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ATA12-jfc
0007@36466
4 JAN 1967

From: Commandant of the Marine Corps
To: Secretary of the Navy

Subj: Force Requirements DMZ Area (U)

Ref: (a) SecNavAide's Memo to SGS of 9Dec66, same subj
(b) CMC Ltr ATA12-jer to SecNav of 5Dec66

1. (U) As requested in reference (a), the attached study is forwarded.

2. (TS) In the attached study barrier requirements have been analyzed. The study considers current intelligence, examines the effectiveness of various force levels, analyzes the impact of barrier force requirements, and indicates the optimum force level. In developing the study, it was determined that the investment of as many as 45,000 men in a ground barrier would not be required. Therefore, force requirements considered involved personnel levels of approximately 34,000; 25,000; 15,000; and 7,000.

3. (TS) The study concludes that of the four personnel levels noted above, the one which most efficiently relates force effectiveness to economy is that of 25,000. It also shows the impact of employing forces within the theater of operations.

4. (TS) With respect to the installation of a ground barrier in the vicinity of the DMZ, however, I should like to make the following additional points:

a. To be effective, a ground barrier requires observation and protection, otherwise, it can be breached, neutralized, or its components installed elsewhere by the enemy to the detriment of friendly forces.

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b. Both COMUSMACV and JTF 728 have agreed that approximately 30,000 personnel are required to provide continuing surveillance/security of an installed ground barrier system.

c. The JCS have not disagreed with this estimate of force requirements for a barrier, if a barrier is to be installed.

d. However, the JCS do not agree that such a barrier is required.

e. The JCS position has also included the statement that forces required for construction, surveillance and security should be additive to previously stated force levels for SVN.

5. (S) CMC position on ground barriers in the vicinity of the DMZ is contained in the analysis forwarded to you in reference (b).

R. C. MANGRUM
Lieutenant General, U. S. Marine Corps
Acting Commandant of the Marine Corps

[redacted]

[redacted]

ATA13-gm
30 December 1966

1. THE PROBLEM. Develop the optimum barrier system to impede infiltration from NVN into SVN through the DMZ.

2. FACTS BEARING ON THE PROBLEM.

a. Terrain. SVN, immediately south of the DMZ, is approximately 70 km wide and consists of two distinct terrain types. The eastern 28 km are relatively flat, consisting of coastal plains and valley floors, and heavily cultivated. The western 42 km are mountainous, with steep slopes, and heavily covered by jungle growth. See Enclosure (1) (Intelligence Estimate) for a more detailed discussion of the terrain.

b. Weather. The monsoonal weather in SEAsia has a strong influence on military operations. During mid-October through February operations will be severely restricted due to the effects of the Northeast Monsoon. During the remainder of the year weather will not materially hamper operations. See enclosure (1) (Intelligence Estimate) for a more detailed discussion of the weather.

c. Population. The eastern coastal plains and valley floors are heavily populated, with population density varying from 250/sq.mile to over 750/sq. mile. The western mountainous area is sparsely settled, with most of it having a population density of fewer than 50/sq. mile.

d. Enemy Forces. The enemy strength in the vicinity of the DMZ is estimated to be 48,810, with principal forces consisting of 3 divisions, 1 separate regiment, 7 separate battalions, 10 separate companies, and 13,210 guerrillas. See enclosure (1) (Intelligence Estimate) for a more detailed description of the enemy.

e. Friendly Forces. CINCPAC has requested approximately 558,000 US personnel and 51,000 FWMAF personnel to be deployed to SVN by end CY 1967. Based on Service capabilities, the JCS recommended the deployment of about 524,000 US personnel and 51,000 FWMAF personnel over a period of time extending to CY 1969. SecDef, in Program No. 4, approved the deployment of approximately 470,000 US personnel by 30 June 1968. To date no decisions have been made regarding the deployment of a ROK Division (-) (6 inf bns) and 1 GOA Battalion.

[redacted]

f. Detection Devices. Currently available detection devices suited for use in a barrier are the Multipurpose Concealed Intrusion Detector (MCID) and the Periguard Balance Pressure System (BPS). This is an Integrated Intruder Detection System which provides a high degree of reliability and a low false alarm rate by combining two methods of detection into one system. The MCID employs magnetic detection and the BPS employs pressure sensing. A 10 km sector of these detection devices can be monitored by a single operator. Current figures indicate that a sufficient number to stretch along a barrier across SVN can be produced within a 7 months time frame.

3. ASSUMPTIONS

a. Concurrent programs will be implemented or expanded to impede infiltration through Laos, Cambodia and coastal areas.

b. Current restraints on the employment of US/FW forces in and north of the Demilitarized Zone will continue.

c. It will be necessary to establish points along the barrier where friendly civilians can cross.

d. Only currently available munitions, delivery systems sensors and sensor monitoring systems are considered. As new items are conceived, subjected to thorough RDT and E, and produced and delivered to SVN in adequate quantities, they can be added to the barrier system to improve its effectiveness and/or efficiency.

e. US forces in SVN will level off at 470,000 by 30 June 1968 in accordance with SecDef Program No. 4.

f. The ROK Division (-) (6 inf bns) requested by CINCPAC for CY 1967 will not be provided during CY 1967.

4. DISCUSSION

a. General. A ground barrier system consists of three basic components which are (a) a structure to delay and cause casualties to the enemy, (b) a detection system that

provides warning of attempted infiltration, and (c) forces in support of the barrier to defeat and repel enemy infiltration attempts. In solving the problem of determining the proper mix of these components to select the optimum barrier system for impeding infiltration through the DMZ into SVN, the following factors were considered:

(1) The environment

(2) The enemy threat

(3) The mission

(4) The forces required, and the impact caused by diverting them from other operations in Vietnam. An additional related factor that was considered is population control measures in and adjacent to the barrier area.

b. Methodology. This study considers the four principal factors and one related factor by using the following approach:

(1) The environment and enemy threat were examined and analyzed through the use of a military intelligence estimate (enclosure (1)).

(2) The mission was considered to have two distinct phases, namely (a) Phase I - the securing and construction phase, and (b) Phase II - the barrier operation phase.

a. The first phase includes the combat operations necessary to clear and hold the barrier area and adjacent roadnet and the engineering efforts required to install the barrier and related facilities and to improve the necessary roadnet. The installation of the barrier structure examines two variations, one being 500-meters wide and the other being 1000 - meters wide.

b. The second phase discusses the tactics, techniques and task organizations required to support the barrier under four different force levels, which are approximately (a) 34,000, (b) 25,000, (c) 15,000, and (d) 7,000.

(3) When the troop lists are determined for each phase and force level, they are compared to the similar forces available to COMUSMACV for the accomplishment

of other missions in SVN, and the general nature of the impacts was assessed.

(4) The population control measures are discussed only briefly to indicate some of the problem areas associated with the construction of a barrier in friendly territory.

(5) The relative effectiveness of the barrier structure and barrier forces to counter the enemy threat are determined and are compared to their relative impacts on other operations in SVN. The result is the determination of the "optimum" barrier force. Basically, this means selecting from the four force level options considered, the smallest force capable of accomplishing the assigned mission of impeding infiltration through the DMZ into SVN.

c. Phase I

(1) Security. Considering that there are estimated to be 50,000 VC/NVA personnel in the vicinity of the DMZ or in the northern two provinces of I CTZ, extensive combat operations will be required to clear the area and to hold it while the barrier, related facilities and roadnet are being installed or improved. Since the area to be secured would cover about 560 square miles, the required force would be an air/ground team consisting of an infantry division, reinforced by additional combat support and combat service support units, and supported by three medium transport helicopter squadrons. Using the SVN planning factor of 200 tactical air support sorties/maneuver battalion/month for Marine units, there would be a requirement for 2000 tactical air sorties per month to support the operation. This would require 3 A-4 squadrons or 4 F-4/F-8 squadrons to be included in the task force. This force would commence clear and hold operations one month before barrier construction activities were started, and would remain as a security force until the construction was completed and the barrier forces were ready to assume control of the area.

(2) Construction. The construction related to the barrier will include clearing the barrier strip, installation of the barrier, construction of a road along the barrier and access roads to the barrier, construction of fortifications and cantonments for the barrier forces, and improvements

to Route # 9 in SVN and segments of Route # 1. The two variables in the construction program are the type of barrier structure employed and the size of the barrier support force. For the purposes of this study, two typical barrier structures have been selected for consideration. The criteria used in selecting these structures were that they had to be effective in detecting, delaying and producing casualties to the enemy, the materials had to be available in the Mid-CY67 time frame, and construction techniques had to be within the capabilities of service engineer units in SVN. Accordingly, the barrier structures selected were:

(a) General - For the purposes of this study, a 500-meter wide barrier structure will be considered, and used as a constant in evaluating the effectiveness of the various force levels assigned to support of the barrier. Additionally, a barrier structure 1000-meters wide will be considered. The barrier structure will extend from the sea to the Laotian border, and will be located between the DMZ and Route # 9. The exact location of the barrier would be determined on site, taking full advantage of the terrain. It is estimated that the portion located in the coastal plains could be quite straight, and therefore only 30 km in length. The remainder of the barrier through the mountainous area will have to bend frequently, and it is estimated that it will be 50 km in length. Accordingly, a total barrier trace of 80 km would be required.

(b) The 500-meter wide barrier structure would consist of the following components:

(1) Cleared area - A cleared strip, 500 meters wide would be prepared, a single-lane road with turnouts constructed along the rear side of the strip, and cattle fences placed on each side of the strip to keep large animals and civilians out of the barrier area.

(2) Obstacles and Casualty Producers - Three 9-meter wide combination wire fence obstacles (includes double apron barbed wire fences and concertina rolls) would be constructed in the strip. Two anti-personnel minefields (each 225 meters wide) would be constructed between the wire fence obstacles.

(3) Detection Devices - A MCID/BPS composite detection system would be placed near the enemy side of the strip and a BPS detection system installed in front of the rearmost wire fence obstacle.

(c) The 1000-meter wide barrier structure would consist of the following components:

(1) Cleared Area - A cleared strip 1000 meters wide would be prepared, a single lane road with turnouts would be constructed along the rear side of the strip, and cattle fences placed on each side of the strip to keep large animals and civilians out of the barrier area.

(2) Obstacles and Casualty Producers - Three 9-meter wide combination wire fence obstacles would be constructed in the strip. Two anti-personnel minefields (each 450 meters wide) would be constructed between the wire fence obstacles.

(3) Detection Devices - A MCID/BPS composite detection system would be placed near the enemy side of the strip and a BPS detection system installed in front of the rearmost wire fence obstacle.

(d) Breeching Time Factors

	SURREPTITIOUS BREECHING				OVERT BREECHING			
	From One Side		From Two Sides		From One Side		From Both Sides	
BARRIER WIDTH	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min
500-meter								
not under fire	8	35	4	08	--	44	--	21
under fire	39	06	18	51	1	30	--	45
1000-meter								
not under fire	16	55	8	20	1	13	--	36
under fire	80	40	39	41	2	33	1	16

d. Phase II - Barrier Operations

(1) While there are an infinite number of variations of force levels/tactics which could be used in conjunction with the barrier, four different force levels/tactics will be discussed here. Each tactical system will be examined regarding its capability to provide reconnaissance and surveillance along the barrier, apply fire on attempted penetrations of the barrier, and to contain and repel successful penetrations of the barrier. Further, the vulnerability of each system to attack, harassment and sabotage by enemy forces operating in the rear areas will be assessed.

(2) The four barrier tactics are:

(a) A continously manned barrier, supported by strong points, mobile reaction forces, fire support means, and reconnaissance/surveillance forces.

(b) An unmanned barrier supported by strong points, mobile reaction forces, fire support means, and reconnaissance/surveillance forces.

(c) An unmanned barrier supported by mobile reaction forces, fire support means, and reconnaissance/surveillance forces.

(d) An unmanned barrier supported by fire support means and reconnaissance/surveillance forces only.

(3) Continuously manned barrier supported by strong points, mobile reaction forces, fire support means and reconnaissance/surveillance forces.

(a) A continuously manned barrier does not necessarily mean that troops are placed shoulder to shoulder along it, but rather it will be a system of observation towers and bunkers close enough together to permit continuous observation and mutual fire support. Considering the cleared areas, and the contour of the terrain, it is believed that an observation tower and bunker will be required on the average of every 400 meters. During periods of reduced visibility small patrols, operating from the bunker detachments, would cover the gaps in observation between the bunkers. Each bunker/observation

tower would be manned by a squad plus 3 men to operate and monitor the detection/surveillance devices such as the TPS-21 and PPS-6.

(b) Since the bunker system would be strong enough only to delay, but not prevent a barrier penetration by a large determined enemy force, there would be a requirement for a rapid reinforcement capability under all conditions of weather and visibility. In fact it must be assumed that the enemy will take advantage of the worst possible conditions in order to minimize our detection and reaction capabilities. Accordingly, a strong point would be located immediately behind the barrier trace every 10 KM. This would mean that no point along the barrier would be more than 5 KM from a reinforcing force from one of the strong points. The basic force at each strong point would be a rifle company reinforced by 81mm mortars, 106mm recoiless rifles, motor transport, fire support control personnel, and communications personnel.

(c) The combination of the manned barrier and strong points could be expected to detect and repel attempted penetration by enemy forces of up to battalion size. Since the enemy is capable of attacking with multi-battalion forces, there is a requirement for a highly mobile reaction force, to be located several KM behind the barrier trace. For example a reinforced infantry battalion would have to be committed to assist in containing an enemy regimental attack, a reinforced infantry regiment to contain an enemy divisional attack, and a reinforced division to contain an attack by 3 enemy divisions. It is considered that the optimum reaction force would be a reinforced infantry regiment, since it is capable of dealing with most of the enemy capabilities. If the enemy attempted to invade with a multi-division force the friendly barrier forces would conduct a delaying action until additional friendly forces could be committed. This regiment would be reinforced with artillery, engineer, motor transport, tanks, AT and intelligence specialist teams. Additionally, it would be supported by a transport helicopter group which included 3 medium helicopter squadrons (HMM). This helicopter group would give the regiment the capability of conducting a

regimental-sized helicopter-borne operation or 3 simultaneous, but separate, battalion-sized operations. Additionally, Route # 9 would be improved to serve as a lateral LOC for the reaction force during those occasions when weather conditions or time/space factors ruled out the use of helicopters

(d) The fire support means available to support the barrier forces include artillery, air and NGF. The requirements for each is as follows:

1/ Artillery - Artillery support should provide fire support to the barrier under any conditions of visibility in a matter of minutes. To accomplish this goal would require artillery units positioned to deliver accurate fires along the entire length of the barrier without requiring displacement of the pieces. Considering the factors of range, accuracy, bursting radius and rate of fire, the 8" Howitzer is the most efficient artillery piece for this mission. Three firing sites would be required to provide coverage of the entire barrier. The minimum required artillery unit at each site would be a battery (4 howitzers). If other artillery units, such as the 175mm Gun, 155mm Gun, 155mm Howitzer or 105mm Howitzer are used, then a greater number of batteries will be required to achieve the same effectiveness as the three 8" batteries. Also, it should be noted that these artillery units are in addition to the mortar units assigned to the strong points and artillery units assigned to the mobile reaction force.

2/ Air - This paragraph will include only the air support required for attack missions. Requirements for troop lift and reconnaissance/surveillance are included elsewhere. In determining the number of attack squadrons required, the controlling factor was reaction time. Danang is currently the closest jet airfield to the DMZ, and it is about 100 nm from the western end of the barrier area. If it were planned to maintain 4 aircraft on station over the DMZ continously, 3 A-4 squadrons and 2 A6A squadrons would be required. On the other hand, if 1 A-4 squadron and 1 A6A squadron were based at Danang and placed on strip

alert they would provide an all-weather capability of scrambling 4 aircraft and having them over the barrier in less than 35 minutes. Also, 1 Direct Air Support Control Center and 3 Air Support Radar Teams would be required to provide overall air control of the area and to insure simultaneous all-weather attack capability along the entire barrier. In addition, a detachment of armed helicopters (6 UH-1E) would be required to attack small fleeting targets and to escort helicopter-borne operations of the reaction force.

3/ NGF - Naval gunfire support for the barrier would be provided within the range and capabilities of the weapons available. Currently the longest range naval gun available for operations in SVN is the 8" gun on the heavy cruiser. These weapons can reach inland to CAM LO. In this regard, it is noted that the 16" naval gun could reach nearly half-way along the barrier.

(e) Reconnaissance and surveillance means are required to locate or detect enemy activities and to reduce the chances of the enemy's gaining the element of surprise. In view of the enemy situation, which includes an estimated 3 enemy divisions in the vicinity of the DMZ, and approximately 18,000 main force personnel and guerrillas in the northern two provinces of I CTZ, there would be a requirement for reconnaissance and surveillance operations both north and south of the barrier. A Marine Air Observation Squadron (VMO) with 18 UH-1E helicopters can maintain 3 aircraft on station during daylight hours. Air observers in these aircraft are trained in both aerial reconnaissance and in the control and adjustment of supporting arms. A Marine Reconnaissance Battalion, with 48 reconnaissance teams, is the minimum force capable of conducting the required reconnaissance and surveillance on both sides of the barrier in the jungle-covered areas and during hours of reduced visibility.

(4) An unmanned barrier supported by strong points, mobile reaction forces, fire support means, and reconnaissance/surveillance forces.

(a) The term "unmanned" indicates only that troops would not be physically situated in fixed positions, such as bunkers and towers, along the entire barrier. As in the manned barrier, stong points are established every 10 KM immediately behind the barrier. To provide for physical ground surveillance along the barrier, patrols would be sent out from the strong points along the barrier to a distance of 5 KM in either direction from the strong point. This version of the unmanned barrier depends on detection devices, backed up by reconnaissance and surveillance agencies, to provide a warning of attempted infiltrations, and the use of supporting arms and maneuver of forces from the strong points to halt and repel the infiltration. The key to this technique is reaction time. The artillery, air or NGF must be placed on target, or the reaction unit from the strong point must arrive at the scene before the infiltrators have succeeded in crossing the barrier. As indicated in the chart in paragraph 4b(4), the minimum time factors for penetrating the barrier are 21 minutes for the 500-meter barrier and 36 minutes for the 1000-meter barrier. By way of comparison, the time factors for friendly reaction are as follows:

Artillery (unobserved)	5 Min
(observed)	15 Min
Air (strip alert)	35 Min
NGF (unobserved)	10 Min
(observed)	15 Min
Strong point reaction force	
(foot)	1 Hr
(vehicle)	25 Min

It is apparent that primary reliance must be placed on artillery and NGF, with air being also acceptable. However, the ground reaction does not arrive in time to prevent infiltration of the 500 meter wide barrier unless the supporting arms have delayed the enemy sufficiently.

(b) The tactics and forces employed for reaction forces, fire support, and reconnaissance/surveillance would be same as those used for the manned barrier.

(5) An unmanned barrier supported by mobile reaction forces, fire support means, and reconnaissance/surveillance forces.

(a) For this barrier technique there are no forces assigned to permanent positions along the barrier. This will mean that the detection devices installed in the barrier will require the extended use of wire back to monitor stations located with the mobile reaction force and the fire support coordination center. Also, extensive reconnaissance and surveillance efforts will be required by the mobile reaction force as well as by the reconnaissance/surveillance units. This barrier technique depends on detection devices, backed up by reconnaissance and surveillance agencies, to provide warning of attempted infiltrations, and the use of supporting arms to halt and repel the infiltration. The mobile reaction force will dispatch troops to the scene as required by the situation, using either helicopter or motor transport. Under ideal conditions. assault elements of the mobile reaction force could reach the barrier in 30 minutes. However, under adverse conditions (rain and darkness) up to 2½ hours could be required to reach the more remote sectors of the barrier.

(b) The tactics and forces employed for fire support and reconnaissance/surveillance are the same as those used for the manned barrier.

(6) An unmanned barrier supported by fire support means and reconnaissance/surveillance forces.

(a) There are no ground combat forces included in this barrier concept, other than those used for rear area security missions. The technique applied here is complete reliance on supporting arms to defeat and repel any attempted infiltrations. The fire support means and agencies listed for the manned barrier would be adequate for this barrier concept also. Rear area security for the artillery sites would be provided by a reinforced infantry battalion, supported by a medium helicopter detachment (10 CH-46A).

(b) In the previous three barrier techniques, considerable ground reconnaissance/surveillance was conducted by other assigned ground combat forces. Therefore, to fill the void caused by the lack of ground combat forces in this technique, two Marine Reconnaissance Battalions will be required. Additionally, the VMO will require 24 UH-1E helicopters vice the 18 needed for the other barrier techniques.

f. Force Requirements

(1) Phase I (Security and Construction). COMUSMACV, in preparing plans for a barrier system across SVN, estimated that approximately 70 engineer construction months would be required to clear the ground, install the barrier, build fortifications and cantonments, and construct or improve roads. While his barrier concept was not identical to any of these being considered in this study, it was sufficiently similar to the manned version of the 500 meter wide barrier to consider that the construction requirements for each are approximately equivalent. Also, since it will require approximately 7 months to produce and deliver the 800 MCID/BPS units required for this barrier, a planning factor of 7 months to construct the barrier has been used. Accordingly, the requirements for engineer forces are as follow:

Barrier Operation	Barrier Width	Engineer Bn Months	Engineer Bns Required to Complete Barrier in 7 Months
Manned Barrier	500 M	70	10
	1000 M	75	10.7
Unmanned Barrier with Strong Points	500 M	66	9.4
	1000 M	71	10.1
Unmanned Barrier with Mobile Reaction Force	500 M	67	8.9
	1000 M		9.6
Unmanned Barrier with Fire Support means	500 M	57	8.1
	1000 M	62	8.9

As previously discussed, to provide security for this construction effort would require employment of a reinforced division, supported by 3 transport helicopter squadrons and 3 attack squadrons. Further, this security effort would commence 1 month prior to construction and continue through the entire construction effort. This means that the security effort would cover an 8 month period. Accordingly, the requirements for security forces is as follows:

Security Force	No. of Principal Subordinate Units	Units Months Required for 8-months Period
Infantry Division (reinf)	10 maneuver bns	80 maneuver bns
Helicopter Group	3 HMM	24 HMM
Jet Attack Group	3 VMA	24 VMA

(2) Phase II (Barrier Operations). The forces required to support each of the 4 different methods of conducting barrier operations are as follow:

(a) Manned Barrier. The manned barrier includes

a squad-sized bunker every 400 meters, a reinforced company strong point every 10,000 meters, and a reinforced regiment as a mobile reaction force. Additionally, it is supported by artillery, air, and reconnaissance/surveillance units. This means that each 10,000 meters of the barrier will have 25 squad bunkers, or approximately 3 rifle company equivalents, and a reinforced rifle company strongpoint. These add up to virtually the entire combat elements of an infantry battalion. Accordingly, the use of 1 infantry battalion for each 10,000 meters of barrier will provide the required combat forces plus necessary command and control functions. Therefore, 8 infantry battalions will be required to man the bunkers and strong points of the entire 80km barrier length. Another 3 infantry battalions, plus combat support units, are required in the mobile reaction force. An additional infantry battalion is required for rear area security during those occasions when the mobile reaction force has been committed. In effect, a reinforced infantry division is required to provide the necessary ground combat forces, exercise command and control over the entire barrier, and provide the necessary logistic support for sustained barrier operations. Thus, the task organization for the manned barrier would be as follows:

Function	Units	Strength
Man barrier, strong points and mobile reaction force	1 Infantry Division (- reconnaissance battalion which is included below)	19,511
	3 Infantry Battalions	3,774
	1 Tank Battalion	800
	1 Searchlight Battery	119
	1 Motor Transport Battalion	413
	1 FSR Detachment	1,417
	2 Engineer Battalions	2,230

ATA13-gm

Function	Units	Strength
Man barrier, strong points and mobile reaction force (con't)	1 MP Battalion	649
	3 Intelligence Specialist Teams	33
	1 Helicopter Group (3 HMM)	1826
	Function Total	30772
Fire Support	3 8" Howitizer Batteries	690
	1 Hq. Battery, Field Artillery Group	148
	1 Attack Group (1 VMA and 1 VMA (AW))	1546
	1 Marine Air Control Squadron	238
	1 Marine Air Support Squadron	195
	1 Detachment Armed Helicopters (6 UH-1E)	62
	Function Total	2879
Reconnaissance/ Surveillance	1 Division Reconnaissance Battalion	494
	1 VMO (-) (18 UH-1E)	186
	3 C-117 Flare-Aircraft	30
	Function Total	710
	Ground Total for Manned Barrier	34361

(b) Unmanned Barrier with Strong Points. This barrier is identical with the manned barrier except that the squad bunkers every 400 meters have been eliminated. Therefore, only 2 infantry battalions would be required

to man the 8 strong points. Thus, an infantry division (- 1 reinforced infantry regiment) would be required to provide the necessary ground combat forces, command and control functions, and logistic support. The task organization for this force would be:

Function	Units	Strength
Man strong points and mobile reaction force	1 Infantry Division (- reinforced infantry regiment and reconnaissance battalion)	14511
	1 Tank Battalion (-)	600
	1 Searchlight Battery	119
	1 Motor Transport Battalion (-)	313
	1 FSR Detachment	1000
	2 Engineer Battalions	2230
	1 MP Battalion	649
	3 Intelligence Specialist Teams	33
	1 Helicopter Group (3 HMM)	1826
	Function Total	21281
Fire Support	Function Total	2879
Reconnaissance/ Surveillance	Function Total	710
Grand Total for Unmanned Barrier with Strong Points		24870

(c) Unmanned Barrier with Mobile Reaction Force. This type of barrier operation eliminates entirely the requirements to have troops positioned along the barrier trace. Thus the 2 battalions manning the strong points can be deleted, leaving only a reinforced regiment for the mobile reaction force, and a battalion for rear area security. The

entire MP battalion remains to provide for traffic control and civilian control. Also, the 2 engineer battalions remain to provide for maintenance of the barrier and roadnet. The task organization for this force is as follows:

Function	Units	Strength
Mobile reaction force	1 Infantry Regiment (Reinforced)	5827
	1 Infantry Battalion	1248
	2 Engineer Battalions	2230
	1 MP Battalion	649
	3 Intelligence Specialist Teams	33
	1 Helicopter Group (3 HMM)	1826
	Function Total	11813
Fire Support	Function Total	2879
Reconnaissance/ Surveillance	Function Total	710
Grand Total for Unmanned Barrier with Mobile Reaction Force		15402

(d) Unmanned Barrier with Fire Support. This barrier operation eliminates the requirement for any ground combat forces other than those required for rear area security. Other support activities are also reduced, except for the ground reconnaissance/surveillance which is doubled to compensate for the reduced intelligence collection capability caused by elimination of the ground combat forces. The task organization for this force is as follows:

Function	Units	Strength
Rear Area Security	1 Infantry Battalion	1248
	1 Engineer Battalion	1115
	1 MP Detachment	300

Function	Units	Strength
Rear Area Security (con't)	1 Intelligence Specialist Detachment	10
	1 Helicopter Detachment (10 HMM)	106
	Function Total	2779
Fire Support	Function Total	2879
Reconnaissance/ Surveillance	2 Division Reconnaissance Battalions	988
	1 VMO (24 UH-1E)	248
	1 Air Observer Detachment	10
	3 C-117 Flare Aircraft	30
	Function Total	1276
Grand Total for Unmanned Barrier with Fire Support		6934

g. Impact of Barrier Force Requirements. COMUSMACV and CINCPAC, in establishing their force requirements for CY 66 and 67, did not include forces required to install and man a barrier along the DMZ. Therefore, any forces required for a barrier must either be diverted from other operations or be additive to those forces contained in SecDef Program # 4. Since current guidance is that the Program # 4 ceiling cannot be exceeded, the impact of the barrier force requirements on the forces available for other operations in SVN is assessed for both Phases, as follows:

(1) Phase I - The forces required to provide security for the barrier construction and to contruct the barrier would have to be diverted from other operations in SVN. For the purposes of comparison, it is assumed that the security operations and barrier construction would commence in mid-CY67. A comparison of CINCPAC's Requirements, Program # 4 Approvals, and Barrier Requirements is:

Requirements-Approvals	Units: US/FWMAF maneuver Bns	ATK Aircraft (in SEASIA)	Helicopters	Construction Engineer Bns
CINCPAC	125	1210	3522	53
Program # 4	111	1012	2734	41
Barrier	10(9)*	60(6)*	96(4)*	8.1-10.7 (20)*(26)*

(2) Phase II - Assuming that the barrier was operational in early CY68, a comparison of CINCPAC's Requirements, Program # 4 Approvals, and Barrier Requirements is:

Requirements-Approvals	Units: US/FWMAF maneuver Bns	ATK Aircraft (in SEASIA)	Helicopters	Construction Engineer Bns
CINCPAC	125	1196	3522	53
Program # 4	111	998	3097	41
Manned Barrier	13(12)*	32(3)*	96(3)*	2(5)*
Unmanned Barrier w/strong points	6 2/3 (6)*	32(3)*	96(3)*	2(5)*
Unmanned Barrier w/reaction force	4 1/3(4)*	32(3)*	96(3)*	2(5)*
Unmanned Barrier w/fire support	1(1)*	32(3)*	40(1)*	1(2)*

* Figure in brackets represents % of Program # 4 Forces. It is significant to note not only the percent of Program # 4 forces that would be involved with the barrier, but also that in each case the forces provided by Program # 4 are less than those required by COMUSMACV/CINCPAC. Thus, forces diverted to the barrier do not just create a short fall, they compound the short fall.

(3) Although the determination as to which in-country forces would be tasked to provide the barrier forces must be made by COMUSMACV, the following examples of possible commitments and impacts are provided:

Barrier Force	Unit Providing the Force	Impact
(a) Manned Barrier- 12 infantry battalions	III MAF	Current plans call for expansion of secure areas in ICTZ so that the entire coastal area from Quang Tri to Quang Ngai would be one continuous secure area. It is estimated that 28 infantry battalions are required to achieve this objective. Presently there are 21 US/FWMAF infantry/battalions in ICTZ, which are 7 less than required. If 12 infantry battalions were assigned to the barrier, all 9 remaining infantry battalions would be engaged in security operations at Chu Lai, Danang, and Hue/ Phu Bai. This would limit Marine participation in RD effort to a token level.
(b) Manned Barrier - 12 infantry battalions	9th Inf Div and 11th Armd Cav Regt	The 9th Infantry Division is the ground force planned to operate in the Delta with the MDMAF. Diversion of this unit to the barrier would delay indefinitely the commencement of major US ground operations in the Delta. The mission of 11th Armd Cav Regt is to keep open certain key LOC's in III CTZ. Diversion of this unit would prevent accomplishment of this mission and would degrade RD operations around Saigon.
(c) Unmanned Barrier with strong points 6 infantry battalions	III MAF or 9th Inf Div	The impact of this force requirement would be similar to, but less than, those discussed in (a) and (b) above. In ICTZ, the present shortfall of 7 infantry battalions would be aggravated by deploying 6 infantry battalions to the barrier, and would seriously degrade III MAF support of RD. In IV CTZ, only 1 brigade would be available for operations with the MDMAF.

Barrier Force	Unit Providing the Force	Impact
(d) Phase I - All 4 Barrier Systems - 8.1 - 10.7 engineer battalions	Taken from US forces in all CTZ	These engineer battalions required for installing the barrier represent from 20% - 26% of the entire service capability available to COMUSMACV. It is possible for COMUSMACV to compensate for this loss in military construction capability through contracts with civilian contractors. By MACV estimates, each Army construction battalion can provide $1.3 million worth of construction each month. Therefore, 70 construction battalion months equates to $91.0 million worth of construction that would require civilian contractor effort to make up. However, MACV also estimates that military construction costs only 38% of what civilian contractor would cost. Therefore, replacing the $91M of military construction with civilian contract would cost $239M or a net increase of $148M construction costs over the 7-month period.

NOTE: (1) The impacts caused by the 15000 and 7000 barrier force levels, while smaller than those listed above, are still significant when considered with already existing shortfalls in SVN.

(2) Although not included in the examples above, the provision of infantry battalions from II or III CTZ would create similar impacts to ongoing or planned offensive and RD operations.

h. Civilian Control Measures. Construction of a barrier in friendly territory poses certain problems that must be solved. In the case of this barrier constructed South of the DMZ, the following measures would have to be considered:

(1) Property would have to be obtained, and civilians, shrines and cemetaries would have to be relocated along the barrier trace. This would include not only the area to be cleared for the barrier, but also several km on either side of the strip for security purposes.

(2) Crossover points would have to be established at several places in order that the people and supplies can move to either side of the barrier. COMUSMACV estimates that 41,000 SVN civilians live north of the proposed barrier site. If provisions were not made to accomodate their needs for passage through the barrier, the whole project could prove to be counter-productive. Operation of the crossover points would have to be coordinated with the RVNAF/GVN.

5. ANALYSIS. See Tab A to this study for an analysis of the relative merits of the four different barrier force levels and the two different barrier structures.

6. CONCLUSIONS

a. The enemy can be expected to take advantage of weather conditions, terrain and jungle concealment to make it difficult to detect his movements towards the barrier and to react swiftly to his attempted penetrations.

b. The primary threat to northern I CTZ is the abrupt movement of large NVA units into SVN rather than a steady flow of small units and individuals.

c. To be effective against this threat, a barrier system must be capable of detecting, halting or repelling an attempted penetration by major enemy forces under any weather conditions.

d. A barrier system employing resources adequate to counter large unit movements, if properly configured, would be effective in limiting infiltration through the DMZ.

e. The 7000 man barrier would be relatively ineffective against either enemy course of action.

f. The 15000 man barrier would possess some effectiveness against small unit infiltration, but could not cope adequately with overt large unit penetrations.

g. The 25000 man barrier, with the 500 meter wide structure, would be effective against either large or small unit attempted infiltrations. However, if the enemy chose the time and spot well, he could effect an overt penetration before any ground forces could arrive on the scene.

h. The 25000 man barrier, with the 1000 meter wide structure, and the 34000 man barrier both would be effective against enemy large unit movement or small unit infiltration.

i. Should installation of a ground barrier be directed the 25000 man barrier (with 1000 meter wide structure) would appear preferable to the 34000 man barrier, in that it could accomplish these missions at lower cost in personnel.

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ANALYSIS OF THE BARRIER FORCE LEVEL

Manned Barrier

Advantages

(1) Provides continous observation and fire along the entire barrier.

(2) Can bring observed fire on any attempted enemy infiltration, under any weather conditions, before the enemy could force his way through either width barrier.

(3) Provides for rapid employment of company-sized forces from the strongpoints.

(4) Provides for the early employment of a mobile reaction force of up to reinforced regiment size.

(5) Provides for a multiple option of artillery, air and NGF support.

(6) Provides an adequate reconnaissance/surveillance capability.

Disadvantages

(1) The squad-sized bunkers/observation towers are vulnerable to isolation and destruction by groups of VC/NVA operating along the south side of the barrier.

(2) Causes the greatest degradation to other operations in SVN because of the size of the barrier force required.

Unmanned Barrier (w/strong points)

Advantages

(1) Provides for rapid employment of company-sized forces from the strongpoints. Employing the 1000 meter wide barrier and motor transport, these forces could reach any point along the barrier before the enemy could complete penetration.

(2) Provides for the early employment of a mobile reaction force of up to reinforced regiment size.

(3) Provides for a multiple option of artillery, air and NGF support.

(4) Provides an adequate reconnaissance/surveillance capability.

Disadvantages

(1) Under conditions of reduced visibility, depends almost entirely on detection devices for warning of attempted infiltration.

(2) In the case of the 500 meter wide barrier, if the enemy chose the remotest barrier site and adverse weather conditions, he could complete a penetration of the barrier before any friendly reaction, other than unobserved artillery fire, could be brought to bear upon him.

Unmanned Barrier (w/mobile reaction force)

Advantages

(1) Provides for the early employment of a mobile reaction force of up to reinforces regiment size.

(2) Provides for a multiply option of artillery, air and NGF support.

(3) Provides an adequate reconnaissance/surveillance capability.

Disadvantages

(1) Under conditions of reduced visibility, depends entirely on detection devices for warning of attempted infiltration.

(2) By requiring extended wire lines to remote the detection devices back to rear area monitors increases the opportunities for breakdowns in the system.

(3) During adverse weather conditions, the enemy could complete a penetration of either barrier before any friendly reaction, other than unobserved artillery fire or radar controlled air attacks, could be brought to bear on him.

(4) Under any conditions, would present a dilemma when a warning was received from the detection system of whether to commence unobserved artillery, air and NGF, or whether to hold fire until an observer could reach the site and determine what level of reaction, if any, was required.

Unmanned Barrier (w/fire support)

Advantages

(1) Provides for a multiple option of artillery, air, and NGF support.

(2) Provides an adequate reconnaissance/surveillance capability.

(3) Causes the least impact on other operations in SVN because of the relatively small size of the barrier support force.

Disadvantages

(1) Under conditions of reduced visibility, it depends entirely upon detection devices for warning of attempted infiltration.

(2) By requiring extended wire lines to remote the detection devices back to rear area-monitors, it increases the opportunities for breakdowns in the system.

(3) Depends entirely on the use of supporting arms to halt, defeat or repel enemy infiltration.

(4) During adverse weather conditions, the enemy could complete a penetration of either barrier opposed by only unobserved artillery fire or radar controlled air attacks.

(5) Under any conditions, would present a dilemma when a warning was received from the detection system of whether to commence unobserved artillery, air and NGF, or whether to hold fire until an observer could reach the site and determine what level of reaction, if any, were required.

TAB A

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AO2C
G-2 Division, HQMC
Washington, D.C.
23 December 1966

INTELLIGENCE ESTIMATE OF THE SITUATION

Ref: (a) Series L509 Sheets ND 48-4, ND 48-8, ND 49-1, ND 49-5, NE 48-2, NE 48-3, NE 48-6, NE 48-7, NE 48-11, NE 48-12, NE 48-15, NE 48-16, NE 49-13; 1:250,000

1. MISSION

a. Basic Mission. Install a barrier system in order to impede enemy infiltration/deployments from North Vietnam (NVN) to the Republic of Vietnam (RVN) through the Demilitarized Sone (DMZ).

b. Previous Decisions

(1) Air Strikes are authorized throughout the DMZ against clearly defined military activity.

(2) Artillery fire (land and naval) is authorized in the DMZ south of the Provisional Military Demarcation Line (PMDL). Artillery fire (land) is authorized against weapons firing on friendly forces from positions north of the PMDL in order to insure preservation of U.S. lives and equipment (self defense). Naval Gunfire (NGF) is authorized only against waterborne targets along the coast.

(3) United States and Free World (US/FW) ground forces are authorized to maneuver into the DMZ south of the PMDL when in contact with enemy forces, or when such engagement is imminent, and as necessary for the preservation of US/FW forces.

(4) US/FW forces will not advance north of the PMDL and will withdraw south of the DMZ when contact with the enemy is broken.

(5) Any actions taken must be reported immediately to the Joint Chiefs of Staff.

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2. ENEMY SITUATION

a. Characteristics of the Area of Operations

(1) Military Geography

(a) Topography. See Tab A (Hypsometry) and Tab B (Vegetation). In the areas of the Demilitarized Zone and the adjacent area north and south, the terrain is almost identical. There are two distinct geographic regions: coastal plains in the east and forested highlands in the west extending into Laos.

1. Coastal Plains. The plains include a belt of sand dunes along the coast, a flat alluvial plain behind the dunes, and a rolling foothill zone. The dune area is composed of fine sand and dunes, averaging between 30 to 40 feet high south of the DMZ and rising to a height of 100 feet in the area north of the DMZ. The natural vegetation in the dune area consists of sparce scrub or grass. The alluvial plain behind the dunes is largely under cultivation with wet land rice that is usually inundated or miry. The rolling foothill zone is characterized by rounded hills which are partially open and in some areas covered with dense forest or scattered ricefields. Cross-country movement throughout the entire area is difficult for wheeled vehicles.

2. Forested Highlands. The forested highlands in the western part of this region is part of the Chaine Annamitique. This mountain chain originates in Communist China, extends south through Laos, and terminates just north of of Saigon. This highland region in the area of the DMZ consists of parallel, northwest-southeast ridges which are generally 2,000 to 3,000 feet above sea level. The ridges are steep and dissected by deep V-shaped valleys. The region is covered by dense tropical evergreen forest with thick undergroth in some locations. Cross-country movement throughout the highland region is arduous for foot-troops and impractical for vehicular traffic.

(b) Hydrography. The coastline in the area of the DMZ is characterized by a rocky littoral interspersed with sandy areas. The estimated bottom slopes in near-shore waters are 1 on 60 or flatter. The steepest bottom slopes are found just north of the Ben Hai River in North Vietnam. Shallow water approaches are generally partially obstructed by shoals, shifting sandbars and in some locations

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rock outcroppings. There are three beaches which are usable for amphibious landings. One of these beaches is located just south of the Ben Hai River and the others are located just north of the river in North Vietnam. The only significant limitations of the three beaches are shifting sandbars in the sea approaches and difficult trafficability of the beach exits and hinterland.

(c) Climate and Weather. See Tab C (Precipitation and Monsoon Airflow). The monsoonal climate of the area of interest, like the rest of Vietnam, greatly affects military operations and planning. The area is unique in that it is not only affected differently by each monsoon and the two transitional periods, but that different areas within the same region are affected differently.

1. The Southwest Monsoon (May-Sep) is the dry period for the DMZ area with the exception of the most western part near Laos. During this period the area in the east is characterized by dry hot weather, but in the western area and in contiguous Laos there is periodic precipitation and high temperature.

2. The Northeast Monsoon (Nov-Feb) is the rainy season of the DMZ area. The weather during this period is characterized by high precipitation and cool temperature. During this season the weather in the western DMZ and Laos is dry.

3. The Spring Transition Period (Mar-Apr) brings a gradual decrease in precipitation and cloudiness; however, air operations would still be limited, especially along the coast and in the eastern part of the mountain chain.

4. The Autumn Transition Period (Oct) brings increasing cloudiness to the area as the Northeast Monsoon approaches. This season greatly affects the western regions of the DMZ area and the adjacent area in Laos. Air operations are severely limited inland but conditions for such operations are fair in the coastal area.

(2) Transportation

(a) Roads. See Tab D (Transportation). The main North/S outh road within the area of interest is Route #1 (Route 1A in NVN) which at one time connected Hanoi with Saigon. At the present time the road is usually interdicted in North Vietnam by US air attacks, and cut in the south by sabotage activities of the VC/NVA forces. South of the DMZ, Route #9 originates at Dong Ha on Route #1 and extends westward into Laos. The status of the roads varies; however, since Marines have been operating in the area, the road has been open to traffic in its eastern section and closed in the western half. North of the DMZ a secondary road system has been recently developed by the North Vietnamese. Those routes that have been improved are Routes # 102 and # 103 which serve the northern part of the DMZ and Route # 101 which is inland and parallel to Route 1A. Additionally, the network of trails throughout the region is used for infiltration from North Vietnam through the DMZ and from Laos to I CTZ.

(b) Railroads. The only rail line in the area is the North/South rail link between North and South Vietnam. This line has been interdicted on both sides of the border.

(c) Airfields. There are no airfields within the area of interest.

(d) Inland Waterways. See Tab D (Transportation). The chief waterway in the DMZ is the Ben Hai/Rao Thanh River which generally forms the Demarcation Line. In the extreme western part, the Rao Thanh within the DMZ flows westward into Laos and eventually empties into the Mekong. The Ben Hai flows eastward and empties into the Gulf of Tonkin. Medium sized junks can navigate about 15 miles up the Ben Hai from the Gulf during high water (Aug-Nov). During this period the safe draft is 8.2 feet and the estimated daily capacity is 2,000 Short tons per day (STPD). Barges and sampans can navigate this 15 mile segment throughout the entire year and can sustain approximately 1,000 STPD. For the next 23 miles this waterway has a safe draft of 3.2 feet at high water and 2.6 feet for the remainder of the year. Estimated capacity for this stretch of the river is

150 STPD during high water and 50 STPD at low water. This lateral waterway is not well oriented to direct southward infiltration but could be used to reposition units and supplies laterally within the DMZ.

(3) Sociological.

(a) Civilian Population. See Tab E (Population). The estimated population south of the Demarcation Line within the DMZ is 13,600. The great majority inhabit the extreme eastern section of the zone.

b. Enemy Military Situation

(1) Composition. See Tab F (Enemy Forces). The enemy forces considered in this estimate are those in the I CTZ in RVN and in Military Region IV (MR IV) in NVN. Those posing an immediate threat, in the northern two provinces of I CTZ and the vicinity of the DMZ, will be described in paragraph (2) below (Locally Available Strength). The remainder of the considered enemy threat will be appraised in paragraph (3) below (Availability of Reinforcements).

(2) Locally Available Strength. An NVA headquarters in the DMZ appears to be controlling the activities of three NVA Divisions (324B, 341st, mid-65). The strength of this Corps-equivalent totals 30,500. Additionally, there is a separate regiment (with three battalions), seven separate battalions and ten separate companies in Quang Tri and Thua Thien Provinces. These separate forces total 5,100. Irregular forces in guerrilla units in these northern two provinces number 13,210. The total locally available enemy strength is therefore 48,810.

(3) Availability of Reinforcements.

(a) Enemy forces in southern I Corps. Enemy forces in the southern three provinces of I Corps are one division headquarters, three regimental headquarters, twenty-two battalions and twenty three separate companies. The forces total

11,740. Guerrilla forces provide another 14,240 giving a total reinforcement capability of 25,980.

(b) Enemy forces in MR IV. Besides the NVA forces in the immediate vicinity of the DMZ, MR IV has two divisions (324th, 325th) and three separate regiments (31st, 120th, 271st) available for operations. These units total 34,000 and are believed ready for early deployment. The estimated closing time to the DMZ is as follows:

UNIT	STRENGTH	LOCATION	MILES FROM DMZ	CLOSING TIME
325th Div	12,500	Unlocated	160 (?)	8 Days (?)
271st Regt	3,000	Vinh	162	8 Days
31st Regt	3,000	Unlocated	180 (?)	9 Days (?)
324th Div	12,500	Ang Son	202	10 Days
120th Regt	3,000	Nghia Hung	210	11 Days

(c) Source of Reinforcement. If the enemy decides to reinforce near the DMZ, it is unlikely that units from southern I Corps would be redeployed. These forces would be more economically employed to conduct guerrilla operations, tying down friendly forces and diverting their commitment from the main conflict in northern I CTZ. The most logical reinforcements are those NVA units listed in paragraph (b) above. Within twelve days from the time the decision was made, 34,000 NVA troops could reach the DMZ area.

(d) Infiltration. See Tab G (Infiltration).

1. Accepted infiltration into RVN to date is as follows:

1959-60	4,582
1961	6,295
1962	12,857
1963	7,906
1964	12,424
1965	26,546
1966(to 12/7)	49,372
Total	119,982

2. As of 20 December 1966, 86 NVA

Battalions (approximately 45,000 personnel) had entered RVN as units. The remainder of NVA infiltrators (approximately 75,000) have entered RVN in groups varying from a few personnel to battalion-sized elements. Prior to June 1966, most infiltration was through Laos along the so-called "Ho Chi Minh Trail". It is believed that some small groups crossed the DMZ, but no more than two battalions infiltrated as tactical entities. The selection of infiltration routes appeared to be largely determined by the destination of the infiltrators. For instance, on 2 June 1966, only 6,530 NVA personnel were in I CTZ while the total in RVN was 30,910. But , in June 1966, it became apparent that Hanoi's objectives had changed as had the pattern of NVA incursion. For the first time, a major combat unit-the 324 B Division - entered RVN directly across the DMZ. The ostensible objectives of the enemy were now in northern I CTZ rather than the Central Highlands. By 20 December 1966, there were 15,590 NVA personnel in I CTZ of a 44,910 total in RVN.

3. During 1967, up to 100,000 NVA personnel may be sent to RVN. With reinforcements of this number, NVA forces will tend to arrive in units (as did the 324 B Division) rather than small groups of replacements. Such movements should be described as deployments rather than infiltration. These deployments will follow the route most advantageous to the enemy. If his objectives are not in I CTZ, deployments will almost certainly follow the Ho Chi Minh trail. If his objectives are in I CTZ, he will move units along the most direct route that is unopposed. If our forces are positioned in northern Quang Tri province he will logically make an "end run" around the DMZ and enter RVN

farther south. If he is lightly opposed along the DMZ, he will probably favor this more direct route to objectives in northern I CTZ. Regardless of his favored route, as he increases the size of deployment units he increases the risk of early detection.

(4) Movements and Activities

(a) Movements. The most significant movements have been the assembly of a Corps-like military structure in the vicinity of the DMZ. In June 1966, the 324 B NVA Division sent major elements across the DMZ into Quang Tri Province; in August 1966, the Mid-65 NVA Division departed the vicinity of Thanh Hoa in NVN (240 miles north of the DMZ) and arrived at the DMZ in November; during the summer of 1966, a DMZ headquarters appeared to be controlling these two divisions and the 341st NVA Division located at Chap Le (four miles north of the DMZ); and in early December 1966, two battalions from the 341st NVA Division were identified in Quang Tri Province.

(b) Activities. The movement of major NVA combat units to and across the DMZ appeared to be part of Hanoi's plan to "liberate" Quang Tri and Thua Thien Province from the RVN and incorporate these two provinces into MR IV. (Note: these provinces were part of MR IV prior to the partition of the country in 1954). When the enemys' plans were thwarted by Operation Hastings in July 1966, NVA units withdrew to sanctuaries in the DMZ and NVN. A second attempt to occupy positions of northern I CTZ in August and September 1966 was likewise blunted in Operation Prairie. Again, the enemy withdrew his forces. Apparently the next two months were devoted to absorbing replacements,

re-equiping and retraining. During December 1966, enemy activities near the DMZ indicated that preparations were being made for a third major incursion into Quang Tri Province.

(5) Logistics.

(a) The enemy has the capability to logistically support any force that he could predictably employ in RVN. As a general rule, all food and some equipment are procured locally; most weapons, ammunition, and additional equipment are brought in from NVN. A summary of enemy supply requirements expressed in short tons per day (STPD) follows:

Requirement	STPD
Total in 1965	85
Total in 1966	150-170
Total external in 1965	12-15
Total external by July 1966	20-30
Total external by end of 1966 (present level of activity)	30-45
Total external by end of 1966 (present activity doubled)	45-75
Total external by end of 1967 (present level of activity)	40-55
Total external by end of 1967 (present activity doubled)	60-90

(b) The logistic capabilities of DMZ infiltration routes are as follows:

Route	Dry Season	Wet Season
1A	850 STPD	100 STPD
101	700 STPD	150 STPD
102	100 STPD	---
103	100 STPD	---

(c) The logistic capability of routes of infiltration through Laos is 400 STPD during dry season and 100 STPD during wet season. Consequently, either through the DMZ or Laos, the routes have the capacity to logistically support enemy forces during both seasons through 1967. Inasmuch as the dry season in the DMZ coincides with the wet season in

Laos (and vice versa), the enemy will also enjoy alternate lines of communications.

3. Enemy Capabilities

a. Capability (1): Conduct offensive operations in northern I CTZ with all or any part of three NVA Divisions.

b. Capability (2): Redeploy forces from the vicinity of the DMZ to II CTZ for offensive operations.

c. Capability (3): In conjunction with capability (1), reinforce with up to two divisions and three regiments within 12 days.

4. Analysis of Enemy Capabilities

a. Capability (1): Conduct offensive operations in northern I CTZ with all or any part of three NVA divisions. In the spring of 1966, the High Command in Hanoi issued instructions for the "liberation" of Quang Tri and Thua Thien Provinces. This mission, to be executed by the Commanding General of MR IV, obviously required the introduction to RVN of tactical units in their entirety. On two occasions - once in July and again in August - the 324 B NVA Division, supported by elements of the 341st NVA Division, crossed the DMZ to conduct operations in Northern I CTZ. It is apparent that these NVA units did not seek a conventional confrontation with major US combat units. Rather, the 324 B Division could best economize forces and control population by small unit actions, harassment, interdicting LOC's, ambushing and attacking isolated units and outposts. This type of offensive action had previously been employed successfully by the Viet Minh and enabled them to "liberate" large areas of NVN from the French. Enemy indications, both words and deeds, lead to the belief that NVA/VC forces will continue to rely on this method of combat. In conjunction with an offensive campaign of this nature, enemy forces in southern I CTZ can be expected to conduct raids, harassment and small unit attacks to divert attention from the main effort and discourage further deployment of Marine forces to northern I CTZ.

b. Capability (2): Redeploy forces from the vicinity of the DMZ to II CTZ for offensive operations. NVA/VC forces have historically favored the separation of RVN along Route 19 between Pleiku and Qui Nhon. This could again become their primary objective if offensive operations in northern I CTZ appear too costly for a third attempt to gain control of the area. The diversion of NVA forces from the DMZ to the Central Highlands of II CTZ would pose no great problem for the enemy. The so-called "Ho Chi Minh trail" through the Laotian Corridor has been used extensively in the past as an infiltration route to

RVN. The weather along this route is best from November to April and it is probably during this period that large troop units would be moved south. However, smaller groups requiring less support could be infiltrated any time of the year.

c. Capability (3): In conjunction with capability (1), reinforce with up to two divisions and three regiments within 12 days. The computation of time and space factors, depicted in paragraph 2b(3) (b) of this estimate reveals an enemy capability to reinforce with 34,000 troops in the vicinity of the DMZ. This is not a new capability, but the possibility of its execution has been previously remote. The two NVA Divisions (324th, 325th) have been used in recent months to train units for infiltration and subsequent operations in RVN. The decision to commit these training divisions would necessitate the organization of a substitute training means. Although there have been no indications that such a step has been taken, it could be accomplished without detection. Of course, the enemy can execute this capability in something less than its maximum potential. That is, he can reinforce with any amount less than its maximum potential. That is, he can reinforce with any amount less than 34,000 and in any time period in excess of 12 days. During the first ten months of 1966, an estimated 40,000-50,000 NVA troops entered RVN, but this past rate of 4,000-5,000 per month does not necessarily indicate his intentions for the future. The exercise of this capability - or any portion of it - is dependent only upon a decision from Hanoi.

5. Conclusions

a. Relative Probability of Adoption of Enemy Capabilities:

(1) Capability (1): Conduct offensive operations in northern I CTZ with all or any part of three NVA Divisions.

(2) Capability (2): Redeploy forces from the vicinity of the DMZ to II CTZ for offensive operations.

(3) Capability (3): In conjunction with capability (1), reinforce with up to two divisions and three regiments within 12 days.

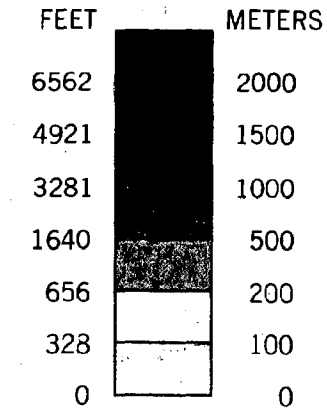
b. Effects on Accomplishment of the Commander's Mission:

(1) Conduct offensive operations in northern I CTZ with all or any part of three NVA Divisions. Enemy adoption of this capability would seriously threaten the accomplishment of the Commanders's mission, unless the friendly barrier forces consisted of approximately two infantry divisions supported by air and NGF.

(2) Redeploy forces from the vicinity of the DMZ to II CTZ for offensive operations. Adoption of this capability by the enemy would greatly enhance the accomplishment of the Commander's mission. On the other hand, on a RVN-wide basis, the enemy would gain in relative combat power. A significant portion of the US/FW forces would be fixed to support of the barrier, thereby degrading our capability for conducting operations elsewhere, while the enemy maintained the initiative by redeploying his forces and intensifying the conflict in another sector of RVN.

(3) In conjunction with capability (1), reinforce with up to two divisions and three regiments within 12 days. Enemy adoption of this capability could not only prevent accomplishment of the Commander's mission, but also could seriously threaten the security of friendly forces and installations in I CTZ. This attack by six enemy division equivalents would constitute a major overt aggression by NVN, and could be expected to cause a significant reorientation of friendly operations until this invasion could be defeated and repelled.

INDOCHINA
HYPSOMETRY



.4741 Spot height (in feet)

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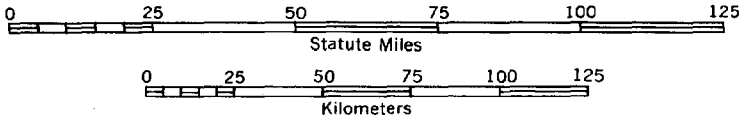
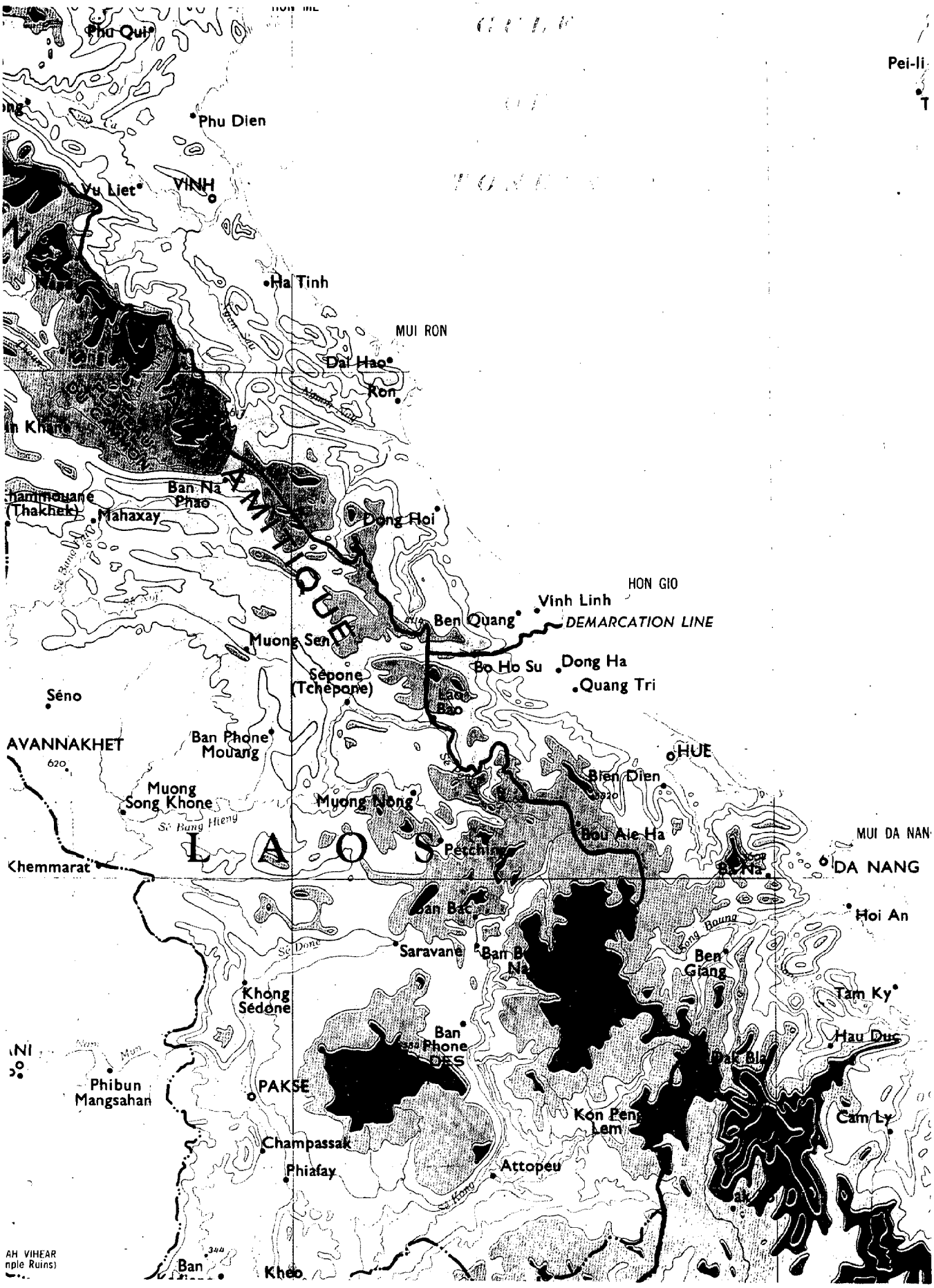
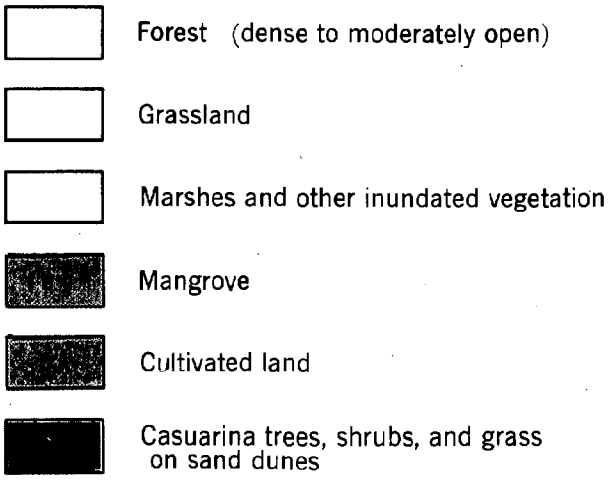




INDOCHINA
VEGETATION



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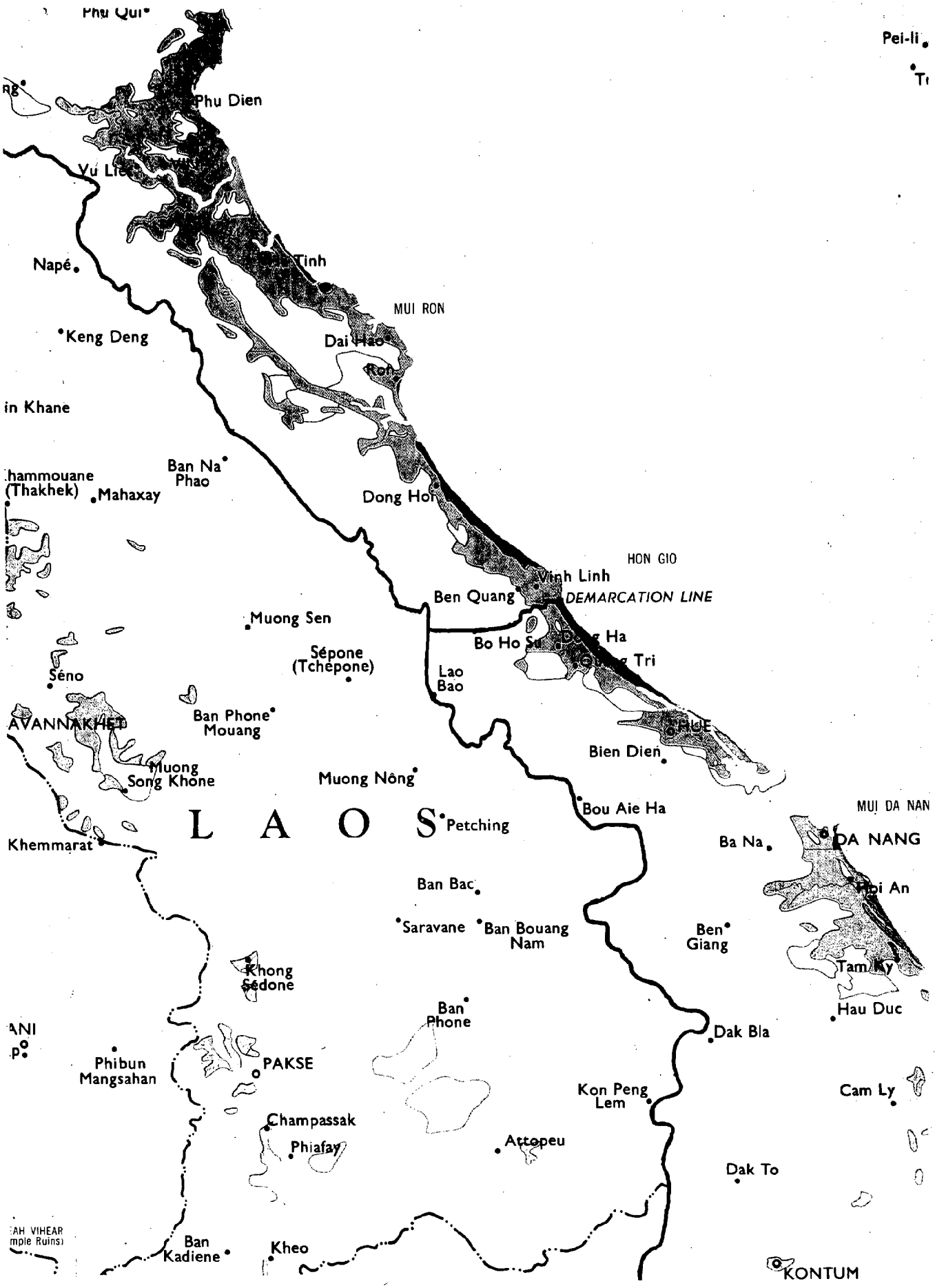
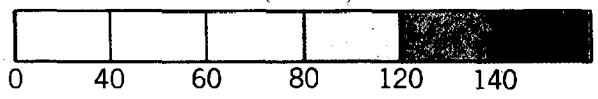
0 25 50 75 100 125
Statute Miles

0 25 50 75 100 125
Kilometers



INDOCHINA
PRECIPITATION AND MONSOON AIRFLOW

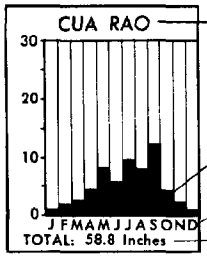
ANNUAL PRECIPITATION
(inches)



MONSOON AIRFLOW

Southwest (Summer)

Northeast (Autumn)



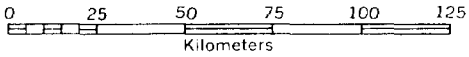
Meteorological station

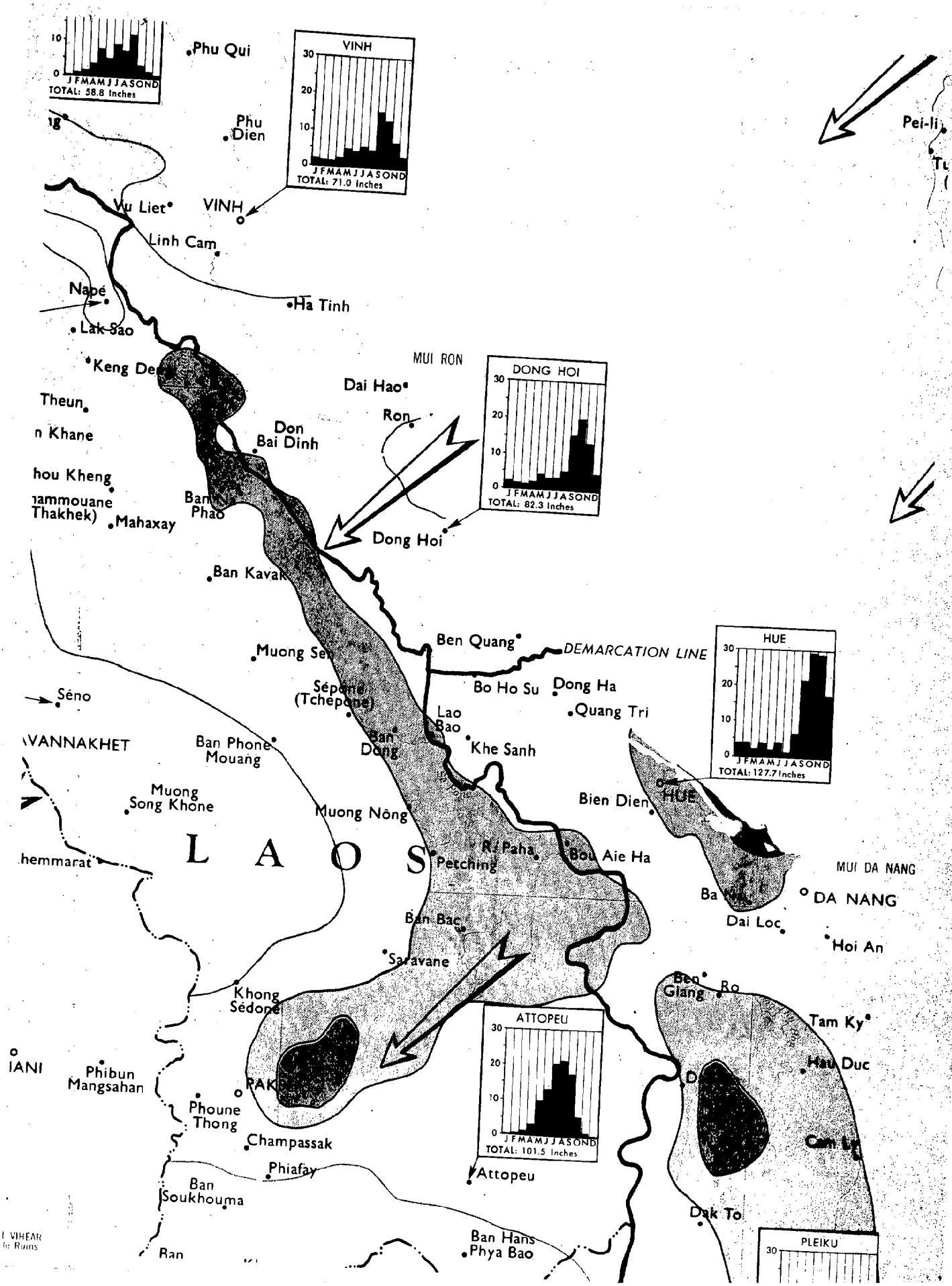
Average monthly precipitation (inches)

Month

Average annual precipitation

Scale 1:2,000,000





INDOCHINA
TRANSPORTATION

Narrow gauge railroad

Standard gauge railroad

Road

Track or trail

13 Route number

Principal port

Secondary port

Minor port

Major waterway

Head of navigation for native craft

Selected amphibious landing area

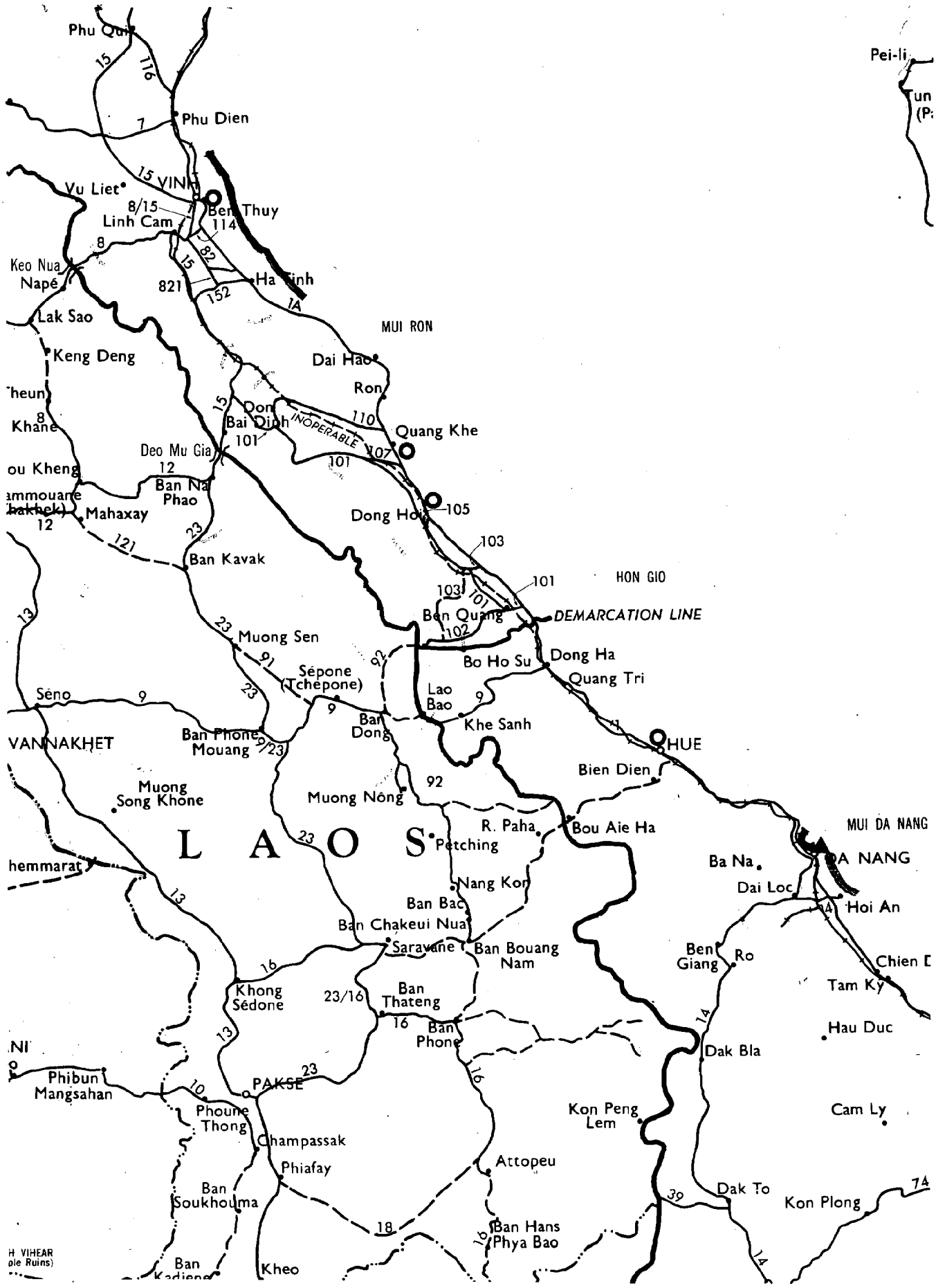
Scale 1:2,000,000

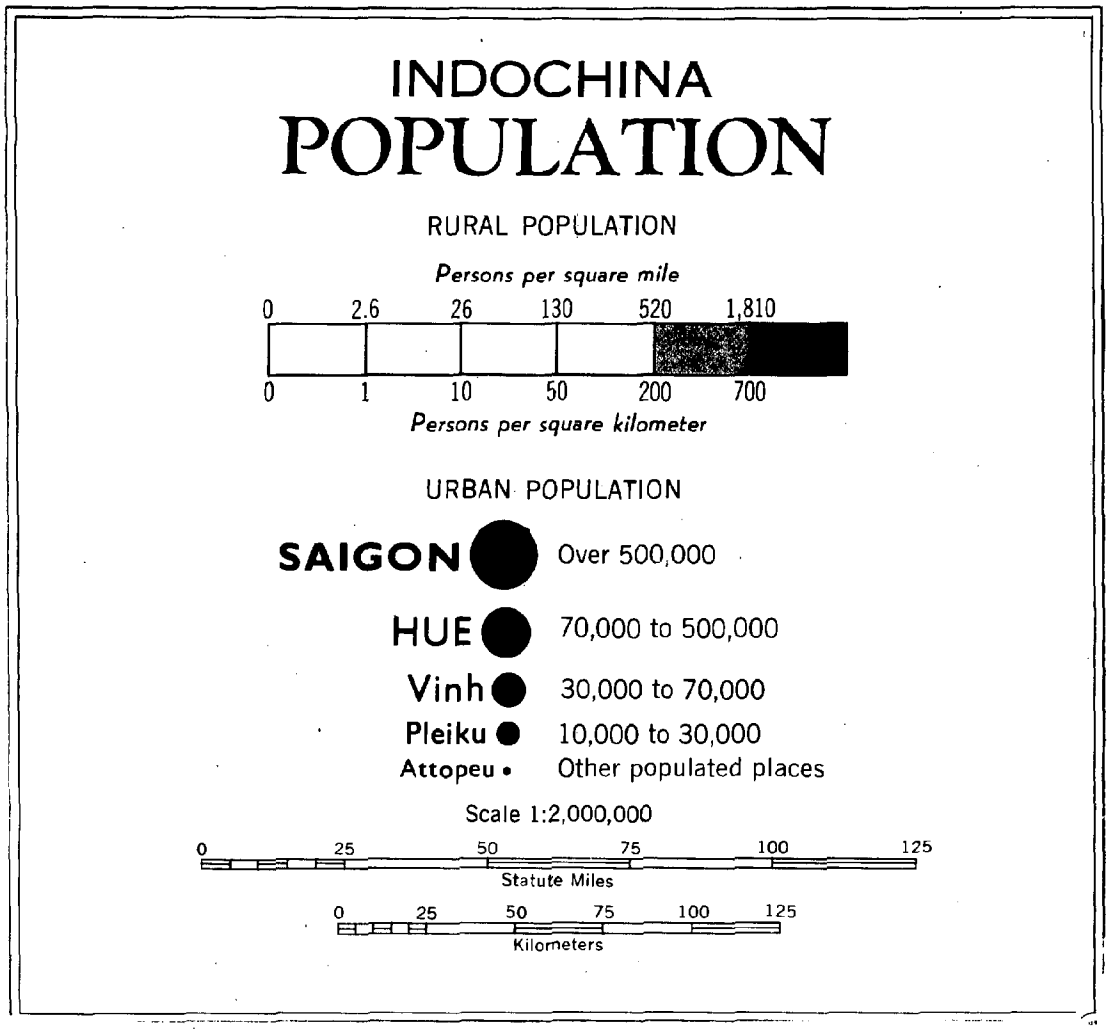
0 25 50 75 100 125

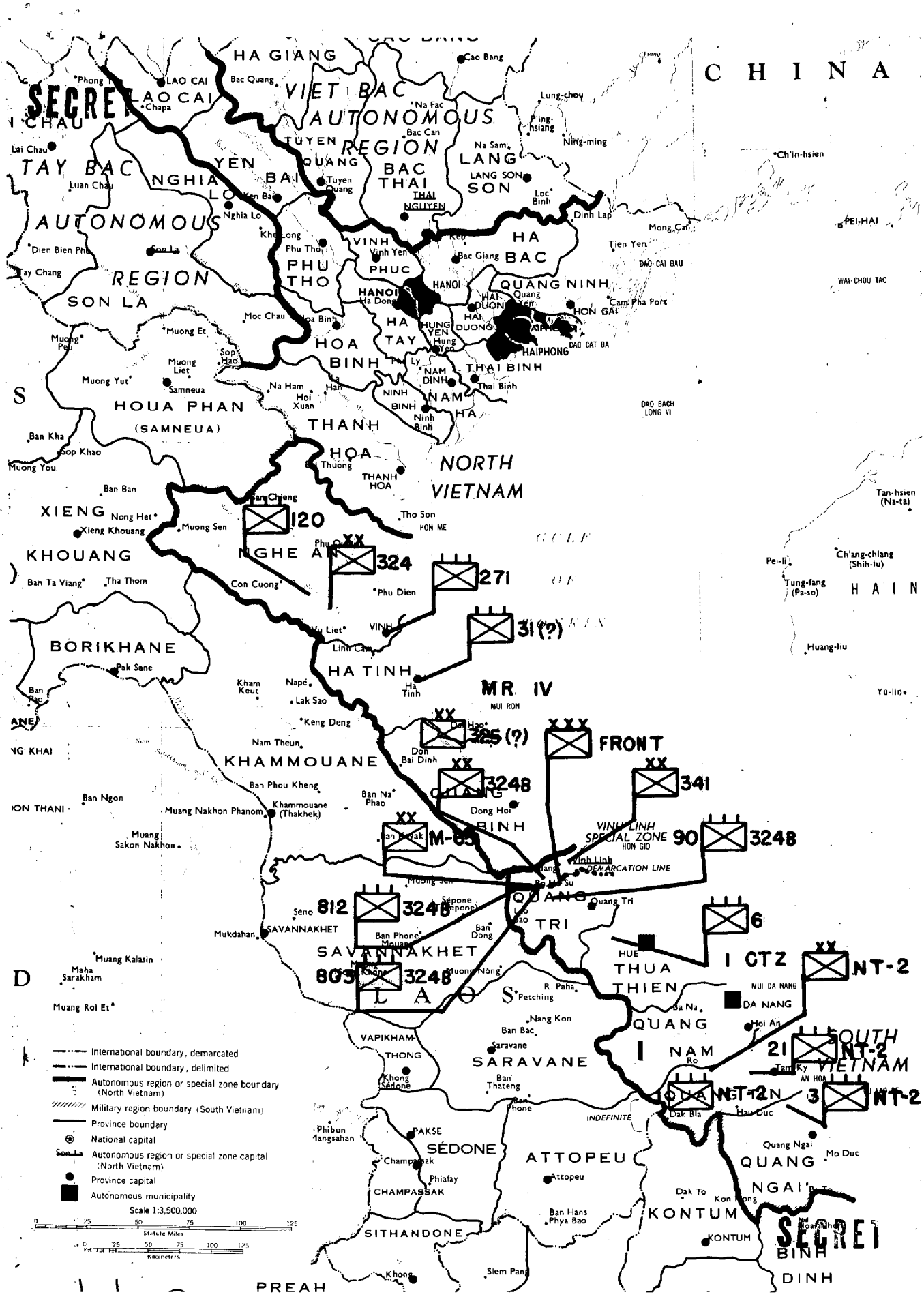
Statute Miles

0 25 50 75 100 125

Kilometers



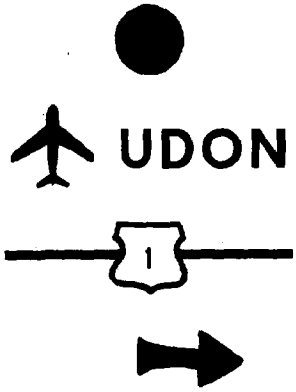




SERIES L307

EDITION -1 AMS

LEGEND



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