

ARMY CONCEPT TEAM IN VIETNAM  
APO SAN FRANCISCO 96384

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DEPARTMENT OF THE ARMY  
ARMY CONCEPT TEAM IN VIETNAM  
APO San Francisco 96384

FINAL REPORT

60TH INFANTRY PLATOON (SCOUT  
DOG)(MINE/TUNNEL DETECTOR DOG)

ACTIV Project No. ACG-65F

December 1969

Approved:

*C. B. McCooid*

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Commanding

DEPARTMENT OF THE ARMY  
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APO San Francisco 96384

AVIB-CO

2 January 1970

SUBJECT: Final Report - 60th Infantry Platoon (Scout Dog)  
(Mine/Tunnel Detector Dog)

Commanding General  
United States Army, Vietnam  
ATTN: AVHGC-DST  
APO 96375

1. Reference: Letter, AVHGC-DH, Headquarters, US Army, Vietnam, 23 February 1967, subject: Letter of Instruction.
2. In accordance with the provisions of the foregoing reference, the attached final report is forwarded for review and transmittal to Department of the Army.
3. Request one copy of the USARV and CINCUSARPAC forwarding indorsement be furnished the Commanding Officer, Army Concept Team in Vietnam (ACTIV).

FOR THE COMMANDER:



JOSEPH W. STRAUB  
Captain, AG  
Adjutant

#### AUTHORITY

Message, 901149, Department of the Army, to Commander in Chief, United States Army Pacific and Commanding General, United States Army, Vietnam, 14 March 1969, subject: Operational Evaluation of the 60th Infantry Platoon (Scout Dog)(Mine/Tunnel Detector Dog) in RVN.

#### ACKNOWLEDGMENTS

Appreciation is expressed to the Officers and men of the 25th Infantry Division and the Americal Division whose professionalism and cooperation were fundamental to the conduct of this evaluation.

#### ACTIV PROJECT OFFICER

LTC Ben O. White, Jr., Infantry

## ABSTRACT

The Army Concept Team in Vietnam evaluated the 60th Infantry Platoon (Scout Dog)(Mine/Tunnel)(60th IPSD) to determine its suitability for tactical employment with US Army units in RVN. The 28 man platoon had 14 mine and 14 tunnel dogs. The mine dogs were trained to detect explosive artifacts and trip wires. The tunnel dogs were trained to detect open and camouflaged holes and trip wires. The 60th IPSD arrived in RVN on 22 April 1969 and was assigned to the 25th Infantry Division until 28 July 1969. The platoon was reassigned to the Americal Division for the remainder of the evaluation which terminated on 15 October 1969.

The evaluation resulted in proof that mine and tunnel trained dogs can perform effectively in the RVN; however, the (1 to 1) mine/tunnel dog ratio should be changed to 2.5 to 1 to satisfy the greater demand for mine dog support. The evaluation established that, for command and control purposes, the dog platoon should be employed as an integral unit. It is recommended that a mine/tunnel dog platoon be assigned to each division in the RVN and that a platoon minus be tailored to fill the needs of separate or independent brigades.

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## SECTION I

### INTRODUCTION

#### 1. REFERENCES

a. Letter, ACSFOR, Department of the Army, 28 January 1969, subject: Operational Evaluation of the 60th Infantry Platoon (Scout Dog)(Mine/Tunnel Detector Dogs) in RVN.

b. Disposition Form, AVHGC-OS, G3 USARV, 19 March 1969, subject: Operational Evaluation of the 60th Infantry Platoon (Scout Dog)(Mine/Tunnel Detector Dogs) in RVN.

#### 2. PURPOSE

To determine the capabilities of mine and tunnel detector dogs to locate mines, booby traps, trip wires, and tunnel openings in the operational environment of the Republic of Vietnam (RVN).

#### 3. OBJECTIVES

a. Objective 1. Evaluate use of dog/handler teams by the tactical units.

b. Objective 2. Evaluate handler's control of the dogs.

c. Objective 3. Evaluate the dog/handler communications equipment.

d. Objective 4. Evaluate assistance rendered by the dog/handler teams to tactical units.

e. Objective 5. Observe and evaluate the mine and tunnel dog units with respect to functional capability in the operational environment of RVN.

f. Objective 6. Evaluate logistical support requirements.

g. Objective 7. Evaluate methods for maintaining the learned skills of the dogs and their handlers.

#### 4. BACKGROUND

In May 1967, the Chief, Research and Development, Department of the Army, directed the United States Army Limited War Laboratory (USALWL) to determine the utility of dogs for the detection of mines, booby traps, trip wires, and tunnels. The effort began in January 1968. Training procedures were established, and technical feasibility was demonstrated at Fort Gordon, Georgia in July 1968. In August 1968, the 60th Infantry

Platoon (Scout Dog)(Mine/Tunnel Detector Dog) began training at Fort Gordon. The platoon arrived in RVN on 22 April 1969 for field evaluation.

## 5. DESCRIPTION

### a. 60th Infantry Platoon (Scout Dog)(Mine/Tunnel Detector Dog)

The 60th IPSD consisted of one officer, three headquarters enlisted personnel, two mine detector dog squads, and two tunnel detector dog squads. Each squad consisted of six enlisted personnel (dog handlers) and six dogs. Four additional dogs were assigned to the platoon, bringing the total strength to 28 personnel and 28 dogs.

### b. Mine Dogs

Mine dogs were trained to work without leashes on or within three feet of a road or trail. The dog was controlled by voice commands and by arm and hand signals. Mine dogs were trained to respond to the class of stimuli which included mines, booby traps, and trip wires. Mine objects used in their training were antipersonnel and antivehicular devices, Claymore mines, artillery shells, and grenades. These artifacts were either buried or placed on or above the ground. The same artifacts were used in booby-trap training, but their emplacement involved various kinds of camouflage overburden. The dogs were trained not to proceed beyond trip wires made of materials such as vines, metal wire, and thin nylon monofilament fishline. The dog responded by sitting. This indicated that he had found an explosive artifact or trip wire. A correct sit response was within two feet of the object detected. The dog was trained to move from this sitting position only on command from his handler. See Figure I-1 and I-2.

### c. Tunnel Dogs

Tunnel dogs were trained to find trip wires and camouflaged openings to subterranean cavities, e.g. tunnels, spider holes, and cache storage pits. Tunnel dogs worked without leashes and off trails at distances up to 30 meters ahead of the handlers. The movements of the dog were controlled by arm and hand signals from the handler until the dog alerted. The dog was then on his own to locate his target. The dog responded by sitting within two feet of the object and remained in that position until released by his handler.

### d. Dog/Handler Communications Equipment

Mine dogs were trained to work up to 100 meters or more in front of the handler, thus they frequently ranged out of sight of the handler. To assist communications, the team may be equipped with the AN/PRT-11 transmitter and the AN/PRR-9 receiver. The transmitter was a small portable unit attached to the collar of the dog with an eight-inch antenna extending upward. The receiver was worn by the handler on his helmet. Movement of the dog was relayed to the handler by a transmission of oscillating tones. When the dog was motionless, indicating a response, a monotone signal was emitted by the transmitter.



FIGURE I-1. Mine Dog Making Correct Sit Response to Buried 105mm Round.

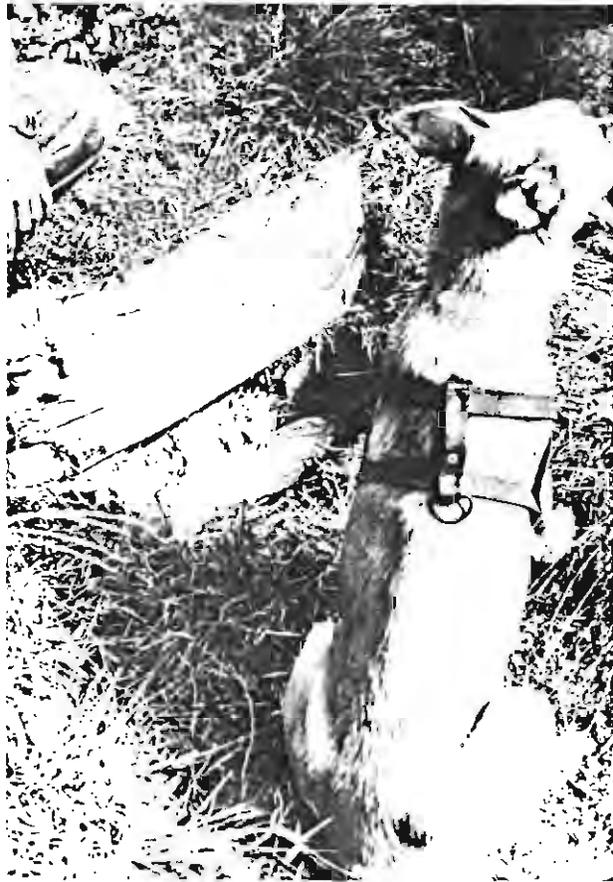


FIGURE I-2. Top View, Mine Dog Making Correct Sit Response to Buried 105mm Round.

e. Definitions

Support Mission - A mission in which a mine or tunnel dog accompanied a unit. A support mission began when the dog left the compound and ended when he returned to the same.

Mission Day - A day or part of a day during which a dog was on a support mission.

Active - When a dog was working with the supported unit searching for mines, booby traps, trip wires or tunnels.

Passive - When a dog was moving with the supported unit but not in the active role.

6. METHOD OF EVALUATION

a. Employment

(1) Evaluation of the mine and tunnel detector dogs was divided into two phases. Phase I was conducted with the 25th Infantry Division from 22 April to 27 July 1969. Phase II was conducted with the Americal Division from 28 July to 15 October. In addition, two dog/handler teams were assigned to the First Marine Division for a total of about 24 days. These areas of operation provided a representative sampling of the RVN environment.

(2) Field evaluation was programmed to begin on 5 May after the 10-day quarantine period, administrative processing, and the in-country orientation course. However, results of check trials revealed the dogs required retraining. The first dog was used on a tactical operation on 10 May. There was a 78-day data collection period with the 25th Infantry Division. A 78-day data collection period was also conducted with the Americal Division.

(3) The dog/handler teams were attached to subordinate units on each tactical mission. Techniques of employing the dog/handler teams were controlled by the supported unit commanders. At the 25th Infantry Division the guidance provided the supported unit was a briefing by the handler, generally outlining the dog's capabilities and limitations. At the Americal Division, the letter attached at Annex A provided guidance on utilization of the dogs. The handler also had the requirement to brief the supported unit.

b. Data Collection

The following sources of data were used to accomplish the evaluation.

(1) Mission questionnaires completed by dog handlers and tactical unit commanders after each mission.

(2) Interviews with personnel of the 60th IPSD and the supported units.

(3) On-site observations by the ACTIV Project Officer.

(4) Review of 60th IPSD unit records.

## SECTION II

### DISCUSSION

#### 7. TACTICAL EMPLOYMENT OF DOG/HANDLER TEAMS

##### a. Operational Control

(1) The 60th IPSD was headquartered at a central location within each of the supported divisions and was employed as an integral unit throughout the evaluation period. The platoon was located at Cu Chi. It was used to support one brigade while attached to the 25th Infantry Division. The brigade S3 coordinated all dog support missions for the dog handler teams. During the latter half of the evaluation with the Americal Division, the platoon was located at Chu Lai. The platoon supported the entire division with the G3 element of the tactical operations center (TOC) controlling all dog/handler team mission assignments. All requests from subordinate unit headquarters were received by the TOC and priorities for allocation of dog resources were determined at this point. Requirements were then levied on the 60th IPSD. Both TOC personnel and the 60th IPSD platoon headquarters knew exactly how many dog/handler teams were committed and/or available at any given time. The methods used by each division proved to be practical and effective.

(2) The platoon leader was responsible for keeping the TOC/Brigade S3 informed as to the current status of his resources. During the latter part of the evaluation, the mine dog teams were requested to such an extent that some mission requests had to be denied in order to provide adequate rest for the dog teams. The platoon leader insured that his dog handler teams were fully capable of satisfactory performance before being committed, and the commanders concerned were made aware of the importance of this matter. The supported commanders rapidly developed an understanding of this requirement, consequently no serious problems occurred.

(3) The 60th IPSD Command Post required as much advance notice for the dog handler team support missions as the tactical situation permitted. A team could be readied and available with as little as one hour notice, if necessary, but it was desirable for the platoon to receive notice one day in advance to permit orderly programming of team assignments. The platoon desired as much information as possible about the pending operation in order to select the best dog for a given situation. Some dogs performed better under certain conditions than other dogs, e.g., road clearing, moving through dense vegetation. The dog was thoroughly checked by the veterinary technician. The platoon leader or platoon sergeant inspected the handler and his equipment prior to pick up for delivery to the using unit.

(4) The 60th IPSD maintained its unit integrity throughout the evaluation. This permitted effective centralized command and control of the platoon tactical employment and overall operational capability. It also permitted the use of a centralized training facility which could be closely supervised by the platoon leader and platoon sergeant. Requirements for training equipment, facilities and trained supervisors to maintain the dog/handler proficiency were thereby reduced to a minimum. Of equal importance was the fact that the platoon leader could more effectively meet priority mission support requirements while at the same time meeting his administrative, veterinary and rest requirements for the dog/handler teams.

(5) While not stated as a required objective in the evaluation, information regarding a recommended basis of issue was obtained. Throughout the evaluation the 60th IPSD proved to be an adequate allocation of mine/tunnel dog assets to meet the average requirements of a division with a mine/tunnel dog ratio of 2.5 to 1. At times the total division requirements exceeded assets, but in general the priority requirements were met by the platoon. A platoon minus should be allocated for each separate brigade. The number of dogs assigned to the platoon in support of a separate brigade could be tailored to the requirements of the brigade. However, the platoon headquarters is essential for the reasons stated in paragraph 7a(4).

b. Employment

(1) Mine dogs were mostly employed with platoon sized units although some units varied from squad to company size. Missions were classified by the handlers and unit leaders as Reconnaissance in Force (RIF), sweeps, search and destroy (clear), land clearing operations, and road sweeps. Based on interviews, it was determined that the units operated in essentially the same manner for the first three type missions and the mine dog team was employed in practically the same way on these three named missions. The dog handler was briefed by the unit leader before departing on the supporting mission. The briefing would include facts about the type of terrain, length of mission, and enemy information to include known or suspected details about the enemy employment of mines, booby traps, trip wires, punji pits, and any other lethal or injurious devices. The handler also briefed the supported unit leader regarding the dog's capabilities and limitations. This matter must be clearly understood before the operation commenced. The requirement for adequate rest periods were emphasized, otherwise the dog's performance would deteriorate and bad responses or misses were likely to occur. The unit leader must understand that the dog should not be made to walk a tiring distance, i.e., two or more kilometers, before the dog was committed to an active search role.

(2) The dog team would be transported as far forward as tactically feasible to conserve the dog's energy. Once the unit began its foot movement, the mine dog team would move to the front of the leading element. At this time, the dog team became the point element of the advancing force. As such, the handler and dog were usually vulnerable to enemy fire. Security for the dog team was absolutely necessary to protect the handler, thus permitting him to concentrate on his dog's actions to detect any alerts given by his dog. Security for the handler usually consisted of two riflemen walking behind and to his flanks, staying within the area cleared by the dog. The unit leader followed within 20 to 50 meters behind and within sight of the handler.

(3) Techniques used by the handler varied depending on terrain, climatic conditions, and the type of mission. It was determined that the most desirable distance for the dog to work in front of the handler was 5 to 15 meters. On some occasions the dog worked at greater distances, but it was always desired that the dog remain within sight of the handler. There are two basic reasons for this visual contact: first, the handlers preferred to control their dogs by using arm and hand signals or voice commands; and second, it was considered unsafe for the members of the using unit to permit the dog to range out of visual contact. Most of the supported units employed the dog teams off roads and trails. When a dog ranged out of visual contact and his response was noted by radio signal, the handler had no idea of the animal's location. This presented a serious safety problem since the detected object could be an explosive device located between the dog and handler, and could be detonated while looking for the dog.

(4) Mine dog teams were used with engineer units on land clearing operations in areas where known or suspected enemy explosive artifacts were located. The dog team, covered by security elements as described above, was employed ahead of the land clearing equipment. No major problems were encountered during these operations.

(5) Road sweeps were performed frequently with division engineer elements. The mine dog team was used as the lead sweep team with security personnel immediately available. Two mechanical sweep teams normally followed the dog teams. In some cases, sand filled pressure trucks followed the sweep team as an additional safety measure. The dogs ranged ahead of the handler at distances varying from 5 to 50 meters. The greatest road length covered by one team on a given day's operation was approximately nine kilometers of hard surface road. This sweep took about seven hours and proved to be too tiring under hot conditions. Also, the dog's pads were badly damaged as a result of the hot rough road surface. Injury to the dog's pads would have been minimized or completely avoided had the using unit understood the dog's capabilities and limitations and observed the handler's recommendations. Other than physical discomfort for the dog team, road sweep operations proved to be very successful.

(6) Tunnel dogs accompanied units on sweep operations where known or suspected enemy tunnel complexes were located; however, most of the support missions were with units on cordon and search operations. The object of this operation was to seal off a village area, move all inhabitants to a central location for screening and interview, then search the village. The tunnel dog was used to search around the houses to detect concealed storage areas and hiding places. Sometimes the dogs accompanied troops inside the homes; however, this was not a general practice since the troops can uncover most of the concealed cavities within a house. The tunnel dogs were worked in much the same way as the mine dogs. They ranged from 5 to 20 meters ahead of the handler, sometimes at greater distances in open terrain, but always within sight. At times friendly troops would be abreast of the dog when working in villages, but it was determined that the dog worked best when out in front of the supported unit.

(7) The food reinforcement system was used as much as possible when a dog made a correct response. This system was always supplemented with affection. Due to the adverse environmental operating conditions, i.e., intense heat, high humidity and difficult terrain, the dogs tended to lose their appetite and refused to take food reward in many cases. The handlers resorted solely to affection reward under these circumstances with no noticeable depreciation in the dog's capability.

#### c. Communications and Control

(1) Communications between handler and dog, and between handler and supported unit leader were satisfactory. Voice commands and arm and hand signals were the preferred methods of communication for controlling the dog. In some instances the unit leader criticized the handler for using loud commands to control his dog. Hot, dry, sunny weather conditions predominated when the dog refused to respond properly to handler commands. When the dog tired, his natural tendency was to seek shade and/or water. By resting the dog at least ten minutes every working hour and providing water as needed, the control problem was manageable in most cases. Dense brush, tall grass (elephant grass), and swampy areas created some distraction for the dogs which degraded handler control. When possible, units bypassed these areas.

(2) The dog harness-mounted AN/PRT-11 transmitter and the handler AN/PRR-9 receiver were tested during the evaluation. Because of the techniques used for dog employment, i.e., keep the dog in sight at all times, the radio receiver system was not used other than for test purposes. No equipment problems were noted with either the transmitter or receiver. The systems performed as they were designed to do. However, handlers noted that the continuous signal emitted by the receiver was distracting with prolonged use.

#### d. Incidents

(1) The 60th IPSD personnel suffered a 25 percent casualty rate during the evaluation. Handler losses resulted in less utilization of some dogs. There were no handler losses due to the dog's performance. Replacement handlers were not made available during the evaluation period. Two mine dog handlers were killed in action. Neither was actively working his dog at the time. One handler was killed by an unknown type explosive while his unit was taking a rest break. At the time, he was alone on the unit's perimeter. It was believed that he detonated a booby trap located in a hedge row. The other handler was killed by mortar fragments when his unit was subjected to an attack while in a night bivouac.

(2) Two seriously wounded handlers were evacuated from Vietnam. One stepped on a M14 antipersonnel mine while walking his tunnel dog in a passive role with the supported unit. His foot required partial amputation. The other handler was wounded by fragments from an M79 round which was accidentally discharged by a friendly force.

(3) Three mine dog handlers received minor wounds from enemy action. One was injured by grenade fragments and another was injured when the truck in which he was riding detonated a mine. The other handler was injured on his first support mission. His mine dog had responded correctly on three occasions to trip wire devices. The dog made a fourth correct response and as the handler approached the dog he fainted from heat exhaustion, falling on the trip wire. A grenade was exploded wounding both handler and dog. Later, upon medical examination, it was discovered that the dog had been deafened by the explosion. The dog has recovered partial hearing, but he has never been committed to a support mission as of this report date. It was believed by the attending veterinarian that the dog will eventually completely recover his hearing.

(4) Two dogs have died, one mine and one tunnel dog. Neither death resulted from enemy action. The tunnel dog died from heat stroke and the mine dog from pneumonia and congestive heart failure.

(5) Three dogs were wounded in action while on an operational mission. Two dogs recovered and the third discussed in paragraph 7d(3) is expected eventually to regain his hearing.

### 8. DOG/HANDLER TEAM ASSISTANCE TO SUPPORTED UNIT

#### a. Artifacts Found

A summary of the positive responses and alerts is presented in Figure II-1. The mine dogs made 76 positive responses on ordnance and trip wires; 21 positive responses on tunnels, punji pits, caches, and spider holes; 6 alerts on enemy personnel; and 14 alerts that were not

SUMMARY OF POSITIVE RESPONSES

	Mine Dogs		Tunnel Dogs		Total
	25th	Americal	25th	Americal	
Mines	10	5	1	1	17
Booby traps	8	9	8	0	25
Trip wires	8*	3	10	0	21
Unexploded ordnance	18	15	11	3	47
Tunnels	7	3	34	32	76
Bunkers	0	0	7	16	23
Spider holes	0	1	3	7**	11
Punji pits	3#	5	4	0	12
Caches	1	1	0	5	7
Enemy personnel alerts	4##	2	1	0	7
Alerts not checked	14	0	3	0	17

\* - One mine dog detected four trip wires in one area.

\*\* - One find included 22 spider holes.

# - One find included 15 punji pits.

## - One alert revealed five VC in hedgerow.

FIGURE II-1. Summary of Positive Responses.

checked by the supported unit: The type mines detected included Chicom TNT, Claymore, antipersonnel, and a 105mm shell buried 3 feet deep with a release type detonator. In many cases it was difficult to distinguish between the booby trap and unexploded ordnance categories because many ordnance items were blown in place. The ordnance in the unexploded ordnance category included individual small caliber ammunition rounds, an ammunition can filled with AK47 rounds, hand grenades, 40mm rounds, artillery rounds (105mm, 155mm, 8-inch), and a 750-pound bomb. One response was made to a haystack filled with several 90mm shells. Ordnance in the booby trap category included hand grenades, a 155mm round buried on the side of a bank, an 81mm round buried two feet, and a packing case filled with explosives. Mine dogs made positive responses on ten tunnels (including entrances and air vents) and eight punji pits. Enemy personnel alerts were significant because in several cases possible ambushes were avoided. Often the dogs were not allowed to complete the search after alerting because of tactical reasons; therefore, the stimuli were not identified. A total of 108 tunnels, bunkers, spider holes, punji pits, and caches were detected by the tunnel dogs. In addition, the tunnel dogs made 34 responses to mines, booby traps, trip wires, and unexploded ordnance and 1 alert on enemy personnel.

b. Artifacts Missed

(1) There were 12 confirmed cases where mine dogs missed an artifact and two cases of tunnel dogs not making a response. Several misses were on ordnance and explosives that had been emplaced for a long period. Two misses were 30-pound plastic mines of ammonia nitrate. Three misses were antitank mines. Two of these misses occurred after heavy rains. Both were also missed by mine sweep teams. One of these resulted in three KIA when a member of the supported unit stepped on the mine. One miss was attributed to the mine dog being distracted by a nearby pool of water.

(2) Detecting ordnance that had been emplaced for a long period seemed to be a problem for the mine dogs. This was confirmed by a limited experiment conducted by the 60th IPSD using four ordnance and two trip wires. The trail was laid out and left for seven days. Four mine dogs were run on the trail with the following results: 10 good responses, 6 bad responses, and 8 misses.

c. Effects on Supported Unit Mission

(1) The effect of the dog on the security of the supported unit was rated by patrol leaders. Results of the ratings were:

<u>Rating</u>	<u>Percent of Respondents</u>
Dog enhanced security	85
Dog had no effect	12
Dog hindered security	3

Some of the favorable comments were: "Although the dog is not trained as a scout dog, he gave an alert just before we were hit by enemy fire." "We were in a booby trapped area. The dog was a great asset to our mission and saved my men from serious injury or death." "Dog found three well camouflaged punji pits. If the dog had not been with us, I'm afraid we would have suffered casualties from the punji pits." "Locals seemed leary of the dogs." Some of the unfavorable comments were: "Handler made too many loud comments." "Dog would not work, would lay down and not return to the handler."

(2) The patrol leaders were asked to comment on whether the dog maintained pace under all conditions. Approximately 92 percent stated the dog maintained pace. Some of the negative comments were: "Dog seemed a little anxious, had to be disciplined several times during mission." "The dog slowed and moved to the shade."

(3) Results of the patrols Leader's ratings of the mine dog team performance were:

<u>Rating</u>	<u>Percent of Respondents</u>
Performed well	85
Performed fair	12
Performed poor	3

Some comments for fair and poor ratings were: "Dog was too hot to work." "Dog was not trained on Chinese TNT mines." "Dog was distracted too much." Favorable comments included: "The dog team allowed us to move faster." "The dog will prove to be a great asset in future operations and has the confidence of myself and my men", and "Lack of recent mining incidents indicates that the dog is acting as a deterrent to mining activities."

## 9. FUNCTIONAL CAPABILITY OF DOGS

### a. Availability for Duty

(1) The 60th IPSD arrived in the RVN on 22 April 1969. Ten days were programmed after arrival to allow for an in-country acclimation period. On 1 May, it was determined that the dogs were not in proper physical condition and that additional time would be required for the dog's adjustment to the heat and humidity in the RVN. Also the dogs' proficiency had deteriorated to some degree because they had not undergone any training since 1 April 1969. An additional 14 days were provided to alleviate these two problems areas.

(2) The mine dogs were available for duty a total of 1519 days, for a 69 percent availability rate. The tunnel dogs were available for duty a total of 1764 days, for a 81 percent availability rate. Two of the

dogs were killed and one was totally disabled. Sickness or injury caused a total loss of 509 dog working days. Handler availability enters into this consideration because the number of handlers was reduced due to deaths, evacuation, injuries, sickness, and emergency leave. Dog handlers missed some work days due to administrative reasons. Mine dog handlers missed 210 accountable days of the evaluation period. The tunnel dog handlers missed 165 accountable days.

b. Utilization Rates

(1) The total dog usage days as compared to the dog availability may be somewhat deceiving unless it is understood that four extra dogs were with the platoon at the beginning of the evaluation. The mine dogs worked a total of 593 days, or 40 percent of the total available time. The tunnel dogs worked a total of 413 days or 23 percent of the total available time.

(2) Dog/handler teams were committed each day the platoon was available for duty. An average of five mine dog teams were used daily; an average of two tunnel dog teams were committed daily. During the early stages of the evaluation, utilization rates were lower. This was attributed primarily to the fact that many small unit commanders were somewhat skeptical of the dog teams' capabilities; however, with experience in the dog teams' performance in the field, utilization increased. The mine dogs were used more than the tunnel dogs because mines and booby traps devices presented a more serious threat. For this reason, there should be more mine dogs and less tunnel dogs. Supported units as well as the platoon personnel strongly agreed that the 60th IPSD mine/tunnel dog ratio should be changed. In this regard, the practicability of training one dog to do the job that both types of dogs now do should be considered. The platoon command group and most of the handlers believed that a dog can be trained to find both mines and tunnels.

c. Endurance

(1) Dog endurance in RVN proved to be a major problem. In CONUS the dogs were trained to work about four hours in the active search role, then revert to a passive role. Upon commitment in RVN, most dogs experienced heat problems after working only one to two hours. The dogs gradually increased their endurance until they could work in the active role under very hot, humid conditions from four to seven hours.

(2) The dog handlers stated that the animals should receive more strenuous physical conditioning during their training periods. Dogs should be taken on road marches by their handlers and should be exercised strenuously by running obstacle courses. It was very important for the dog handler team to be able to move on foot for prolonged distances without slowing the supported unit. Endurance walking also helped toughen the dogs' pads, thus decreasing the probability of sore pads when used on road clearing missions. Since hot surfaces adversely affected a dog's performance by burning and causing sore pads, it appeared that some type of boot could be

used by the dog as a part of their training program. A durable foot gear of some type would definitely increase the dog's operating capability, but it might decrease his agility.

d. Distracting Factors

(1) Gunfire and explosions caused an adverse reaction in about 50 percent of the dogs. Some dogs were affected to a greater extent than others. In some cases, the dogs attempted to run away and when caught whined, whimpered, and cowered. In extreme cases, dogs were ineffective for 30 minutes to an hour. Most dogs, however, recovered rapidly with handler encouragement. A few dogs became excited, barked, and showed aggressiveness during firefights. Blank ammunition was not available to use during base camp trial runs, as was done in CONUS. In the areas where the 60th IPSD was located, it was not practical to set off explosive devices or fire blank ammunition.

(2) Dogs were occasionally distracted by animals; however, handlers satisfactorily controlled this reaction. Dogs were seldom distracted by Vietnamese personnel. Motor vehicles posed a minor safety problem.

10. TRAINING

a. Predeployment Training

The training procedures used in CONUS are basically sound. However, the shortcomings discussed below limited the performance of the dog teams in the RVN environment.

(1) The most significant problem during the evaluation was the difficulty of the dogs in acclimating to the high temperatures. The 60th IPSD completed CONUS training in April 1969; therefore training was conducted during the winter months, causing an extreme variation between the dog's CONUS training environment and the RVN employment environment. One or more of the following actions could be considered to alleviate this problem:

- (a) Scheduled CONUS training during the summer months.
- (b) Locate the mine/tunnel detector dog school in Panama or another suitable environment.
- (c) Complete terminal phase(s) of training in Okinawa.
- (d) Test a variety of different breeds, to include cross breeds, in CONUS.

(2) The mine dogs were trained in CONUS to work on or within three feet of a road or trail. This constrained the initial employment

of mine dogs because of the supported unit's desire to use the dogs on area sweep type operations. In-country training of the mine dogs to work completely from arm and hand signals was accomplished and has proved adequate. CONUS training should be such that the mine dog will effectively function across any type terrain, responding to the arm and hand signals of the handler. Training should include operating on, parallel to, and across roads and trails, and not be restricted solely to them. Final phases of training should be representative of the tactics used by units in conducting patrols and sweep operations. Training should include approaching and penetrating hedgerows and operating parallel to hedgerows. Predeployment training should include simulated ambushes so handlers can learn dog's reactions.

(3) A more general variety of explosive artifacts should be included in the mine dog training program. US type ordnance and captured mines and booby traps of all types should be used. The method of employment should be varied and represent current VC/NVA techniques. A collection of captured enemy artifacts is available in RVN and can be obtained through appropriate military channels for use in CONUS training.

(4) Trip wire training should include wires that are:

- (a) Buried up to two inches in wet or soggy ground.
- (b) At various heights, from on the ground through six inches.
- (c) Of various lengths, two feet through ten feet long.
- (d) Made of bamboo or heavy wire such as that used on C-ration cases.

(5) CONUS training should include more praise, reinforced by the food reward system currently used. Some dogs frequently became so hot they refused to accept the food reward during an operation. Platoon personnel were of the opinion the dogs may eventually work solely on affection reward.

(6) All dogs should be trained to return to the handler in response to a "silent" whistle. Sometimes the dogs were out of sight due to vegetation and verbal recall endangers the security of the unit.

#### b. In-Country Training

In-country training was conducted as outlined by USALWL published guidelines and in general proved adequate. Check runs were made daily with each dog. Each dog was required to maintain an average of finding 85 percent of the training aids before being committed on a mission. In addition to the referenced guidelines, the following points should be brought to the attention of all concerned, especially the divisions (or other units) to which the mine and tunnel detector dogs are attached.

(1) Secure areas of sufficient size in which to set up training areas were required to maintain the proficiency of the dog/handler teams. An area of approximately one kilometer by one kilometer is a minimum requirement for 28 dogs, the current strength of the platoon. This was required because, if the same training artifacts were used for a number of dogs, the possibility existed that following dogs may react to the scent of a preceding dog instead of the mine or booby trap.

(2) Base camp obedience training should be conducted as prescribed and with daily emphasis. The importance of obedience training was constantly stressed by the handlers and supervisory personnel when questioned on daily dog training requirements. Base camp training should also include running dogs through an obstacle course for obedience training and to exercise the dogs. See Figures II-2 and II-3.

(3) Established retraining procedures for changing a dog handler and introducing new artifacts should be followed. Personnel actions should consider that the minimum lead time for changing dog handlers within the platoon was approximately two weeks; the minimum lead time for training a new handler from outside the platoon was approximately four weeks. Command emphasis should be placed on a continuous in-country platoon training program for the handlers, dogs, and dog/handler team. Also, command emphasis should be placed on obtaining enemy mine and booby trap artifacts that were currently used in the unit's area of operation. The new artifacts and enemy techniques should be included in the daily training program in a realistic manner as soon as possible.

(4) Stringent criteria should be used in selecting personnel for the mine and tunnel detector dog platoon. The selected individuals should be highly motivated, of above average intelligence, in excellent physical condition, and most importantly have a high regard for dogs. Selected individuals should be thoroughly trained in enemy mine and booby trap employment techniques. This training should be included with his training as a dog handler and updated by periodic training classes.

## 11. LOGISTICAL SUPPORT

### a. Veterinary Support

(1) Veterinarian support for the 60th IPSD was excellent. Veterinarian support was provided on an area-support basis. The division veterinarian inspected the dogs and kennel area on a weekly basis. All doctors were available on 24-hour call to provide emergency treatment and had access to MEDEVAC aircraft for emergency visits to the supported unit. Seriously sick or injured dogs were evacuated to medical facilities by MEDEVAC aircraft. Veterinary supplies were readily available in quantity and quality. The doctors had convenient access to surgical and laboratory facilities that were completely adequate.



FIGURE II-2. Mine Dog Negotiating Height Obstacle.



FIGURE II-3. 60th IPSD Dog Obstacle Course.

(2) The 60th IPSD TOE provided for one veterinary technician. The daily function of the veterinary technician was to supervise the grooming and daily care of the dogs, maintain dog medical records, and treat minor injuries and less serious illnesses. On a weekly basis he collected fecal samples and cleaned ears of all dogs. All dogs were treated with flea and tick dip every two to three weeks. Blood samples were collected monthly to screen for blood disease. The allocation of one veterinary technician to the platoon proved adequate.

b. Dog Related Equipment and Supplies

(1) The following dog related items were required by the 60th IPSD to support the platoon:

- (a) One rectal thermometer per handler. An initial issue at a rate of 1.5 thermometers per dog was recommended.
- (b) Additional choke chains and leashes. A supply of two choke chains and leashes per dog was recommended as the initial issue.

- (c) Shock collars for use in tripwire training. An initial issue of five per platoon was recommended.
- (d) Boots for the dog's feet to protect pads. An initial issue of two sets per dog was recommended.
- (e) M16 blank cartridges for use in daily training exercises.
- (f) Two transportable kennels.

(2) The 60th IPSD experienced delays in shipment of Prime dog food. However, this can be corrected in future deployment by proper requisitioning procedures with command emphasis by the supported units. Experience to date indicated that an average of four individual serving bags of Prime per dog per day was required. This equated to approximately four cases of Prime per dog for a three-month period. Subsequent requisitioning at this rate proved adequate. Because Prime was the principal reward for maintaining the dog's proficiency, it was mandatory that a sufficient resupply rate be maintained. The Prime food was packaged in small pocket size plastic bags and proved to be most convenient for the handler to carry.

#### c. Kennels

No permanent kennels were built at either division area for the 60th IPSD dogs because of short TDY periods. Temporary kennels were improvised using regular shipping crates, culvert material, and wooden boxes of various sizes (see Figures II-4 and II-5). These facilities proved adequate, and no medical problems were encountered relating to the dogs kennel area. The kennel areas were inspected weekly by veterinarians and were judged adequate and sanitary.

#### d. Table of Organization and Equipment

(1) The 60th IPSD was organized for deployment to RVN based on the Infantry Scout Dog Platoon Table of Organization and Equipment Number 7-167G, less vehicles. This TOE equipment allowance proved adequate, with the following exceptions. The .45 caliber automatic pistols (28 each) should be replaced with M16 rifles. Platoon personnel were unanimous in preferring the M16 and consistently used the M16 on operations, obtaining the weapons from supported unit assets. Also, allowances of equipment for mess related items should be omitted on subsequent deployment of platoons to RVN on the assumption they will be attached to supported units for mess and administrative support.

(2) The ratio of mine dogs to tunnel dogs should be reconsidered for future employment. The 25th Infantry Division and the Americal Division expressed a preference for 20 mine dogs and 8 tunnel dogs, a 2.5:1 mine to tunnel dog ratio. (This 2.5:1 ratio is consistent with the actual employment ratio of 5:2 discussed in paragraph 9.)



FIGURE II-4. Part of 60th IPSD Kennel Area at Chu Lai with the Americal Division.



FIGURE II-5. Kennel Made of Half Culvert Sections.

(3) Experience to date indicated that extra dogs should not accompany the platoon. Maintaining the proficiency of the four extra dogs was a continuing problem during the evaluation period. The extra dogs, or a regular dog which was not as proficient as one of the original extra dogs and thus replaced, were not used on operations. The handlers and supervisory personnel insisted on using the better dog on a regular mission basis. Each dog should be assigned to a permanent handler and each handler should be assigned only one dog.

e. Documentation

There was no published field manual which specifically addressed training and employment of mine and tunnel detector dogs. It is recommended that the responsible US Army agency develop a field manual which incorporates appropriate material from the USALWL operating manuals, lessons learned in RVN, and FM 20-20. An alternate suggestion is to update FM 20-20 with specific reference to mine and tunnel detector dogs.

## 12. FINDINGS

- a. While attached to the 25th Infantry Division, the 60th IP(SD) supported one brigade. Operational control was exercised by the brigade S3. (Paragraph 7a(1))
- b. While attached to the Americal Division, the 60th IP(SD) supported the entire division. Operational control was exercised by the G3 element of the TOC. (Paragraph 7a(1))
- c. The platoon leader and platoon sergeant personally supervised daily training activities, administrative matters and provided guidance, briefings and recommendations to supported units. (Paragraph 7a(2)(3)(4))
- d. The platoon headquarters personnel found it necessary to provide continuous guidance and supervision to the handlers. (Paragraph 7a(4))
- e. All dogs were worked within sight of the handlers using arm, hand, and voice signals. (Paragraph 7b(3))
- f. Adverse environmental conditions often caused the dogs to refuse food reward. The handlers resorted to affection reward. (Paragraph 7b(7))
- g. The dog harness-mounted AN/PRT-11 transmitter and the handler AN/PRR-9 receiver were evaluated and found to be effective but were not used on tactical missions. (Paragraph 7c(2))
- h. Two dog handlers were killed in action, two handlers were seriously wounded requiring evacuation from RVN, and three handlers received minor wounds from enemy action. None of the casualties were attributable to dogs missing a response. (Paragraph 7d(1)(2)(3))
- i. One tunnel dog died from a heat stroke, one mine dog died from pneumonia and congestive heart failure, and three dogs were wounded. (Paragraph 7d(4)(5))
- j. Mine dogs made 76 responses on ordnance and trip wires; 21 responses on tunnels, punji pits, caches, and spider holes; and six alerts on enemy personnel. Tunnel dogs made 108 responses on tunnels, bunkers, spider holes, punji pits, and caches; 34 responses to mines, booby traps, and unexploded ordnance; and one alert on enemy personnel. (Paragraph 8a)
- k. There were 12 confirmed cases where mine dogs missed an artifact and two cases of tunnel dogs not making a response. (Paragraph 8b(1))
- l. Eighty-five percent of the patrol leaders of the supported units rated felt that the dogs enhanced security of the unit. (Paragraph 8c(1))
- m. The dogs were not properly conditioned for the hot, humid environment on arrival in RVN. (Paragraph 9a(1), 10a(1))

n. An average of five mine dog teams and two tunnel dog teams were committed daily. (Paragraph 9b(2))

o. Approximately 50 percent of the dogs reacted to gunfire and explosions. Some dogs were ineffective for 30 minutes to an hour thereafter. (Paragraph 9d(1))

p. Continuous in-country training was required to adapt to unit tactics and to introduce additional artifacts and techniques of employment. (Paragraph 10b)

q. In-country veterinary support was excellent. (Paragraph 11a)

r. Additional dog related items were required by the 60th IPSP. (Paragraph 11b)

s. An average of four individual serving bags of Prime dog food per day per dog are required. (Paragraph 11b(2))

t. Adequate temporary kennels were improvised using regular shipping crates, culvert material, and wooden boxes. (Paragraph 11c)

u. Personnel of the 60th IPSP were unanimous in preferring the M16 rifle to the .45 caliber automatic pistol authorized by TOE. (Paragraph 11d(1))

v. The 25th Infantry Division and the Americal Division prefer a platoon mix of 20 mine dogs and 8 tunnel dogs. (Paragraph 11d(2))

w. Some handlers had more than one assigned dog. (Paragraph 11d(3))

x. There was no published field manual which specifically addresses training and employment of mine and tunnel detector dogs. (Paragraph 11e)

## SECTION III

### CONCLUSIONS AND RECOMMENDATIONS

#### 13. CONCLUSIONS

a. The mine and tunnel dogs are suitable for use by US Army units in RVN.

b. The dog harness-mounted AN/PRT-11 transmitter and the handler AN/PRR-9 receiver are not needed for use in RVN. (Paragraph 7c(2))

c. The mine/tunnel dog platoon headquarters personnel must be immediately available to both dog handlers and the supported unit leaders to provide the necessary command and control functions. (Paragraph 7a(2)(3)(4))

d. Field experience strongly indicates that the mine and tunnel dogs could be cross-trained. (Paragraph 8a, 9b(2))

e. Action should be taken to determine feasibility of training dogs to perform both mine and tunnel detection. (Paragraph 8a, 9b(2))

f. Mine/tunnel dogs should receive predeployment training in a climate similar to RVN. (Paragraph 9a(1), 9c, 10a(1))

g. Appropriate action must be taken to obtain a wide variety of explosive devices and other artifacts used in RVN to improve training and to maintain the proficiency of the dogs. (Paragraph 10b(3))

h. The mine and tunnel dogs are an excellent supplement to other detector systems, and should be used as such.

i. The ratio of mine to tunnel dogs should be 2.5:1. (Paragraph 11d(2))

j. One integral platoon of mixed mine/tunnel dog ratio 2.5:1 is required to support a division in the RVN. A platoon minus is required to support a separate or independent brigade. (Paragraph 11d(2))

k. The unit designation Infantry Platoon Scout Dog (IPSD) is a misnomer for a mine/tunnel dog platoon.

l. The mine/tunnel dog platoon be designated Infantry Platoon Mine/Tunnel Detector Dog (IPM/TDD).

14. RECOMMENDATIONS

It is recommended that:

- a. A mine and tunnel dog program be expedited to provide an adequate number of dogs for use by US combat units in RVN.
- b. Mine and tunnel detector dog platoons be employed as integral units in order to minimize the requirements for training equipment and facilities, insure effective supervision to maintain proficiency of the dog/handler team, and insure adequate assets to meet the priority requirements of the supported unit. (Paragraph 7a(2)(3)(4))
- c. A mine/tunnel dog platoon be assigned to each division. (Paragraph 7a(5), 11d(2))
- d. A mine/tunnel dog platoon (minus) be assigned to separate or independent brigades. The mine/tunnel dog platoon (minus) assigned to a separate or independent brigade should consist of a command element and a number of dogs tailored to meet the requirements of that unit. (Paragraph 7a(2)(3)(4)(5))
- e. Predeployment training be updated to include recommendations outlined in paragraph 10.
- f. The following changes to the TOE 7-167G mine/tunnel dog platoon be made:
  - (1) The platoon have 20 mine and 8 tunnel dogs with assigned handler for each dog. (Paragraph 11d(2))
  - (2) Delete .45 caliber automatic pistol and add M16 rifle in materiel allowances. (Paragraph 11d(1))
  - (3) The dog harness-mounted AN/PRT-11 transmitter and the handler AN/PRR-9 receiver be deleted from mine and tunnel detector dog training and materiel allowances. (Paragraph 7c(2))

DEPARTMENT OF THE ARMY  
HEADQUARTERS AMERICAL DIVISION  
APO San Francisco 96384

AVDF-GCDO

1 August 1969

SUBJECT: Utilization of the 60th Infantry Platoon (Scout Dog)

SEE DISTRIBUTION:

1. The 60th Infantry Platoon (Scout Dog) arrived in Chu Lai on 28 July and will remain in the division area until on or about 10 October.
2. The 60th I.P.S.D. is unique in that its dogs are trained to detect either mines or tunnels. Of the 21 dogs currently in the platoon, 11 are trained to detect tunnels and 10 are trained to detect mines. Four more dogs (two mine; two tunnel) and handlers will rejoin the platoon on 11 Aug. These dogs are currently working for III MAF. The dogs will require approximately ten days to become acclimated to the weather in the Chu Lai area and to conduct training which will acquaint them with the terrain in the Americal Division TAOI. The 60th I.P.S.D. will be ready to conduct missions for division units on 7 August.
3. Two teams each will be dispatched to LZ Baldy and LZ Bronco on a five-day mission basis for 196th Bde and 11th Bde units, respectively. The two teams for the 198th Bde will be dispatched from the 60th I.P.S.D. area located in the 1-82d Arty trains area. One extra mine dog team will be located at LZ Baldy for exclusive use by A/26th Engr for mine sweep duties on Hwy 535. Transportation arrangements will be coordinated directly with the 60th I.P.S.D. The 60th I.P.S.D. can be contacted by telephone through TYRANT switchboard.
4. All units are reminded that the 60th I.P.S.D. dogs must be segregated from all other dogs and cannot be billeted in any area that has been occupied by any other dogs. The dog handler will provide guidance on billeting requirements if the unit desires such information. The primary reason for the stringent billeting requirements is to prevent contamination by parasites carried by other dogs, particularly those in other scout dog platoons.
5. Training will be conducted daily at LZ Baldy and LZ Bronco if the dogs are not on a mission.
6. Team will be available to the 1-1 Cav and the 26th Engr Bn on a special

ANNEX A

AVDF-GCDO

1 August 1969

SUBJECT: Utilization of the 60th Infantry Platoon (Scout Dog)

mission basis. Teams required by brigades to exceed the two teams allocated will be available on a special mission basis. All special missions will be requested through DTOC.

7. Demonstrations on the effectiveness of the mine/tunnel dogs will be conducted according to the following schedule:

11th Inf Bde (LZ Bronco) - 2 Aug

196th Inf Bde & 1-1 Cav (LZ Baldy) - 3 Aug

198th Inf Bde & 26th Engr Bn (60th I.P.S.D. area) - 4 Aug

Transportation will be furnished by the 11th and 196th Brigades. Direct coordination with the 60th I.P.S.D. is authorized. Approximately 2-3 hours is required to prepare the demonstration course. Unit commanders will insure maximum attendance of combat leaders, consistent with the tactical situation.

8. The 60th I.P.S.D. is expected to greatly enhance the operational capability of division units in areas with a high mine incident rate or areas believed to contain tunnel complexes. The dogs are highly trained and extremely effective. In the 25th Div area the dogs found 13 mines on engineer road sweeps. Other mines found ranged in size from a C-ration can filled with explosives to a 750-lb bomb. Tripwires detected have been as high as eight feet off the ground (anti-vehicular mine devices). However, the dogs do not replace mine detection equipment or troop alertness. For example, if a mine dog is used to check a road for mines, an engineer mine sweep team must sweep behind the dog.

9. Attached as inclosure 1 are the criteria for utilization of the 60th I.P.S.D. mine/tunnel detection dogs. Further information can be obtained by contacting G3 DOT, phone Chu Lai 3776 or Americal 493.

FOR THE COMMANDER:

1 Incl  
as

/s/ E R GREEN  
/for/ KENNETH W. PARKER  
1LT, AGC  
Asst AG

THIS IS A TRUE COPY

*Ben O. White Jr.*  
BEN O. WHITE JR.  
LTC, IN  
Project Officer

AVDF-GCDO

1 August 1969

SUBJECT: Utilization of the 60th Infantry Platoon (Scout Dog)

DISTRIBUTION:

4-Chief of Staff	1-TOC	10-CO, 196th Inf Bde
2-ACofS, G1	1-Engr	10-CO, 198th Inf Bde
2-ACofS, G2	2-CLDC	10-CO, 1st Bde, 101st Abn Div
2-ACofS, G3	2-American Combat Center	5-CO, 1-1 Cav
2-ACofS, G4	1-IO	5-CO, 26th Engr Bn
2-ACofS, G5	10-CO, 11th Inf Bde	2-CO, 1-82d Arty
		2-CO, 60th I.P.S.D.

PROCEDURES FOR PROPER UTILIZATION OF MINE/TUNNEL DETECTION DOGS

1. If ground troops must march a distance to the objective to be searched, the team should be air-lifted to the objective. Prolonged marching before utilizing the team will cut down the time the team may be effectively used.
2. The team must work ahead of all other elements in order to be effective.
3. Supported unit must supply two men for the security of the team.
4. Teams may be used for road sweeps. They must work in front of all other elements.
5. Tunnel/Tripwire Detection Dogs are trained to search villages or suspected tunnel areas.
6. Mine/Tripwire Detection Dogs are capable of searching roads, mine fields, and walking as point element through suspected mined areas.
7. Tunnel detection dogs DO NOT search tunnels.
8. No dog team is trained to alert on personnel.
9. Dogs may be utilized during daylight hours only. The handler must see the dog's alert.
10. Dogs cannot be used in night ambush sites.
11. Dogs may be worked continuously for a period of three hours, or a time designated by the handler. If the team walks with a unit for a period of time before being utilized, it will decrease the length of time the team can search.

INCLOSURE 1