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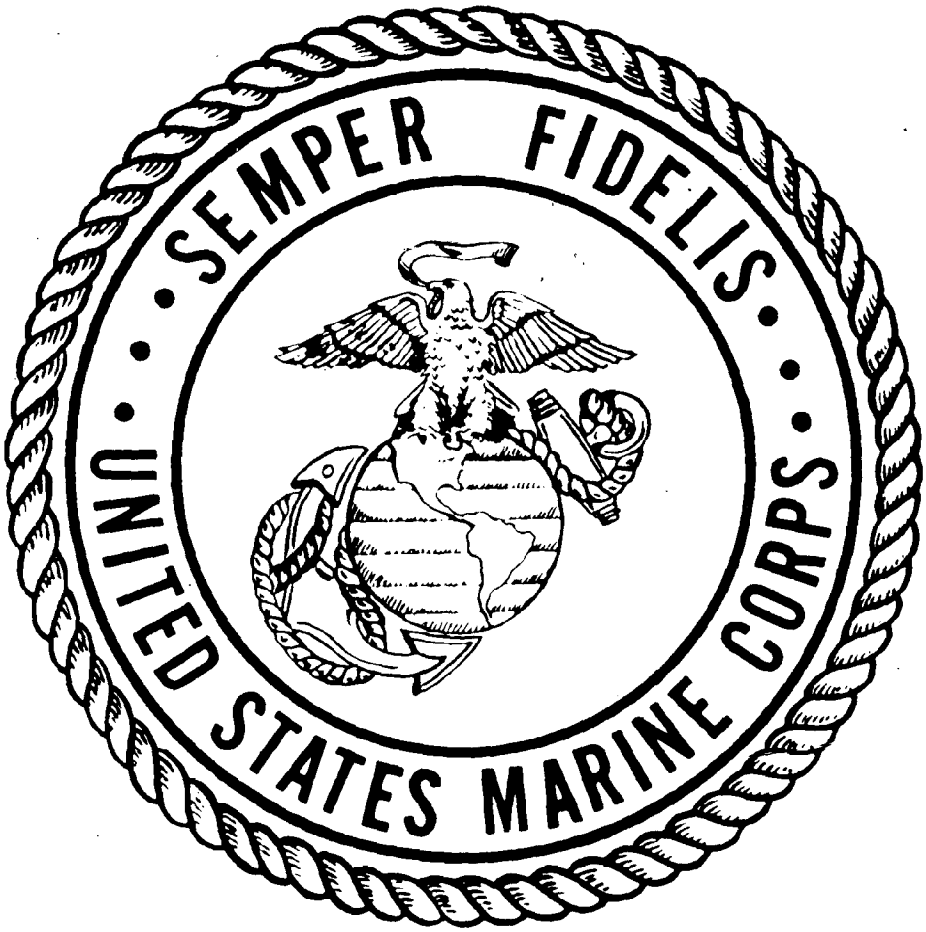
FORCE REQUIREMENTS AND LONG RANGE ESTIMATES FOR I CORPS REPUBLIC OF VIETNAM



PREPARED BY THE STAFF OF HEADQUARTERS MARINE CORPS
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RESUME

1. The following table provides a recapitulation of the most significant results of this estimate compared to current and programmed force levels:

US/FW FORCE STATUS	LEVEL BLTS/BNS	TIME RQD (MOS)	SPTG MAWS	SPTG FTR/ATK SQDS	SPTG HELO SQDS	RVN RF RQD	RVN PF RQD	RVN NAT'L POLICE RQD	RVN RD CADRE RQD
CURRENT	21	(51)	1	8	7	18,000	23,647	6,010	767
PROGRAMMED	21		1	10	8	19,029	28,986	11,000	6,549
RECOMMENDED	28	(35)	1	10	18	19,029	42,000	11,000	10,089
DIFFERENCE (SHORTFALL)	7	(16)	-	-	10	------	13,014	------	3,540

NOTE: (1) Authorized strength is based on Phase IIA programming.

(2) Force levels assume a constant for 34 ARVN Bns in I Corps.

(3) All aircraft requirements are based on surplus sorties only going to 7th AF and TF 77 for deep support. (See Annex D)

(4) Time required is based on reduction of the enemy to a residual guerrilla strength of 7,500.

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TOP SECRET

SUBJECT: LONG RANGE ESTIMATE AND FORCE REQUIREMENTS FOR THE SUCCESSFUL PROSECUTION OF THE WAR IN I CORPS, RVN

PROBLEM. To develop a long range estimate of the situation and force requirements for the successful prosecution of the war in I Corps, Republic of Vietnam.

1. INTRODUCTION

a. The requirement for this study was developed through the medium of an exchange of notes between the Commandant and the Deputy Chief of Staff (P&P) on 27 July 1966.

b. A 9 September 1965 analysis of US and FWMA Forces required to control I Corps exists. It is considered that this 1965 study does not currently meet the stated requirements of the Commandant. Nevertheless, there are valid considerations in the analysis that will be used in the development of this study.

c. A long range estimate and force requirement determination must proceed from a clearly-defined delineation of the critical variables or factors involved. In this case, forces required are a function of time and our objectives. These considerations will be treated in detail. A concept of

operations must also be developed. The study will propose a concept and assume that such will be employed in South Vietnam. The concept is essentially that pursued by the Commanding General, III MAF in I CTZ.

d. The magnitude of the task in South Vietnam must also be identified. In this respect, guidance received limited this aspect of the problem to "the current situation". The enemy order of battle, political situation, and progress of revolutionary development (RD) in Vietnam is changing daily. Therefore, no fine description of the magnitude of the task will be undertaken. Rather, the following broad parameters will be used:

(1) Current Statistics (Oct 1-'63)

	SVN	I CORPS
NVA	45,000	17,000
VC MAIN/LOCAL FORCE	60,000	8,000
VC GUERRILLA	112,000	27,500
MONTHLY INFILTRATION	4,500-6,000	2,600
MONTHLY RECRUITMENT	7,000-10,000	2,000
GVN POPULATION CONTROL	53%	36%

(2) Political Stability: What stability there is within the Saigon Central Government must be considered a reflection of the US presence. Without US assistance, material, moral and sometimes directive, the current government

would have collapsed, leaving anarchy or a Communist-oriented regime. The starting point for effective government is therefore not impressive. The facade of democratic governmental structure either exists or is being structured, but there is little substance in terms of democratic leadership, a participating constituency, or historical precedence.

(3) Revolutionary Development: Closely allied with the political stability of the RVN is the progress that must be made in pacification or revolutionary development. The latter term is most descriptive and reflects the requirement for a complete reorientation of the Vietnamese rural populace. Faced with both external and internal aggression, waging a major war, the Vietnamese require a strong central government. To establish a strong democratic central government, a revolution must be nurtured in the villages. The democratic traditions that have existed for centuries at the village level have value, but do not provide the cohesive democratic system and national identification required for a strong, central government. This revolution represents the greatest, most expensive, most time-consuming challenge of all -- and the starting point is close to zero.

2. OBJECTIVES

a. There have been many speculations/estimates, public and classified, on the duration of the war in South Vietnam. On 12 August 1966, Premier Ky publicly stated that the war could be won in two years. In May, 1966, S. J. Deitchman, a staff member of the Institute for Defense Analysis, hypothesized a war of 20 years at current force levels, with 4 years the irreducible minimum with a massive commitment of US forces. Comparison or correlation of such estimates is impossible because they each rely upon different frames of reference, and in many instances, fail to define what "winning the war" constitutes. Winning the war may mean entirely different things to the US than it does to the Vietnamese. There is likewise a disparity between political and military definitions of such an objective. Levels of acceptable resolutions of the war in terms of overall US objectives are required. Such levels must be based on official pronouncements of US objectives in Vietnam. These pronouncements are not precise, but they do provide a basis for an analytical identification of levels of acceptable resolution of the war.

(1) The President has stated* that the US objective in Vietnam is the creation of a stable and independent non-communist government. The Joint Chiefs of Staff have informed** the Secretary of Defense that in the conduct of the war in Vietnam, three basic military tasks of equal priority must be accomplished:

(a) Cause NVN to cease its direction and support of the Viet Cong insurgency.

(b) Defeat the Viet Cong and extend GVN control over all of RVN.

(c) Deter Communist China from direct intervention and to defeat such intervention if it occurs.

(2) In his Directive 10-11 of 3 June 1966, COMUSMACV outlines his mission:

"To assist the government of Vietnam to defeat the insurgent Viet Cong/North Vietnamese Army forces and to extend government control throughout the Republic of Vietnam."

(3) In this same MACV directive, the following tasks for III MAF are delineated:

(a) "Conduct, in coordination with CG, I Corps Tactical Zone (ARVN), unilateral US/RVNAF and or combined US/FWMAF combat operations."

*Attachment to JCS 2343/348
**JCS 2343/646-1

(b) "Provide security for designated critical US and GVN installations in the ARVN I Corps Tactical Zone (CTZ)."

(c) "Exercise operational control of the US Army Advisory Group in the I Corps Tactical Zone (USAAG, I CTZ) and serve as Senior US Advisor to CG, I Corps Tactical Zone (ARVN)."

(d) "Perform designated functions of US Area Coordinator in the I Corps Tactical Zone not otherwise assigned to the Naval Component Commander."

(e) "Provide close air support for ground operations in accordance with MACV Directive 95-4 (C)."

(f) "Designate to Cdr, 7th AF, those forces assigned to participate in and conduct air defense tasks as agreed by Cdr, 7th AF and CG, First Marine Air Wing (1st MAW)."

(g) "Prepare to execute contingency plans as directed by COMUSMACV."

(h) "Perform manpower authorization and personnel functions assigned units as directed by CG, FMFPAC."

(i) "Provide intelligence and counterintelligence as directed by COMUSMACV."

b. Given these statements, missions, tasks and our current situation, we can isolate five interdependent US objectives in the Republic of Vietnam:

DEFEAT THE NORTH VIETNAMESE ARMY FORCES IN THE SOUTH.

DEFEAT THE VIET CONG MAIN FORCE UNITS.

DEFEAT THE VIET CONG GUERRILLA.

CREATE A STABLE, VIABLE REPUBLIC OF VIETNAM.

DETER COMMUNIST CHINA FROM DIRECT INTERVENTION AND DEFEAT SUCH INTERVENTION IF IT OCCURS.

c. The last objective, deterrence or defeat of Communist China, is the most significant overall objective of our military presence in SEASIA. However, it does not directly influence the resolution of the immediate problem. It can therefore be dismissed with the caveat that its existence is meaningful only in that:

(1) The war in SVN must be viewed in the overall context of the threat of Chinese Communist ambitions for dominance or hegemony of all of Asia.

(2) Sufficient force, over and above that committed in SVN, must be maintained to provide the capability to meet the contingency of Chinese Communist aggression in other areas of Asia.

d. The remaining four objectives specifically focus upon the resolution of the war in RVN.

(1) The defeat of the North Vietnamese Army in the South is an essential that cannot be equivocated. For the US, there can be no satisfactory resolution of the war while regular North Vietnamese army troops occupy or have access in force to South Vietnamese territory. US participation in the war will therefore be required until such time that the NVA forces are either withdrawn or rendered ineffectual as organized combatant units. Withdrawal of forces could be occasioned by negotiation (which could make for a shorter war) or through NVA defeat/erosion/fatigue (which would require a longer war).

(2) Viet Cong main force units must, at the minimum, be rendered ineffectual as organized military maneuver forces. A US presence, in force, will be required until such a condition prevails.

(3) The effectiveness of the Viet Cong guerrilla must be reduced to proportions that are manageable for the South Vietnamese military, paramilitary and police forces.

US participation in the war will be required until such a condition exists.

(4) The state of the Vietnamese central and local governments must be such that they are secure from violent internal or external subversion and sufficiently robust to tolerate progressive, evolutionary change.

e. These conditions reflect the minimum requirements that must be met before the US can withdraw from or make any substantial reduction in military forces in South Vietnam. They are not purely military objectives and can come about through a variety of circumstances. Nevertheless, they do provide an acceptable point of departure for estimating the forces required to successfully prosecute the war in South Vietnam and, in particular, the I Corps. These conditions are postulated as the parameters for "winning the war" in terms of US objectives.

3. CONCEPT OF OPERATIONS

a. As indicated in the introduction, a concept of operations for the prosecution of the war must be stated. The concept must reflect the current convictions of those charged with implementing broad US policy. In this respect, the crucial consideration is whether or not US military forces

are to be employed exclusively in a conventional role of combatting NVA and VC regular forces, or are they to fight the whole spectrum of the war, to include combatting the guerrilla and making substantial contribution to the stability of the governmental structure. Recent developments in Washington and Saigon give encouragement that the second alternative, fighting the entire spectrum of the war, will be adopted as the fundamental philosophy in developing country-wide concepts of operations. In fact, it is a course of action pursued by III MAF since the early phases of the commitment of Marine forces.

b. Anticipating a balanced concept for prosecution of the war throughout South Vietnam, a concept for US/FW forces in I Corps is summarized as follows:

> Conduct a sustained campaign; to defeat North Vietnamese Army and Viet Cong main force units; to reduce the Viet Cong guerrilla to proportions manageable for the military, paramilitary and civil forces of the Republic of Vietnam; to develop, encourage and assist ongoing revolutionary development programs and; to provide security for principal US military installations in I Corps of South Vietnam. Combined US/FWMAF/ARVN offensive operations will be conducted against North Vietnamese Army and Viet Cong main force units and the Viet Cong guerrilla. Enemy base areas will be isolated and destroyed. Tactical areas of responsibility and friendly influence will be extended through the critical littoral of I Corps. These areas will be consolidated and brought under the positive control of friendly forces. Revolutionary development programs will be encouraged, supported and, where required, initiated in concert with the

Republic of Vietnam. Civic action, psychological operations and indigenous personnel training programs will be conducted within the capabilities of forces assigned. This concept does not envision phasing of these operations; they will be conducted simultaneously until individual objectives are obtained.

4. TIME AND FORCE REQUIREMENT

a. To compute a time and force requirement for I Corps alone requires that this tactical zone be isolated from the rest of South Vietnam. This is, of course, an artificiality and to some degree will introduce error in the evaluation. Nevertheless, these evaluations must, of necessity, be speculative, and at timessubjective, so that the artificiality of closeting I Corps will not be a serious shortcoming in the overall evaluation.

b. Operational Analysis. The most valid method of appraising time and force requirements is to evaluate the effectiveness of our past operations against enemy forces in I Corps. To this point, the objectives for "winning the war" in I Corps have been stated in broad terms. The objectives for defeating the NVA, the VC main force units and the VC guerrilla must be stated in a more specific, quantifiable manner. The defeat of the NVA will probably provide a semi-classic, semi-conventional force response. Units will be rendered combat ineffective and, withdrawal of fragments of the units back

into Laos or North Vietnam for reconstitution will occur. Eventually, however, substantial remnants of organized units will be assimilated into VC main force units and VC guerrilla forces. The defeat of VC main forces will not approximate a conventional response. As these units are defeated, reconstituted and defeated again, by necessity, and Communist revolutionary doctrine, the remnants will be almost completely assimilated into the fabric of the guerrilla force, and the level of warfare will recede from the semi-conventional threshold to a classic guerrilla campaign. Given this sketch of a scenario, the guerrilla then becomes our ultimate, (as well as a current) enemy force objective. The level of our objective in combating the guerrilla is clear. The effectiveness of this ultimate enemy must be reduced to proportions that are manageable for the South Vietnamese military, paramilitary and police forces. This objective does not require that the Viet Cong guerrilla be totally defeated or destroyed by, under the aegis or through the cooperation of US forces. In fact, such a task would pose a commitment for US forces for a period of time that would be totally unacceptable. The VC will remain an identifiable force and a residual threat long after their capability to dominate rural Vietnam is destroyed. It is likely, that after they lose the political cohesiveness

that currently gives them a singular identity, they will revert to banditry and pose problems for both regional and central governments. The degree of threat that the VC pose to the regional and central governments is dependent in part on the capabilities and strengths of those governments. Two facts are therefore apparent: first, the Viet Cong guerrilla will remain a threat as long as the VC main force and NVA units are a threat; and second, the defeat of the VC guerrilla is dependent upon the successful prosecution of the revolutionary development program. Two time limit extremes can be established. The earliest the VC guerrilla threat can be reduced to RVN manageable proportions would be the date the VC main force and NVA units are defeated. The latest the VC guerrilla could be considered a serious threat (requiring US military troop assistance to the RVN) would be coincident with the date the RD program was declared a success. The length of time that it takes to successfully prosecute this facet of the war is therefore dependent upon the time that is required to defeat the regular force units at one extreme and the success of the RD program at the other. Between these two time extremes the war against the VC can be shortened or extended depending upon the US strategy employed in SVN. Thus, if the war is prosecuted as a cyclic effort, with the major US effort concentrated first on

the regular force, to the exclusion of the guerrilla, the war will be longer or could be lost. If the war is prosecuted with a balanced strategy that would include combatting the guerrilla whenever and wherever possible, reducing his capability to assimilate VC/NVA reinforcements, RD will accelerate and the war will be shorter. The concept for I Corps proposed in this study provides for this latter, balanced approach. Again, the dangers of evaluating progress in I Corps separately from the rest of South Vietnam are recognized. However, the following assumptions can be made:

(1) Counter-guerrilla operations in I Corps will be conducted coincident to the offensive operations against NVA/VC main force units.

(2) Remnants of defeated VC main force and NVA units are available for VC guerrilla acquisition.

(3) Given these acquisitions; the total VC main force, NVA, guerrilla strengths in I Corps can be considered as a single force magnitude upon which we can focus our combat potential to reduce the residual guerrilla threat to a level manageable for the RVN.

c. Having established that the defeat of the residual guerrilla will not take place until the main forces are defeated, an environment is defined in which we may evaluate

the forces required to defeat or contain him. That is, as in the Malayan campaign, there is no significant infiltration or regular enemy threat. The required ten to one force ratio developed in Malaya provides a frame of reference. One significant difference exists however; guerrilla forces will still have the benefit of the sanctuaries of the forbidding terrain of Laos and Cambodia as well as the capability to operate in and from the DMZ. A force ratio of slightly more than ten to one is therefore required.

d. There are approximately 34,000 ARVN in I Corps with an additional 51,000 Regional and Popular forces for a total of 85,000 troops. Given the casualties sustained by these forces, the limited manpower base, and the competition for that manpower, it is unreasonable to assume any substantial increase in this base of 85,000. If the ARVN/PF/RF strength remains at 85,000 the residual guerrilla strength must not exceed a level of 7,500 which provides an 11+ to 1 force ratio. Sufficient US/FW/RVN forces, taking the offensive against the enemy, and a successfully prosecuted RD program, are therefore required to reduce the total enemy threat to a residual force of no more than 7,500.

e. The most valid method of appraising friendly time and force requirements to reduce the enemy to this residual force of 7,500 is to evaluate the effectiveness of our past operations against enemy forces in I Corps. The period of time and size force required to reduce the enemy to these proportions will depend upon the enemy's current strength and his ability to replace his losses through infiltration and recruitment. In this analysis, it will be assumed that RVN forces are held constant, and that US/FW forces must increase in order to reduce the length of time in which the goal is achieved. Forces required can be determined by finding the effective enemy strength at the end of any given time period by employing the following equation (a complete rationale for development of the formula and supporting calculations are at Annex B):

$$E_t = (E_t\text{-}1 + r_{E_t})\ (1\text{-}A\text{-}R)$$

where:

E_t = enemy strength at the end of month t

E_{t-1} = enemy strength at the end of month t-1

r_{E_t} = number of enemy replacements during month t

A = fraction of enemy strength made casualties during month t. by USMC/FW forces

R = fraction of enemy strength made casualties during month t by RVN forces.

The symbol E_t, in fact, represents the current strength of the enemy, 53,000,plus his projected acquisitions and less his losses to the time period concerned. The rate of these acquisitions is estimated at 2,000 per month in I Corps by recruitment and 2,600 per month by infiltration (see Annex B). This 4,600 per month acquisition in the formula is indicated by r_{E_t}. At Annex A is a table of the results of major USMC offensive operations of BLT size or larger. It is evident that major operations and major casualties inflicted upon the enemy did not accrue until August 1965 when a force in excess of 8 BLTs was committed. The eight BLT force is therefore accepted as the minimum required for base security and such a force is granted a reduced enemy KIA capability. If we are to accept only KIAs as evidence of NVA/VC noneffectives we would be establishing a most stringent standard for reducing the enemy force level to 7,500. For every KIA there must be an additional force reduction of the enemy through wounds, disease and the vagaries of war. It must also be anticipated that there will be, in many cases, an over-estimate of the number of KIAs by units aggressively monitoring their successes. If we can assume that disease and the vagaries of war will compensate for the over-estimate for KIAs, we can rely

upon the MACV broad-base estimate of 1.2 wounded per KIA (see Table I of Annex B).

At Annex B is a complete rationale for the development of the formula and its application as well as a summation of the data base. The results are portrayed by tables and graphs which may be summarized as follows:

Given:

(1) Current enemy strength.

(2) Enemy capability to reinforce and replace losses through recruitment and infiltration.

(3) The estimate, that as the RD program progresses and, as governmental control is exercised over the populace; the enemy recruiting base will be reduced.

(4) The estimate, that as the enemy expends his forces against US/FW forces and, as a vigorous air campaign is pursued; his capability to infiltrate will be reduced.

(5) The guerrilla as the ultimate threat, with the capability to assimilate VC/NVA combat defeated residuals.

(6) A 7,500 desired residual guerrilla force goal.

(7) An enemy force loss of 2.2 for every KIA.

(8) The current tempo of employment and effectiveness of friendly forces.

(9) The constant of 34 ARVN battalions.

(10) The constant of 8 USMC/FW BLTs committed to base security.

(11) No time limitation on any desired combination of US/FW force build-up in I Corps.

We require the following to accomplish our objective of reducing the enemy to a 7,500 enemy guerrilla force residual in the time indicated:

BLT EQUIVALENTS	MONTHS REQUIRED
18	65
19	60
21	51
23	45
25	41
28	35
32	31
35	28

This time/force estimate is one alternate selected as most plausible among several alternatives presented in Annex B. This estimate, for example, assumes that a force increase from the current 21 BLT/Bn force to a higher level occurs at one given time, the present. At Annex B is an indication of how this estimate would be changed should we have the capability of increasing forces at the rate of only ½ BLT per month over an extended period. This estimate also uses a 4,600 total potential enemy infiltration/recruitment acquisition as a "best" figure. The effect of massive infiltration, plus current recruitment, in the magnitude of 8,000 and 6,500 is also considered in Annex B. Such massive infiltration could cause some significant delay in extending positive control over the littoral and would create problems for Marine forces in I Corps. However, a subjective

evaluation dictates that, in the long run, such massing of enemy forces in I Corps will occasion a shorter war. The enemy forces, in mass, will provide a better target for our ground and air forces which, in turn, will rapidly accelerate the enemy attrition rate. While massing NVA forces in I Corps will pose a low order threat to Marine forces, it will, nevertheless, ultimately shorten the war. This evaluation reflects the conviction that while the enemy is capable of promoting a Little Big Horn, he will not duplicate a Dien Bien Phu in I Corps.

f. Revolutionary Development Analysis. The term revolutionary development is most appropriate in describing the principal objective of this war. The objective is progressive, developmental revolution based on democratic principles. It will take at least a generation (twenty-years) to accomplish. It requires education, agricultural and economic growth and diversification, political maturity and security. The revolution can be charted as successful (as distinguished from accomplished) when the central and regional governments, as well as the populace, enjoy sufficient security to support revolutionary programs that have been firmly established and are demonstrably productive. RVN/US/FW military forces can and must play an important part in this revolution. The provision of security is manifestly a military, paramilitary, civil police task. Support of

the other facets of the program could be a purely civil technical and political assistance enterprise. However, neither the GVN, the US, nor the Free World civil programs that are oriented to these operations are equipped, manned or organized to accomplish the task without substantial military assistance. Nor is there any prospect that a civil force will be organized and equipped to independently achieve the RD objectives in SVN or any other country in the world. It is only practical and realistic that military forces be directed to these tasks, assisting and supporting the civil programs with the tremendous resources inherent in military organization. To do otherwise would be folly, would require a civilian Army that would duplicate the military, and be prodigal of our resources. Conversely, civil and paramilitary RD effort must pace military efforts, since military victory without concomitant nation-building would be pyrrhic.

g. Analysis of the force/time ratios required for successful prosecution of the RD facet of the war (and conclusion of a large US military commitment) focuses upon the two military objectives; the provision of security and assistance to the civilian oriented effort. The first step in this contribution is to extend the influence of friendly forces over areas

considered to be most critical. In the case of I Corps, this area is the littoral of the five most northern provinces. The littoral includes 2,700 square miles, contains an estimated 2.4 million (90%) of the 2.6 million Vietnamese in I Corps and represents 99% of the rice producing area. The first step in extension of this friendly force influence over the littoral has been measured in terms of the growth of "Marine Tactical Areas". It is the objective of the Marines to extend these areas from Quang Tri in the North to Quang Ngai in the South. The "Marine Tactical Areas" are defined as those areas in which the following conditions exist:

(1) They are regularly and frequently patrolled and subject to the conduct of friendly offensive military operations.

(2) An active civic action program is in progress.

(3) Casualties are inflicted upon the enemy and friendly forces take casualties.

h. Marines, to include the three Republic of Korea Marine Battalions, have extended these "Marine Tactical Areas" (MTA's) over 1693 of the 2700 square miles of the littoral from 8 March of 1965 to 1 September of 1966. Based on past progress in this effort, it is possible to project our expectations. At Annex C, with its figure 1, is the rationale for projecting

the extension of the MTAs from Quang Tri to Quang Ngai with a force level (current) of 21 BLTs in an additional ten months. An increase in US/FW forces will expedite this process. However, this extension of the MTAs is only one cycle in and facet of the generation long nation building program that must be prosecuted in ICTZ. The next cycle is to provide positive control over the critical littoral which is defined as:

> "A condition of dominance wherein organized VC/NVN units are cleared from a given area. The enemy is prevented from conducting overt operations but is capable of infiltration and individual acts of sabotage. The area is secure for the reestablishment of RVN governmental authority. Indigenous forces could provide requisite local security if and when they are available."

POSITIVE CONTROL

In fact, such a condition represents consolidation in a military sense and requires a successful military assisted RD program prosecuted with adequate RD forces. The statistics to support a projection of the time frame in which positive control could be extended over the littoral are either not available or spurious. It is estimated that such a consolidation would require a period in the magnitude of another ten months. With the current force level, it is therefore calculated and estimated that it will require 20 months to provide the requisite security to insure that RD programs can be successfully prosecuted throughout the littoral. Once this point is reached, progress in nation building is dependent in most part upon the availability and effectiveness of the Republic of Vietnam military, paramilitary and civil forces.

i. The US/FW objectives in I Corps will be well on the way to accomplishment when VC/NVA main forces are defeated and a condition of positive control over the 2700 square mile littoral exists. Such influence must be extended before RD can flourish. However, this does not imply that such conditions require a cyclic prosecution of the war; i.e., destroy regular forces, establish positive control, foster revolutionary development. Establishment of MTA's and positive control will be incremental. Those areas first brought under friendly influence must be subjected to an immediate, vigorous RD effort. Subsequent extension of influence depends upon the successful development of those areas previously cleared. Nor does extension of this influence in itself mean the success of the RD program. It is merely the first essential step in a lengthy evolution.

5. CONCLUSIONS

a. In assessing the US objectives in Vietnam three tasks can be isolated as most significant for computing force/time requirements to successfully prosecute the war in I Corps:

(1) Defeat of NVA/VC main force units.

(2) Defeat the VC guerrilla.

(3) Extension of positive control over the densely populated littoral and support of the revolutionary development programs.

b. These tasks are interdependent and must be undertaken simultaneously. Success in one area promotes success in another, likewise, failure in one forebodes loss of the war.

c. The very base of the war is the people of Vietnam. The revolutionary development program is the most critical of all the tasks with the others being ancillary or contributing.

d. The RD facet of the war will not be completely won for at least a generation. Large US/FW military force commitments will not be required for the full period of the revolution. US/FW forces will, however, be required until such time as:

(1) The NVA/VC regular units are defeated.

(2) The VC guerrilla is reduced to proportions that are manageable for RVN military/paramilitary/police.

(3) Positive control is extended over the populated littoral of I Corps and the RD program is firmly established.

e. The war can be substantially shortened if US political offensives or fatigue should cause the Government of North Vietnam to withdraw its forces from South Vietnam. However, such withdrawal would only shorten, not end the war. The VC main force and guerrilla units would still constitute a major problem for the RVN. Combat security and revolutionary development assistance would still be required of US/FW military forces.

f. This estimate focused upon the requirement for ground forces as being the single essential and most easily quantified element of this war. Air and naval forces will be required to support this ground effort. The following table provides a master reference to the estimate contained in this study. (The Marine supporting air requirements are indicated in Annex D.)

#US/FW BNS	# MONTHS REQUIRED TO REDUCE ENEMY TO 7,500 GUERRILLA RESIDUAL	EXTEND MTAs OVER LITTORAL	EXTEND POS CTRL OVER LITTORAL
35	28	10-	20-
32	31	10-	20-
28	35	10-	20-
25	41	10-	20-
23	45	10-	20-
21	51	10	20
19	60	10+	20+
18	65	10+	20+

ESTIMATES ASSUME:

1. That sufficient RVN follow-on forces are available to support the extension of positive control.
2. That reduction of enemy force to 7,500 residual guerrillas would reduce the VC threat to proportions manageable for the RVN.
3. That for every KIA produced the force effectiveness of the enemy is reduced by 2.2 force strength.
4. That as the campaign progresses, the enemy recruitment base and infiltration capability will be reduced.

g. While many assumptions were made in the development of this study, three are considered critical. The first is that enemy replacement asquisition in I Corps is being accomplished at a rate of 4,600 men a month, and that friendly operations can reduce this acquisition by 50% every 20 months. The second is that adequate RVN military, paramilitary, revolutionary development, and civil administration follow-on forces will be available to provide the talents required to prosecute revolutionary development and security programs in areas in which Marine influence has been developed. The third is that the war will not terminate in early negotiation or the capitulation of either the GVN or the enemy forces.

h. At annexes E, F and G are estimates on aircraft inventory requirements, detailed force requirements and logistic requirements respectively to support the 18 to 32 BLT force spread described herein. No projection of 35 BLT requirements was required or prepared.

i. The indispensible ingredients for successfully prosecuting the war in I Corps are adequate, properly employed force levels and time. These two ingredients are not completely interchangeable. There is a minimum force level required to win the war, if even over an extended period of time. There is

likewise a minimum time level required that cannot be reduced, even with a massive commitment of US/FW forces. Critical in these considerations of time and forces is the Vietnamese capability to provide local security and to prosecute a vigorous revolutionary development program. Critical to both these considerations is the requirement for adequate, properly-trained, effective RF, PF, RD Cadre and National Police to provide both security and developmental follow-on behind the US/FW/ARVN forces. This estimate indicates that while there are some 48,400 of these forces assigned, 33,600 more are required. Of the RVN forces required to prosecute this critical facet of the war, only 54% are currently available. It will certainly require the minimum 31 month time estimate (for 32 US/FW BLTs to reduce the residual guerrilla to a strength of 7,500) to equip, train and bear the fruits of an 82,000 man RF/PF/RD Cadre/constabulary. Given the current situation, any force increase over 32 US/FW BLTs/Bns would not reduce the time required to successfully prosecute the war and would therefore be prodigal. The current level of 21 BLTs/Bns (requiring 51 months) appears to be the lower limit of practical utilization of forces as the force levels of 19, 18 and less require a disproportionately greater period of time to accomplish our objectives. A 25 to 28 BLT/Bn force level appears to be most

desirable, limiting US/FW participation to 3 - 3½ years which should be adequate to promote an advancing RD program with an adequate paramilitary/cadre/constabulary.

ANNEX B

DETERMINATION OF LENGTH OF TIME REQUIRED TO REDUCE ENEMY FORCES TO A SIZE MANAGEABLE FOR ARVN FORCES

I. INTRODUCTION

The purpose of this Annex is to provide the rationale for determining the requirements for U. S. Marine Corps (USMC) and Free World Military Forces (FWMF) BLTs/BNs to achieve the objective of defeating the enemy in I Corps.

The ideal approach to this problem would be to determine the contribution which singular components of our forces can make toward this objective. Based on experience data, it might be possible to determine the fraction of enemy forces we can render ineffective, and therefore contribute to their defeat, by applying various degrees of combat potential in terms of infantry, artillery, mobility, naval gunfire and air support. For any given objective (e. g., defeat of the enemy in two years) it would then be possible to demonstrate the alternative combinations of combat power which can accomplish our objective. By measuring the availability of each component of our combat power, in terms of dollar costs, and the costs in terms of casualties to our side, it would then be possible to select a preferred alternative.

In this analysis, the limited data available demands that the forces required to reduce the enemy to a given level (and

to attain control of the population) be measured in terms of BLTs. For various enemy strengths, enemy replacement rates and friendly force strengths it will be possible to compute the length of time required to reduce the enemy to some manageable strength. Such will be accomplished by varying the number of USMC/FW BLTs/Bns and concomitant air support, while holding the contribution of other friendly forces constant.

II. DEFEAT OF THE ENEMY.

In a situation where personnel are freely interchanged between guerrilla and main force units it is necessary to reduce the overall enemy strength to a general overall level which can be handled by the RVN military paramilitary and police forces. This analysis therefore addresses the relationship between the total size of the enemy forces and the strength of USMC/FW forces.

Table I summarizes the data which will be used in estimating the relationship between enemy personnel and USMC BLT strengths. The end-of-month strengths of USMC and enemy forces were translated into mid-month figures by using the plots of end-month values, joining these points and finding mid-month figures, as shown in Figure 1.

In the analysis, the contribution of RVN forces will be assumed to be constant. The fraction of the enemy strength made casualties in any period by USMC/FW forces will be assumed to vary with the number of USMC/FW BLTs/Bns. Figure 2 shows the plots of points relating fraction of enemy strength made casualties by USMC in a month to the the number of USMC BLTs. The plots show a positive relationship. Employing linear regression, the relationship between the fraction of enemy strength made casualties (by USMC) and USMC BLT strength was found to be:

$$A = -.0091 + .0048\ B$$

Where

A = fraction of enemy strength made casualties during month
B = number of USMC BLTs

This equation has a standard deviation of .0238, and a coefficient of variation of .56. Its correlation coefficient is .72 and significantly, it has an F-level significance of 99.9%. On all counts, it gives a better explanation of the fraction of enemy strength made casualties (by USMC) than would be achieved if we used ratios of enemy to USMC strength, as the independent variable.

The equation thus derived is used in the general equation to determine the enemy strength at the end of any month:

$$E_t = (E_{t-1} + r_{Et})\ (1-A-R)$$

where

E_t = enemy strength at the end of month t

E_{t-1} = enemy strength at the end of month t-1

r_{Et} = number of enemy replacements during month t

A = fraction of enemy strength made casualties during month t, by USMC/FW forces

R = fraction of enemy strength made casualties during month t, by RVN forces

To determine E_t for given numbers of USMC BLTs at the end of given periods of time requires the use of specific values for each of the variables. Such values are derived as follows:

E_{t-1} for E_o. The enemy strength at the end of August 1966 is E_o. It is from this base that the calculation of E_t is made for any value of t, r_{Et}, A and R. E_o = 53,000, as shown in Table I.

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r_{Et}. Total possible enemy infiltration into SVN is established at 4,500-6,000 per month. The I Corps "share" of this infiltration could range from a current high of 6,000 per month, to a current low of 2,600 per month. The "low" figure is achieved by finding the average of the two infiltration estimate extremes (4,500 +6,000 ÷ 2) which is 5,250 and assuming that I Corps, closest to NVN, will acquire about 50% of this infiltration or 5,250 ÷ 2 = 2,600. But enemy acquisitions are not

derived exclusively from infiltration. The VC capability to recruit and train personnel in SVN is estimated to be between 7,000 and 10,000 per month. One sixth of the total population and 25% of the VC-dominated populace in SVN is in I Corps. It is assumed that 25% or about 2,000 of the VC recruits will therefore be found and will fight in I Corps. To this point, the potential acquisition of enemy in I Corps per month, is as follows:

High; 6,000 (infil) + 2,000 (rec) = 8,000
*Medium; 4,500 (infil) + 2,000 (rec) = 6,500
Low; 2,600 (infil) + 2,000 (rec) = 4,600

*The medium figure is derived by taking the minimum infiltration capability for all of SVN and attributing it all to I Corps.

As operations progress however, the VC will have a reduced recruitment base as control is extended over the populace; and our air campaign should continue to reduce his capability for infiltration. We therefore have the following possible "mixes" of enemy potential acquisition:

(1) High; 6,000 (infil) + 2,000 (rec) = 8,000

(2) Medium; 4,500 (infil) + 2,000 (rec) = 6,500

(3) Low; 2,600 (infil) + 2,000 (rec) = 4,600

(4) Recruitment halved on low base = 3,600

(5) Infiltration halved, or recruitment cut 65% on low base = 3,300

(6) Recruitment and infiltration halved on low base = 2,300

A. The value for A is found by use of the equation derived

from the linear regression cited above. The various values of A which would be associated with the following numbers of BLTs will be used:

BLTs	A
18	.0773
19	.0821
21	.0917
23	.1013
25	.1109
28	.1253
32	.1445
35	.1589

Since there are currently 18 USMC BLTs and 3 ROK Bns in I CTZ, a strength of 21 BLTs could be considered a continuation of these force levels. The cases where the number is 18 or 19 show what could happen with some decrease in current forces due, say, to a withdrawal of some or all of the ROK battalions.

R. As computed in Table II, R is assumed to be constant at a value of .0284. Such assumption requires that increases in enemy force strengths will be fought and reduced by USMC/FW forces.

All the values now needed to compute E_t for each of the various cases are available. If r_{E_t} is assumed to be 4,600 ("low" figure) and the number of BLTs is assumed to be 18 then the value of E_t, where t=1, can be found:

$$E_1 = (E_o + r_{E1}) (1-.0773 - .0284)$$

$$E_1 = (53,000 + 4,600) (.8943)$$

$$E_1 = 51,512$$

E_2 can be calculated in the same manner by using 51,512 (E_1 above) as E_{t-1}, and so on.

There are six values for replacement (8,000/6,500/4,600/3,600/3,300/2,300) and eight strengths have been chosen, providing 48 possible equations which can be used. Figures 3,4, 5, 6, 7 and 8 show the values of E_t over time for each of these cases.

As Figures 3 through 8 indicate, the enemy strength is reduced in each case but not in a linear manner. Such plots reflect the assumption that enemy strength is reduced by a certain fraction as a function of our strength. The basic rationale behind this assumption is that; for a given size of our force, the enemy is more difficult to locate and destroy as he is reduced in size.

The concomitant requirement for air support can be estimated by examination of Table I. Over the period March 65 - August 66 there were 25,888 CAS/DAS air support sorties flown. In the same period of time there were 194.0 USMC BLT months in I Corps. Thus, there was an average of 133 air support sorties per BLT

each month. The enemy strengths shown in Figures 3-8 reflect the contribution of RVN forces and USMC/FW BLTs, but are also contingent upon the receipt of something like 133 sorties (CAS/DAS) per BLT per month. The total requirement of sorties must include helicopter escort support however, which increases the sortie rate and tends to confirm the CINCPAC stated requirement for 200 sorties per battalion per month.

The curves in Figures 3-8 thus show enemy strength over time for various possible replacement rates and numbers of USMC/FW BLTs. Since each of the curves is drawn for a constant replacement rate, and since it has also been assumed that the enemy personnel are interchangeable between guerrilla and main forces, the possibility that enemy replacements could be reduced and all main force personnel may not readily become guerrillas has yet to be considered.

Annex C, which deals with control of the populated area, shows that it would be possible to extend Marine influence over the area which contains 90% of the population of I Corps within 10 months. If this occurs, it is possible that enemy recruitment within I Corps could be reduced. Further revolutionary development (RD) efforts could also lead to reductions in enemy recruitment potential. Likewise, continued prosecution of our air

campaign could reduce infiltration. Therefore, to estimate the length of time it would take to reduce the enemy to some manageable size, it is necessary to take into account the reductions in the enemy capability to replace or regroup.

The data presented in Figures 3,5 and 6 will permit such estimates. As a base for projecting such estimates, the extension of control over the littoral is critical. Extension of control from 1,700 square miles to 2,700 square miles would increase the controlled area by 60%. It is unlikely that such extension would decrease the enemy replacement rate by that amount, but it would, along with a vigorous air campaign, reduce it by one-half that amount or 30%. The estimate of 10 months to project influence over the littoral is therefore significant and a base estimate of the possibility of reducing the enemy replacement potential by 30% in 10 months is accepted. Entering figures 3 through 6 a determination can be made regarding total enemy strength at the end of a more meaningful period, say 20 months. Figure 9 shows the result of the application of such rationale. To demonstrate the development of these curves the 18 BLT case will be used as an example:

a) Enemy strength at the end of 10 months where r = 4,600 would be 43,500 (Figure 3), and where r = 3,300 it would be

36,000 (Figure 5). The strength at the end of 10 months would be approximately the average of 43,500 and 36,000 or 40,000, since r is decreasing from 4,600 to 3,300.

b) Over the next 10-month period, the replacement rate would decline from 3,300 to about 2,300. Since the strength at the end of the first 10 months would be 40,000 it is necessary to determine enemy strengths at the end of another 10 months following the time when enemy strength reaches 40,000, where r = 2,300. These values, 32,000 and 26,000, were found in Figures 5 and 6. Therefore, the strength at the end of 20 months would lie between 32,000 and 26,000, or about 29,000.

Using the values for enemy strengths at the end of 20 months the curves shown in Figure 9 were plotted. These give an approximation of the enemy strengths over time under the assumption that the replacement rates decrease by about 30% every 10 months, or as indicated, 50% every 20 months. If our estimate of impact of our operations upon the enemy are overly optimistic, the same type of information can be developed for the base of 30% replacement reduction over every 20 months which provides a 50% reduction every 40 months. Such an eventuality is portrayed in figure 10.

Therefore, the curves in Figures 3-8 and Figures 9 and 10 represent two possible ways of estimating the length of time it would take to reduce the enemy to a given strength. In Figures 3-8 the net replacement rate is held constant and there is an implicit assumption that the defeated main force units can regroup or become guerrilla units. In Figures 9 and 10 the assumption is made that increasing control of the populated area and defeat of enemy units will lessen his ability to recruit, to infiltrate, to regroup or to form guerrilla units.

III SUMMARY.

The preceding discussion of force requirements has attempted to use experience data to project the length of time it will take to reduce the enemy to a manageable size.

In estimating the length of time it would take various forces to reduce the enemy to a manageable size two approaches were taken. First, it was assumed that the enemy can maintain a constant net replacement rate and that he can regroup or change from main force to guerrilla with his remaining strength. Secondly, it was assumed that continued RD effort, extension of the MTA and defeat of main force units will reduce net replacement rates by about 30% every 10 months or 50% every 20 months.

Table III summarizes the length of time it would take to reduce the effective enemy strength to various levels for various numbers of USMC/FW BLTs/Bns, using the results given in Figure 9. These estimates, based upon the constant reduction of the enemy's rate of replacement, are the most relevant for the purposes of this analysis, since they reflect current enemy replacement rates plus the most plausible reductions in that rate as the prosecution of the war progresses. Table IIIa, based on figure 10 provides additional information on alternate possibilities.

The time/force relationship presented in Tables III and IIIa assume that force increases to the various levels cited are made through a single, one-time input. By entering Figures 11 and 12 it can be determined what effect a phased force buildup will have upon the estimate. Selecting a buildup rate of 1/2 BLT per month (the buildup for the first 18 months of commitment of US forces in I Corps averaged about 1 BLT per month) the time/force relationships stated in Tables B-III-B and B-III-C can be derived.

The estimate of 10 months to extend Marine influence over the populated littoral of I Corps helps to substantiate the estimate that there can be a reduction of current enemy replacement rates, and that a speed-up in our prosecution of the war could lead to further reductions in enemy strength and his capability to replace or regroup.

The following conclusions can be drawn from the preceeding discussion:

(a) The minimum length of time it would take to reduce the enemy to an effective strength of 10,000 or 7,500 would be:

Number of USMC/FWMAF BLT's	MONTHS	
	Enemy 10,000	Enemy 7,500
18	55	65
19	51	60
21	44	51
23	38	45
25	34	41
28	30	35
32	26	31
35	24	28

(b) If enemy replacement rates cannot be reduced below their current capability of 4,600 per month, and enemy personnel can regroup or form guerrilla units at will, the following are the minimum enemy strengths obtainable without some other drastic form of action:

Number of USMC/FWMAF BLT's	Minimum Level To Which Enemy Can Be Reduced
18	38,500
19	37,000
21	34,000
23	30,500
25	28,000
28	25,000
32	22,000
35	20,000

(c) Both previous conclusions require continued direct and close air support sorties at the rate of 133 per BLT, per month or 200 sorties per month including escort requirements.

TABLE F-1

SUMMARY OF DATA BASE

END OF MONTH STRENGTHS

MONTH	NO. OF USMC BLT's	NO. OF NVA/VC	AVE. NO. USMC BLT's	AVE. NO. NVA/VC	NVA/VC KIA BY USMC	FRACTION OF NVA/VC KIA	FRACTION OF NVA/VC MADE CASUALTIES 1)	AIR SUPPORT SORTIES	MARINE TACTICAL AREA (SQ MI)	CUMULATIVE BLT MONTHS
64 DEC		10,775								
65 MAR	2		2.0	16,000	0	0	0		12	2.0
APR	2		2.0	18,000	5	0	0	190		4.0
MAY	5		3.5	20,500	38	.0018	.0040		249	7.5
JUN	5	23,801	5.0	22,500	222	.0099	.0218	1,275		12.5
JUL	8		6.5	24,000	438	.0182	.0400	1,889		19.0
AUG	11		9.5	24,500	758	.0309	.0680	2,257		28.5
SEP	11		11.0	25,000	502	.0201	.0442	2,211	606	39.5
OCT	11	25,500	11.0	25,500	183	.0072	.0158	2,062	676	50.5
NOV	11	26,050	11.0	26,000	183	.0070	.0154	598	676	61.5
DEC	11	29,330	11.0	28,000	563	.0201	.0442	774	804	72.5
66 JAN	14	29,730	12.5	29,500	300	.0102	.0224	1,025	948	85.0
FEB	15	24,680	14.5	28,500	367	.0129	.0284	1,855	948	99.5
MAR	15	25,150	15.0	27,500	1459	.0530	.1166	1,557	948	114.5
APR	15	29,529	15.0	29,000	556	.0192	.0422	1,294	1185	129.5
MAY	15	29,592	15.0	29,500	832	.0282	.0620	1,290	1185	144.5
JUN	15	31,805	15.0	30,500	884	.0290	.0638	1,501	1195	159.5
JUL	18	49,770	16.5	40,500	1855	.0458	.1008	2,823	1620	176.0
AUG	18	52,780	18.0	51,000	1736	.0340	.0748	3,287	1693	194.0
	TOTAL			496,000	10,881			25,988		
	AVERAGE			27,556						

1) This value is found by multiplying the fraction of enemy KIA by 2.2, since it is estimated that there are 1.2 enemy WIA for each KIA, or 2.2 casualties per KIA.

TABLE B-II

RVN FORCE CONTRIBUTION TO ENEMY CASUALTIES

TOTAL ENEMY KIA IN SOUTH VIETNAM (MAR65 - JUN66)	57,000
ESTIMATED ENEMY KIA IN JUL, AUG 66	13,000
TOTAL	70,000
NUMBER OF ENEMY KIA IN I CORPS (25% of TOTAL)	17,500
NUMBER OF ENEMY KIA BY USMC	11,000
ENEMY KIA BY RVN FORCES	6,500

$$\frac{\text{ENEMY KIA PER MONTH BY RVN FORCES}}{\text{AVERAGE ENEMY STRENGTH PER MONTH}} = \frac{360}{28{,}000} = .0129$$

(.0129) (2.2) = .0284 = FRACTION OF ENEMY MADE CASUALTIES BY RVN FORCES EACH MONTH

TABLE B-III

TIME REQUIRED TO REDUCE ENEMY STRENGTH TO VARIOUS LEVELS WHERE ENEMY REPLACEMENT BEGINS AT 4,600 PER MONTH AND IS REDUCED BY 50% EVERY 20 MONTHS

NO. OF BLTs	NUMBER OF MONTHS TO REACH STRENGTH OF: 35,000	30,000	25,000	20,000	15,000	10,000	7,500
18	14	19	25	32	42	55	65
19	13	17	23	30	38	51	60
21	11	15	19	25	33	44	51 — 20 Mos
23	10	13	17	22	29	38	45
25	9	12	15	20	26	34	41
28	8	10	14	18	23	30	35 — 20 mos
32	7	9	12	15	20	26	31
35	5	8	11	19	18	24	28

TABLE B-III-A

TIME REQUIRED TO REDUCE ENEMY STRENGTH TO VARIOUS LEVELS WHERE ENEMY REPLACEMENT BEGINS AT 4,600 PER MONTH AND IS REDUCED BY 50% EVERY 40 MONTHS

NO. OF BLTs	NUMBER OF MONTHS TO REACH STRENGTH OF: 10,000	7,500
18	93	110
19	82	96
21	72	85
23	66	77
25	61	72
28	55	64
32	48	56
35	46	53

TABLE B-III-B

TIME REQUIRED TO REDUCE ENEMY STRENGTH TO VARIOUS LEVELS WHERE ENEMY REPLACEMENT BEGINS AT 4,600 PER MONTH AND IS REDUCED BY 50% EVERY 20 MONTHS AND BUILDUP OF BLTs IS AT THE RATE OF 1/2 BLT PER MONTH

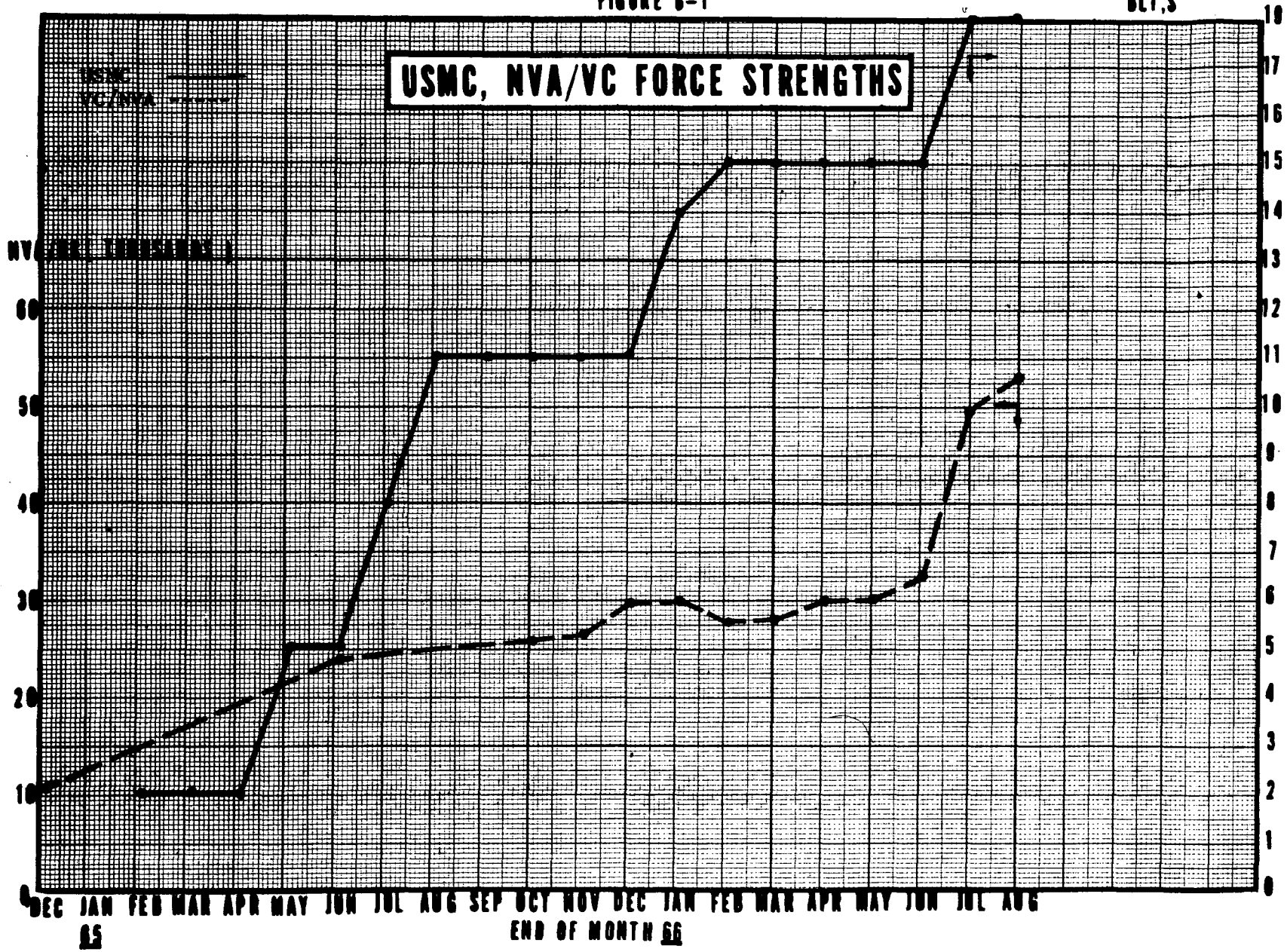
NO. OF BLTs	NUMBER OF MONTHS TO REACH STRENGTH OF: 10,000	7,500
18	(No "buildup" exists)	
19	-do-	
21	44	51
23	39	45
25	36	42
28	33	38
32	32	36
35	31	35

TABLE B-III-C

TIME REQUIRED TO REDUCE ENEMY STRENGTH TO VARIOUS LEVELS WHERE ENEMY REPLACEMENT BEGINS AT 4,600 PER MONTH AND IS REDUCED BY 50% EVERY 40 MONTHS AND BUILDUP OF BLTs IS AT THE RATE OF 1/2 BLT PER MONTH

NO. OF BLTs	NUMBER OF MONTHS TO REACH STRENGTH OF 10,000	7,500
18	(No "buildup" exists)	
19	-do-	
21	72	85
23	66	80
25	62	76
28	58	70
32	53	64
35	52	62

FIGURE B-1



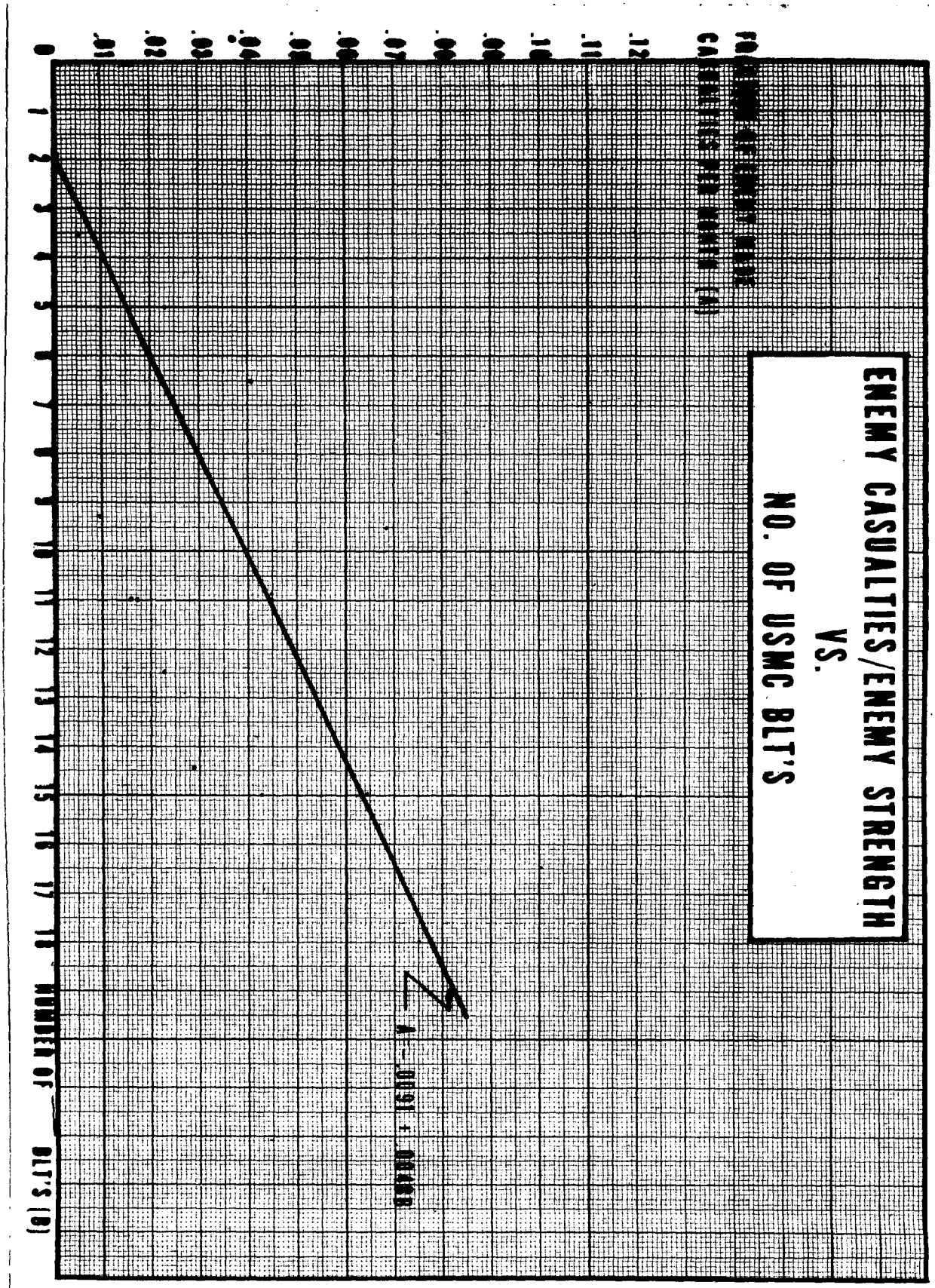


FIGURE B-2

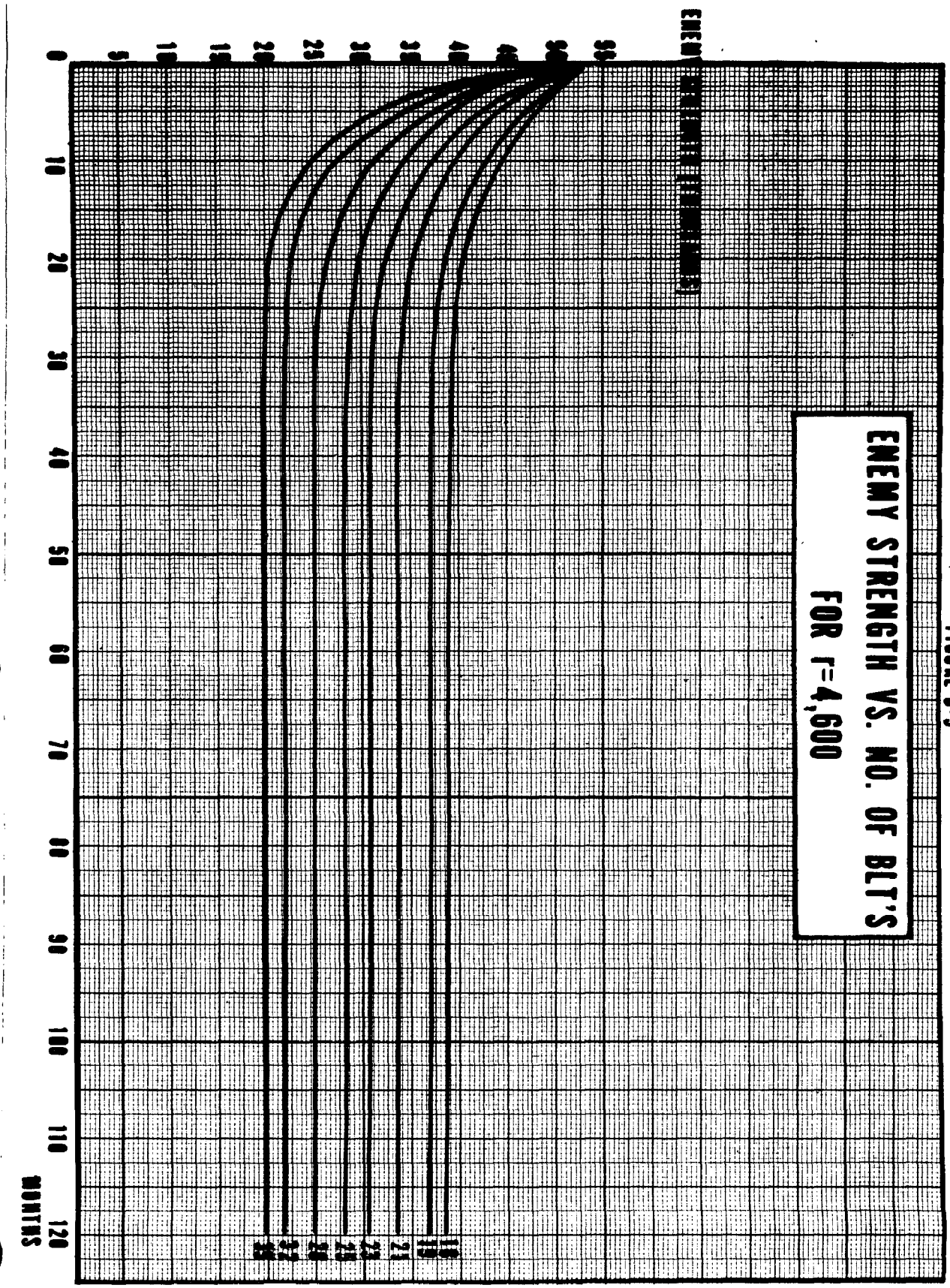


FIGURE B-3

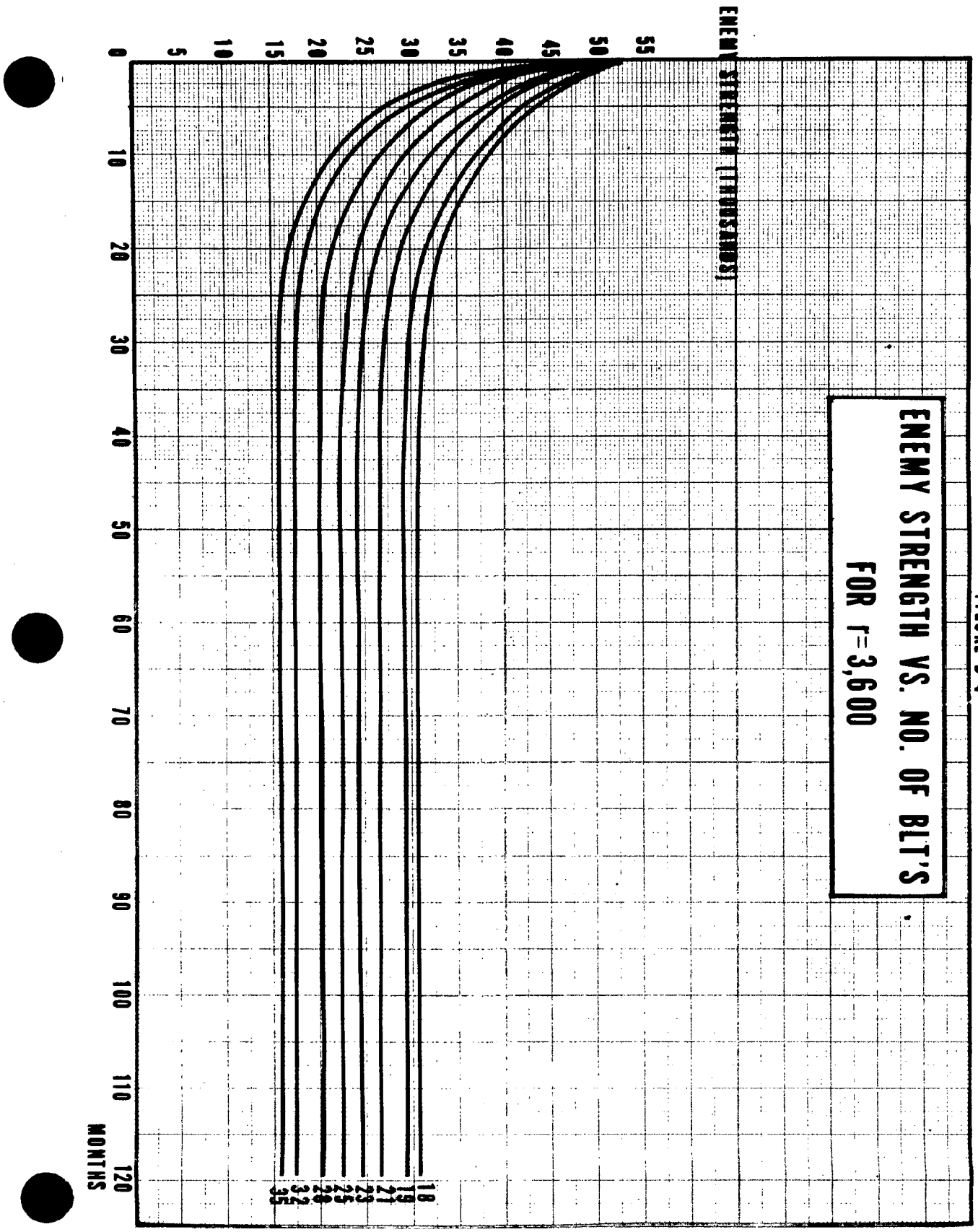
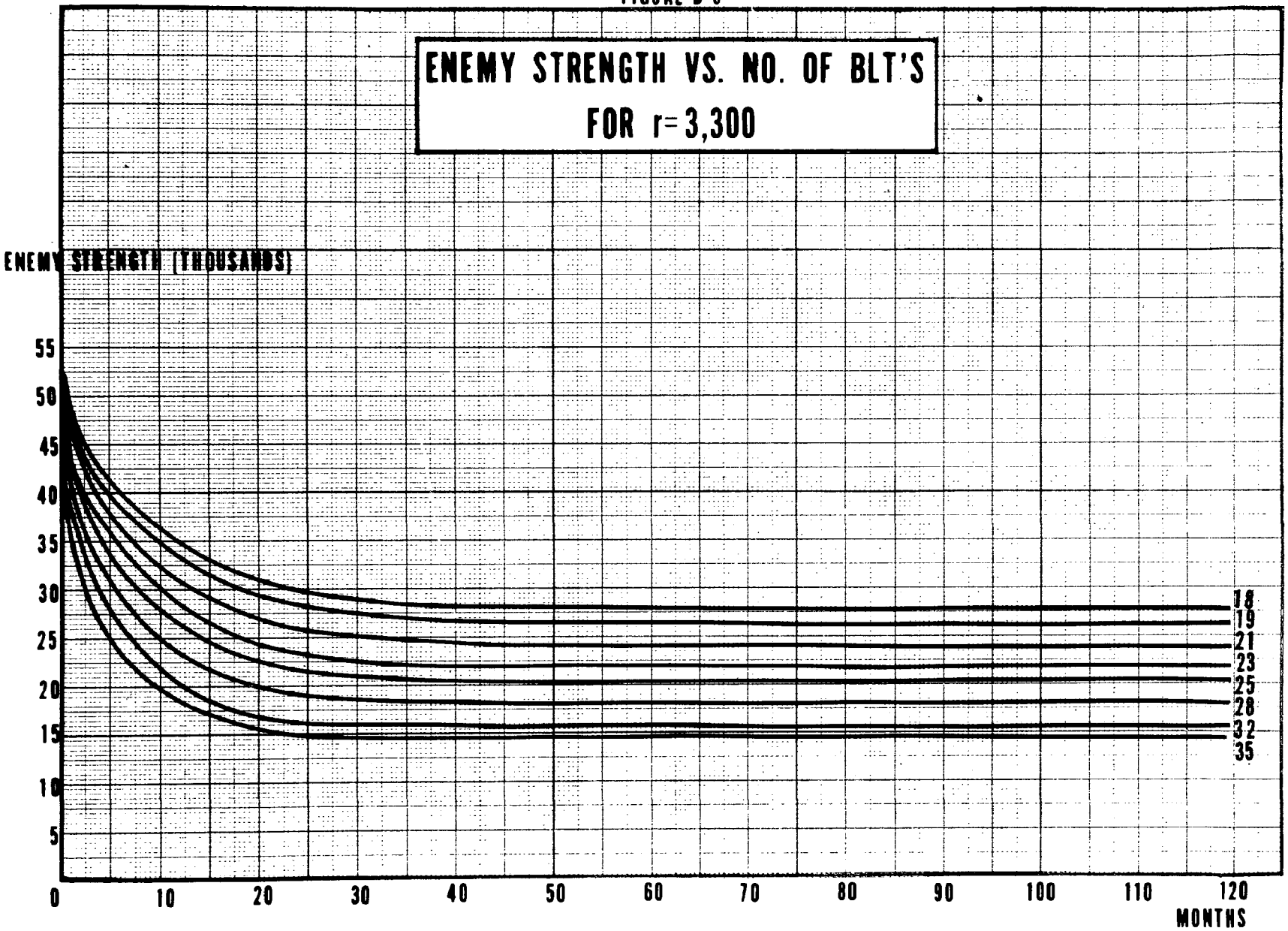
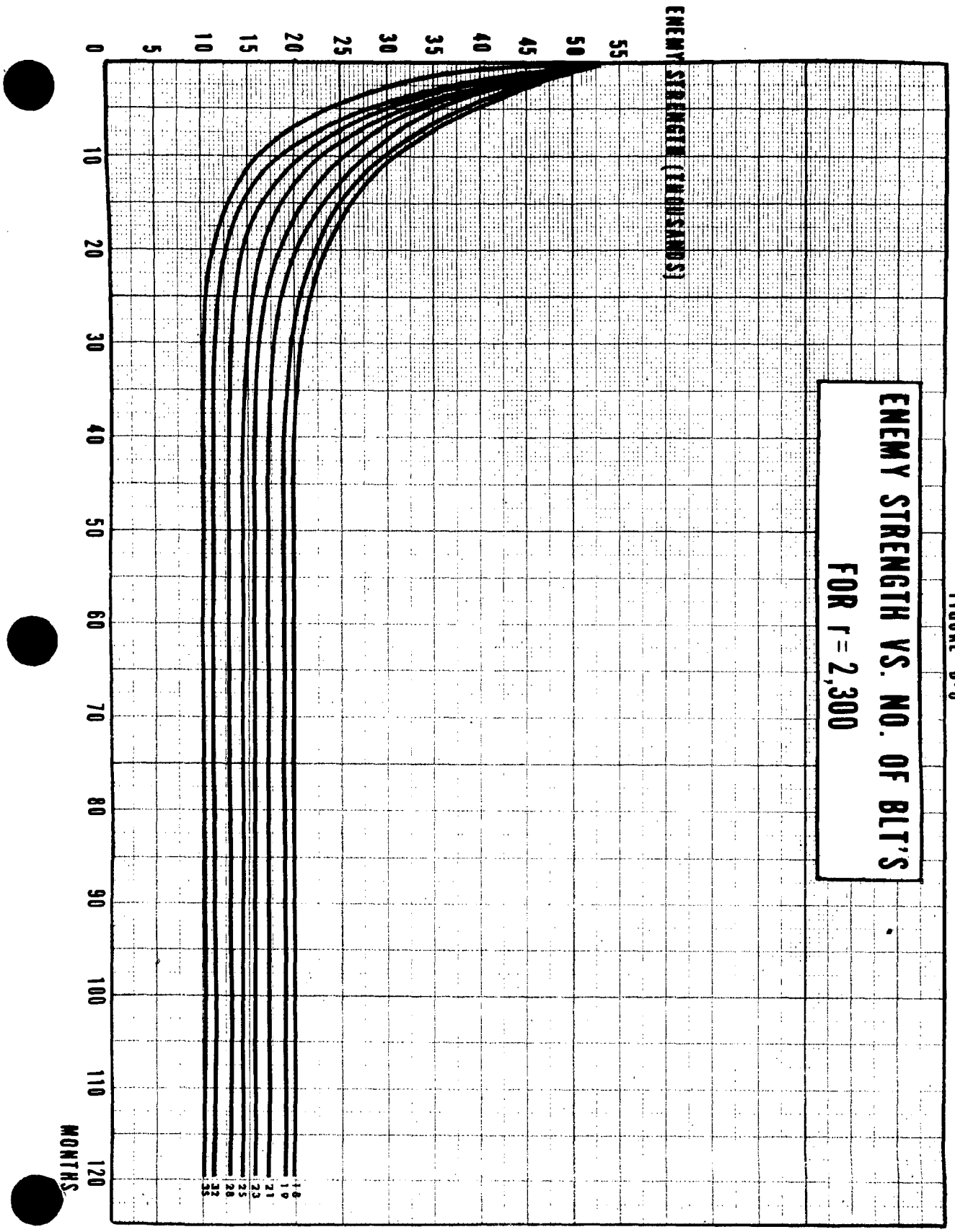


FIGURE B-4

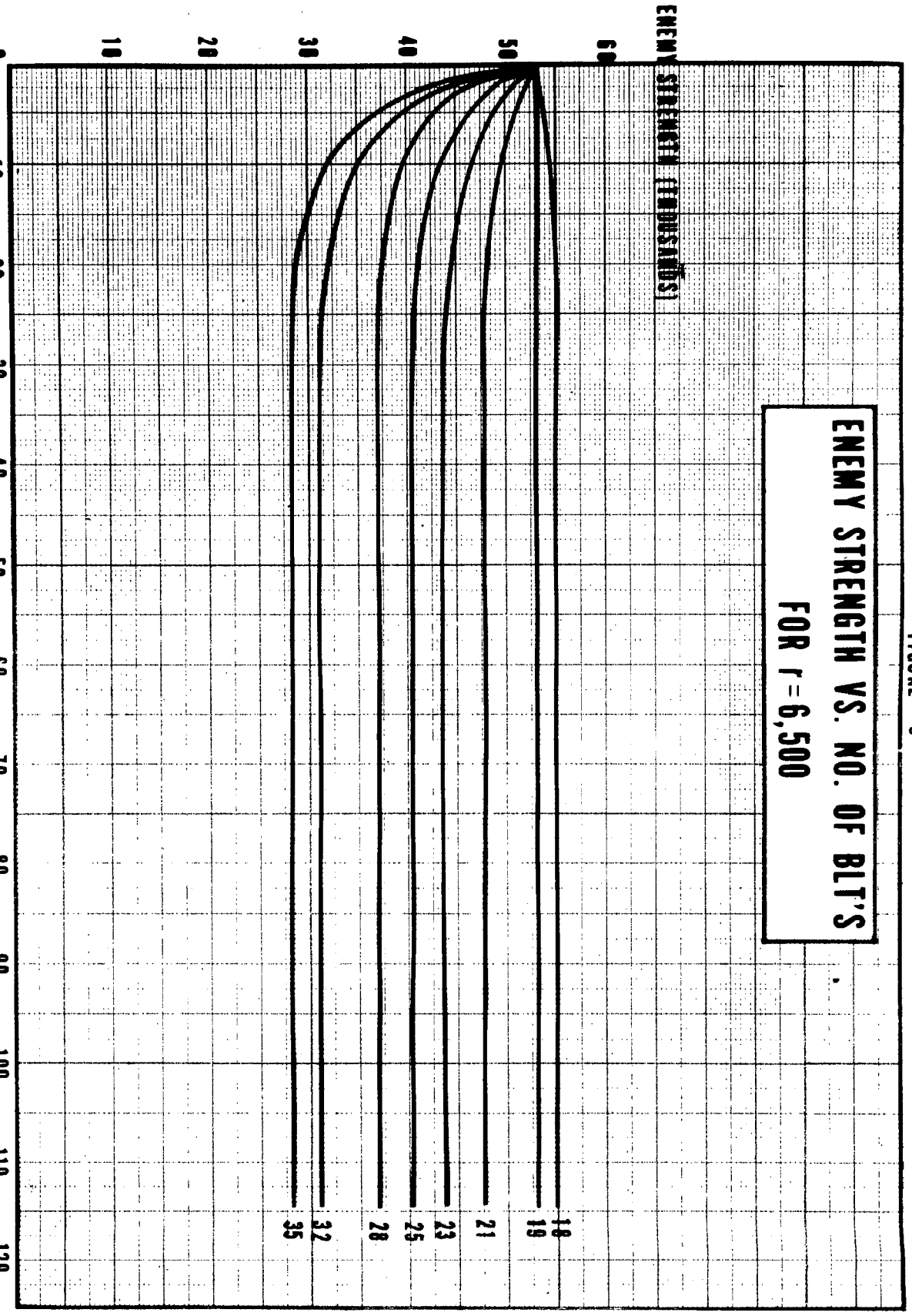
FIGURE B-5





ENEMY STRENGTH VS. NO. OF BLT'S
FOR r = 2,300

FIGURE B-6



ENEMY STRENGTH VS. NO. OF BLT'S
FOR $r = 6,500$

FIGURE 8

FIGURE B-9

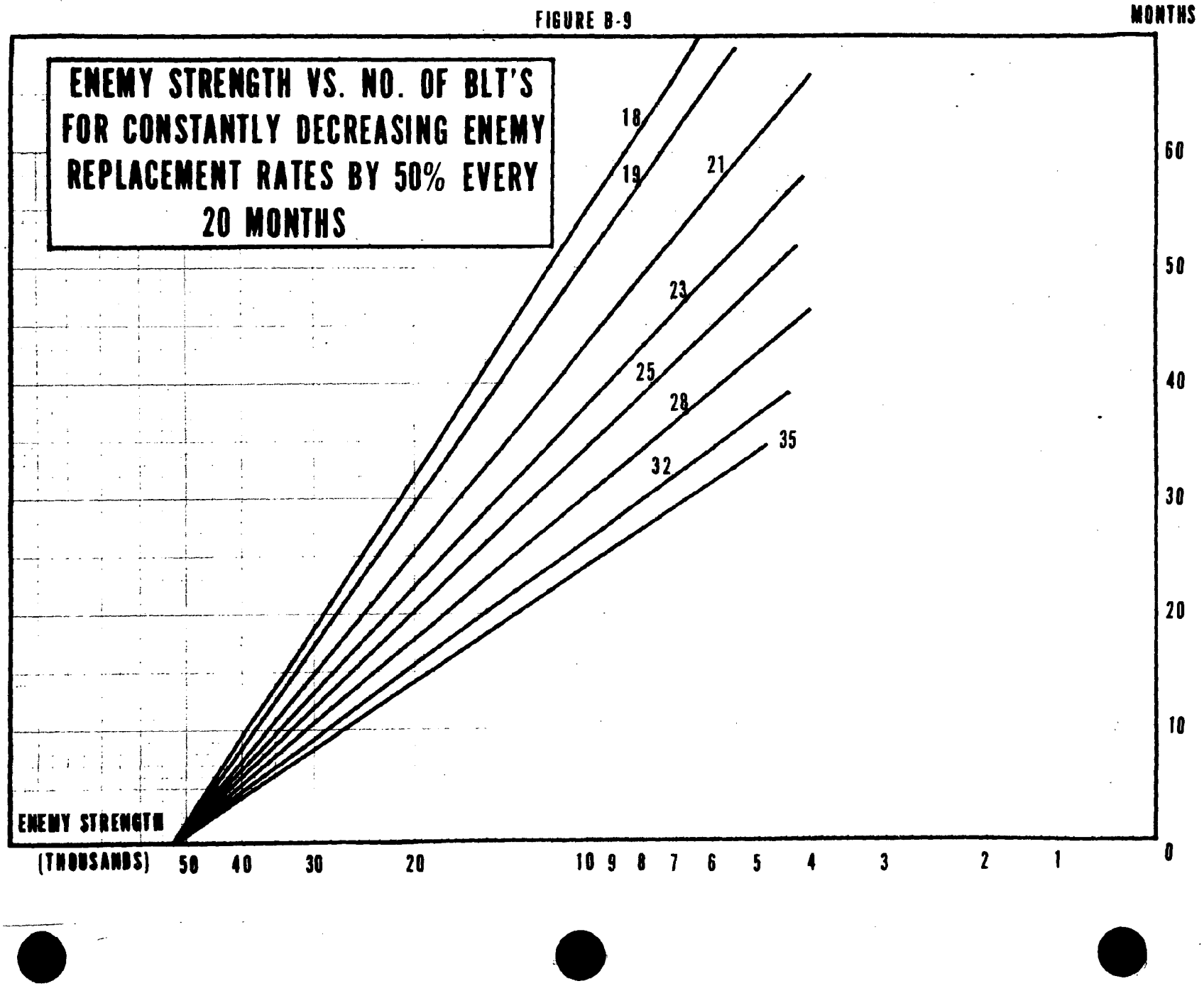


FIGURE B-10

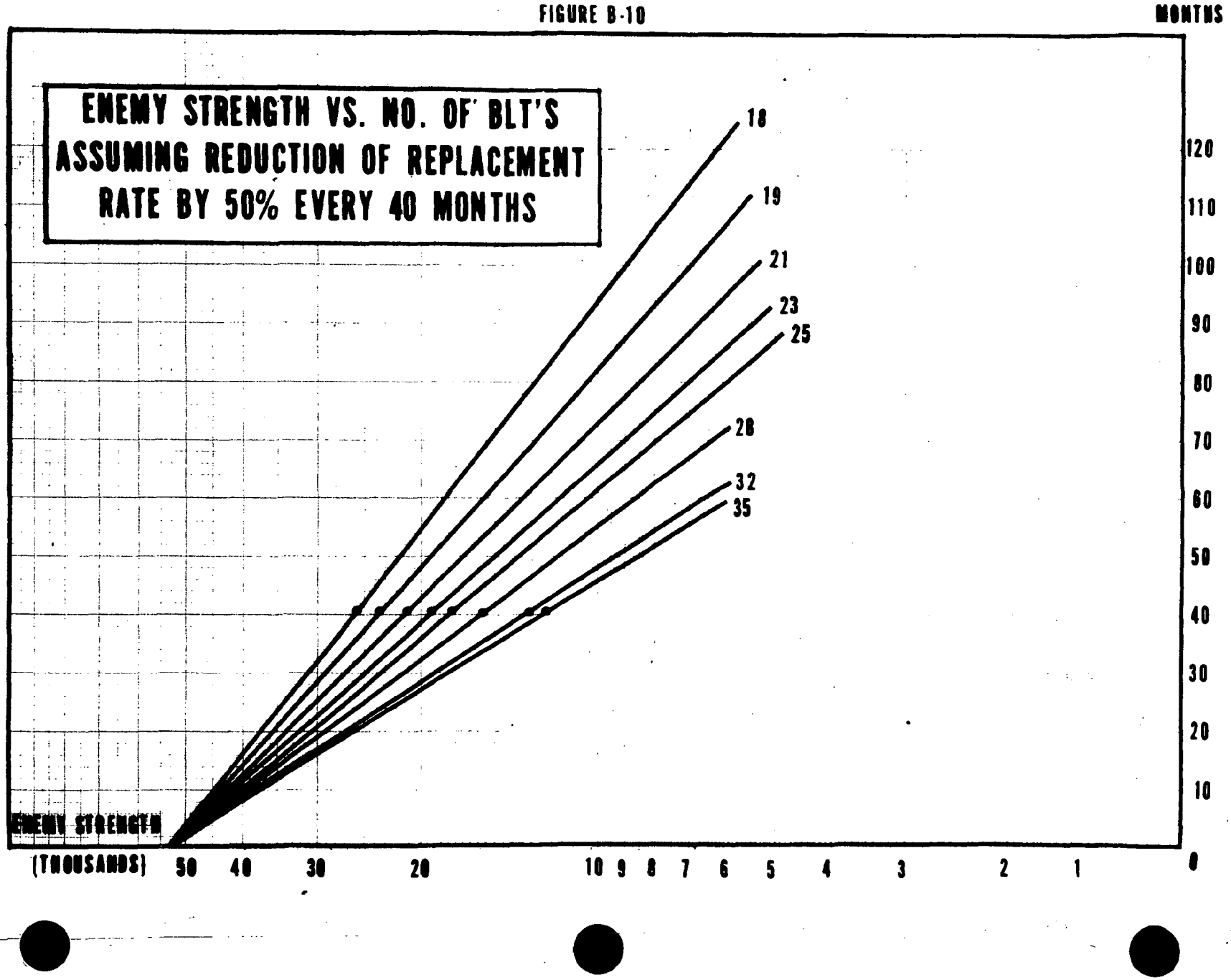
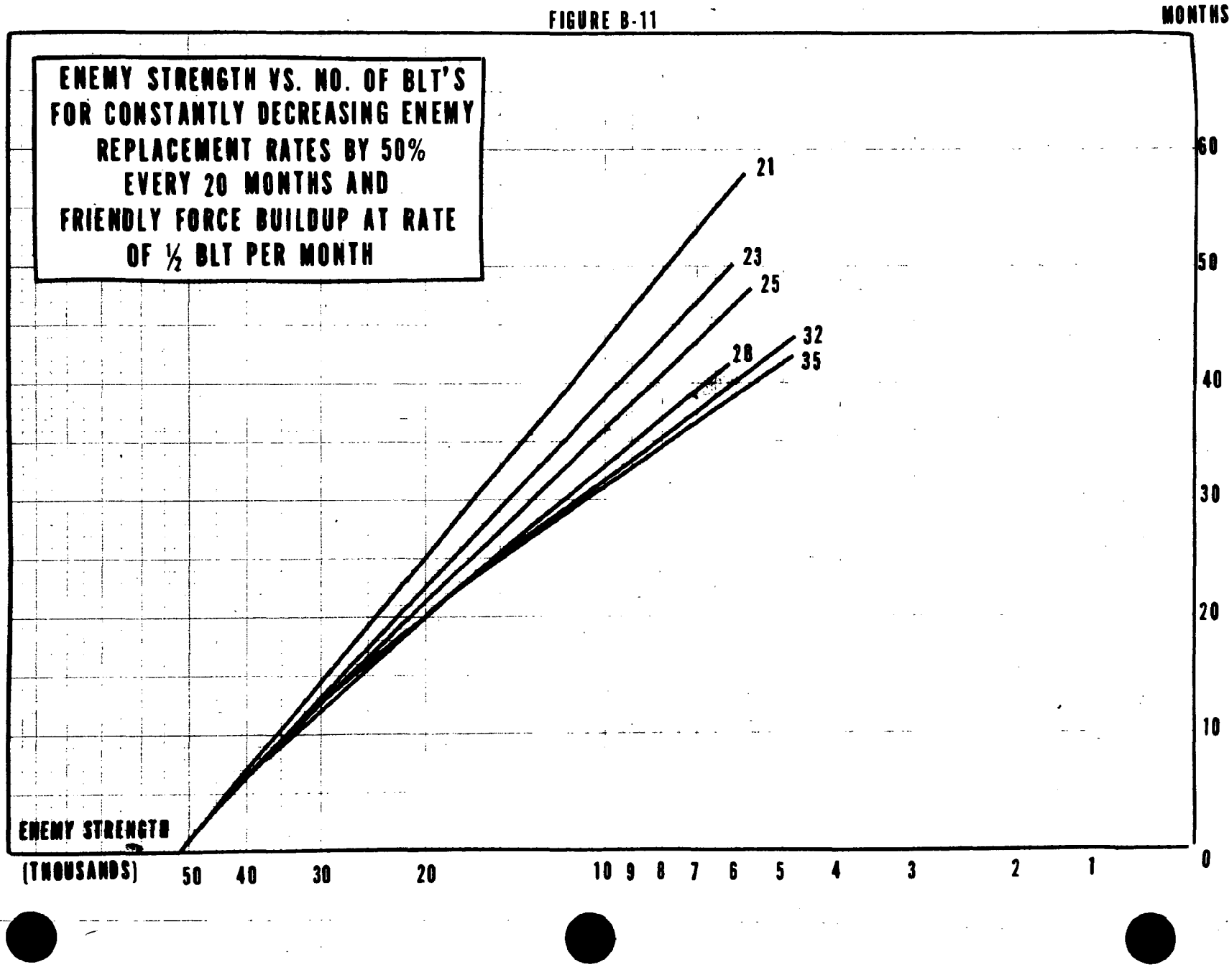


FIGURE B-11



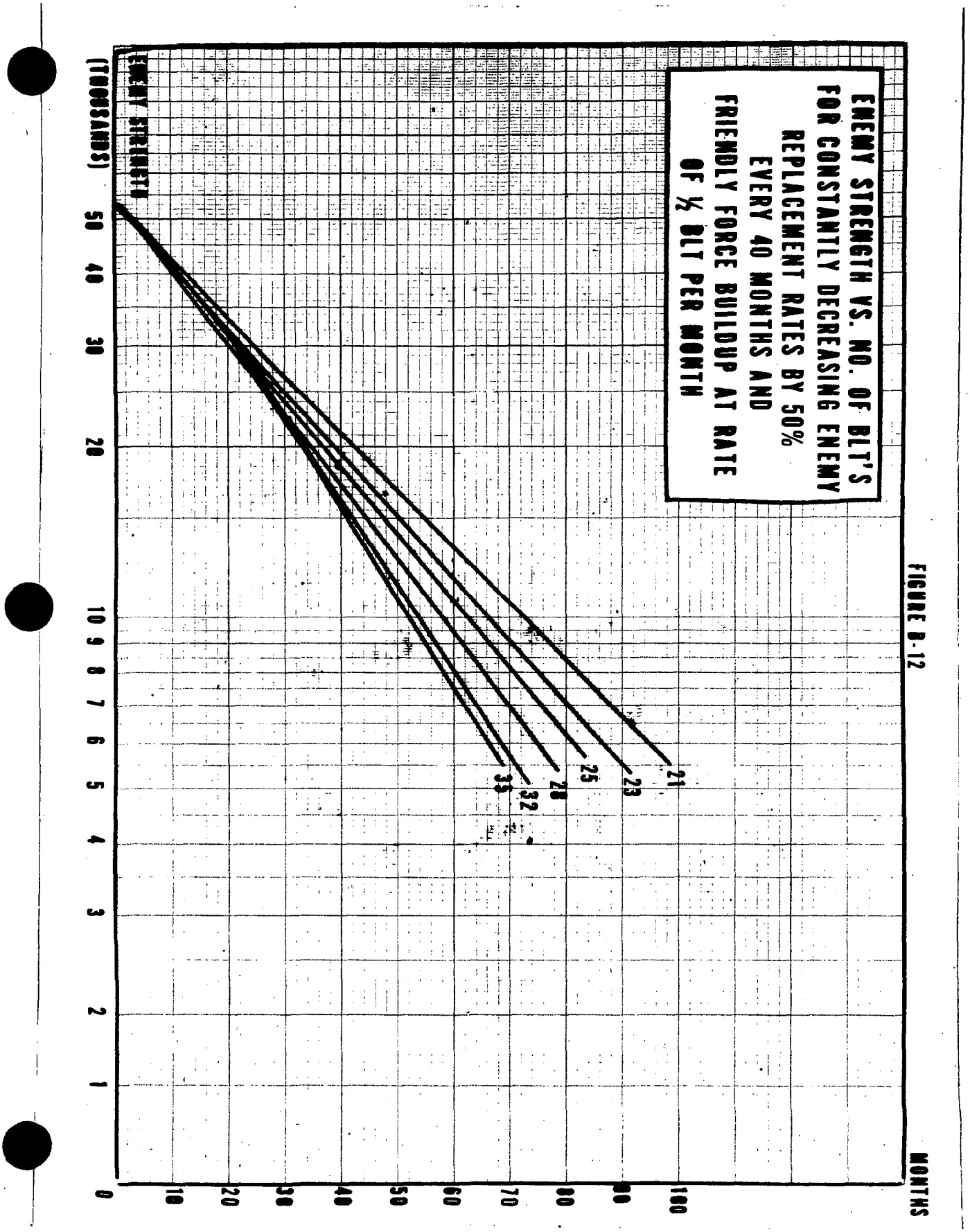


FIGURE B-12

ANNEX C

LENGTH OF TIME TO EXTEND MARINE TACTICAL AREA (MTA) TO ENCOMPASS THE I CORPS LITTORAL

Table I in Annex B provides the data on growth of the Marine Tactical Area (MTA) through August 1966 and the cumulative number of BLT months expended in achieving such growth.

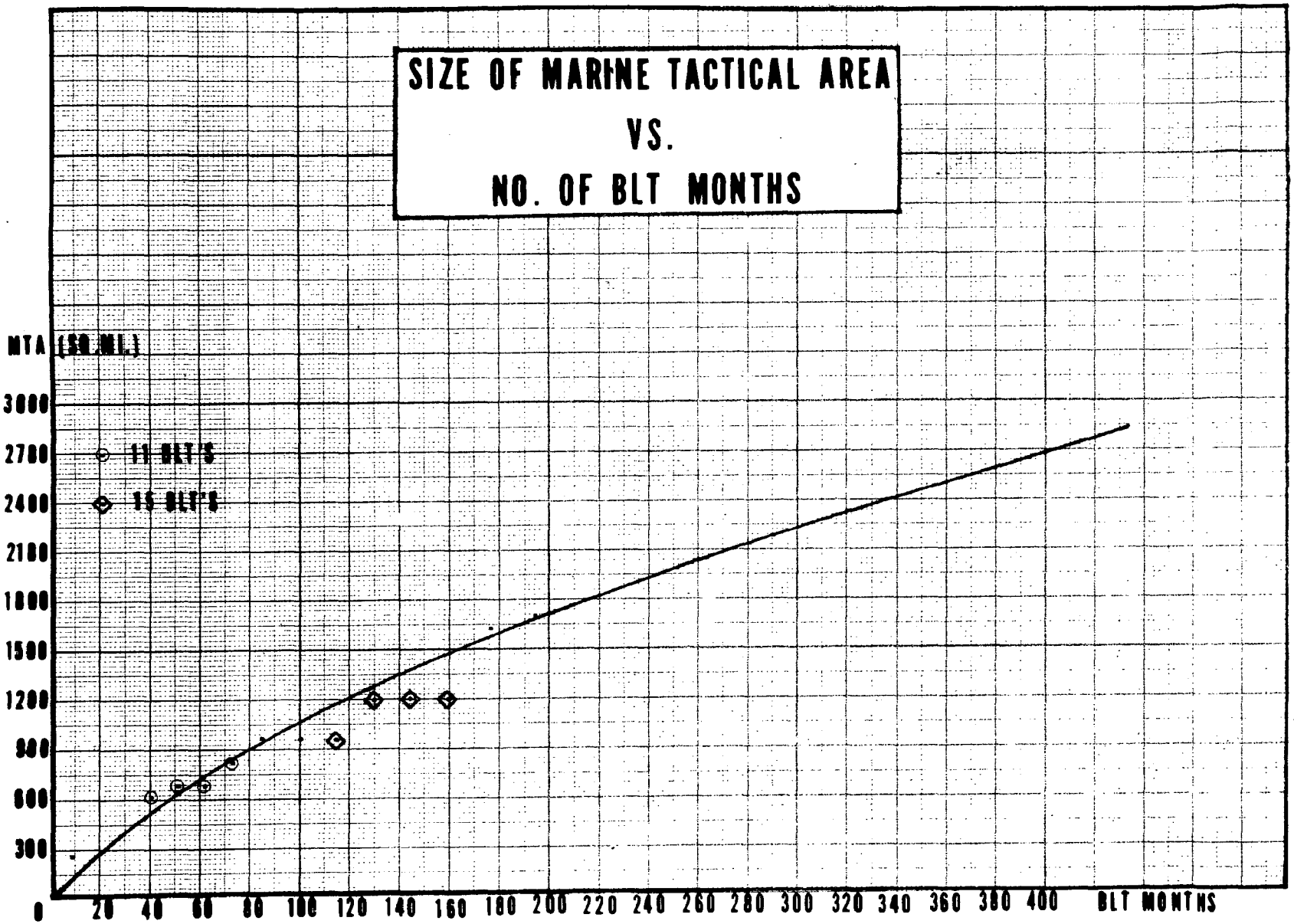
It is estimated that 90 percent of the population (and more than 90% of the rice crop) of I Corps lies in an area of 2,700 square miles. By 31 August 1966, the MTA had grown to 1,693 square miles. Thus, the extension of the MTA to cover the populated area requires sufficient effort to acquire about 1,000 more square miles.

Figure 1 shows the plots of total MTA area versus cumulative BLT months. A smooth curve with a constantly decreasing rate of growth is drawn through these points. Such a curve implies that it becomes increasingly more difficult to increase the MTA as the attempt is made to expand it outward. This seems to be the case, as inspection of the data points illustrates. Further, some of the data points are denoted with special symbols to indicate that the number of BLT's was constant and that growth was due to the efforts of this constant number of BLTs over time. As can be seen, even with a constant number of BLT's, growth in the MTA is possible.

According to Figure 1 the goal of 2,700 square miles can be reached after a total of about 404 BLT months of effort. Since 194 months of effort had been expended through 31 August 1966, 210 months of additional effort would be required. With 21 BLTs, including the 3 ROK Bns, it would take about 10 more months to extend Marine influence over the populated littoral of I Corps.

DECLASSIFIED

FIGURE C-1



TOP SECRET

ANNEX D SUPPORTING AIR REQUIREMENTS

1. Table A sets forth the alternative Fighter/Attack requirements for an 18 to 32 Battalion Force. (Note 1)

TABLE A

	CONDITION 1 FTR/ATK Sqdns in Support of:		CONDITION 2 FTR/ATK Sqdns in Support of	
US/FW Bns	All USMC BLT	18 USMC BLT Rest FW BN	All USMC BLT	18 USMC BLT Rest FW BN
32	12	11	16	15
28	10	10	14	13
25	9	9	13	12
23	8*	8	13	12
21	8	8	12	11
19	8	8	11	10
18	8	8	10	10

*FTR/ATK Sqdns on hand 1 Sept 1966

CONDITION 1 - All sorties available are allocated in support of battalions at rate of 200 sorties/USMCBLT/month and 150/FW Bn/month. Surplus is designated to 7th AF and TF 77 for deep support.

CONDITION 2 - All sorties available are allocated in support of battalions at rate of 200 sorties/USMCBLT/month and 150/FW Bn/month. An average of 2000 sorties/month (interdiction-armed reconnaissance) is designated to 7th AF and TF 77.

NOTE 1 - Force requirements are computed on aircraft TE of USMC squadron equivalent; 20 attack, 15 fighter/attack and; 12 attack (AW) per squadron.

2. Table B sets forth the optimum task organization for aviation support other than Fighter/Attack for applicable USMC BLT structure in the current operating environment in I Corps, SVN.

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TABLE B

BLTS	#MAWS*	SQUADRONS VMO	VMCJ	HMM	HMH	VMGR**
18	1+	4	1	10	2	2
19	1+	4	1	10	2	2
21	1+	4	1	12	2	2
23	1+	4	1	13	2	2
25	2+	4	1	14	3	2+
28	2+	5	1	15	3	2+
32	2+	6	1	17	3	3

* 2nd Wing required under Condition 2 only
** Out of country support included

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APPENDIX 1 (Rationale for Air Support Requirements)

Force/Time Req

Condition 1 (All BLTs USMC) Force buildup consists of 18 USMC BLTs and builds to 32 USMC BLTs. Available sorties are allocated to CAS, DAS, escort functions in support of USMC BLTs at a rate of 200 sorties/BLT/month. Excess sorties are designated to 7th AF.

USMC BLTs	18	19	21	23	25	28	32
CAS DAS Escort Sor/Mo/Req	3600	3800	4200	4600	5000	5600	6400
Squadrons/Required							
FTR/ATK (15 a/c)	4*	4*	4*	4*	4	5	6
ATK (20 a/c)	4*	4*	4*	4*	5	5	4
ATK (AW) (12 a/c)	—	—	—	—	—	—	2
TOTAL	8	8	8	8	9	10	12
Sort avail/mo	4620	4620	4620	4620	5280	5775	6402

*Available September 1966

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APPENDIX 2 (Rationale for Air Support Requirements)

Condition 1 (18 USMC BLTs, rest FW Bns) Force buildup consists of 18 USMC BLTs. Buildup to 32 units accrues by addition of 14 FW Bns. Available sorties are allocated to CAS, DAS and escort functions in support of USMC BLTs at rate of 200 sorties/BLT/month and to FW Bns at rate of 150 sorties/Bn/month.

USMC BLTs	18	18	18	18	18	18	18
FW Bn	-	1	3	5	7	10	14
TOTAL	18	19	21	23	25	28	32
CAS, DAS, escort sorties/mo/Req	3600	3750	4050	4350	4650	5100	5700
For Requirements							
FTR/ATK (15 a/c)	4*	4*	4*	4*	4	5	6
ATK (20 a/c)	4*	4*	4*	4*	3	3	3
ATK (AW) (12 a/c)	—	—	—	—	2	2	2
TOTAL	8	8	8	8	9	10	11
Sort avail/mo	4620	4620	4620	4620	4752	5247	5742

*Available September 1966

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APPENDIX 3 (Rationale for Air Support Requirements)

Condition 2 (All BLTs USMC) Force build-up consists of 18 BLTs and builds to 32 USMC BLTs. Available sorties are allocated to USMC BLTs at rate of 200 sorties/BLT/month. An average of 2000 sorties/month designated to 7th AF and TF77 for interdiction and armed reconnaissance.

USMC BLTs	18	19	21	23	25	28	32
CAS sorties/mo/req	3600	3800	4200	4600	5000	5600	6400
Deep Support sorties/mo/req	2000	2000	2000	2000	2000	2000	2000
Total sorties	5600	5800	6200	6600	7000	7600	8400
FORCES REQUIRED							
FTR/ATK (15 a/c)	5	5	6	6	6	8	8
ATK (20 a/c)	5	5	4	5	5	6	6
ATK (AW) (12 a/c)	—	1	2	2	2	2	2
TOTAL	10	11	12	13	13	14	16
Sorties available/mo	5775	6171	6402	7062	7062	7722	8712

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APPENDIX 4 (Rationale for Air Support Requirements)

Condition 2 (18 USMC BLTs, rest FW Bns)

Force build-up consists of 18 USMC BLTs and builds to 32 units by addition of 14 FW Bns. Aviation available sorties are allocated to CAS, DAS, escort functions in spt of USMC at rate of 200 sorties/BLT/month and to FW Bns at rate of 150 sorties/month. An average of 2000 sorties/month are designated to 7th AF and TF 77 for interdiction and armed reconnaissance.

USMC BLTs	18	18	18	18	18	18	18
FW Bns	—	1	3	5	7	10	14
TOTAL	18	19	21	23	25	28	32
CAS sorties/mo required	3600	3750	4050	4350	4650	5100	5700
Deep Support sorties/mo required	2000	2000	2000	2000	2000	2000	2000
TOTAL SORTIES	5600	5750	6050	6550	6650	7100	7700
FORCES REQUIRED							
FTR/ATK(15 a/c)	5	5	5	6	6	7	8
ATK (20 a/c)	5	5	5	5	5	5	5
ATK (AW)(12 a/c)	—	—	1	1	1	1	2
TOTAL	10	10	11	12	12	13	15
TOTAL SORTIES	5775	5775	6171	6666	6666	7161	8052

TOP SECRET

ANALYSIS OF OVERALL MARINE CORPS AIRCRAFT INVENTORY REQUIREMENTS

1. Supplemental aviation requirements to indicate the force structure, aircraft requirements, projected aircraft attrition and airfield requirements are constructed to support four options. Requirements are contained in Appendix 2 through 5 for the following options. (Sortie requirements are based on 200 sorties/month/USMC BLT and 150 sorties/month/FWBN.)

a. Supported Force: 18 - 23 Battalions

Tactical Support: CAS, DAS and Escort at a rate of 3600-4600 sorties per month. A negligible number of excess sorties will be designated to 7th AF and TF77 for interdiction, and armed reconnaissance.

Assault Support: Helicopter, transport and observation elements comparable to supported force.

b. Supported Force: 25 - 32 Battalions

Tactical Support: CAS, DAS and Escort at a rate of 5000-6400 sorties per month. A negligible number of excess sorties will be designated to 7th AF and TF77 for interdiction and armed reconnaissance.

Assault Support: Helicopter, transport and observation elements comparable to the supported force.

c. Supported Force: 18 - 23 Battalions

Tactical Support: CAS, DAS, and Escort at a rate of 3600-4600 sorties per month. An average of 2000 interdictions and armed reconnaissance sorties are available for deep support.

Subj: I Corps Estimate

	Assault Support:	Helicopter, transport and observation elements comparable to the supported force.
d.	Supported Force:	25 - 32 Battalions
	Tactical Support:	CAS, DAS, and Escort at a rate of 5000-6400 sorties per month. An average of 2000 interdiction and armed reconnaissance sorties are available for deep support.
	Assault Support:	Helicopter, transport and observation elements comparable to the supported force.

2. The capability to provide aviation support is summarized in Appendix 1.

3. Capability to Support

Aviation forces currently deployed to WestPac together with currently approved deployments of an HMH and a VMO in April 1967 represent the limit of forces that can be deployed to WestPac considering present aircraft, personnel and supply support availability. Additional deployments will require authorization for additional personnel, increased pilot training and procurement of additional aircraft for attrition--the latter two items requiring from 2 1/2 to 3 1/2 years lead time.

SUMMARY OF SUPPORT/SQUADRON/AIRFIELD REQUIREMENTS

Supported Force	Tactical Support Requirement	Tactical Support Currently Available	Availability of Airfield Parking (SqFt)	Assault Support Requirement	Assault Support Currently Available	Availability of Airfield Parking (SqFt)
18-23 BN	CAS, DAS Escort	Squadrons now in RVN are sufficient	Currently available	10-12 HMM 2 HMH 4 VMO	9 HMM* 1 HMH (Apr 67) 3 VMO (Apr 67)	Deficient 2,970,000
25-28 BN	CAS DAS Escort	Squadrons now in RVN plus 2 sqdns approved for entry on 15 Oct are sufficient	Currently available or under construction	12-13 HMM 3 HMH 4-5 VMO	9 HMM* 1 HMH (Apr 67) 3 VMO (Apr 67)	Deficient 4,455,000
32 BN	CAS DAS Escort	Squadrons now in RVN plus 2 sqdns approved for 15 Oct plus 2 sqdns from 3th MAB are required.	Deficient 540,000 SqFt	16 HMM 3 HMH 6 VMO	9 HMM* 1 HMH (Apr 67) 3 VMO (Apr 67)	Deficient 5,535,000

* Includes SLF and Futema based squadrons.

Options providing 2000 sorties/month for interdiction and armed reconnaissance require up to 4 additional fixed-wing tactical squadrons (total of 16) from other than WestPac sources. Airfield requirements vary depending on the number of squadrons in-country. Twenty-five BNs can be supported with one additional squadron and 540,000 square feet of airfield parking while 28 - 32 BNs will require 2 - 4 squadrons and an additional airfield site.

SECRET

Aviation Force Structure required in support of 18 - 23 battalions with 3600 - 4600 CAS, DAS and escort sorties/month (200 sorties/ USMC BLT/month - 150 sorties/FWBN/month).

1	MAW
1	MACG
1	H&HS
2	MASS
1	MCAS
2	LAAM BN
1	MWSG
1	H&MS
1	WERS
1	VMGR (Based out of country)
2	MAG (VF/VA)
2	H&MS
2	MABS
1	MATCU
4	VMF/A
4	VMA/(AW)
1	VMCJ
2	MAG (HELO)
2	H&MS
2	MABS
3	MATCU
10-12	HMM
2	HMH
4	VMO

AIRCRAFT OPERATING REQUIREMENTS

TYPE	Operating Requirements	Annual Attrition
F4/F8	60	24
A4	80	18
EA6A	9	2
RF4B	6	1
KC130	16	1
UH34/CH46	240-288	100-120
CH53	48	6
UH1E	96	11

SECRET

AIRFIELD REQUIREMENTS

	CURRENT (15 OCT)		REQUIRED	
LOCATION	Squadrons	Airfield Parking Area Available (SqFt)	Squadrons	Additional Parking Area Requirements (SqFt)
Danang	4 USMC 4 USAF	4,860,000	4	
Chu Lai	7	2,520,000	7	
LPH	1 HMM		1 HMM	
Marble Mt	3 HMM 1 VMO Det HMH	1,500,000	4 HMM 2 VMO 1 HMH	405,000 270,000 405,000
KyHa	3 HMM 1 VMO	1,080,000	3 HMM 1 VMO 1 HMH	405,000
Phu Bai	1 HMM	208,800	3-4 HMM 1 VMO	1,215,000 270,000
			Total	2,970,000
			Est Cost	$ 7.0M (Note 1)

NOTE 1: PSP at $21/SqYd for helicopter parking.

SECRET

Aviation Force Structure required in support of 25 - 32 battalions with 5000 - 6400 CAS, DAS and escort sorties/month (200 sorties/USMC BLT/month - 150 sorties/FWBN/month).

1	MAW
1	MACG
1	H&HS
3	MASS
1	MACS
2	LAAM BN
1	MWSG
1	H&MS
1	WERS
2	VMGR (Based out of country)
3	MAG (VF/VA)
3	H&MS
3	MABS
1	MATCU
4-6	VMF/A
5-6	VMA/(AW)
1	VMCJ
3	MAG (HELO)
3	H&MS
3	MABS
3	MATCU
14-16	HMM
3	HMH
4-6	VMO

AIRCRAFT OPERATING REQUIREMENTS

TYPE	Operating Requirements	Annual Attrition
F4/F8	60-90	24-34
A4	100	23
EA6A	9	2
RF4B	6	1
KC130	24	1
UH34/CH46	330-384	138-150
CH53	72	
UH1E	96-144	11-16

AIRFIELD REQUIREMENTS

	CURRENT (15 OCT)		REQUIRED	
LOCATION	Squadrons	Airfield Parking Area Available (SqFt)	Squadrons	Additional Parking Area Requirements (SqFt)
Danang	4 USMC 4 USAF	4,860,000	4	
Chu Lai	7	2,520,000	7-9	540,000
LPH	1 HMM		1 HMM	
Marble Mt	3 HMM 1 VMO Det HMH	1,500,000	4-6 HMM 2 VMO 1 HMH	1,215,000 270,000 405,000
KyHa	3 HMM 1 VMO	1,080,000	4-5 HMM 1 HMH 1-2 VMO	810,000 405,000 270,000
Phu Bai	1 HMM	208,000	4-5 HMM 1-2 VMO 1 HMH	1, ,000 540,000 405,000
			Total	6,075,000
			Est Cost	$16.0M (Note 1)

NOTE 1: PSP at $21/SqYd for helicopter parking.
AM2 matting at $50/SqYd for fixed wing parking.

Aviation Force Structure required in support of 18-23 battalions with 3600 - 4600 CAS, DAS and escort sorties/month and 2000 armed reconnaissance and interdiction sorties/month (200 sorties/USMC BN/month - 150 sorties/FWBN/month).

1	MAW
1	MACG
1	H&HS
2	MASS
1	MACS
2	LAAM BN
1	MWSG
1	H&MS
1	WERS
2	VMGR (Based out of country)
4	MAG (VF/VA)
4	H&MS
4	MABS
1	MATCU
5-6	VMF/A
5-7	VMA/(AW)
1	VMCJ
2	MAG (HELO)
2	H&MS
2	MABS
3	MATCU
10-12	HMM
2	HMH
4	VMO

AIRCRAFT OPERATING REQUIREMENTS

TYPE	Operating Requirements	Annual Attrition
F4/F8	75-90	31-34
A4/A6	100-124	23
EA6A	9	2
RF4B	6	1
KC130	24	1
UH34/CH46	240-288	100-120
CH53	48	6
UH1E	96	11

SECRET

AIRFIELD REQUIREMENTS

	CURRENT (15 OCT)		REQUIRED	
LOCATION	Squadrons	Airfield Parking Area Available (SqFt)	Squadrons	Additional Parking Area Requirements (SqFt)
Danang	4 Marine 4 USAF	4,860,000	4	
Chu Lai	7 USMC	2,520,000	7-10	810,000
LPH	1 HMM		1 HMM	
Marble Mt	3 HMM 1 VMO	1,500,000	4 HMM 2 VMO 1 HMH	405,000 270,000 405,000
KyHa	3 HMM 1 VMO	1,080,000	3 HMM 1 VMO 1 HMH	 405,000
Hue Phu Bai	1 HMM	208,800	3-4 HMM 1 VMO	1,315,000 270,000
			Total	3,780,000
			Est Cost	$11.5M (Note 1)

NOTE 1: PSP at $21/SqYd for helicopter parking.
AM2 matting at $50/SqYd for fixed wing parking.

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Aviation Force Structure required in support of 25 - 32 battalions with 4650 - 6400 CAS, DAS and Escort sorties/month (200 sorties/ USMC DLT/Month 150 sorties/FWBN/month) and 2000 armed reconnaissance and interdiction sorties/month.

2	MAW
2	MACG
2	H&HS
3	MASS
2	MACS
2	LAAM BN
2	MWSG
2	H&MS
2	WERS
3	VMGR (Based out of country)
4	MAG (VF/VA)
4	H&MS
4	MABS
2	MATCU
6-8	VMF/A
7-8	VMA/(AW)
1	VMCJ
3	MAG (HELO)
3	H&MS
3	MABS
3	MATCU
14-16	HMM
3	HMH
4-6	VMO

AIRCRAFT OPERATING REQUIREMENTS

TYPE	Operating Requirements	Annual Attrition
F4/F8	90-120	34-43
A4/A6	124-144	28-32
EA6A	9	2
RF4B	6	1
KC130	36	1
UH34/CH46	330-384	138-150
CH53	72	9
UH1E	96-144	11-16

AIRFIELD REQUIREMENTS

LOCATION	Squadrons	Airfield Parking Area Avialable (SqFt)	Squadrons	Additional Parking Area Requirements (SqFt)
Danang	4 USMC 4 USAF	4,860,000	4	
Chu Lai	7	2,520,000	7-10	810,000
New SATS			0-3	1,700,000*
LPH	1 HMM		1 HMM	
Marble Mt	3 HMM 1 VMO Det HMH	1,500,000	4-6 HMM 2 VMO 1 HMH	1,215,000 270,000 405,000
KyHa	3 HMM 1 VMO	1,080,000	4-5 HMM 1 HMH 1-2 VMO	810,000 405,000 270,000
Phu Bai	1 HMM	208,800	4 HMM 1-2 VMO 1 HMH	1,175,000 540,000 405,000
			Total	8,045,000
			Est Cost	$27.0M (Note 1)

* Includes runway (Same as Chu Lai)

NOTE 1: PSP at $21/SqYd for helicopter parking.
AM2 matting at $50/SqYd for fixed wing parking.

5,000 to 6,000 fighters
10,000 sympathizers — (Min years)
(Notes on Guerr War — Col Virgil Ney)
(Command Publication, 196?)

Tenglar retired 1954

Maj Anthony Crockett RM
Jan 1955 issue MC Gazette
4000 on
35000 troops

Build up of Pop Forces —
use of Estimate Techniques

Started in June of 48 ended 1958 w/ independence.

(1) June 1948 - Outbreak of Violence

Reddy

10 Bns British Mil

1 Malay Regt (understgth)

12,000 Police

C T's (MRLA) Malayan Communist Party

10,000 (500,000 sympathizers)

~~MRLA~~

(2) Dec '48

40,000 Police

(3) Briggs (Gen. Sir Harold) (April 50) Plan

20 Bns

100,000 Police

(4) 1952 - CTs take to jungles.

35,000 UK/Gurkha/Malay

25,000 Reg police

50,000 Special Constables

250,000 Home guards.

MRLA (4,000)

Malayan Race Liberation Army

Malaya
53,240
~~51,000~~ Sq miles
(3/4 jungle)
43 % Malaya
44 % Chinese
6,363,853 total

VN [40,000 – 5,000]
16
55
(550)

Alternately
Doughterty - The Guerrilla Wars in Malaya

Freddy		Em	
40,000	regs	5,000 - 6,000	(MRLA)
60,000	Police	10,000	(MIN YUEN)
250,000	Home guards.		
350 000		1,000 casualties/year. 1957 [illegible]	

CENTER FOR NAVAL ANALYSES

TO : Col. Scharfen DATE: 31 October 1966

FROM : Janice Grasso, MCOAG 553

SUBJECT: Explanation of 'least squares' regression techniques

1. In trying to determine the amount of change occurring in one variable as changes in a second variable occur the simplest type of mathematical model to represent the relationship is a straight line. The straight line is described by an equation of the type $Y_c = a+bX$, in which X is the independent variable and Y_c the dependent variable. The values represented by 'a' and 'b' must be determined for the particular relationship being analyzed and are therefore referred to as unknowns. They are also called constants, since, once their values are determined, they do not change.

2. The method of least squares provides a convenient device for obtaining an objective fit of a straight-line to a series of data. The method of least squares accomplishes two objectives:

(1) The sum of the vertical deviations of the observed values from the fitted straight line equals zero.

(2) The sum of the squares of all these deviations is less than the the sum of the squared vertical deviations from any other straight line.

That is, given a set of data points, the method of least squares enables one to determine the particular values of 'a' and 'b' in the equation $Y_c = a+bX$ which make this equation the "line of best fit", or the line that best represents the relationship between the two variables.

3. A measure which indicates the spread of the given points around the fitted line of regression is called the standard error of estimate, symbolically $S_{y.x}$. This measure actually describes the "closeness of fit" and indicates that approximately 66% of the averages from the samples fall within ONE standard error on either side of the regression line, 95.45% fall within TWO standard errors, 99.73% fall within THREE standard errors and 99.994% fall within FOUR standard errors.

4. The coefficient of determination, r^2, measures the percentage to which the variance in Y is determined by X, or, in other words, how

much of the variation in the entire sample is explained by the regression equation. The value of r^2 is a number between 0 and 1. The coefficient of correlation, r, ($\sqrt{r^2}$) is a number varying from +1, through 0, to -1. The sign indicates whether the slope of the line of relationship is positive or negative, while the magnitude of the coefficient indicates the degree of association. Thus a value of r such as .923 indicates relatively high positive correlation between the variables X and Y and a value of r such as -.895 indicates a relatively high negative correlation between X and Y. (Positive correlation means as one variable increases, the other variable also increases. Negative correlation means as one variable increases the other variable decreases).

5. The F value is computed for a test of significance in order to determine whether or not the resulting relationship given by the estimating or regression equation has resulted simply by chance. In computing F a predetermined level of significance is decided upon, say 95%. Then the calculated value of F is compared to an already determined value of F obtained from a table of F values. If the value of F from the table at 95% level is less than the value of F computed from the regression equation it is possible to conclude that one could be 95% certain that the relationship obtained for X and Y by the regression equation did not happen by chance and is therefore a good estimator within the limits for which the equation was calculated.

If the computed value of F is less than the table value of F at the 95% level one cannot be sure that the relationship did not happen by chance and must look for other causes that may affect a relationship between X and Y.

6. The coefficient of variation is a relative measure of variation and is used to compare the results of one regression equation against another to show the percent of variation about the mean of all the Y values.

Janice D. Grasso

Janice D. Grasso
Marine Corps Operations Analysis Group

ANNEX F

TROOP LIST FOR PROJECTED FORCE LEVELS

TOP SECRET

PROJECTED FORCES

#	UNIT	31 Aug (18 USMC BLT 3 ROK Bns) Situation STRENGTH USMC	USN	Force Add-Ons Appvd (Phase IIA) Add Ons	NUMBERS USMC	USN	Total Deployed 31Aug Plus Appvd Add-Ons Add Ons	NUMBERS USMC	USN	20 USMC BLTs/3 ROK Bns Total 23 Add Ons	EST STRENGTH USMC	USN	22 USMC BLTs/3 ROK Bns Total 25 Add Ons	EST STRENGTH USMC	USN	21 USMC BLTs/3 ROK Bn/8 USA Bn Total 32 Add Ons	EST STRENGTH USMC	USN	27 USMC BLTs/5ROK Bns Total 32 Add Ons	EST STRENGTH USMC	USN
1	MAF HQS	571	13		*973		1	1544											1			
3	Det ANGLICO	20	-		72		3	92														
2	DIVISIONS	-	-		342		2	342											1			
2	HQS BN	2741	215				2	2741											1	1370	107	
6	INF REGT	19,260	1044				6	20092											3	9629	522	
6	HQS	(1515)	(30)				6	(1515)					1	252	5	1	252	5	3	(757)	(15)	
18	INF BNS	(17,745)	(1,014)		**832		18	(18,577)		2	1972	57	4	3,944	114	3	2958	85	9	(8872)	(507)	
2	ARTY REGT	4937	131				2	4937											1	2290	67	
2	HQ BTRY	(371)	(14)				2	(371)											1	(185)	(7)	
6	105 HOW BNS	(3243)	(87)				6	(3243)					1	540	15	1	540	15	3	(1621)	(43)	
2	155 HOW BNS	(735)	(19)				2	(735)		1/3	123	3	2/3	246	6	2/3	246	6	1 1/3	(490)	(12)	
2	155 GUN BTRY	(252)	(6)				2	(252)					1	126	3	1	126	3	1	(126)	(3)	
2	8" HOW BTRY	(336)	(5)				2	(336)					1	168	3	1	168	3	1	(168)	(2)	
2	MED BN	233	487				2	233											1	107	254	
2	H&S CO	(212)	(277)				2	(212)		+	10		+	25		+	23		2	(50)	(56)	
8	C&C CO	(21)	(210)				8	(21)		+	6	54	+	12	99	+	8	72	4	(57)	(198)	
4	ENGR BN	2735	69	1	1116		5	4,029											1	755	14	
4	HQ CO	(592)	(63)				4	(593)		+	10	2	+	23	3	+	23	3	1	(120)	13	
1	ENGR SVC CO	(237)	-				1	(237)														
14	ENGR CO	(1587)	(6)				14	1587)		1	140								3	(414)	(13)	
1	BRIDGE CO	(124)	-	1	178		2	(302)					1/2	50		1/2	50		1	182	2	
1	ENGR SPT CO	(195)	-				1	(195)											1	(231)		
2	AT BN	721	35				1	721											1	443	19	
2	H&S CO	(222)	(14)				2	(222)											1	(111)	(7)	
6	AT CO	(499)	(21)				2	(499)		1	83	3	2	166	6	2	166	6	4	(332)	(12)	
2	SP BN	768	54				6	768											1	458	45	
2	H&S CO	(368)	(51)				2	(368)		+	5	7	+	10	15	+	10	15	1	(257)	(45)	
6	SP CO	(400)	(3)				6	(400)		½	60		1	120		1	120		3	(201)	-	
4	MT BN	1184	34	1	387		5	1571											2	671	10	
4	H&S CO	(248)	(33)				4	(248)					+	4	3			2	2	(94)	(10)	
12	MT CO	(790)	(1)				12	(790)		+	72		1	111		+	79		6	(480)		
2	TRANSPORT CO	(146)	-				2	(146)											1	(97)		
2	RECON BN	1189	68				2	1189											1	821	46	
2	H&S CO	(228)	(30)				2	(228)											1	(114)	(15)	
8	RECON CO	(708)	(38)				8	(708)		1	88	5	2	176	10	2	176	10	5	(440)	(25)	
1	FOR RECON CO	(253)	-				1	(253)		1/6	14	-	1/3	28	-	1/3	28	-	1 1/6	(267)	(6)	
2	TANK BN	1147	26				2	1147											1	554	13	
2	H&S CO	(479)	(17)				2	(479)											1	(239)	(8)	
6	TANK CO	(668)	(9)				6	(668)					1	111	3	1	111	3	3	(315)	(5)	
2	AMTRAC BN	1283	27				2	1468											1	641	13	
2	H&S CO	(447)	(27)				2	(447)											1	(273)	(13)	
4	AMTRAC CO	(836)	-	1	185		5	(1021)											2	(418)	-	
2	COMM BN	1271	20				2	1271														
2	HQS CO	(317)	(19)				2	(317)														
2	RR&C CO	(347)	-				2	(347)														
2	COMM CO	(368)	-				2	(368)														
2	COMM SPT CO	(239)	(1)				2	(239)														
1	HOSPITAL CO	32	48				1	32														
1	MP BN	763	25	1	634		2	1397														
1	H&S CO	(71)	(25)				1	(71)														
4	MP CO	(692)	-				4	(692)														
0	HQ BTRY FAG	-	-	1	148		1	148														
	SUB TOTAL	38,855	2,296		4,867			43,722			2,583	131		6,112	285		5,086	228		17,921	1,135	

CARRIED AS TOTAL ONLY

CARRIED AS TOTAL ONLY

* Miscellaneous Add-On for Entire Force

** Miscellaneous

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#	UNIT	31 Aug (18 USMC BLT 3 ROK Bn) Situation STRENGTH USMC	USN	Force Add-Ons Apprvd (Phase IIA) Add Ons	NUMBERS USMC	USN	Total Deployed 31Aug Plus Apprvd Add-Ons Add Ons	NUMBERS USMC	USN	20 USMC BLT 3 ROK Bn Total 23 Add Ons	EST STRENGTH USMC	USN	22 USMC BLTs/3 ROK Bns Total 25 Add Ons	EST STRENGTH USMC	USN	21 USMC BLT/3 ROK Bns/8 USA Bn Tot 32 Add Ons	EST STRENGTH USMC	USN	27 USMC BLTs/5 ROK Bns Total 32 Add Ons	EST STRENGTH USMC	USN
1	MAWS						1														
1	MWHG	853	29				1	853													
1	MASS	193	2	1	193		2	386					1	235	20	1	238	20	1	238	20
1	MWSG	1108	21	1			1	1108													
1	MACS	234	3				1	234													
2	LAAM BNS	1170	24				2	1170													
1	DENTAL CO		42				1			+		4			8			6		1	39
4	MAG			1	VF/VA		5														
4	H&MS	1608		1	396		5	2004					1	HELO		1	HELO		1	HELO	
4	MABS	1778	76	1	515		5	2293					1	408		1	408		1	408	
1	VMCJ (SQD)	361	8				1	361					1	374	14	1	374	14	1	374	14
4	VMFA "	1328	20	1	330		5	1658								1	330	5	1	330	5
2	MATCU "	136					2	136		2	136		2	136		2	136		2	136	
4	VMA (SQD)	912	20	1	228		5	1140					1	228	5	1	228	5	1	228	5
2	VMO "	406	8	1+	244		3+	650		1	244	4	1	244	4	1	244	4	3	732	12
7	HMM "	1547	21				7	1547		5	1255	20	7	1757	28	7	1757	28	9	2259	36
0	HMH "			1	258		1	258		1	258	4	2	516	8	2	516	8	2	516	8
	SUB TOTAL	11634	274		2164			13798		18	1893	32		3901	87		4231	90		5222	139
1	FLC						1														
1	HQS	216					1	216											+	72	
2	FLSG			-	*470		2	470											+	172	
2	H&S CO	1192	24				2	1192		+	5	1	+	10	1	+	8	3	1	212	8
2	SUP CO	2034	32				2	2034		+	38	2	+	76	8	+	55	6	1	327	22
2	MAINT CO	1356	-				2	1356		+	45		+	90		+	65		1	402	
1	FLSC	620	2				1	620		+	16		+	32		+	27		+	210	
2	TRK CO	582	-				2	582		+	50		+	100		+	75		+	134	
	SUB TOTAL	6000	58		470			6470			154	3		308	9		230	9		1529	30
	GRAND TOTAL	56489	2628		7501	51		63990	2679		4630	166		10321	381		9547	327		24672	1294

CARRIED AS TOTAL ONLY

CARRIED AS TOTAL ONLY

NOTE: (1) Current Strength of 56,489 as of 31Aug66

(2) Auth Strength of 60,000 as of 31Aug66

(3) Unless Otherwise Indicated, Add-Ons **Are Not** Cumulative, i.e., All Add-Ons Are to Base of 31Aug66 On Board Strength Plus Apprvd Phase IIA deployments

(4) Aircraft Requirements Are Based On Condition (1) (See Annex D); Excess Sorties Only To Deep Support.

(5) All Strengths And Add-Ons Are USMC or USN, No FW Forces Shown. (ROK MC Brigade Totaled 4,501 31Aug66).

(6) Overall Phase IIA Strength Authorization is 69,400 USMC + 3,000 USN. **(For 31Dec66)**

(7) Add-Ons (Except Phase IIA) Are At Estimated Strength Rather Than Authorized Strength.

* SVC [illegible]d-On

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ANNEX F TABLE F-1
RECAPITULATION

	USMC		USN	
AUTHORIZED PHASE IIa DEPLOYMENTS*:	69,400		3,000	
FORCES REQUIRED FOR:				
(1) 20 USMC BLTs/3FW BNs:	74,030		3,166	
DIFFERENCE:		4,630		166
(2) 22 USMC BLTs/3FW BNs:	79,721		3,381	
DIFFERENCE:		10,321		381
(3) 21 USMC BLTs/8USA BNs/3FW BNs:	78,947		3,327	
DIFFERENCE:		9,547		327
(4) 27 USMC BLTs/5FW BNs:	94,072		4,294	
DIFFERENCE:		24,672		1,294

* For 31 December 1966

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APPENDIX 1 TO
ANNEX F

I CTZ REQUIREMENTS FOR VN RF/PF/RD CADRE/NATIONAL POLICE

The basic problem within the I Corps Tactical Zone, insofar as continued progress in consolidating cleared areas within which a viable Vietnamese government can be established, is the lack of Vietnamese "follow-on" strength to provide and maintain local security.

The basic concept for employment of these forces provides that: REGIONAL FORCES, under the operational control of the Province Chief, will deprive the communists of the capability of mustering their forces into platoon or company size forces and to hunt down small operating units within the province; POPULAR FORCES will provide local, static security within the hamlets; NATIONAL POLICE will identify and destroy the communist infrastructure and establish population and resources control; and REVOLUTIONARY DEVELOPMENT CADRE will institute the political, social, and economic programs designed to build a viable Vietnamese government and society.

The concept requires at least one REGIONAL FORCE company for each district. There are 19,029 REGIONAL FORCE troops authorized for the I CTZ, with slightly more than 18,000 assigned. In theory, this force level is adequate.

The concept requires one POPULAR FORCE platoon to live in each village plus one POPULAR FORCE squad to live in each isolated hamlet or location requiring static security. There are 28,986 POPULAR FORCE troops authorized in I CTZ. There are 23,647 POPULAR FORCE troops assigned. It is anticipated that the authorized strength will be achieved by the end of CY 1966.

The experience in I CTZ indicates that there is a requirement for a POPULAR FORCE squad in each hamlet. These squads normally consist of 14 men and since there are approximately 3000 hamlets in I CTZ, it follows that there is a need for approximately 42,000 POPULAR FORCE troops.

There is presently no target date for achieving this additional strength goal.

There are presently 6,010 NATIONAL POLICEMEN assigned to the I CTZ. It is calculated that it will require a force of 11,000 NATIONAL POLICEMEN to enable that force to function effectively at the hamlet level, and that this goal will be attained by the end of FY 1967.

The concept requires that each REVOLUTIONARY DEVELOPMENT CADRE Group be able to completely pacify one hamlet every three months. There are presently 111 groups (6,549 cadre) authorized for I CTZ. 13 of these groups (767 cadre) are presently assigned. It is anticipated that the remaining groups will be made available by the end of CY 1967. It is estimated, however, that an additional 60 teams (3,540 cadre) will be required. There is presently no target date by which this additional requirement will be made available.

In summary, the following table sets forth the Vietnamese manpower picture for I CTZ:

	Number Authorized	Number Assigned	Date by Which Authorized Strength To Be Attained	Additional Number Required Over that Authorized
Regional Force	19,029	18,000	End-CY66	------
Popular Force	28,986	23,647	End-CY66	13,014
National Police	11,000	6,010	End-FY67	------
*Revolutionary Development Cadre	6,549	767	End-CY67	3,540

*The number of Revolutionary Development Cadre required depends upon the speed with which security conditions are established in each hamlet. Plans are based on the assumption that a group of 59 cadre can pacify one hamlet in a 3 month period. The number of RD Cadre cited above reflects requirements for use with present forces.

188 Tms 188 hamlets pacified ... 2400 hamlets in I Corps

ANNEX G
LOGISTICAL REQUIREMENTS

1. General. The logistic considerations affecting this estimate are based on the concept of operations in I Corps which requires the establishment of secure bases at selected locations from which sustained operations can be mounted to expand the assigned tactical areas of responsibility and to increase the friendly influence through the critical littoral of I Corps.

2. Assumptions. For the purpose of the estimate it is assumed that:

a. The 8 U. S. Army Battalions introduced into I Corps under Case III will be logistically self-supporting and sustaining.

b. Additional USMC and ROK forces introduced into I Corps will be committed to designated TAOR's for the conduct of both offensive and defensive operations.

c. All forces in the TAOR's will be task organized both tactically and logistically to accomplish assigned missions.

d. The Force Logistic Command will receive common item support from NAVSUPACT DANANG and off-shore support from 3d FSR on Okinawa.

3. Analysis. A general analysis was made to establish the logistic requirements of the Estimate. Analysis methodology included a determination of the logistic force levels, estimation of tonnage requirements for support of the forces envisioned; the capability of the ports to accommodate the estimated tonnage requirements; the determination of the military

construction required to support the forces; and the hospitalization, evacuation requirements.

4. Logistic Force Levels. Combat forces considered in this estimate contain detachments of logistic support troops appropriate to the size and mission of the force. BLTs and RLT/Brigades contain logistic support units/groups capable of sustaining their forces for limited periods of time by establishing and maintaining interim logistic support areas. Division forces contain adequate logistic personnel and assets to sustain the force indefinitely by establishing and maintaining a more deliberate logistic support area. All of the logistic support units/groups deployed with units considered in this estimate can be integrated into the existing Force Logistic Command, either as an identifiable subordinate agency or by reassigning task organized detachments back to their parent units.

a. Case I - Each BLT contains logistic personnel from service support units organic to the parent division and the FSR sufficient to support the BLT during the period of initial commitment and initial combat. Early contact with existing FLC agencies is required to sustain operations.

b. Cases II and III - Each of the BLT's included in these forces contains logistic detachments necessary to support initial operations. In addition the RLT/Brigade contains a logistic support group capable of establishing a logistic support area for extended support of the BLTs. The logistic support group supporting this force could operate independently or as a subordinate agency of the FLC for a limited period of time.

c. Case IV - The normal USMC reinforced division satisfies this case requirement. The service support units organic to the division with reinforcing detachments from FSR provide the essential logistical support organizations and installations. A logistic support group built around the Service Bn would be adequate to establish one or more logistic support areas for extended support of subordinate BLTs. The LSG would function as a major subordinate agency of the FLC. ROK forces deployed in accordance with this case provide their own support to the limit of their capability. The FLC will provide to the ROKs, within the limits of its capabilities, support which is beyond the ability of the ROK force. This support will be provided by the subordinate agency of the FLC that is nearest to the ROK area of operations.

d. Appendix (1) sets forth the logistic personnel levels required to support each case.

5. Stockage Objectives. As USMC BLT's are introduced into I Corps the mount-out stocks accompanying these forces will be used as operating stocks. The accompanying mount-out augmentation stocks will be turned over to the supporting logistic support unit to be used as that unit's operating stocks. The stockage objectives presently authorized III MAF are considered appropriate for the forces contained in this estimate as follows:

CLASS I	DOS (Days of Supply)
A Rations	7
B Rations	15
MCI Rations	45

CLASS II	DOS (Days of Supply)
Operating level	30
Safety level	15
CLASS IIA	
Operating level	90
CLASS III	
MOGAS - Bulk/PKG	15/5
Diesel - Bulk/PKG	15/5
PKG Oils and Greases	30
CLASS IIIA	
AVGAS - Bulk/PKG	15/5
JP-4 - Bulk/PKG	15/5
PKG Oils and Greases	30

NOTE: Stockage Objectives for bulk fuel is based on current storage capability versus daily average issue rate.

CLASS IV	
Operating level	30
Safety level	15
CLASS V	
Operating level	15
Safety level	30
CLASS VA	
Operating level	30

NOTE: Class VA stockage objectives/levels are subject to CINCPAC inventory, allocation and expenditure controls.

6. Resupply Requirements. Appendix (2) portrays by tonnage the resupply requirements required to support the forces,

considered in the Estimate each month. The logistic planning factors utilized are consistent with those used in CINCPAC planning documents.

7. Maintenance. The in-country units maintenance effort will be organizational in nature and contact teams will be used for on-the-spot field maintenance. Limited 4th echelon maintenance can be accomplished on a not-to-interfere with 3d echelon basis. When maintenance is required which can not be performed by the FLC, the end item will be evacuated to the 3d FSR for the required repairs or rebuild.

8. Evacuation/Hospitalization. The evacuation policy will remain 60 days for planning purposes although variations might be required to respond to operational needs and to make optimum use of hospital resources.

a. Medical Planning Factors.

(1) USMC

		CASE I 4796	CASE II 10.702	CASE III 9874	CASE IV 25966
WIA	.6/1000/day	3.0	6.4	5.9	15.6
DNBI	1.2/1000/day	6.0	13.2	12.0	31.2
TOTAL	1.8/1000/day	9.0	19.6	17.9	46.8

(2) ROK

		CASE IV 2400
WIA	.6/1000/day	1.2
DNBI	1.2/1000/day	2.4
TOTAL	1.8/1000/day	3.6

b. KIA/MIA Rate.

.06 per thousand per day

		CASE I	CASE II	CASE III	CASE IV
(1)	USMC	.30	.66	.60	1.56
(2)	ROK				.12

9. Secretary of Defense Logistic Guidance. Current logistic guidance is adequate to support the forces envisioned in this Estimate. Appendix (3) is an analysis of the current logistic guidance as it pertains to the support of USMC units and the Free World Military Assistance Forces (ROK) considered by this Estimate.

10. Military Construction. Items considered under this category pertain to identifiable troop and operating facilities but not to combat and LOC requirements. These latter requirements will, insofar as possible, be met by organic engineer and Sea Bee units. Appendix (4) contains a listing of facilities required to support on an austere basis the forces considered in the Estimate.

11. Port/Shipping Requirements.

a. Ports. In assessing port capacity available in I CTZ existing and planned facilities at Danang, Chu Lai and Hue/Phu Bai were considered.

Present Capacity	360,000	M/T per mo
Present Requirement	330,000	M/T per mo
Planned Capacity	420,000	M/T per mo (July 1967)
Planned Requirement	390,000	M/T per mo (July 1967)

The foregoing table shows that approximately 3,000 M/T per mo. surplus capacity exists at I CTZ ports during the required time frame. This surplus could accommodate the throughput needs of Case I forces (46,326 M/T per mo) with minor improvements not now planned such as construction of two additional LST ramps.

Case II and III requirements (approximately 100,000 M/T per mo) could be satisfied only by constructing a major facility such as a permanent pier (600 x 90') or eight LST ramps.

Case IV requirements (250,830 M/T per mo) require the construction of a new facility similar to that at Chu Lai (2 wharves, 6 LST ramps, 3 LCU ramps and 2 POL lines).

b. Shipping

(1) USMC units will be deployed to I CTZ in amphibious shipping which will not impact on MSTS assets.

(2) US Army and ROK unit deployments will be accomplished using MSTS shipping. It is estimated that the ROK BLTs will require three ships for personnel and cargo. The US Army battalions (8) are estimated to require ten ships for cargo and personnel.

(3) The additional resupply shipping required to support the forces on a continuing basis is based on an average of 8,000 M/T loaded per ship and does not take into consideration:

INTRA - I Corps - Requirements

USAID - Requirements

GRVN - Requirements

(a) CASE	REQUIRED M/T PER MONTH	SHIPS REQUIRED PER MONTH
I	46,326	6
II	103,539	13
III	95,352	12
IV	250,830	32

12. Conclusions. Based on the foregoing estimate it is concluded that:

a. The forces considered in Cases I through IV can be supported adequately by the logistic personnel and units specified in the troop list (Appendix 1).

b. Stockage objectives as used in the estimate are commensurate with past experience of III MAF in I CTZ and with CINCPAC planning experiences and are valid for use with Cases I through IV.

c. Resupply requirements are based on current CINCPAC planning guidance and III MAF experience and are acceptable for use with Cases I through IV.

d. Maintenance procedures now in effect in III MAF can be extended to accommodate forces introduced into I CTZ under Cases I through IV.

e. The evacuation and hospitalization policies now in effect in I CTZ can be supported and extended for forces deployed under Cases I through IV.

f. SecDef logistic guidance is adequate to support the forces deployed in Cases I through IV.

g. Combat engineer support in I CTZ will have to be provided by organic and Sea Bee Bns throughout I CTZ. Other

construction will be required by contractor or equivalent on a scale roughly equivalent to that at Chu Lai for Case IV and similar to Hue/Phu Bai for Case II and III. The requirements for Case I are relatively minor and could be accomplished by existing forces with a serious but acceptable impact on other projects.

h. Ports in I CTZ can handle Case I requirements with minor improvements. For Cases II, III and IV major port construction is required.

i. Deployment of USMC units will be made in amphibious shipping and will not impact on MSTS assets. ROK and US Army deployments will require approximately 13 MSTS ships. An additional six to thirty-six ships will be required each month to maintain the flow of resupply.

APPENDIX

(1) Logistic Support Force Levels

(2) USMC Resupply Requirements

(3) Impact of Current SECDEF Logistic Guidance

(4) Facilities Estimate

LOGISTIC SUPPORT FORCE LEVELS

	CASE I		CASE II		CASE III		CASE IV		
	USMC	USN	USMC	USN	USMC	USN		USMC	USN
Engineer Bn							1	755	13
HQ Co	10	2	23	3	23	3	1	(110)	(13)
Eng Co	140		210		210		3	(414)	
EngSuport Co							1	(231)	
Bridge Co			50		50		1	182	2
Shore Party Bn							1	458	45
H&S Co	5	7	10	15	10	15	1	(257)	(45)
SP Co	60		(1) 120		(1) 120		3	(201)	
Motor Transport Bn							2	671	10
H&S Co			4	3		2	2	(94)	(10)
MT Co	72		(1) 111		79		6	(480)	
Transport Co							1	(97)	
FLC									
HQ								72	
FLSG									
Hqs								172	
H&S Co	5	1	10	5	8	3	1	212	8
Sup Co	38	2	76	8	55	6	1	327	22
Maint Co	45		90		65		1	402	
FLSU	16		32		27			210	
Tra Co	50		100		75			134	
Medical Bn							1	107	254
H&S Co	10		25		25		1	(50)	(56)
C&C Co	6	54	12	99	8	72	1	(57)	(198)
Dental Co		4		8		6		1	39

USMC - RESUPPLY REQUIREMENTS

(POUNDS/MAN/MONTHS)

SUPPLY CLASS	WEIGHT	PERSONNEL SUPPLIED				
		PRESENT	CASE I	CASE II	CASE III	CASE IV
PERSONNEL		66,669	+4,796	+10,720	+9,874	+25,966
Class I						
Reefer	84	5,600,196	402,864	900,480	829,416	2,181,144
Non-Reefer	114	7,600,266	546,744	1,222,080	1,125,636	2,960,124
PX Supplies	150	10,000,350	719,400	1,608,000	1,482,100	3,894,900
Class II	210	14,004,490	1,007,160	2,256,200	2,073,540	5,452,860
Class IIA	75	5,000,175	359,700	804,000	740,550	1,947,450
Class III	1,249	83,269,581	5,990,204	13,389,280	12,332,626	32,431,534
Class IIIA	2,959	197,273,571	14,191,364	31,720,480	29,217,166	76,833,394
Class IV & IVA	270	18,000,630	1,294,920	2,894,400	2,665,980	7,010,820
Class V	566	37,734,654	2,714,536	6,067,520	5,588,684	14,698,756
Class VA	763	50,868,447	3,659,348	8,179,360	7,533,862	19,812,058
TOTAL LBS	6,440	429,352,360	30,885,240	69,036,800	63,588,560	167,221,040

NOTE: NAVSUPACT Requirements for support of Marine Forces should not be added.

APPENDIX (2)

ROK - RESUPPLY REQUIREMENT

POUNDS/MAN/MONTH

SUPPLY CLASS	WEIGHT	PRESENT	CASE IV
PERSONNEL		4,501	+2,400
Class I			
Reefer	30	135,030	72,000
Non-Reefer	114	513,114	273,600
PX Supplies	150	675,150	360,000
Class II & IV	129	580,629	309,600
Class III	90	405,090	216,000
Class V	55	247,555	132,000
TOTAL	568	2,556,568	1,363,200.

NOTE: NAVSUPACT Requirements for support of ROK forces should not be added.

APPENDIX (2)
TAB A

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Appendix 3 (Impact of current SECDEF Logistic and Budget Guidance for additional U. S. Marine and FW forces) to Annex G (Logistic Requirements)

1. IMPACT OF CURRENT SECDEF LOGISTIC GUIDANCE FOR ADDITIONAL U. S. MARINE FORCES. There is no requirement for any change in the current SECDEF Log Guidance. Current Logistic Guidance authorizes combat support for all approved forces and a pipeline of 135 days combat support (ammunition and secondary items) for all USMC committed forces. The committment of additional USMC forces to SEA would simply require a volume expansion of the current pipeline to provide for the newly deployed forces. This increase in pipeline objective to support the additional forces must be accompanied by an appropriate increased funding request. Until such time as funds are made available and delivery from procurement action is realized, any expansion of the current pipeline must be at the expense of the non-committed forces.

2. IMPACT OF PROVIDING REQUIRED SUPPORT FOR FREE WORLD FORCES IN I CORPS AREA, VIETNAM

a. Logistics. The transfer of military assistance for the Allied Marine forces from the Military Assistance Program (MAP) to the Service Appropriation in Vietman places the responsibility for the logistic support with the U. S. Marine Corps. This responsibility includes the same planning, programming, funding, and the provisioning of required materiel as for U. S. Marine forces.

b. Budget Guidance. The Logistics Guidance currently provides for retention and phased funding of materiel to support an allied Marine force for 6 months. However, the Secretary of Defense has not authorized funds to implement this guidance. Until such materiel is on hand, the supporting of additionally deployed Allied Marines will require materiel currently on hand from Marine Corps stocks, operating and FWR, with an "after-the-fact" funding procedure. This procedure, especially for materiel with a long lead time, limits the Marine Corps in its capabilities to support activations of units for the CONUS training and rotation base. Past experience indicates that Allied Marine units must be provisioned by the U. S. when designated for deployment to RVN to eliminate deficiencies. In addition, ROK forces deployed to RVN resulted in the reconstitution of a like force in Korea. This reconstitution included complete provisioning and continuing support for an indefinite period of time outside of the MAP program of the country by the counterpart service. This procedure causes the U. S. Marine Corps to increase the logistic support at a 2 to 1 ratio for each ROK Marine force committed operationally in RVN.

c. Initial Outfitting. Marine Corps policy, which has limited inclusion of Marine Corps type materiel in the Military Assistance Service List, has caused the Allied Marines, over the years, to be equipped with U. S. Army type equipment and in most cases, this equipment is of World War II and Korean War vintage.

(1) The World War II and Korean War type of materiel provided by MAP continues to be the responsibility of the U. S. Army to procure and maintain through cross-service funding agreements. The continuous use of this old materiel creates the problem of a dual supply system in the I Corps area.

(2) All Allied Marines require an extensive modernization program to permit equipage with materiel similar to the U. S. Marines.

(a) The majority of vehicles held by Allied Marines are MAP provided M600 series of vehicles which do not have electrical systems compatible with U. S. vehicles. Additionally, the M660 vehicles are not capable of being waterproofed.'

(b) The Chinese Nationalist Marines have a heterogeneous mixture of grossly overage motor transport equipment which will tend to degrade this forces' combat capability. Spare part support for these vehicles is largely non-existent.

(c) Allied Marines are equipped basically with 30 cal. weapons. This presents an initial problem of spare weapons, spare parts and ammunition. This problem is temporary in nature and will be resolved when production of standard U. S. weapons is increased and the DOD allocation to the Marine Corps is increased to the point where all I Corps forces can be equipped with standard U. S. weapons. COMUSMACV has requested that all forces in-country be equipped with the M-16 rifle. Currently, the funding authorizations and production schedules do not permit provisioning of allied forces in I Corps. Current ammunition production is inadequate for the present needs of U. S. forces.

(d) The outmoded communications-electronic equipment currently provided by MAP to allied Marines is marginally compatible with USMC equipment and would present a formidable obstacle to effective control as well as logistic support. The planned phase-out of U. S. inventory of this equipment and the attendant reduction in the repair parts and sub-assembly inventory would necessitate new procurement action to provide logistic support over the projected period of hostilities.

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APPENDIX 4

FACILITIES ESTIMATE

1. The requirements, as stated in Tab A, are listed by Functional Facility Category, as established by OSD for RVN. They are based on the additional forces as presented in the troop list. Except for Airfield Pavement requirements, the planning factors used are the same as those used in the Danang Complex Review Report of 9 September 1966 which are based on experience in RVN. Airfield Pavement planning factors are the same as those used in Annex E, Analysis of Overall Marine Corps Aircraft Inventory Requirements.

2. The construction of the facilities may require an additional in-country construction capability depending on the time frame in which this construction effort is required, the priority of this effort within the I Corps area, and the priority of this effort within RVN. An important factor in arriving at the FY-1967 MCON funding level will be the capability of in-country construction forces to expend funds. If the facility requirements in this plan are to be funded by reprogramming either presently available, or FY-67 Supplemental funds authorized for support of Program III forces, they could be constructed with the construction forces authorized in Program III by deferring a portion of the construction authorized in support of Program III forces. If however, additional MCON funds are made available to support this plan prior to the expenditure of presently available, and FY-67 Supplemental funds for support of Program III forces, on the assumption that there would be no deferral of the Program III construction effort, additional construction forces would be required in support of this plan. An in-country study would be required in this case to determine site location, firm facility requirements and the engineering/construction effort involved in satisfying the requirements.

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FACILITIES ESTIMATE

Functional Facility Categories	U/M	Planning Factors	Case Requirements Case 1	Case 2	Case 3	Case 4
Cantonments	Men	Number of additional personnel each case	4,796	10,720	9,874	25,966
Airfield Pavements (See Note #1)	Sq Yds	TFS/VMO Helo Sqdn: Runway 166,667 - ; Taxiway 108,300 - ; Park Apron 30,000 45,000	300,000	465,000	495,000	645,000
Airfield Spt. Complex (See Note #2)	Sq Ft	90,000/Fixed Wing Sqdn 45,000/Helo Sqdn & VMO	315,000	540,000	630,000	810,000
Communication Facs (See Note #3)	Lump Sum	As Required	Unk	Unk	Unk	Unk
Port Facilities	Meas. Tons/ Day	Estimate of the measured tons per day required to support the force levels	1,445	3,450	3,180	8,360
Liquid Fuel Stor.	Barrels	1.52 bbl/man x 1.1 storage factor for C1 III Ave consumption x 1.1 storage factor for C1 IIIA	13,220	29,780	26,715	71,570
Maintenance Bldg	Sq Ft	20,000 SF/1000 Vehs	(610 Vehs) 12,200	(1550 Vehs) 31,000	(1365 Vehs) 27,300	(4075 Vehs) 81,500
Ammo Storage	Sq Ft	11 SF/short ton C1 V 28 SF/short ton C1 VA	(1,358 V) (1,835 VA) 66,320	(3,092 V) (4,169 VA) 150,745	(2,853 V) (3,847 VA) 139,100	(7,344 V) (9,901 VA) 358,010
Cold Storage	Cu Ft	7.85 CF/man	37,650	84,150	77,510	203,835
Warehouse Stor.	Sq Ft	18.69 SF/man	89,640	200,360	184,545	485,305
Open Storage	Sq Yds	4.3 SY/man	20,620	46,100	42,460	111,655
Hospitals (See Note #4)	Beds	13.3 bds/1000 men	64	143	131	345
LOC (See Note #3)	Miles	As Required	Unk	Unk	Unk	Unk

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NOTES:

1. Requirements include only parking aprons. Airfield Pavement requirements are analyized in Annex E, Analysis of Overall Marine Aircraft Inventory Requirements.

2. Stated requirements can be reduced to avoid duplication of common use facilities such as operations towers, air terminals, etc. Scope of reduction depends on actual site location of each squadron.

3. Scope of requirement will vary considerably depending on location and permanacy of site.

4. Actual number of beds to support scheduled medical units is significantly greater than that derived from the 13.3/1000 man planning factor since this factor relates only to large hospitals of the 400 bed magnitude. The entire structure of existing and planned medical assets is under study by MACV and is subject to revision. Although the total in-country medical facilities should equal the total requirement, the exact tailoring of hospital beds to fit the population at any given area is precluded.

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