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Research By-Product

DETECTION AND AVOIDANCE OF
MINES AND BOOBYTRAPS IN SOUTH VIETNAM

Training and Tactical Procedures
of the Americal Infantry Division

Collected and Compiled by George J. Magner

March 1968

The George Washington University
HUMAN RESOURCES RESEARCH OFFICE
operating under contract with
THE DEPARTMENT OF THE ARMY

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Technical Advisory Services

This document does not represent official opinion or policy of the Department of the Army.

HumRRO Division No. 4
(Infantry)

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This report describes interviews conducted in a project to: (1) evaluate prevailing training methods for detecting and avoiding mines and booby traps; (2) determine training requirements, especially for minesweepers; and (3) develop recommendations for improved training. This volume provides both summaries and transcripts of interviews from the Americal Infantry Division.

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FOREWORD

In response to a requirement from the Army Concept Team in Vietnam (ACTIV), HumRRO Division No. 4 (Infantry) undertook, as a Technical Advisory Service, to assist in a project, Study and Evaluation of Countermine Activities (SECMA), proposed as a response to increased casualties from mines and boobytraps in Vietnam. HumRRO participation was designed to accomplish or assist in the accomplishment of three subtasks:

a. Evaluate present training for detection and avoidance of mines and boobytraps.

b. Determine training requirements, particularly for mine sweepers.

c. Develop recommendations for improvements in training, particularly for mine sweepers.

To accomplish the second of these objectives, a HumRRO representative conducted interviews in Vietnam during January and February 1968. Persons interviewed included engineer and infantry personnel, both officers and enlisted men. Interviews were conducted in five different major commands in Vietnam to develop a data base representative of conditions in all parts of Vietnam, and thus to provide a basis for improving training for soldiers assigned to any part of the country. The collection of data was markedly facilitated by extensive assistance provided by ACTIV, which included transportation and a project officer, which is gratefully acknowledged.

The present volume consists of transcriptions of tape-recorded interviews from one of the five major commands furnishing data. It is divided into two sections. The first section consists of interview summaries which contain the key points mentioned in each of the interviews. The second section contains the interviews themselves.

Subsequent work on this project will include analysis of quantitative data extracted from the interviews and from data forms completed by the units contacted, and the publication of a consulting report based on the findings.

This work is being done at HumRRO Division No. 4 (Infantry), Fort Benning, Georgia. The Director of Research of this Division is Dr. T. O. Jacobs. Military support for the study was provided by the U.S. Army Infantry Human Research Unit, with which HumRRO Division No. 4 is co-located. LTC Ferdinand O. Barger, Jr. was the Unit Chief at the time the research was performed.

HumRRO research is conducted under Army Contract DA 44-188-ARO-2, and under Army Project 2J024701A712 01, Training, Motivation and Leadership Research.

Meredith P. Crawford
Director
Human Resources Research Office

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INTERVIEW WITH THE COMMANDING OFFICER AND THE EXECUTIVE OFFICER
OF THE 26TH ENGINEER BATTALION

The Division Engineer Officer and his executive officer gave an excellent overall picture of operations in the Division's area, particularly on Route 1. They had the tremendous task of sweeping 186 kilometers of Route 1 daily. This was done by multiple teams moving out from numerous locations to have the road open by 0900. The road was partially hard topped with many patches and repairs. Typically, three sweep teams with security moved down the road followed by a loaded five-ton dump truck backing down the road. This interview included a detailed description of the sweep team procedures. A great aid in detecting mines is having the same sweepers work the same roads daily so they can spot changes.

The PRS4 detector had been tried but was disliked for many reasons, principally the difficulty in keeping them in adjustment. The 9th Marines at Chu Lai were reported also to dislike the PRS4. The P153 was much preferred by all units. They felt that they detected 80 to 85% of the mines, even though there is very little metal in some of them. The main type of mine here was made with a short half bamboo strip over a board with metal contact strips on the inside that touched when the bamboo was compressed; wires from these contact points went to batteries and a 20, 40 or 50 pound charge that might be wrapped in plastic, in a cardboard box, or in cans. A delay factor is sometimes caused by the bamboo requiring a number of repetitions of being run over before it compresses far enough to make contact.

Pressure activated mines were the most common with command detonated next. Some 500 and 750 pound bombs had been used as mines in the division area.

Mines and boobytraps represent about 46% of the total casualties with about a 50-50 split between the two. The percentage goes down when there is heavy fighting. In some of the allied forces' areas, mines have been put out and not recorded and this has caused some casualties to U.S. forces. In comparing mine and boobytrap casualties the point was made that more were hurt per mine incident; as an example, seven were recently KIA in an APC hit by a 500 pound bomb.

Some offset mines had been used in this area. M st of the mines were found in the road rather than on the shoulders. Usually these were within 150 meters of a village and normally in the same areas. It is believed that the people in the villages know where the mines are and a minimum-red-tape payment program has been very successful in getting many items turned in.

The primary way of detecting mines ia a combination of visual and mine detector. They have cleared roads by running tracks down them, but feel that they now have enough time to make a normal sweep. Dogs had not been used for detection. They did not do night sweeps. They do little or no

recon by fire on the heavily populated Route 1 and have tried pulling a rooter type device to eliminate wires to command detonated mines with limited success. When a mine is found, it is inspected. The detonator is then grappled out, and the mine is usually blown in place with care taken to keep the people out of the way.

The engineers don't go with the infantry very often recently as demo men. Mines are usually called in as spot reports and then carried in the SITREP. There is no dissemination of intelligence on areas that are heavily mined and, normally, until military forces move into an area, it is not mined.

They had found no enemy marking system other than mine signs on the road that are usually not valid.

The men are fairly well trained when they arrive and are trained on an OJT basis to gradually take over the mine sweep job. The problem here is keeping them alert. The NCO's were considered to be quite good though there was some lack of maturity noted in the junior officers. The latter were being urged to exercise more caution and accept more responsibility for the tactical employment of the men. In particular, emphasis was being placed on deliberate variations in the daily pattern of sweep operations, such as time of start, to decrease the likelihood of ambushes. The engineers have done some mine detector training for the units but it is something that must be repeated frequently. It was recommended that CONUS training include more route mine sweeping problems. The sweepers vulnerable position on the road was noted as being something impossible to put into CONUS training. The only U.S. type mine being put out is the Claymore and a strong recommendation was made not to use any other mines. The Division engineer companies were authorized nine detectors while the engineer companies of a separate brigade organized under a different TO&E had 10 metallic and 10 nonmetallic detectors.

Convoys usually follow right behind the sweeping teams and there is a lot of traffic, including civilian, which is considered a big deterrent to mining operations. The road is not kept under surveilance during the day after the sweep is finished. It was admitted that at night the road belongs to Charlie and that there was little done in the way of preventive measures. Due to the heavy population, H and I fires were difficult. It was also thought that the fragments would interfere with further sweeping operations.

INTERVIEW WITH A CAPTAIN, THREE LIEUTENANTS, A SERGEANT AND A SP/4
FROM THE 39th AND 26th ENGINEER BATTALIONS

This group was from the 26th and 39th Engineer Battalions and a slight difference was noted in their answers depending on the portion of the Americal Division Area of Operations for which they were responsible. There was also a difference in their TO & E which affected their operations.

They said that during the last two months, about 20% of their casualties had come from mines and boobytraps with almost all of these being from mines. The bamboo type, pressure activated mines were encountered most frequently and the command detonated next. The average size of these mines was 25 pounds. Most were found on road clearing operations, primarily in the tracks where the wheels will hit them, though sometimes the charge is offset on the side with the activator in the rut.

They are often found on the shoulders or in the culverts but seldom in the center. On Route 1 there is no special area where mines are put but on another road they were usually at a river crossing site. Areas requiring extra care are those where there is loose dirt making them easy to conceal.

Most fuzes are instantaneous but there is a delay factor caused by the gradual breaking down of the bamboo in that type of mine. Activating actions are most often pressure, with electrical contacts, and next most often command detonation.

Skilled sweepers were reported to be able to detect the minimum metal mines with the P-153 if they are careful and the mine is not buried too deeply. They had little confidence in the capability of the PRS-4, and felt that its successful use demanded a highly trained operator.

Some of the sweepers wore the earphones directly over their ears, but most seemed to prefer them worn on the helmet away from their ears. Advantages of the latter were said to be that it permitted the prober to act as a back-up listener, and it permitted longer operating periods before the user became tone deaf.

Most of the mines were found with the detector. Visual detection was responsible for few discoveries in the roads, though it was the primary means when they accompanied the infantry on search and destroy operations. They have used a rooter to help in detecting command detonated mines but without much success. They also have men walking on the blanks looking for wires to command detonated mines. They rarely have infantry protection except for APC's that cover the sweeping party from the rear.

When a mine is found, they sometimes try to pull it out with grappling hooks, but if they cannot, it is then blown in place. When with the infantry, they are also called upon to blow items in place. Occasionally unusual items are

neutralized and brought back but they are never by-passed and left. They do little recon by fire and no night mine detecting.

They make spot reports when mines are found but no written follow-up except for a mine report form they had just started using. They pass all required information up through command channels, and when it is received they in turn pass it on down.

Most of the personnel had trained at Fort Hood and came over with the unit. They did know something about the mine detector but reported that newer people are a little slow and scared at first. They suggested an improvement in probing techniques, which was to use a scraping rather than a stabbing procedure.

The older NCO's were considered good but nonetheless in need of a refresher course prior to coming to Vietnam. It was thought that officers also could benefit from a course oriented toward Vietnam. They said replacements to the 198th Brigade were not receiving any training prior to joining their unit, but did get some initial training on the mine detector in the company area, which was followed by OJT break in. Although the engineers had done some training of the infantry units in mine detectors as a back-up source, the engineers were doing practically all of the sweeping.

No valid VC mine marking system had been detected. One of the biggest problems was keeping the mine detectors operational and reducing maintenance time. A suggestion was made to have more detectors authorized for the company. Comments from the S2 reinforced and explained some of the points made in the earlier interview, and made some additional points. Specifically, when a unit moves into an area, chaff initially is a problem. The soil sometimes produces a spurious signal. They were reported to have a successful system of paying the local people for information on mines and boobytraps.

Additional information was gained from accompanying a sweeping mission on Route 1. The sweep mission was well organized and conducted but the rapid rate of sweep and general attitude of the sweepers indicated little trouble was anticipated on this stretch of road. Almost no mines had been found for some time and the free use of the unswept parts of the road by civilians reinforced this feeling.

INTERVIEW WITH A SERGEANT INSTRUCTOR ON MINE DETECTORS
AT THE DIVISION ACADEMY

This was a brief interview with a very well qualified mine detector instructor. This division was the only one that included such instruction in the replacements' initial training period. An excellent demonstration, and a subsequent period of practical work by the men on a prepared course were outstanding features. The class was two hours of which approximately one hour was practical work. This was in addition to two hours on mines and boobytraps.

The instructor taught that any mine has some metal in it and can be picked up by an alert mine detector operator. He did not talk about disarming mines, but rather about the accepted procedure of blowing mines in place. Preceding the practical work, he covered the organization and operation of the mine sweep team. He demonstrated and explained the actions of the detector operator and prober and then supervised the men's practical work on these roles.

INTERVIEW WITH THREE NCO INSTRUCTORS AT THE DIVISION COMBAT CENTER WHO HAD PREVIOUSLY SERVED WITH THE 1/1st CAVALRY SQUADRON

These three NCO's who were instructors in the division combat center, had spent the earlier part of their tours out with an armored cavalry unit. Since it was difficult to visit units in the field during this post-Tet-offensive period, this was a means of getting the Cav viewpoint on this problem. Their mine and boobytrap casualties had been rather low and were estimated at about 15% of their total casualties. Of these, almost all were caused by mines. The main type encountered was the homemade pressure-activated mine with bamboo firing device. Next would be command-detonated US ordnance of various types, from 105 artillery to 750-pound bombs. Sometimes the mines will be offset with the charge in the center of the road and the activator in the rut. However, there was no pattern that could be established as to where the mines were planted. It depended on the type of enemy in the area. In some cases, they were at river fords; in others on the high ground rather than in an anticipated defile. The cav units had mine detectors which they employed fairly often. It was noted that when the VC blow a bridge, they invariably mine it to catch the bulldozer attempting to repair it. The fuzes used were mostly instantaneous, but a delay factor is sometimes caused when it requires several vehicles to run over the bamboo-type mine in order to compress it and make contact. Most of the mines they detect are located with the mine detector, as it is difficult to spot them visually from the armored vehicle. Actually, most of the mines are discovered by hitting them. In most cases the tanks are repairable after hitting mines, but the mines were big enough to destroy the APC's. They did get a little information from the local people. They believed the VC used a marking system of rocks or sticks and they watched for any unusual signs. They used little recon by fire due to the heavy population in the area. The engineers do sometimes pull hooks down the sides of the roads to find command-detonated mines. When a mine is found, it's reported, identified, and normally blown in place unless it has special intelligence value. The engineers blow some, but the cav also has this capability. They never by-pass or leave the mines. They had observed civilian vehicles passing sweepers to go on the unswept road, but the cav didn't do this. They do get some information on mines from a unit that had been operating in a certain area previously and they are told if they are being sent into a mine-infested area. When they find that an NVA unit with sappers is in the area, they know they are in for mine trouble. New replacements fresh out of AIT at Knox were not considered well trained in mines and boobytraps as their course was too short and not oriented toward Vietnam. They were also considered weak in demolitions. Most experienced NCO's had good background knowledge in this area, but they could have profited from a Conus refresher course. Also, instruction for the cav should stress its use in Vietnam instead of the way it's employed in Europe. The replacements are given two hours of platform instruction on mines and boobytraps at the division school and then go through a boobytrap reaction course. They also receive two hours on the mine detector and two hours of demolitions. Many of the VC's special techniques are brought out in this instruction. The only other training given after the man leaves here is OJT in his unit, or he may return

for the 10-day leadership course. It was felt that some of this training should be included in basic training as well as in AIT. They all felt the men got quite a bit out of the division's school. Some points stressed were not to leave ammunition, cans, remnants of batteries, or anything else out where the VC can find it and use it against us. Leaving the Claymore, its firing device, or wire was said to be most dangerous.

A later walkthrough of the boobytrap reaction course was very interesting as it had a full complement of VC devices set up in concealed locations. It was virtually impossible to negotiate without tripping some of the fiendishly designed concealed devices.

INTERVIEW WITH A CAPTAIN WHO HAD RECENTLY BEEN THE COMMANDER OF COMPANY C, 1/52D INFANTRY BATTALION

This Captain had spent five months as a rifle company commander and was now a member of the Division G-3 section. He seemed well qualified to give the infantry viewpoint on the mines and boobytraps situation in this area. His unit had suffered only one casualty from gun fire, so 99% of its casualties had been from mines and boobytraps. About 95% of these were from boobytraps, with an unfortunate incident where casualties were suffered in an unmarked ROK minefield accounting for the others. This casualty rate was considered typical for the infantry units operating in these old VC-controlled areas.

It was reported that boobytraps were typically placed around paths leading into VC areas, often while the VC withdrew, as a delaying tactic. In some cases they were put out in logical places and checked regularly like a hunter's trap line. Most boobytraps had instantaneous fuzes. The main type encountered was the grenade, usually the US M26 type, with a trip wire tied to the pin. This represented about 75% of the boobytraps; about 20% were artillery rounds with grenade blasting cap detonators and about 5% were CBU's, often hooked up with Bouncing Betty detonating devices. The trails are not usually boobytrapped if the VC are using them, except when they are withdrawing with the knowledge that US forces are coming in. Almost all of the boobytraps were found on search and destroy operations. The VC reportedly would place them ahead of moving US units, or on the routes the unit was anticipated to follow the next day, including likely routes out of the defensive position occupied overnight. The VC reportedly do not mine or boobytrap inside their own villages or base camps, except immediately before the arrival of US units. They will boobytrap trails leading into villages and base camp areas, especially the ones they do not use frequently themselves.

Their unit had been on road clearing missions. The usual procedure was to first seize the high ground along the road, so the road could be kept under surveillance, then to ambush the road in key places that night, and the next day to put sweep teams on the road with close-in flank security, and keeping the road under constant surveillance from the high ground. They had one P-153 mine detector per company, and by borrowing from other companies they could get enough to do the job. The infantrymen had been trained (OJT) to operate the detectors.

They had participated in pacification operations but had encountered no mines and boobytraps on them. The point was made that boobytraps were a problem even within the US unit's base camp, to include boobytrapping the kitchen stove.

High ground is often boobytrapped by the VC except for the high ground where he has his OP's. Mines found on road clearing operations are usually in the loose part of the road shoulders and not in the harder packed part of the road. Also, they will be in the part that the people do not use

themselves. A road that cattle go on can usually be assumed to be safe. Most boobytraps were reported to be activated by a trip wire pull-type device, with the next most frequent type being a pressure activated device. In addition to having found boobytraps on such items as transistor radios and entrenching tools, left for the curious American GI to retrieve, they had found some items of their own ordnance, smoke grenades, to have been modified. Most booby traps are detected visually, and it was noted that a soldier should not go where he cannot see everything he will touch, as might be the case if he pushed through a gap in a hedgerow without first inspecting it carefully. It was reported that care must also be exercised whenever some unusual situation is noted, such as brush on the trail which might have been placed there to conceal trip wires. In finding boobytraps, the trip wire is usually the item detected, and not the grenade or artillery round to which it is tied. The situation reportedly varies considerably in I Corps from many boobytraps in the VC-infested area south of Chu Lai, to not too many in the primarily NVA-infested area south of Da Nang.

A VC marking system has been detected. Examples of some of the signs are a stick laid perpendicular across the trail, a stick parallel to the trail, a forked stick and little tufts of grass tied together. In any case, these could be interpreted as indicating a need to exercise caution.

The local people have not been of any help because of their fear of the VC. However, the attitude of the people in the village makes it obvious when there is danger.

Dogs have been used some and are considered to be of some help in detecting boobytraps. Experience with command detonated mines had been limited but the need to stay spread out to reduce casualties cannot be stressed too much. Grappling hooks have been used but primarily in tunnels. Some recon by fire has also been used successfully. No night detection has been attempted.

When a boobytrap is found, the squad leader will move up, check the situation, and look for others that are usually in the area. They pass the word back through the column and by radio to headquarters. If EOD men or engineers are available, they will be used to take care of the boobytraps. However, engineers and EOD men normally are not available, so they will blow the item in place themselves. He had outfitted his company with a demolitions kit for this purpose. The point was stressed that a boobytrap is never touched in an attempt to disarm it; it is always blown in place. Also, it is never by-passed.

No written reports are made by the company and information on mines and boobytraps is usually disseminated by the battalion S-3. New men, even though they have had previous experience in Vietnam, must first be oriented on the local situation. The AIT graduate replacement is put with an experienced buddy for an OJT break-in period. There is a one-week school for replacements at Division and an NCO school for potential NCO's.

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INTERVIEWS

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INTERVIEW WITH THE COMMANDING OFFICER AND THE EXECUTIVE OFFICER
OF THE 26TH ENGINEER BATTALION

Q. Could you give me a general idea of the mines and boobytrap situation in the division's area?

A. Well, I have the 26th which is the division engineer battalion, and normally the battalion has no Route 1 mine sweeping responsibilities. We only sweep roads off Route 1 when they're going to be used. Route 1 is supposed to be taken over as a Corps responsibility.

Q. How much length is there to the division's part of Route 1?

A. It's 186 kilometers from here to here.

Q. And is this all swept daily?

A. Yes, daily.

A2. Every morning about 9:00 or 9:30, it's walked. Sometimes it's 10 before it's opened.

A. We use one of these mine detectors which has a heavy deadline rate on it and we go through them quite rapidly. Let's just take, for example, the route between the northern area. The 39th, their Bravo Company sends out two teams. The 26th sends a team north out of Binh Son and actually two teams come out at a point about here. One's a Cav team sweeping north and a sweep team moving south. There's a 9th Marine team that leaves Chu Lai; there are two teams that come out of Tam Ky; two teams come out at a point about here; and there's a team out of Route 63.

Q. So all of these teams are working toward each other?

A. Toward each other and away from each other. We get the maximum number of teams we can on the road. Now an ideal team consists of three detectors, detector operators, three probers, two flank men that walk the shoulders of the road checking for wires to command detonate mines, an NCO or officer in charge, the radio, and an aid man followed by a loaded five-ton dump truck backing down the road behind the people. That's the ideal. We don't always have the ideal. This will vary with what we've been running into. There are some stretches of road here where we never run into anything.

Q. Now is this hard-top road?

A. Negative. Well, we have a mixture. Where it is hard-top, it's potholed; it has been trenched, cut in many places and patched and repaired

Q. You almost have the effect of a dirt road?

A. That's right.

A2. Yeah.

A. Every pot hole must be checked, the shoulders have to be checked. You also have to have a point man. We have a very nice SOP which we all follow. We had it written out in the 39th, which just defines what a sweep team is to consist of and how we operate. We also have one for the tactical security, the infantry. We'll put out so many sweep teams that we don't have enough bodies to take care of our own local security.

Q. Can three teams cover a road like that?

A. We have them echeloned off the road, yes. We actually let them walk down the road. It's a one-way road, basically. It's not a wide road and three detectors are plenty.

Q. Do you have two-way traffic on this roadway?

A2. Yes. We have two-way traffic on the road, but it's basically a one-way road. It's not up to standards yet, but it will be. There are some places where it's close to it. Regarding the variety of mines, I don't think we've run into anything unique. We've run into a wide variety of types like the typical duds that they picked up. Then there are those that are made by chipping the explosive out of a bomb and putting it in a cardboard box. We've had C4, many sticks of it. We've had a wide variety of types of TNT. The detonators in this area are all about the same type. They're the half bamboo on a flat strip. We don't run into any of that bamboo wrapped with wire; it was just a bamboo sleeve arrangement. We've run into many of those.

Q. Now these are contact detonators they're hooking up to batteries?

A. Yes, they are. There's a blasting cap and a couple of flashlight batteries.

A2. The 39th has many samples and if you'll go down there you'll see what they look like. But the one with the half section of bamboo and a flat board, they'll have a metal strip along the top here and a metal strip below, and each of these has batteries wired to it. Now these strips will vary from strips of metal to just one wire. There is so little metal there that it's difficult to detect them.

Q. What type of mine detector do you use?

A. We've always used the P153. As soon as you get them set up, you start moving. They're hard to beat but we can't keep them in. We recommended getting them all changed to this metallic type.

Q. Have you tried using the PRS4?

A. We've tried. The 9th Marines also have them and they have the same problem that we have. Very little success with them; we couldn't keep them in adjustment.

Q. This is one thing we're very interested in finding out, because the Marines at Da Nang swear by these density type detectors.

A. These Marines here don't.

Q. Do they work out of Chu Lai here?

A. Yes.

Q. How do you find most of the mines?

A. We've found many of them by sheer luck. The thing that you find most successful is that the man who sweeps the road gets to know the road very well They know where there have been habitually certain sounds and they have learned to distinguish between these sounds very well. I'm always amazed when I find them myself. There's something Charlie hasn't really learned to do; if he could really live with it he'd start putting these things over culverts, but he never has. Only one time in the eight months that I've been here have we ever found where he put a mine over a metal culvert. We always get a reading over a culvert And three teams found it only because the operator said it just doesn't sound like it normally sounds. We always get interference.

Q. Are the operators pretty successful in finding all of them or do they miss some?

A. Well, I have to keep talking about the 39th because I previously worked with the 39th, and we're pretty proud of our record. However, we only found 80 to 85% of the mines. We didn't have to keep a record--but we always do now--of all the mines we found in the section of road we sweep and how these mines are detonated. Now many times, somebody'll go up the road and detonate a mine before we've even swept it and we don't count that. But we still miss some. For example, this one that we found, we buried at various distances and when it got down two inches below the surface, we couldn't pick it up with our detectors at all.

Q. Because there's very little metal?

A. That's right, except for that one fine wire. There's not more than 12 inches of bare wire in the whole rig. So that's coupled with the unreliability of the thing and you can run 10 or 12 trucks over it if you haven't picked it up and a little Lambretta will come scooting down the road and blow sky high. It's a progressive tearing up and fracturing of this bamboo top.

Q. That causes a delay action effect?

A. Yes. It's in this filling. You don't know when it's going to go off. You don't know which vehicle it's going to blow up under. Most of the ones we've run into have been pressure detonated. There's only one section of the road where we ran into a lot of command detonated mines. This was back in the June, July, August time period in the section north of Dak To. We were very fortunate at finding these. In fact, on one stretch of two kilometers, each morning we actually walked the shoulders with men with picks, digging up the whole shoulder of the road and still didn't find them. We'd find where he'd dig these things down and run his wires or pulp board out 100, 150 meters. Very well camouflaged. He does a real fine job. His targets primarily were tanks or APC's. He has had questionable success. For a long time he was either setting them off just ahead of the track or behind the track. He didn't get very many.

Q. What size mines were these?

A. Anywhere from 40 to 50 pounds.

Q. Enough to nail an APC or a tank.

A. Right.

A2. Yesterday there was a 500 pound bomb found in this area.

A. I've found up to 750 pound bombs on the road. Not on Route 1; this is a road off of Route 1. The normal ones are 20, 40 50 pounders.

Q. What percentage of the total casualties of the division come from mines and boobytraps?

A. Well, it varies. It has been as high as 48%. Right now it's down around 46%.

A2. This is a very . . . this is a number. It's meaning has to be investigated, the reason the percentage has come down is that we got into a big fire fight. Generally, when we're not getting in a big fire fight and nobody's shooting at you, your casualties from mines and boobytraps make up a bigger percentage. But when you're getting into contact with the enemy and you are exchanging fire, then your percentage naturally goes down. So the percentage to me has been a rather meaningless figure. It really doesn't tell what you are doing; it's what the enemy is doing.

Q. About what percentage of this would be from mines and what percentage would be from boobytraps?

A. About 50-50

Q. Where are these boobytraps, primarily out in the bushes?

A. There have been some on the shoulders of Route 1. For example, just the other day I was up on a bridge site; we were putting in a bridge and just down the road by the bridge site an MP stepped off the road to have a leak, and stepped on a boobytrap. And we found another one right next to it.

Q. But where are they primarily found?

A. Well, we figured they were permanent. Now if the ARVN or other allied troops put these things out in the jungle you don't know where they are and they don't know where they are. They'll just strew them all over the area and they may have one man who knows where they all are.

Q. They're not required to keep a record of this?

A. They're required to do many things that they don't do. We just took over an area of operations South of here that used to be manned by the ROK Marines and there were many, many mine fields unreported. All they'll give us is a block and say there are mines in that area. That may be three kilometers across and they've been there for years. They've been washed away; they've been relocated by erosion. They are of questionable reliability by this time. There's no way of maintaining a mine field. Once you've put that thing in, you can't go out and maintain it. So some of these around the ARVN area have been there 10 years. Who knows what they're like.

Q. You know where it lies but that's as far as it goes?

A. That's right. How sensitive they have gotten, how corroded they have gotten how insensitive they have gotten, we don't know.

Q. What do you do about an area like that?

A. Stay away from it.

Q. Mark it and keep out?

A. We do, of course, try to get the people to do that but we've had a lot of casualties down at the ROK area because the infantry would just go charging across. They they'd get somebody in there and three more guys would go out for him and they'd get hit. Four more guys would go after that I think one day we had eight guys in one mine field, one small area of mines, each trying to be a hero.

Q. Could I get you to tell me again what the main type of mine is that you encounter on Route 1?

A. Pressure activated, electrically powered mines with about 20 to 60 pounds of demolition.

Q. What type of configuration is that?

A. It'll be in a variety of containers. It'll be wrapped in waterproof plastic tied with bamboo strips; it'll be in cardboard boxes. I've found them in U.S. made oil cans. We've found them wrapped in clear plastic.

Q. I presume if it's in some of these cans it's a little easier for you to detect?

A. Yes.

Q. And this plastic, I presume that's where you're having your troubles detecting them?

A2. Some of them are just large blocks of explosives, sort of a brown explosive, it looks almost like a clay block, and the only thing that's going to be metal on that is the electrical blasting cap, or the contact and the detonator. This is the only way we can pick it up.

Q. Is there any other type of mine that you find out there that is common at all, like the M1A1?

A. They've found none like this on 1. I think they may have found some out in the AO's but I'm not familiar with what they're finding out there.

A2. We found some where they had boobytrapped them. We had one case where it was designed to be picked up. This was made of a half tin can. It was hooked to what appeared to be a battery wrapped in plastic. The battery turned out to be nothing but a hunk of bamboo. When we pulled the charge, there was a pressure release detonator under it and that went off. Strictly a boobytrap thing.

Q. What did you use, grappling hooks to pull it?

A2. Grappling hooks, yes. Normally we leave this to the judgement of the OIC or the NCOIC with the sweep team. When they uncover the mine they'll scrape away and he'll evaluate and decide whether he should pull it or try to remove it. We'll generally try to get the detonator, if we can, and the batteries, and then blow the charge in place.

Q. Does this mess up your road a little bit?

A. Well, none of the holes have hurt it that badly. We fill them back in again.

Q. How are most of your mine and boobytrap casualties suffered, on road clearing operations or search and destroy operations?

A. I don't know where. You see, this is a computation by the G1 people, so I don't know which area they are. On a road, when you hit a mine,

you can get a lot of people with one mine. You've got an Armored Cav assault vehicle with a crew of four, or you have a dump truck or a truck driving down the road with 10 or 15 people in it. So your casualties can be more extensive. I've had as many as seven people wounded by one mine on a road.

Q. An infantry unit on a search and destroy may hit one mine or booby-trap?

A. One mine, one person.

A2. They usually report one or two people wounded by a mine.

A. Whereas, on a road incident it can run three, four, five, seven. The most I think we've had was seven in one day on the 3d or 4th of July.

A2. There was an APC hit yesterday with a 500 pound bomb under it, and I think there were seven men killed.

Q. Under what conditions were these mines encountered? For instance, in your road clearing operations, are they buried in the road, on the side of the road or where?

A. Well, they come on all sides. We've had them tunnel in from the side, slipping it under that way. We've had them on the top, then camouflaged, and they get it to look just like before they dug in. They're really artists when they have time to camouflage.

Q. But mainly in the road rather than on the shoulders?

A. Yes. Very few on the shoulders.

Q. In the infantry's case, do you know where they are mostly encountered?

A2. I think you'd have to get that from them, but I know they run across them on trails and in villages.

Q. In your case, on the road is there any pattern? Is it usually near a village?

A. Yes, within 100 to 150 meters of the village.

A2. And in the same area. The heaviest problems occurred in the revolutionary development (RD) areas, where they're holding or protecting a village.

Q. So it's somewhere near the villages characteristically, and usually in the same areas?

A. I don't think we've had any mines in the ARVN area down here. There's a piece of road down here that the ARVN's are responsible for the mine

sweep on. I don't know if they actually sweep it, but there are no mines in the road.

A2. I'm convinced, my people are convinced, and the people of the 39th are convinced that the people in those villages know where those mines are out there.

Q. Did they ever try the payment process?

A. Yes, we have an active program, a very successful payment program. In fact, we carry the money right down at the sweep team level.

Q. How much red tape is there?

A. None. We pay them right smack on the spot.

A2. This is something that could probably be used more effectively to cut the losses. Look in these 39th Engineer SITREP's here and that'll give you some statistics on the number of things that they've bought that mines are made out of: 90mm shells, mortars, all kinds of stuff. Particularly down in the Mo Duc area. The company down there, beginning back in December, particularly for that period of time had a tremendous amount of success with the program. They were getting them turned in every day in large quantities The way we do it, we get the money down to the lowest level, and the sweep team is carrying at least 1000 Piasters with them. We're restricted on how much we can have altogether, so we try to get it down to the lowest level. And all it takes is paying them on the spot and somebody witnessing the payment, and they'll bring in the same thing again. We have a rate. We have a leaflet we drop along the route advertising the program.

Q. Is there a special rate for different types of things?

A2. Yes.

Q. What for example?

A2. Maximum payment is 2000 Piasters. I'd have to get our rate sheet but it varies from 250 P's to 2000 P's.

A. They've really gotten a lot of ammunition down there. In fact, they've gotten so much I've wondered in the ARVN's were turning it in to them, and they were selling it back to us. Here's a typical day. At 0800 hours, C of the 39th received three M79 rounds from Vietnamese children at their location; at 0945, C of the 39th received two 155mm rounds from Vietnamese children. The rounds were destroyed. At 1530 hours, C of the 39th received two 90mm rounds from Vietnamese. And every day it's just about the same.

A2. This was about on 21 December.

Q. Have they ever traced the lot numbers on these?

A2. No.

A. The next day, A of the 39th discovered a 250 pound bomb during the mine sweep and blew it in place. C of the 39th received four M79 launchers and one 155mm round turned in by Vietnamese children. There was a period here for about 15 days that they received something every day.

Q. You'd rather pick it up that way rather than the other?

A. It's a lot cheeper. You can buy an awful lot of mines for the price of one truck.

A2. True. One $12,000 truck would more than pay for the whole program for a couple of years.

Q. Are the fuzes mostly instantaneous or delay?

A. I think they're accidentally delay, sometimes.

Q. In other words, they're intended to be instantaneous?

A. Yes. I think the only reason we're getting these delays when we do get them is strictly the basic unreliability of the system.

A2. Right.

Q. You said that the primary type was this electrical half bamboo type thing that you showed us; isn't that a pressure type?

A. Yes, a pressure activated type mine with electrical connections.

Q. What was the second most common type?

A. The command detonated.

Q. What's the primary way that you have of detecting these mines? Is it by visual means, or with the detector?

A. Combination, both. You have to use both.

A2. We have a point man and he's primarily looking for trip wires. The flank men are looking for trip wires or evidence of any fresh digging in the side of the road. The sweep man is, of course, using the detector. He's the detector operator and the probers behind him are also looking for any evidence of something in the road, a change in the condition of the road, plus a disturbance. A recent example was on a road repair program down south just patching pot holes. The sweep team was going down the road and the detector operator went over an area; he'd been working that area the day before, patching pot holes, and he

just stopped and said that that doesn't look like one of the patches we put in. He said, "I don't remember working on that one." They dug in there and found 10 pounds of C4. It hadn't been used yet and it hadn't been rigged. The indication was that he was planning to plant the demolition one day and then at another time come in and rig it.

Q. So really, it's about half visual and half with the detector? Is all of this road swept thoroughly or do you just sweep critical points or suspicious points?

A. Well, basically, it's all swept. They pay a little more attention to some of the critical points. Where you've got a clean hard-top surface, they won't count on the detector so much; they'll be along the sides. They'll be looking more to see if there are any tunnels; they'll be checking the pot holes, they'll spend a lot of time on approaches to bridges and culverts.

Q. Those are critical areas?

A. Yes.

Q. Would you tell me again what you didn't like about this PRS4 detector?

A. We couldn't hold it in tune, in calibration and adjustment.

Q. Did it pick up a little too much for you?

A. No. You'll just be going along and all of a sudden all you'll get is a constant tone, a constant registration. You don't know what's happening. And these operators just don't trust them. When you put a man out with a detector, he's a lot more confident with that metallic thing. If there's a signal, he knows there is some metal in there.

Q. Do you use any other kind of detection equipment: dogs or any other mechanical equipment?

A. We use the five-ton dump truck loaded, backing behind the team to pick up any pressure devices that may have been missed.

Q. Did you lose any five-ton trucks?

A. We've lost a couple.

Q. Was anybody hurt when they hit the mine?

A. No. We back them down the road and we load them. Every one of those teams, as the last thing they do at night, loads one of the five-ton

dump trucks. I shouldn't say every one. This is a nice technique, primarily, but they will vary a bit in how they do it.

Q. Did you ever use dogs?

A. No, we don't. Maybe the infantry will.

Q. Do you have any techniques for detecting or neutralizing command detonated mines?

A. We check along the sides of the road visually, and we try, if we can, by digging at the side of the road with picks but 186 kilometers of road is a long way to go. There's one area that's been giving us an awful lot of trouble, about a two-kilometer stretch.

Q. Do you ever use any recon by fire or anything like that?

A. You can't do that on Route 1.

A2. Not for normal mining. We've reconned by fire when we've had sniping, a consistent sniping problem.

Q. Some people have used this recon by fire figuring it'd tetonate these mines or get a man if he's sitting out there somewhere?

A. He's sitting in a hole; he's not just sitting out there.

Q. Have you ever used grappling hooks?

A. Yes, we've tried dragging grappling hooks. We tried to come up with a rig that we could tow behind a vehicle but with very limited success.

Q. Was that a rooter that you were using or do you ever use that?

A. We made up some heavy weighted metal plates with teeth on them that we would drag along the paddies but we had very difficult problem of control with them.

Q. This wasn't too successful?

A. No.

Q. Do you ever do any night mine detecting?

A. No.

Q. What is the sequence of what normally happens out there when they discover a mine?

A. The detector operator gets a reading; he holds till the prober behind him, who is really his alternate, comes up. He'll probe and try to

see what is under there. Once he uncovers it, the NCOIC usually comes up and makes the decision of how to progress with the removal operation. It it appears they can get the detonator out, they'll go ahead and grapple it out. They'll pull it and see what happens. If nothing happens, they'll usually go on and the next choice is do you blow in place or try to remove the explosives.

Q. What does the rest of the team do during this time?

A. They'll get off. They'll move back, and we'll usually do this one man at a time.

Q. Will they let the other people move on and then blow it?

A. Well, there may be some people already ahead of them because of the echelon of the team. But they'll all break out, usually get on the side, in the ditch line along the road, while this process is going on. These are explosives that we find and everybody gets rather inquisitive and you gotta be on them, keep nagging them. They keep bunching up.

Q. Do you have any of your engineers accompany the infantry on their operations to assist them?

A. Yes, but we don't sweep for mines for them, because we go too slow for them. They don't want to follow the pace that it takes to do a deliberate job. So you end up being very ineffective. We used to; we don't do much of it anymore. Now, if they go into a village on a search and destroy operation, as they're running their operation, we'll probably check out some of the houses, the wells and things like that.

Q. Do you break them down into small groups, in case the infantry platoon uncovers something and call on you for demolition help?

A. We have some of that but the infantry is trained to do a lot of their own work. They'll call us in on major operations like tunnels, some duds; it depends on whether they have had a little more training in the battalion. Some of your battalions are better trained than others, and have a better capability for handling and taking care of their own demolitions. It's only a matter of putting a block of TNT alongside of it, and fuzing it, and blowing it. It's very rudimentary demolition.

Q. Sometimes they do take you for the purpose of blowing them?

A. Yes. It depends on what quantity you're running into. The occasional they usually take care of themselves.

Q. Do you ever bypass these things for any reason?

A. Yes. We had an occasion on Route 1 where we found an old mine field down near the end, and we put a bypass around it. But we did go back

to straighten out the road and clean out this stretch at a later time when we had more time to do it.

Q. Then the reason in this case was lack of time?

A. Yes. Down in An Loa we're supposed to be bypassing them all the way around. We'll be staying out of the marked areas, or the known or suspected mined areas.

Q. How do you usually report these things?

A. By a spot report.

Q. Then is there a written report following this?

A. The spot report has all the information they want on them, by coordinates of where they found the mine.

Q. Is the spot report then carried in the SITREP?

A. The SITREP is a combination of everything that happened that day. The spot report will come in telling you where they found it, what they found, and what they did.

Q. How is this information disseminated so that everybody knows what the situation is in a division area? Is it by this SITREP, or a daily briefing?

A. No, I don't imagine so.

A2. All of these that had some casualties involved in them would be but all the mines that are found without casualties are not reported.

Q. Suppose you were going to be operating in a given area, would you have records that would give some kind of intelligence information as to what would be in your area?

A. Well, the only place where this would come up is the ROK AO where there are known areas, suspected mined areas and this is disseminated by the G3. But, no, our intelligence doesn't give it, as far as I know, and I haven't run across it yet where they can tell us that an area's heavily mined or not mined. It's the techniques that are used very widely by the VC. You can have a village that he's in, and he won't mine it until he knows you're coming. Then he'll put his mines and boobytraps out. Then later, he'll remove them so that the villagers can circulate around the area freely.

Q. Does he use any kind of marking system so the people don't stumble over their own mines?

A. In our AO we have not found any evidence of marking system. I know the Marines up north have. We've had signs put on the road by the VC, threatening mines. They'll put some rocks across a road and write signs on the road, "Do not go any farther because you'll die." But we're not finding any. We've found no indication of signs and we've looked for them because we know they have them and in other sections of the country they have been indicated. But we've found nothing.

Q. And his warning signs aren't valid, actually?

A. Yes.

Q. How do you think your enlisted replacements are trained in mines and boobytraps, detection, removal, etc.?

A. Fairly well. The standard techniques are not really changed because we don't put a new man on a detector the first day he arrives. He is usually some other member of the team. He may be security on a team, or a flank man, and he'll operate that way for a while. He's given a briefing on the procedures. He gets OJT here in Vietnam while working with the team and at one point or another he works his way up to becoming a prober, an operator, and a prober-demmo man.

Q. When he first arrives, do you think he has enough experience to go out there and take over his job, or is this mostly gained after he's been in the country?

A. I can't answer that, but we just assume that he doesn't. We assume that he's got to have some experience here on this ground in this area, with this mine detector, with the particular mines we have here. It's very easy for a man to learn, at the school, how to pick up mines, how to operate the detectors. But then you've got to be sure that he doesn't do things that you don't want him to do, that he doesn't become overzealous about his job, or that he doesn't become careless about his operation. You've got to be sure that he learns the significance and importance. This isn't a training device. This is a real mine now. I think it's more psychological training than it is mechanical training. We think he's had the mechanical training, but now he's going to face a little different problem. The mines he misses, somebody else is going to detonate. He's got to learn this responsibility.

Q. Do you think they get much on this in AIT?

A. They don't get much on the circuts, the circutry of the mines, so our more experienced NCO's have to go through this again. Of course, the circutry of all mines is essentially the same, all electrically detonated. The main problem is something else though. They may go for months and not find any mines, and then, all of a sudden, they'll get a block of them again. It's very easy to become blase and casual about

this when you go day, after day, after day. The only thing that keeps them on the stick is if an incident occurs in their section of the road or somebody gets killed or wounded. Then it hits home again.

Q. How about your NCO's? Do they seem to come over pretty well trained?

A. The ones we've been getting, of course, have been the old-timers. The NCO's that have been made in-country are a little younger. But the more experienced NCO's, the platoon sergeant level particularly, and the squad leaders, have been in the Army eight to ten years. So there's a variety of knowledge, a variety of men who have been to some kind of school, or instructors at the schools. They've done very well, remarkably well. I'm very happy. When I joined them, they had a remarkable group of NCO's. In fact, in one company three of them had been instructors at Fort Belvoir in mines and mine warfare. Outstanding. They know it and they know it's seriousness. I have a lot of confidence in them.

Q. How about the junior officers that you get?

A. The lack of maturity is our biggest worry. I think I can point this out without a lot of criticism because it's very easy to forget what might be in that road. It might be anything from a five-pound block of TNT to a 750-pound bomb. So in your supervisory practices, you have to be very careful with your junior officers so that they understand this, and take the maximum precautions based on the maximum possibility of a 750-pound bomb. You just don't pull back five feet from the thing and duck down, because you may be blown up. We also impress upon the junior officers that they must be alert to the situation around the mine sweep team, the security problem. The NCO is running the mechanics of that sweep; there are other associated things and we find that a mine sweep generally develops into a very routine operation. You do the same thing day in and day out. You have the same pace, generally. Under these circumstances, the VC are very prone to ambush us. This gives them a lot of time to set up, and wait and check our procedures, and check the time. So I look to the officers to be alert to any possible variations you can make, in the timing, in the time you start every morning. Don't start at 7:00 straight up every morning, or 6:30. We always start at first light. Later we're liable to start a little earlier. Change the formation of things. Start echelon right or echelon left occasionally. Or just something, anything you can do to throw the VC off, because he likes to see a pattern and when you follow a pattern, he'll take advantage of it.

Q. And try to stay alert to the environment, too?

A. Yes. So this is where I push my officers.

Q. Is their basic knowledge of mines and boobytraps adequate?

A. I've found nothing to complain about, at all.

Q. In the division here, what kind of training is conducted for replacements?

A. They've got a new program and I think it would be better if you get that down in the school.

Q. Is there any special training for your NCO's?

A. Everyone gets the same training.

Q. Is there any mine detector training that you do for the infantry units?

A. Yes. We've run one program of training in mine detecting and operation. We probably should have another go at this. One of the things that you're facing here is that this 26th is a new engineer battalion; the Americal is a new division, and there are a lot of things that we haven't been able to do as yet. For example, there are mine detector people with all the Cav Troops and all the Infantry Battalions. As Division Engineer, I don't feel we're getting enough use out of them. They have the capability. Many of the commanders I've talked to say, well, they don't feel they're capable. We will set up a training program and train them. We would like to get a training program started on this again. But of course, it's a steady retraining job because of this rotation problem.

Q. How did you do this training before, bring them back here to the unit?

A. No. We sent a team around to the brigades; this was done last summer, the summer before.

Q. Did the' do a certain amount of their own sweeping?

A. At that time, we didn't have a Division Engineer Battalion, each brigade had their own Engineer Company and I did not get involved to the degree then that I am now in the AO operations. Now, as a divisional battalion, we have the capability of pushing forth more. The greatest sweep problem is for the Cav; the Cav will do their own sweeping. They want to sweep themselves, and they take a big burden off us.

Q. Do they ever do this road clearing by running tracks up and down the road?

A. Yes.

Q. M48 mine detectors

A. I suspect, yes.

Q. I was just curious, because in some of the areas this is a common practice.

A. It's a question of what risk you want to run. What do you want to pay in equipment for the time that you save over a slower mine sweep. We feel that we can have convoys on Route 1 by 9:00 every morning. The things that the Division must do get done. So that's our problem. We can afford that much time and we can do it in that amount of time. If they wanted to do it any earlier, we'd have to come up with an awful lot more sweep teams.

Q. So you just keep off the roads before that time?

A. Yeah. In an operation out in the AO, if a commander's got a target and he can't take the time to walk the mine detectors, he's got to run the risk.

Q. Do you think that the surprise element of using that road suddenly might be part of your security?

A. Yes. Some of the roads, especially off Route 1, are not mined initially until you start using them. Your first couple of days, maybe your first week, you might be in good shape. As long as he doesn't know ahead of time that you're going to go out there. If you go out today and pick any road and go west, your chances of getting through without any mines are tremendous.

Q. In other words, the enemy mines the roads that you use because he doesn't want to waste the mines?

A. He probably doesn't want to mine unless he can get something. I firmly feel that this is another advantage of a program of opening more of these roads than we're going to use. The more roads we open, the more roads he's gotta mine. He has a logistics problem too.

Q. Could you give me any recommendations for improvements in mines and boobytrap training in the U.S. or in-country?

A. The problem of the route mine sweeping. It really doesn't make any difference what kind of mine you run into, I don't think. The thing is you've got to find the mine. You've got to find that device whatever it is.

Q. Then maybe additional training on mine detectors?

A. And the enviornment that they'll face. I don't think you can duplicate this environment, no matter how hard you try. He knows you're in a peace-time set up in the States and it's different there. Remember, this guy's walking down the road and in my mind there's an awful lot of guts needed. He's a sitting duck for anybody that wants to lay a rifle or a machinegun on him on that road can do it. I had a sweep team ambushed with three machineguns opening up simultaneously on them, and those guys were hurting.

Q. They're real vulnerable standing out there in that road, I'm sure.

A. That's right. That's the thing we've got to teach here. He's got to be able to do that day in and day out, and know that at any minute he can get shot at. What you'd like to do, and you can't afford it, is that you'd like to have security out 100 meters and have people operating around 500 meters. To do this perfectly with an effective sweep team would take a tremendous amount of security over that stretch of road, and you just can't afford it. It takes a lot of effort to sweep the road every day, anyway.

Q. Are there any actions in the field that you feel could be improved in the way of detection, destruction, reporting or disseminating?

A. Our standard doctrine is still valid. It's just not used, because we no control over our own free world forces. We don't. I think our mining is strictly protective mining around defensive areas and keyed strictly to the Claymore.

Q. So actually the only thing you ever put out is the Claymore?

A. I have recommended strongly against any mining around a perimeter other than those which you can control. First of all, people are told that they should make a record but they walk off and leave them, or they can't find them, or Charlie gets in and takes them.

Q. We noticed much of the training in the States is designed for putting these mines out. But, actually, over here, we find units are not putting anything out other than Claymores.

A. Right, just Claymores.

Q. But the recording is still very important?

A. Yes.

Q. How many detectors do you have per company?

A. We've got two different kinds of engineer companies. The standard divisional company is only authorized nine detectors. In the 26th, we have a peculiar organization in that three of the companies have a TOE5-107T which is the TOE of a company normally assigned to a separate infantry brigade. They have 10 metallic and 10 nonmetallic. The standard TOE5-157 with the standard divisional engineer company is only authorized nine metallic detectors.

Q. Are they offsetting the mine charges from the detonating device, so they'll catch the underbody of the vehicle rather than the track?

A. I've seen some of each.

Q. Once the road is swept, is the entire length kept under observation before a convoy comes?

A. No The convoy runs right after the sweep. The convoy starts off before the sweep is finished. What we do first is run a morning recon by air. We want to find out if there's a major break in the road that will delay the convoy at all, a major culvert or a major bridge blown. If there is not, our experience shows that no mine that is planted along the road will close the road to traffic, even if we detonate it in place. So as soon as we know that the road has no major break in it, the convoy's departure is keyed to the timing of the sweep team. And, actually, the convoy leaves about an hour before the sweep is actually completed in sectors. By the time he gets to where he is going, they will have completed.

A2. The major convoy run each day is from Chu Lai north. We supply the forces up on Route 63, and have for the past three months or so. So this portion of the road's the most critical one to get swept. When we get this open, we may start the convoy from Chu Lai north before this other portion of the road is completed.

Q. So there's no real observation of the road after the sweeper team goes down?

A. However, there's traffic afterwards. You'd be surprised at the amount of traffic on the road during the day. You go along sweeping, and civilian traffic particularly, will go right on by your sweep team.

A2. I've seen Route 1 in eight months go from no traffic, except maybe foot traffic, to tremendous quantities of civilian traffic. We feel that this is the greatest thing to cut down on the mines.

Q. You have civilian mine detectors, in other words?

A2. Yes. In fact, we found that the mining incidents will drop off in an area after a civilian vehicle has hit a mine. That's where a lot of casualties are. We've had a lot more civilian casualties on our road than military.

Q. Do you have any indication that Charlie's running out and placing these mines in pre-dug holes after you sweep?

A. No. I don't think we've ever had that happen on any day. I don't think we've had any incidents of mines being put in during the day. No.

A2. No. I'm convinced it's all done at night, either one night or over a series of nights. This is something we can't tell but he may have put one in and then hooked up his command detonated mines during the day. He's got everything laid out and sometime during the day he may go out and get in his hole. But this is something thate's no way of knowing.

Q. How about at night?

A. The road belongs to Charlie.

Q. Do you have any ambush positions or anything like that?

A. We've run an occasional fire fly mission up and down the road but you just can't afford it. It's just an intermittent thing; you have to stop whatever you're doing.

Q. How about using H&I fire?

A. The metal from H&I fire will drive the mine sweepers crazy.

Q. How about using white phosphorous?

A. We haven't done any of that. You see, all of these explode on the road. Where are you going to put it?

Q. Some units do use white phosphorous H&I as a preventive measure. It doesn't affect the mine detectors at all.

A. Well, remember, on most of this road we have to get clearance from ARVN everytime we have to fire.

Q. Because of civilians in the area?

A. Yes. Much of the area along Route 1, is a no-fire zone.

A2. A technique that works as far as I'm concerned is every time you get a mine near a village you go out and level the village. That to me is the technique. We did that down in Duc Pho back in the early days when we weren't having to pacify and the mining stopped.

Q. You're pretty well convinced that the mine planters operate out of the villages?

A. Yes, I am.

Q. Do you pretty much pacify those villages?

A. Yes, we've got to. An example is the day I described when this man found the unfuzed C4 in a hole. So immediately we swept the area and found 10 more sticks in a well right in the village there.

Q. Would it be possible when we go to see your people at the company level to talk to somebody that has used the PRS4?

A. Yes. The 39th won't have any; however, my Bravo Company of the 26th, which has that stretch in there, will have.

Q. You're the first ones that have even tried the PRS4. Most of the people don't even know what it is, unless you talk to the old-timers.

A. What I wanted to do was run both. I wanted to double the team, double the sectors; I wanted to run one of each.

Q. What about the possibility of combining these detectors, putting the metallic and nonmetallic together?

A. Of course, now you're talking about twice as many people, again. That's another problem that you run into. But I'd be happy if we could set that up. I think I touched on it earlier but the thing that bothered me when I first came into the Division was the large number of casualties from this cause. At the time I first saw that number (percentage), I was shocked. We gotta do something about it. But the more I've thought about it, I'm not so sure that isn't a typical number (percentage) for this kind of a war, because you find there aren't that many fire fights. People don't get shot at that much, you see. You look at the daily incidents, and you'll see: sighted three VC, engaged three VC, two VC killed. They didn't even shoot back at you so there wasn't even a chance for a casualty. So the major casualty producers are mines. The mines are percentage-wise so much greater than the active enemy fire that I'm not sure that this is such a bad number (percentage). What are we comparing against? We're only comparing the number of casualties from mines and boobytraps with those from bullets, you see. But how do the number of bullets shot at us compare to other wars?

Q. What would be a casualty figure say for a somewhat normal month?

A. I don't know. You'd have to check with someone else on that.

A2. Now in the 1/39th Engineers, most of the casualties have been from mines. They had a high exposure rate.

Q. Were many of these KIA's or mostly WIA's?

A2. Mostly WIA's. I don't know what they're running now. They've had a couple killed since I left. I believe it's 20 altogether. And out of that 20, I'd say most were killed. I guess most of them were not [illegible]'s.

A. They just opened up a road from Route 63 down west to a place called LZ Ross, which is 21 K's long. When they first went in there, they didn't have any mines. There was no mine problem. But after they'd been working on it for a week or so then they had a lot of mines. I believe they had three men killed and I know they had one of their platoon leaders killed in a jeep from a mine. Four men in a jeep were coming down into the side of a river and a mine went off.

A2. When I was there, ambushes caused some; two ambushes got three people killed. What happened to the sweep team, well, to this day, no one knows what happened. They were walking down a road and there was an

explosion. The wounds that killed them were all up in this area here, so we don't think it was a mine. We don't know whether it was a sniper round that hit a grenade on the man's belt or what.

INTERVIEW WITH A CAPTAIN, THREE LIEUTENANTS, A SERGEANT AND A SP/4
FROM THE 39th AND 26th ENGINEER BATTALIONS

Q. First, about what percentage of the total casualties of your unit are caused by mines and boobytraps?

A. That's going to be hard because we just came from an area where most of our casualties came from mortar attacks. But I'd say, this last two months, about 20% of our casualties came from mines and boobytraps.

Q. Of this total, how many came from mines and how many came from boobytraps?

A. In our case, all from mines.

A2. We only had one casualty from boobytraps in the last five or six months, and that was the other day.

Q. What's the main type of mine that you encounter in this area?

A. The 29 that we have found in the last eight or nine months have been either command detonated or bamboo type pressure devices.

Q. Which would you say was the main one?

A. First, the bamboo type pressure devices and command would be second.

Q. Any other type that you hit that's common enough to list?

A. They have one that's a friction type device. You have the trip wire with the bamboo mine; you pull the wire and that fires it. What it is, they attach it to a can and a wire comes out to a little peg and when you pass and hit the peg and knock it over it jerks the wire. It's a pull-friction type. We've only found one of those.

Q. About what size are these mines normally?

A. They average about 25 pounds.

Q. How do you find most of these, on a road clearing operation.

A. This is the primary way.

Q. Do your people ever accompany the infantry on search and destroy operations or anything like that?

A. No, sir.

A2. We don't carry the detectors on these; it's mainly just visual. They move so fast that you can't use your detectors.

Q. I wasn't thinking of just the detectors here.

A. The only time that we actually take the detectors out with us is whenever they know that there's something in an area and that's all they're looking for, just that one little area. Then we do take them out; other than that, we don't.

Q. When you go out with the infantry like that and they come across a mine or boobytrap, do they call for you to come up and blow it?

A. Right.

A2. Then we come up, check it out, and blow it.

Q. Where do you normally encounter these mines, like on a road clearing operation?

A. That varies. We find them in two places, either right in the track where the wheels pass over, or set off to the side of the road with the firing device still in the track.

Q. So, they're offset some.

A. Yes, sir.

A2. Right now where we find them is on the shoulders and in the culverts. We sweep south all the time, and we always find them along the shoulders of the road or in the culverts. Only found one in the center of the road all the time we've been sweeping.

Q. So actually it all depends on the type VC you're working against as to where you find them. Do you find these characteristically in any specific location on the road, like say near a village?

A. Some places, they're always in the same general area; other times, it depends on who's there.

Q. Is this general area usually near a logical ambush site or a village, or what?

A. In our area, it isn't. It might be out in the middle of nowhere; I don't know.

A2. On Route 1, now, they're sorta impartial where they put them. On this last road we were on, they picked one general area and it was a river crossing with a lot of trenches in there. All the mines on the road were found in that one general vicinity; it was an excellent ambush area.

Q. When you're sweeping, are there certain critical areas where you figure he's going to put them and you're a little more careful there?

A. This is in any area where it's hard to determine whether the ground has been disturbed, let's say a sandy area, or anything like this. When it's blacktop or on a real hard surface road, we don't worry so much unless they have a command detonated type run in from the side.

Q. How about the fuzes on these mines? Are they usually instantaneous or delay?

A. Most of the fuzes are blasting caps or connected blasting caps, and they're instantaneous. We have found very few with any type of fuze like an M26 fuze put into a 250 pound bomb. We found one like that in Dak To but all of these up here have been blasting caps.

Q. So they're intended to be instantaneous but, as I understand it, sometimes with this bamboo mine it takes a little while to break that down, so in affect you get a delay and you get a later vehicle. Is that true?

A. Yes, sir. Maybe you'll run two or three convoys over it. We did this in Duc Pho one day; we ran three convoys over and then a five-ton going down the road set it off. This was about three hours after the road had been opened.

Q. What are the main ways the mines are being initiated?

A. They are normally a pressure type with electrical contacts; next would be command detonated.

Q. You feel that command detonated is your second most common detonating action?

A. In our area down here, that's the only thing we run into right now.

A2. He runs in spurts. He'll try the pressure detonated ones and whenever he finds that we keep finding them, he'll go back over to command detonated ones.

A3. I believe we've only found one pressure since we've been sweeping the road up here.

A4. The bamboo strip size on this mine varies. The bamboo strips we found in the Que Son Valley were normally about two feet long and about four to five inches wide. They set them in the tire tracks.

Q. How does this mine work (device being shown)?

A. We're not sure, but I think the batteries they put into it are hooked up to a firing device somewhere. We've run into a lot, but most of them have something like this. The batteries are either set in the charge or sometimes we get something like this in two parts, with a little peg sticking up from the side and, when you step on it, it forces the bamboo down with the batteries inside and you complete the circuit. It's a pressure firing device with batteries.

Q. Let me ask the sweeper, now; on one like this where you have a minimum of metal, do you have a pretty hard time detecting it?

A2. You can detect it, depending on how far it is down in the ground.

Q. About how far down in the ground can you detect it with the P-153?

A2. You can detect it. It'd be just a slight signal but if you are careful you can catch it.

Q. But you think the mine detector would have to be pretty well skilled in order to pick up one with this little metal?

A. Yes, if it's at any depth.

Q. You say you've used the PRS-4; could it pick it up?

A. It might but it would pick up so many other things that I might never get to it. I don't have much faith in the PRS-4, although it will pick up things.

Q. So if you've got a big stretch of road to clear, you don't think that the 4 would do you much good?

A. No. It takes too long to pick up anything with it. You've got to go real slow.

A2. You've got to cover every spot.

A3. Well, it mainly picks up masses of metal and the things we come across have very little metal. That's the reason you don't get any reading on them. And on the other one you just get a small blip. We've taken firing devices that we've picked up, and buried them again as far as six inches down. At six inches we lose them. So this just depends on the calibration of the detector. Some people say they can pick them up a lot deeper than that but I wouldn't have very much faith in them at more than four inches down. We would probably miss it.

Q. In different areas where we've been, we've noticed little differences in the way the mine sweepers work. For instance, some of them put the thing right on their ears, and some of them put it over their helmets out from their ears. How do you normally do it?

A. We like it on the ears.

Q. Do the rest of your people do it that way?

A2. Most of our people put them on their helmets out from their ears, because we normally keep a prober close to the man with the detector and he can also hear this thing. So when he gets a blip, maybe the man with the detector will miss it. Sometimes they'll carry them a long time and get a little tone deaf.

Q. So actually the prober acts as a back-up-man on the detector and could probably hear it that way?

A. Yes, and this is one way we can tell if a man's had the detector too long.

Q. One of the things these people told us is that by keeping them out from your ears you can operate a little longer before becoming tone deaf. Do you find this to be true?

A. Yes, sir. I think this helps We've noticed that if a man does keep it out on his helmet, sometimes he can carry it for a couple hours and not be bothered by it. But if you put them on your ears, I'd say 20 to 30 minutes is the longest you can detect. You can really be sure a man can pick things up this way. Of course, he wouldn't have any help from the back-up man or the prober. The probers often save a lot of time if they hear the blip and can see where it's at. That way the man doesn't have to stop and give the prober a direct reading.

Q. You work together as a pretty close team right there?

A. Yes, sir.

Q. Let me ask you, how do you normally detect these mines. Is it by visual means or is it by your detector?

A. We find them by the detectors.

A2. Most always by the detectors.

A3. I'd say 99% by the detectors. Very few have been found by visual means. We had one up in the Que Son Valley that we found by visual means, and I think that's the only one. It had been in for a couple days. It was right after the New Year's Truce, and it rained for two days, and one of the wires had come up on top of the soil. That's the only way we found it; we found it before the detector got to it.

Q. So actually, very few of them are detected visually?

A. Yes, sir. They do a real good job of camouflaging them.

Q. Do you have any additional assistance like dogs, or any other mechanical devices that you use that help you at all?

A. We use a dragging device on the outside of the road for command detonated wires.

Q. Is this a kind of rooter?

A. Yes, sir. A man carries it and sometimes they'll carry axes or in Delta Company we had a long stick with metal prongs on the end of it, and they

dug a trench two or three inches deep. We can pick up command detonated wires this way. We've never picked any up, but we started this after we were indoctrinated on command detonated mines.

A2. The way we get by if we don't use that thing, is that we put our flank men out about 10 to 20 meters on each side. Usually, on your command detonated, your wires will come in view there. We found two like that in one area.

Q. Do you have infantry out on the flanks, or are these all engineers?

A2. These are engineers.

Q. When you go out, do you have any infantry protection out there?

A. Rarely.

A2. No.

A3. In our outfit we had armored vehicles, and we'd have a track, sometimes two tracks, and they'd be off to the side while we were sweeping the road.

Q. Just covering you?

A. True.

Q. Do you have any other special ways of detecting and neutralizing command detonated mines, like recon by fire or grappling hooks?

A. After we find the mine, we try to grapple it out. If we can, we try to pull it out. But if we can't we'll go ahead and blow it in place.

Q. Any other ideas on detecting or neutralizing command detonated mines?

A. I have heard of somebody shooting at one to try to set it off.

Q. I was thinking more of shooting at the people along the side there; might you discourage them from sticking around?

A. Most of the time, we don't fire unless we have to. There are too many people around here.

Q. Do you ever do any night mine detecting?

A. No.

Q. What's a typical sequence of actions that you take when you find a mine?

A. The way we work it over here is that, whenever we find one, all the men in the team just spread out and take up security positions in case they do have people around there, you know, the command detonator. Then we go ahead and try to probe for it, find out exactly where it is. Then the way we've been doing it here lately is blowing them in place after they find the exact location of it. They probe down, put a charge on it and blow it.

A2. Everybody just gets back out of the way from it.

Q. Do you have to make some kind of report to higher headquarters when you locate these things?

A. Right, a spot report.

A2. This spot report goes on up to the Company, the Battalion and into Division each day on any enemy action. Mines are considered enemy action.

Q. When you're accompanying infantry and they find something, do they send for you to go on up and do you blow it in place then?

A. We blow it in place. We never bring anything back in unless it's something that we haven't run across before, and we can neutralize it. Then we dig it up and bring it back.

Q. Do you ever by-pass any of these things for reason of lack of time?

A. No, sir. If we have time, we take it out. The sweep team may go on, but somebody will stay with it, get it out, and blow it.

Q. OK. Do you ever have to make a follow-up written report on these mines?

A. The spot report is basic. However these things do go on to the Lessons Learned. That's the only follow-up we do on them.

A2. Also, they started that mine report thing. Every month they wanted a mine report form filled out for each and every mine that was found.

Q. Is it being filled out?

A2. Well, we just started it.

A. We try to keep track of the number of mines that we've found, the ones pulled out and the ones detonated by the use of a fuze.

Q. How is this information disseminated to all the people so that they know about this mine situation?

A. Right now, the only thing we pass on to Division is what we get. Now if we find something different, we'll get this down to the line companies

fighting in the bushes, like for the standard bamboo type or command detonated, so when they go out they'll be familiar with this.

Q. Do you get SITREPs every day that contain this type of information?

A. Yes, sir. We get an estimate of the situation each day prepared by the Division.

A2. In our company over here, we have to make up a road-sweep report every morning when the team comes back in. The man in charge of the team makes up a report that goes on up to the 198th Brigade Headquarters, and they in turn send through the Division what we found.

Q. What about the adequacy of the training of your enlisted replacements when they come over here? Starting with you as a prime example, what kind of training did you get before you came over here?

A. I guess we trained for about a year at Fort Hood.

Q. Did you go to AIT at Leonard Wood?

A. No, I had my AIT at Fort Hood, and we came over as a unit.

A2. Most of the people we get over here do know how to run mine detectors. However, we find them slow or maybe sometimes just scared. But they get over this in a week, or a week and a half. It doesn't take long to pick this up. Most of these troops are veterans now.

A3. However, in the actual mine detection itself, I'm sure you can see the danger in taking a bayonet and probing like they teach you in school. Sticking it in might make contact and that's it. It's more of a scraping process, then, if you hit anything hard. You can scrape and clear around it.

Q. So you changed the probing method slightly?

A. Yes, sir.

Q. Do you pretty well have to start from scratch to train the replacements?

A. Well, I wouldn't really say from scratch. For instance with the detector, they know how to put it on and the detector's always adjusted by an NCO or somebody in charge. He doesn't have any trouble distinguishing the difference. But most of them are slow or scared. Maybe it's because they haven't had it in their hands long.

Q. Any other comments on the training of replacements?

A. Yes, I have a metallic mine detector and I don't know if they are being trained on the metallic type or the density type in the States.

Q. I believe they are only trained on the metallic. Did you get any training on the PRS-4?

A. I didn't get any training on it. When I got over here, though, we kind of ran out of the 153 so we had to use it.

Q. You were trained on the 153?

A. Yes, the 153.

Q. How about the average NCO's and officers? Do you feel like they had enough training in this area?

A. The ones who have been in the Army for any length of time, like the old NCO's, have had pretty much experience and aren't bad. The others seem to pick it up pretty good.

Q. But you think a refresher course wouldn't hurt the average NCO?

A. I'd say a refresher course before they come over would help them out. After they get over here it's too late to be giving a refresher course.

Q. They have Vietnam orientation courses in the different training centers but I don't suppose there is very much in those in the way of your particular skills. How about the officers? Do you feel that they have an adequate background for what they have to do over here?

A. The training is just a form. They'll run you over the standard regular mine field, but we never get anything like running along the roads. But you can pick it up real fast here. You have to.

Q. Do you think that it should be changed to be a little more oriented towards Vietnam, so you'd have a little better background when you get here?

A. Oh, definitely.

Q. How about the replacements when they come through the Division School? Do they get a certain amount of training in mines and boobytraps?

A. I don't think so. I think each of these brigades or divisions have their own orientation. We get all our replacements through 198th Brigade, and they don't have any type of school at all. They just go straight to the unit.

Q. When they gethere do you give them any kind of course before you put them out?

A. Yes, sir. We let the NCO's in charge of the platoons do this. We're sure all platoon sergeants, before they put them out give them a mine

sweep briefing on what'll happen. They let him test that mine detector out in the company area before they'll put him out on the road with it.

Q. So it's just initial training in the company area and then out OJT, breaking in slowly?

A. The 1st Cav Division has a little program set up over here for all their replacements. We've received about four or five in the Company.

Q. What did they get?

A. Very little, actually. They got to pick up the mine detector and look at it and that's about it.

Q. Did they get anything on mines and boobytraps?

A. They got a little bit, about as much as they could get over there, which gave them a little bit to work on after they did get to the company. They didn't come in actually blind on it. They had a little bit on it.

Q. Do you ever conduct training for the infantry units on mine detectors?

A. No, sir.

A2. We usually do the sweeping for them.

Q. And they don't do any sweeping as such that you know of?

A. No, sir.

A2. However, we did give our infantry battalions, that we were attached to originally, classes on mine detectors, and also the Cav Units that are attached to us. But if they want an area cleared, they always call on the engineers to do it.

Q. So really, this is just sort of a back-up in case you aren't there?

A2. Right. In case we were tied up someplace else, they could go ahead then, and clear their own area.

Q. Have you run across any kind of VC marking systems here, that are being used to mark these mines?

A. There are marking systems that they have.

A2. But I think what we've come across is mostly harrassment because the book says the mine will be under three tags in the middle of the road or something. We looked and we couldn't find the mine.

Q. In other words, you haven't found anything near suspected markings?

A. Not that's actually been a mine.

Q. So you're not too sure what their marking system is or how they do it?

A. To tell the truth, I don't think they bother to mark these mines, because the typical Vietnamese wouldn't set off most of them. It'd have to be a heavy vehicle to detonate the type we run into.

Q. Wouldn't a lambretta do it?

A. Well, lamtrettas have set them off.

A2. Yeah.

A3. Up in our particular area, we didn't have any of them.

Q. Do you have any ideas on how to improve the actions in the field in the way of detection, destruction, reporting, or disseminating information?

A. I think the big problem is with the detectors, keeping the detectors operational.

Q. They go bad on you pretty quickly, do they?

A. Yes, sir. And it's kind of hard getting them back out of maintenance once we get them turned in. I mean, everybody keeps a back-log of mine detectors turned in to maintenance.

A2. This is a maintenance problem.

Q. So if you don't have a mine detector there you're hurting?

A. Yes, sir, I think one of the problems is that each company is only authorized nine mine detectors. In an ideal situation, this is enough; this gives you three per platoon and if each platoon were sweeping a road, you could have three mine detectors. But if each platoon has one down, it only has two detectors; it can only sweep two roads, because it takes three detectors on a road. And a lot of times, you have more than one road to sweep. So I don't believe that nine mine detectors per company is quite enough.

Q. Do you use just the P-153 metallic detector?

A. No, we use them both in our unit, for what little good the PRS-4 does. In my way of thinking, they just don't help much.

A2. We don't have any 4's in our unit. Here's the thing. We've got two separate things. The 26th is made up of companies that came over with these light infantry brigades. Now they're under a division TO & E which

authorized three metallic and three of the others. Well, we're under a different TO & E and we only have nine of the 153's per company and we only operate with one kind.

A3. In each platoon in Bravo of the 26th, I don't know about the other companies, we have six mine detectors, three of each type.

Q. Since you are the first people we've run into that use the PRS-4, could I ask you again why you don't think it works well?

A. Why? Truthfully, you just can't pick things up that well. If you do pick up anything, you have to go real slow, extra slow. You gotta dwell on each spot. Go over it again or something like that. You can't sweep along like this and keep right on walking. You have to use it slowly.

Q. When you go slow like that, do you pick things up?

A. It'll pick something up then but it's going to have to be right on top of the ground.

Q. Hard to locate things?

A2. Yes, sir. Here's another thing, too; on your 4, you have to have a lot more experience to operate it. Actually, in my way of looking at it, you almost need a school-trained operator to work it. You don't have them in the units.

Q. If I told you we buried stuff as deep as 15 inches and swept it at a fairly fast rate and picked up everything we put in, would you believe it?

A. No.

A2. No, sir.

A3. I sure wouldn't.

A. I believe this thing works on a metal mass, too, on any mass.

A2. Well, the things we come up with are mostly this bamboo, and I don't believe this'll work on it.

A. We've never had any luck with them up here. In fact, we've swept over stuff with the 4 and came right along behind it with the other one and picked it up. And it wasn't in the ground over about four or five inches.

NOTE: In a later discussion with the S2 of the 39th Engineer Battalion, the following points were made.

The 39th only has the P-153 metallic detectors, while the 26th Engineer Battalion has the P-153 and the PRS-4. However, they have no confidence in the PRS-4, and use it only when sufficient P-153's are not available.

When a unit first starts sweeping a road, most of their time is spent checking out chaff but this problem decreases after they have been there awhile.

The soil does occasionally give a constant noise which causes problems. A depth of five or six inches is about the maximum that a minimum metal mine can be picked up. The phasing of mine detectors is probably checked infrequently by the units and few people know how to do it.

Most mines explode under the wheel or track. Some mines are planted at one time and hooked up at another. Most command detonated mine explosions occur late in the day.

In a ten month period, 147 mines were found; 41 were detected after the roads were swept and only 8 or 9 vehicles were lost by the 39th.

The program attempting to get the local people to volunteer information on mines and boobytraps has been a big help. The red tape is held to a minimum with only a receipt signed by the person and a witness needed. During the previous month, 55,000 piasters had been distributed in payments.

Additional Information on a Mine Sweep

Early the next morning following the interview, we accompanied personnel from company B, 26th Engineer Battalion on a mine sweep operation on Route 1. This was typical of the daily sweeps in that it started at first light and proceeded out of Chu Lai for a distance of about 2½ miles. The sweep force was organized with the flank men (engineers) well out on each side as security, three sweep teams (detector operator and prober) echeloned across the road, an NCOIC with the sweepers, an OIC following behind and an APC in the rear for the purpose of covering the sweep teams. Two of the sweep teams had P-153 detectors and were sweeping along the edge of the road and the shoulders. Due to a shortage of operational P-153's, the third team had to use a PRS-4 and it was employed in the center of the road as this was considered the least dangerous portion. The sweepers had the earphones over their helmets and out from their ears. They moved along quite briskly and seemed to be relying on visually detecting suspicious areas, as the detector could not cover the area passed at that rate. The road was fairly hard packed gravel and they appeared to be unworried about not being able to detect any mines that might have been planted. As a sidelight, civilian vehicles, bicycles and people seemed unconcerned and passed the mine sweep team repeatedly. Military traffic did, however, wait until the road was swept and officially open. Since few mines had been found on this stretch of the road for sometime, the attitude of the sweep team and local civilians was understandable.

INTERVIEW WITH A SERGEANT INSTRUCTOR ON MINE DETECTORS
AT THE DIVISION ACADEMY

Q. What do you cover in your class on mine detectors?

A. In this I cover, like we should have someone out in front to move the beer cans and stuff like this that Charlie might put in the road as decoys or dummies or actual boobytraps.

Q. Who do you give these classes to, all the replacements?

A. Yes. All the replacements get two hours.

Q. Is that all mine detector training?

A. Mine detection and mine reaction course. I run over a little bit on the one hour lecture. It's about one hour and 10 minutes to one hour and 15 minutes of lecture, and then the remainder of the class is on mine detection. On the reaction course, itself, I set up the base squad to show them the actual location of different people on the mine sweeping squad: setting out the point, flank security, rear security in the mine sweeping squad itself; and then we run right down the course with everybody wrapped around the sides of the course so they can observe the actual disarming of the mine itself.

Q. What type of mines do you have planted?

A. What I teach here is just detection of mines. We don't teach disarming mines at all; we blow them in place.

Q. Well, what type do you plant?

A. I just use the trip release type boobytraps, but I utilize them in varying degrees where you could step on it and it could go off, or if you move the weight from the top, even if there's just plain earth on top, you can set it off.

Q. You don't have any where there are just two pieces of bamboo with the electrical contacts?

A. No. That's covered in the boobytrap class. That's another two hour class on VC mines and boobytraps.

Q. Do you cover how to find this type of mine with the mine detector?

A. Sir, any mine that Charlie has has some type of metal on it; electrical contacts, blasting caps or something like this, and I cover this in my class; any mine can be picked up with the mine detector so long as it's in the vicinity. Now the smaller the metal, the weaker the signal's going to be.

Q. If I have two pieces of bamboo and put one strand of wire around the bottom and one strand of wire around the top and buried it six inches in the ground, do you think you could pick it up?

A. Yes, sir. I've picked up little pieces of tin foil about a foot in the ground. As a matter of fact, the depth perception of this mine detector is about 24 inches.

NOTE: The Sergeant had to interrupt the interview to start a class for about 25 replacements. We were unable to tape record his class but comments on it are listed below.

The Sergeant was very thorough in his instruction. The practical work portion of the class was particularly impressive. He demonstrated step-by-step how the operator would make his initial adjustments to make sure his detector was set properly. He then demonstrated the proper method of sweeping and how he would point out a detected item to his prober. Then, taking the role of the prober, he carefully uncovered the mine. A special point made here was that if the bayonet probe were stuck in the ground at a 45 degree angle, it could well complete the circuit between two contact points and be fatal to the prober. A preferred solution was to carefully scrape the dirt away from the mine.

After insuring that his points were understood, he had the men start to act as the detector and prober in teams while he supervised. It was excellent instruction.

INTERVIEW WITH THREE NCO INSTRUCTORS AT THE DIVISION COMBAT CENTER WHO HAD PREVIOUSLY SERVED WITH THE 1/1st CAVALRY SQUADRON

Q. What units were you in, by the way?

A. Two from A Troop, 1st of the 1st Armored Cav and one from Bravo Troop.

Q. To start with, in your units what percentage would you say of the total casualties were suffered from mines and boobytraps?

A. Well, in A Troop, just recently they lost one man from mines. This was just last month. We had a couple that had been wounded from mines, but we hadn't actually lost anyone till last month.

A2. Well, on my tank we had four wounded when we hit one mine. It blew the left side of it off. We figured it was a 250 pounder in a rice paddy. Other than that, it's mostly 57's and RPG's.

Q. So actually your casualties from mines have been pretty low?

A. Right. I'd say for the whole squadron we've had three to four people killed out of the 25 that we've lost since we've been in-country. So I'd say about 15 percent.

Q. Of these that you lost through mines and boobytraps, how many were by mines and how many by boobytraps?

A. We never run into any boobytraps, it's all mines.

A2. All mines.

Q. What are the main kinds of mines that you've been running into?

A. Mostly homemade antitank jobs.

Q. Is this the one with bamboo firing device?

A. Right, sir, bamboo firing device. We had a PC hit a mine the other day and we estimated it to be a 155 command-detonated type.

Q. Generally speaking is it this homemade type?

A2. Right, the homemade type with bamboo.

A3. They use our ordnance that they find out there, either an eight-inch round, 155, 175, 500-pound or 750-pound bomb. Now I've had quite a few in the Quc Son Valley. The engineers detected them in front of my tank. One was a 155, two of them were 500 pounders and one was a 750 pounder and we were lucky they detected the damn things. I went down the road and hit one of about 300 pounds.

Q. So they have mostly this homemade type and, next to that, usually command-detonated US ordnance?

A. Right.

A2. In the area of operations we've been, there haven't been too many command-detonated mines. It's been mostly this bamboo type using a bamboo pressure-type firing device.

Q. I was wondering what would be your most frequently hit mines.

A2. This bamboo pressure-type job first, then command-detonated mines.

Q. Any others that you run into enough that they are worth mentioning?

A. Well, not in the firing system, but in the method of employment. A lot of times you'll find your main charge will be in the center of the road with your booster charge on top of it, but your detonator will be a small booster charge on the side where the track will hit it. It'll set the booster off and the mine will go off right in the middle of the road.

Q. An offset-type mine, right? When do you encounter most of these mines, on a road clearing operation, on a search and destroy operation or when?

A2. You can't say. I hit one just entering a rice paddy; they've hit them on Highway 1; they've hit them on lead-in trails to Highway 1.

Q. I was just trying to see where you usually hit them?

A2. No pattern, sir.

A3. Any place that he thinks we'll take a vehicle, he's liable to put one out there. He has no pattern.

A. When we got our first tank hit up there, we'd been using this road coming and going, in getting chow and everything. We'd been in there about five days just working these small trails back and forth and he mined the ford. We weren't out of there but 15 minutes.

A2. I went by 15 minutes before with my tank. The tank following me was 15 minutes later and was escorting two PC's with the chow. It hit the mine. They got him.

Q. Now would you describe this offset mine you mentioned before?

A. It will have an activating device and booster in the rut and the main charge set a little off-center from the road where it'll hit the belly of the tank. We've encountered them, but we've never had a vehicle hit one.

Q. Is this the way he normally plants mines?

A. No, not normally. Like I say, there' pattern. The enemy units in this area are called sappers, these engine.r outfits, and we don't know whether they're NVA or Viet Cong. They might have one pattern to do it here and the people up north have an entirely different situation. A lot of times when you get out on search and destroy, you'll find that these mines are not exactly where you might expect them like in a defile. No, he won't do this. He knows that you'll be looking for them. He'll put them on top of a hill because he knows the American soldier has a tendency to se. up on top of high ground. He'll do this a lot, usually on the military crest of the hill.

Q. So you really haven't been able to establish any pattern?

A. There's no pattern at all. Like the last mine I hit, I could have run off that road at any place, 300 meters on either side of us. The mine sweep team was about 100 meters in front of us and they had just missed it. It was buried too deep. The mine detectors we have today will not pick up some of this. A lot of times they'll put other stuff over it, too. They'll wrap homemade ones in plastic and the mine detector won't pick it up either.

Q. How much mine sweeping do your cav people do?

A. Quite a bit.

A2. We have the capability. In each platoon, we have a mine detector.

Q. What type do you have?

A. We have the metallic detector called the Polly Smith.

Q. But you do have people trained in the use of the mine detector?

A. Yes. In each infantry squad of each platoon someone is trained to employ this mine sweeper whenever we do go into an area that we think might be a good place for their mines. We have them go out and sweep the area before we even go through it. Sometimes they find them and sometimes they don't.

A2. There's only one pattern that we've run into that I've noticed over here. Any time that Charlie blows a bridge, he knows that the marine engineers will be coming in to rebuild it and he'll set a mine where he blows that bridge out. He knows you're going to be coming in there with a dozer to push that stuff out. We found up north on Route 1 that he'd been doing that a lot.

Q. So he sets that to catch the repair vehicle.

A. Right. In fact just two weeks ago the marines got one like that and then yesterday we found one. It was on the north end of a bridge up north. Right where he blew it, he put a mine.

Q. Do you find any more mines in the vicinity of a village than you would out in the middle of nowhere?

A. There's one thing he will not put this mine any place close to. Let's say there's a village back in a VC-controlled area. He'll try to keep it away from where civilians can get hurt. I've noticed that. But he has no set pattern whatsoever.

Q. Now these fuzes that he uses, are they mostly instantaneous or delay?

A. Mostly instantaneous.

A2. Every one that we've hit has been instantaneous.

Q. And the initiating action, I believe you said, is primarily pressure activated?

A. Pressure.

A2. He'll take a bamboo pole and cut it in half. Then he'll wire this thing so that when it presses down the wires will go together.

A3. I can show you a couple we have up here.

A2. I've seen three tanks and three APC's that went over the top of one of those things. Each tank would push it down a little bit and the next one would push it down a little more and the seventh one hit it. He pushed it down to make contact.

Q. This made a delay out of it?

A2. Right, Charlie's a smart little jerk.

Q. Do they use any kind other than this command-detonated and pressure-type initiating action?

A. They're the only types that we've encountered.

Q. How do you detect most of the mines that you encounter, visually or with the detector?

A. With the detector.

A2. With the detector. With one mine, a PC happened to see a bad spot in the road and he stopped his track. The sweep team had missed it, but they came back and found it. That's the only one they found like that. Most of them have been with the detectors.

A3. We found one more in that quick move. We ran up on a VC and he had to run. He didn't get time to set it.

Q. But normally as you're moving along in your tracks you can't see one?

A. No.

A2. If we could, we'd have a lot of vehicles that we'd never have lost.

Q. Do you actually detect most of these or do you detect them by hitting them?

A. By hitting them most of the time. My troop was on LZ Ross and we had to run that road between LZ Baldy and LZ Ross and it was infested with mines. We had an engineer team with us that especially trained for mine detection and they did a tremendous job, but they just happened to miss one. It was buried too deep. They do a tremendous job, especially the engineers.

Q. Do they really get most of them?

A. They sure do. They do a fine job.

Q. And the ones that they don't you get by hitting?

A. One or two by hitting, especially on the roads. There's no way in the world that you can go out here on a search and destroy and expect some body to mine sweep, to detect the whole area. You couldn't do it.

Q. How do these mines average in size? Are they big enough to wreck a tank?

A. In most cases the tanks have been repairable. A troop lost one APC. It was a combat loss.

A2. Charlie Troop lost one and Bravo Troop lost one. We considered mine repairable and we repaired it, but we had a track break down again. We repaired it again but still the hull had to be modified. We had to cut the top part.

A3. The mines usually run big enough to destroy a PC.

A. I don't think a PC's been in a fight, has there?

A2. We've had some that have hit small ones. Normally, if what we call an ACAV, a 113 personnel carrier, hits anything above a 105, the hull usually warps. The last one that Alfa Troop had to hit, a mine just split apart. The engine was just blown about 100 meters away.

Q. Do you get any information usually from the local people?

A2. Well, I do more than these other NCO's would because I've been working in S2 since I got pulled out of the field. We had reports that there were mines in there where A Troop hit the last time. But we'd run back and forth through this area for two or three days and he just happened to hit that one.

A. When that VIR got hit, they were tipped that there were mines in there.

A2. They were tipped that there were mines in there, but they just didn't pinpoint the exact spot. They knew they were in that area somewhere.

Q. They just told you there was something in there. Do you have any kind of assistance in the way of dogs or mechanical devices to help you to detect these mines?

A. The only thing we have really is the mine detector.

A2. Just the mine detectors themselves.

A3. A lot of times, when they bury these things they don't mark them themselves, but the Vietnamese people stay away from them. A lot of times you'll find two sticks pointing down that way, say, in the road. That means something's there in the road, either a boobytrap or a mine.

Q. So you have found some marking systems?

A3. Yeah, they mark them for the Vietnamese civilians.

A2. Sometimes rocks or sticks.

A3. They might put three rocks up. One thing we've found, and this came down through intelligence channels also, is that he will always put a direction sign to where they are. Normally he'll put this anywhere from 75 to 200 meters from where he's got that boobytrap or mine in place. But again, he has no set pattern that we know of that we can actually instruct on as to what these markers are.

Q. Just look for something unusual?

A3. Right.

Q. Do you ever use any recon by fire in order to neutralize this threat of command-detonated mines?

A. The Cav is famous for recon by fire.

Q. Have you ever heard of this "Thunder Road" procedure?

A. Yeah, I've heard some of the guys talking about it.

Q. The armored vehicles make a run firing the 90's and everything. They have too much road to clear and this is to discourage people on the sides of the road from command-detonating anything.

A. We haven't done that.

A2. I heard of one incident from an NCO that came out of a tank battalion down south. He said that they had a convoy coming north on one of the routes down there and one VC was sitting beside the road. He let all these trucks and everything go by and I think the third tank out of the tank battalion was the one he command-detonated a mine on.

Q. You can't ignore these jokers sitting alongside the road.

A. That's true. But you go up on Route 1, and that's a very busy road. There are thousands of people alongside that road, so you can't fire like that usually.

Q. I can see where recon by fire would be a little more difficult because you have more people in your area.

A. That's true. A lot worse than around Tam Ky. Now when we were out there, there was no problem whatsoever. We could use recon by fire pretty well.

Q. Do you use any other techniques to get these command-detonated mines, like grappling hooks or anything like that?

A. Well, the engineers use the grappling hooks straight down the road. They have two men go with the hooks alongside the road to catch the wires. All the 113 PC's have a grappling hook with them, too. They have a small one. We don't really use the grappling hooks.

Q. You don't really use them then?

A. Not unless we get into situations where we have to use them. Then they would.

Q. Do you do any night detecting for mines or anything like that?

A. No.

Q. When you're moving along and you find a mine, what's the procedure, what sequence of events happens?

A. First thing you do, sir, is report it. If necessary, you go up to determine what type of mine it is. Say it's an antitank mine, or Russian made or something. Well, for intelligence purposes we'd like for them to retrieve them. But I'm a firm believer in blowing them in place because you don't know whether that thing's boobytrapped or not. The Russians have a TM38 that's an antidisturbance mine and I can't afford to put a man out there to dig this one out. Normally we just get the dimensions and the description of it and blow it in place. A lot of times the engineers will take it out and set it off to the side if it's big enough, to keep them from blocking the road.

Q. Trying to keep from blowing a hole in the road? Do you have engineers with you to blow these things?

A. Sometimes we do, sometimes we don't. We have the capability and we have enough demolition to blow it ourselves if we need to.

A2. Our personnel can blow it.

Q. But sometimes you do have engineers with you?

A. On special occasions or when we request them.

Q. Do you ever by-pass these mines due to lack of time or anything like that?

A. Well, we haven't been.

A2. I always leave somebody there to get rid of it. When time is short we'll move on and maybe leave a squad there to blow it.

A3. A squad with a security force to protect them while they take care of that mine. Then the security force will bring them up to our position.

Q. The engineers say that often when they're trying to clear a road for an infantry or cav unit they aren't given enough time, and finally the unit goes on by them. Does this happen with you quite a bit?

A. Not to my troop it hasn't. We are great respectors of mines and we usually wait for them.

A2. I've seen this happen up on Highway 1 when I was with a sweep team doing the road up there. These dump trucks and stuff like this will come right on by us and go on down the road. Civilians will just go on by.

A3. I say, if he's big enough let him go, because he shouldn't be up there anyway and he might blow one for us.

Q. In your case you don't do that?

A. The cav doesn't sir.

Q. On reporting a mine, do you pass the word back through the unit and radio back to higher headquarters?

A. We have radios with our vehicles. We radio back and everybody's on the channel, so they hear it. We'll just radio directly from the spot to the NCS at the company and within five minutes it's back to the G2 and G3.

Q. Do you have to turn in a written report later, or anything like that?

A. Right, the spot report is the initial one; then you give the follow-up report.

A2. You do the follow-up report after you come back, when you write your after-action report.

Q. When you're going on an operation in a certain area, do you ever get information that tells you what is out there in the way of mines and boobytraps? If so, how do you get this?

A. Well, about the only information we get is from the unit that was operating in the area before. They can tell us they got a lot of mines or detected a lot of mines. Sometimes we'll get it through the detainees or POW's. Like two weeks ago when they hit a mine, we had a report from a POW that there was a mine field laid in there. Out there the day before they had run back and forth through that area time and time again and it just happened they missed it.

Q. There's an element of luck involved?

A. Right.

Q. Is any of this information distributed regularly in reports that tell you what's happening in the way of mines and boobytraps?

A. Not so much on mines and boobytraps. But they'll generally tell us that we're going into an area that's infested with an NVA regiment or battalion or a VC regiment or battalion and from there you can use your own judgment. You can tell--if they've got a division there, you definitely know they're going to put mines out. If a report comes down through intelligence channels that there's a sapper unit in the area, (their engineers are called sappers) you can bet your bottom dollar that there'll be some mines out there. For this area, the North Vietnamese are specially trained.

Q. Who sets most of the mines usually, the local VC?

A. No, sir. Usually the local VC with the instruction of the NVA. The NVA cadre will be there to instruct them.

A2. Just like up in our area we had, I believe, the 40th NVA Engineer Battalion and then initially down here we had the 49th Engineer Battalion. They're specially trained in mines and demolitions.

Q. When you were talking about "up here," you mean north of Chu Lai?

A. When we talk about north, it's above Tam Ky, up that way.

Q. Are your average enlisted replacements well enough trained in mines and boobytraps when they come over here?

A. If they're old guys. If they've been in the Army a year or more, yeah; but these guys that are fresh out of AIT and stuff like that, I don't think so.

A2. I want to tell you that the trainees coming through are not trained. I was at Fort Knox AIT and I think we had four hours on demolition and four hours on mine warfare, which is not enough. Plus, this mine warfare was conventional US type. Once a cycle we put on a Vietnam orientation. A very small amount of it is on mine warfare. The first time that I was actually introduced to this type of war, the mine warfare that they have employed over here, was after I got here and was in charge of a cav unit. I took a three-day orientation course.

A3. I give that class on demolitions over here on the beach. I have one this afternoon in fact. They have several questions on how we operate with this stuff. They're very interested and they get to use it, but I can tell that they don't know much about it. Like I pick up a piece of explosives and they have no idea in the world what I have in my hand, a block of C3 or C4. They think C3 and C4 are the same thing. They have no idea until we show them the C4. They think it's the same as a time fuze.

Q. So you feel the Stateside training should be oriented more towards Vietnam and cover these things?

A. Especially for the people that are coming to Vietnam. Back in the States you've got to train a unit by the Army Training Program because some of those people go to Germany, some of them go to Vietnam, some of them stay in the States.

Q. There are about five training centers that train especially for Vietnam.

A. Then they should be geared strictly to the stuff that we find over here, because they've got some odd ball stuff over here.

Q. In visiting these training centers before I came over here, I saw them doing some conventional land mine warfare training, like planting mines. Do you lay mines over here?

A. We don't lay the regular minefield out here. I haven't run across any.

A2. We don't let them do this.

A. We don't put them in and we haven't run across any set minefield. There may be one mine, there may be four, there may be 15, but they're not set in a regular pattern. No pattern or nothing. They just throw them out

there any place, just like they're going along and throwing one over their shoulder here and one over their shoulder there.

Q. How about the NCO's in mines and boobytraps? Do you figure most of them have pretty good background knowledge on this?

A. Most of your senior NCO's do, sir, people like the squad leaders, platoon sergeants.

A2. They try to find out this stuff before they come over by talking to people who have been over here. I did myself. I tried to talk to people who had been over here and tried to find out something about what I was going to be in.

Q. Could you have used a little refresher course?

A. Absolutely.

A2. Definitely.

A3. I believe that these Vietnam orientations that they have back in the States cover a lot of things that don't pertain to Vietnam. I know, we did ourselves. We had to go by a set program.

Q. You think they should orient it more toward what you're actually doing here?

A. Stress it more. For example, the cav until 1965 had never been confronted with any type of warfare like this. We always based our teachings on a country like Germany because that's where we've always been confronted.

Q. This was never considered armor country?

A. It's not considered armor country, but they've got a lot more cav over here than in any other country.

Q. They can cover a lot of ground?

A. Now an infantry company can only sustain maybe 30 minutes and we can sustain 10 to 12 hours.

Q. I can see where you have an advantage because of your mobility.

A. Don't get me wrong I'm not trying to say anything against the infantry.

Q. What do these replacements get in the way of training here in mines and boobytraps?

A. At the division school here, I give two hours of platform instruction. The first hour is generally on what we call dirty tactics, punji stakes, punji pits; where they get their containers and the TNT from; and how they

employ containers such as C-ration cans, coke cans, 105 shell casings, 105 duds. I just try to tell all the ways that they employ these things in boobytraps and mines. The second hour we give them is on types of firing devices, electrical and nonelectrical, and we demonstrate them. We have a fire board rigged up and we'll have one like a wand. We'll hold up the wand, tell them what it is, and explain how it's set up. Then on the firing board we'll just detonate a quarter pound of TNT to show them that it will work. For example, we have one with just the top and the bottom of a coke can. They take an opener and open the bottom and the top, tie it together, one goes to the charge, one goes to the battery, they put a pieee of plastic between it and when the tongs break through the plastic, it'll detonate the mine. It's very simple and inexpensive.

Q. They were using that in another area with a leaf between the can lids.

A. Well, up here they usually use a piece of plastic between. The particular type of C-ration can, they use that too. Then in the last part of the class they go through the boobytrap reaction course up here. We have decoy wires, M56 firing devices buried in the ground so they can step on them, some wires buried under the ground with other wires showing. They step over one wire, especially coming down a hill, and then when they push down in the sand along the trail, their heel will catch on that concealed wire. There are two different courses. This other Sergeant is teaching mine detection and we've got this course on mines and boobytraps. We use this mines and boobytraps course first; then they take mine detection afterwards.

Q. Is yours two hours?

A. Actually, it takes four hours after you answer all their questions and demonstrate all the devices and then run them through the reaction course. It just depends on the size of the class.

Q. A full four hours?

A. A full four hours block. Now demolition is also scheduled for two hours. One hour on just platform instruction on your different types of explosives, blasting caps, fuze igniters, det cord and all that, and then the second hour we have the exercise. They will actually take a time fuze, crimp a blasting cap on, put a fuze igniter on, initite one-quarter-pound block of TNT on the beach. They do all of that themselves. We just watch them to make sure they do it right. They actually set off a block of TNT.

Q. Then they get this mine detector instruction?

A. Yes, mine detection right here for two hours. He teaches the mine detector itself, how to use it, and then he gives them about an hour of practical work with the mine detector. He has things put out there on the course and they try to find them.

Q. They run the course?

A. Yes.

Q. It's the most complete setup I've seen.

A. We do this so they get some idea of what they're going to have to do. There's one thing I forgot to bring up awhile ago. A lot of times when Charlie buries a mine in the road, he might bury 10 or 15 C-ration cans to try to mix up your mine detector. See, they'll come along and they'll dig up five C-ration cans in the road and they'll get a little lax on it because, well, there's another C-ration can. They they might start digging down and see that it's a C-ration can. Instead of digging it out and throwing it out, they leave it there and underneath that C-ration can they have a pressure-type boobytrap.

Q. Now after a man leaves here and goes to his unit, is there any follow-up training there before he's thrown in or is it mostly just OJT?

A. I imagine it's OJT.

A2. OJT, sir, because you don't have time to do any training out there in the unit.

Q. You're on operations?

A. Right. You just don't have the time to stop and train one or two men.

A2. Generally, he picks it up by watching the other guys.

A. Generally, when you get a new man, you'll let him hold back a little bit and watch a few times before you actually put him on a work team if you can, if it's possible at all. But with these kids here, it doesn't take them a long time.

A3. They pick it up fast.

Q. Is there any other advanced training or refresher training done? Do they send anybody back to mine detection school or anything like that later on?

A. They have this leadership school set up here with us now. Whenever the guys come back to go to leadership school, they get a refresher.

A2. They get mines and boobytraps again.

A. They have maybe a 10-minute presentation on it that they have to give themselves. And this kind of thing helps to keep them up-to-date on what's going on.

Q. How long is this leadership school?

A. Ten days, sir.

Q. About how much of that is on mines and boobytraps?

A. About the same thing we have.

A2. About the same as we have now, the VC mines and bodbytraps, the demolition, and two hours of mine detection.

Q. Does anybody conduct training on the mine detectors in the unit?

A. Well, actually, they don't have training, sir.

A2. Normally the squad leader.

A3. The infantry squad of each platoon. And back in the States, when we go through our BUT and AUT, there would probably be training also.

Q. It's done right as you move along?

A. Right, sir.

Q. Do you have any recommendations for improving mine and boobytrap training in the U.S.? I think you said you wanted it more Vietnam oriented?

A. Well, this is what we're primarily concerned with right now. There aren't too many people losing their lives in Germany.

Q. Any other ideas?

A. I think that actually they should be getting more of this. I taught basic training before I came over here and I think that they should be getting more of this right from the start--instead of waiting till they get to their AIT, BUT, and stuff like this--because they put a lot of emphasis on little things in basic that actually could help later on in the Army. So I think if they put another three or four days in basic, it would start them early in thinking about the Vietnam War. When they get in and go through basic now, they don't get anything about Vietnam and they start getting lax right off the bat. But I figure if they throw it in and hit the man with it from the word "go," then he's going to be more oriented and more prepared than if they just jump up and say, "OK, you're going to Vietnam. We're going to give you three days of orientation on Vietnam and then we'll send you over there."

Q. You think this last minute orientation just before you leave just doesn't quite cut it?

A. This is why I think they should actually start it right there in basic.

Q. Some training centers where they have specialized programs seem to be trying real hard to orient them on the stuff and they integrate a lot of it in their field training. Is this the approach you're talking about?

A2. The greatest majority of the instructors back there, are most of them Viet-Nam returnees?

Q. About a year ago maybe they weren't but they are now.

A2. The only way that you can teach this is from actual experience. There's not a book on it.

Q. At Polk, for example, they try to put an experienced NCO with a squad during their field period so he can keep passing out little pointers as they go along with nothing formal about it.

A. That's good, so as you come upon it, here's how to do it. It's not in the book but there it is.

Q. Also, there'll be a lot of things learned just in shooting the breeze.

A. Absolutely.

A2. Right.

Q. The key to this plan is the Vietnam veteran NCO. They've collected enough veteran NCO's to put them out with the men.

A. Disperse them out to each squad. That's good because, like I said, there's no book written on all this.

Q. Do you feel you could make any improvement on what you're doing during in-country training?

A. Well, I've been here at the school two months and I think, not just because I'm here, that the people get a lot from it. I catch them on the last day here and I give them their ambush class, patrolling. I keep them all day and all night and whenever I debrief them the next morning and turn them loose to get all their gear ready to go to the units, some of them come up and tell me that they really enjoyed going through this six-day course because they picked up some things that they know are going to be really worth-while. As we go along, we keep improving. Every day we come up with something that we can inject that we hadn't been doing in everything. I think the school here is a good thing for the people to have whenever they do get here.

Q. So the only thing you could suggest is they keep on having this high quality school?

A. Right.

A2. Right.

A3. At least it gets him on a trend of thinking. When he comes to my platoon, I don't have the time to try to train one man. I don't have the time because I have 49 others to worry about.

Q. In other words, he's got to have some background?

A3. As long as he's got the basic idea, he'll be alert. This is just what I was saying. A good man is oriented to a certain way of thinking and he'll be more alert. They we can give him these little pointers as we go along.

Q. You've got something to build on.

A3. Right. He's already got some vague idea of what he's supposed to be looking for.

Q. If only the training in the States was like that you have here!

A. By the time he gets here, he'd be pretty well oriented.

Q. Are there any recommendations for improvement in the field, say in the detection and destruction of mines and boobytraps and in reporting or disseminating information on the mine and boobytrap problem?

A. In the cav, our reporting is verbatim. The first thing you do when you get something is report it. As far as dissemination of information from higher to lower, it's tremendous, it's good. You see, we haven't been confronted with too many boobytraps, it's mostly for mines.

A2. Actually, all I can remember is this one boobytrap they hit out there.

A. The infantry hit that one, though.

Q. Any other things you can think of that we didn't cover in this area?

A. Well, one thing I'm sure you've heard before and I'm sure you'll hear all over Vietnam, is the use of things we leave around like C-ration cans, coke cans, beer cans.

Q. I suppose our people scattering these things around doesn't help the cause?

A. It sure hasn't been.

Q. I heard a complaint about the combat troops leaving too much stuff around, like batteries.

A. Batteries, right. Even if a BA30 won't light a bulb in a flashlight, I can set off at least two electrical blasting caps. I can cut them in half and get two out of them. I'll give you one instance. Through the grapevine the infantry found a weapons cache out there and I think they found 1,800 Claymores. Every one was marked from U.S. sources. Not only Claymores but the wires and the M57 firing device. That M57 firing device will last you six months and the VC will get 100 feet of wire to it to blow that Claymore. If you don't police up that wire and M57 device, he's got 100 feet of wire and a command detonator.

A2. This is something that I stress in my ambush class. They carry the Claymores out with them. I'll explain the ambush to them, they're all excited and everything, and they'll lay that firing device down, leave the wire, and cut out, you know. Well, Charlie's going to hear all this racket and everything and he's going to search the area because he knows that a GI will leave this stuff laying around. This is something that I'm trying to stress in my class--make sure when you set that off that you stick that wire in your pocket, and the firing device, and go with it.

A. I stress a lot that Charlie says, "Well, a GI never makes a thorough police call." But Charlie will pick up anything. He doesn't care what it is. If he thinks he can use it, he'll pick it up; and if it's no good, he'll throw it away later.

Q. You cover all this pretty well, then?

A. Yeah, but if they wanted ammunition or anything, all they'd have to do is overrun one of these small outlying posts.

A2. I was on a mine sweep on Highway 1 one morning after the infantry had been protecting a bridge overnight. They left that morning and as I was checking that bridge out, I found 40 boxes of 30 calibre and some BAR magazines.

ADDITIONAL INFORMATION

Following this interview the sergeant that was the mines and boobytraps instructor took me on a tactical walk through the boobytrap reaction course. It was a small trail that wound through a wooded area on the side of a hill. Being near the beach, the ground was somewhat sandy and ideal for concealing different types of devices. There were a lot of different items spaced through the course and the instructor said that a squad-size group had never been able to negotiate it without tripping at least two. He used trip wires, tin can lids, grenades in cans and many of the devices he had just shown the class in his instructional period. He had also given them many detection hints. However, the devices were concealed at least as well as the VC could have hidden them and the students' difficulty was understandable. Particularly fiendish were concealed items that were tripped when more obvious ones were being avoided. The experience of going through the course should certainly prove to the replacements the need for caution and alertness when moving through an area like this, as well as giving information on where to look.

INTERVIEW WITH A CAPTAIN WHO HAD RECENTLY BEEN THE COMMANDER OF COMPANY C, 1/52D INFANTRY BATTALION

Q. First, I'd like to ask you what percentage of the total casualties suffered by your company have been from mines and boobytraps?

A. The entire time I had the company, we got sniped at quite a bit by the enemy, but I only lost one man to enemy rifle or machinegun fire. This man was shot in the thigh, at a range of approximately 800 to 900 meters, and he did return to my unit later. So I'd say the percentage was 99% from mines and boobytraps.

Q. Of this percentage, how much was from mines and how much from boobytraps?

A. I had the misfortune of going into an undetected and unmarked ROK mine field. Consequently I lost 11 men in one day due to friendly mines. Other than that, they were all from boobytraps. So normally, about 95% are from boobytraps.

Q. Is this typical of all the infantry units operating out in that area?

A. I'd say so, because this is an area that has not been worked very much by friendly forces. It's almost like a homestead area, controlled by the VC. Around an area where they live, like this, they'll place boobytraps. Also, if you go into an area that they have lived in, they'll place boobytraps behind them as they move out of an area. Consequently when you come into this area, following them in, you'll run into booby-traps that I'd say are normally not there.

Q. Sort of like a delaying action?

A. Sort of like a delaying action, yes, sir. Also, I think they might conceivably be placing the boobytraps something like we do a trap line in likely stream beds looking for fur bearing animals. They do about the same thing to us. They'll lay a string of boobytraps and go back and check them every day or so, maybe once a week, like checking the trap line.

Q. What are the main types of boobytraps that you encounter?

A. The primary type is a grenade with the pin just hanging, the grenade tied in with some underbrush with the pin just hanging in there with the trip wire tied to it.

Q. Are these Chicom or US grenades, or both?

A. Most of them are M26, US grenades.

Q. What would be about the second most frequent type?

A. I'd say the second most frequent type is your artillery rounds. They unscrew the fuze off the end and put a blasting cap, like a grenade blasting cap, and run a string off of this. When you hit the string, it detonates the grenade blasting cap and sets off the round.

Q. About what percentage would be grenade types and what percentage artillery rounds?

A. Usually about 75% grenades and the artillery rounds would represent about 20%.

Q. Is there another common type?

A. Another type we often ran into was what the line troops call a Bouncing Betty which is a CBU. What they'll sometimes do is take a CBU and place it over the top of a howitzer round, or maybe just the CBU itself placed off the side of trails. They know that we don't stay on the trails, but if we are on the trails, our point or flank men are going to be off the trails and so the thing is going to catch one of these two point men, either the one walking near the trail, or the one walking on the trail. Normally, they don't mine trails that they're using and they don't lay a boobytrap off the trail. Sometimes when they're retreating and you're going into an area where they have been and they know you're coming, then they'll boobytrap the trail. However, generally speaking, trails are not boobytrapped.

Q. When did you encouter most of these, on a search and destroy operation or what?

A. Almost entirely on search and destroy. This kind of operation can't be run that fast. It takes time to go through an area to see if he's there. Consequently, when we go into an area where he's been, you start seeing fresh signs. Or you go into a village that you know is a VC village. When you leave that village, you better start watching for boobytraps. He's had time to move out in front of you and place them behind him. Also, if you go into an area too early in the day, say if you move into a night defensive position about 2:00 or 3:00 and some kids or some farmers have spotted you, be careful when you move out the next morning, because Charlies may have come in and boobytrapped the likely avenues out of the area that you're in.

Q. Do you ever go on road clearing operations?

A. Yes, I did.

Q. How did you do that?

A. The first thing you do when you're clearing a road is move out the day before and secure the high ground around the road or along the road so you can keep the entire length of the road under surveillance. That'd be the day before. That night, we usually ambush along that road

in key places. Then the next morning we start out either in the middle or at both ends. The clearing detail with the minesweeper goes down the road and flanks the road by way of the high ground which has already been secured the whole length of the road. This supports the security for your clearing team

Q. Who were these minesweepers?

A. They were from the infantry.

Q. How many minesweepers did you have in a company?

A. Normally, each company has one and, if you're going to be on an operation like this, you're going to draw maybe one or two more from the other infantry companies in your battalion.

Q. Are there any at battalion headquarters that you can get?

A. Well, I believe there are four per battalion. You could get all four of them if you wanted to.

Q. Are these the P-153 detectors?

A. Yes, the light metallic mine detector.

Q. How did you organize your sweep team?

A. Well, normally, I use a full squad as a sweep team and this gave them a fire team for security and a fire team to do the job. Then, they'd rotate periodically. In other words, for immediate or local security around the fire team that's sweeping, you have another fire team. Then, because of the fact that a man, after so long, gets tired of having the headset on, you can rotate.

Q. What kind of formation do you use?

A. Normally, I put three detectors on the road. Then I put maybe two men forward and three back in the fire team, and then one walking off the side of the road making sure there's no one lying there who could throw a grenade at them. That puts the rest of the company on the high ground the whole length of the road.

Q. So you secure it first, then night ambush so they don't come in that night, and the next day you clear it?

A. Right, starting at daybreak.

Q. Do you then keep the security out there?

A. Yes, for the whole time that you're going to have the road secured, so that the convoys can come through. Then the VC can't come back in after you've cleared the road.

Q. How long a stretch of road could you clear with, say, a company like that?

A. It depends on the strength of your company. One company at 60% to 80% strength could cover maybe 20 to 25 clicks of the road. It depends on the high ground, on whether you've got straight road with key high ground along it where you can see further. Also, at both ends of the road, I'll have a fire team searching everybody that's coming down the road. People are going to walk on the road. We make sure that there's no one coming down the road carrying anything on them that they could slip behind a rock or something.

Q. Have you taken part in any of the pacification operations?

A. Yes, to some extent, we did. Every infantry line company in Vietnam that has any sort of dealing with villages does this. We run Medcap, for example. You have your senior aid man plus all your platoon leaders in this.

Q. Did you run into any mines when you were on a pacification operation?

A. No. You're working in a village that you can pacify. You're not working in a village where you expect to have trouble.

Q. Under what conditions were these mines and boobytraps encountered?

A. You'll find them anywhere and everywhere. We've run into units that have actually found boobytraps in stoves in their kitchens. They'll have Vietnamese workers come in, do KP in their kitchens, or build the kitchens for them. They build buildings, and actually boobytrap the kitchens while they're working there; so when they leave, the Americans open up your favorite cook stove and the cooks will get blown apart.

Q. Is there any area where you've found them more than in other areas, like near a base camp, or near villages?

A. Well, starting off, like I said, they'll boobytrap inside your base camp. If you don't watch your defensive wire or perimeter wire around your base camp, they'll wire it up, boobytrap it. You go around periodically and check it, or you'll find a grenade boobytrap right in your own wire or fence.

Q. I was thinking of their base camp.

A. Well, then you can go on and say that they'll boobytrap most of the trails or high speed avenues of approach into the villages where they live. They don't boobytrap the ones they consistently use. They'll boobytrap all high ground. You've got to be awful careful of the high ground whether they use it or not. One thing Charlie does is that he'll station one or two people on top of a hill, and they all but live up there.

If you come through an area, they'll shoot at you. Well, you might think you're being sniped at, but you're not really being sniped at, as such. The reason that VC is up there is to fire warning shots. And he'll maybe fire three shots for a full size platoon, and maybe five shots for a company, or one shot for a squad. They fire it to let everybody in the entire area know you're approaching his position. Consequently, they don't boobytrap this type of high ground. But if you take a hill that you haven't been shot at from, be wary when you get on top of it. There's liable to be a mine or a boobytrap on top of this hill.

Q. In these enemy base camps, do you find them in the living positions or near the caches?

A. Negative, sir. You find them on the trails leading out of or into the base camps. They don't mine or boobytrap inside their own base camp, even their villages. We have yet to find one in a village that has been there any length of time. You'll find them in villages. We actually found a snake one day inside a hut that had a string tied to it; this string was tied onto a grenade with the pin partly pulled, and just hanging there. If someone had tried to kill that snake by hitting it, beating it, or anything that would scare him and make him run, he'd have pulled the pin out. Lucky enough, we saw the string.

Q. Let me go back to this road clearing operation for a minute. Did you ever find any mines in the road as you were doing this?

A. My unit has never found one but the units that swept the road before us and after us did.

Q. Where did they find them? Was it in the road, on the shoulders, or any special place?

A. Normally, where they're finding them is off the shoulder of the road, not right down the middle. Down the middle is for the people. Well, this depends on the road. In some places people will travel down the center of the road and in some they'll travel the hard shoulder on the side. You normally don't find the mines there. You find the mines in the soft dirt and not the beaten path. Of course, you'll find them in the middle of the road if they travel the edges or you'll find them along the soft shoulders of the road where the people don't walk. If you find a road that the Vietnamese will herd their cattle down, normally you won't find mines.

Q. Do these boobytraps that you find have instantaneous fuzes or delay?

A. They're mostly instantaneous. We've even found cases where these smoke grenades that we use for marking LZ's have the blasting cap of the smoke grenade taken out. They take the powder out and put C4 in it. Then they take a grenade blasting cap, take off the time delay portion of it so it's instantaneous, and put the whole works back in your Army supply point. Then, when you draw smoke and you're going to mark an LZ, you go

up with the LZ.

Q. How often does this happen?

A. We've found a couple of them but it's not too common. You can spot them visually. If you take the casing that hasn't had the tape taken off of it, and you take a smoke grenade out to look at it, you can tell. A blasting cap-type head that goes on a grenade has two holes in it; they go all the way through. The smoke grenade cap doesn't. So if you look at a smoke grenade before you throw it, you can tell if it's been jimmied with, or anything.

Q. What initiating action is most frequent?

A. It's normally a pull-type with a trip wire. We actually found one of these little transistor radios once, rigged up so if you picked up the radio, it went off. We have found entrenching tools lying alongside the road, brand new American entrenching tools. You have the man who would run over to them and say, "Hey, look what I found," wouldn't see the wire, and he'd pull one.

Q. I presume the American soldier is a pretty curious guy and falls for this some?

A. The unit will only fall for something like this once. After that, it will never fall for anything else, unless it's a new man coming in.

Q. Is there any other initiating action that they characteristically use?

A. Yes, the pressure type. If you're walking down a trail and you see a fresh banana leaf lying on the trail or a piece of tin or something of this nature, be wary of it. CBU's with a pressure plate, antipersonnel mines, we have found. There's another thing that you'll need to watch for. We've had patrols go out in the evening and go off the trail to the area where they're going to set up the patrol. They won't see anything that night. They'll come back the next morning and find some brush lying across the trail. It's normal, everyday brush, but they'll say to themselves, "Well, that brush wasn't there when I came through here last night, so we'd better check it out." And they've found a grenade there. There would be a trail going through the brush and a grenade lying off to the side. All he had to do was walk by that brush and kick it. But since it wasn't there the day before, he was suspicious, and spotted it.

Q. What are the main ways that you have of detecting these things?

A. Visually. It's by noticing things that are uncommon, or being wary of certain areas. For example, you're going through an area that has a lot of hedgerows and you see an opening ahead of you. Well, if you can see that whole opening and watch where your feet are going to step as you go through, all right. But if you see an opening that's got some brush lying across it, just a few twigs or just a little bit of brush

that you can take your arm and move out of the way, this is the type of thing to watch. Because if ever you have to move that brush out of the way, you're liable to have a wire running through the brush and you can't see it.

Q. So really, you get some clues from the tactical conditions, too?

A. Right. Also the area you're working in. Don't be inclined to be complacent if you've worked an area for about a week and haven't seen any signs of VC in the area. Normally, you're not going to find as many boobytraps as if you go into an area that's VC infested. There, you know you're going to find them. Now different parts of the I Corps area itself differ; down where I was, there were a lot of boobytraps and mines. We'd run into four, five, maybe six or more boobytraps a day, plus at least three or four CBU's every time we went into an area that the VC were in. Now, often this area that we're in right along here will have no booby-traps. We find more NVA soldiers up here. The people that boobytrap are the VC; the NVA don't boobytrap that much.

Q. Which area was it where you found most of these boobytraps?

A. In the areas where the VC lived and operated.

Q. Where was that?

A. This was south of the Chu Lai TAOR. Now, north of the Chu Lai TAOR, up around Da Nang, the NVA don't boobytrap.

Q. You say you spot most of these things visually. Now what do you spot, the triggering device or the mine itself?

A. You won't find the mine, the grenade, or artillery round, itself. What you'll see first is the string. They use shoestrings, fishing lines, anything at all. I've even seen them use grapevines tied onto a grenade. You watch for anything that is out of place, or doesn't look like it grew there. You'll be walking along a trail and all of a sudden you'll see, on the side of the trail, a stick going straight perpendicular across the road. Watch this. Was that stick placed there or did it actually accidentally fall there? Sticks don't normally fall exactly perpendicular; they'll be off to the side.

Q. Will this be a marking sign?

A. This will be a sign. If the stick's across the road, it's a sign saying don't use this trail. It's boobytrapped or mined. If you walk along and all of a sudden you see a freshly cut stick on the side with the twigs cut off it and freshly cut on both ends, lying horizontal along the road that you're walking parallel with, it's a good trail. Now this is just a sign. Also if you see a forked stick, like a slingshot stick, with a vine or something tied across it making it like a slingshot, then behind the two forks you'll see something connecting the two forks. Well

this is a sign that in the direction that this stick points there's something probably 200 to 300 meters on. It's not 50 feet on the other side of it. It's 200 to 300 meters on down the trail or in that direction. Also you'll find little tufts of grass that are growing and all of a sudden you'll see some that are tied together like little haystacks or little mats that are tied together. This is an indication that something is boobytrapped on up ahead, though it won't be immediately on up ahead. If this is in front of a hedgerow, that hedgerow won't be boobytrapped. But the next one will be. I think it's a way of marking their boobytrap lines.

Q. Does this kind of alert you to a special danger area?

A. It alerts you. But normally by the time the company commander gets up there, the point has already gone through the area, because you'll work your point out 200 to 300 meters ahead of you.

Q. But will the point man recognize it?

A. He's the one who will pick it up. He'll hit the ground; you'll come up; the platoon leader will come up and say, "What's going on?" "What's the problem?" He'll say, "Boobytrap on up ahead." He'll say, "Why don't you go check it out. Take care of it." He'll go up there and come back and say, "All right, it's disarmed. I took care of it." They can find it. Once these boys hit one or two boobytraps or mines, you don't have to worry about them from then on. It's getting that new, inexperienced man up on point that you have to worry about.

Q. Does the attitude of the local people help? Have you gotten any help out of them?

A. Negative. The local people may sympathize with you, or they might be all for the Americans, but you're here for this five or ten minutes and then you're going and Charlie's coming back. They can't afford to be showing you where the boobytraps are. They can't afford to be helping you.

Q. Can you tell anything by their attitude?

A. Definitely. If you go into a village where the women come out smiling, and the little kids come up and say "Souvenir me," then this is an area where there are VC around, which there always are. But there are only one or two; they're just roving, or maybe they have an old man, a political VC but he's not hard core. When you go into an area where the women and children stay in the hut, and you have to go dragging them out, that's hard core, so watch yourself. You'll have kids taking grenades off your pistol belt and pulling the pin.

Q. Do you get any assistance from other detection methods, like dogs or mechanical equipment?

A. No, sir, other than on a trail where there are cattle walking; it's pretty safe to follow behind a herd of cattle if you can take the time. When you see trails with the cattle prints in the mud or dirt, you're pretty safe.

Q. Have you ever used dogs?

A. Yes, sir, I've used dogs. Dogs are outstanding. You have two types of dogs over here. You have the Labrador Retriever, which is a tracking dog. They're good. Then you have your German Shepherd which is a scout dog, and they're good. But don't expect a scout dog to do a tracker dog's job and vice versa. They can't do it.

Q. Do they really help you with this mine and boobytrap problem?

A. Yes, because if you have a tracker dog with you, you can go faster down the trail. Unless he spots something, you can move out. It's not that slow movement like the infantryman otherwise has to do, which gives Charlie time to boobytrap.

Q. Can he detect a wire or anything like that?

A. Yes, sir. They detect them and we've had occasions where they spot them before the point man will get there. The point men are pretty good at it, too. I've had a few cases where the dogs will spot them and let us know about them, but I haven't had the dogs with me enough to say that I prefer them to a good point man. I've used them; they're good but I haven't used them that much to swear by them.

Q. Do you have any special techniques for detecting or neutralizing command detonated mines?

A. We've only run into a command detonated mine once and it wasn't my unit that did it. It was one of my sister companies. The VC had Claymores; I don't know where they got them but they had them rigged up beautifully. They covered them with snipers. These you won't detect until it's too late. The only thing I can say on something like this is keep your people spread out. This is something all the schools teach you back in the States. You get over here and you'll hit one. You'll take two or three casualties with one boobytrap or one command detonated Claymore, and you'll never have to tell your men again to stay spread out. They stay spread out.

Q. Do you ever use grappling hooks?

A. Yes, sir. I got some grappling hooks and I used them. What we mostly used them for was in tunnels. You go in a tunnel and you find the inside of the tunnel boobytrapped; then you'll use the grappling hook. You'll get out of the tunnel and pull it out, pull the wire out. They boobytrap their tunnels.

Q. You don't throw it out along a trail to try to catch wires?

A. No. It's too slow.

Q. How about recon by fire? Do you do that at all?

A. We recon by fire and it's always paid off.

Q. Wouldn't that kind of discourage the command detonated type?

A. Well, you can't recon by fire everywhere. We usually recon by fire when we come into a little knoll or high ground that's thickly wooded and you know you're going into a village that is a hard-core VC village, and you know Charlie's there. You can't see anything, but you take your M79's and just put a couple of rounds over in there. Most of the time, it takes about the fourth or fifth round and they'll open up on you with automatic weapons from the area that you're reconning. You get them to disclose their position, and as soon as they open up, you just flank with a squad.

Q. Do you do any night detection of mines and boobytraps?

A. No, sir, other than you put listening posts out and maybe they'll help you close in so you can move out in the morning. But we're still going to run into them the next morning when we move out.

Q. When you're moving along and you find one of these boobytraps, would you go through the sequence of events that happen?

A. All right, let's say you're moving along the edge of a rice paddy going down a ridge, and you've got your point man out; you've got flank men out behind him and then comes your main body. Usually your flank men are the ones that pick up the boobytraps, not so much the point man. He's moving through an area that's easy to move through; that's not normally where they'll boobytrap. They boobytrap off to the side, hedgerows and trails. About the only thing you can do when you first spot one is everybody just hit the ground because where you spot one there are quite possibly going to be more. You can run into them individually but normally if you run into one, you'll look the area over and you'll find two or three more. So, you spot one and you hit the ground. Normally the squad leader will be up there before the platoon leader or company commander gets there. You don't go off half cocked; you'll come up to where the man has come back to and he'll say, "Right up there in the hedgerow there's a boobytrap." You'll say, "Okay, what kind is it?" "Well, it's a 155 howitzer with a blasting cap and a pull string." "All right, you think you can take care of it?" The squad leader will be standing there and he'll say, "We'll take care of it, sir." All right, you go back and you tell everybody to get down, that it's a big one. They'll get down over a bank in defilade. We started out using the EOD Team. The EOD Team is an outstanding thing and they're doing a good job over here in Vietnam, but there just aren't enough of them to handle every boobytrap. There

aren't enough; they don't have transportation capabilities of getting in to you and getting out that fast.

Q. How about the engineers? Don't they ever accompany you?

A. Well, yes; on certain operations we'll take them, but we operate every day and normally they don't go with us unless we're going into an area where there are a lot of tunnels and we need them to blow tunnels. Sometimes there will be an operation of such magnitude that you get your engineer team with you. But for everyday search and clear, there aren't enough engineers to go around. I have made up little demo kits using Claymore bags. One man carries the blasting caps secured so that you don't have to worry about them going off. Another man will carry the demolitions and the Claymore wire. He'll carry four to six sets of Claymore wire, and some C4 that we can easily get. Sometimes when we run out of C4 we'll just use straight grenades. You go up, take a grenade with an electrical blasting cap in it, and run the Claymore wire back over a hill. You have to use these Claymore chargers a couple of times because after they get wet and old they don't send out enough electrical charge to set off the electrical blasting cap. So we usually take a half PRC25 battery, that's got the little hole part in it, and just stick the two wires in there. That'll set it off. So we blow most of our own boobytraps. Now if we run into one that we don't want to get near because it looks like it's too sensitive, we don't touch them. We fall back, call the EOD team, and secure an LZ; they'll come in and they'll handle it. But we go ahead and blow the everyday grenade and the howitzer that you can see and know what you're doing with.

Q. Blow them in place?

A. We blow them in place. We never, you never touch a boobytrap.

Q. You never try to disarm them?

A. We never try to disarm them. We blow them in place.

Q. Do you report this to higher headquarters?

A. We do. We report every one of them to higher headquarters. Usually what we do is report, "This is a certain unit at a certain location; 15 minutes ago we found a boobytrap. The boobytrap was blown in place." We've already blown it and moved out of the area.

Q. Do you ever by-pass these things due to lack of time?

A. Negative, negative. You never by-pass them. The only time that you'd ever by-pass one is when you know you can immediately get back in the area, or if you're chasing right behind some VC, or if you're going into an area to secure a downed helicopter or something like that. Our primary mission then is securing and protecting that helicopter. Other than that, you take the time to blow them.

Q. What if you didn't want to reveal your presence?

A. On a company-size operation, you don't worry about revealing your presence. He knows where you are. If you are platoon-size or a platoon working an area, he still knows where you are. You don't have to worry about disclosing your presence. Now if you're squad-size, that's different. I don't think my squads have ever by-passed one. I'd like to say they haven't, but they may have. If they do by-pass them, I know they do come back and blow them later.

Q. Now on this reporting, I suppose they pass the word back through the column so that everybody knows about it?

A. Right, right. Everybody knows why they're stopped, and what's up there. You just yell when you get ready to blast, when you get ready to blow it up. You just yell, "Fire in the hole," and everyone gets down.

Q. This is then radioed back to your headquarters?

A. Yes, sir. We always radio back.

Q. Do you have any kind of a written follow-up report or anything like that?

A. Well, if that type of thing is done, thank goodness it's done by higher headquarters. They call us up and say, "Well, what type howitzer round was it? Was there a serial number on it when you blew it?" "Negative it was an old one."

Q. Now on the dissemination of this kind of information, if you're going into a new area of operations, do you get this as part of your intelligence?

A. Right. The S3 in my experience has always been the one who has said, "All right, you're going to be operating in this area. We know that there's a 50 calibre machinegun up on this hill here; we've run into boobytraps, here, here, and here on the map." He shows us. We get good intelligence. The only time we don't get good intelligence is if we're the first unit going into that area. When we come back out, we give it to the other company commanders. By that, I mean units operate on their own. We don't get with each other that much. I don't see the other unit commanders that often. But we pass the information. "Hey, I hear A Company's going to be coming into this area next week. Here's what we found and here's where we found it." We tell the S3, so he knows that the next time a company comes in here, they know what you have found, where you have found it.

Q. Is there any kind of information distributed by battalion or higher that kind of keeps you posted on these areas?

A. No, I don't know of anything from higher than battalion the full time that I was with my company. What I got, I got from our S3, everything.

Q. I presume when you pass the order on to your people, you give them all this information?

A. Right. You definitely keep each other well informed. It's a matter of your life if you don't.

Q. Is the average enlisted replacement that you get over here just out of AIT?

A. Yes, sir.

Q. How about his training in the area of mines and boobytraps? Do you feel that it was adequate?

A. Let's say I get a sergeant in, that this is his third tour in Vietnam and that he's got all sorts of awards and decorations. When he comes into my unit, I consider him ignorant of everything. I don't consider him to know a thing. I say, all right, the training, the schooling you've had, the experience you've had is outstanding but I want you to work for a week or so with another squad leader before I give you your squad. I want you to get out there and see the area, see what we're running into, firsthand.

Q. How about the AIT graduate? Does he have enough background to understand what you're talking about?

A. He knows what we're talking about, and when he comes over here, he's fearful. He's not complacent. They come over here knowing what a boobytrap is, but they've never seen one before. Well, maybe they've seen one before, but what they've seen was in a demonstration. They've never actually found one yet on their own. So they come in, and we put them with a buddy, put a new man with an old man. If it's a man's replacement, we'll let him work with that replacement for a while, before the old man leaves. If the veteran has already left, we'll put him with a squad and assign him to a man that's been here quite some time. A good man knows what he's doing. He'll work as a part of a buddy team for at least a week, and maybe more if the man is not good at this sort of thing. You find some men who are good at it. After they've found one or two, you never have to worry. They'll find the rest of them from then on. You'll find some men who have stumbled into four or five of them, and will never spot one. You make ammo bearers out of the men who can't spot a boobytrap. They don't have the talent to make a good rifleman. A rifleman will eventually be a team leader and squad leader, and someone who's good at running point.

Q. How about your NCO's and your junior officers, do you feel that they're adequately trained?

A. Yes, sir. Back in the States, before our unit came over, all the company commanders were hoping to get in that well-experienced, old, hard-crusted NCO. That old, well-experienced, hard-crusted NCO makes a good platoon sergeant, but for squad leaders, I prefer that young man, that young buck sergeant. Generally speaking, recognizing that there will be

the individual exception, I prefer to have the young buck sergeant. He's more flexible; he can go out there and go all day, go all night, and go all the next day. The younger man bounces back quicker; he's more agile. When his whole squad's dead tired, he can go up there and run point because he knows what he's doing. He can do it, keep you going. But the old, crusty NCO, even though he might be a buck sergeant with, say, 15 more years in service, is going to end up being your platoon sergeant, even though he's only an E5.

Q. Does he give you the stability that you need?

A. The stability; he's the type of man that, when the going gets rough, everyone looks to him to see if he's still going. If he says, come on team, we can make it, he'll keep the young buck sergeants going. But I'd rather have a young buck sergeant up there running the squad.

Q. How about the new replacements? What kind of training do they get before they come down to the field?

A. I don't really know all the training they get. I know back in the States, now, they're getting specialized training for this type of warfare. Over here, when they hit country, they go through a week and, in some cases, through two weeks of this training that they have here. They go through the boobytrap schools; they get plenty of experience before they get out here. They get the old book-learning type, and what they need is what we give them, that week or so in the field. They're not worried about hitting a boobytrap on their own, because they've got their buddy right there training them, showing them what to do, right there in front of them.

Q. That's OJT?

A. Right, OJT.

Q. That's the follow-up training that you do in your units. The main thing is OJT?

A. Right.

Q. In this area of mines and boobytraps training, is there any additional training that these people receive? Do you send them back for any special schools or anything like that?

A. Yes. The Americal Division has a new NCO School. We take our more promising acting NCO's or more promising Specialist 4's, and send them back; I think it's for six days of school. They get additional training that is peculiar to different areas that they haven't worked in.

Q. Now in this mine detector training, who trains them and who gets trained?

A. We do the training, and we train the more alert individuals. There's not that much training. It's just a matter of showing them how to change the batteries, how to wear the headset, and what to listen for. He has to be taught how to use it.

Q. The engineers don't come down and help you with your training?

A. There just aren't that many engineers in Vietnam.

Q. Could you give some recommendations for improving the mines and boobytraps training of these people in the U.S.?

A. I think giving the facts to them, that the majority of the casualties taken in Vietnam by the Infantry are from mines and boobytraps, and not from VC fire. The VC isn't that good as a marksman. Now your NVA are another story. He is. When he snipes at you, someone gets hit.