise control from a combined tactical operations center. Central control and coordination of supporting fire is essential.

The American commander finds that he aids his fellow commander in ways other than operational. He assists with supplies, weapons, ammunition, training, medical support, evacuation, helicopter support, and engineer equipment. This assistance increases the effectiveness of the Vietnamese force and fosters close personal and professional relations between commanders and their soldiers. The Vietnamese commander repays with military assistance, increased combat effectiveness, information of the enemy, and the gratitude of a fellow commander and his soldiers who are fighting for their country's life.

An ideal arrangement is for an American unit to adopt or sponsor a Vietnamese unit (and its American advisors) of equivalent size.

EAGLE FLIGHTS

Eagle flights involve airmobile employment of small infantry units, usually squads or platoons, on a mission of quick reaction or short duration. They are useful for combat reconnaissance, special missions, and against small targets of opportunity. Eagle flights can be used against Viet Cong tax collection points, to pick up suspicious persons fleeing an operational area, to block small stream lines during an operation, and to rescue crews or bodies from downed aircraft. Eagle flights normally operate within range of supporting weapons. Reserve forces must be ready to go to their assistance. They depend primarily on quickness and surprise to achieve their goals. Commanders find it useful to designate eagle flight forces during each operation and routinely at base camps, for quick exploitation of fleeting targets.

LONG RANGE RECONNAISSANCE PATROLS

A useful capability is provided the brigade when the reconnaissance platoon of each infantry battalion trains two or three long range reconnaissance patrols. Each patrol should consist of 5 or 6 motivated well-trained infantrymen--a single helicopter load--capable of reconnoitering deep within enemy territory for several days without resupply. These patrols provide the brigade commander the means of locating targets for future operations.

The commander who commits long range reconnaissance patrols must assure them of constant, reliable communications, extraction at a moment's notice, and the willingness to undertake a full operation to get them out of trouble, should it become necessary.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 231 out of 257: DESTRUCTION OF VIET CONG BASE CAMPS

Finding base camps, taking casualties in doing so, and then leaving them largely intact for future enemy use is a major source of frustration for soldiers. Understandably so. Yet few units have either time or means to destroy even a small percentage of the Viet Cong base camps they find.

Destruction of base camps requires time, manpower, equipment, and large amounts of explosives; when time permits, the job can best be done by Rome-plows, bulldozers, chain saws, shaped charges, and hundreds of pounds of TNT and plastic explosive.

When time does not permit methodical, complete destruction by troops on the ground, the base camp should be marked for easy aerial observation by felling

trees or by tanks crushing a trace around the camp. Then the base camp should be systematically opened up to observation and destroyed by a program of aerial defoliation, air strikes with napalm and heavy bombs, and by heavy artillery firing fuze delay. A destruction program of this nature, over a period of time, will systematically reduce the jungle area available as a refuge for the enemy and inhibit his mobility, which depends to a large degree upon the existence of a chain of base camps.

EVACUATION OR DESTRUCTION OF RICE

Discovery of large stores of rice in enemy base camps presents commanders with a major problem either of evacuation or destruction. Occasionally units find rice stores of 1,000-1,500 tons, stored in 100 and 200 pound bags or lying loose in huge storage bins. Usually, these rice caches are located in remote jungle areas without passable roads and t r ails and in which landing zones are non-existent. Frequently, units discover caches when engaged in jungle search and destroy operations against main force battalions, when the emphasis is on finding and destroying enemy units rather than material.

American policy is to evacuate rice and to use it for the benefit of the Vietnamese people, a sound and logical policy. Evacuation of rice usually requires security forces, cutting of a CH47 "Chinook" landing zone in the jungle, landing of jeeps and trailers or 3/4 ton trucks to haul rice to the landing zone, much manpower to handle the rice, and many "Chinook" helicopters to fly the rice out. Only rice packed in bags can be handled thus.

Often it just is not feasible to extract the rice. This can result from the tactical situation, limitations of time and manpower, or frequently from nonavailability of Chinook helicopters. At such times, commanders are faced with either leaving the rice for the enemy's use or destroying it. When extraction is impractical, the commander usually decides to destroy the rice. That is easier said than done. There simply is no easy way to destroy rice. It can be chemically

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 232 out of 257: contaminated, burned, or spread thinly on the ground to absorb rain and moisture.

Each method requires time and manpower and none is quickly and completely effective. Chemical contamination has not been perfected. Rice is difficult to burn. Both chemical contamination and burning require time, manpower and a major Chinook helicopter effort. If all those resources were available in the first place, then the rice could be evacuated.

If the rice is to be burned it should be spread over the ground, sprayed with unignited flame thrower fuel, the fuel let to soak in for about five minutes, and then the mixture sprayed with an ignited flame thrower. This can set a fire which will smolder for hours and ultimately destroy much of the rice. A more effective

method is to bury a 55 gallon drum of CS crystals in the rice and then detonate over the drum a 40 pound shaped charge. The explosion spreads the rice over a large area and contaminates it with CS crystals which are persistent enough to discourage the Viet Cong from using the rice until the natural elements have had a chance to destroy it.

The simplest method is to spread the rice on the ground not more than 6 to 12 inches deep and pray for rain. Even this takes time and men: soldiers must spread bags, slit them open with bayonets or machetes, and spread the rice thinly on the ground. The rest then depends upon the natural elements.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 233 out of 257: COMMAND AND CONTROL

The brigade commander's principal instruments for command and control are the command and control helicopter, the airborne command group, the brigade staff and command posts, and the communications system that ties them together. The combined capabilities of these instruments give the brigade commander the ability to personally influence the action to a degree not available to the battlefield commander since the Civil War regimental commander surveyed his entire regiment from his saddle and had voice contact with virtually every one of his subordinate commanders.

COMMAND AND CONTROL HELICOPTER

To do his job, the brigade commander must have his own regularly assigned, full-time command and control helicopter; an HU-lD equipped with a console radio and capable of carrying a 4- or 5-man command group. The helicopter is to today's brigade commander what the horse was to his Civil War counterpart.

There are two cautions concerning the commander's use of the helicopter. First, he must always be aware that from the air one gets an idealized, oversimplified picture of the ground. Distances look shorter, terrain smoother, and situations simpler to the airborne observer than to the soldier on the ground. Second, the commander must never get so tied to his helicopter that he neglects to go on the ground where he can get the soldier's feel for the battle and influence actions by his personal presence. A major advantage of the helicopter is that it can often land the commander right at the critical point of action.

The command and control helicopter should remain with the brigade commander at all times. Before the helicopter returns to its base for maintenance, a replacement ship should take its place. Field command posts must always have refueling facilities, for the brigade commander cannot afford to be without instant access to his helicopter.

COMMAND GROUP

Brigade commanders should habitually fly with their command group, even when operations are not planned or underway, in order to be capable of assuming command of a fight or operation immediately. Quick reaction operations develop frequently and unexpectedly enough to warrant this practice.

Fuel supply, air density, and weight of radio consoles limit the size of the command group to four or five. These will habitually be the brigade commander, the artillery liaison officer or the direct support artillery battalion commander, the Air Force liaison officer,

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 234 out of 257: and preferably, both the sergeant major and the brigade S3. The aircraft commander

contributes enough to the effectiveness of operations to be considered a member of the command group.

With this command group, the brigade commander can plan operations, direct and coordinate supporting fires, and monitor two and sometimes three command radio nets. With both the sergeant major and the S3 aboard, the commander can land and spend time on the ground, accompanied by the sergeant major carrying a PRC-25 radio, and send the helicopter back into the air with the brigade S3 to observe and guide operations and supporting fires from the air. After working together a while, this small airborne battle staff becomes a tightly-knit, highly professional team.

COMMUNICATIONS

The composition of the command group and its communications requirements dictates what radios are needed in the C&C helicopter. The commander and his staff should have simultaneous communication in the division command net and with other helicopters in the air. A useful additional capability is that of talking with the lead ship of fixed wing aircraft conducting air strikes.

An ideal command and control helicopter communications system for the brigade commander is shown below.

Individual
Brigade CO
S3 or SGM
Arty Ln 0
USAF Ln 0
USAF Ln 0
Aircraft CO
All

Monitors
Brigade Command Net
Division Command Net
Arty Fire Direction Net
Air- Ground Net
Strike Aircraft Net
Helicopter Comm Nets
a . Monitor any net
b. Talk privately or as group

Radio Set
FM#l
FM# 2
FM# 3
FM/#4
UHF/#l
Aircraft radios
Inter-com

OTHER ACCOUTERMENTS

Three items must always be aboard the commander's helicopter smoke grenades, two PRC-25 radios, and map coverage of the entire area in which the brigade may operate. Different colored smoke grenades are used to mark enemy locations, targets for supporting fires, friendly locations and to assist units with ground navigation. The PRC-25 radios permit the commander, while on the ground, to maintain communications and his fire support coordinator to coordinate fire support. The brigade S2 can work out a manageable system of map coverage that permits the commander to p1an and conduct operations anywhere. The sergeant major will equip the helicopter with other such useful items as C rations, water, grease pencils, field jackets and small arms and ammunition.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 235 out of 257: BRIGADE STAFF

The staff must be an extension of the commander's command personality, philosophy, and technique. The commander must have confidence in each member of his staff, or he will not use the staff well. Subordinate commanders also must have confidence in the brigade staff, or they will not use it.

One of the first tasks of the new commander is to build the staff and train it to work for him. His aim must be to create a staff that will function at all times. He must indoctrinate the staff in the philosophy that its mission is to support the commander, the subordinate units, and the soldiers. He must emphasize to the

staff that they serve their commander best by speaking frankly, candidly, honestly, bluntly in giving him the benefit of their best professional judgment. Above all, the staff must never let the commander be taken by surprise. They must be the first to tell him of blunders, errors, or impending crises.

The commander must keep his staff informed of his observations and of orders issued as he visits the troop units. He must give them adequate guidance to do their jobs. He must back what the staff does in his name, or he will kill their initiative. He must take the staff into his confidence and give them the benefit of his honest, candid, unvarnished professional judgment. He must assist the staff in getting helicopter transportation to visit the troop units. He must neither tolerate nor encourage gossip, backbiting, and unhealthy competition among staff members. Quite the contrary. The commander must encourage cohesiveness, esprit and comaradarie among his staff. He will be proud of his staff and have full confidence in it when he senses a real staff cohesiveness and comaradarie and observes battalion commanders taking their routine business to the staff rather than to him, fully confident that they will get satisfaction from the staff and can save the big issues for the brigade commander's attention.

COMMAND POSTS

The brigade commander should put his command post in the field on every possible occasion. There are several reasons for this. Having the command post in the field as close as possible to the operational area facilitates command of operations and communications between the commander and his subordinates. Psychologically, by placing himself closer to the conditions experienced by troops in the field, the commander can better appreciate their thoughts, condition and reactions. Command posts operate more efficiently in the field than in base camps. Staffs are concentrated near their working areas and focus on field operations, rather than being spread around a base camp with all its distractions. Command posts should habitually be housed in tents, avoiding the use of buildings on those few occasions when they are available. This fosters improved standard operating

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 236 out of 257: procedures and keeps the staff accustomed to austere living conditions. It is psychologically and operationally sound to minimize the differences between the comfort and living standards of the brigade commander and his staff and those of the troops.

Brigades must have the capability of putting several command posts in the field simultaneously. There must always be a tactical operations center at the base camp and there may be two or three command posts in the field. Each additional command post fielded will be leaner and more austere than the preceding one. To have the capability to field several command posts simultaneously requires more manpower, communications equipment, and tentage than allocated the brigade by the standard

TOS.E. The brigade commander must organize accordingly .

The main field command post always has three installations: the tactical operations center, the direct support artillery fire direction center and the logistical/administrative center. The brigade executive officer and the principal staff officers are located at the main command post. When a principal staff officer is absent, his principal assistant should be present at the command post. The brigade staff's main business is conducted where the brigade commander is located, not at the base camp.

Tactical Operations Center. The tactical operations center is the brigade's face to the world. Therefore, it must embody the most efficient most professional operations of which the brigade is capable. From the TOC, operations are conducted and coordinated. The S2, S3 and fire support personnel operate the brigade command radio net and maintain the brigade station in the division command net. At any time, its personnel must provide vital information or support to the brigade commander and subordinate commanders and units. They must always be prepared to brief the division commander on the brigade's situation and implement his instructions. TOC personnel must be able to visualize from radio traffic what is going on, what is likely to occur, what is needed, what must be done and then have the intelligence, imagination and initiative to do what is necessary.

A useful adjunct to the TOC is a separate tent divided into two parts: a briefing and planning area and a work area for S2/S3 personnel. This provides liaison officers a place to congregate, visitors a place to be briefed and the commander a place to meet with his staff and subordinate commanders. Best of all, it keeps the TOC free of non-workers. Personnel assigned to the TOC must be selected with care. Competent, experienced, mature, intelligent captains and sergeants should comprise the bulk of the TOC personnel. The captains should have been or be capable of being company commanders. The sergeants should be operations/intelligence sergeants or have been or be capable of being platoon sergeants. The TOC personnel must be capable of visualizing what takes place on the battlefield and what brigade can do to help.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 237 out of 257: Four practices must be standard TOC: competent officers or noncommissioned

officers must man the radios; they must wear radio headsets at all times; a duty officer must float free of any particular radio set and coordinate all TOC activities; an accurate, detailed, meticulously-kept operations journal and map must be maintained. If one can single out a small group of people most crucial to the success and professionalism of a brigade's operations, it is the people in the TOG.

Artillery Fire Direction Center. The brigade commander and his direct support artillery commander are operationally inseparable; so are their command

installations. The FDC is located adjacent to the TOC and connected to it by direct telephone lines. Personnel constantly move back and forth between the two installations. An artillery representative is in the roe at all times.

Logistical/Administrative Operations Center. The logistical/administrative operations center is located adjacent to the TOC. Here operate the S1, S4, S5, the attached medical company commander and the brigade aviation officer. From here is controlled the brigade logistical radio net, on which are handled matters of supply, casualty reporting, medical support and evacuation and coordination and control of helicopters and fixed wing aircraft flying logistical and administrative missions. The brigade commander can learn a great deal about his brigade by monitoring the logistical radio net.

The logistical/administrative operations center and its logistical radio net are deeply involved in matters relating to operations. Its personnel must keep close liaison with those of the TOC.

Housekeeping Details. The headquarters company commander is responsible for the displacement and housekeeping details of the brigade command post. But he needs the support of a strong brigade executive officer. Certain practices must be standard every time the command post is established. The TOC, FDC and log-admin operations center must be dug in, sandbagged and provided overhead protection to permit them to operate while under attack. Command post defense must be integrated into the overall defense plan of the defensive position in which the command post is located. A landing pad must be near the tactical operations center and within the defensive perimeter. Sanitary and mess facilities must be provided, normally on an austere basis. The professional pride and ingenuity of the headquarters commandant and the brigade headquarters personnel are the keys to the organization of an excellent command post.

Communications. If a commander cannot communicate, he cannot command. Communications consists of equipment and people who use equipment. Most communications difficulties are with people. The commander should charge his signal officer with personal responsibility for maintaining constant communications with lower, higher and adjacent headquarters.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 238 out of 257: The efficiency and degree of professionalism of a tactical unit can be judged accurately by monitoring its command net. The command net reflects quite accurately the personality and character of the unit. A frantic, nervous unit has a frantic, nervous command net. A good unit's command net is quiet, uncluttered, calm and quick to respond. The base station exercises firm control over the net, polices the net, requires legitimate users to use correct and efficient procedures and commands trespassers to get off the net. To operate a command net professionally requires operators who are military professionals

There are certain techniques and kinds of equipment that assist communications. Jungle and rubber trees have attenuating effects on communications, thus, base camp stations and brigade command post stations should use 50- or 60- foot "giant" antennae. Each company should always carry two 292 radio antennae and each battalion, four 292 antennae. When units stop for thirty minutes or longer, they should erect the 292 antennae.

Radio operators in command posts and walking in the field can improve communication by habitually wearing headsets. The field operator can wear them placed over his helmet. The command post operator can wear one earphone over an ear and one off, so he can hear conversations.

It simplifies communications for units and individuals to keep the same frequencies and, particularly, call signs. Frequent changing of call signs confuses friends more effectively than enemies. Units must have some rapid, secure method of encoding coordinates, such as points of origin, thrust lines or shackle codes. Abbreviated radio procedures speed and simplify communications. The commander will have as good a communication system as he demands.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 239 out of 257: LOGISTICS

In logistics, as in operations, battalion is the primary operating level; the helicopter is the principal support vehicle. Since operational and logistical activities depend upon and compete for the use of the same helicopter resources, operational and logistical planning must be coordinated even more closely than in the pre-helicopter days. Generally speaking, the infantry battalion looks to the HU-lD for its logistical support, while artillery and armor look to the CH-47.

There are several ways in which brigade can assist battalion with logistical support of their operations. Brigade provides planning guidance to battalion, insures a close marriage of operations and logistics during planning and execution and insures that division locates elements of logistical support to support best the brigade's operations. Brigade acquires, allocates and coordinates use of helicopters for logistical support of the battalions. And brigade expedites solutions to the logistical problems with which battalions need assistance.

The Support Command Commander, Division Artillery Commander, and Armored Cavalry Squadron Commander give the brigade invaluable assistance in the logistical support field. But the brigade commander has the personal responsibility for insuring that every unit attached to, or in direct support of, his brigade receives satisfactory logistical support. He must, therefore, keep as well abreast of the logistical support situation as of the operational situation.

Of all the brigade staff officers, the S4 works most on his own with least command

supervision. He must, therefore, be the type of professional soldier to merit the full faith and confidence of the brigade commander.

To do his job, the S4 must have one officer in addition to the authorized food service technician, and the food service technician must be capable of truly being an assistant S4. The S4 will usually keep one assistant operating from the base camp and the other from the main command post in the field, leaving himself free to visit units in the field or division and to go wherever he can best expedite logistical support.

The S4 gets deeply involved in the business of coordinating and controlling use of both fixed-wing aircraft and helicopters engaged in logistical support. The brigade aviation officer can be usefully employed to work with the S4 to coordinate all aircraft used for logistical support while the S3 Air coordinates use of all aircraft used for operational support.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 240 out of 257: [photograph] The S4 must coordinate helicopter demands for support during daily peaks.

Demand for helicopters for logistical support peaks twice daily: in late afternoon and early morning hours. Toward the end of the afternoon, units close into night defensive positions and begin to prepare for the night. They need to have flown in all the various supporting materiels used in night defense as well as food and water.

In early morning hours, particularly if units are going to move on from their night defensive positions, much of the equipment flown in at night must be flown out again so that the unit can regain its mobility. The rush is on to fly the equipment out before the unit begins moving.

Since these logistical peak demands for helicopters tend to coincide with operational peak demands, the brigade commander must constantly work to hold down the peak demands to manageable size. There are three basic was of doing this: (1) limiting what and how much battalions may fly into their defensive positions; 2) establishing priorities by unit and item for allocation of helicopters; (3) assigning one or more helicopters to direct support of each battalion during the entire day, thus providing units the means to spread logistical flight support over the entire day.

Two methods of controlling logistical support helicopters merit emphasis. First, units which consciously adopt an austere standard of living in the field require far less logistical helicopter than those whose aim is to live as comfortably in the field in base camp. Second, logistical support operations go smoothest with as lower, more manageable peak periods when at least one helicopter is placed in

direct support of each battalion during the entire day. Battalion commanders can better plan and spread their logistical support flights than when they must draw from a pool of helicopters for a limited time To implement this second method, the brigade commander must frequently overrule the recommendations of his brigade aviation officer who often favors centralized control of aircraft and dispatch on a mission basis.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 241 out of 257: Similarly, the brigade finds it to its own advantage to have both fixed- and

rotary-wing aircraft placed in its own direct support for logistical requirements, rather than allocated on a mission basis. In use of aircraft, as in other matters, the S4 must work closely with the S3. There is constant coordination between the tactical operations center and the logistical/administrative operations center at the main command post.

A major area in which brigade supports and assists battalions is in the field of medical support and evacuation. The direct support medical company commander, working under the S4's staff supervision, is the brigade commander's principal assistant in this field. Before each operation, the medical clearing station should be located where it can best serve the brigade's needs. Specific instructions should be issued concerning the medical installation to which casualties will be evacuated.

The medical clearing station is sometimes located in a defensive perimeter near the brigade command post or adjacent to a nearby landing strip. It must always be near an easily accessible landing pad for the medical evacuation helicopters. The direct support medical company commander, working out of the logistical/ administrative operations center, coordinates dispatch of medical evacuation helicopters and allocation of medical resources. He uses both the logistical net and the special radio net for medical evacuation helicopters. Having a medical evacuation helicopter stationed at the medical clearing station speeds evacuation and saves lives.

Ordinarily, casualties should be evacuated directly to the brigade clearing station. This permits early stabilization of patients and triage by doctors at the clearing station. It also permits brigade to account for its people and their weapons and equipment better and more accurately than if the casualties are flown directly to another installation. The life-saving advantage, of course, governs.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 242 out of 257: PERSONNEL

The brigade commander is deeply involved in personnel matters, far more deeply, in

fact than the theory of the ROAD division organization suggests.

The brigade commander must know his men, their capabilities and their needs. This is particularly true of his officers and noncommissioned officers. He must insure that individuals are assigned according to their capabilities and the needs of the units and then continually evaluate the effectiveness of their performance. He is concerned with their promotion, recognition, health, discipline and well-being.

The commander's first and most important step in discharging his responsibility to his men is to get to know them, talk with them, visit them. He should always hold open a free, uninhibited, two-way line of communication with the most junior man in his command; and he should take the initiative in establishing and maintaining rapport.

The brigade sergeant major can be the brigade commander's most valuable assistant in establishing and maintaining an open line of communication with the soldiers of the brigade. An effective brigade sergeant major can—as no one else--inform the commander of what is really going on in the brigade, and he can represent the commander to the soldiers of the brigade The brigade commander finds it helpful to travel habitually with his sergeant major and to rely on him as if he were the deputy brigade commander.

The brigade commander should personally interview all officers and senior noncommissioned officers assigned to units of the brigade and determine that their assignments best satisfy the needs of the units. Having more intimate, current knowledge of the battalions' personnel situations and needs than the division personnel assignment section, the brigade commander will occasionally change the assignments made by division. When this happens, the brigade adjutant must so inform the division GI. The major advantage of the personal interview is that it permits the commander to become acquainted with the newly assigned personnel and they with him.

Brigades in Vietnam are handling responsibilities and activities not contemplated by the ROAD division organization. Commanders, therefore, may find it necessary to augment staff sections beyond their TO&E authorization. Operation of base camps and multiple command posts and logistical support installations creates the need for some staff augmentation. As a rule of thumb, each staff section needs at least three officers: one operates from base camp, one from the main field command post, and the principal staff officer is free to move wherever necessary. Tactical

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 243 out of 257: operations centers require augmentation by able officers and noncommissioned

officers. However, the commander must augment his staff with care, insuring that the augmentation is actually necessary and that he is not needlessly robbing the units.

In general, there is adequate opportunity to promote deserving enlisted men to the junior noncommissioned grades. The battalions handle this. Brigade se lection boards comprised of sergeants major and officers nominate senior noncommissioned officers for promotion and send them before a division selection board. The brigade commander should closely monitor the actions of these se lection boards. (He usually finds that the brigade's senior noncommissioned officers, guided by a strong brigade sergeant major, can be relied upon to apply high standards to the selection for promotion of other senior noncommissioned officers.

Brigade commanders are authorized to promote officers to the grades of first lieutenant and captain. This should not become a routine matter. Before promoting an officer, the brigade commander should personally interview him, discuss with him his increased responsibilities and personally judge the officer's fitness for promotion. The battalion commander's recommendation, of course, carries heavy weight. Minimum time in grade alone does not automatically guarantee an officer's fitness for promotion.

Writing, endorsing and reviewing officers' efficiency reports is one of the brigade commander's most important personnel responsibilities. Done conscientiously, it is one of his most time-consuming responsibilities. Efficiency reports covering combat assignments carry considerably heavier weight than more routine reports. Therefore, those reports covering combat periods must be written fairly, objectively, completely and conscientiously and with an eye to the future of the service and of the individual. These reports are written by people who are harassed, busy involved in combat operations and rare1y working under satisfactory administrative conditions. For these reasons, the brigade commander must exercise great care and c1ose supervision to insure that efficiency reports are promptly written and clearly and adequately reflect the individual's performance of duty and potentia1 for future service.

The commander must, if necessary, school his officers in proper writing of efficiency reports. He must insure that specifics support generalizations and that credit is given where due. If the rated officer shows the potential for being a general officer, the report should say so. If the rated officer should never be entrusted with command of troops in combat, the report should say so. Anything less is dishonest.

Awards and decorations should be given liberally to those who deserve them and presented promptly at a public ceremony. As soon as feasible after an action, commanders should prepare lists of those who have earned decorations and awards and then arrange for presentation by a general officer at a presentation ceremony supported by the division band.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 244 out of 257: Division commanders are authorized to present Silver

Stars and below. An effective practice is to present awards promptly and then to follow up with supporting paperwork. This does far more to build morale than making the presentation of awards dependent upon the speed of paperwork, which is always too slow.

No soldier should be permitted to leave his unit without proper recognition of his service and his contribution. In general, every soldier who serves honorably in combat deserves recognition and an award for meritorious service, for valor, or both. A bit of colored ribbon is little enough reward for what the average soldier does in combat, but it means a great deal to him and to his friends and family. This is something that senior commanders must push. Junior commanders tend to be too busy with their day-to-day activities to be aware of the great importance of awards and decorations unless their senior commanders impress this on them. Some will be miserly in giving awards and decorations, saying that they do not want to "cheapen" them. The danger is not that awards and decorations will be cheapened, but that deserving soldiers will be overlooked.

Individuals evacuated from the command must not be overlooked in the matter of promotion and awards and decorations. Commanders must establish systems of locating and keeping track of soldiers evacuated and insure that they are promoted and decorated as deserved. Regulations permit the combat unit to promote deserving soldiers who have been evacuated.

Continually, the brigade commander, assisted by his sergeant major, must keep close watch on his key men and stay alert for signs of fatigue and strain that reduce their effectiveness to the point that reassignment is appropriate. The commander always tries to have in his hip pocket a potential battalion commander and a couple of potential company commanders so that he can quickly replace battle casualties.

In comparing the demands and stresses of combat in the jungles of Vietnam with those experienced during the first year of Korean combat, it seems that company commanders in Vietnam are subjected to about the same stresses as platoon leaders in Korea, and battalion commanders to about the same stresses as company commanders in Korea. While there are exceptions the average company commander in Vietnam seems to burn himself out in 5-7 months and the average battalion commander in 6-8 months. This, of course, varies with individuals and with their experiences. Brigade commanders can go on forever and should command for a minimum of 12 months.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 245 out of 257: TRAINING

The need for training does not cease when a unit enters combat; it becomes more important. Each new draft of replacements, each new combat operation, reveals areas and subjects in which additional training is needed. Training is a primary

concern of commanders at all levels. It is accomplished by small unit leaders, but it must be planned and supervised by senior commanders.

Establishment of a brigade replacement training school is probably the greatest single contribution the brigade commander can make to improve the state of training and t he combat effectiveness of the units of the brigade.

[photograph]
Each replacement should undergo training in enemy tactics.

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 246 out of 257: It is obviously desirable to get replacements in-country training before they join
their platoons and companies for combat operations. The question is at what level to give the training. Battalion is the ideal level, but administrative and personnel requirements of replacement training overtax the battalion's capabilities. Basically, the most appropriate and effective level for replacement training is a division of Brigade base camp.

Immediately upon being assigned to battalions and Before accompanying their units on combat operations, all of its men, noncommissioned officers and lieutenants should undergo replacement training. An excellent case can be made for requiring newly assigned captains to undergo training too.

During a five- to seven-day course, each replacement should learn to dig a standard fighting position; fire the principal infantry weapons; learn standard squad and platoon tactics and methods of movement; be acquainted with Viet Cong mines and Billy trap; and go on a road-clearing operation, a daylight reconnaissance patrol and a night ambush patrol.

The major accomplishments of the replacement training school are to acquaint replacements with standard procedures and practices of the brigade and remove much of the fear of the unknown before the replacements join the units for their first combat operation.

Key to the effectiveness of the replacement training school are the composition of the training cadre and command support. The cadre should be comprised of individuals who have distinguished themselves in combat with units of the brigade. A former company commander should be Commandant of the school. Former squad leaders and platoon sergeants should be instructors.

The school should have its own separate area where the replacements lived during the attendance at the school. The cadre can be small, but it must be well selected. One Captain Commandant, one lieutenant, assistant commandant and 12-15 noncommissioned officers and enlisted men can handle the school's requirements. The school can be conducted after the model of the Ranger Department of the

Infantry School at Fort Benning. The students learn by participating in small unit operations observed by cadre members.

Battalion and company commanders must take a personal interest in the school, visiting it whenever possible, providing good men for the cadre, evaluating the performance of the graduates and looking upon it as their own replacement training school, rather than the sole property of the brigade commander.

The brigade commander and his sergeant major should visit the school often and ensure that it effectively and efficiently serves the needs of the brigade's units. The brigade commander, operations

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 247 out of 257: [handwritten] 69

permitting, should speak to each class at the beginning and at the final critique.

The brigade commander gets the most honest, most accurate evaluation of the replacement training school's product and effectiveness from the squad leaders and platoon sergeants to whose units the graduates are assigned .

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 248 out of 257: BASE CAMP

The existence of the base camp adds a new facet to the tactical commander's duties in Vietnam. The brigade commander who has his own separate base camp has 2 sets of responsibilities: that of a base and insulation commander and that of a brigade commander. In organizing his staff and allocating his own time and attention, the commander seeks to separate the operations of the base camp from those of the brigade and to conduct the business of the base camp and that of the brigade so that neither adversely affects the other. This is difficult.

Several base camp matters engage the brigade commander's attention. The guiding principle is to conduct the business of the base camp so that it supports the maximum of the brigade's needs and detracts the minimum from the brigade's tactical operations.

The daily business of the base camp includes operation of a base tactical operations center that serves both the base and the brigade; security plans and operations; airfield operation; utility; recreational and service facilities; indigenous labor office; community relations with the adjacent Vietnamese hamlets and villages; and control of tactical operations, surveillance and reconnaissance, and artillery and airstrikes in the surrounding tactical area of operations. To conduct a daily base camp business, the brigade commander needs a resident base

camp commander, a base camp staff and a base camp tactical operations center that serves both base camp in the brigade.

The resident base camp commander can be either commander of a unit that always remains at the base camp, such as a heavy artillery unit, or an additional field grade officer assigned to a brigade expressly to be the deputy base camp commander. The latter arrangement is preferable because the deputy base commander's is a full-time job.

The base camp staff can consist principally of members of the brigade staff whose duties are usually best performed at the base camp. For the base camp tactical operations center there should be specially assigned TOC personnel who may alternate between base camp and field duties. If major base camp development and improvement lie ahead, a full-time base development officer is warranted. Resident engineer commanders assist the base development. Resident artilleryman assist with base camp security. Each resident unit should carry its fair share of the base camp responsibilities.

A civilian architectural and engineering corporation is employed at many base camps to handle base camp development and the engineering utility roles. While this is helpful to some degree, the contracting

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 249 out of 257: outfit may have a low order of effectiveness and, in any event, depends upon the

military for most of its support. The brigade commander continues to have full responsibility for base camp affairs.

The brigade commander must ensure that a base camp the relevant plan is drawn up and kept current. Otherwise, the base camp will grow haphazardly according to no logical rhyme or reason. As time goes on, higher headquarters increasingly centralizes base camp standards, operations and construction. But the base camp commander himself knows best the needs and requirements of the resident units in his base camp.

There are three principal threats to base camp security: infiltration and sabotage; ground attack; and attack from recoilless rifles, mortars and rockets. The latter is the most serious threat in the most likely to occur. While base camp security plans vary according to the local situation and forces and weapons available, there are certain constraints:

(1)A perimeter defense must be established against ground attack. It will include a belt of ground cleared of all vegetation; barriers, we Barb wire, but perhaps minefield, also; watchtower mounting Starlight scopes, searchlights for floodlights, radar and machine-guns; and fighting positions. The perimeter defense should be designed to permit effective defense by minimum personnel. Minefields

should be planted only after careful consideration. They often do more damage to friends than to enemies.

(2)An effective warning system must be capable of alerting all base camp personnel instantly. A loud siren or whistle is ideal. Telephone and radio warning systems take too long to alert the last man. Most casualties occurred during the first minutes of a mortar and recoilless rifle attack, before most personnel are even aware the camp is being attacked.

(3)Every individual on the base must have a fighting or protective position in which he can take cover as soon as an attack begins.

(4)Every key installation must have sufficient protection to permit continued operations while under attack. This includes tactical operations center, communications centers, fire direction centers, medical facilities and power sources.

(5)A counter-mortar fire plan must be ready for immediate implementation. This plan provides for use of counter-mortar radar; immediate launching of airborne artillery observers, forward controllers and armed helicopters; and the coordinated employment of artillery, mortars, airstrikes and armed helicopters against attacking enemy weapons. The commander must decipher himself the relative merits of

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 250 out of 257: automatically beginning firing counter-mortar concentration as soon as the base
camp comes under attack or of withholding counter-mortar fires until targets have been acquired by radar or ground or aerial observation.

(6) A reserve force must be designated at all times, even when all infantry units are in the field. This can consist of regular base camp units or of students at their replacement training school.

(7) Any nearby Vietnamese military forces must be included in the base camp security plan.

(8) Systematic daily and nightly reconnaissance and surveillance should be flown for several kilometers around the camp and frequent ground combat patrols and embers is conducted.

(9) The most effective base camp defense against all enemy threats is active, constant patrolling in ground operations throughout the surrounding tactical area of operations. This is the only sure method of keeping enemy beyond attacking range of the base camp.

VIETNAMESE-AMERICAN COMMUNITY RELATIONS

The base camp commander is involved in virtually every aspect of the life of the surrounding Vietnamese community. He is involved in economic matters such as wage scales of Vietnamese laborers, cost of laundry, ice, beer, soft drinks, haircuts and washing vehicles; sanitation of Vietnamese eating and drinking establishments; troop entertainment; behavior of American troops in Vietnamese communities; religious and cultural fair; civic action; in local politics and elections. Unless great care is taken, the presence of a large, rich American military base in the heart of a rural Vietnamese community can overwhelm and corrupt the Vietnamese.

The base commander should develop and pursue a program for developing a healthy, mutually rewarding relationship with the nearby Vietnamese community. In furtherance of this goal, the commander can:

(1) Establish and maintain close contact with the local Vietnamese officials. There American advisers should regularly attend brigade staff meetings and serve as de facto staff members.

(2)Assist local Vietnamese military forces: Army, Regional Force, Popular Force and National Police. American units can conduct combined operations with Vietnamese.

(3)Assist local Vietnamese civilians with medical, educational, sanitation, religious and other civic action programs.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 251 out of 257: (4)Assign resident units specific Vietnamese communities or military units to sponsor and assist.

(5)Encourage an atmosphere and establish a system which guides into constructive channels and efforts the American soldier's natural friendliness, idealism and desire to befriend and help other people.

The base camp commander should observe two cautions.

First, while he must work with and through the Vietnamese officials and leading citizens of the community, he must not permit his vision and perspective to be limited to that level. He must look to the needs, drives and interests of average Vietnamese citizens and use his influence and resources to improve their lot in life and to influence Government officials to be responsive to the people's needs and desires.

Second, the base camp commander's goal is to strengthen the Government of Vietnam and its effectiveness and responsiveness to the needs of its citizens, not to

build American influence and popularity at the expense of the Vietnamese Government. He must, therefore, uses resources and influence in a manner calculated to improve the Government's effectiveness, responsiveness, and strength.

AREA DOMINATION OPERATIONS

Ideally, a brigade will have it is base camp at all times sufficient forces which, combined with local Vietnamese forces, will dominate the surrounding area and permit rural development to go forward in a systematic, secure manner, but this is a rare situation. The more frequent situation is for all or most brigade units to be absent from the base camp for long, irregular periods of time, during which the Viet Cong press in on the Vietnamese community surrounding the base camp. It then becomes necessary for units of the brigade to return to the base camp expressly for the purpose of conducting area domination operations to restore some measure of security to the Vietnamese community and to dry the Viet Cong away from the base camp. These area domination operations must be planned and conducted in close coordination with local Vietnamese officials and their American advisors.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 252 out of 257: OTHER UNIT MATTERS

UNIT ESPRIT

Within a division, unit esprit is built most effectively around the battalion and the division itself. These have distinctive histories and traditions and a fixed organization.

The brigade commander has a different problem in building brigade esprit. Being one of three tactical headquarters which, at one time or another, commands every battalion in the division, the brigade should build its own esprit in a manner that disparages no other unit or contributes to the ability of all battalions and brigades to work together smoothly and in wholehearted cooperation. Being recently created and lacking a distinctive history or tradition, the brigade must build its esprit on the present and the future, not the past.

Brigade esprit is built upon the brigade's operational effectiveness and professional manner of accomplishing its mission. Competition should be against an absolute standard of military professionalism and operational effectiveness. A brigade's esprit is healthy and soundly established when its members know that there brigade is good and that it is going to be better and when battalions look forward to operating under the brigade's command because they respect its operational effectiveness and like the way it operates.

PRESS COVERAGE

Soldiers are hungry for news about themselves and their unit and for public recognition of the job they are doing. So are their relatives and friends. While morale and unit esprit are built on far more solid stuff the news clippings and radio-television reports, the commander should not overlook press coverage for his soldiers and units.

In a sense, the interests of the commander in of the press coincide; the press was newsworthy stories, while the commander wants press coverage for his soldiers and units. Every unit abounds with newsworthy individuals and stories. The problem is to get the stories into the hands of the press. The solution is not difficult; it consists of designating at battalion and brigade level an individual responsible for press coverage and then of the commander giving that individual his guidance and full backing and support.

One interesting, intelligent, motivated Specialist Fourth-class per battalion, armed with pencil, notebook, camera and his commander's backing, can obtain a great deal of press coverage for his battalion and insure that soldiers read about themselves and their battalion.

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 253 out of 257: At brigade, an officer or noncommissioned officer experience in public information

were, assisted by one or two enlisted men, can adequately support the brigade's public information program and assist the units of the brigade. The hometown this release is the starting place. A hometown this release is in order for each soldier at least 3 times during his service in Vietnam: when he joins his unit, when he receives an award or decoration, and when he leaves the unit to return home. Local newspapers publish a large percentage of the hometown news releases, and relatives and friends send them to the soldiers. The public information people must establish a system for guaranteeing that the hometown news releases are timely; otherwise, these news releases are meaningless.

There are 2 useful local techniques which commanders can use for disseminating information, giving public recognition to individuals and units and providing the soldier printed material he can send home. One technique is publication of brigade and battalion mimeographed new sheets. The other is publication of occasional commander's notes or after-action reports describing major actions or operational periods in which the unit has participated in their results. Soldiers will read these eagerly and will send them home. Soldiers evacuated to medical installations should not be overlooked when the sheets are distributed.

The same items about units and individuals with her published in the unit news-sheets are often reported in the wider service press — the division's favor, the USARV and MACV papers, or the Stars and Stripes — and are sometimes the basis of stories in the national press. But the important thing is that the individual

soldier reads about himself and his unit.

There is one caution. The commander should insure that all units get adequate press coverage, and that no unit gets coverage at the expense of another or in such a manner that will antagonize other units and create cleavages and petty jealousies among units.

PRESS REPRESENTATIVES

Quite frequently, press, radio, and television representatives visit the brigade and its battalions. Here again the interests of the press and the commander coincide. The responsible press members — and this includes the vast majority of the press representatives — want to present the American public with an accurate, realistic, balanced picture of what is being done in Vietnam. So does the commander.

There are several things the commander can do to assist the press in their mission. He or members of his staff can fully briefed the press on the unit's actions and operations, thus aiding them to gain perspective and understanding of what the unit is doing. He can assist them with transportation, housing and food. Of these, transportation

DECLASSIFIED AUTHORITY NND 994025

Transcription for Image 254 out of 257: is most important and is often most difficult to provide. And the commander can
recommend likely stories or places where stories can be found.

There are several principles which should guide the commander in his personal dealings with members of the press. You should always be completely honest, candid and straightforward. You should deal with fax concerning only his operations or with matters within his own purview. He must refrain from dealing in speculation, opinions and with matters outside his immediate area of responsibility. He should request the press members to attribute no direct quotation to him without his permission. Any must never be evasive or try to pull the press.

The commander will find the vast majority of the press members are professionals doing their jobs who have a high regard and respect for the military professional doing his job.

AFTER-ACTION CRITIQUE

An invaluable command tool is the after-action critique conducted by commanders at all levels as soon as possible following an action. This can be both a learning and a teaching device. Both commanders and soldiers benefit. Commanders learn what actually happened during an action, who performed well and who did not and why, and what might have worked better. All participants learn lessons that can be

applied to future operations and make the unit better. Squads, platoons, companies, battalions and brigades should routinely conduct critiques after each action or operation. While the brigade commander meets with battalion and separate company commanders during the brigade critique, he does well to attend lower-level critiques occasionally to get an insight into what really goes on during an action. Handled in a free-wheeling, uninhibited manner, the after-action critique can be one of the most important ways in which commanders establish and keep a responsive communication with their officers and men.

THE COMMANDER

As the brigade commander travels the path from the youthful exuberance of the new commander to the wearied professionalism of the experience commander, he reaffirms or learn several things about command and about the American soldier.

He reaffirms that the American soldier — given the leadership he deserves — can do anything, anywhere, anytime. All that the soldier needs is skilled, professional leadership that gives it's best to the soldier and demands the best from the soldier. He learns that the soldier wants to know and understand what he is doing and why; wants

DECLASSIFIED AUTHORITY NND 994025
Transcription for Image 255 out of 257: [handwritten] 78

to be able to talk with and trust in his leaders; wants to be challenged as a man, as a soldier, and as an American; and needs recognition for what he is doing in the service of his country.

The commander learns to trust his instincts, finding that they are usually sound. He reaffirms that the commander's main function is to assume responsibility and make decisions. And he finds that spending time and energy regretting past actions and decisions is a futile, self-defeating waste and distraction from the job at hand.

Above all, t he commander reaffirms that commanding American soldiers in combat is the most challenging, rewarding, satisfying assignment available to the American military professional.

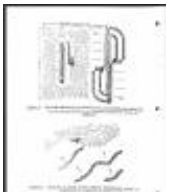
DECLASSIFIED AUTHORITY NND 994025
"

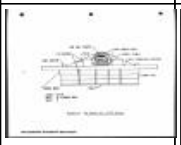
Thumbnails:

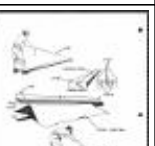

OPERATIONS REPORT
LESSONS LEARNED
OPERATIONS REPORT
LESSONS LEARNED


OPERATIONS REPORT
LESSONS LEARNED
REPORT 141

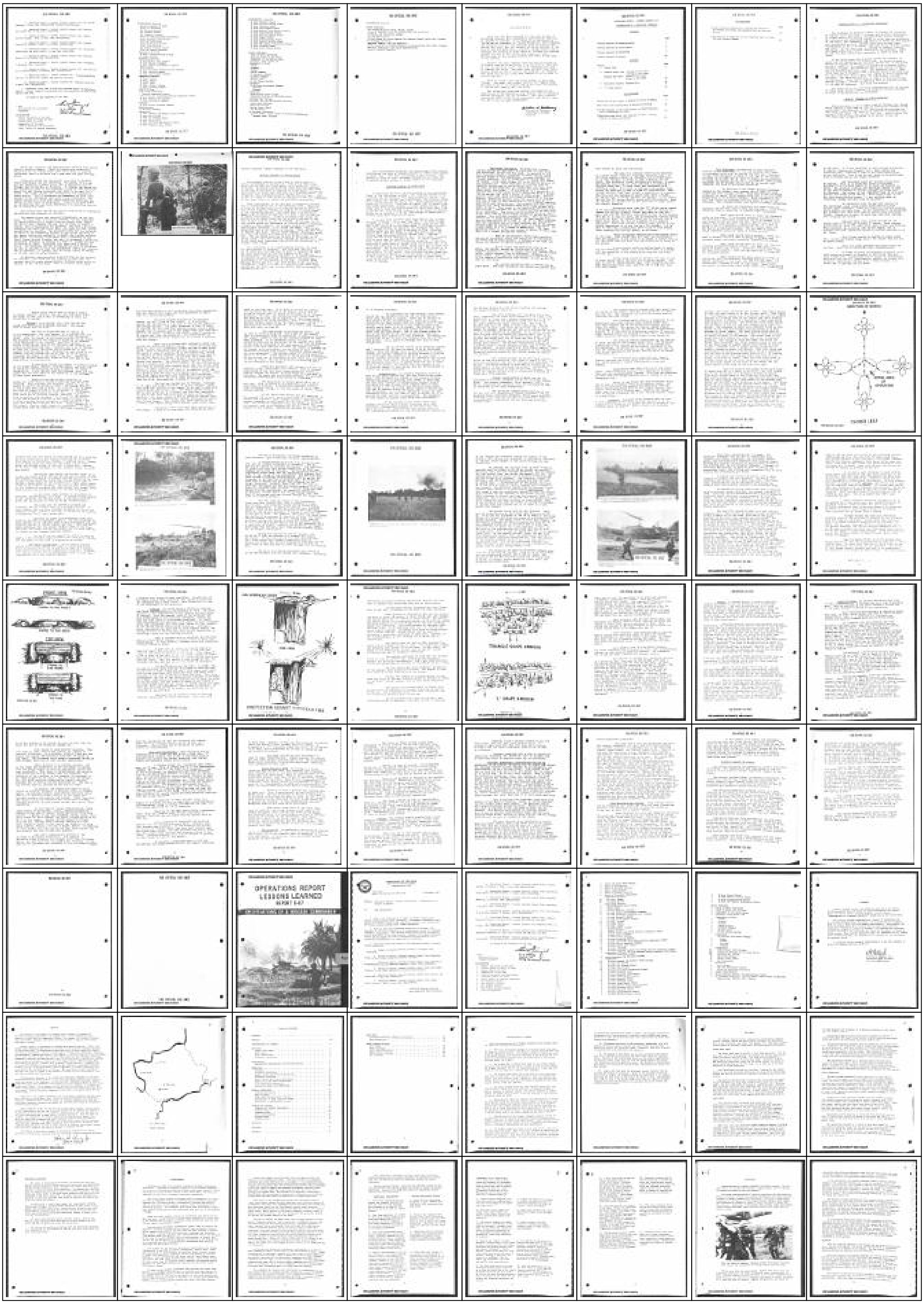

LESSONS LEARNED
ENGINEER
NOTES








OPERATIONS REPORT
LESSONS LEARNED


OPERATIONS REPORT
LESSONS LEARNED

National Archives Catalog
U.S. National Archives and Records Administration

8601 Adelphi Road
College Park, MD 20740
Email: search@nara.gov
On the web: http://www.archives.gov/research/search/

Disclaimer:
The user contributed portion of this description has been contributed by a Citizen Archivist. NARA has not reviewed these contributions and cannot guarantee the information is complete, accurate or authoritative.