A prodigious and awesome resource of combat power is available to the infantry battalion in Vietnam. The major problem is to employ this power selectively without one striking force interfering with or impairing upon the effectiveness of the other.

The basic decisions of a battalion commander relating to control involve answers to the following questions:

a. What should be the scheme of maneuver?

b. What are priorities of fire (artillery and 4.2)?

c. Is close air support needed? If so, how should it be used?

d. Are gunships needed? (On immediate basis)

If properly made, the resulting decisions can insure minimum interference of various resources with each other in their application against the enemy.

Guidelines for the battalion commander's consideration in deciding how the battalion is to be employed are:

a. The scheme of maneuver which must be designed around the gun-target lines.

b. The use of U.S. Air Force close air support which must be designed around (1) the scheme of maneuver (location of the recommended bomb/strafing flight path in relation to the physical positions of the troops) and (2) the physical configuration and location of the target.

c. Priority of fires -- assignments must be made on the basis of the best GT lines for the maneuvering element, the range to the target, the nature
of the target, the degree of contact with the enemy and integration of these
fires with the possible use of USAF close air or U.S. Army gunship support.

d. Use of gunships which is generally under the same considerations as
close air support; their use depends on the proximity of enemy forces to the
friendly troops. Experience teaches that gunships can be employed closer and
more selectively than air or artillery. However, gunships have been found to be
less effective when used late in the afternoon. Artillery is then a much better
choice if any latitude is allowed due to the capability to continue operation
into the night.

The execution and control of the above must be decentralized yet responsive
to the battalion commander. Once broadly defined, the scheme of maneuver is in
the province of the company commanders. It is executed by the company commanders
with visual or other checks by the battalion commander to insure that directions
are maintained and that reported ground locations are accurate. Once determined,
priority of fires and their employment can be the responsibility of the
artillery liaison officer, provided he is with or in close contact with the
battalion commander so that the effort is coordinated. Close air support
must be controlled by the Airborne FAC; however certain assistance is required
from the ground commander. The FAC must know the location of friendly troops,
GT lines of artillery in the area, and the nature of the target. This infor-
mation is available from two sources: the company commander(s) in contact
and the battalion commander. The FAC must be able to receive timely inputs
from both. Gunships must be controlled at one echelon lower; the lead aircraft
must receive his information from the platoon leader or company commander in
contact ... at times however, the battalion commander can supply supplementary
information.
It is recognized that the preoccupation of GT lines in relation to scheme of maneuver will be criticized by artillery purists. Actually, on the two occasions which the Golden Dragons suffered casualties from friendly artillery fire, only one resulted from a “short” on the GT line and then the troops were about 3 km from the target. However, on other occasions, discoveries of shorts on H&I fires, although not endangering troops, added to the conviction that only on emergency conditions would artillery be employed when the troops were on the gun-target line. From a conceptual standpoint, this rationale is based on the fact that all of the problems confronting the battalion during the reporting period, by far the most troublesome was the loss of confidence by the troops in artillery. In spite of a vigorous command program to restore and maintain the necessary confidence, remnants of doubt are still with the unit.

The standard aid for command and control is the use of the CC aircraft; however, in and around Hardcore sufficient ground OP’s were available. Considerations of non-permissiveness for RW aircraft, and advantages of stability for observation and the excellent fields of observation influenced the battalion commander in the decision to use ground OP’s for control of the battles. The entire AO was visible from three OP’s: one at Hardcore (AT775000), one to the northeast of Hardcore (AT789509) on the same ridge line, and one to the south on the prominent hill (AT7958469) between Crocodile and Scorpion Lakes. In some cases it was advisable to use the CC aircraft in conjunction with the OP; in those cases the artillery LNO and a member of S2/S3 section or the battalion commander used the CC aircraft. However, the most valuable visual reconnaissance of the area was accomplished by the “professionals”, specifically and foremost by the airborne U.S. Air Force FAC and to a less effective
CONFIDENTIAL

degree, by various observers aboard U.S. Army observation aircraft (O-I). During critical periods, this type of observation was readily available. It provided an extension of the ground OP which was transferable to the battalion commander (who also knew "the lay of the land" from both a ground and air viewpoint). Both these agencies observed artillery and mortar firings and made timely and accurate corrections. At the direction of the battalion commander, the Airborne FAC also successfully controlled U.S. Army gunships on many occasions.

The problem of coordination of the aforementioned combat power is complex. As an example, the scheme of maneuver, the fireplan, and the use of tactical air and gunships in the battles for Hill 341 involved use of artillery from three locations and 4.2 inch mortars from Minibase Fox. Another coordination problem is the inadvertent overflight of the battle area by itinerant aircraft, to include those used by higher commanders, for which necessary artillery and mortar fire must be suspended. An examination of the scheme of maneuver in relation to the GT lines and proposed flight paths displayed in figure "A" will give the reader an appreciation of this problem. No method other than the use of an appropriate ground OP is believed capable of responsive control of a situation such as this. In many cases, artillery and mortar fires could be continued while airstrikes were in progress; in some cases during airstrikes on targets 2 & 3, resupply and medevac missions were accomplished under airstrike cover without the least degree of interference. In other cases, when artillery and mortar supporting fires were forced to lift because of the flight path of the fighters, coordination between the battalion commander, the FAC, and the artillery liaison officer minimized the time that the artillery was prevented from firing.

CONFIDENTIAL
It must be emphasized that the various staff functions remained critical and active throughout the entire period. The S3 was the "day or days ahead" man and the principal coordinator of all staff functions. As required, he supplied air observers and control officers for the CC aircraft. On occasions, when two or more separate battles were conducted simultaneously, he controlled those battles which could not be observed from the battalion commander's OP, by the use of a different OP or by use of the CC aircraft. He obtained resources, such as aircraft, as needed by the battalion or company commanders. He initiated requests for specific critical materials — such as gas masks, CS gas rounds and grenades. He concerned himself with the details of air movement and the dismantling and destruction of Hardcore. The S2, also working as the right arm of the S3 — operated in much the same manner. The S4, S1 and executive officer performed their functions satisfactorily by extended, frequent staff visits to the firebase and the battalion OP.

It is absolutely necessary during periods of intense activity such as the battles around Hardcore that one individual have control and an overview of the critical activities. This individual must be the battalion commander. He alone is responsible to command and otherwise manage the variety of resources at his disposal. He can be assisted by one other officer of his operational staff at the point of control, in this case, the battalion OP. More assistance is not required and in fact may be counter-productive. Decisions must be timely — in many cases instantaneous — or the target will disappear, and the opportunity for striking it with optimum weaponry may also vanish. This requires that the battalion commander personally monitor and use the communications means available to him. It requires that communications procedures be abbreviated; information must be passed immediately, e.g., to the FAC between passes...
at the target; this information is available from the battalion commander and
the contact company commander (who may be receiving inputs from his platoon
leaders and squad leaders) — therefore radio transmissions must be organized
properly for accomplishment of this task. There is no opportunity for the
luxury of a "go between" in the form of a radio operator. Voice recognition —
teamwork — logical sequential transmissions — are of paramount importance.
The battalion used the air/ground net for contact with all air activity in the
battle area — at times priority use of the net was dictated by the conduct of
an airstrike — however, by monitoring the net, other aircraft in the area
could govern their activities accordingly. It was necessary, for example, for
the resupply aircraft to check in with the battalion OP in order to prevent
their flights from interfering with the tactical situation, and to advise
them of "hot" areas in the immediate vicinity. The OP was in effect a tactical
"control tower" for aircraft in the AO.

The organization of the command group at the OP consisted of the following
personnel and equipment:

**Personnel:**

1. Battalion commander
2. S2, or operations staff officer (only during critical periods)
3. Artillery LNO or Forward Observer from the firebase security company
4. Radio Operator (two during critical periods)

**Equipment:**

1. 4 radios (AN/PRC 25) used as follows:
   a. Battalion command net
   b. Battalion fire control net (used by Artillery LNO)
(c) 1 utility - used principally on air/ground net

(d) 1 utility - used principally to monitor the company net of the company or companies in contact.

Note: as the "record" transmissions were made through the battalion operations center, no requirement existed for monitoring of the other nets at the OP; the utility radios could be used at will to enter the brigade net, adjacent battalion nets, and other nets as required, in addition to the principal usages noted above.

(2) One periscope, observation (B.C. Scope)
(3) 2 sets binoculars; one 6X30, one 7X50
(4) One starlight scope
(5) One TA312 telephone (on firebase only)

Mention should also be made of the associated equipment that often was used in conjunction with the OP. This was the 106 mm recoiless rifle, the Xenon searchlight, and the 4.2 inch mortar. These are mentioned due to their responsiveness and opportunities for usage due to that factor.

On occasion, all three OP's were manned simultaneously. Except for the contact of 9-10 February, when it was manned by the battalion commander, the northern OP was manned by the company commander, Company B. Often, the opportunity presented itself during activities of 11-17 February for concurrent observations of the same area from both the northern OP and the firebase OP. Such coordination enhanced the accuracy of artillery/mortar fire, and assisted in the control of airstrikes.
During the period 3 February to 26 February, 89 airstrikes of varying ordnance were employed by the Golden Dragons. During that period, one ARC LIGHT was recommended, but not accepted. Another ARC LIGHT was employed partly in the AO but not against a principal target of the battalion; in addition, numerous combat sky-spot strikes were used. Throughout the entire operation the closest cooperation and highest technical and tactical expertise were evidenced by the Airborne Forward Air Controllers assigned to the parent brigade of the Golden Dragons. For the most part, the targets were "live" as developed by the maneuver elements of the battalion, or in part developed by the maneuver elements in conjunction with intelligence reports from higher headquarters. Targets also resulted from the sightings of air observers and visual observation from the battalion OP, usually in conjunction with maneuver by the companies. In general, the accuracy achieved by the fighter aircraft was satisfactory. The response time generally fell between five and thirty minutes for immediates. Most preplanned strikes were readjusted to more precise and timely locations 30 minutes prior to the strike through direct coordination with the Airborne FAC. This flexibility allowed the battalion commander to influence the ground combat by timely strikes that would contribute directly to the mission accomplishment of the maneuver elements. Such action was necessary since preplanned strike requests required 48 hours notice in advance of the desired time on target.

As mentioned earlier for strikes in close proximity of troops (i.e. within 2-3 km), it is necessary for both the battalion commander and the company commander to be in radio conversation with the FAC. Target and friendly identifications and necessary corrections between passes must be transmitted expeditiously.
Also, possible shifts in ordnance impact may be required during the course of the strike - for example - for new targets uncovered by the strike such as automatic weapons positions.

It is necessary for the battalion commander to suggest, or otherwise approve and understand the flight path of the fighters. Overflight of the troops must be avoided. The flight path should not interfere with artillery in other parts of the AO. If properly planned other tactical maneuvering may be accomplished while the airstrikes are in progress. On several occasions, both medevac and resupply helicopter missions were conducted for the companies in contact on landing zones within 1 km of the ongoing airstrikes. These areas were normally "hot". On such occasions no ground to air fire was encountered. This is attributed largely to the airstrikes and partially to the selection of flight paths and LZ's.

Generally outstanding accuracy was achieved by high drag bombs. Outstanding results were obtained also with CBU attacks and, in general, strafing runs also were accurately placed. The A-37's were employed twice during the operational period; in both instances their performance was outstanding, both in accuracy and flight characteristics. The A-37's were able to turn quicker and more precisely into target runs than heavier fighter aircraft.

One of the most successful air attacks was conducted against an enemy which had been flushed out of wooded village areas by the maneuver of two companies. About 40 of the enemy were observed hiding in spider holes along the riverbank (AT966531) north of Hardcore. Mortar and artillery were called in and afterwards, two preplanned airstrikes were diverted from other targets in the battalion AO. Two additional immediate airstrikes were also utilized. The fighter runs
and attacks were precise: CBU's were dropped and napalm was used in addition to high drag bombs. Unfortunately, the closest maneuver company was in contact 1.5 km away (their target was too close for air support - gunships were used as well as artillery) and was unable to fight its way to the strike area in time to exploit it that same day. The assessment by FAC included 22 confirmed killed by air. The next day, the company attacked the enemy positions against light sniper resistance and 13 enemy killed by air/artillery were found. Numerous drag trails were discovered leading across the river.

The importance of timely and accurate air support to an infantry commander cannot be overemphasized. When confronting numerous trained, highly disciplined NVA and hardcore VC units with a tested and considerable antiaircraft capability, air support becomes a significant contributing factor in maintaining an offensive posture in the AO. It is believed that the selective employment of available air power was a principal determining factor in the favorable balance of power maintained in the Golden Dragon AO. Even when three companies were in heavy contact and the fourth soon to be, never was it necessary to reorganize the battalion into an overall defensive posture. (It must be understood that at the time of the aforementioned activity, the battalion was given operational control of two additional rifle companies which were committed, but not in heavy contact at that moment).

The last airstrike in the area of operations during the Golden Dragon tenure, unfortunately, had a regrettable outcome. On the third or fourth pass, the fighter pilot turned too close to the target, (not following the suggested flight path), and accidentally punched out the 500 pound Mark 82 bomb short of the target. The bomb exploded twenty meters from the Delta Company CP.
One man was killed and six were slightly injured.

The bomb damage assessment by the company commander on the ground (who himself was located about 20 meters from the impact) was critical of the effectiveness of the ordnance. Even though the bomb is designed to be anti-structural, more anti-personnel effects should be designed into it. There were 25 personnel within a 50 meter radius of the point of impact. Of these, in addition to the casualties mentioned above, 10 others were knocked to the ground by the concussion. No other adverse effects were observed. It is emphasized that these personnel were in positions having no overhead cover, and for the most part, took advantage only of the natural cover of the area.

Another adverse effect of a "short" is the deterioration of confidence in air support. This must be countered by a vigorous positive attitude on the part of the ground commander.

It is emphasized strongly that in no way does the above described accident affect the policy of the battalion in its use of airpower, except to underscore the checks and balances available to ground commanders in the control of airstrikes. In all fairness, it must be mentioned also that the Airborne FAC controlling the strike was from a sister brigade. This also may have contributed to a slight degree in the incident, although the FAC did have communications with the battalion commander and had correctly identified the target and the friendly locations, and received the battalion commander's recommendation for the flight path (which did not include overflight of troops), as acknowledged in the report.

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REMARKS ABOUT THE USE OF U.S. ARMY HELICOPTERS AND OTHER LIGHT AIRCRAFT IN A NON-PERMISSIVE ENVIRONMENT

Beginning with the combat assault establishing LZ Hardcore on 3 February, the entire area was "non-permissive" to helicopters and light aircraft due to the presence of 12.7 antiaircraft fire, .30 cal automatic weapons and sniper fire. On the day of the combat assault one gunship was downed and several other UH-1's received hits and were rendered non-flyable; one CH-47 was struck causing a fire which fortunately was extinguished by a crewman. Of the 11 troop carrying aircraft, 6 were rendered inoperative by enemy fire.

On 7 February, the battalion C&C aircraft was shot down in the A Company area. The aircraft commander of the C&C aircraft was killed and one other crew member wounded. A Dustoff aircraft entered the same area about an hour later (when the area was considered secure) and was also shot down.

On 9 February, while operating in support of a Dustoff mission for B and D Companies, a gunship was hit by automatic weapons fire from the plains area to the north of the battalion OP. The pilot fought the aircraft to the ground, but crashed. Immediately his wingman covered him, and eventually picked up all crewmembers, none seriously hurt. Also, during the same day's activities, another gunship was damaged to the extent it had to set down at Hardcore. The damaged gunship was evacuated on the following day.

On 13 February, an OH-23 from the Brigade Aviation Section was downed by automatic weapons fire while flying an aerial fire support mission for Alpha Company, operating to the northwest of Hardcore at the time. The crew was
rescued and the aircraft secured by Charlie Company, which happened to be about 800 meters from the crash site. The aircraft was later recovered.

A troop carrying UH-1 was hit by automatic weapons fire on 18 February while participating in the combat assault of Charlie Company from their operating location to the north of Hardcore to a LZ near Alpha Company in the vicinity of Minibase Fox. When hit, the aircraft was gaining altitude after leaving the pickup zone. It was believed that the pilot was wounded or killed; the aircraft lost altitude, rapidly went out of control, crashed and burned. All the crew and troops aboard were killed. The aircraft was a total loss.

Later, on 22 February, a Dustoff aircraft, while trying to insert a jungle penetrator to Alpha Company at a location south-southeast of Minibase Fox, was struck by automatic weapons fire and forced to land about 2.5 km away. The area was near Delta Company and they secured the aircraft. A companion Dustoff aircraft rescued the crew. The engine of the UH-1 was damaged by the AW fire, however, the aircraft was evacuated without incident.

On 23 February, while operating on a visual reconnaissance mission for the battalion commander and for the D Company commander, a U.S. Army observation "Bird dog" aircraft crash landed on the side of the large mountain to the southeast of Minibase Fox. Fortunately the plane was observed by the battalion commander from the battalion OP as it went down. It was located on the ground by OH23 and Air Force O1 aircraft and eventually the crew was rescued by the battalion utility aircraft under the control of the S3.

The crew was slung out one at a time by nylon rope and deposited in the D Company area after a fresh air ride of about 3.5 km. The aircraft was recovered.
Later, on 25 February, a U.S. Air Force aircraft (Ol), piloted by Major Severtson (Helix 52) was suffering apparent oil pressure loss. Major Severtson believed it could possibly be instrument trouble and after orbiting Hardcore for an appropriate time, departed for LZ Baldy. About 5 km out, the engine broke down. Air progress was observed at all times by personnel at the battalion CP, and by observers at Hardcore. He glided back, crash landed on the valley floor northeast of Hardcore, and was rescued shortly thereafter by UH1. The Ol was later picked up by CH47 aircraft, but enroute to Da Nang it was engaged by .50 cal ground/air fire. Either the Bird Dog aircraft or its marking rockets were struck by ground fire; in any event the load dropped to the ground and was demolished.

The valley floor and plains area surrounding Hardcore contained many dispersed automatic weapons positions of the circular type, with a platform in the center of the circle. It was obvious that the area with numerous alternate and supplementary positions was organized for ground to air fire. The positions allowed for enemy flexibility in manning and prevented total destruction of positions due to the difficulty in finding them. Also, much of the automatic weapons fire was from AK type weaponry which needed no fixed positions from which to fire. Most of the aircraft were hit while maneuvering at slow speeds either in and around landing zones, or while making low firing passes. None were hit soundly enough to cause loss of control at altitudes of 1500 - 2000 feet or during "low level" flight except those associated with LZ's or firing passes.

It is believed that the use of smoke to mark landing zones assisted the enemy in selecting firing positions and in organizing antiaircraft defense.
Additionally, the enemy hit LZ's with mortar fire, causing personnel casualties (but no aircraft losses). As a countermeasure, all aircraft were required to check into the battalion air/ground net when operating in the area of the committed companies. The battalion OP operated as an air control element and gave instructions to pilots as to safe approaches and "hot" areas. The control was then passed to the company being serviced; smoke was not used. Activities (resupply and medevac) were planned under cover of some other fire whenever possible — either artillery, close air support, or protective direct fire from the ground elements. Among the obstacles to be overcome was the inherent desire of the pilots to fly at altitudes of 1500-2000 feet which either shut off the protective artillery or advertised their presence in the area. Tree top flying in the operational area was encouraged. The operational use of the helicopters was further complicated by the mountainous terrain in the south and the excellent observation available (weather permitting) to the enemy.

Gunships were employed extensively in situations where contact was too close for artillery or close air support. The control was decentralized to company commanders and platoon leaders. The gunships entered the company command net. This is the only satisfactory solution, although in the heat of battle the company net is already overcrowded. However, no other method of control is satisfactory. On occasion, colored smoke was used to mark friendly front lines while another color (red) located the enemy.

Gunships were often rotated with airstrikes against important targets. On these occasions, with the approval of the battalion commander, the gunships were controlled by the Airborne FAC, usually on the battalion air/ground net or on the FAC organic net. On one occasion, an occupied enemy cave guarded
by a wooden structure was discovered by the Airborne FAC. The complex was located on the near perpendicular face (AT981438) of the large mountain (BM 918) to the southeast of Minibase Fox. The complex was visible to the battalion OP. A destruction mission was fired by 8 inch howitzers located at the Marine base at An Hoa, and adjusted by the FAC and personnel at the OP. With the destruction mission complete, Army gunship fire was directed at the target by the Airborne FAC. The structure was destroyed. The complex burned all throughout the afternoon, all night, and into the following morning.

It is imperative that the gunships be briefed thoroughly on the area of contact as well as the immediate tactical situation calling for the support. Ideally, this should be accomplished on the ground by the commander(s) concerned. However due to the immediate nature of the required support, in many cases, only a hasty brief in the air was possible --- this by the company commander concerned. When possible, the battalion commander briefed the incoming pilots in the air from the battalion OP. This assisted the "hand-off" to the company commander. In all cases, the battalion commander monitored the net on which the gunships were operating and was able to influence gunship action (in particular where alternate targets appeared) and advise lead aircraft of friendly locations other than the unit being supported.

When "non-permissive" conditions are present, ground commanders must readily adjust with the situation. Except in the most critical cases, casualties must be held on the ground until a location is sufficiently secured for heliborne medical evacuation. Evacuation of the dead must often be deferred. Conservation of food and ammunition may be necessary. When used to direct aircraft, smoke should be camouflaged; however, other means should be devised.
Special radio control nets must be used. Ground observers at the battalion of to keep track of aircraft in the AO are also necessary — both for the welfare of the aircraft crew should they suddenly be in trouble and for the efficiency of the operation. In the event an aircraft is downed but recoverable, sufficient troops should be employed to secure the aircraft. This presents a difficult choice for the commander — which must be resolved in accordance with the tactical situation. Nevertheless, this additional mission may be inserted instantaneously into a hot tactical situation and commanders must learn to cope with it.

In order for the reader to appreciate the degree of "non-permissiveness" of the area of operations to light aircraft, it is emphasized that the ten incidents related here are only those that resulted in total destruction of the aircraft or its evacuation from the area of operations by external means. At times hits were registered on aircraft, but on more numerous occasions, aircraft were fired upon without noticeable effect. However, it is also emphasized that only on one occasion was aircraft support insufficient to the degree that battalion operations were negatively affected. This occurred on 24 February as a result of poor weather, not enemy action.

XI

REMARKS ABOUT THE USE OF CS

The infantry battalion commander needs an "ace in the hole" for unusual circumstances when conventional application of combat power seems to fail. On four separate occasions during the battles around Hardcore, CS was used for this purpose. At best, results were not conclusive. The problem lies
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in the method of delivery and in the persistency of the gas. A happy solution
seems to be the 4.2 mortar as a delivery weapon. Approximately 200 rounds of
experimental CS ammunition were made available to the battalion during the
action around Hardcore; also, two "bombs" of the 50 lb type were available.

Two bombs were unfortunately dropped somewhat off target by UH-1 aircraft on
the objective of the two company attack of 10 February. However, about 150
rounds of 4.2 CS ammunition were expended and exploded on target. At the
same time, the target was covered by 105 mm howitzer fire. The concept
called for the distribution of the gas over the entire area interspersed with
HE shells delivered by the artillery. The results were not conclusive; the
objective was occupied by approximately two companies of well trained NVA sold-
diers the day before and could not be taken by two companies of U.S. infantry
supported by close air, gunships and artillery. It was taken on the second
day without significant resistance. It is impossible to determine whether
or not the CS preparation was instrumental in driving the enemy from the
objective or whether additional enemy casualties were suffered due to its
use.

The most lucrative situation for the use of CS as an "ace in the hole"
appears to be during a stiff fire fight when the element of surprise will
work advantageously for friendly elements. Such a situation presented itself
on 11 February during the one company attack on the village of An Tam 2
(AT955508) to the west of Hardcore. The situation was that a rifle company
in an attempt to overrun a fortified village had been driven back by heavy
automatic and semi-automatic rifle fire. The company was compelled to
abandon one dead comrade and a machine gun in the village. The company
commander regrouped his forces for a second attack. Unfortunately, due to the scarcity of the experimental ammunition, the 4.2 platoon had only 3 rounds available. These were fired, but no appreciable results were noted. The company failed in the attempt to penetrate the enemy defenses the second time; a two company attack was successful the following day.

CS was employed a third time on 14 February as a preliminary to an airstrike which caught at least 40 observed enemy sniper holes near a river bank (AT966531) to the north of Hardcore. C Company attacked at first light the next day to exploit the strike. The position was well defended as C Company received sniper fire upon initiation of the attack. However, when it was overrun 13 bodies were found with numerous drag trails leading across the river. It could not be determined with certainty whether CS was the proximate cause of the evacuation of the position or the contributory cause of any of the enemy casualties. The mode of dispersing (4.2 mortar rounds interspersed with 105 mm artillery) was similar and followed by airstrikes.

On the fourth and final occasion, the Golden Dragons employed CS in the 3d attack on Hill 341. Unfortunately, very few rounds burst on target. The hill was not taken. Both attacking companies incurred unacceptable casualties. The use of CS was again inconclusive in its results.

It is the opinion of the battalion commander that the delivery means is correct. The 4.2 mortar is an "ace in the hole" weapon at battalion level due to its flexibility, responsiveness, accuracy and available mass of firepower. However, the same accuracy as commonly experienced with HE or WP ammunition was not experienced with the CS round. The WP round was used to register for the CS preparation in order to check wind drift and target.
However, difficulty was experienced in the subsequent TOTS due mainly to fuze timing problems. In general the problem was that the rounds exploded early and therefore did not reach the objective area effectively. Also, although in the first attempt at its usage sufficient rounds were placed accurately on the objective, minutes later, advancing troops did not need gas masks to operate in the area. Therefore, the experimental rounds seem to lack sufficient persistency. It is believed that if the fuze timing (and concurrently the adjustment problem) and the persistency of the round are improved, that the terminal effects will match the capabilities of the delivery weapon and the weapons system will be effective in surprise actions for the infantry battalion.

XII
REMARKS ABOUT THE MINIBASE CONCEPT

In offensive situations, the infantry battalion commander in Vietnam must continually evaluate the forces involved in support activities vis-à-vis the number of troops employed directly against the enemy. He must consider the requirement for immediate indirect fire support and the quantity of support available. The extensive time required for 105 mm rounds on the target as compared to 4.2 inch rounds and the increase in volume of fire available argues for the continuous use of the heavy mortar platoon in battalion operations. It is considered necessary to release at least two mortars or the entire platoon as the situation dictates -- if the attacking companies are operating outside the 4.2 inch mortar fan from the firebase position.

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This also adds to the available choice of GT lines which must be evaluated in formulating schemes of maneuver, fire plans, close air support plans and helicopter support plans.

In the push to the south of Hardcore the Golden Dragons employed a minibase as the battalion observation post consisting of two 4.2 inch mortars, one ground mounted 106 recoilless rifle and the battalion reconnaissance platoon. The minibase was emplaced entirely by UH1 aircraft, although later some ammunition resupply was accomplished by CH47 aircraft.

It is believed that the minibase concept enhances the distribution of combat power for the attacking companies where it is required most. In the case of MiniBASE Fox, the added combat power forward was achieved at the expense of:

(a) limiting the activities of the reconnaissance platoon to the area of the minibase; however, some of the functions of the reconnaissance platoon are to furnish the eyes and ears of the battalion (which it did) and

(b) by reducing the firepower available from the firebase by two mortars and (due to the location of 3 rifle companies outside the 4.2 inch mortar firefan) the requirement for 4.2 inch support from the firebase was also reduced. Security of the minibase was enhanced by its selection on difficult, commanding terrain with outstanding 360 degree observation and by the offensive posture of three rifle companies operating within a 4000 meter radius to the south of the minibase. The 106 mm recoilless rifle (ground mounted) provided direct fire protection for the minibase within the deadspace of the 4.2 inch mortar caused by its minimum range characteristic and provided a direct fire capability for targets of opportunity.

It is the concern of the Golden Dragon battalion commander that an optimum
balance of combat power be available for application against the enemy at all times and that this combat power be responsive to the commander. Especially when operating in force against a determined enemy, all available firepower must be available for immediate use. To do this when operating in a large AO, it is necessary either to move the firebase or adopt a variation of the minibase principle. To move the firebase is uneconomical and impractical; to use a minibase provides a reasonable and workable solution. The combination of battalion OP and the minibase also solves the security problem for the combat station of the battalion commander and his command group.

XIII
CONCLUSION

In 26 days of continuous, intensive combat, the Golden Dragons cleared the plains area to the northeast and west of Hardcore, and struck deep into the North Vietnamese Army's 2d Division basecamp stronghold in the mountains south of Hardcore. These 26 days of counter-offensive action (3 February - 27 February) came at a critical time in the enemy TET offensive operations. It is the considered opinion of the battalion commander that the Golden Dragons devastated the enemy with more far reaching effect than confirmation of 243 enemy KIA and 43 weapons CIA indicated. Due to the massive application of combat power in the form of airstrikes, artillery, and gunships in combination with the organic firepower and maneuver of the battalion against positively identified targets, a bonus punishment was inflicted on the enemy which is difficult and indeed impossible to quantify. It could be as high as factor 2 or 3 — professional judgment dictates this opinion — however, no one
will ever know for certain. What is certain is that the Golden Dragons, through courage and audacity at the footsoldier level, by intelligent use of supporting weaponry, and by perseverance and sacrifice of all concerned dealt a telling blow on the enemy.

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Commanding