



098H
DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. 20350

CONFIDENTIAL
IN REPLY REFER TO

DECLASSIFIED

Ser 03/C700800

13 JAN 1976

CONFIDENTIAL (Unclassified upon removal of enclosure (1))

From: Chief of Naval Operations
To: Distribution List

Subj: History of the Mining of North Vietnam 8 May 1972 -
14 Jan 1973

Ref: (a) VCNO memo to CNM serial OP-32 #2217-73 dated
26 Feb 1973

Encl: (1) The Mining of North Vietnam 8 May 1972 - 14 Jan
1973

1. By reference (a), the Vice Chief of Naval Operations approved a proposal submitted by the Chief of Naval Material to prepare a history of the mine warfare operations during the South East Asian conflict. The Mine Warfare Project Office (PM-19) in the Naval Material Command in cooperation with the Mine Warfare Branch (OP-324) in the office of the Chief of Naval Operations produced the history.

2. The first volume entitled "The Mining of North Vietnam 8 May 1972 to 14 Jan 1973" has been completed and is forwarded as enclosure (1). Another volume which relates the history of the mine countermeasures operations in "Operation End Sweep" is expected to be ready for distribution in the next few months.

3. Downgrade to unclassified upon removal of enclosure.

Robert E. Morris
Robert E. Morris
By direction

Distribution List:

SNDL
A2A CHINFO, and ONR (only)
A4A CHNAVMAT
A5 CHNAVPERS and PERS 64 (only)
A6 CMC
B1 SECDEF (only)
B2 JCS and DIA (only)
B3 Colleges
C2 Senior Naval Officer, USAF Academy and
Chief Naval Advisory Group, The Air University, (only)

Distribution continued on page 2.

DECLASSIFIED

CONFIDENTIAL

CONFIDENTIAL

DECLASSIFIED

THE MINING OF NORTH VIETNAM

8 MAY 1972

TO

14 JANUARY 1973

JUNE 30, 1975

NATIONAL SECURITY INFORMATION
Unauthorized disclosure subject to criminal sanctions.

Enclosure (1) to *03/000800*
dated *13 January 1976*.

CONFIDENTIAL
DECLASSIFIED

~~CONFIDENTIAL~~

THE MINING OF NORTH VIETNAM

8 MAY 1972

TO

14 JANUARY 1973

Prepared by Mine Warfare Project Office (PM-19)
for the Chief of Naval Operations (OP-325)

30 June 1975

~~Classified by:— OP-324
Exempt from GDS
Exemption Category: 3
Declassify on: 1 July 1995~~

~~Reference: VCNO Memo to the CNM,
OP-32 Memo No. 2217-73
Dated 26 February 1973~~

~~CONFIDENTIAL~~

CONFIDENTIAL



ADMIRAL THOMAS H. MOORER

CONFIDENTIAL

~~UNCLASSIFIED~~

Preface

(U) After seven years of direct U.S. participation in the SEASIAN conflict and continued attempts by U.S. military authorities to gain permission to cut off the seaborne logistic sinews of North Vietnam's strength by means of mining, the President approved mining on 6 May 1972.

(U) Thereafter for eight months, U.S. forces mined North Vietnamese waters. The main proponent of the mining was Admiral Thomas H. Moorer, the Chairman of the Joint Chiefs of Staff. Admiral Moorer, schooled in the strategic and tactical use of mines as a young officer in World War II, was in the unique position of being able to propose, champion, and execute a mining campaign as the senior military officer in the U.S. defense establishment.

(U) It is not the purpose of this history to claim that the use of mines brought peace to SEASIA. However, it is of some significance that with the end of the mining campaign came a peace agreement.

(U) The material in this history has been compiled from interviews and conversations with participants, from data compiled by the OJCS and by the Center for Naval Analysis, and from documents of all types in official records. Particular reliance was placed on the CNA study entitled "Air Defense During The Mining Of Haiphong Harbor On 9 May 1972" (U) by R. A. Ross. Lt. D.J. Shearer, Jr. USN, who was the Air Intelligence Officer, VA94, provided some interesting and informative background on the events leading up to the 9 May mining.

(U) The description of the capabilities of the North Vietnam port and transportation facilities and the assessment of the effect of the mining on NVN were largely drawn from DIA sources.

(U) This history of the mining campaign was prepared by the Mine Warfare Project Office (PM 19) under the Chief of Naval Material in response to the Vice Chief of Naval Operations' memorandum to the Chief of Naval Material dated 26 February 1973. (OP32 Memo Number 2217-73 dated 26 February 1973)

~~UNCLASSIFIED~~

UNCLASSIFIED

*Suggest 2/10/72
short summary*

TABLE OF CONTENTS

	Page No.
Preface	i
Table of Contents	ii
List of Figures	iv
Chapter 1 - THE SITUATION	1-2
Status Report	1-3
Setting the Stage for a Decision	1-8
Chapter 2 - PLANNING THE OPERATION	2-2
Chronology	2-3
Review of the Assets	2-4
Sequence of Planning	2-17
Steps to a Decision	2-21
The Execution	2-23
Why Mining in 1972 and Not Sooner?	2-25
Chapter 3 - THE MINING OPERATIONS	3-3
Haiphong Mission	3-4
Mining Campaign	3-19
Summary of the Mining	3-41
Of Special Interest	3-46
Chapter 4 - EFFECTIVENESS OF THE MINING	4-2
Admiral Dare's Assessment	4-2
Appraisal	4-3
Asiatic News Media Reports	4-7
Sir Robert Thompson's Statement	4-7
Interview with Mayor of Haiphong	4-9
Chapter 5 - REACTION AND OPINION	5-3
World Opinion	5-3
Press Reporting	5-4
Public Response	5-5

UNCLASSIFIED

	Page No.
Chapter 6 - KEY OFFICES AND PERSONALTIES AT THE WASHINGTON LEVEL	6-2
Admiral Thomas B. Moorer, USN, Chairman of the Joint Chiefs of Staff	6-2
Office of the Joint Chiefs of Staff	6-3
Office of the Chief of Naval Operations	6-3
Naval Material Command	6-3
Chapter 7 - EPILOGUE - LESSONS LEARNED	7-2

LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Page No.</u>
2-1	Mine Assembly Shop - Subic	2-7
2-2	Naval Magazine - Subic	2-8
2-3	A6 with Mine Load (MK 52)	2-10
2-4	Haiphong Approaches	2-13
3-1	North Vietnam Operating Area	3-2
3-2	Force Disposition 9 May 1972	3-5
3-3	Haiphong Mine Field Areas	3-8
3-4	Loading MK 52 Mines on A7E	3-9
3-5	Marine A7E Loaded with Mines for Haiphong	3-10
3-6	A7E Aboard <u>Coral Sea</u> Ready for Launching	3-11
3-7	MK 36 DST Stacked on Carrier Deck	3-12
3-8	Marine A6A Intruder Launching for Haiphong	3-13
3-9	A7E from VA94 Launching for Haiphong Mission	3-14
3-10	<u>Coral Sea</u> Refueling from <u>Ashtabula</u>	3-15
3-11	Mine Assembly Shop	3-16
3-12	Preparing MK 52-2 Mines for Reseed Operations	3-17
3-13	MK 52-2 Mines	3-20
3-14	MK 36 DST	3-21
3-15	Active Mines Chronologically	3-26
3-16	Haiphong Mine Field Areas	3-29
3-17	Hon Gai/Cam Pha Mine Fields	3-31
3-18	Vinh Area	3-33
3-19	Thanh Hoa Area	3-34
3-20	Dong Hoi, Quang Khe, Hon La Mined Areas	3-35
3-21	The WBLC	3-38
3-22	The Mining Campaign Chronologically	3-43
3-23	Geographic Distribution of Coastal Mines (Chart)	3-44
3-24	Geographic Distribution (Table)	3-45
3-25	Flight Gear Pack-Out Boxes - Andy Packs - at Subic	3-50
3-26	NVN Bow Solenoid Sweeps	3-55
3-27	USS Warrington News Article	3-56
3-28	Data Summary U.S. Destroyer Underwater Explosions	3-58
3-29	Chart of Destroyer Underwater Explosion Locations	3-59
4-1	Bar Chart of Mining Effect on Imports	4-4
4-2	Freighter Anchored Outside Mine Field Floating Supplies Ashore	4-8

~~UNCLASSIFIED~~

Chapter 1 - THE SITUATION

- Status Report - Spring of 1972
Military, Political, Logistical
- Setting the Stage for a Decision
 - Efforts to Stop the NVN Invasion
 - Previous Attempts to Mine
 - Press Background
 - Was there an International Agreement?

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

CHAPTER I
THE SITUATION

(U) The decision to mine the approaches to Haiphong and other logistic waterways of the Democratic Republic of Vietnam evolved from the political, military, and logistic situations existing at the time.

(U) President Nixon had met with the PRC leaders in Peking in February and was scheduled to meet with the Soviet leaders in Moscow in late May. These two communist nations provided the major support for the North Vietnamese and the Viet Cong forces which opposed the SVN government forces. The U.S. policy of Vietnamization of the war had resulted in the withdrawal of nearly all U.S. ground combat forces. U.S. Air Force and Navy combat forces were still committed to assisting the South Vietnamese war effort. In South Vietnam there was talk of a sell-out by the United States in what the South Vietnamese saw as a big power agreement by the USSR, the PRC, and the U.S. to end the war. Finally, the NVN overt invasion of South Vietnam, starting on 30 March 1972 - had met with considerable initial success. The supplies necessary to support the NVN efforts were still arriving mainly by sea and mainly through Haiphong.

(U) In the following sections of this Chapter, the military, political and logistic situations will be explored and the steps which led eventually to the decision to use sea mines will be traced.

~~UNCLASSIFIED~~

UNCLASSIFIED

Status Report

Military

(U) In late 1971, Hanoi had received a pledge from the Soviet Union that military aid to the DRV would continue through 1973. The year 1972 began with reports of a North Vietnamese military build-up in and adjacent to the DMZ and in staging areas in Laos and Cambodia. Two hundred U.S. planes struck supply lines on 1 January, and on 6 January B-52 aircraft dropped 200 tons of bombs on the DMZ. On January 13, President Nixon announced further troop withdrawals that would reduce U.S. forces in SVN to about 69,000 by 1 May 1972. Very few of the remaining forces would be ground combat forces.

(U) Fears expressed that the Soviets might be pressuring the NVN to mount an offensive during President Nixon's visit to Peking in late February went unrealized. There was conjecture in the press that the Chinese and American leaders might have reached some agreement on how to end the war. U.S. Intelligence reported in mid-February that both the PRC and the USSR had accelerated military and economic aid shipments to NVN, and heavy U.S. air strikes were carried out against evidences of the NVN build-up in the Laos and Cambodian staging areas, in the central highlands, in the DMZ, and in the southern part of NVN.

(U) In the latter part of March, the NVN premier reported to the National Assembly, "we are in a better position to initiate attacks at the enemy and advance to seize bigger and bigger victories." The Premier's speech was preparing his nation for the largest and most surprising NVN offensive of the long war. It was surprising because it departed from the guerrilla tactics of the earlier warfare and used tanks, columns of troops, and heavy artillery. It was the largest in that all but one of the known NVN combat divisions were committed.

(U) On 30 March, the long-expected major offensive was launched by the NVN in an overt invasion of SVN. The first assaults were across the DMZ. Two other thrusts developed in the Central highlands and toward An Loc 60 miles north of Saigon. Included in the NVN order of battle were 200 Soviet tanks, 130mm heavy artillery, and mobile anti-aircraft artillery. These weapons seriously inhibited the ability of the SVN forces to stop the invading forces. In particular, the mobile anti-aircraft guns were a threat to increased air strikes against NVN and the NVN forces. Enemy forces in Quang Tri province also had SAM units. The NVN progress was impressive against the SVN ground forces, and there were some instances of collapse of SVN units. With only about 60,000 total

UNCLASSIFIED

~~UNCLASSIFIED~~

~~(U)~~ U.S. forces left in the country - few of which were combat ground forces - the U.S. responded mainly with increased air support for SVN forces using U.S. Marine and U.S. Air Force planes and greatly increased air strikes on enemy supply lines and installations using U.S. Navy Carrier aircraft and U.S. Air Force aircraft, including B-52 bombers. The B-52s ranged over North Vietnam and by mid-April were bombing logistics and military targets in the Hanoi/Haiphong area. In addition, the U.S. Seventh Fleet destroyers and cruisers increased shore bombardment interdiction operations against the coastal lines of supply and military installations within range of naval guns.

~~(U)~~ The war in South Vietnam was no longer a guerrilla operation; it had become a full-scale conventional war. Like all large-scale military operations, the logistics support of the operation was a major effort. It appeared that territorial gains to use in bargaining for peace and the destruction of the Vietnamization program were the dual objectives of the NVN invasion. By the first week in May, Quang Tri had fallen to the communists, Pleiku and Kontum were under seige, An Loc (only 60 miles from Saigon) was partially in NVN hands, and Hue was heavily threatened.

~~(U)~~ The stage was set for some decisive military move by the United States.

(B) Seaborne Logistics to North Vietnam

~~(U)~~ In the period of time of the U.S. military involvement in the Vietnam War, the status of the port of Haiphong and, to a lesser degree, the other ports, had been an anomaly. They had been allowed to exist and had been the primary entry point for the importation of military supplies with which the North Vietnamese equipped their own army and supplied equipment to the Viet Cong as well. Haiphong was handling over 400 ships annually. As long as the port of Haiphong remained open, there was little chance of stopping the logistic support behind the communist offensive.

~~(U)~~ During 1971 North Vietnam imported over 2.5 million metric tons of supplies needed by the economy and the armed forces. A total of about 85 percent of all imports came via the sea, mostly through Haiphong. The remaining imports moved overland, mainly by rail from the PRC.

~~(U)~~ The port of Haiphong had been rated at handling 4,000 long tons of cargo a day. To the east of Haiphong are the ports of Cam Pha and Hon Gai. Each of these ports was rated at 1,500 long tons a day. Ben Thuy, the port of Vinh, in the southern panhandle was rated at 800 long tons a day. In addition to these four ports, there are ten more in North Vietnam which could handle 200-300 long tons a day. Five of these are naval ports. The ten smaller ports are for the most part havens for junks, sampans, and trawlers.

~~(U)~~ Most of North Vietnam's POL entered through Haiphong. Tankers normally lightered into smaller vessels which subsequently transferred

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

~~(U)~~ their cargo to the main Haiphong facility, smaller storage depots dispersed along waterways in the Red River Delta, and to a lesser extent, coastal transshipment points in the southern panhandle.

~~(U)~~ In addition to the port areas of North Vietnam, some 35,000 junks and sampans under communist control enjoyed a 2,000-mile network of canals that was being used for the transportation of cargo. The maximum use of these canals was dependent upon the seasonal period of high water which occurs during the period of June to October in the zone above the 20th Parallel.

~~(U)~~ The major POL storage and receiving facility in Haiphong was located just northwest of the city. Air strikes had reduced its capacity and relegated the depot to a local supply function. A number of smaller, dispersed tank and 55-gallon drum storage depots were also located in the immediate Haiphong area.

~~(U)~~ North Vietnam was not without land transportation systems; however, they were smaller by comparison than the water-borne transport systems. There existed some 6,500 miles of improved roads, on which by May 8, 1972, some 40 percent of all the materials were being moved overland. The meter-gauge railroad system radiated from Hanoi as five main lines totaling about 700 route-miles. Two rail lines connected with China.

~~(U)~~ At the onset of the enemy's spring offensive, coastal vessels, trucks, rail, and to a lesser extent, pipelines were being used to ship POL southward from the Hanoi-Haiphong area. An established pipeline system, with main input points at Thanh Hoa, Vinh, and Quang Khe, extended southward into Laos and northern South Vietnam.

~~(U)~~ A study group in 1965 stated:

"As communist block nations become more directly involved in support of guerrilla groups throughout the unstable areas of the world, we undoubtedly will be faced with the tactical threat of their burgeoning merchant marine."¹ In the case of North Vietnam, this had proved true.

~~(U)~~ The Communist block merchant ships were not only carrying in supplies for the Viet Cong, but were also delivering the SAMs and anti-aircraft artillery ammunition for the air defense units of the North Vietnamese Army. At the same time, North Vietnam was exporting apatite (fertilizer component), cement, coal, and general cargo through their sea ports. Although none of these export commodities were of a critical or strategic nature, they did represent a source of foreign exchange credit.

¹ Mine Advisory Committee, "A Study of Mine and Mine Countermeasures Operations in Guerrilla Warfare," National Academy of Science Washington, D.C., 1968, page 139.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

(U) Efforts to close off, by military means, the logistic support entering the port of Haiphong had been rejected mainly on political grounds throughout the progress of the war.

Political

(U) The political situation was a complicated one. The U.S. policy of Vietnamization and troop withdrawal had left the U.S. a combat role only within the air and naval forces. At home the war was an unpopular one, and the reinsertion of U.S. ground troops was not an attractive political alternative; 1972 was a presidential election year.

(U) The President of the United States had held meetings with the PRC leaders in February and a meeting with the Soviet leaders was scheduled for late May. President Nixon had warned the North Vietnamese as late as 30 April that they were taking an enormous risk if they did not halt the military offensive in South Vietnam.²

Further -

(U) "The President felt that to ignore a massive invasion would undermine the United States' credibility as a world power, particularly since the North had been warned many times about invading across the DMZ. He felt that the President of the United States could not deal in strength in Moscow if the military situation in South Vietnam were deteriorating behind his back. No Soviet summit meeting and no detente would be meaningful with a United States that was critically weakened by having done nothing in (the) face of such provocation. If the enemy got away with it, our developing relationship with China would be affected. What value would China see in a new relationship with the United States if we seemed to be becoming irrelevant in Asia?"³

(U) On 16 April, even in the face of the North Vietnam offensive, the Senate Foreign Relations Committee had voted to end all financing of the Indo-Chinese War by 31 December 1972. In addition, the Senate itself, on 19 April, debated the renewed U.S. bombing of NVN targets. During this period, also, the Paris Peace Talks between the U.S. and SVN on one hand and the VC/NVN on the other were being held from time to time. On 2 May, LeDuc Tho and Mr. Kissinger met in Paris to discuss ways of ending the war.

² L. Egar Prina, "Smart Bombs and Menacing Mines", Sea Power, Volume XV No. 6 June 1972 Washington, D.C., page 9-13

³ William E. Griffith, "Summitry and the Prospect for Peace," Readers Digest, Vol. CII No. 609, Pleasantville, New York: January 1973, pp. 49-54

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

~~(U)~~ The Soviet Union had aggravated the situation in Vietnam, after agreeing to the late May summit meeting, by providing the NVN with up-to-date weapons such as MIG aircraft, new surface-to-air missiles, heavy armored vehicles, and artillery.

~~(U)~~ As a further political consideration, recent days in the U.S. had been marked by student demonstrations against the war.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Setting the Stage For A Decision

(U) Efforts to Stop Invasion: The invasion by the NVN forces had met with considerable success in spite of increased U.S. Navy, Marine, and Air Force air support for the SVN forces, increased air interdiction of the supply routes, B-52 bombing missions against supply routes and military targets in Hanoi and Haiphong, and naval ship bombardment of coastal supply routes and installations by cruisers and destroyers of the Seventh Fleet. Four CVA's were on station in the Gulf of Tonkin and two more were on the way. Destroyer and cruiser reinforcements were also ordered to the Seventh Fleet.

(U) By 1 May, however, the increased U.S. efforts had not succeeded in stopping the NVN forces. Something more was needed. It is noted that all necessary forces to conduct mining operations were on station and had been for some weeks. No reinforcement for mining was required.

(U) Previous Efforts to Mine Haiphong: Haiphong, the entry port for better than 80% of all support for North Vietnamese and Viet Cong war efforts, had been recommended as a mining target on previous occasions.

(U) The Commander-in Chief Pacific (June 30, 1964-July 31, 1968), Admiral U.S. Grant Sharp, had continuously advocated the mining of Haiphong. After his retirement in 1968, Admiral Sharp expressed his opinions on the U.S. policy in conducting the Vietnam War. On the mining he was quite specific in saying:

"Haven in Haiphong. Of all the things we should have done but did not do, the most important was to neutralize the port of Haiphong. During 1967, some 80 percent of North Vietnam's imports came in by sea, mostly through Haiphong. This included arms, ammunition, oil, trucks, generators, machinery, spare parts, steel, and cement; all vital to the war. We should have blocked the approaches to the harbor with mines laid by aircraft. Closing an enemy harbor is customary and logical in warfare. This was the simplest and most effective measure we could have taken. All along, our military leaders recommended that the port be neutralized. The recommendation was always vetoed. It was claimed that closing Haiphong would not affect the enemy's capability of waging war in South Vietnam - that North Vietnam could sustain the war at the same level by means of rail, road, and coastal shipments from China. But a reasonable evaluation of our intelligence convinced us that it was next to impossible to move that amount of material over North Vietnam's exceedingly limited transportation

~~UNCLASSIFIED~~

~~CONFIDENTIAL~~

(U) network. In my opinion, closing Haiphong would have shortened the war by many months."⁴

(C) As early as October of 1966, the Joint Chiefs of Staff supported Sharp's proposal and urged that President Johnson authorize the mining of ports and a naval quarantine especially designed to reduce the sanctuary status of Haiphong and Hanoi. Numerous requests to mine Haiphong in the period 1965-68 had been disapproved by higher authorities.

(C) While serving as the Commander in Chief, U.S. Pacific Fleet, Admiral Thomas H. Moorer had visited Washington to strongly recommend the mining of Haiphong. Opposition to mining at that time was very strong in the higher civilian levels of the defense department.

(C) U.S. Navy and U.S. Air Force mining of inland roads and waterways had been carried out using MK 36 Destructors (Bomb/Mines) in the Rolling Thunder interdiction efforts of 1967-68. Limited mining of several river mouths in the southern portions of NVN using MK 52, MK 50, and MK 36 mines had been carried out by U.S. Navy aircraft in 1967. There appears to have been no opposition to mining per se but only to mining in Haiphong and other principal ports where the weapons would be in direct confrontation with the ships from the USSR, PRC, and several neutral nations.

(C) The White House is known to have queried the CIA in 1965 as to whether a covert mining of Haiphong was feasible. Various methods of mining had been explored - by air, submarine, surface, and remote control boat. The President's Scientific Advisory Committee had shown an interest in mining as a method of interdicting supplies to North Vietnam by sea and had released a report which recommended against mining to the Secretary of Defense and the Secretary of the Navy in 1968.⁵

PSAC

(C) The PSAC had concluded that mining would not be effective in stopping seaborne supplies because the NVN would bring in all the supplies needed by railroad from China. A simulated mining of Haiphong had been conducted in 1970 in connection with other operations in NVN and, in 1969, the JCS had recommended that the bombing not be renewed unless accompanied by mining.

(U) Although writing after the mining had been executed, the following comment by Stanley Karnow in the 9 May Washington Post is generally descriptive of the mining controversy generated by the Haiphong anomaly.

⁴ U.S. Grant Sharp, "We Could Have Won in Vietnam Long Ago", Readers Digest, May 1969, page 18-23

⁵ "The Interdiction of Supplies Bound for North Vietnam by Sea". Two copies had been delivered in 1968, one to the Secretary of Defense and one to the Secretary of the Navy.

~~CONFIDENTIAL~~

(U) "Indeed, few conflicts inside the U.S. Government within recent years has been as intense as the debate over whether to take action against Soviet and other aid shipments destined to reach North Vietnam by sea.

(U) Advocates of the strategy now being pursued by President Nixon consistently held that such an approach, combined with stronger and wider U.S. bombings of North Vietnam, would decisively set back the Communists.

(U) Opponents of the President's latest step have long argued against it on two counts. First, they have warned that it would jeopardize U.S. relations with the Soviet Union and the People's Republic of China, perhaps to the point of provoking them into war. Secondly, they have expressed doubts that pressure on Hanoi's supply lines would suffice to discourage the Communists."⁶

Press Background

(U) While the national authorities and the military planners were considering various courses of action to stem the continued success of the NVN invasion, to bring about an ending to the war, and to bring the POWs home, the news media were also weighing the options.

The Christian Science Monitor published the following on 13 April 1972:

(U) "There is an interesting correlation between the American buildup now and that of the Communist forces over the past several months. As Hanoi's troops and supplies were brought into position, officials here and in the field expressed the view that it would be inconceivable for Hanoi to bring so much together and not do something with it. Similarly, it is inconceivable now that Washington would order so much military might brought together and not do something."⁷

(U) In the Detroit News for 20 April 1972, Col. R. D. Heinl, Jr. USMC (Ret) considered the possibilities of a mining campaign against the port of Haiphong in an article, "Mines Deemed Best to Seal Off North Viets Ports".

⁶ Stanley Karnow, "President's Move Long Urged by Military, Fought by Others," Washington Post, Vol. SCV No. 156, Washington, D.C., Tuesday, May 9, 1972, page 15.

⁷ George W. Ashworth, "U.S. Mulls Viet Options," Christian Science Monitor, Boston, April 13, 1972, page 3.

~~CONFIDENTIAL~~

UNCLASSIFIED

(b) "For the expenditure of 200 or 300 aerial mines, with perhaps 50 air sorties, it would appear theoretically possible to mine - and completely shut - the three North Vietnamese ports....., laying all mines inside Hanoi's territorial waters so as to constitute no hazard to passing international shipping."⁸

(b) As a further example, the New York Times carried the following on 3 May:

"What then will Mr. Nixon do? This is the question that is being debated in Washington these days, and the answer may very well determine the outcome of the war and influence the Presidential Election in November."⁹

(b) Finally, the following quote from another Heinl article, although published after the mining, indicates that the communist side had also done some thinking about a possible mine campaign.

(b) "Less than three weeks ago, a high North Vietnamese diplomat is known to have told an East European colleague: 'If the Port of Haiphong is mined, we will lose the war and the fruits of our 25-year struggle.'"¹⁰

What Were the U.S. Options?

(b) Late April and early May of 1972 confronted U.S. National Authorities with a dilemma. What action could be taken against the NVN overt invasion of SVN that would:

- Be effective in halting the NVN forces
- Not provoke open hostilities on the part of the PRC and the USSR
- Be in substantial compliance with international law and custom
- Be acceptable to the war opponents in the U.S.
- Be feasible of execution with forces available
- End the war on acceptable terms to the U.S., and
- Bring the POWs home.

(b) The total resources of the United States were capable of executing a very broad spectrum of military actions which would meet one or more of the conditions listed above. Some of these actions are listed below in order to show the range of choices that might have been considered:

⁸ R. D. Heinl, Jr., "Mines Deemed Best to Seal Off N. Viets Ports," Detroit News, Detroit, April 20, 1972, page 27.

⁹ James Reston, "Nixon's Hardest Decision," New York Times, New York, May 3, 1972, page 4.

¹⁰ R. D. Heinl, Jr., USMC (Ret), Armed Forces Journal - June 1972.

~~UNCLASSIFIED~~

- (b) - Nuclear attack on NVN forces or installations
- Re-insertion of U.S. ground combat forces
- Amphibious assault in the southern part of North Vietnam
- Increased heavy bombing of the NVN homeland including destruction of the Haiphong/Hanoi complex
- Naval blockade or quarantine
- Use of sea mines to stop the flow of sea-borne supplies to the invading armies.

(b) Apart from other advantages and disadvantages which could be enumerated for each of the above options, it can be seen that all but the use of sea mines involves a direct confrontation between the U.S. weapon or force and a unit or person on the other side. Bombs of any type destroy material and people who are on target; ground forces must meet opposing forces to be effective; Naval blockade involves ultimately the meeting of naval and merchant ships - however peaceable - and furthermore raises questions of international law. The mine, on the other hand, even when deployed, is a completely passive weapon unless challenged by a target, and no one is killed nor is property destroyed by the planting of a minefield. A minefield can serve as a de-escalating factor, since it may serve to separate forces which might otherwise make contact. Mines serve, because of the clear-cut threat which they represent, as a concise statement of the users' intent.

(b) Their use in the Haiphong and other port approaches, for instance, would signify that the U.S. intended to stop any further sea-borne logistics support of the NVN war effort.

(b) The Strategic Bombing Survey stated the case for the mine particularly well under the heading, "The Mine - An International Peace Weapon":

(b) "Although no particular incident in the war (World War II) brought attention to the fact that the threat of mines can be a powerful influence in settling international disputes, there were numerous indications which would lead to that general conclusion..... The possible future use of aerial mines in settling international disputes should therefore not be overlooked. Mines can be dropped so as to produce a blockade effect without actually resulting in direct harm or bloodshed to the local populace. The economic effects of such a blockade might well assist settlement of disputes without combat."¹¹

¹¹ "The Offensive Mine Laying Campaign Against Japan," United States Strategic Bombing Survey, Washington, D.C., Reprinted Hdqtrs. Naval Material Command, 1969, pg. 11 (Originally Published by Naval Analysis Division, November 1946).

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Was There An International Agreement?

(U) The possibility that there was an agreement among the three powers - USSR, the PRC, and the U.S. - which would allow the U.S. to make an overt military move in an effort to bring the war to an end was discussed in the press both before and after the mining took place. It is not the purpose of this history to attempt an analysis of the political moves which preceded the mining. It is of some interest, however, that both the USSR and the PRC, who were the principal suppliers of the logistics support moving through the port of Haiphong, chose to respect the mine-field, made no significant effort to counter it or to provide the means with which it could be countered, and did not retaliate in any overt manner.

(U) Mr. Victor Zorza, writing in the Washington Post on 3 May 1972,¹² presents a viewpoint on a political arrangement among the superpowers that would bring an end to the war. The mining could have been a means devised to convince the NVN that they should come to terms. After the mining, Mr. Ray Cromley, writing in the 11 May 1972¹³ Washington Daily News, also discusses an agreement in which the USSR and PRC accepted the mining in return (inter-alia) for a guarantee of continued U.S. troop withdrawals.

(U) Testifying before the House Appropriations Sub-Committee on Foreign Operations on 16 May, Secretary of State W. P. Rogers discounted rumors that Presidential Advisor Henry A. Kissinger, to avoid a confrontation, gave the Soviets advance warning of the bombing and mining.¹⁴

(U) There has been no authoritative indication that a prior agreement on the U.S. mining had been reached with the PRC and/or the USSR.

¹² Victor Zorza, "Vietnam Deal in the Making", Washington Post, 3 May 1972.

¹³ Ray Cromley, "3-Way Deal?", Washington Daily News, Vol. LI, No. 160, Thursday, May 11, 1972, pg. 31.

¹⁴ "Retaliation for Mines was Eyed", Washington Post, Saturday, September 9, 1972, Page A-9.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Chapter 2 - PLANNING THE OPERATION

- Chronology
- Review of the Assets
 - Forces
 - Weapons
 - Operational Readiness
 - Plans Available
 - Mine Field Planning Folder 21
 - Subordinate Plans
 - Rationale and Risks
 - International Law Considerations
 - Hague Convention - UN Charter
- Sequence of Planning
 - First Recommendations
 - Developing the Plan
 - Operational Risks
 - OJCS Role
- Steps to a Decision
 - WSAG, President, Nation Security Council
 - Alerting Message to CINCPAC
- The Execution
 - Execute Message to CINCPAC
 - Presidential Announcement
 - Complying with the Hague Convention
 - Informing the UN
- Why Mining in May 1972 and Not Sooner

~~UNCLASSIFIED~~

UNCLASSIFIED

CHAPTER 2

PLANNING THE OPERATION

(U) As discussed in Chapter 1, the invasion of SVN by 13 of the 14 known NVN combat divisions presented the United States with a dilemma: How to stop the invasion; save the SVN nation from communist takeover; bring about the U.S. withdrawal from a war which was unpopular with a substantial number of the American people; and bring the POW's home.

(U) The mining of Haiphong, considered many times during the long war, was first being considered as a possible course of action at this critical point in the war during the first week-end in April 1972.

(U) A late-evening, week-end phone call from the senior aide to the CNO to Captain W. W. Lasley of the OPNAV Mine Warfare branch asking for some information on "Mine Blockades" was the first indication to the working level mine warfare types that mining was being considered. Lasley was cautioned to "tell no one."

(U) It is interesting that among other documents provided by Captain Lasley to the CNO's office was a report of the Strategic Bombing Survey on the offensive minelaying campaign against Japan in 1945. A Cdr. Thomas H. Moorner, USN, had participated in the compilation of the data on mining for the Strategic Bombing Survey..

(U) Captain Lasley told no one, as he had been ordered. However, Monday morning his alert secretary, in checking the office safe security records, noted that the mines safe had been opened and shut again at an odd hour during the week-end. "Are they going to mine?", she queried Captain Lasley.

(U) Detailed planning for a mining operation at a high level and on a very close hold basis started about 23 April 1972 with the Chairman of the Joint Chiefs of Staff, Admiral Thomas H. Moorner, USN, playing the prominent role, a role which reflected his early connection with and respect for mining as a weapon of warfare. The final decision to mine the North Vietnamese ports was made by the President at a meeting of the National Security Council on 6 May 1972.

(U) This chapter will trace the beginnings of the mining proposal and follow the development of the order which resulted in the Haiphong minefield. A brief chronology of key events is included for reference.

the Secretary's name was Mr. Barbara Clark

UNCLASSIFIED

CONFIDENTIAL

MINING CHRONOLOGY

- (10) 30 March 1972 - NVN invasion of SVN
- 31 March - 1 April - First consideration of mining
- 4 April - First recommendation for mining presented in WSAG
- 23 April - CINCPAC specific plan for mining received
- 4 May - First planning of mining with President
- 6 May - President approves mining at meeting of National Security Council
 - Alerting message to CINCPAC
- 8 May - 1437 EDT Execute Message to CINCPAC
 - 2100 EDT Presidential announcement in Washington; Mines fall in Haiphong Ship Channel
- 10 May - Nine Ships depart Hong Kong
- 11 May - Minefield becomes active
 - Mining campaign extended to other ports
- 25 May - Defense Department reports all 20-25 ships enroute NVN have changed course.
- 4 June - Strauss Incident
- 17 July - Warrington Incident
- 4 Aug - Solar storms deplete DST fields
- 11 Sept - First ~~DST 364~~ seeded *magnetic/seismic*
- 23 Oct - Stand down from mining north of 20th parallel
- 18 Dec - Mining renewed
- 14 Jan 1973 - last mine dropped

WAG (10) 1 The WSAG (Washington Special Action Group) *WAG* is a crisis management group that ~~meets~~ *WAG* only for that purpose. The membership of the WSAG ~~is~~ *was* the same as the Senior Review Group of the National Security Council. The WSAG developed out of the Senior Review Group's authority to form Committees to review interdepartmental papers and issues to determine if they ~~are~~ *WAG* worthy of NSC or Presidential considerations. Among the members of the NSC Senior Review Group ~~are~~ *WAG* the Chairman of the Joint Chiefs of Staff, the assistant to the President for National Security Affairs, and the Deputy Secretary of Defense.

REVIEW OF THE ASSETS

(U) Mining was being considered at various military levels. For instance, in response to the military situation, a crisis management group had been formed within the office of the CNO under the direction of the Director of Command Support Programs (OP 094). In addition to other functions, this group prepared a list of new initiatives which could be taken to counter the NVN invasion or to improve the capabilities of those U.S. Naval Forces which were bombing and shelling the NVN lines of communication. One of the initiatives listed was the use of mines to halt the seaborne logistic support for the NVN invaders.

(U) Similarly, mining as a course of action was also being considered by the office of the Joint Chiefs of Staff and by the staffs of the Commander in Chief Pacific and Commander in Chief Pacific Fleet. CINCPAC submitted a list of options which included mining.

(C) To give more impetus to a mining recommendation, the CJCS, about mid-April, realizing that events might have brought about a climate favorable to mining, asked CINCPAC to submit a recommendation for mining Haiphong. The CINCPAC recommendation was received about 23 April.

Assets available for any mining effort were as follows:

Forces

(U) CTF 77 in the Gulf of Tonkin had four CVAs² available. Supporting cruisers, frigates, and destroyers were also available for any mining task force operation. Chicago (CG 11) and Longbeach (CGN9) with their Talos missiles and several other missile-equipped ships were available and could form the nucleus of a missile umbrella to protect a mining force from any MIG counter-attacks. In addition to these units, two more carriers - Saratoga and Midway - had orders to deploy from CONUS to join TF 77 in the GOT. They were to sail in mid-April and were expected on-the-line in early May.

(U) There were aircraft capable of mining either by using conventional MK 55/MK 52 mines or MK 36/MK 40 DSTs. Included were A4s, A6s, and A7s.

Submarines capable of laying mines were available to the Commander of the Seventh Fleet but the shallow nature of the Haiphong target area combined with the capabilities of the submarine-laid mines available did not make this a feasible method to plant mines at Haiphong.

² Constellation, Coral Sea, Hancock, KittyHawk

CONFIDENTIAL

(c) No surface mine-layers were available, and the target area characteristics did not make it a suitable surface minelaying target. Conceivably, had suitable modification been made to the mines, high-speed craft such as PTF's could have planted mines in the outer Haiphong channel, but the operation would be hazardous and the effectiveness of the minefield questionable.

Weapons

(c) As the first discussions on the mining were circulating in the Pentagon, the mines available in the Gulf of Tonkin were MK 52's and DST MK 75 Kits for converting MK 82/MK 83 bombs to Destructor (DST) mines on the Coral Sea, which had been designated the ready mining carrier by CTF 77. Ever since the mining operations of 1967, the Seventh Fleet had maintained a ready mining carrier on Yankee Station. Coral Sea reported that she would require 12 hours' notice to respond to any order to lay mines. No mines were aboard the other carriers present in TF 77, but DST MK 75 Kits were available on the other carriers. Ships of the Seventh Fleet mobile logistic support force (MLSF), including CAMDEN and PYRO, had both MK 52 mines and DST kits aboard. It was estimated that the other CVAs could be ready to mine 48 hours after receiving mines from the MLSF.

(c) The weapons immediately available gave the option of using magnetic influence MK 52-2, pressure-magnetic MK 52-3, and the magnetic influence DST MK 75-MOD 1,2,3, kits. Once the designated MK 52 mines were received aboard the CVA, no changes in the influence mechanism, in the various settings available, or in the ship count, sterilization, or arming times were possible. These were set at the mine depot (Subic Bay) in accordance with the mine setting sheets from the Mine Field Planning Folders. All MK 52 mines arm at 18 feet of water. DSTs' settings can be made on board, and they arm at any depth. In the Haiphong area, depth of water is very significant.

(c) Other firing mechanisms for the MK 52 series were available in WESTPAC depots, and it would be a relatively simple matter to deliver any type desired to the ready carrier. There were, in addition, over 3000 DST MK 75 MOD 3 Kits available in the WESTPAC area on 1 May. About 19000 MK 75 MOD 1, MOD 1A, and MOD 2 Kits were also available. A seismic/magnetic mechanism for the DST had completed development at NOL and only awaited funding to go into procurement. In addition, other mines were available in WESTPAC as listed below:

MK 55 - Same firing mechanisms as MK 52 but with larger explosive charge

MK 56 - (Moored, Magnetic/Air Laid)

MK 57 - (Moored, Magnetic/Sub Laid)

2-5

These were set at the Mine Depot (Subic Bay) in accordance with predetermined mine setting sheets from the formal minefield plans. All MK 52 mines had a single pre-set arming depth that could not be changed. DSTs armed at any depth. In the Haiphong area, the depth of water is a significant factor in planning a minefield.

(S) MK 27 - Mobile Sub Laid Bottom mine - mostly magnetic firing mechanisms) - they bear the head.

(S) MK 82 and MK 83 bombs, though being used extensively in the stepped-up interdiction and close support bombing, were also available in adequate supply for conversion to DST's. There were also stocks of the older (World War II) MK 25 and MK 36 mines as well as MK 53 moored sweep obstructions.

Personnel

(U) In the event of a mining operation, trained personnel would be needed for mine preparation (Mobile Mine Assembly Group teams), planning at various staff levels, aircraft loading personnel, and pilots familiar with mining techniques. A brief review of the situation with respect to trained people will enable the reader to judge the fleet's readiness to mine.

Mine Preparation

(U) There were MOMAG teams of 4 men on three of the carriers in WEST-PAC. A fourth team arrived on 11 April. These teams are headed by an experienced Petty Officer and are specialists in maintaining mines and preparing them for laying. DST preparation is also a responsibility of the MOMAG team. When not mining, the MOMAG personnel on a deployed carrier assist the CVA weapons handling personnel in normal aircraft loading duties. In turn, the MOMAG are assisted by the carrier personnel in mine and DST tasks.

(U) Only with a MOMAG team aboard is a CVA considered capable of preparing and handling mines and DSTs.

Staff Mining Personnel

(U) In the operational chain of command, there were officers with varying degrees of mine warfare experience available from the office of the Joint Chiefs of Staff (two officers with Mine Countermeasures training and experience but no mining experience) down through the Carrier Air Group staff, which had a mining officer who had attended a short course in mining at the old MINEPAC Headquarters in Long Beach. In the key billets in the Mine Warfare Office of the Chief of Naval Operations, there were three highly-qualified officers and one civilian with thirty years of mine warfare background. One officer was a graduate of the two-year mine warfare post-graduate course.

(U) COMINWARFOR staff had officers and enlisted men qualified in planning mine fields. One responsibility of the Force Commander was to assist the Fleet Commanders in Chief in designing mine fields world-wide and in assessing the effectiveness of the fields as planned. In fulfillment of this, COMINWARFOR was responsible for preparing and updating

* In the AFTERMATH OF the mine countermeasures buildup after the mine countermeasures problems of the Korean War, a postgraduate course in mine warfare was established. There were 23 graduates before the course was disestablished in 1960.

UNCLASSIFIED

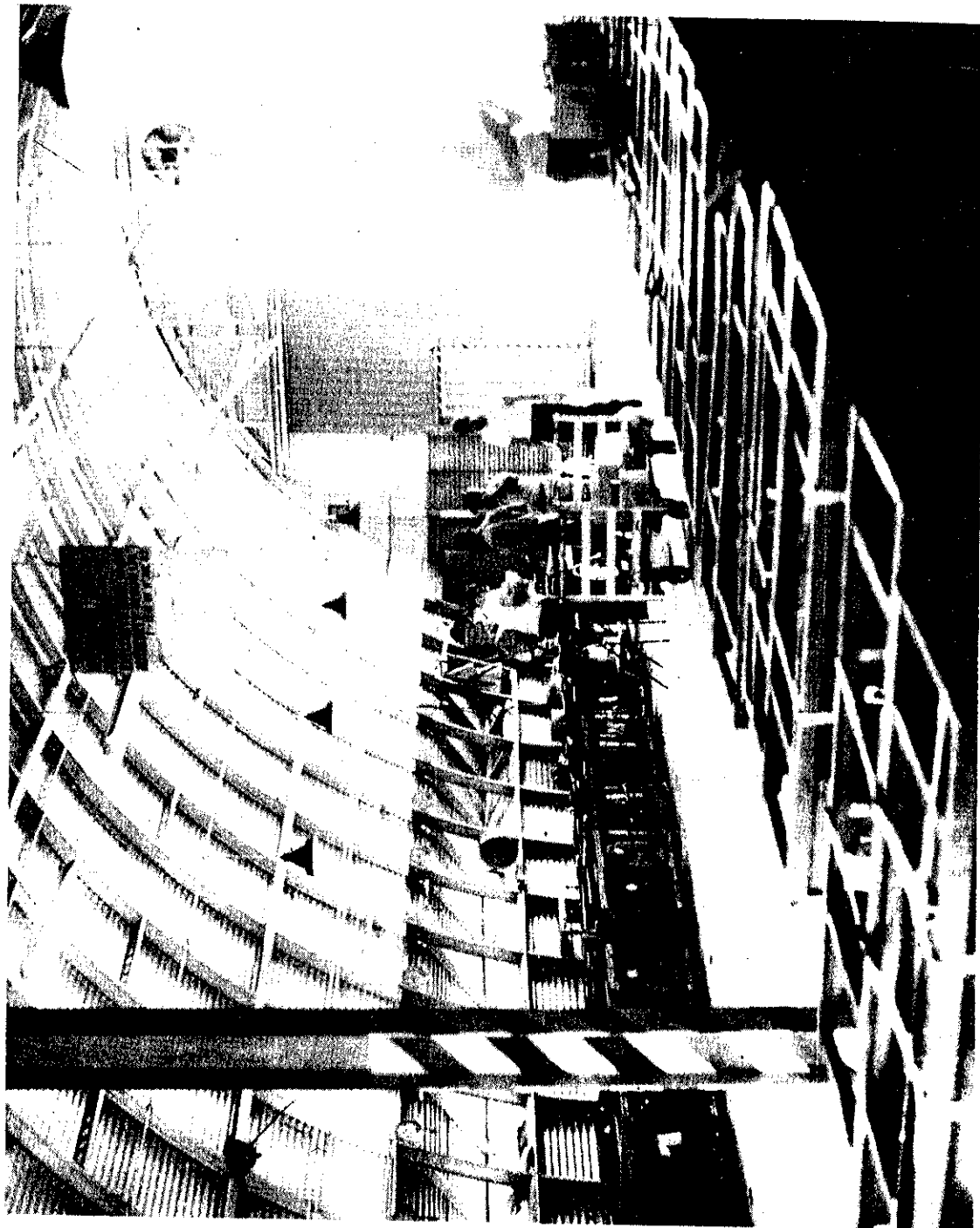


Fig. 2-1 - Mine Assembly Shop Subic

UNCLASSIFIED

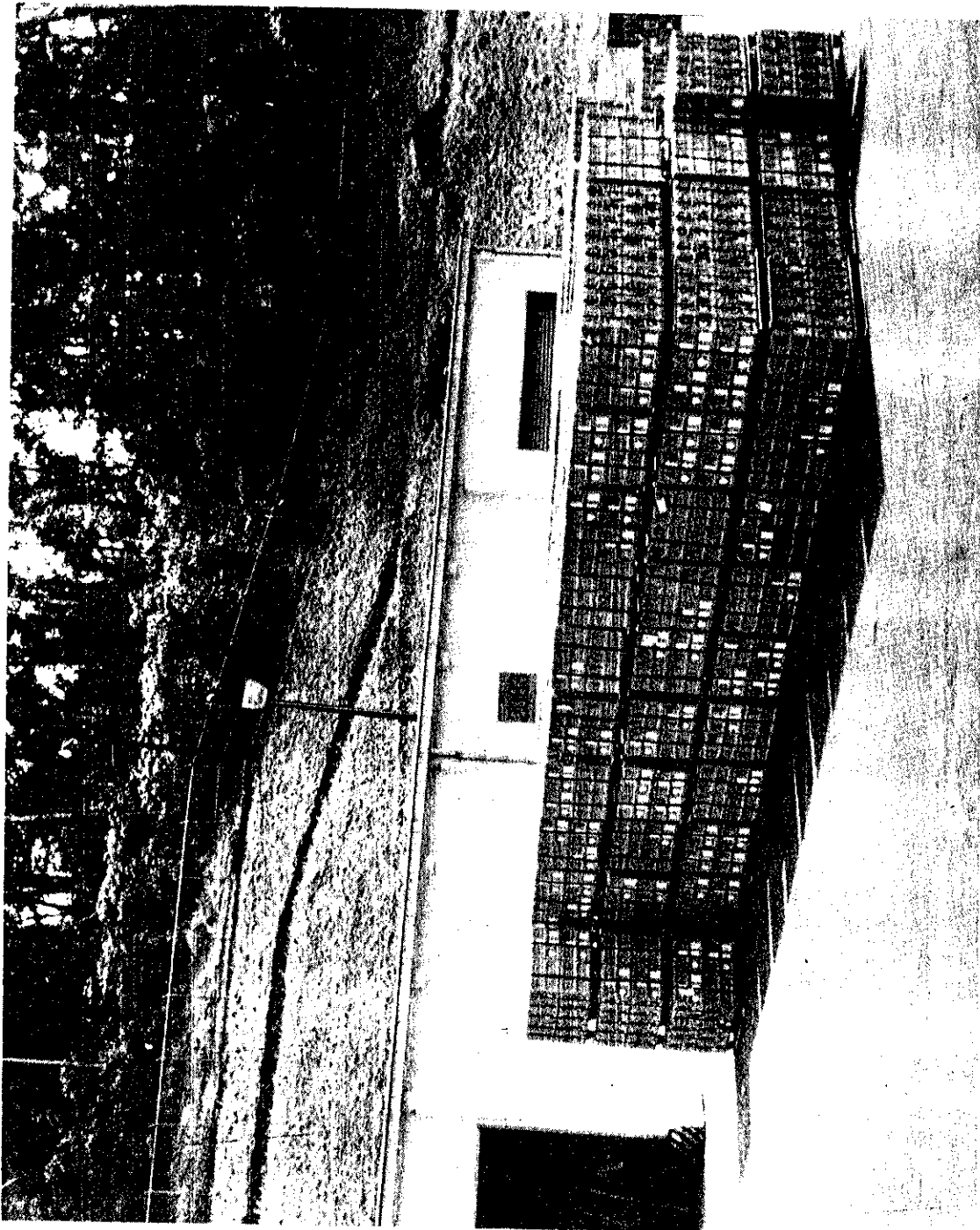


Fig. 2-2 - Naval Magazine Subic - DST Kit Staging Area

UNCLASSIFIED

~~CONFIDENTIAL~~

(U) ~~MINIMAPLANE~~ ^{WORD} the Minefield Planning Folder which was used for the mining. Assistance to the COMINELWARFOR planners was available from the Staff at the Fleet and Mine Warfare Training Center (FMWTC) at Charleston, where the curriculum for the Staff Officers Course had included, for years, a staff problem of mining Haiphong.

Operational Readiness

(U) Was the fleet ready to mine? The answer is a qualified "yes". The weapons were available in limited numbers, the ships and aircraft were on the line, and the only remaining factor was the state of operational training. The following information from a COMNAVAIRPAC assessment of 9 July provides an insight into the readiness of TF 77 to mine. ^{command}

(C) The air wing (Carrier Attack Wing 15 in Coral Sea) had completed mining evolutions during Weaptraex/ORI before arrival in WESTPAC and had conducted mining exercises as required by CTF 77 in Subic Bay after deployment. During the accelerated carrier deployment schedule, there was a gap in the carrier ORIs prior to deployment, but Coral Sea had been trained in loading procedures during the ORI/Weaptraex and in the Subic Bay minex evolutions. ^{#3} No training had been accomplished by the air crewmen in rigging the nose fairings on the mines because of critical supply problems with the fairings.

(C) At the operational level, among the pilots of the attack squadrons there had traditionally been a lack of enthusiasm for mining. There are no spectacular results in a mining mission to be seen immediately or even for weeks. Some DST's had been used by the air group on Coral Sea in the early spring of 1972, but these were planted in the inland areas as land mines and the Marine squadron VMA 224 had been assigned the task. Inland mining did give a slightly greater degree of satisfaction than sea mining because the FAC's would report trucks destroyed and other Battle Damage Assessment (BDA) information, and also aerial recon photos do reveal road and railway damage. For the sea and waterway mining there is generally no such measurable or visible return.

(C) In general, readiness to prepare and plant DSTs was present in all the carriers because of a much higher degree of familiarity with these weapons from previous heavy usage in SEASIA. The DST preparation and loading procedures were also, of course, very similar to those used for iron bombs with which all WESTPAC Carriers were very familiar.

~~COMNAVAIRPAC Serial 3112/0280 dated 9 July 1973~~

(U) ³⁴ On 11 May 1972, the Washington Post reprinted an article from the San Diego Tribune reporting that the mining operations in North Vietnam had been rehearsed in the sea approaches to San Diego a month earlier. This, of course, is not completely valid, but it is a fact that minelaying was a part of the ORIs and OREs for the attack squadrons being deployed and had been practiced off San Diego for years.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

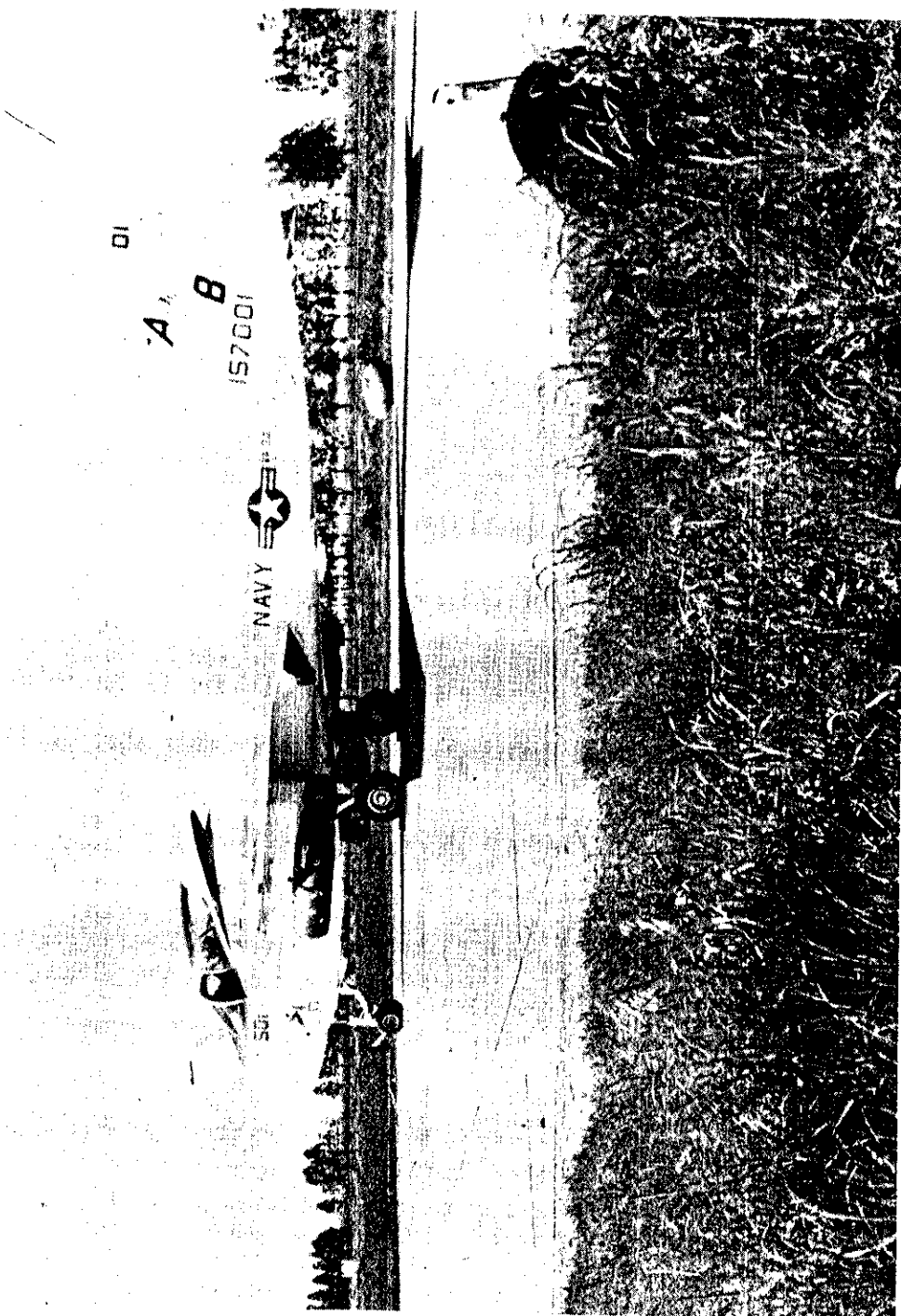


Fig. 2-3 - A6 with Mine Load (MK52) - Ready for Training Mission

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Plans Available

- (b) The ~~Operating Plans~~ ^{plans} for the major Unified Commanders, Commander in Chief Pacific, Commander in Chief Atlantic, and Commander in Chief Europe all contain provisions for the use of sea mines. The Navy component commanders in each case (CINCPACFLT for CINCPAC) ^{use} are responsible for mine field planning. COMINELWARFOR ^{was} charged with assisting in the design of and assessing the effectiveness of the planned mine fields. ~~The heart of this system of worldwide minefield planning is the Mine Field Planning Folder - one exists for each Strategic Mine Target area in the world. The MFPP which applied to the NVN area was #21. COMINELWARFOR prepared the Mine Field Planning Folders, which are essentially the mining op-plans for the Fleet Commander concerned and are available for immediate use whenever mining was required. Mines stored in overseas sites are in support of the requirement of the MFPPs.~~ ^{these prepared plans} ~~became the~~
- (c) Included in the ~~folder~~ ^{plans} are mine setting sheets (MSS) for each mine in the planned field. The MSS assigns a number to the mine and specifies the type of mine and the settings (arming delay, sensitivity, ship counts, etc.) for each mine. These settings ^{are} put in the mine mechanism by the depot and ^{are} not changed on board the carrier. Each ~~mine field folder~~ ^{mine plan} includes a number of different mine fields in a general area with each field assigned a number, starting with the digits of the ~~folder~~ ^{related to the} (i.e., mine field number 2104 was in the Hon Gai area of NVN - ^{Plan for that area} one of the fields in MFPP #21). A mine field might have several segments ^{designated} numbered A, B, C, etc. ^{Plan}
- (d) Accompanying each ~~Mine Field Planning Folder (MFPP)~~ ^{plan} ~~is a delivery folder which is keyed to the minefields in the folder.~~ ^{was} ~~The Delivery Folder, prepared by Fleet Intelligence Center, Pacific in the Pacific area, contains intelligence information about the target area which assists the delivery units in determining the tactics, courses, and identification features necessary to carry out the operation. It also contained, in the Pacific area, flight plans which showed offset points, mine positions, and spacing which could be used to plant the fields. In the case of Haiphong, the information in the folders had not been updated to reflect the latest target defenses, and, for this reason, the delivery folders proved to be of limited usefulness to the planners at the operating level.~~
- (e) The ~~Mine Field Planning Folders~~ ^{plans} ~~were~~ ^{had been} updated in 1971 in order to reflect the changes resulting from purging the stock pile of obsolete mines and to incorporate the latest mine field planning techniques available from the establishment of the computerized Mine Field and Mine Countermeasures Planning System (MCMPS) which had been developed by Naval Command Systems Support Activity and Naval Weapons Lab, Dahlgren, Va., working with COMINELWARFOR.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Mine Field Planning Folder #21

then
(10) As it existed in early 1972, MEPE 21 had an issue date of 11 January 1971 ~~that~~ *the mine field plan for North Viet Nam* contained provisions for 21 separate mine fields ranging from Cam Pha, Northeast of Haiphong, to Dong Hoi, about 40 miles above the DMZ in southern NVN. In early April, the minefields planned for Haiphong, which are of the most immediate concern to this history, consisted of MK 52 ~~magnetic mines~~, MK 52 ~~pressure-magnetic mines~~, and DST 36s. In planning the May 1972 operations, the MK 52 ~~types were removed~~, *pressure-magnetic* mainly in order to eliminate the possible need for any pressure mine countermeasures clearance operations if U.S. forces ever had to sweep the mines.⁵ Later, as will be shown, the DSTs were removed from the initial lay of the Haiphong Channel due to arming delay time restrictions. The plan for the Haiphong channels had remained essentially the same for several years, and the CINCPAC plan submitted on 23 April was essentially the plan in the Mine Field Planning Folder. However, it had substituted the magnetic MK 52 ~~for the difficult-to-sweep pressure~~ *as it had been planned.* mechanisms ~~(MK 52-8).~~ *more magnetic*

the plans
(11) Folder 21 had Merchant Ships as ~~its~~ *the* primary target, which conformed well to the requirement to shut off the cargo ships carrying logistics support to the NVN forces. CINCPACFLT directed COMINELWARFOR to update the plans in MEPE 21 on 19 April 1972. ~~Basically, MEPE 21 was the CINCPAC/CINCPACFLT mining operation plan for all major ports in North Vietnam.~~

Strategic thinking → (12) Commander of the Seventh Fleet, in turn, had Com 7th Flt ~~Op Plan~~ *the planned* #121, a contingency mining plan, which provided for laying mine fields within the capability of the forces assigned to the area at any one time. ~~Op Plan 121 was based on MEPE 21.~~ At the execution level, CTF 77 had a standing operation order for a mining evolution. Carrier responsibilities were assigned in a rotating manner similar to the ~~Single Integrated Operation Plan (SIOP)~~ responsibilities. The specified carrier was required to develop plans to execute their segment of the operations under the provisions of the Op-order and to report their readiness to execute to CTF 77.

(13) 5 There were other considerations which played a part in the decision to eliminate the pressure mechanism. For instance, the planners considered that the mere act of mining would be sufficient to close the ports and that there was no reason to go with more complicated weapons. The planners also reasoned that the NVN would not force any mine field because of fear of blocking the channel with sunken ships.

~~6 COMNAVAFIRPAC Serial 3112/0280 dated 9 July 1973.~~

~~CONFIDENTIAL~~

CONFIDENTIAL

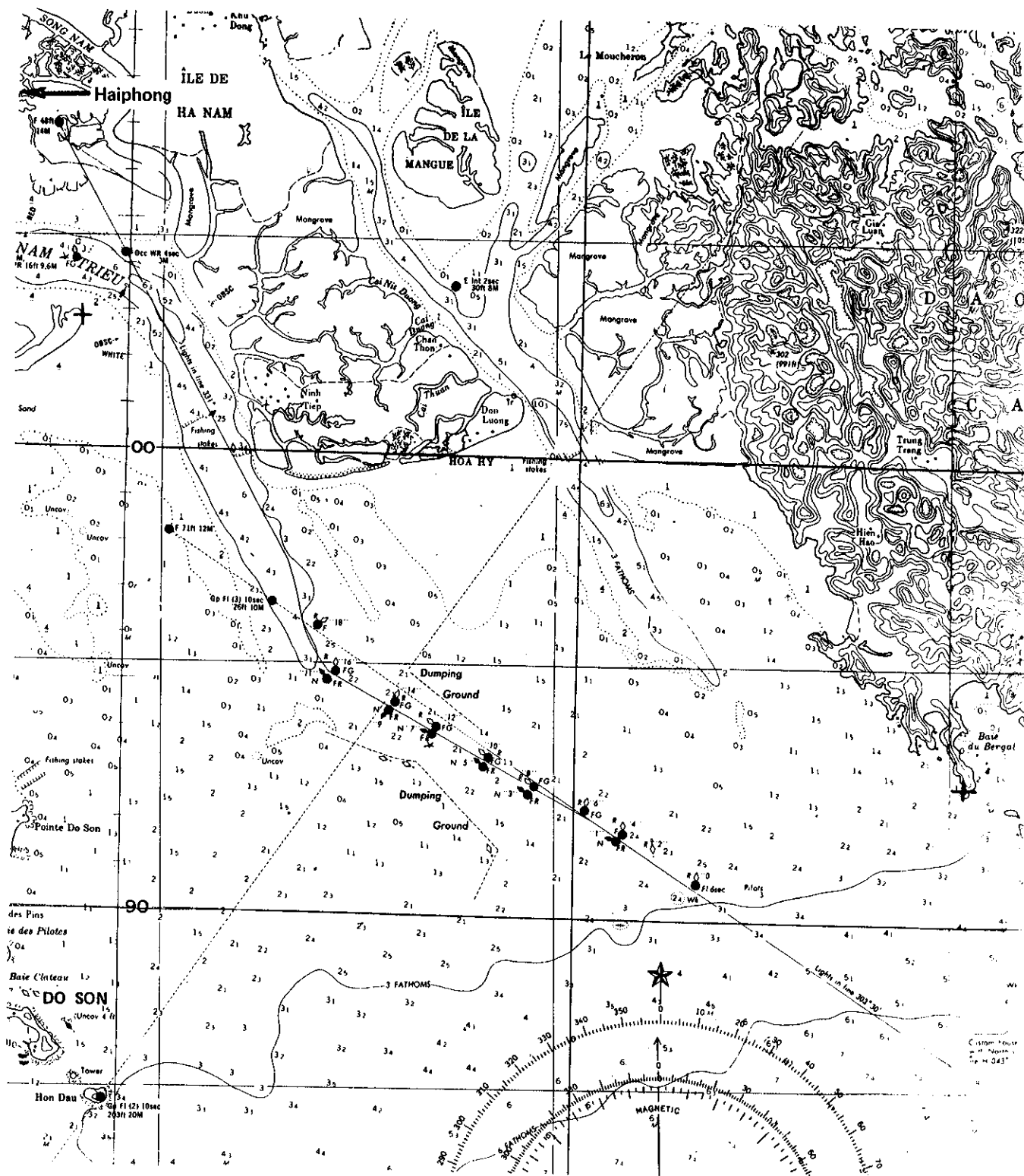


Fig. 2-4 Haiphong Approaches (Depth in Fathoms)

CONFIDENTIAL

CONFIDENTIAL

Carrier Air Ramp
(U) At the operating level, the planning was concerned with designing the flight sorties required to place the weapons specified in the ~~MFP~~ *REAMS* into the designated fields. This planning was normally accomplished by the CAG for approval at the Carrier Division level. Information in the ~~MFP~~ *Mine Delivery* folders was designed to assist the delivery planners in determining minelaying courses, ~~intervalometer~~ *mine spacing* settings, individual aircraft weapons loads, and offset points.

Rationale and Risks

(U) In reviewing the assets, it was also necessary to review the risks, rationale, and justification that would need to be discussed in presenting any mining proposal for approval.

What were the risks?

(U) The major risk for the U.S. was the danger of provoking either the USSR or the PRC into an open act of war against U.S. forces. A lesser corollary under the same risk heading would be that the USSR or the PRC would send minesweepers to clear the mine fields and thus create a dilemma for the U.S. national authorities as to what further action to take if the mining were to remain effective.

(U) Another risk was the danger of provoking an international incident by sinking or damaging a ship belonging to a neutral nation such as Poland.

(U) Testifying before the House of Representatives Appropriations Sub-Committee on Foreign Operations after the mining on 16 May 1972, Secretary of State Rogers stated in part, "The possibility of Soviet retaliation had been weighed but we decided that it was not much of a risk . . . We said we do not think they will want a major confrontation with us . . . the President and his advisors judged, rather, that good U.S. relations would be more important to the Soviets than would retaliation against the U.S. mining in North Vietnam . . . the Soviets wanted the May 26 Moscow arms limitation accords, trade, the Berlin agreement, and detente in Europe so they could concentrate on their problems with China. So their whole foreign policy is wrapped up in this and in order to carry it out, the summit and the relations with the United States are important."⁷

(U) ⁷ "Retaliation on Mining was Eyed", Washington Post, Vol. XCV No. 297, Saturday, September 9, 1972, Washington, D.C., pg. A-9. The same article added, "Nor did he believe that U.S. action would provoke future Soviet retaliation elsewhere.....or drive the Soviets and China closer together to continue providing arms to Hanoi....."

CONFIDENTIAL

UNCLASSIFIED

(U) On the domestic front, a mine campaign against the NVN ports was almost certain to provoke charges of war escalation and of risking the chance of widening the war. While the NVN invasion of SVN had produced no general expression of disapproval in the U.S., there appeared to be an opinion in some quarters that the NVN had openly broken the Geneva accords and therefore there might be an excuse for some U.S. action.

(U) Other opinion, although reaching the same conclusion as Secretary Rogers did, held that neither the USSR nor the PRC considered developments in North Vietnam so vital to their own national interests that they would confront the U.S. directly over an issue of mining Haiphong.

(U) In a factual sense, mining or any other military move by the U.S. or SVN forces could be considered as a reaction to the massive NVN invasion of SVN. If the NVN evaluated the risks associated with their overt assault, they must have concluded that public opinion in the U.S. would prevent a meaningful U.S. countermove or that President Nixon would not take any action which might jeopardize his forthcoming talks with the Soviet Union leaders. Both sides could recall the Soviet cancellation of earlier U.S./USSR Summit talks because of the U2 incident.

International Law Considerations

(U) Hague Convention:

Although the wording of the Hague Convention (#8 of 1907) on the use of submarine mines uses terms that are outmoded by modern mine technology (i.e., "automatic contact mines" have largely been superseded by the "automatic" bottom influence types) it does contain the only language in recognized international agreements devoted solely to the use of mines. Article 2⁸ of the convention makes it illegal "to place automatic contact mines before the coasts and ports of the enemy with the sole object of intercepting commercial navigation." Article 3 of the Convention provides that when automatic contact mines are employed, every possible precaution must be taken for the security of peaceful shipping. Article 3 could be complied with if the U.S. decided to mine. If required, a justification that would tend to indicate compliance with Article 2 could be that the traffic in and out

⁸ Higgins and Colombos, The International Law of the Sea, Second Revised Edition, Longmans Green & Co., London 1951 pg. 373-376.

~~UNCLASSIFIED~~

(U) of Haiphong was not of a commercial nature even though carried in merchant bottoms. It is a moot question in modern war with its absolute reliance on sophisticated logistics support as to whether or not there is any real difference between a warship and a supply ship carrying material which supports a war effort. In the Haiphong situation, the merchant ships carrying war material were of far more war-making significance than were the Swatow class gunboats of the NVN navy which might be patrolling these coastal areas.

Could mining be construed as a blockade?

(U) A maritime blockade is termed strategic⁹ when it forms a part of military operations against the blockaded coast or is intended to deprive the provisioning of the enemy's land forces in that blockaded area. However, the Common Law of Nations considers that the presence of ships is necessary for a blockade. Although mining in the case of Haiphong would fulfill the purpose of a strategic blockade, the classic definition of a blockade does not include the use of mines as the sole means of enforcement.

Could justification for mining be documented?

Article 51 of the UN Charter states:

(U) "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by members in the exercise of his right of self-defense shall immediately be reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary to maintain or restore international peace and security."

This would serve.

Summary

(U) In the spring of 1972, the U.S. Navy was ready to mine. Forces were in place; a choice of weapons was available; qualified personnel were assigned to key billets throughout the operational chain of command. Training had been conducted by operating units and they were ready to execute mining plans which were updated and ready.

(U) In the following sections, the sequence of events that culminated in the mining of NVN waters will be traced.

⁹Higgins and Colombos, The International Law of the Sea, Second Revised Edition, Longmans Green & Co., London 1951 pg. 373-376.

~~UNCLASSIFIED~~

UNCLASSIFIED

(U) On the domestic front, a mine campaign against the NVN ports was almost certain to provoke charges of war escalation and of risking the chance of widening the war. While the NVN invasion of SVN had produced no general expression of disapproval in the U.S., there appeared to be an opinion in some quarters that the NVN had openly broken the Geneva accords and therefore there might be an excuse for some U.S. action.

(U) Other opinion, although reaching the same conclusion as Secretary Rogers did, held that neither the USSR nor the PRC considered developments in North Vietnam so vital to their own national interests that they would confront the U.S. directly over an issue of mining Haiphong.

(U) In a factual sense, mining or any other military move by the U.S. or SVN forces could be considered as a reaction to the massive NVN invasion of SVN. If the NVN evaluated the risks associated with their overt assault, they must have concluded that public opinion in the U.S. would prevent a meaningful U.S. countermove or that President Nixon would not take any action which might jeopardize his forthcoming talks with the Soviet Union leaders. Both sides could recall the Soviet cancellation of earlier U.S./USSR Summit talks because of the U2 incident.

International Law Considerations

(U) Hague Convention:

Although the wording of the Hague Convention (#8 of 1907) on the use of submarine mines uses terms that are outmoded by modern mine technology (i.e., "automatic contact mines" have largely been superseded by the "automatic" bottom influence types) it does contain the only language in recognized international agreements devoted solely to the use of mines. Article 2⁸ of the convention makes it illegal "to place automatic contact mines before the coasts and ports of the enemy with the sole object of intercepting commercial navigation." Article 3 of the Convention provides that when automatic contact mines are employed, every possible precaution must be taken for the security of peaceful shipping. Article 3 could be complied with if the U.S. decided to mine. If required, a justification that would tend to indicate compliance with Article 2 could be that the traffic in and out

⁸ Higgins and Colombos, The International Law of the Sea, Second Revised Edition, Longmans Green & Co., London 1951 pg. 373-376.

UNCLASSIFIED

UNCLASSIFIED

(U) of Haiphong was not of a commercial nature even though carried in merchant bottoms. It is a moot question in modern war with its absolute reliance on sophisticated logistics support as to whether or not there is any real difference between a warship and a supply ship carrying material which supports a war effort. In the Haiphong situation, the merchant ships carrying war material were of far more warmaking significance than were the Swatow class gunboats of the NVN navy which might be patrolling these coastal areas.

Could mining be construed as a blockade?

(U) A maritime blockade is termed strategic⁹ when it forms a part of military operations against the blockaded coast or is intended to deprive the provisioning of the enemy's land forces in that blockaded area. However, the Common Law of Nations considers that the presence of ships is necessary for a blockade. Although mining in the case of Haiphong would fulfill the purpose of a strategic blockade, the classic definition of a blockade does not include the use of mines as the sole means of enforcement.

Could justification for mining be documented?

Article 51 of the UN Charter states:

(U) "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and security. Measures taken by members in the exercise of his right of self-defense shall immediately be reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary to maintain or restore international peace and security."

This would serve.

Summary

(U) In the spring of 1972, the U.S. Navy was ready to mine. Forces were in place; a choice of weapons was available; qualified personnel were assigned to key billets throughout the operational chain of command. Training had been conducted by operating units and they were ready to execute mining plans which were updated and ready.

(U) In the following sections, the sequence of events that culminated in the mining of NVN waters will be traced.

⁹Higgins and Colombos, The International Law of the Sea, Second Revised Edition, Longmans Green & Co., London 1951 pg. 373-376.

UNCLASSIFIED

CONFIDENTIAL

Sequence of Planning

(U) Although mining had been proposed and recommended on many occasions and at various levels in the military chain of command during the SEAsian Conflict, the sequence of events that led to the approval of mining after so many tries is of special interest to students of mine warfare history and will be traced here. It is of note that ~~U.S.~~ mine countermeasures capability considerations entered into the planning of the mine field itself. US Navy

(C) Seldom if ever, perhaps, have the details of mining been so carefully considered at such a high national command level. On the evening of 8 May, for instance, shortly before the President was to deliver the speech announcing the mining, the Chairman of the Joint Chiefs of Staff ~~10~~ called for additional detailed information on the reliability to be expected in the operation of the arming delay mechanism. The arming delay was a key political aspect of the mining plan because it gave those countries whose ships were in Haiphong an opportunity to have their ships depart safely within specified time limits as set into the arming delay.

First Recommendations:

(U) After the NVN invasion of SVN, mining was considered and proposed as a course of action at various levels in the military chain of command.

✓ (C) As cited previously, the OPNAV Crisis Management group listed mining as an option starting in early April. Other options proposed by CINCPAC, and others, included an overt show of loading out mines from the Naval Magazine at Subic Bay, SVN mining of Haiphong, destruction of the Haiphong navigation buoys, sinking ships in the channel, dropping mine-shaped ice blocks to simulate mining, and the dropping of objects in the channel to speed up the silting process. One proposal involved manufacturing mine shapes from a salt water soluble material (similar to the old mine-activating "soluble washers") which would slowly dissolve after planting. Civilian objections to this pointed out that the political objections to a fake mine would be just as great as for real

9-10 When the information was delivered to the CJCS, the Admiral said, jestingly, that if the data proved to be wrong and a departing ship was sunk, the donors of the information would be shot along with him.

CONFIDENTIAL

CONFIDENTIAL

(C) mines. The outward show of mining preparations was pursued but was stopped hurriedly when actual mining became a real possibility. Some other planning alternatives such as blocking the channel by sinking ships and the destruction of channel buoys by a SEAL operation were kept active as a cover for the mining.

(C) The Washington Special Action Group, meeting in almost daily sessions since the NVN invasion, was first presented with a mining recommendation on 4 April 1972. Mr. Kissinger and Adm. Moorer (CJCS) were both regular members of the WSAG, as was the Deputy Secretary of Defense. The WSAG considered matters which might later be scheduled for presentation to the President at National Security Council meetings. The CIA was also a member of the WSAG. (WSAG) 11/10 (NSC)

(C) It is of interest that the CIA requested and was given a special mine warfare familiarization course for a group of its personnel at the Fleet and Mine Warfare Training Center in Charleston, S.C., in late March 1972.

Developing the Plan

(C) MFPF 21, which was used (essentially intact) as the basis for the mining operation, was updated in April in response to a CINCPACFLT order. The total fields in MFPF 21 contained 100 MK 52 and MK 55 mines and 70 MK 36 and MK 40 DSTs. As the chances of mining Haiphong increased, attention was directed to various aspects of the Haiphong operation that were specifically pertinent to the existing situation. As examples:

(C) - Because mines were clearly being considered as a means to bring about an end to the war, the possibility of U.S. clearance (as a quid pro quo) could not be overlooked. On the recommendation of COMINWARFOR and others, the MK 52 pressure/magnetic mines were changed to the more easily swept MK 52 magnetic.

(C) - Silting in the Haiphong channel would be a factor, particularly if mines were left as a threat for a period of time. Magnetic mines would be more effective when buried in several feet of mud and silt than would acoustic or pressure types.

(C) 11/10 Mining was considered formally by the NSC. The President made the final decision to mine at an NSC meeting. The Chairman of the JCS presented the arguments in favor of mining. The JCS as a body did not participate in the April/May mine proposals or planning. Adm. Moorer, acting under special authority and with Secretary of Defense approval, presented a mining proposal to the Washington Special Action Group. The JCS were briefed after the initial mining.

CONFIDENTIAL

~~CONFIDENTIAL~~

critical to mine planning at both high and low tides.

Certain minimum depths

~~(c)~~ - Depths are critical when using the MK 52/55 series mines. ~~Eighteen feet of water depth~~ are required to insure that the hydrostatic arming device activates the mine. Channel depths in the Haiphong approach channel are ~~as low as 16 feet at low tide and only about 25 feet in places at high tide~~. Should the arming device extender mechanism be altered so that the mines would arm with more certainty? No changes to the extender were made.

~~(b)~~ - There were communist bloc ships in the Haiphong anchorages and specific restrictions existed on how close to such ships a mine or a bomb could be dropped. How would this affect the selection of the minefields to be planted? or the tactics of the minelaying aircraft?

~~(b)~~ - What mix of mines (and mine settings) would be the most effective for the specific situation in which these mine fields would now be used? The mix and the settings were changed to lay only a simple field to allow for ease of sweeping and for arming delay features as the planning developed.

~~(b)~~ Given the mine-laying capabilities present in Task Force 77 combined with the number of mines/DSTs immediately available in the area, which of the fields in the ~~MFPE~~ should be planted? The plans for the ~~Haiphong~~ fields had been prepared years before and dusted off periodically. No basic changes were made.

~~(c)~~ The externally-carried MK 52 mine restricts aircraft speeds, ~~to~~ ~~the~~ slow speeds plus the threat of SAMS, MIGS, and AA fire might make a night operation desirable. In addition, the mining carrier must be stationed closer to the target area than desirable because the high drag of the mines restricts the range of the aircraft. Would this affect the plan? The Task Force structured its disposition and operations to insure maximum protection to the mining aircraft and to the parent CVA.

~~(b)~~ The considerations discussed above plus many other facets of the situation resulted in changes being made to the fields and mines in ~~MFPE~~ *the plan*. The most urgent of these were made by informal means by message to CINCPAC from the JCS. Later these were formally entered into the ~~planning folder~~ *plans* by means of formal changes prepared by COMINELWARFOR and officially approved by CINCPAC/CINCPACFLT. As executed, the fields laid on 8 May included changes one through ~~five~~ *five* to the ~~MFPE~~ *original plans*.

~~(c)~~ These changes, among other things, substituted ~~the~~ *more easily* magnetic MK52 ~~mine~~ *plans* for the pressure/magnetic ~~MK52 mine~~. Later changes to the ~~MFPE~~ were concerned mainly with the addition of new fields.

Operational Risks

(U) The operational risks associated with mining were, with one major exception, about the same as for all carrier operations in the Gulf of

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

DECLASSIFIED

(U)

Tonkin. There would be, as usual, the possibility of a submarine attack against TF 77; the threat of MIG attack; the possibility of a surface-to-surface missile attack; or an attack by an air-to-surface missile. Although mining operations against the Hanoi/Haiphong complex by TF 77 might increase the chances of retaliation, the basic threats enumerated above had existed from the start of operations at Yankee Station.

(C) The one operational risk that was much greater in the mining operation was the vulnerability of the mine-laying aircraft to MIG, AA, and SAM attack due to the low speeds and low altitude necessary to press home a mining sortie. The externally-carried MK 52 mine slows the aircraft and makes it less maneuverable. The range of altitudes/speeds for accurate mine laying with the parachute-retarded MK 52 are from 200 feet at 180 knots to 45,000 feet at 550 knots. Below 500 feet, the mining aircraft need 1 foot of altitude for every knot of speed. Special precautions would be needed to protect the mine-laying aircraft.

OJCS Role in Planning

(U) Most of the impetus for the mining recommendation and the subsequent approval of the mining as the course of action came from the Chairman of the JCS. His major action officer was Cdr. Traweck in the Pacific Division of the Operations (J3) Directorate. Cdr. Traweck worked very closely with the Mine Warfare Branch (OP 325) and the Current Plans and Policy Branch (OP 601) in the Office of the Chief of Naval Operations concerning the technical and operational aspects of the mine field planning. For the highly detailed questions of mine performance, the OPNAV staff consulted with Mine Warfare Division of the Naval Ordnance System Command. Although some of the changes to the MFPF made in April and early May may have originated within the OJCS or even with the Chairman himself, the changes were staffed through Navy channels before being ordered.

DECLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

STEPS TO A DECISION

WSAG, President, Security Council

~~(S)~~ As noted before, the Chairman of the JCS presented a mining recommendation to the WSAG on 4 April 1972. Subsequently there were discussions on mining at various levels, including discussions with the President himself. Detailed planning on a military level proceeded at a high level starting about 23 April 1972 after the CINCPAC plan was received. However, it was not until 4 May that serious planning discussions of the mining option were conducted with the President. At that meeting, details of how the mining could be carried out, what announcements were necessary, and what timing was required were worked out. It was particularly stressed that no leakage of information to the press could occur.

~~(S)~~ The CJCS stated that he needed 48 hours' notice to get the mines in the water at a specified time. Since Task Force 77 was at sea and need have no press representatives aboard, the no-leak requirement could be relatively easily handled.

Alerting Message to CINCPAC

~~(S)~~ An alerting message was transmitted to the operational commander, CINCPAC, under a date/time group of 061600Z May 1972. The message had a limited list of addresses in order to minimize the chances of any security leaks. Pertinent passages of the message informed CINCPAC:

Lat 1108 on 6 May 1972

- That the message was an alerting order.
- That the plan to be executed was the CINCPAC submitted plan of 23 April to mine Haiphong. However, magnetic MK 52 mines were substituted for the DST's recommended by CINCPAC. (This was to allow a delay arming time sufficient for the ships to leave.)
- That mining would commence precisely at 0900H (Vietnam time) Tuesday 9 May. *(2100 Washington Time on 8 May)*
- That a 72-hour arming delay and 100-day sterilization period would be used.
- That 48 hours after seeding Haiphong, DST 36 weapons would be laid in 11 Hon Gai, Quang Khe, Vinh, Thanh Hoa, Cam Pha, and Dong Hoi.

~~(S)~~ ~~(S)~~ These first DSTs were set for sufficient arming delay time so that they would not become live before the original "3 daylight periods of grace" for the 9 May mines had expired. One of the major reasons for selecting the MK 52 for the original plant was the longer arming delay setting available.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

- That the mine fields would be reseeded to maintain them in an active state.
- That strikes would be conducted to suppress opposition to mining aircraft.
- That an Execute Order would Follow ~~X~~

~~(8)~~ Subsequent to the alerting order, further instructions were sent to CINCPAC which re-emphasized the need to insure that the mining mission was executed successfully and on time. These instructions included insuring that the attack force had an all-weather capability.

~~(8)~~ The mining option was considered at a meeting of the National Security Council. The Chairman of the JCS presented the case for mining and the President officially decided to mine at that time. The CJCS and the President were the only advocates of mining present. The President accepted the advice of his senior military advisor. ~~12~~ 12

12 ~~12~~ The meeting was held on 8 May. The CJCS had stated that he needed a decision to mine by 1400 EDT in order to be certain that the mines would be in the water at precisely 2100 that evening. The decision from the NSC meeting met that deadline. Although not a mining advocate at this time, later on Mr. Kissinger became a staunch supporter of mining. He also came to realize the negotiating lever potential of mine clearance.

2-22

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

THE EXECUTION

EDT Washington Time

Execute message to CINCPAC

(C) The JCS message ordering the execution of mining against Haiphong was transmitted on 8 May 1972 at 1431 (~~Date Time Group 081834Z May 1972~~). The mining was timed to start at 2100 EDT on the 8th of May (0900 NVN time on the 9th of May). The message to CINCPAC is quoted in part below:

"This is an execute repeat execute message. You are directed to initiate mining in accordance with instruction set forth in ref (A) (the alerting message)". It also told CINCPAC to make preparations to establish a notification line to warn shipping of the danger.

Presidential Announcement

(U) At 2100 EDT¹⁴, the President of the United States, speaking on National TV, announced the mining of Haiphong for the purpose of reducing the flow of war materials through North Vietnam and thereby impeding the NVN invasion of South Vietnam. It is interesting that those portions of the speech which announced the mining were heavily outlined on the President's script. He was not to read that portion of the script as written unless he received a cue from his aides that the mines had been laid. In announcing the mining, the President stated, "I have therefore concluded that Hanoi must be denied the weapons and supplies it needs to continue the aggression. . . . All entrances to North Vietnamese ports will be mined to prevent access to these ports and North Vietnamese Naval operations from these ports . . . Countries with ships presently in North Vietnamese ports have already been notified that their ships will have three daylight periods to leave in safety. After that time the mines will become active. . ."

(C) At the last moment, due to the impossibility of assuring that 100% of the mines' delay arming devices would arm at exactly 72 hours, the President's speech was changed from "72 hours" for the grace period to "three daylight periods."

Complying with the Hague Convention

(U) Shortly after the President's speech, Special Warning No. 42 ~~was~~ transmitted by the U.S. Navy Oceanographic Office (~~081834Z May 1972~~) warning all mariners of the presence of mines in North Vietnamese waters. Special Warning No. 42 stated:

"1. All mariners are advised that the United States has announced that, in full coordination with Republic of Vietnam, the internal and

(U) ¹⁴ The Congressional leaders had been briefed on the mining about an hour prior to the TV address. The USSR ambassador was also informed at almost the same time.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

claimed territorial waters of the Democratic Republic of Vietnam in and around the entrances to the Ports of Haiphong, Hon Gai, Cam Pha, Vinh, Quang Khe, Dong Hoi, and Thanh Hoa are being mined by the United States as a part of the collective defense efforts in response to the new armed attacks by the Democratic Republic of Vietnam against the Republic of Vietnam and the United States forces remaining in that country. The mine fields will be activated at 1100Z, 11 May 1972. Vessels transiting these waters after that date must do so at their own risks.

(b) 2. Additionally, all vessels are advised that the Naval and Air Forces of the United States and the Republic of Vietnam have been directed to take appropriate measures within the internal and claimed territorial waters of North Vietnam to prevent the delivery of seaborne supplies to North Vietnam.

(U) 3. The Naval forces of the Republic of Vietnam and the United States have been instructed to use their best efforts to insure that all vessels transiting the high seas in this area are notified by appropriate signals of the above-noted measures being undertaken within the internal and claimed territorial waters of the Democratic Republic of Vietnam."

(U) The special warning to mariners complied with Article 3 of the 8th Convention of the Second Hague Conference (1907) regarding the proper notice required in the case of laying mines. Although not required by international agreement, the U.S., in addition, established a notification line manned by U.S. and SVN Navy ships to warn shipping headed for North Vietnam of the mine peril. 254

INFORMING THE UNITED NATIONS ORGANIZATION

(U) The U.S. complied with one other important requirement of international agreement involved in the mining of NVN. Basing the justification for the mining on Article 51 of the UN Charter, which allows certain action to be taken in self-defense without Security Council approval provided the council is notified as soon as possible of the action taken, Mr. George Bush, U.S. Ambassador to the UN, delivered a 500-word letter to the UN Security Council within an hour after the President's speech.

~~14~~ ~~15~~ The notification line served its purpose. Several bloc ships were warned away by the ships on the line.

CONFIDENTIAL

~~UNCLASSIFIED~~

WHY MINING IN 1972 AND NOT SOONER

~~(b)~~ One might ask the question - why mining in May 1972 and not during the seven years of war previous to 1972? The mining of Haiphong had been advocated consistently since the start of active U.S. participation in the war in 1965. The reason probably is made up of a combination of circumstances:

- The NVN overt invasion in violation of the Geneva agreements which established at least some justification for a retaliatory move.
- The scarcity of U.S. combat options due to the troop withdrawals.
- A President willing to take the required actions to end a war.
- A chairman of the JCS who understood and appreciated mining and realized that the time had come.
- The urgent need to take some action to assist the hard-pressed SVN defenders.

These all helped to create an atmosphere favorable to a decision to mine.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Blank Page

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Chapter 3 - THE MINING OPERATIONS

- Haiphong Mission
 - Force Disposition
 - Mining Sorties
 - Press Coverage
- Mining Campaign
 - Weapons
 - Targets
 - LINEBACKER and Pocket Money Authorities
 - Life of the Minefields
 - Operational Strategy
 - WBLC as a Target
 - Planning Mine Fields for WBLC's
- Summary of the Mining
- Of Special Interest
 - Minefield Surveillance
 - Weapon Developments and Problems
 - Self Destruct MK 52
 - Packaged Flight Gear
 - DST Mod 4
 - Weapon Setting aboard CVA
 - Premature Explosions
 - MK 52 Flight Gear Failures
 - Technical Assistance
 - Enemy Countermeasures
 - Destroyer Underwater Explosions
 - Sun Spot Incident

~~UNCLASSIFIED~~

UNCLASSIFIED

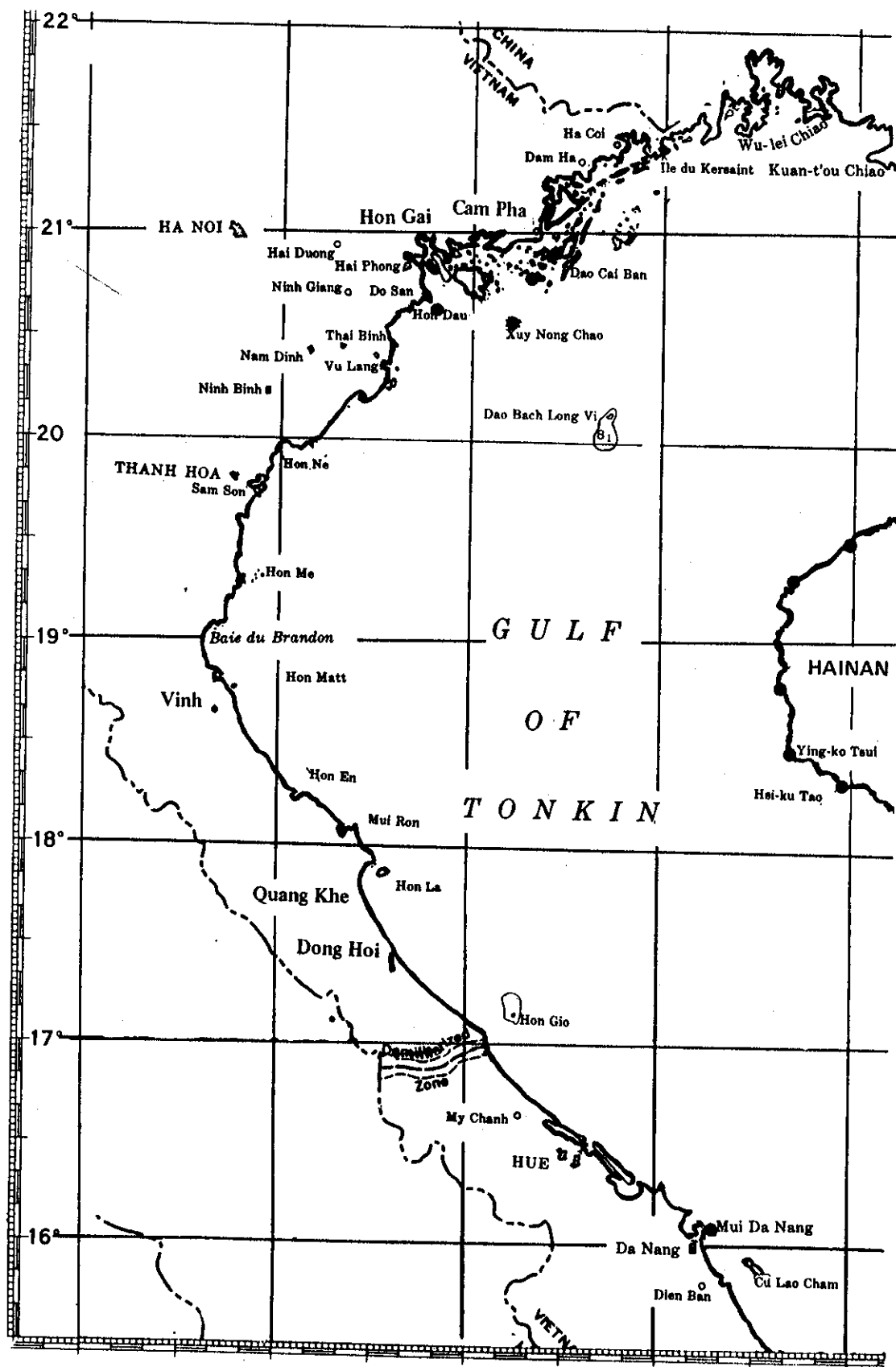


Fig. 3-1 - North Vietnam Operating Area

UNCLASSIFIED

~~CONFIDENTIAL~~

CHAPTER 3

THE MINING OPERATIONS

magnetic

(U) The initial operations set in motion by the President's decision to mine NVN waters laid 36 MK 52 mines in the Haiphong ship channel. This was the beginning of a mining campaign that planted over 11,000 destructors and 108 mines over the next eight-month period. On 9 May 1972, the Secretary of Defense dispatched a commendatory message to Admiral McCain, CINCPAC, and to the Pacific Fleet Naval Commanders who commanded the mining forces: "I just talked to the President and he asked me to personally convey to you his admiration and pleasure in the performance of our naval forces today in carrying out a perfectly executed mining mission. I add my own 'well done'. Also glad to hear you bagged a MIG in the process," signed Melvin Laird.

(U) The imminent prospect of peace brought an end to the mining in January 1973; in all probability, the mining played a significant role in bringing about that peace agreement.

(U) This chapter will describe the Haiphong operation in some detail, summarize the subsequent mining operations under both Linebacker and Pocket Money authorities, and describe in detail some of the more unusual aspects of the campaign such as the solar storm detonations and the Warrington/Strauss explosive damage incidents.

(U) As a matter of historical interest, it is noted that the mines laid in the Haiphong channels on 9 May were not the first mines to be laid in Haiphong by U.S. Forces. During World War II, after the Japanese had over-run Indo-China and were using Haiphong for an operating and logistics base, mines were planted there by a USN submarine and by U.S. Army Air Force aircraft. USS Grenadier planted 32 MK 12 magnetic mines in the approaches on 29 October 1942, and B-24 aircraft of the Fourteenth Air Force laid 28 MK 13 and 12 MK 26 mines during 1943 and 1944. According to the Strategic Bombing Survey, the Japanese finally abandoned the use of Haiphong for anything larger than junks for the duration of the war.

(U) After World War II, it was necessary for the U.S. Navy to conduct minesweeping operations in Haiphong, as was to be the case in this Haiphong mining also.

¹ "The Offensive Mine Laying Campaign Against Japan, "United States Strategic Bombing Survey," Washington, D.C., Reprinted Hdqtr. Naval Material Command, 1969, pg 11 (Originally Published by Naval Analysis Division, Nov. 1946)

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Haiphong Mission

magnate
(C) The might of TF 77 combined to plant 36 MK 52-2 mines in the Haiphong ship channel minefields during a 2-minute span on 8 May 1972 (Washington time). This was the culmination of weeks of planning and discussions at higher command levels. The first 36 mines were set to arm 72 hours after laying. This part of the operation might be called the political/diplomatic phase. One reason for using MK 52 mines on the initial plant, in which the arming delay was of paramount importance, was the longer arming delay selection available in the MK 52.

(C) At the Carrier Air Group level, planning for the mining operation had proceeded in an atmosphere of skepticism. Several times in the war years previous to 1972, preparations for mining had reached almost the launch stage, only to be cancelled. In May 1972 the skepticism prevailed right up to the time of the pre-flight briefing for the mining sorties. At that time, Commander Carrier Division Three, Rear Adm. H. E. Greer USN, addressed the pilots and aircrews briefly and stated that he was proud to be carrying out the mission. He spoke of the coming announcement of the mining in Washington. The skeptical attitude toward the mining sorties immediately changed and several switches in the pilot assignments were made as the more experienced pilots took over what had suddenly become a very important and demanding assignment. The eyes of the world were to be on the mining aircraft.

Force Disposition

(C) The tactics used by TF 77 to insure a successful mining are of major interest to a mine warfare history because the operation represents probably the largest and most powerful naval force ever dedicated solely to the laying of mines. The nature of the operation was extremely sensitive from both a military and political standpoint, and, in addition, the heavily-loaded delivery aircraft flying a low-altitude, level, and relatively slow approach were very vulnerable to NVN air defense measures - especially to MIG attacks.. Extensive precautions had to be taken to insure the safety of the aircraft and the successful and timely completion of the mining.

(C) Although mining was the name of the game on the morning of 9 May 1972 in the Gulf of Tonkin, air defense was the key to its success. To this end two CVA, two Guided Missile Cruisers, and ten Destroyer types were deployed to maximize the protection afforded the mining aircraft. In addition to the three A6A and six A7E mining aircraft, 150 air sorties were flown in support on such missions as fighter cover, bombing runs on SAM sites, diversionary air strikes, and ECM protection.

(C) On the morning of 9 May 1972, CTF 77 positioned his forces to carry out the mining mission as shown in Figure 3-1. USS Coral Sea (CVA 43), the mining carrier and the flagship of Comcardiv 3, was operating 100 miles SSE of Haiphong with USS Kitty Hawk (CVA 63), whose planes were to fly supporting missions for the mining, about 20 miles SW of Coral Sea. USS Hammond (DE 1067) was plane-guarding Coral Sea, and USS

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

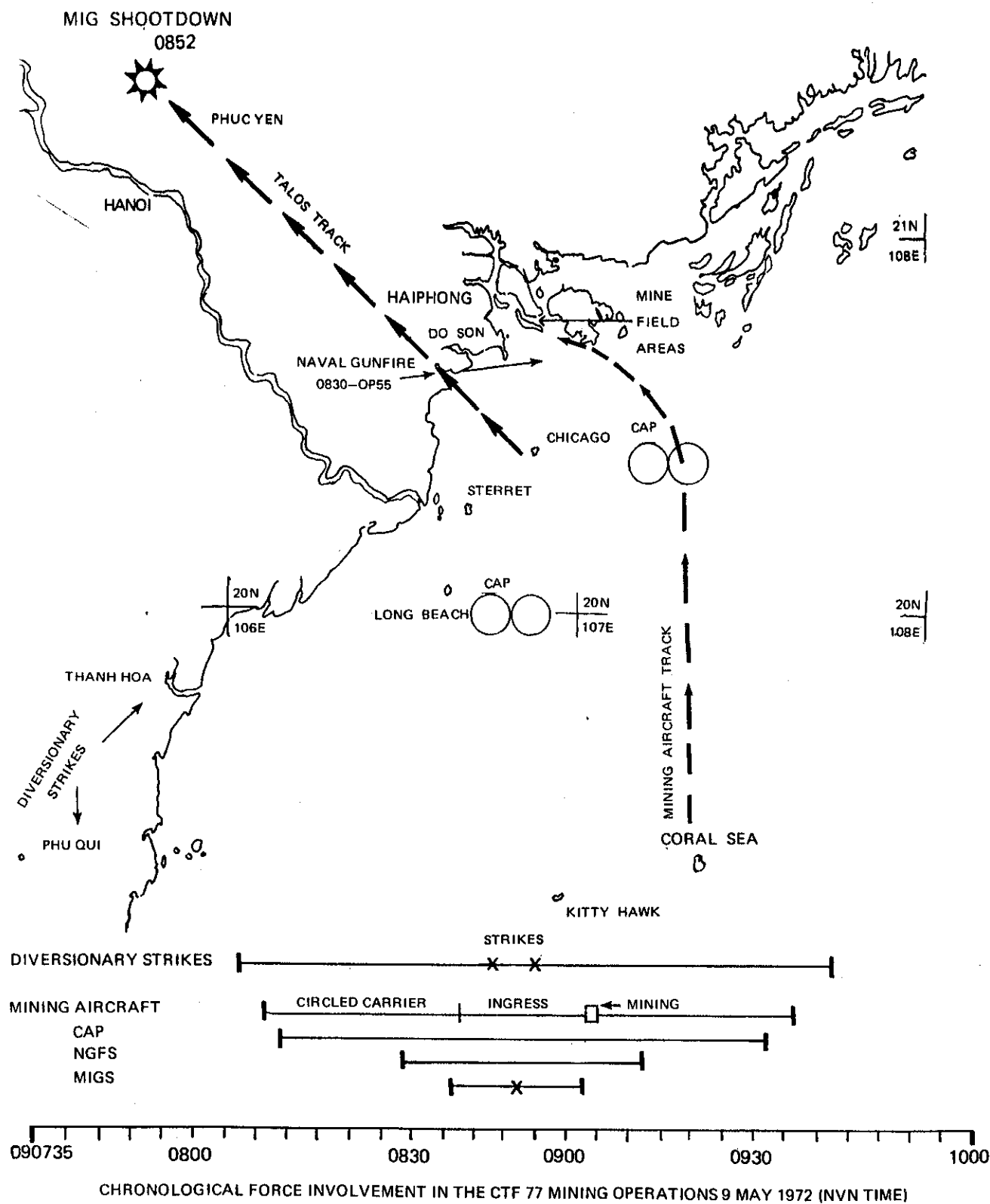


Fig. 3.2 - Force Disposition

~~CONFIDENTIAL~~

(C) Everett F. Larson (DD 830) was guarding the Kitty Hawk. In the key air defense stations between the carriers and the Haiphong/Hanoi complex were three missile ships on an arc from north to south, USS Chicago (CG11) (Talos), USS Sterrett (DLG 31) (Standard extended range), and USS Long Beach (CGN 9) (Talos). Chicago was stationed about 30 miles SSE of Haiphong. The cruisers were provided with destroyer escorts for added naval gunfire capability. Two CAP stations were occupied during the operation, both located between the missile ships and the carriers; one was out-board of Chicago under positive control by Chicago, and one was out-board of and under positive control of Long Beach.

(C) This force disposition placed the initial responsibility for air defense on the Talos and Standard missiles and left the skies clear of friendly aircraft (except for high-level surveillance missions and the mining sorties themselves) in the directions of the greatest threat to the slow-moving mining aircraft.

Mining Sorties

(C) Coral Sea launched the mining sorties at 0810 H. The three A6A and six A7E circled the carrier until about 0840 before starting their inbound run to the mining target. Meanwhile, other units of TF 77 were busy. Launching at about 0800, diversionary air strike groups from Kitty Hawk struck targets at Thanh Hoa and Phu Qui about 0845. A surface strike group consisting of USS Berkeley (DDG 15), USS Myles C. Fox (DD 829), USS R. S. Edwards (DD950), and USS Buchanan (DDG 14) fired 903 rounds of 5-inch ammunition in an attack on the AA and Coastal Defense positions on Do Son Peninsula about 6 miles west of the Haiphong channel from about 0825 to about 0855.

(C) As the mining aircraft approached the target, an estimated three MIGs departed Phuc Yen heading toward Haiphong. Whether the MIGs were headed for the mining A/C or for the naval gunfire strike group firing at Do Son is not certain, but at 0849 Chicago launched one Talos missile from the "A" rail of the forward launcher followed by a second Talos from the "B" rail at 0850. ~~The range to the MIGs from Chicago at that time was 48 miles.~~ One MIG was downed by a Talos at 0852. The other MIGs retired. ?

(C) The mining aircraft departed the vicinity of the Coral Sea at 0840 in order to execute the mining at precisely 0900 H to coincide with the President's announcement in Washington. The A-6 flight led by the CAG, Cdr. Roger Sheets, was composed of USMC aircraft from VMA 224 and was headed for the inner channel. The A7E's, led by Cdr. Len Giuliani and made up of aircraft from VA94 and VA22, were designated to mine the outer segment of the channel. The heavily laden mining aircraft approached the target area at approximately 300 feet altitude flying at 375 knots. As Haiphong channels came into view, Capt. William D. Carr USMC, the bombardier/navigator in the lead plane, noted how accurately the charts reflected the actual conditions. Even the fish weirs were in the right places. Others in the group noted the general lack of opposition to the flight and the quiet over the target. The very low altitude

Air Speed is CRITICAL For placing mines Accurately and without damage From low altitudes.

(C) made accurate tracking by the NVN ground radar difficult, and, in addition, allowed the missile ships to launch missiles at any aircraft flying above 500 feet approaching from the North or West. Furthermore, the minimum effective altitude for the enemy SA-2 Guideline Missile was about 500 feet. It was necessary for the A/C to pop up to the proper minimum altitude of ~~about 400 feet~~ to release the mines. (Air speed at altitudes below 500 feet determines the drop altitude possible, i.e., an approach at 300 knots permits a drop at 300 feet altitude and no lower.)

(C) The aircraft approached the Haiphong channel from the southeast. The three A6 sorties headed for the inner field flew fairly straight courses parallel with the channel (about 320° T), but the six A7E's laying the outer field were forced by the AA defenses on Do Son to fly at angles up to 90° to the axis of the line of buoys marking the outer channel. Each aircraft carried four MK 52² mines. Capt. Carr, flying with the CAG in the lead plane, timed the mine releases using his wristwatch, rather than trusting to the intervalometer* to drop the mines accurately. The first mine was dropped at 0859 H, and the last of the field of 36 mines at 0901 H. Twelve mines were placed in the inner segment and the remaining 24 in the outer segment.

(C) Figure 3-3 shows the Haiphong Fields. All MK 52² mines were set with a 72-hour arming delay, a 116-day sterilization time, and all set on ship count of one.

(C) All mines were laid within the territorial waters of NVN. Of the 36 mines laid, three failures to the retardation gear occurred, so that, possibly, only 33 of the mines were operable. One A7E load failed to drop on the initial pass. The pilot of this aircraft turned, flew the opposite course on the offset point, and dropped the mines on a reverse pass.

(C) No aircraft were lost in this initial mining operation. An estimated three SAM missiles were fired at the mining aircraft, with all three detonating 6000 to 8000 feet above the aircraft. Light anti-aircraft fire from batteries on Do Son was observed also, but no damage to the aircraft was incurred. Supporting electronic countermeasures and surveillance aircraft jammed numerous enemy missile control radar indications during the time the mining aircraft were airborne. Altogether, about 32 missile launch indications were intercepted but only three (estimated) missiles were fired. Back on the Coral Sea, the pilots showed enthusiasm for the mission's accomplishments and felt that they had contributed an effort of value to the war.

(C) The effective width of the inner channel is about 1000 yards. The three delivery aircraft for this field were able to fly courses of about 320° T, approximately parallel to the axis of the channel, and the assessment of the accuracy of the lay is that all of the 12 mines were laid in positions that constituted a threat to any shipping using the

* an intervalometer is used to Time the release of the mines from the aircraft to insure the specified spacing between the mines

CONFIDENTIAL

~~CONFIDENTIAL~~

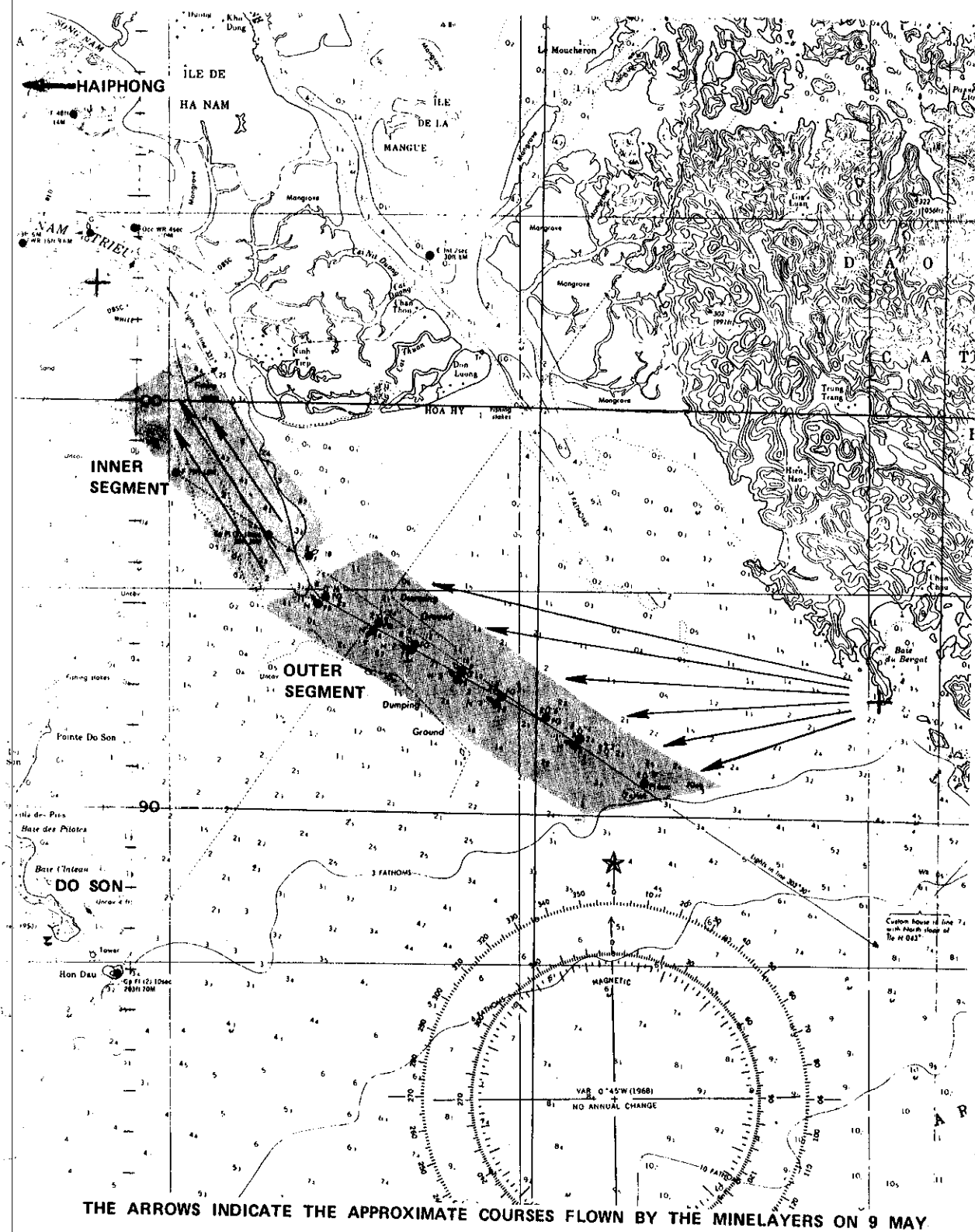


Fig. 3-3 Haiphong Mine Field Areas (Depth in Fathoms)

~~CONFIDENTIAL~~

~~UNCLASSIFIED~~

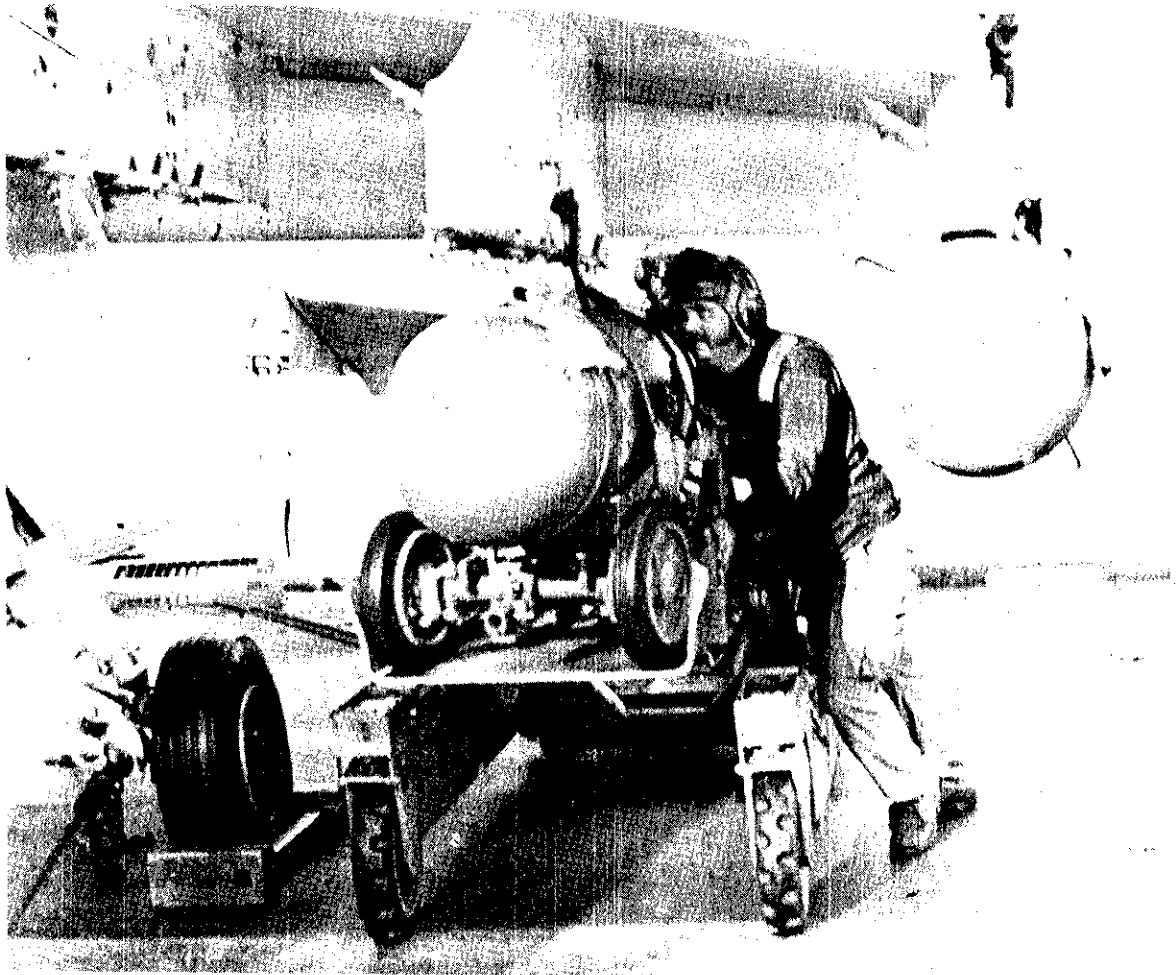


Fig. 3-4 Loading MK 52 Mines on A-7E aboard Coral Sea

3-9

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

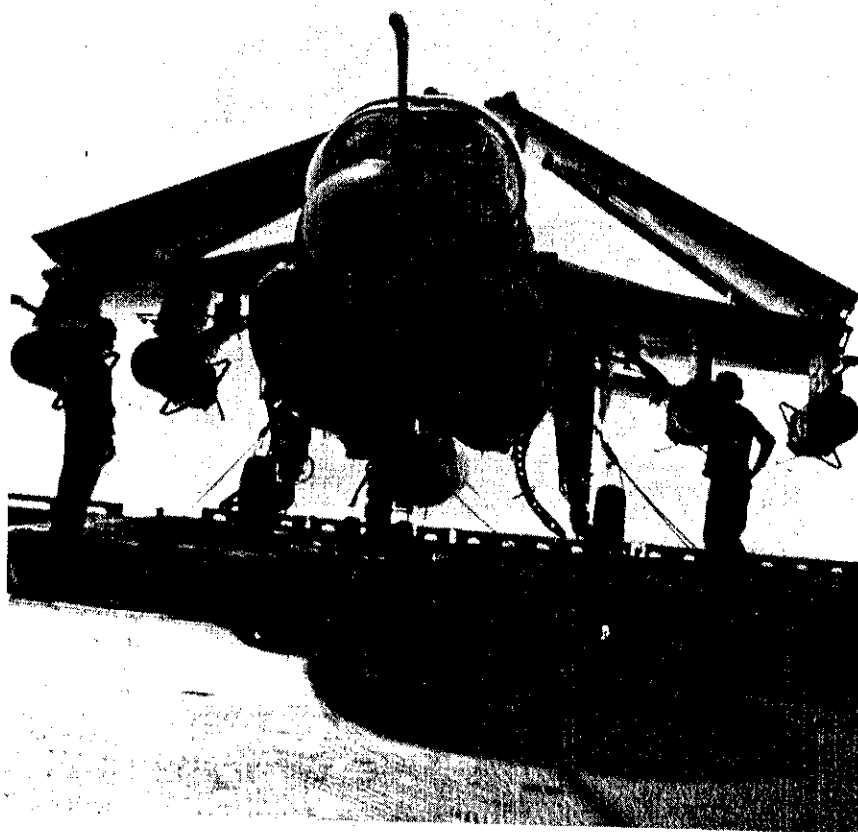


Fig. 3-5 - Marine A6E Loaded with Mines for Haiphong
waiting for take-off from Coral Sea

~~UNCLASSIFIED~~

UNCLASSIFIED

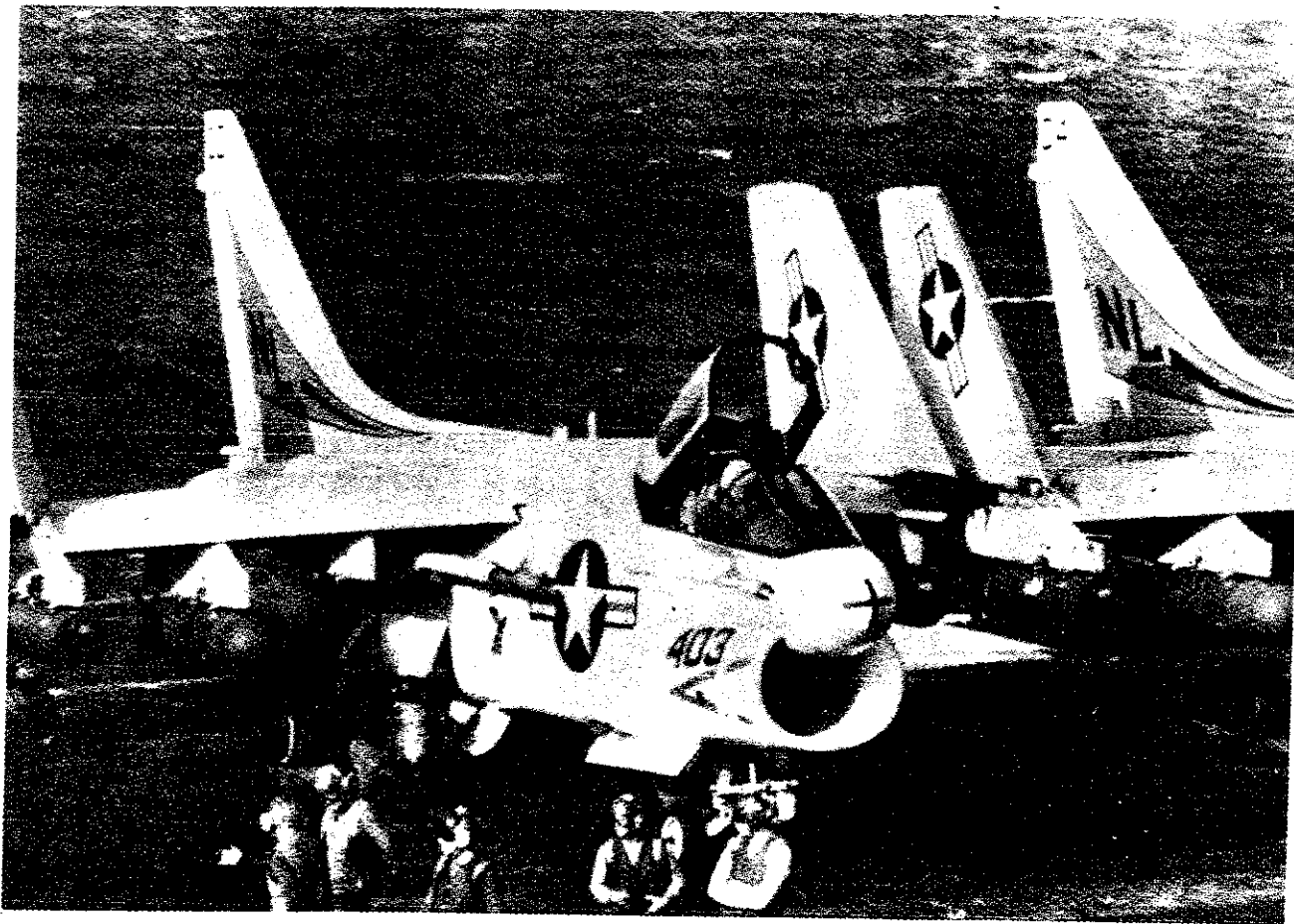


Fig. 3-6

A7E aboard Coral Sea readying for launching for Haiphong

Courtesy of D. J. Donovan, AT2, USN

3-11

UNCLASSIFIED

UNCLASSIFIED

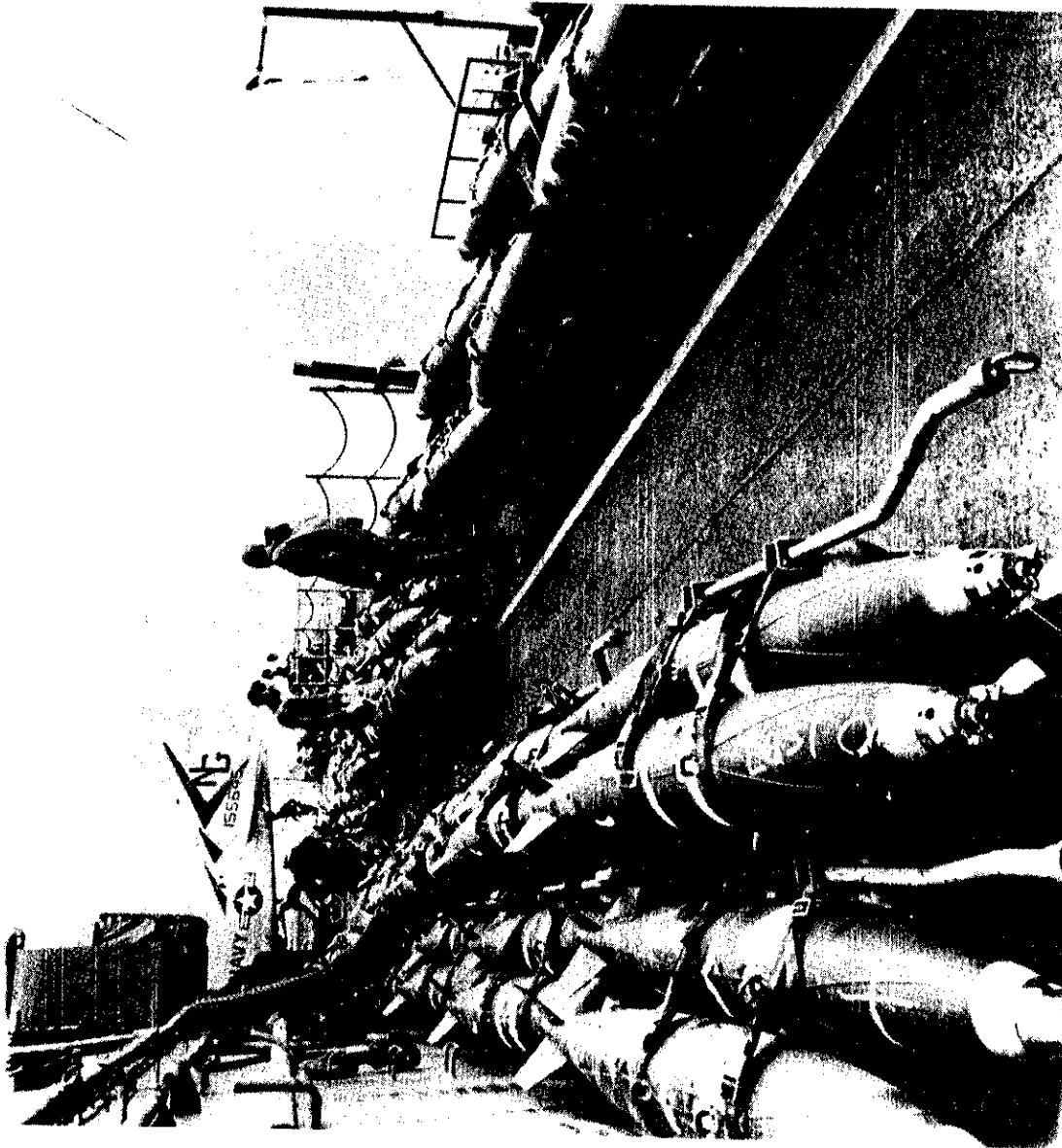


Fig. 3-7 MK 36 DST Stacked on Carrier Deck

UNCLASSIFIED

UNCLASSIFIED

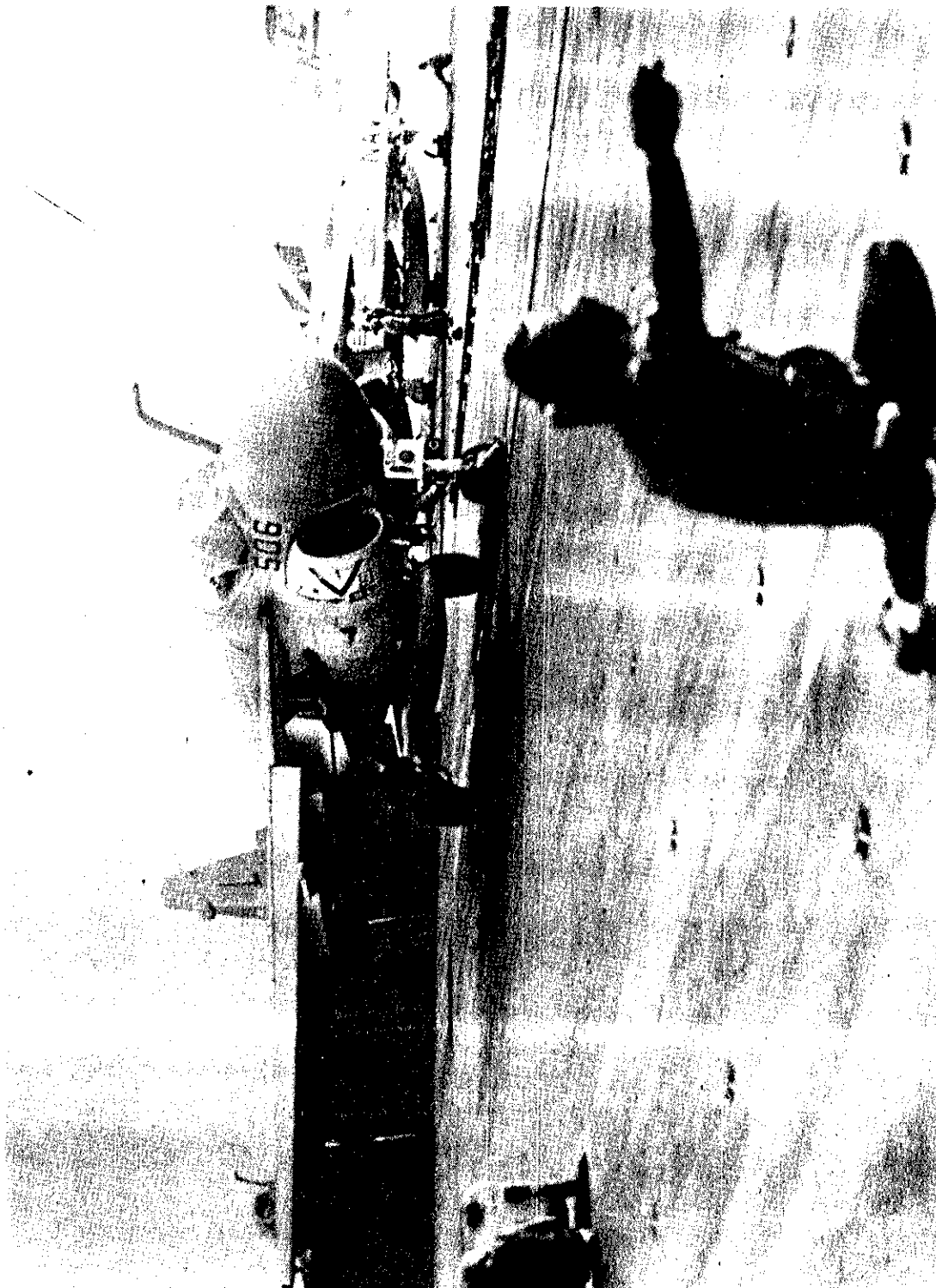


Fig. 3-8 Marine A6E Intruder Launching for Haiphong

UNCLASSIFIED

UNCLASSIFIED

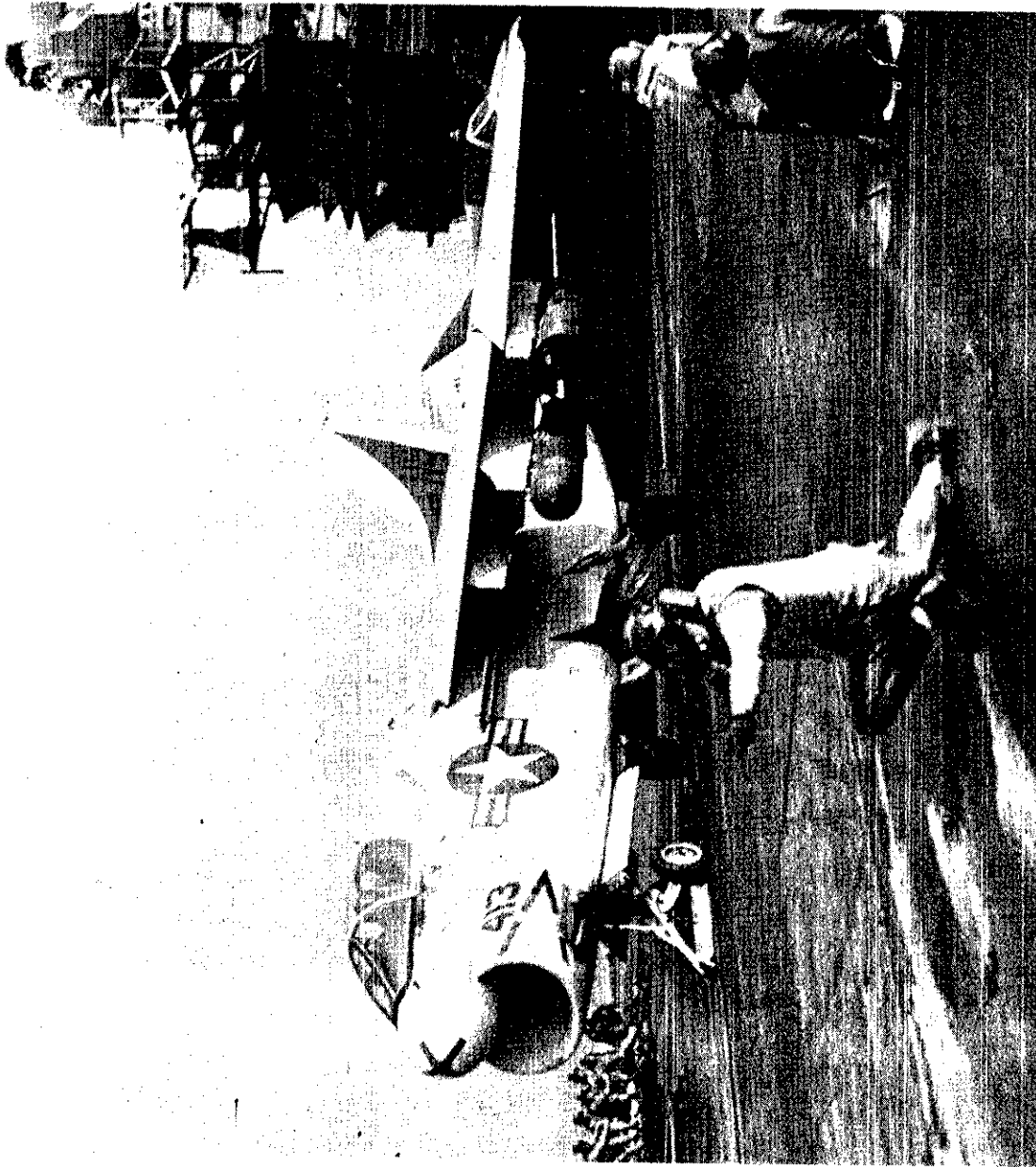


Fig. 3-9 A7E from VA94 Launching for Haiphong Mission

UNCLASSIFIED

UNCLASSIFIED

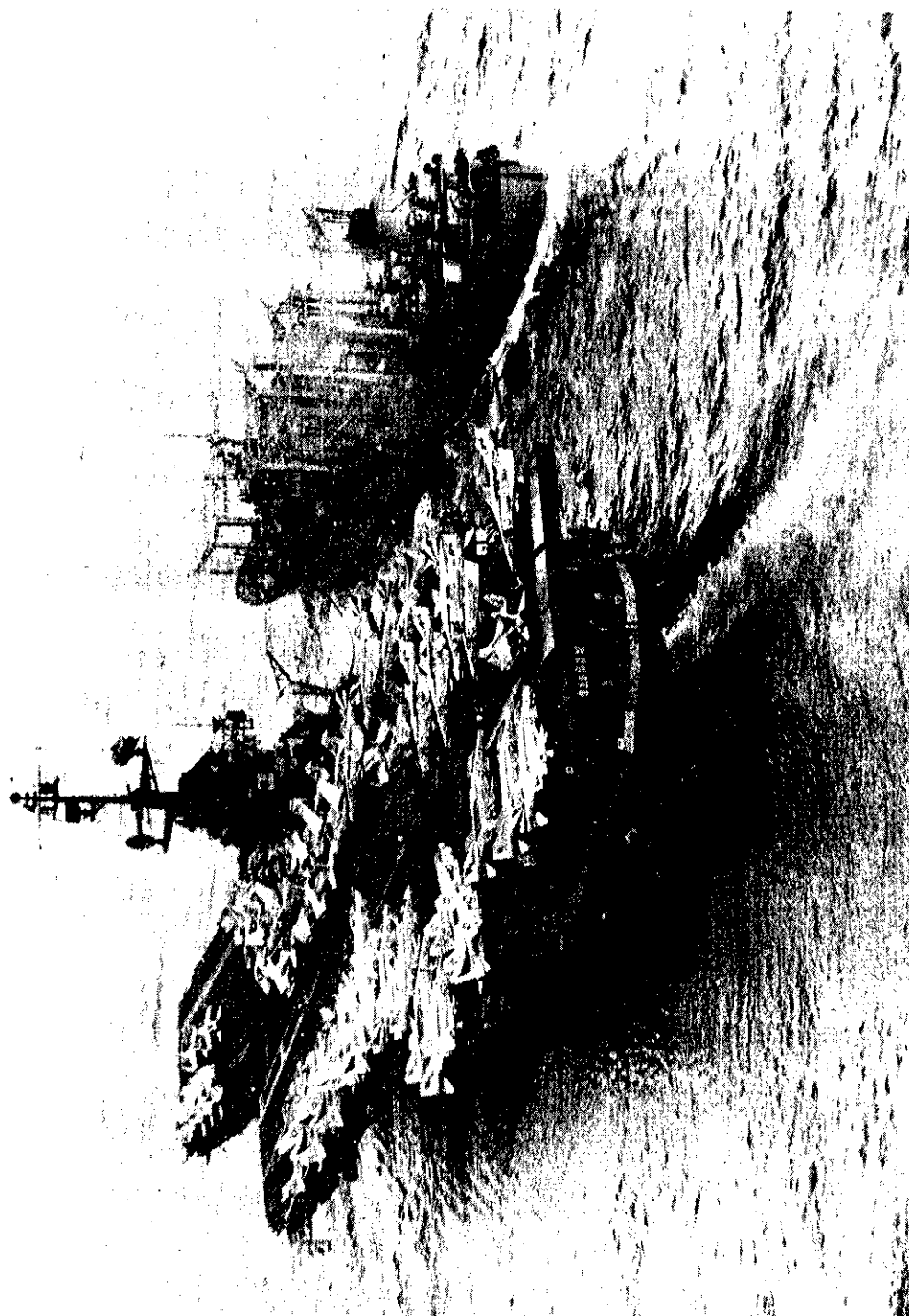


Fig. 3-10 Coral Sea refueling from Ashtabula (A051) during Mining Campaign

UNCLASSIFIED

UNCLASSIFIED

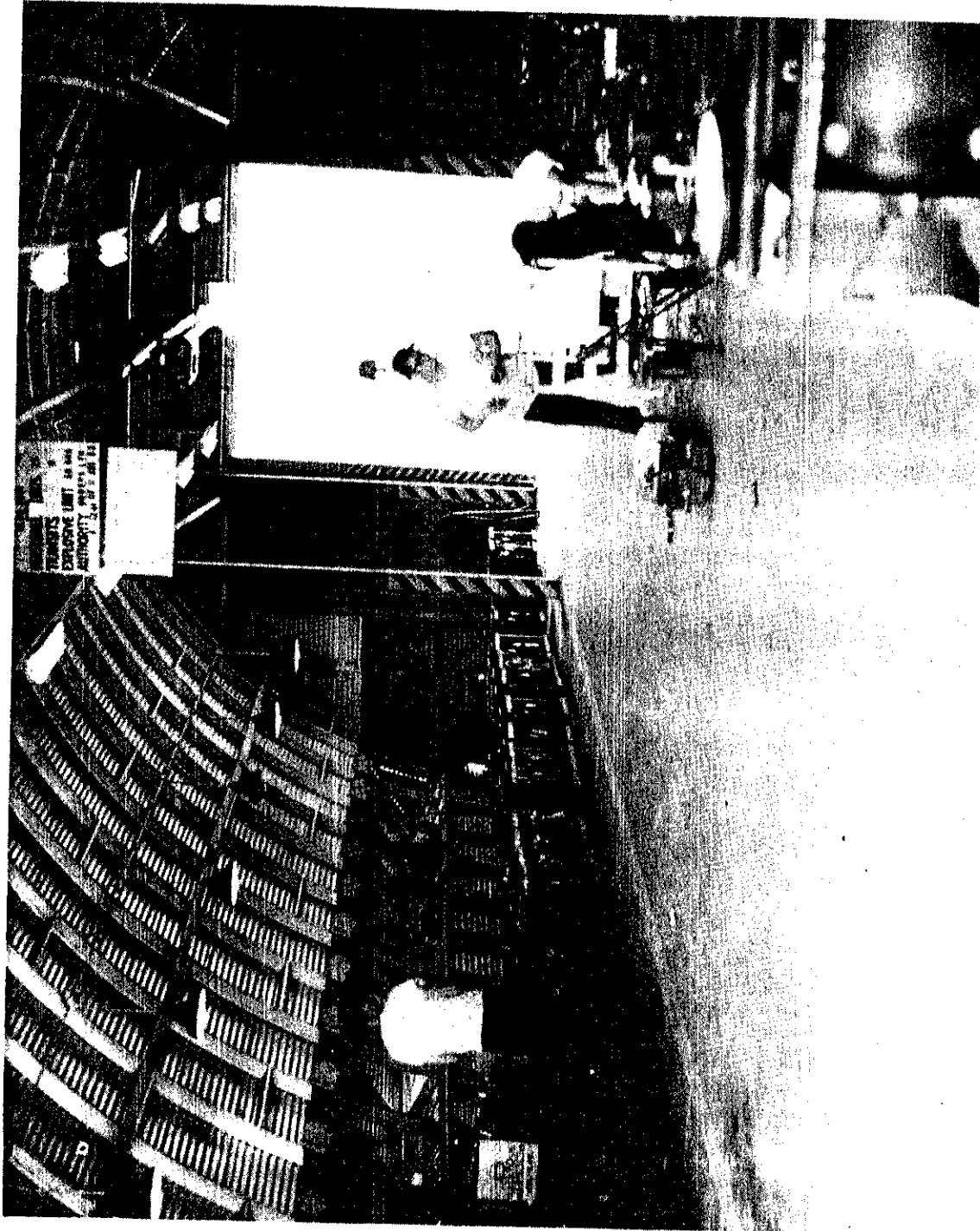


Fig. 3-11 Mine Assembly Shop - Subic Bay - Naval Magazine

UNCLASSIFIED

CONFIDENTIAL



Fig. 3-12 Preparing MK 52-2 Mines for Reseed DPs at Naval Magazine, Subic Bay, PI

CONFIDENTIAL

~~CONFIDENTIAL~~

(C) channel. In the outer segment, the laying courses were restricted because of the anti-aircraft opposition to those which were angled sharply across the channel from East to West. On these courses, it is possible that relatively few of the 24 mines were placed in the 300-foot channel between the buoys. Because of the shallow depths of the surrounding water, the mines which were not placed directly in that channel may not have had enough water depth to insure that the hydrostatic arming device would remain extended at low tide. However, the post-flight assessment of the accuracy concluded that the mines had been laid with reasonable accuracy within the ~~minefield rectangle~~ ^{planned parameters}.

Press Coverage

(U) In a rush to publish stories on the mining, the information obtained by the reporters was not always accurate or technically correct. For instance, one newspaper account stated that the U.S. could turn the mines on or off at will after planting. While this was not true, the myth persisted, especially in the NVN thinking, well into the clearance operations.³ The U.S. was careful not to disprove the story entirely, for it did serve some useful purpose. Thus, in late summer, when Australia and Japan asked if U.S. transmitters in their countries were being used to control the mines, the U.S. authorities replied that we were not using those particular transmitters for that purpose.

The Mining Plan
(C) 2 The mine fields in ~~MEPF-21~~ ^{an} specified a ~~rectangular~~ area in which the specified numbers and types of mines should be placed. The operational planners determined where and how within the area the mines were planted.

(U) 3 Col. Thai, the chief DRV negotiator, mentioned the U.S. control of the mine fields several times during the clearance negotiations.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

DECLASSIFIED

The Mining Campaign

(U) The 72-hour-delay arming time was up at 0900 H on 12 May. Nine ships at Haiphong took advantage of the grace period to depart the port. 27 Ships remained. U.S. authorities announced that both Soviet and Soviet-bloc ships headed for Haiphong had diverted to different destinations, thus avoiding a direct confrontation with the U.S. mines. Naval aircraft flying from Coral Sea, Midway, Kitty Hawk, and Constellation laid additional mine fields starting on 11 May in the remaining ports of significance in NVN - Thanh Hoa, Dong Hoi, Vinh, Hon Gai, Quang Khe, and Cam Pha as well as the Haiphong approaches.

(U) Actually, this early mining was not confined solely to the seven principal ports. Other locations, such as the Cua Sot, Cap Muí Ron, and the river mouths, Cua Day and Cua Lac Giang, south of Don Son and the Haiphong port complex, were also seeded early in the campaign.

Weapons

magnetic
(C) The DST ³⁶ weapons used the MK 82 bomb for a vehicle and combined it with a MK ~~55~~ DST Kit. The Mod 1, 2, and 3 were ~~magnetic influence~~ *magnetic* the main difference being that the Mod 3 offered a choice of two sensitivity settings. POCKET MONEY mine fields were originally designed to stop primarily the traffic of large ocean-going, steel merchant ships. In fact, the MK 52 mines in the original field at Haiphong were set for large steel merchantmen on the lowest sensitivity setting available and with ship counts of one on all mines. No large merchant ship attempted to enter port through the MK 52 fields during the mining campaign. However, in order to further cut off supplies to the NVN invading forces by the water-borne logistic craft (WBLCs) and to discourage countermeasures, DST's were used in additional fields throughout the campaign.

Targets

magnetic
(U) A WBLC has no set of precise characteristics but, as a generic term, it covers the myriad of sampans, junks, and other types of small craft which are used to carry goods, to fish, and to transport people in underdeveloped countries which have extensive water areas in bays, rivers, canals, swamps, inlets, and estuaries. In the first use of the DST in SEASIA in 1967/1968, the only waterborne target for the DST⁵ was the WBLC.

(U) 4 The nine departing ships apparently left without pilots. NVN authorities did not want any ships to leave since they were not completely offloaded, so the Haiphong pilots were "not available" during the grace period.

(C) 5 The target for which the DST was designed originally was the small craft with an engine or carrying a ferrous cargo - a WBLC. Later, options were added which made it effective against larger targets as well.

DECLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

DECLASSIFIED

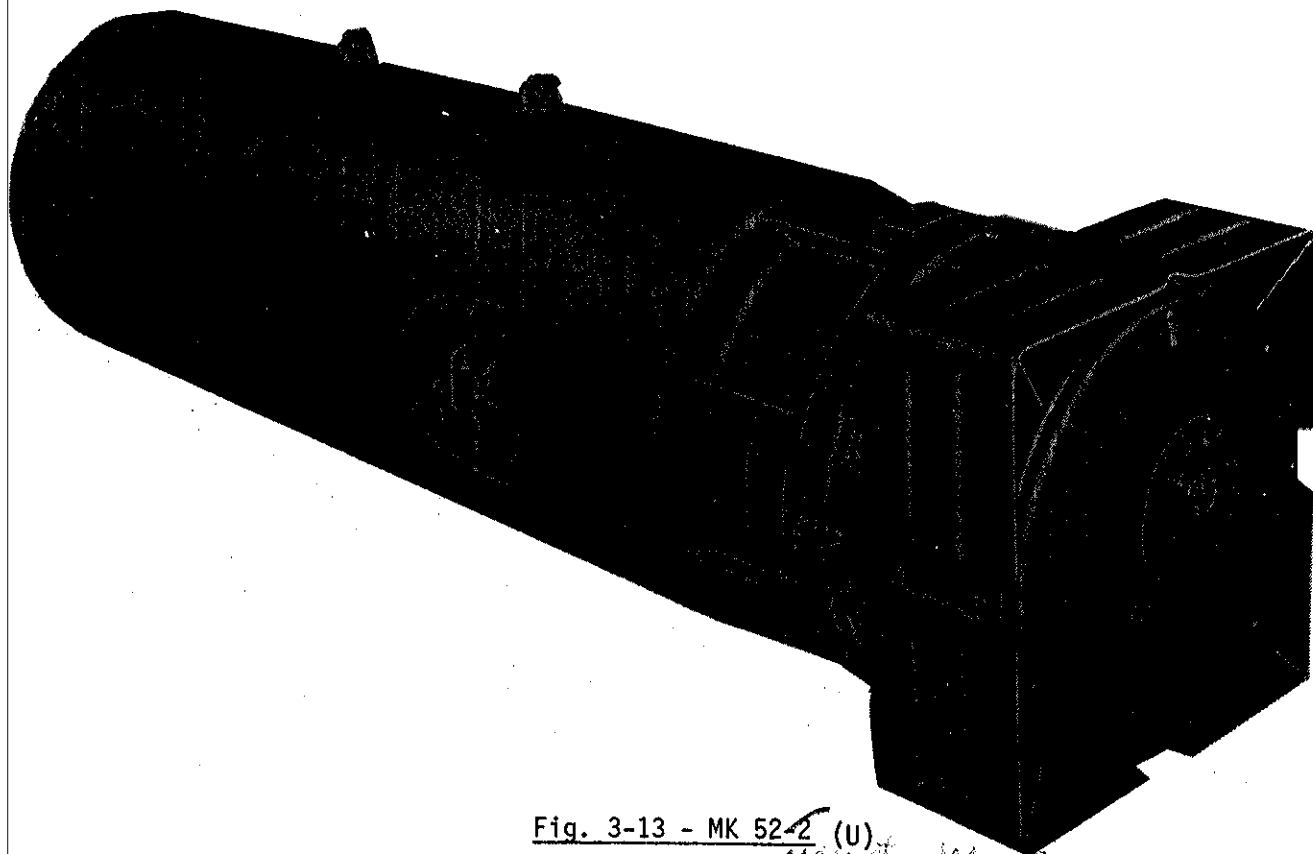


Fig. 3-13 - MK 52-2 (U)

magnetic mine

(C) Characteristics

Flight Gear:

Parachute Retarded

Dimensions:

89.5" long by 19.1" diameter

Weight: (assembled)

1251 pounds

Firing Mechanism:

Magnetic Induction

Explosive:

595 pounds HBX-1

Planting Depths:

~~18-600 feet~~

of the MK 52
Other Mods have same basic characteristics but different firing mechanisms.

wide range - shallow to deep

(D) Settings

Ship count settings, arming delay, sterilization time (self-destruct), sensitivity, and other adjustments can be made in the MK 52. At the time of the mining in NVN, settings were all made at Naval Magazine Subic.

DECLASSIFIED

~~CONFIDENTIAL~~



Fig. 3-14 - MK 36 DST

(c) Characteristics:

Flight Gear:
Dimensions: (MK 82 500 lb. bomb)
Weight: (assembled)
Firing Mechanism:

~~Snake Eye~~ Fin Retarder
 89" long by 10.7" diameter
 576 pounds
 Magnetic ~~influence~~ *OR*
~~Magnetometer~~ *Mod 0=3*
 Magnetic/Seismic ~~Mod 4~~
 192 pounds ~~192~~
 0-300 feet
Shallow to Medium depth

Explosive:
Planting Depths:

(c) Adjustments:

Adjustments in sensitivity, arming delay, self-destruct, made by either breaking or leaving intact a series of Battery Tabs. In addition, *there is* another tab for the PAC (Probability Actuator Circuit), ~~provides the miner the option of blocking the firing mechanism at preset, regular intervals.~~ The PAC accomplishes much the same purpose as the ship counter setting on the MK 52. ~~When the PAC tab is cut, the mine firing circuit is active for only 50 seconds out of each 120 seconds.~~

- ~~Mod 1 - Magnetic, PAC, 1 Sensitivity~~
- ~~Mod 2 - Magnetic, PAC, 1 Sensitivity~~
- ~~Mod 3 - Magnetic, PAC, 2 Sensitivities~~
- ~~Mod 4 - Magnetic/Seismic, 2 Magnetic Sensitivities, 3 Seismic Sensitivities. Seismic unit contained in battery~~

NOTE: The DST 40 uses the same DST kit combined with the 1000 pound MK 83 GP bomb.

~~CONFIDENTIAL~~

DECLASSIFIED

(C) In the remainder of May and in June, 2430 DST were laid in POCKET MONEY fields. During this time, another operation was also employing DST's - LINEBACKER. The characteristics of each operation are discussed below.

LINEBACKER AND POCKET MONEY AUTHORITIES

(C) During the eight months of the mining operations against NVN, about 5200 mines and DSTs were laid under POCKET MONEY authority and about 6500 DSTs under LINEBACKER authority.

(C) The LINEBACKER operations were an outgrowth of the Freedom Train Operation which started on 5 April and consisted originally of air strikes by Navy and Air Force aircraft and Naval Gunfire strikes by cruisers and destroyers against coastal LOC in order to interdict the supplies flowing south to the NVN invasion forces. About the time the mining was added as a task for the interdiction forces, the name was changed to LINEBACKER. The DSTs used in LINEBACKER were all targeted against WBLCs, and the majority of the weapons were placed in waterways, estuaries, canals, etc., which were carrying WBLC cargo southward. In some cases, LINEBACKER fields did extend into the coastal waters where such fields made a logical extension of a field placed in a bay or estuary. (Approval for the coastal fields was controlled at Washington level.) In addition to naval gunfire, mining, and air interdiction operations, LINEBACKER also included surveillance operations such as U.S. Marine Corps helo surveillance (Marhuk Ops) of the Chinese merchant ships offloading at Hon La and Hon Nieu. FREEDOM TRAIN units conducted the diversionary naval gunfire attack on Do Son peninsula on the morning of the Haiphong mining and, later on the same day, the CUSTOM TAILOR Cruiser-Destroyer strike on Do Son. At the start of the mining, units from FREEDOM TRAIN were detached to form the notification lines which were established to warn ships of the mining danger.

(C) Under JCS authority, LINEBACKER DST seedings were authorized by CINCPAC/CINCPACFLT to be conducted at the discretion of COMSEVENTHFLT. Weapon selection, including settings for the DSTs, were made at the Task Force 77 level. This was in contrast to POCKET MONEY and most of the earlier air strike operations. In general, the only Washington participation in LINEBACKER mining consisted of recommending certain inland waterway locations for targeting and approving certain coastal LINEBACKER fields which approximated POCKET MONEY operations. Some DST 36's were laid by the U.S. Seventh Air Force.

(C) LINEBACKER II was the code name applied to the resumption of bombing (including the B52's) and mining North of 20° North after the negotiation breakdown in mid-December.

DECLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(U) The authority granted to the operational commanders for targeting in LINEBACKER was indicative of a general relaxation in the tight control which had previously been held on air targeting within NVN by the national authorities in Washington. In an interview on 27 May 1972 with Captain (now Rear Admiral) William H. Harris, Commander Officer of USS Coral Sea, he stated:

"Earlier in the war, targets were always named in Washington; force levels, even the numbers of raids, were dictated there. Now the day-to-day, practical business of getting on with the war has been turned back to Navy and Air Force Chiefs - - - the when, the where, the how much and how often are left to (the) judgment of military leadership."

(U) The POCKET MONEY authority planted MK 52 mines and DSTs in the coastal areas with the major purpose of stopping the movement of shipping into the ports of NVN. Originally, the weapons were targeted against ocean-going merchant ships, but, as the campaign developed, the WBLC became logical targets for the POCKET MONEY fields as well as for LINEBACKER. In some cases, the WBLCs were used to offload merchantmen anchored outside of the POCKET MONEY mine fields and, in others, used to transport cargo along the coast from Chinese ports.

formal plans
(C) The POCKET MONEY fields were contained in ~~Mine Field Planning Folder #21~~ *Re formal mine field plans* and changes were made to ~~the folder~~, both formally and informally, when new mine fields or different weapon settings were needed. POCKET MONEY operations and changes were directed by the JCS. After the initial mining, POCKET MONEY mining plans were prepared in OP325 at the request of the Chairman of the JCS. The JCS forwarded the plans to CINCPAC, who in turn passed them to his navy component commander - CINCPACFLT - for formal promulgation. COMINWARFOR, in accordance with his mine field planning responsibilities, checked the fields ~~using the NMCP computer programs~~ and issued a formal change to the ~~MFPF~~ for approval by CINCPACFLT and execution as directed by the JCS. In some cases, mining was executed in POCKET MONEY prior to the formal change to the MFPF, but the formal change was always issued. After the initial mining had been completed on 9 May, the OP325 mining personnel were authorized to work directly with the OJCS action officers without the formality of working through their OPNAV staff superiors.

(C) The JCS maintained strict control of POCKET MONEY mining throughout the eight-month campaign. In fact, new POCKET MONEY fields and all Haiphong MK 52 reseeded required White House approval (usually Mr. Kissinger). The President's instruction on reseeded was "to do what was necessary to keep the fields active."

(U) The CJCS and SECDEF were briefed daily on the mines laid, the percent of each field remaining active, and the results of the reconnaissance missions. They, in turn, briefed the White House.

~~CONFIDENTIAL~~

CONFIDENTIAL

(b) The Chairman of the JCS kept a card showing the self-destruct times and sterilization times of all the POCKET MONEY fields. When planners requested his permission to reseed, he carefully checked with his card to insure that reseeding was needed.

(c) The reasons for the different levels of control exercised over POCKET MONEY as compared with the LINEBACKER mining are of interest. The DST's used in LINEBACKER had become a matter of routine ~~at one~~ *earlier* period in the war⁷; they were used almost like bombs, and they were laid only against the NVN - there were no international complications expected from LINEBACKER. Thus the operational Commanders were delegated the authority to target and to execute the LINEBACKER fields. On the other hand, the POCKET MONEY fields were targeted originally against incoming seaborne traffic which was mainly in foreign bottoms; therefore, the mining in this more sensitive case was controlled directly from Washington.

(d) In recapping the LINEBACKER and POCKET MONEY campaign (See "Operational Strategy of the Mining"), the exact delineations between POCKET MONEY and LINEBACKER fields are subject to interpretation. Many LINEBACKER mines in the coastal areas have been included in POCKET MONEY totals. A more logical designation between the two authorities would have been Inland and Coastal. The reader should keep this in mind when reading the charts.

Life of the Mine Fields

(c) The initial MK 52 mines ~~had a~~ *were set with a long* sterilization time of ~~116 days~~. Some of the early DST's were set to self-destruct in a short time in order to convince the NVN and the world that the mines were there. The great majority of the DST's were set to self-destruct ~~at 100 days~~ *in about 6 months*. The long setting served a very practical purpose - it minimized the number of reseeding missions that would have to be carried out by TF 77.

lms (c) The original MK 52 mines sterilized in the first week in September, but, before that happened, the MK 52 field was reseeded on 11 August. Again the sterilization time was set ~~at 116 days which expired the first week in December~~ *to expire later in the year*. Ship counts were set on one in these two seedings. After the breakdown in peace negotiations, 36 more MK 52's with a self-destruct ~~time of 145 days~~ and ship count settings mixed up to three counts were laid on 17 December. Thus the MK 52 fields were live well into April 1973, long after the sweeping had started.

(c) ⁷ 35000 DST 36's were used in the 1968 interdiction efforts. *these DSTs were laid in Inland Waterways and on land supply routes.*

~~CONFIDENTIAL~~

~~(S)~~ The number of active weapons reached a peak about 1 August. Thereafter, the strength of the fields was degraded by early August solar storms and by the pre-set self-destruction and sterilization features in the mines and DST's. A low point in field strength was reached in early December prior to the breakdown in peace negotiations. The reseeding in mid-December, and subsequent ~~✓~~ increased the numbers of active mines but not to summer or fall levels. There were small numbers of active weapons as late as mid-May 1973. ✓

~~(U)~~ The majority of the December reseeding were placed in the Haiphong/HongGai/CamPha and Vinh areas.

~~(U)~~ Figure 3-15 depicts the number of mines and DSTs active throughout the campaign in the coastal fields.

~~CONFIDENTIAL~~

COASTAL LIVE MINES 15 MAY 1972 - 15 MAY 1973

FIGURE 3-5

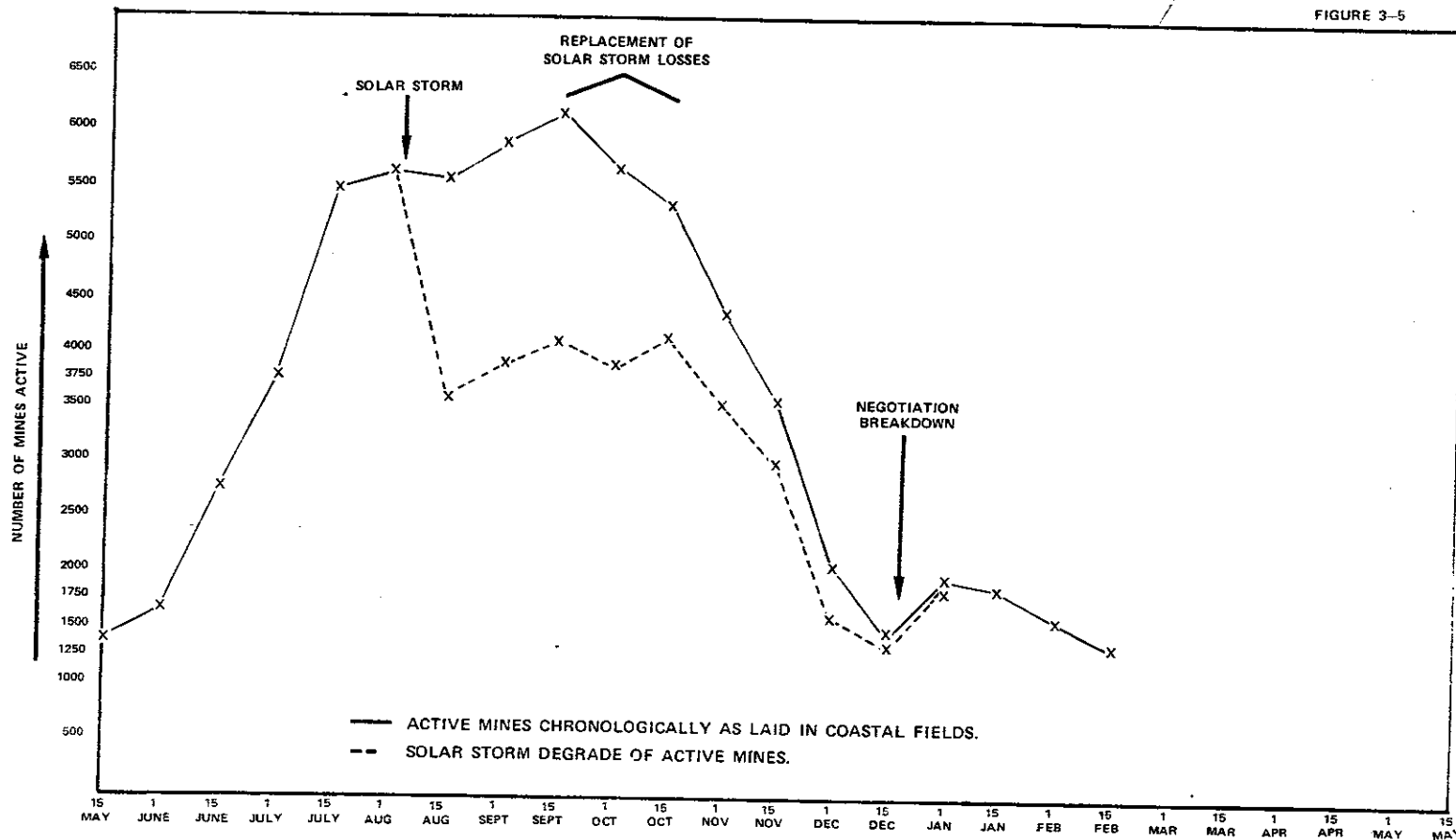


Fig. 3-15 Active Mines

3-26

CONFIDENTIAL

Operational Strategy

(U) Prior to the U.S. mining campaign against the North Vietnamese ports, most dry-cargo merchant ships offloaded alongside the wharves in the port of Haiphong. Most cargo was handled by ships' gear directly into trucks. Some cargo was also transferred alongside directly into barges for transport via inland waterways from the port.

(U) General cargo ships awaiting berths anchored in the Cua Nam Trieu Anchorage. Lighters, loaded at the anchorage, were offloaded in the port area at small wharves and in the canals within Haiphong. Other loaded craft proceeded directly on the inland waterway to other offloading points. In the south, small NVN merchant ships and coasters were used to lighter cargo from ships anchored at Hon Nieu and Hon La anchorage in the NVN panhandle.

(U) A fairly detailed examination of the way the fields developed around the Haiphong port complex will serve to illustrate the strategy of the mining campaign.

(C) For the most part, in the spring of 1972, the mines in Minefield ~~Planning Field 21~~ (the POCKET MONEY fields) were designed to stop the maritime traffic in and out of North Vietnam's major ports. *Replanned fields*

(C) Some of the fields were targeted solely against large steel merchantmen: this was the case with MK52 ~~21~~ fields in the deeper water of the Haiphong approaches. Other fields in the ~~Planning Field 21~~ (mostly in the more shallow approaches) were composed of DST weapons set with a mixture of high and low sensitivities to get smaller targets such as coastal freighters and the smaller craft which off-loaded merchantmen in established anchorages. One DST 40 field⁸ was planned for the relatively deep water across the seaward end of the outer segment of the Haiphong approach channel. *magnetic mine*

(C) When the LINEBACKER fields were added, together with the additions to the POCKET MONEY fields (~~changes to MFI 21~~), the objectives of the campaign had changed from stopping seagoing maritime traffic to stopping the increased attempts by the NVN to circumvent the effects of the mining in cutting off the seaborne logistics. The increased

⁸ DST 36's were substituted because of the non-availability of certain components of the DST 40 flight gear.

The DST 40s would have been more effective in the deep water because of the larger explosive charge (450 lbs versus 192 lbs.).

CONFIDENTIAL

~~CONFIDENTIAL~~

~~(b)~~ WBLC traffic was evident in the inland waterways (rivers, canals, estuaries) close in shore along the coast line, and in off-loading ocean-going ships which had anchored off established ports outside of the U.S. minefields. Of particular importance in this latter category were anchorages in the vicinity of Cam Pha, Hon Nieu Island, and Hon La Island.

~~(b)~~ As in any sustained mining campaign, when the target reacted to a certain use of the weapon, the miner reacted by altering the weapon use to counter the target's new pattern. The mine barrier gradually tightened as ~~channels~~ in the fields were filled. The sequence of mining actions around the port of Haiphong will serve to illustrate. (See Figure 3-16)

~~(b)~~ Areas 1 and 2 were the first to be mined. These fields were targeted solely against large ocean-going vessels, and they fulfilled the political purposes of the mining with the arming delay time to allow ships to leave unharmed. Areas 3 and 4 were also part of the original mining effort, although these DST fields were not put in for several days after the MK 52 fields. The DST 36's in area 4 (Wing Fields) were laid in shallow water (as shown on the chart) to seal off Haiphong from access by smaller craft (including WBLC's). These fields also discouraged attempts to anchor large ships away from the Haiphong Channel Fields and to use WBLC's to off-load them. The area 3 field was added as insurance against any targets attempting the transit of the main channel area.⁹ In area 3, a deliberate attempt was made also to use some weapons with short self-destruct times, so that the North Vietnamese would be thoroughly convinced that there were active mines in their channels.

~~(b)~~ ⁹ This field (#3) was an interesting one (instigated by the Chairman of the JCS) and was called by the planners, "the Chairman's field" or "Crossing the "T" field". It was planned for fairly deep water at a right angle to the outer segment of the Haiphong channel field. DST 40's were specified for the field for several reasons:

- DST 40 had a larger explosive charge and thus was more effective in deep water than the DST 36, *more sensitive*
- The DST's had a ~~higher sensitivity~~ setting than the MK 52-2 and thus were more effective against small targets.
- The DST's could be assembled and adjusted on board the carrier, whereas the MK 52 ~~had~~ had to be prepared at the Naval Magazine Subic.

As noted previously, DST 36's were substituted for the DST 40's.

~~CONFIDENTIAL~~

CONFIDENTIAL

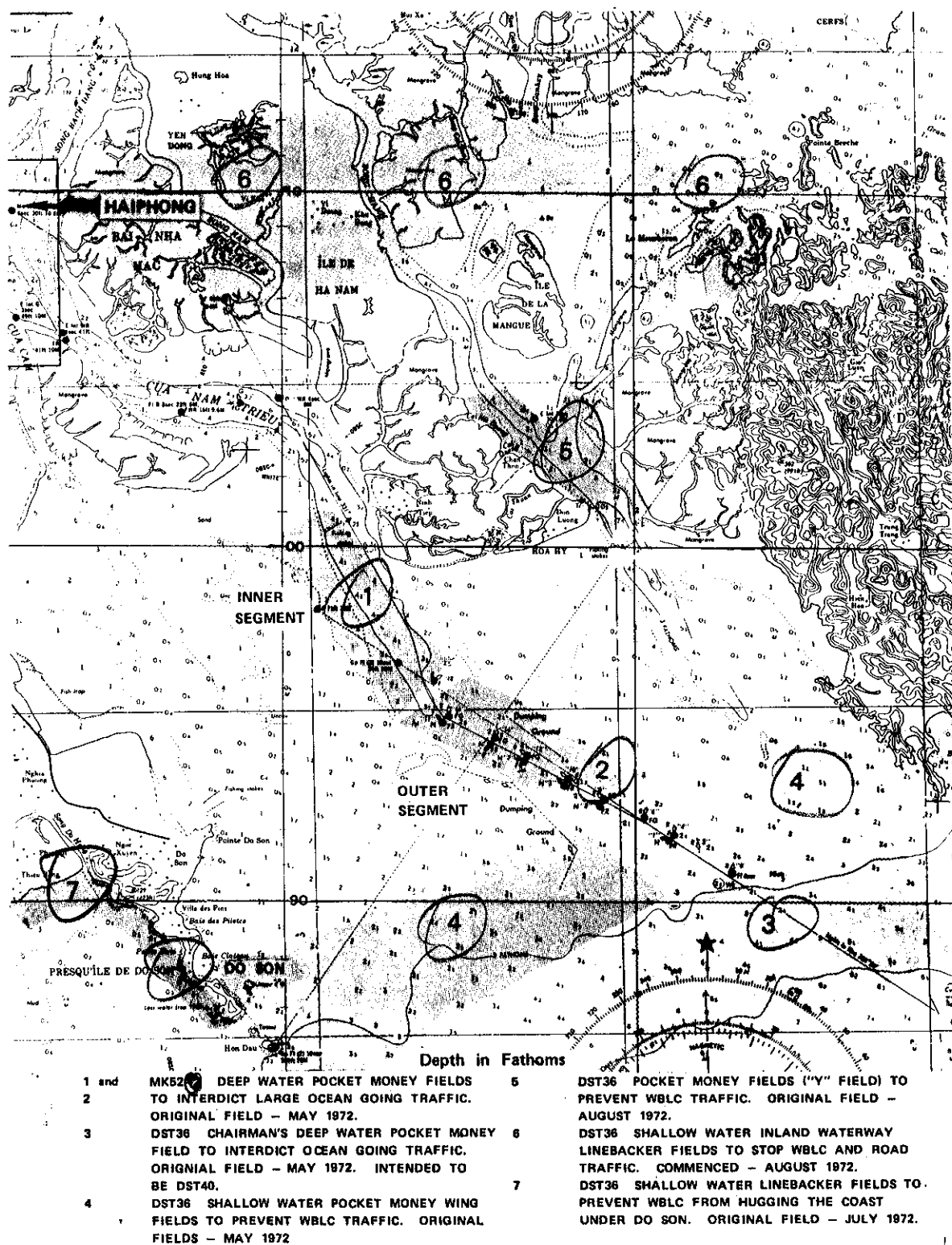


Fig. 3-16 Haiphong Mine Field Areas

3-29

Make Field Numbers larger
thus easier to see

CONFIDENTIAL

(c) The DST 36 weapons in area 5 (the "Y" or Lach Huyen fields) were designed to put one more stopper in the Haiphong port complex operation. By using the waterways to the east of Cua Nam Trieu, it was possible for WBLC's to move cargo from the Hon Gai and Cam Pha port areas and from inland areas into the Cua Nam Trieu and thence to Haiphong and Hanoi. WBLC traffic coming from the PRC ports could get through to Haiphong using this routing also.

(d) The DST fields numbered 6 in Fig. 3-16 were LINEBACKER fields designed to stop both inland waterway and roadway cargo carriers from reaching the Haiphong complex. The 6 areas are symbolic of the fields used - there is no relationship between the location of the numbers and the fields actually seeded.

(e) Finally, the LINEBACKER fields numbered 7 were designed to prevent WBLC's from hugging closely to the western shore of the Do Son peninsula either to gain access to Haiphong or to work their way south and west along the coast or inland via the Cua Van Uc. These weapons were laid for the first time in early July after the WBLC traffic pattern had developed.

(f) Haiphong was the main port of NVN and the main target of the mining. Therefore, the interplay of mines and targets was more intricate in the Haiphong area than it was elsewhere in NVN. However, the same general pattern of mine employment occurred in the other ports. In general it can be noted that as the WBLC activity increased, the DST fields were moved in closer to the coast line and into the bays and estuaries.

the magnetic/seismic types → (g) Throughout the entire campaign, MK 52 mines were used only in the Haiphong main channel. DST 36 ~~Modes 1, 2, and 3~~ ^{magnetic} were used for all other mining except that when the ~~M-4~~ ^{seismic} became available, the ~~Mod 4's~~ ^{seismic} were used to discourage suspected or possible counter-measures.

(h) In the charts that follow, brief descriptions are given of the mining patterns in Haiphong and several of the other major mining target areas. In each case, those notations which indicate inland LINEBACKER fields do not indicate actual positions of the minefields.

* DSTs are effective as land mines as well as in-water ^{sea} mines.

Legend:

- 1. ORIGINAL FIELDS
- 2. ADDED TO CLOSE GAPS
- 3. PLANNED BUT NOT SEEDD

The map shows a complex network of roads and terrain features. Handwritten annotations include circled numbers 1, 1a, 2, and 3, indicating specific areas of interest or planning. The map also includes a grid system with latitude and longitude markings.

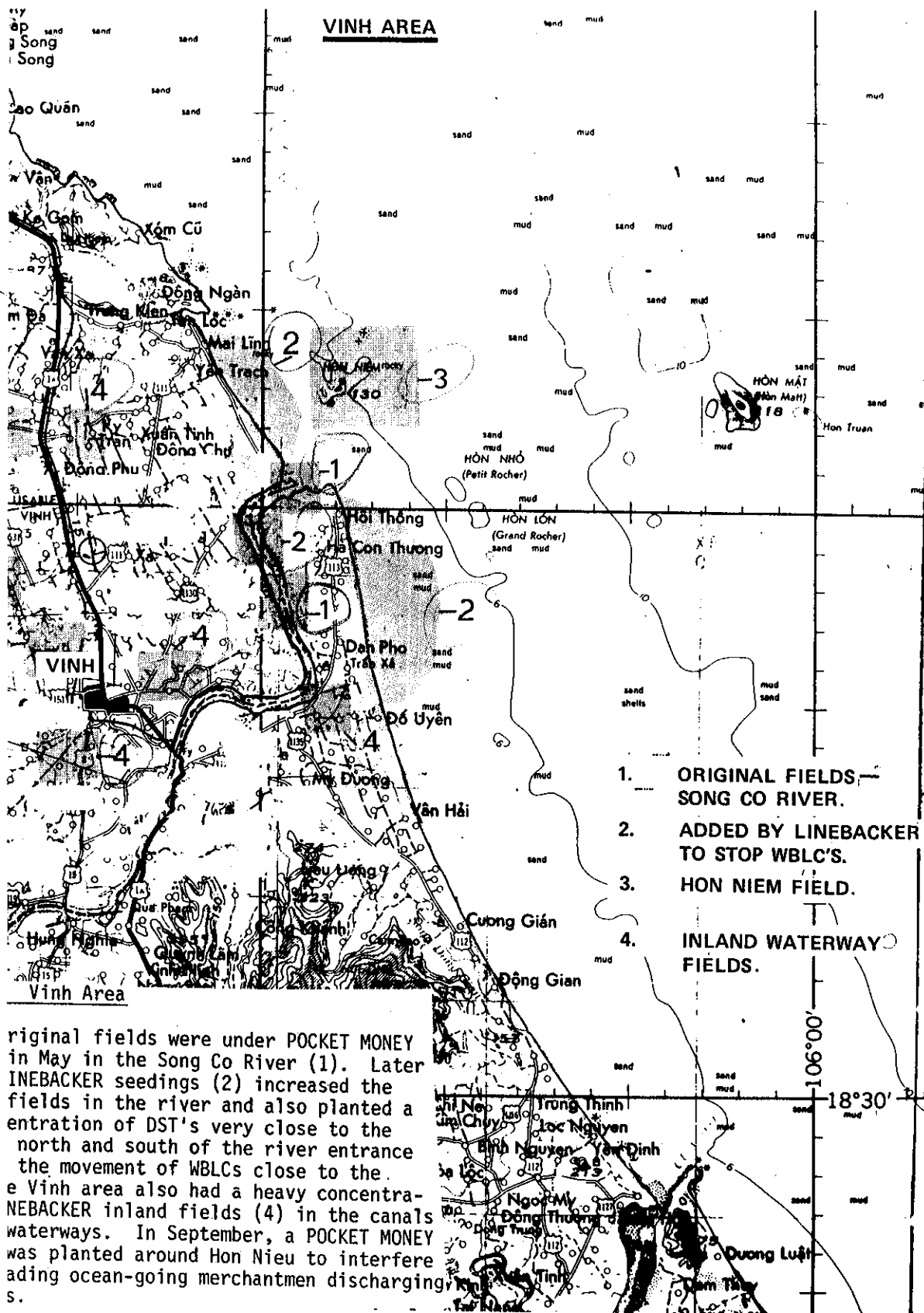
~~2~~

~~CONFIDENTIAL~~

Fig. 3-17 (continued)

- (b) The Cam Pha and Hon Gai fields can be considered as one effort. Both of these relatively small ports to the east and north of Haiphong were capable of offloading ships by small craft and of receiving WBLC cargos originating in Chinese ports. The coastal area in the vicinity of Hon Gai and Cam Pha is characterized by a myriad of islands, rocks, and shoal areas interspersed with seemingly innumerable passages usable by WBLCs. These passages provided, among other things, a relatively sheltered route for WBLCs carrying supplies from the Chinese border to destinations in NVN. Inland of both ports was a network of waterways which enabled cargo WBLCs to reach the Haiphong/Hanoi complex by the back door, so to speak.
- (c) The early mining efforts, 1 and 1A in May, were aimed at interdicting the main channels and passages, especially those which gave access to the open ocean to the south and southeast. The heaviest concentration was in the area immediately south of Hon Gai (1A on the Chart-let), and this area was reseeded in August and December. The remainder of the original fields were reseeded only in December if at all. During the campaign additional fields (2) were added in August and later to close obvious gaps where WBLCs could slip through. The fields in 1A also had the purpose of confining the operations of Komar missile-launching boats which had been sighted in the area.
- (d) The main western exit to the Hon Gai/Cam Pha area was closed by the "Y" fields in the Lach Huyen area east of Haiphong. The eastern-most access to the Hon Gai/Cam Pha complex received relatively little mining. Of the several major fields planned for this area (3 on chart), only 11 DST's were ever actually planted. Those were seeded in the Chenal du Lynx in May.

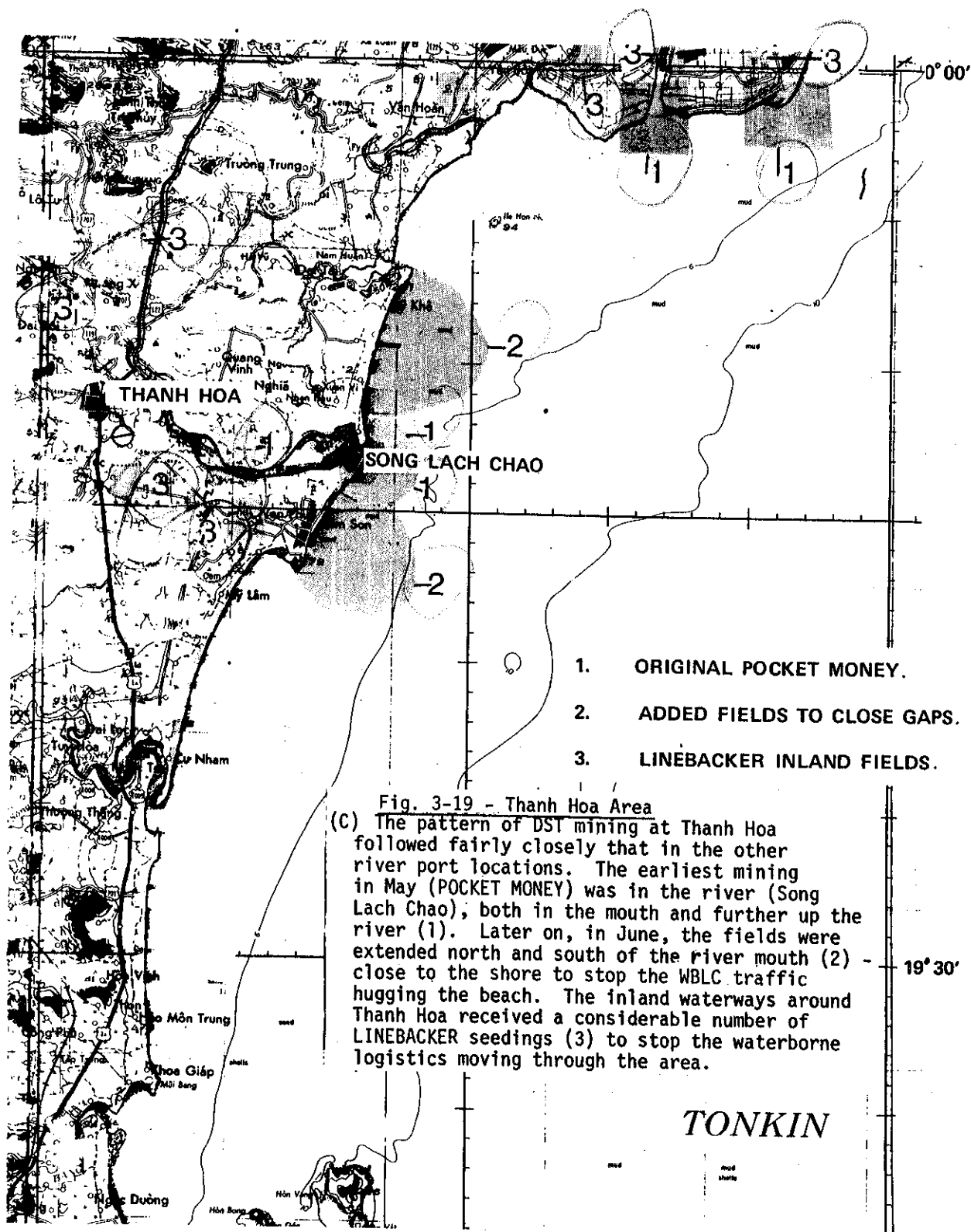
~~CONFIDENTIAL~~



original fields were under POCKET MONEY in May in the Song Co River (1). Later LINEBACKER seedings (2) increased the fields in the river and also planted a entrance of DST's very close to the north and south of the river entrance the movement of WBLCs close to the e Vinh area also had a heavy concentra- NEBACKER inland fields (4) in the canals waterways. In September, a POCKET MONEY was planted around Hon Nieu to interfere ading ocean-going merchantmen discharging s.

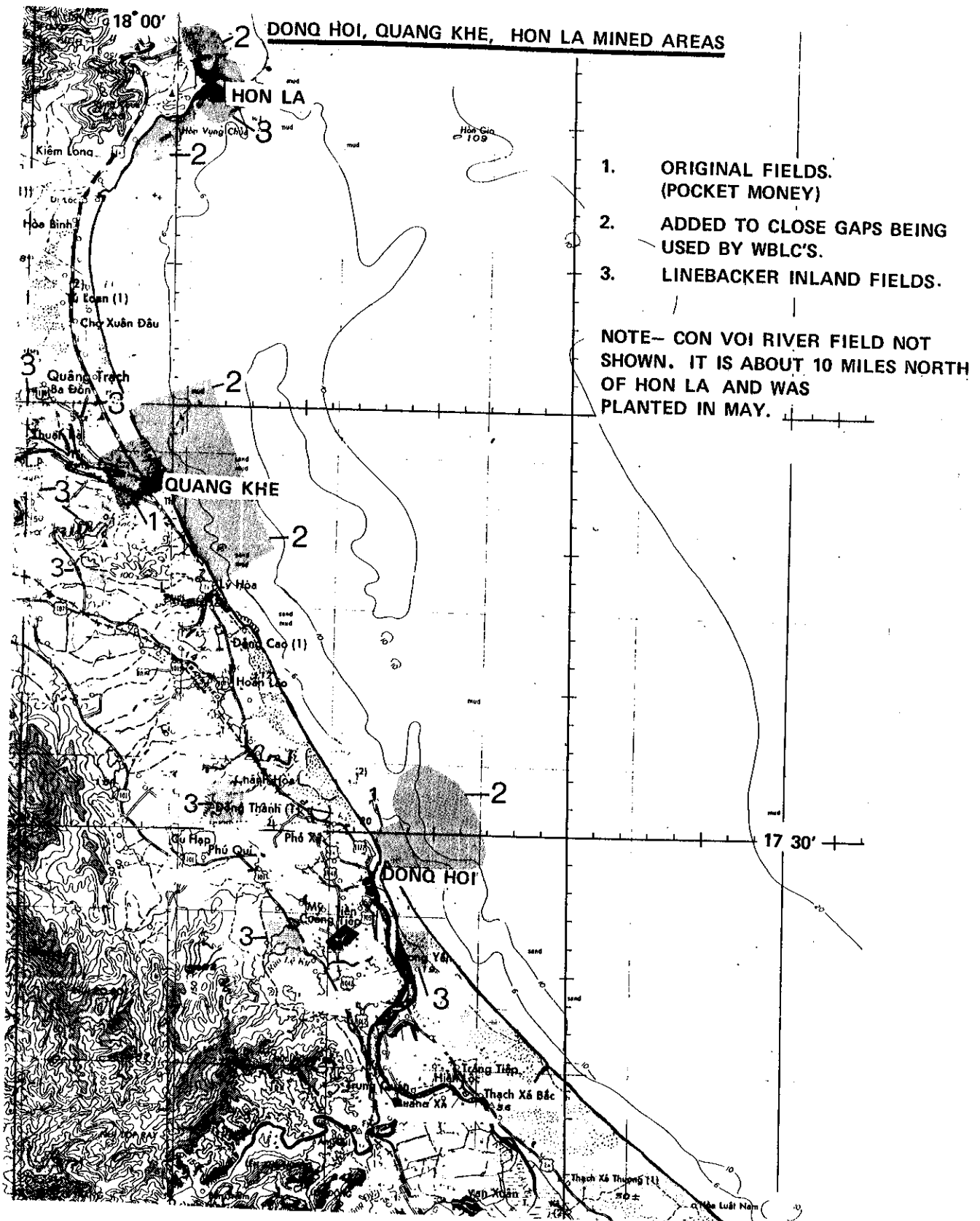
~~CONFIDENTIAL~~

~~CONFIDENTIAL~~



~~CONFIDENTIAL~~

CONFIDENTIAL



CONFIDENTIAL

~~CONFIDENTIAL~~

Fig. 3-20, Dong Hoi, Quang Khe, Hon La Mined Areas

Dong Hoi

(C) Dong Hoi had a similar pattern to the other river mouth ports. The original fields (1) were POCKET MONEY near the river mouth. In July, additional seedings were added (2) close to the coast to the north of the river mouth and to seaward. Inland fields (3) were added by LINEBACKER to interdict the waterways.

Quang Khe

(C) The mining pattern at Quang Khe followed a similar pattern to that in Vinh and Thanh Hoa. The first field (1) was under POCKET MONEY authority in May. In June the fields were extended (2) to the north and south of the river entrance close to the beach and also to seaward. LINEBACKER fields (3) backed up the POCKET MONEY fields in the river and also interdicted the inland waterways on the land side of Quang Khe.

Hon La Area

(C) With the exception of the small Con Voi River ¹⁰ (North of Hon La) seeding in May, the Hon La fields were not in the original plans. As the mining took effect, WBLC traffic intensified around Hon La. Some of it was concerned with merchant ships which anchored off the island and attempted to off-load their cargo into small craft. Except for the fields around the island itself, the seedings were under LINEBACKER authority. The Hon La area mining was, in itself, an example of reacting to the new traffic patterns that were brought on by the original fields. Those areas marked (2) were the LINEBACKER seedings starting in June. The number (3) field was POCKET MONEY.

¹⁰ Not shown on Chartlet.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

The WBLC as a Target

the mine field plan was

(C) The primary target of the mine fields in ~~MFPF 21~~ was, as stated previously, the ocean-going merchant ship. The initial fields planted in Haiphong and other ports removed this category from serious targeting consideration because none of the countries engaged in the seaborne logistic resupply of NVN chose to initiate a direct confrontation between their ships and the U.S. mines. Effective mining creates different patterns of logistic behavior on the part of the targeted area - these changed patterns create new and/or different targets not only for the miner but also for other interdicting forces. For instance, mines which close a port through which supplies have customarily arrived may force a nation at war to obtain its war-sustaining material by rail or WBLC (as in the case of NVN), to distribute materials internally by other means such as POL pipeline, and to stow material under more vulnerable conditions for longer periods, thus creating better bombing targets than would otherwise be the case. By precluding the use of channels by ocean-going ships, the miners forced the NVN to make more use of WBLCs in an attempt to provide the required imports.

(U) WBLCs were used in attempts to carry goods south which were received by rail from China, to distribute material southward that had been stockpiled in Hanoi area warehouses prior to the mining, to off-load ocean going merchant ships which had anchored outside of the U.S. mine fields, and to carry material along coastal channels from Chinese ports to the Haiphong area.

(C) Although WBLC's were important to the pre-mining logistics of the NVN war-making machine and were included in the ~~Mine Field Planning~~ *planned* ~~Folder~~ targeting, they were not the primary target of the planned mine fields. After the mining, the WBLC tonnage increased in its importance to the NVN economy.

(U) Increased air interdiction bombing was used against the rail shipments; warehouses and stockpiling points were bombed; NGF strikes were used against the WBLC and logistic targets within range; and the emphasis of the mining campaign shifted to the WBLC as the primary target.

(C) With an estimated 35,000 WBLCs available in NVN for transporting military items over a network of canals and rivers, the WBLC had long been a source of concern to U.S. authorities responsible for the war's prosecution. As early as 1965, the Mine Advisory Committee of the National Academy of Sciences had recommended an extensive data collection program on WBLCs not only in Vietnam but world wide so that target characteristics would be available. In 1966 the Chairman of the Joint Chiefs of Staff queried Navy officials about the possibilities of manufacturing a weapon "about the size of a grapefruit" that could

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

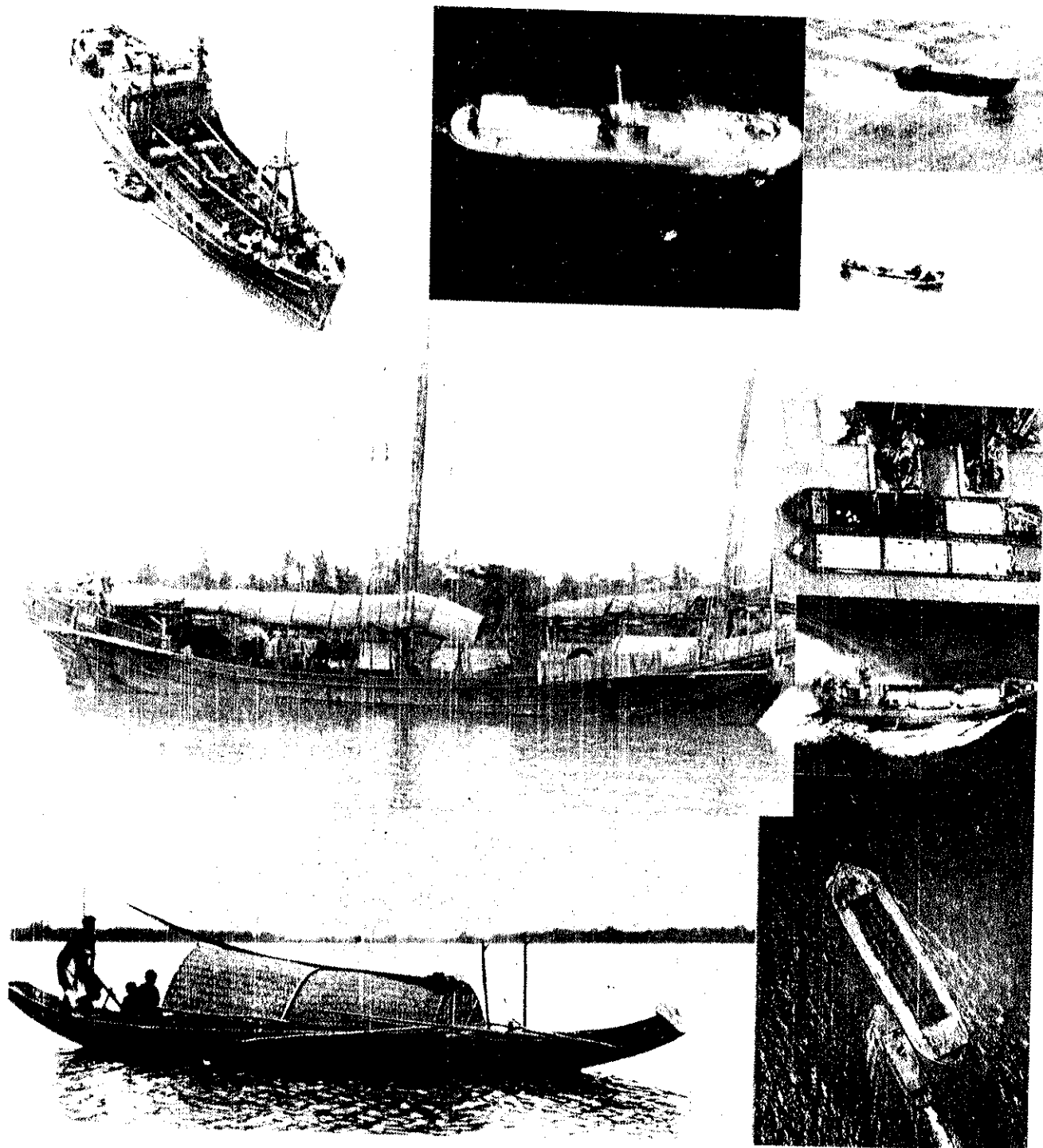


Fig. 3-21 - The WBLC

3-38

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(C) be used on the waterways to stop the WBLC. In 1966, development of the DST weapon was stepped up by the Navy. The original specification for the DST 36 stated that the primary targets for the weapon were "Indigenous small craft with an engine or carrying ferrous cargo." Target data for use in the DST 36 development was obtained from measurements taken of SVN indigenous craft at Vung Tau. The DST was ready in 1967 for use in the ROLLING THUNDER interdiction campaign in NVN. Thirty-five thousand were used against WBLCs in the waterways and against various rolling equipment on the roads during 1968.

(C) One other mine weapon was developed for use against WBLCs by the Naval Ordnance Systems Command (NOSC) in the 1960s. This was the moored, highly-portable DST 115 contact mine which was used with limited success against the VC in SVN. The DST 115 was not used in LINEBACKER or POCKET MONEY.

(C) The WBLC was not a specific target to which a mine's firing characteristics could be carefully tailored. Rather, it represented a range of magnetic signatures, acoustic outputs, and hull types which would require, at the low extreme, a very sensitive mine setting, whether it be magnetic, acoustic, or pressure, in order to actuate on any WBLC. Consequently, the early DSTs had only a sensitive magnetic setting and were vulnerable to rather primitive magnetic countermeasures. Later design changes corrected this problem.

IN GENERAL, the MK52 WAS NOT A SUITABLE WEAPON TO USE AGAINST the WBLCs BECAUSE OF ITS ARMING DEPTHS AND AVAILABLE SENSITIVITY SETTINGS. the WBLCs SHALLOW DRAFT AND VERY LOW MAGNETIC SIGNATURE, WERE NOT SUITABLE TARGETS FOR the MK 52.

Planning Mine Fields for WBLCs

(C) The need to stop the increased WBLC traffic which resulted from the complete cut-off of maritime resupply to NVN in large ocean-going ships caused changes in the minefield planning. New fields were added to the mining effort which were designed to close gaps through which WBLC's had been able to navigate in continuing to deliver their cargos. The general approach to designing most of the fields in Mine Field Planning Folder 21 had been to create a specific level of threat to a small number of high value targets which attempted to transit a field. The WBLC did not fit into this pattern.

(C) The large number of WBLCs' available to carry cargos made other options available to the enemy. For instance, should the North Vietnamese have attempted a massive resupply by WBLC from ports in the PRC northeast of Cam Pha and Hon Gai, they could have used some form of the "breakthrough" technique whereby large numbers of WBLC could force a passage through one specific track across the minefield. Such a technique does entail losses, but with large numbers of WBLC available, the overall effect of the losses on logistic resupply could be minimized.

and thus accurate and clear all mines on that track.

3-39

~~CONFIDENTIAL~~

At the request of the chairman of the JCS, the problem of interdicting a possible massive WBLC effort to carry goods from the PRC to NVN was studied in detail by the Mine Warfare Branch (OP 325) in the Office of the Chief of Naval Operations. Although the plan for these fields was never executed, the plans are representative of the manner in which a miner must be ready to respond to changes in enemy tactics if the minefields are to remain effective.

(See Memo)
below

The memorandum, portions of which are quoted below, recommended several large-scale minefields to be planted in the event it became necessary to stop a heavy volume of the WBLC traffic from the PRC border southwestward to the Cam Pha, Hon Gai, and Haiphong areas in NVN.

"With a large number of small-value targets attempting to transit the minefields, there is a good likelihood that the enemy will use a 'breakthrough' technique to clear a path through the field. Thus the usual technique for measuring overall minefield effectiveness against a relatively small number of high-value targets has little usefulness in this situation. To determine the number of mines required for these fields, it was estimated that four 'encounters' (possible mine actuations) for each 150 feet of minefield width (across estimated target course) would provide the minimum useful degree of deterrence against the use of a 'breakthrough' technique. One hundred fifty feet was selected as a practical channel width within which small craft could consistently navigate. The threats, per se, were not calculated for the minefields since under these conditions they have little meaning. In general the threats would depend on depth and vary from about 30 percent for water 15 meters deep to almost 80 percent for shallow water (less than 5 meters).

"The recommended minefields were selected to interdict 'choke' points along expected transit routes from the NVN-China border, southward generally to Cam Pha or Hon Gai and coastal landing points convenient to roads, with the general purpose of forcing traffic seaward. If the enemy attempts a massive use of small craft for logistics support of NVN from China, the mining effort required to help prevent this will increase significantly. Only when combined with a determined interdiction effort by other forces can it succeed. Effectiveness of the mining effort could be greatly enhanced by the following actions:

* THREAT IS A STATISTICAL FIGURE BASED ON THE TARGET WIDTH AND MINE EFFECTIVENESS ^{AMONG OTHER CRITERIA} WHICH PROVIDES AN ESTIMATED PROBABILITY THAT A PASSING SHIP WILL BE DAMAGED BY A MINE.

* BREAKTHROUGH IS A COUNTERMEASURES TECHNIQUE THAT SEeks TO PENETRATE A MINEFIELD BY CONCENTRATING ALL COUNTERMEASURES AND/OR TRAFFIC OVER A SINGLE NARROW PATH TO DEplete THE MINES IN THAT PATH AND THUS TO CREATE A MINE-FREE CHANNEL.

~~CONFIDENTIAL~~

~~(S)~~ NOTE:

"By forcing enemy units to take evasive action, these attacks increase the minefield effectiveness (by causing the craft to steer various courses and thus cover more of the field) and reduce effectiveness of a swept channel (by making navigation under fire more difficult or by forcing him to leave the swept channel)."

~~(U)~~ The capability to do this kind of planning requires a high degree of training, experience, and education in mine warfare. Dr. Lawrence Hoisington, Capt. Stuart Brownell, and Capt. Ward Lasley, of the OP 325 staff, the authors of the quoted memo, had the background required. Such experience and knowledge was not available throughout the chain of command.

SUMMARY OF THE MINING

~~(S)~~ The mining which commenced on 8 May continued for about eight months. The last mines were DST 36¹² placed in an inland waterway near Vinh by an A6 Aircraft from VA 35 from the carrier America on 14 January 1973. During these eight months, 108 MK 52¹² mines were laid in the Haiphong channels and about 11, 603 DST 36¹² were planted throughout the coastal and inland waters of the DRV. Ten aircraft carriers participated in the effort. ¹² One aircraft (a U.S. Navy A7E) was lost in the entire campaign.

~~(S)~~ U.S. Air Force aircraft from the Seventh AF seeded about 2,048 DST 36s on land targets to interdict trains, trucks, and other land vehicles. ^{These} land seedings are not included in the LINEBACKER/POCKET MONEY totals. Reseeding was carried out as necessary to keep the required fields active. An extensive reseedling of DSTs was required after it was determined that the early August solar storm had depleted the fields of all the sensitive DST 36 weapons.

~~(S)~~ Another sizeable reseedling was accomplished in December when the peace negotiations in Paris were suspended. The December reseedling was concentrated mainly in the Haiphong/HonGai/CamPha and Vinh areas.

~~(U)~~ A total of 1,149 sorties were required for the coastal and inland mine and DST fields laid throughout the eight-month mining campaign. This represented only about 3 percent of the total sorties conducted by TF 77 during the period of the mining.

¹² On 24 December 1972 an A7E from the carrier Ranger was lost while on a DST reseedling mission in the Cam Pha approaches. The aircraft was reported down in Lat. 20-56-34N Long. 107-16-15E.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

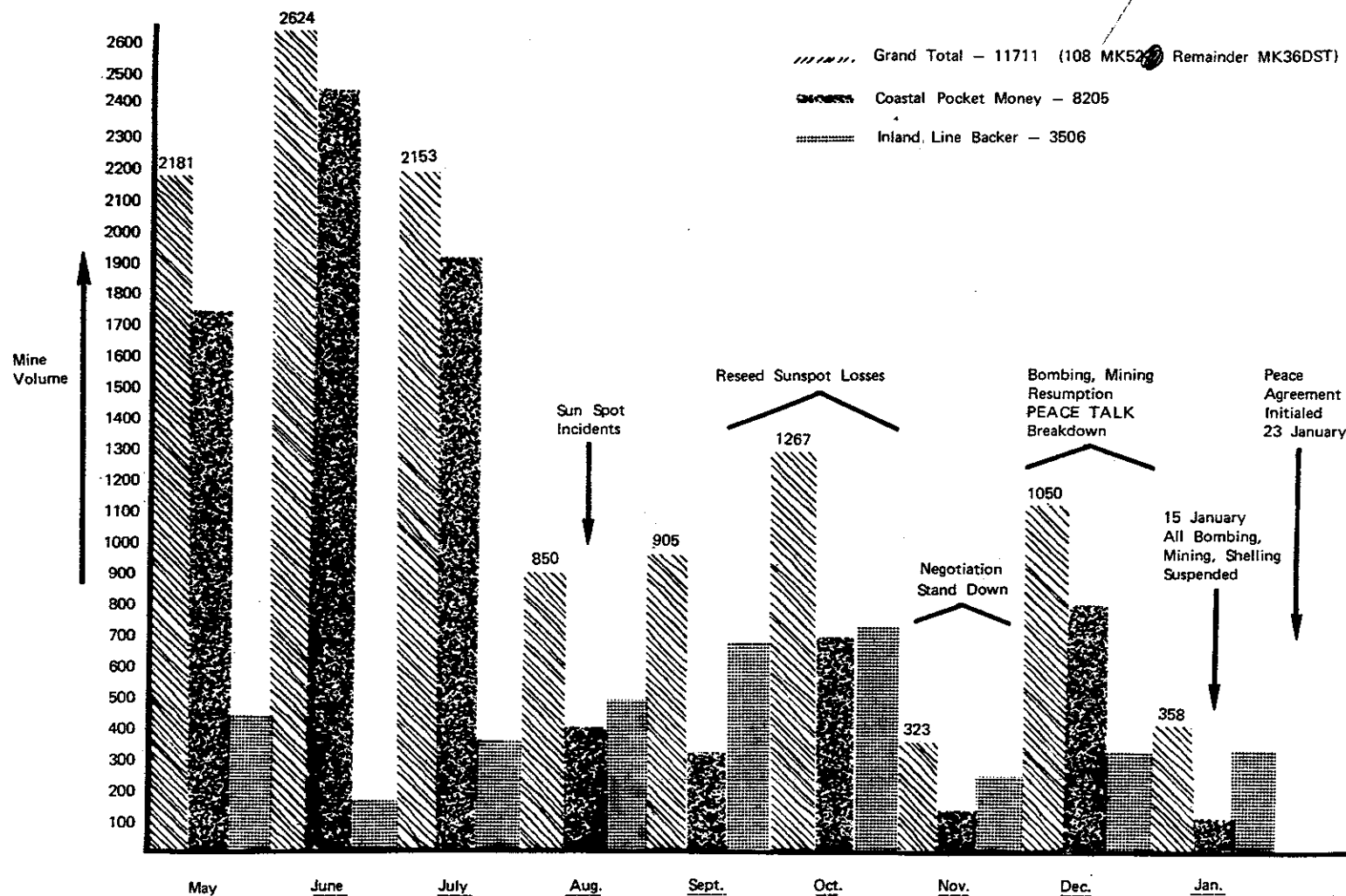
magnetic
magnetic and magnetic/beam
(C) Throughout the campaign, the only weapons used were the DST 36 ~~Modes 1, 2, 3, 4~~ and the MK 52 ~~mine~~ mines. The seismic/magnetic DST 36 ~~Mod 4~~ was available in a small quantity in August and a few were planted in selected areas. After receipt of the production ~~Modes 1, 2, 3, 4~~ in October, DST 36 Mod 4s ~~They~~ were used in quantity in November and December. The DST 36 ~~Modes 1, 2, 3, 4~~ *magnetic/beam* were used as a counter to NVN attempts to clear the mines. Although the NVN had developed a limited capability to counter the magnetic ~~Modes 1, 2, 3, 4~~ *DSTs*, there was no evidence that they ever succeeded in sweeping the magnetic/seismic ~~Modes 1, 2, 3, 4~~ or the MK 52 ~~mine~~. Figures 3-22, 3-23, and 3-24 depict graphically the magnitude, chronology, and geographic distribution of the mining campaign.

DST
magnetic mines

~~CONFIDENTIAL~~

CONFIDENTIAL

3-43

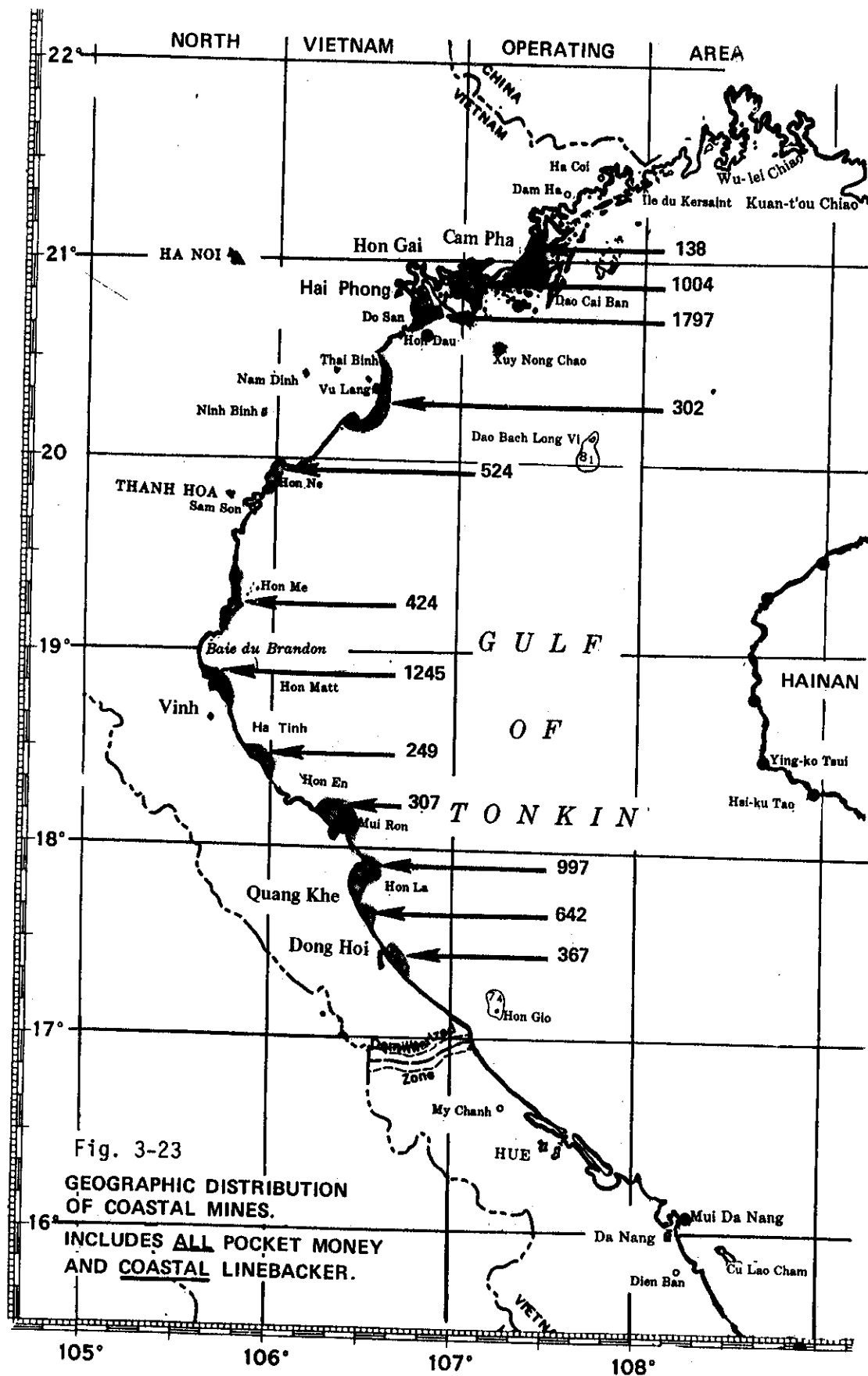


NOTES: May, August, December totals include 36 MK522 Mines. All other weapons - MK36 DST (Mod. 1, 2, 3, or 4). Mod. 4 DST listed in small quantities starting Sept. By Nov. production Mod. 4's available and used extensively. Dec. totals include 624 Mod. 4 DST. Coastal total includes all of Pocket Money plus the Coastal Linebacker. In all, 951 Mod. 4's were seeded.

Figure 3-22. Mining Campaign Chronology

CONFIDENTIAL

CONFIDENTIAL



CONFIDENTIAL

THE COASTAL MINING BY GEOGRAPHICAL DISTRIBUTION

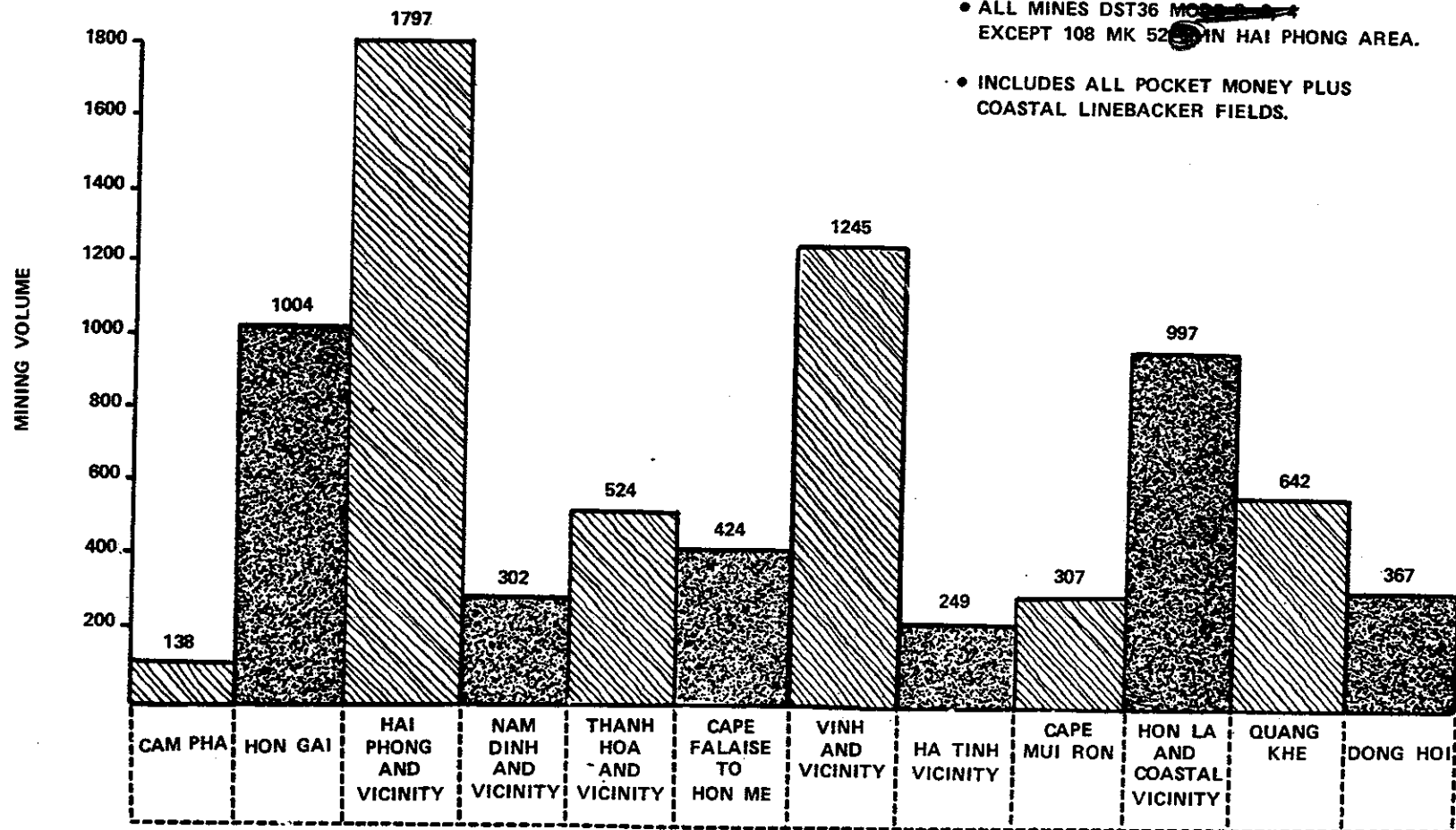


Fig. 3-24 Geographical Distribution

~~CONFIDENTIAL~~

OF SPECIAL INTEREST

MINE FIELD SURVEILLANCE

WEAPON DEVELOPMENTS

SELF-DESTRUCT MK 52-2

PACKAGED FLIGHT GEAR

DST MOD 4

WEAPON-SETTING ABOARD CVA

PREMATURE EXPLOSIONS

TECHNICAL ASSISTANCE

ENEMY MCM EFFORTS

DESTROYER UNDERWATER EXPLOSIONS

THE SUN SPOT INCIDENT

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Mine Field Surveillance

(A) Aerial reconnaissance of the mine fields was carried out on a regular basis commencing with the first laying on 9 May. In the first two days there was a great amount of interest in what the ships in Haiphong were doing, and the departure of the nine ships prior to the active period of the mine fields was discovered by the reconnaissance flights. Some of the pilots who did the initial mining volunteered to fly a reconnaissance mission over the field on the next day and spotted what appeared to be buoys marking the limits of the field. Once all seven harbors had been mined, the effort required to conduct reconnaissance over all the fields became a considerable burden on the operating forces. Later on, some reduction in the reconnaissance requirements was effected, but reconnaissance was maintained to the end of the mining operations. Some high-level SR71 recce was also carried out.

Will not
(C) In early June, a surveillance system was proposed which would record mine field explosions as a means of reducing the requirement for aerial reconnaissance flights. This system used SSQ-38 sonobuoys, 5-10 miles apart and parallel to the shoreline, with monitoring ships 5-6 miles from each buoy. Such a system was actually tested both in the GDT and CONUS. The attempts to monitor the explosions were finally abandoned because the detection of explosions in water less than 10 feet deep proved to be unpredictable.

(U) The reconnaissance flights, among other things, spotted ship traffic, photographed countermeasures efforts against the mines, and recorded WBLC traffic patterns attempting to bypass the mine fields.

(U) One effect of the mining was noted by reconnaissance and other sorties - the lessening of AA and SAM opposition to U.S. sorties.

Weapon Developments and Problems

(U) The extensive use of mines and DSTs under the specific conditions of use found in NVN highlighted the necessity for the changes in the weapons themselves, in their support, and in their employment.

capability for
Self-Destruct MK 52

(U) As mentioned earlier, considerations of possible future clearance operations entered into some of the planning for the minefields. The MK 52 series included a sterilization device which rendered the mine firing mechanism inoperative but left a still dangerous, high-explosive mass in the ship channel. In contrast, the DST weapons self-

~~CONFIDENTIAL~~

CONFIDENTIAL

(U) destroyed at the end of a pre-set period. The self-destruct feature eliminated any need to consider removal of the inert but dangerous weapon from further consideration in mine clearance operations. A self-destruct modification to the MK 52 sterilization device had been developed and approved for service use in 1967, so, when CINCPACFLT requested in late June that all future MK 52 weapons be altered to self-destruct, NAVORD was able to respond quickly. The Naval Mine Engineering Facility manufactured the necessary parts and sent the parts, ~~sterilization device~~, and technical assistance to NAVMAG Subic. The actual alterations were made at Subic.

The last 36 MK 52 mines laid contained the self-destruct feature.

Packaged Flight Gear

(U) Difficulties were experienced with the packaging of flight gear for the MK 52. The method of packaging being used allowed the entire quantity of one item aboard a CVA (a MK 19 fairing for instance) to be lost or damaged. This prevented the assembly aboard the ship of mines requiring that specific component. As an interim measure, COMSERVPAC pre-assembled the flight gear at NAVMAG Subic and shipped it to the CVA in a special box.

(U) Eventually, at the suggestion of Lt. Anderson from NMEF who was on TAD at NAVMAG Subic at the time, a flight pack (or Anderson Pack) was devised and issued with each mine. Each Anderson Pack contained all of the flight gear needed for that mine - a simple solution to an annoying problem.

~~DST Mod 4~~ magnetic/seismic DST

(U) In reviewing possible enemy countermeasures against the DST, ~~Mod 1, 2, and 3~~, early consideration was given to producing the more counter-measures-resistant ~~Mechanism~~ mechanism - a magnetic/seismic device which had been developed previously at NOL and needed only accelerated funding to be available for use in the mining campaign. As early as mid-May, it was indicated in NAVMAT documents that the ~~Mod 4~~ magnetic/seismic device could be ready for fleet delivery by 1 November if properly funded. The ~~Mod 4~~ mechanism required both a magnetic and acoustic signature in order to fire. The seismic unit was contained in a modified battery for the DST. In late June, the Pacific staffs, having observed MCM efforts in NVN, were looking for means of making the enemy MCM more difficult. Mr. J. R. Blouin from the Mine Warfare Division of NAVORD, who was then in Hawaii advising the CINCPAC science staff, recommended that the ~~Mod 4~~ 13 to be expedited. One hundred hand-made ~~new mechanism~~

(U) 13 The Chairman of the Joint Chiefs of Staff, Admiral Moorer, urged maximum support to speed up ~~Mod 4~~ production. Earlier, when he was CINCLANTFLT, he had supported the ~~DST~~ development.

CONFIDENTIAL

* An acoustic influence in the mine mechanism listens for the sound of a passing ship. Transmitted through the water, a seismic mechanism detects the ship sounds as transmitted through the sea bottom.

~~CONFIDENTIAL~~

~~(e)~~ mechanisms were readied at NOL and shipped in August. In use, they appeared to be effective in disrupting waterway traffic in limited applications. The production models, received by the fleet from October on, were used in large quantities. ~~In fact, over 600 of the POCKET MONEY DSTs seeded in December were Mod 4s.~~ There was no indication that the NVN succeeded in sweeping the Mod 4s. In all, 951 Mod 4s were used. *Removal of these mechanisms*

Weapon Setting Aboard a CVA

~~(e)~~ As mentioned earlier, the MK 52 series mines ~~are~~ *were* pre-set and tested at the mine depot - NAVMAG Subic in this case - in accordance with the specified settings in the Mine Settings Sheets (MSS) in the ~~Minefield Planning Folder~~ *mine field plan*. Once these settings had been made and the mine delivered to the CVA, the forces afloat had no capability to alter the settings made at the depot of such things as ship count, sterilization, and delay arming time. *for*

~~(e)~~ During April when the Haiphong plan was changed to use MK 52 ~~pressure~~ *magnetic* mines in place of MK 52 ~~pressure~~ *magnetic* pressure/magnetics, it was necessary to make up the new mines at Naval Magazine Subic Bay and transport them to the operating area.

~~(e)~~ As a result of this experience, the operating forces expressed a requirement for changing the settings aboard ship and for conducting limited circuit tests of the mine once the revised settings had been made. ~~Up to this time, the MOMAG Teams afloat had been charged only with inserting the detonators, attaching the flight gear, and attaching the arming wires - in short, readying the mine for laying.~~ *13*

~~(e)~~ The small numbers of MK 52 mines used in this entire campaign prevented this from being a major problem. Given the conditions existing, an increase in the afloat capability to alter mine settings was judged too complicated and time consuming for the MoMag Team. Furthermore, the testing required to insure proper operation after the changes had been made required more extensive equipment than was available or desirable aboard ship.

Premature Explosions

~~(e)~~ In the early weeks of mining, reconnaissance showed a significant number of premature, spontaneous explosions in the DST fields. ¹⁴ These were interpreted by the operating forces as being malfunctions in the weapon firing system. One setting on the DST allows a ~~short~~ *very* arming delay

~~(e)~~ ¹⁴ In a post-war interview, the mayor of Haiphong spoke of many explosions in the mine fields off Do Son soon after the mines were laid. See Chapter 4. Some of these could have been from the DSTs which were purposely set with short self-destruct times to insure that the NVN realized that there were live mines in their home waters.

~~CONFIDENTIAL~~

CONFIDENTIAL

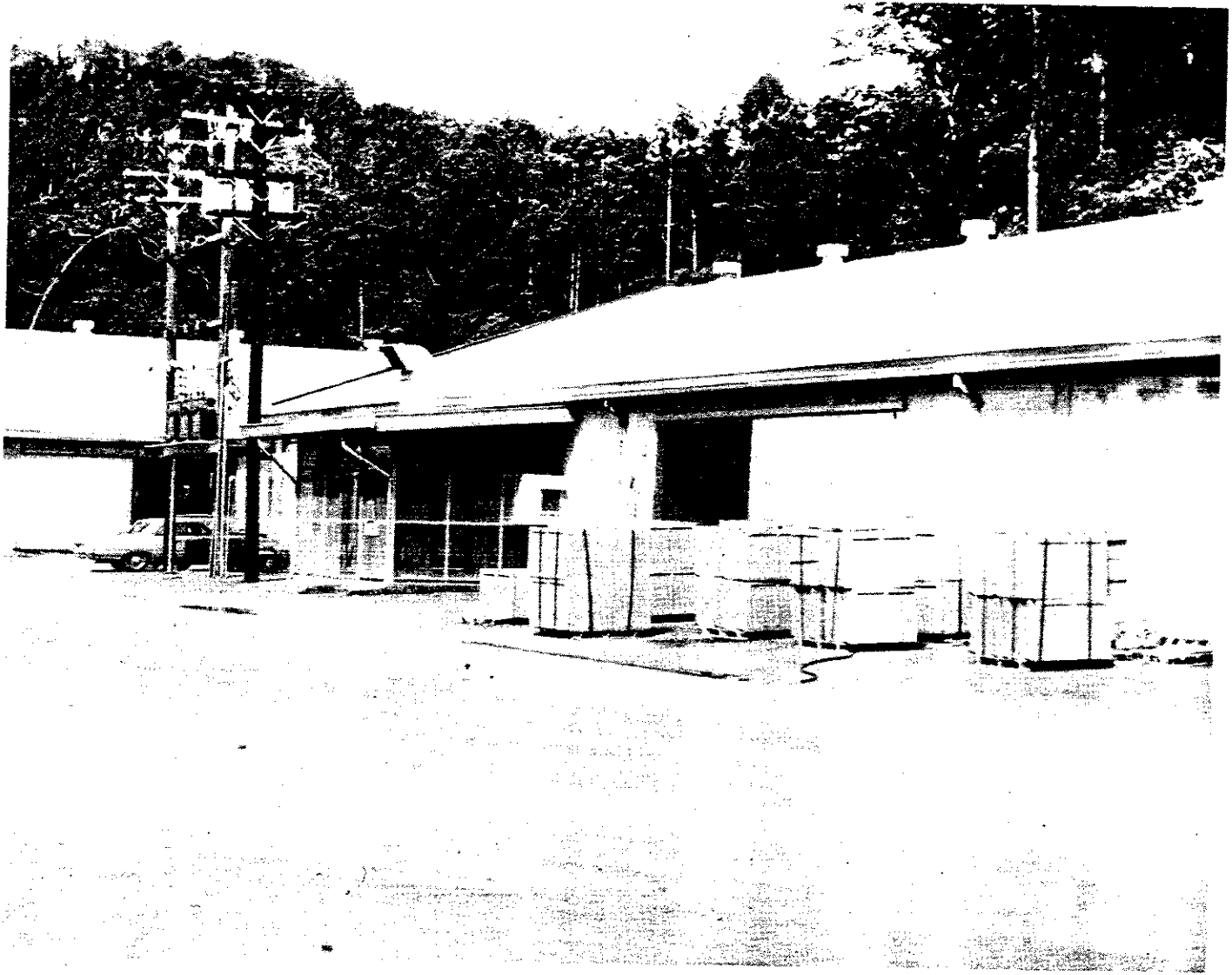


Fig. 3-25 Flight Gear Pack-Out Boxes - Andy Paks - at Subic

3-50

CONFIDENTIAL

(C) ~~time of 15 minutes~~, which means that the mine will become active ^{15 minutes} after striking the water. A magnetic-influence DST can receive a magnetic impulse from the movement of a metal object in the vicinity or from the weapon's self-movement in the earth's magnetic field. Mines dropped into water which is subject to tidal or other current effects are likely, particularly when they are first planted, to be moved by the currents; this is particularly true if the mine has come to rest on a sloping bottom. Usually, after a short period of time, the weapon achieves a degree of stability (settles in) and retains its position.

(C) The prematures observed were caused by the mine movement after the weapon was armed. The solution was to lengthen the delay arming time to give the weapon a chance to settle in before it became active.

MK 52 Flight Gear Failures

(U) In the initial use of MK 52s at Haiphong, difficulties were encountered with the parachute packs. On launch from the carrier and in flight, three parachute packs separated from the case; as a result, three mines were probably inoperative due to the mechanisms being damaged when the mine struck the water. "Paddle retainers" were ~~designed and installed on the mines~~, which prevented the pack from separating from the case until it deployed after release from the aircraft.

Technical Assistance

(U) As noted earlier, the responsibilities for the mining campaign taxed the mine technical and planning capabilities of the CINCPAC/CINCPACFLT staffs. CINCPAC had no provision for a mine warfare billet, and CINCPACFLT/COMSERVPAC, although assigned a total of three qualified mine warfare officers, including one graduate of the two-year post-graduate mine warfare course, did not have all of the capability required.

(U) Such items as the premature explosions, minefield options in the case of anticipated NVN countermeasures efforts, and various weapon setting and adjustment questions caused CINCPAC to request, in late May, that analytical assistance in mine warfare be sent to work with the CINCPAC Scientific Advisory Group. The Mine Warfare Project Office, acting for the Chief of Naval Material, sent Mr. Jim Seawright from the Naval Coastal Systems Laboratory, Mr. Bob Blouin from the Mine Warfare Division in NAVORDSYSCOM, and Mr. Len Gollobin, a private contractor with extensive mine warfare analytical experience. These highly qualified individuals were able to provide the assistance required.

(U) Although a Fleet Commander should not have to require outside assistance in order to conduct mine warfare operation, the important point, as far as this campaign is concerned, is that the necessary expertise was made available on short notice and the problems were solved.

~~CONFIDENTIAL~~

the parachute retaining mechanism was redesigned to prevent the pack from separating from the mine case until it struck the water.

~~CONFIDENTIAL~~

(U) However, qualified officers and men who are expert in mine warfare should be attached to all major operational staffs so that a ready capability exists to plan and conduct mining and mine countermeasures operations. There were no problems to be solved which well-qualified mine warfare officers and enlisted men could not have handled.

Enemy Countermeasures

(C) Throughout the mine-laying campaign, the NVN employed mine watching to localize mine/DST positions and explosions and employed some rudimentary sweeping procedures. Although there was no extensive mine clearance by the NVN forces, there were indications that they had limited success in certain areas in clearing DST 36 Magnetic ~~M~~ weapons.

(C) During the early DST seedings in 1967, the NVN were known to have dragged magnets over land areas and floated metal drums in waterways to detonate DST's. They had also used electromagnetic equipment (solenoids) mounted in trucks, tugs, barges, etc., to counter the earlier DSTs.

(C) On 20 May 1972 a summary assessment of the MCM capabilities available in the Asiatic communist countries was submitted to the CNO. Among other things, it noted that the enemy had recovered both MK 52 ~~2~~ magnetic and DST weapons in 1967, ~~and~~ a bow solenoid sweep had been spotted by reconnaissance in Haiphong, and that PRC T-43 minesweepers had a capability to sweep against influence mines. In the course of the U.S. mining in 1972, the bow solenoid-type sweep was observed on numerous craft in Haiphong, junks were observed in what might have been MCM formations, and two ships in the Haiphong Channel were observed in Jan 1973 towing what appeared to be closed-loop magnetic sweeps. The latter sweep configuration, similar to WWII German and later Soviet sweeps, could have been effective against the MK 52 ~~2~~ as well as the DST if the current output was strong enough. *magnetic* *magnetic*

(C) The bow-mounted solenoid was seen on several 50 - 60 foot wooden boats in Haiphong. It appeared to be a large ring mounted in or forward of the bow of the boat. The ring appeared to be supported by a spoke-like arrangement on a central shaft which had a center line in common with that of the boat. The power supply was a battery or a generator.

(C) An interesting sweep procedure was described for this device. The boat would steam on a spiraling course in close proximity to a known minefield and obtain sweep ranges of from 10 to 100 yards. With proper

O Bow Mounted Solenoids were used by the German Navy in WWII.

3-52

* the Chinese T-43's were of Soviet origin.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~(S)~~ Conditions of depth and DST sensitivity setting, the solenoid might have been able to actuate the DSTs at distances which would not destroy the boat along with the destructor. During the clearance negotiations, the NVN negotiator indicated that the bow solenoid sweeps were not effective.¹⁵ The U.S. developed similar, though more sophisticated, devices ~~such as the M-50~~ for possible DST clearance operations in SVN.

~~(S)~~ Simpler techniques were also employed by the NVN, such as:

- throwing pieces of metal over suspected mine locations,
- floating barges loaded with scrap metal over mined areas,
- towing iron pipes and rails behind manually propelled wooden craft, and
- attaching pieces of metal to the legs of water fowl and having them swim in the mined waters.

~~(S)~~ Outside help, to an undertermined degree, was used to assist in the clearance operations. Four Chinese MCM craft arrived in Haiphong in early August. The closed-loop magnetic sweep observed in January was indicative of Soviet technical assistance

~~(U)~~ Three news items from Asiatic newspapers during the period also give some insight into the mine countermeasures efforts:

~~(U)~~ The North Vietnamese Army Newspaper Quan Doi Nhan Dan, in the 14 May 1972 issue, carried a brief explanation of a mine countermeasure system using the principles of electromagnetism in a long wire.

~~(U)~~ On 13 May 1972, the Japanese-language newspaper Akshata in Tokyo showed a picture on its front page of North Vietnamese soldiers who were disposing of a mine laid in a river in Quang Binh Province.

~~(U)~~ The Chinese-language newspaper Bao Tan Viet Hao, printed in Hanoi, reported in its 4 October 1972 edition that minesweeping teams demolished mines by placing explosives on them during low tides.

~~(C)~~ Although there were instances of apparently successful sweeping in limited areas, ~~U.S. intelligence believes that they did not have a~~ significant impact on the minefield effectiveness.

It did not appear to have had a

15

~~(S)~~ When asked why NVN had built so many of the bow solenoid sweeps if they were not effective, the NVN representative stated that they needed many because many were blown up.

~~CONFIDENTIAL~~

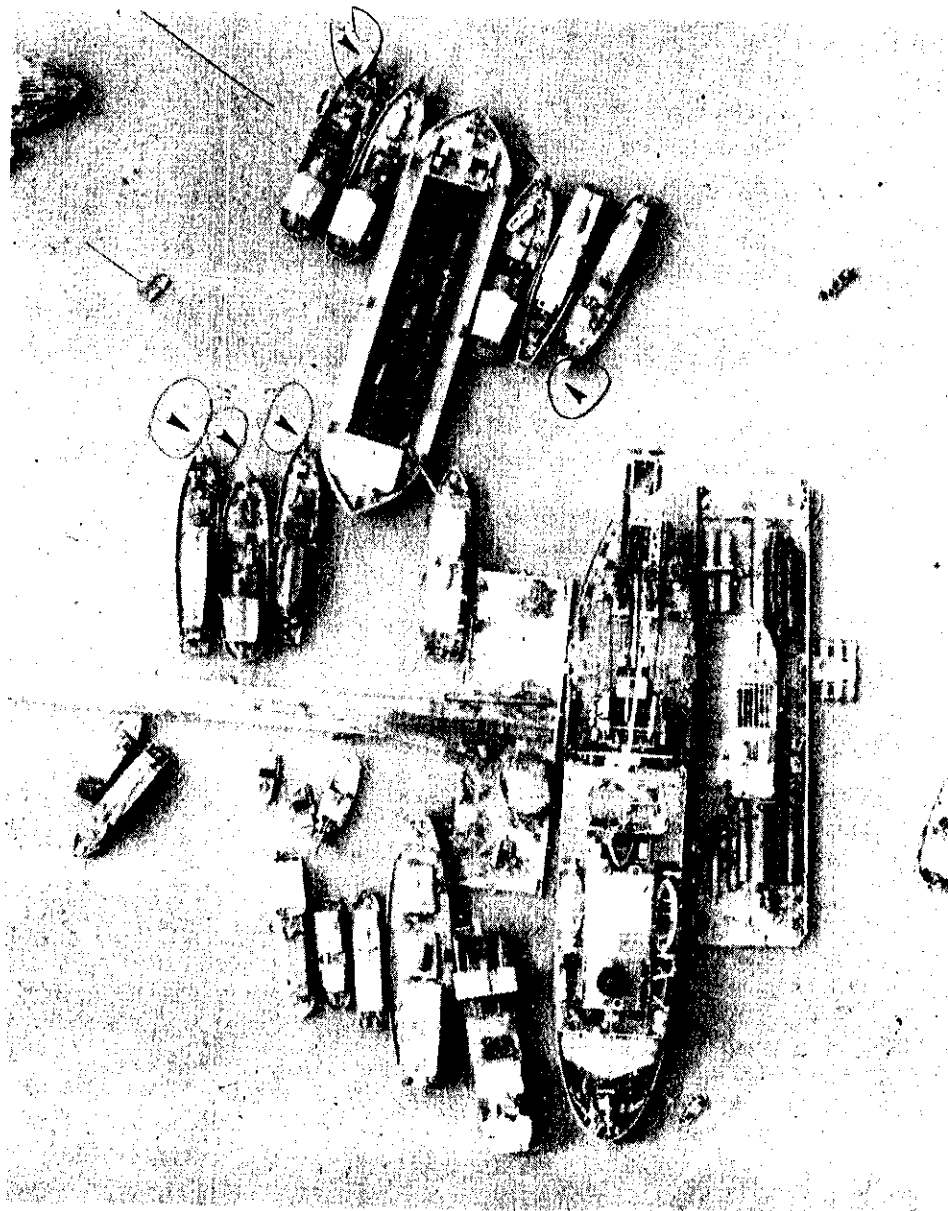
~~CONFIDENTIAL~~

(U) As a final note on the enemy's minecountermeasures capabilities, the evaluation made by some of the Washington-level planners is of interest. Their evaluation was that there would be no serious MCM effort on the part of the NVN for three reasons:

1. They (the NVN) knew they wouldn't be able to do the job effectively enough to open the ports and, even if they did, that the U.S. would reseed.
2. They knew their own sweeping was ineffective.
3. They would never be able to convince the ship owners and operating personnel that the channel was safe.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~



Make ARROWS
more prominent

Fig. 3-26 NVN Bow Solenoid Sweeps

3-55

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Destroyer Underwater Explosions

U.S. Destroyer Blast Blamed on Stray Mine
Washington Star - 8 Sept. 1972

"Naval investigators are now almost certain that two underwater explosions that damaged a U.S. destroyer off the coast of North Vietnam on July 17 were due to a misplaced American mine.

Earlier, top Navy officers said they were confident the explosion had not been caused by an American mine. This conclusion apparently was based on the assumption that all U.S. mines had been accounted for and that none was dropped where the ship was damaged.

The ship involved was the USS Warrington, a 27-year-old destroyer.

Navy sources said the vessel was so badly damaged she might be scrapped rather than repaired.

Examination of the ship, which was towed to the naval base at Subic Bay in the Philippines, and bits of metal from the device that caused the explosions indicate that she was damaged by an American Mark 36 destructor, Pentagon sources said.

The Mark 36 destructor is a 500-pound bomb fitted with a special fuse that permits it to function like a mine. As used in Vietnam, the converted bombs are normally used for mining rivers rather than harbors or coastal areas. The device was not the type that could have drifted from a mine field.

Speculation at the Pentagon is that the destructor was dropped accidentally - perhaps without the pilot being aware what had happened - in the offshore area where American ships were operating and lay on the bottom until the Warrington passed close enough to set it off.

The Warrington and two other destroyers were operating near the Hon La islands, about 20 miles from the North Vietnamese city of Dong Hoi, when the explosions occurred. The ships were shelling small vessels trying to move cargo ashore from three Chinese freighters anchored offshore.

One member of the destroyer's 270-man crew was injured but returned to duty after treatment aboard ship.

A final report on the incident reportedly is awaiting the approval of Adm. Bernard M. Clarey, commander-in-chief of the Pacific Fleet in Hawaii, and is to be released within the next few days."

Fig. 3-27 USS Warrington News Article

Copyright - The Washington Star 1972.
Reprinted with Permission

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Destroyer Underwater Explosions

(S) Beginning on 4 June 1972, five U.S. Navy destroyers experienced varying degrees of damage from zero to immobilization as a result of close aboard, underwater explosions in shallow water off the coast of Vietnam. Although a degree of uncertainty still exists as to whether the explosions were from errant U.S. Mark 36 destructor weapons or from enemy-laid mines, the conclusions reached by U.S. Navy explosion, hull structure, and intelligence authorities after extensive investigation indicate that the destructor performance envelope fits the incidents more closely than any known enemy mines.

(C) During the negotiations that ended the war and arranged the mine clearance operations, the North Vietnamese claimed that the area had been mined by their forces. They refused, however, to give any further information on the subject, and there is no evidence to support their claim. When told that the information on the mines was required for the safety of U.S. ships, they replied that the mines were all safe and that there was no need to worry about them.

(U) The incidents are of significance and interest to the history of the mining campaign for two reasons. First, there is little literature, other than test reports, that gives specific results of mining. If these were DST 36 explosions, there is something to be learned of their effectiveness with respect to a destroyer target. Secondly, the fact that friendly mine weapons can be accidentally planted in waters being used by friendly forces should be taken into account by future mining operational planners.

(U) Figure 3-27 is a summary of the incidents and Figure 3-28 shows the geographic locations.

(C) On 4 June, USS Strauss (DDG16) was conducting a naval gunfire mission about 20 miles northeast of Dong Hoi on a track used repeatedly for naval gunfire purposes when she experienced two explosions about 16 seconds apart - one being located 100 feet ahead and the other 95 feet on the starboard beam. Water depth was estimated to be 60 to 100 feet. Strauss was making 25 knots. Although she received a coating of bottom mud as high as her radome, Strauss received no hull damage and only very light equipment damage as a result of these explosions.

(C) On 17 July, USS Warrington (DD 843), also on a naval gunfire mission in the same area and using the same general track as the Strauss, received heavy hull and installation damage when she was hit by two underwater explosions in what were presumably mine-free waters.

(C) The closest U.S. DST fields to the Strauss/Warrington explosions were 9-12 miles away in the vicinity of Dong Hoi and Quang Khe.

~~CONFIDENTIAL~~

CONFIDENTIAL

SHIP	DATE	LOCATION	NO. OF EXPLOSIONS	PLUME HEIGHT, DIAMETER IN FT.	CLOSEST DISTANCE FROM SHIP	DAMAGE
USS STRAUSS (DDG 16)	6.4.72	17° 44'N/106° 41'E	2	70 h x 90 d	95 feet	Very Light
USS WARRINGTON (DD 843)	7.17.72	17° 43'N/106° 43'E	2	50-60 h x 125 d	18-27 feet	Heavy; Ship Stricken from Navy List
USS HOLLISTER (DD 788)	8.17.72	16° 51'N/107° 20'E	1	10-12 h x 15-20 d	60 feet	None
USS HOLT (DE 1074)	8.21.72	16° 59'N/107° 13'E	2	40 h x 35 d	40 feet	Very Light
USS HOEL (DDG 13)	12.17.72	17° 32'N/106° 44'E	1	100 h	---	None.

Fig. 3-28 Data Summary U.S. Destroyer Underwater Explosions

3-58

CONFIDENTIAL

Map of the Gulf of Tonkin

Legend:

1. STRAUSS 6/4/72
2. WARRINGTON 7/17/72
3. HOLLISTER 8/17/72
4. HOLT 8/21/72
5. HOEL 12/17/72

Shaded areas indicate limit of minefield claimed by NVN.

Geographic Labels:

- North:** NORTH VIETNAM, CHINA, VIETNAM
- Area:** OPERATING AREA
- Coastal Features:** HA NOI, HON GAI, CAM PHA, HAI PHONG, DO SAN, HON DAU, THAI BINH, VU LANG, NAM DINH, NINH BINH, THANH HOA, SAM SON, HON NE, HON ME, BAYE DU BRANDON, VINH, HON MATT, HA TINH, HON EN, MUI RON, QUANG KHE, DONG HOI, HON LA (+1, +2, +5), HON GIO (+4), MY CHANH, HUE, MUI DA NANG, DA NANG, DIEN BAN, CU LAO CHAM.
- Islands:** HA COL, DAM HA, WU-LEI CHIAO, ILE DU KERSAINT, KUAN-T'OU CHIAO, DAO CAI BAN, XUY NONG CHAO, DAO BACH LONG VI, HAINAN, YING-KO TSUI, HAI-KU TAO.
- Water Body:** GULF OF TONKIN

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(U) Warrington was towed to Subic Bay for an investigation and a survey of the damage. Pieces of metal from the explosion were found on the deck. When analyzed, this metal was found not to be a DST fragment but was adjudged to have been debris lying on the bottom in close proximity to the weapon when it exploded.

(U) Investigative opinion of both the Strauss and Warrington incidents concluded that U.S. DSTs were the most probable cause of the damage. Supporting this theory, among other facts, were (1) that only the DST of U.S. mine weapons and known foreign mines was sensitive enough to be actuated ahead of a destroyer-size target, and (2) that the 192 pounds ~~explosive~~ explosive charge in the DST 36 could be equated to the damage sustained by the two ships.

(U) The two incidents occurring in the same general area caused some concern for the safety of other U.S. forces operating in the vicinity, and further operations were restricted by the promulgation of a danger area encompassing the location. Consideration was given to conducting a ~~150~~ magnetic sweep of the danger area, but, because of the risks to ~~sweeping~~ sweeping sensitive DSTs in relatively shallow waters, it was decided to delay the sweep until after the expiration of the maximum ~~(100 days)~~ DST self-destruct period. However, it was overtaken by events and never carried out. Environmental tests were conducted in the area in preparation for possible sweeping.

(U) One month after the Warrington experienced her two explosions, USS Hollister (DD 788), a destroyer of the same vintage as Warrington, experienced one underwater explosion about 60 miles southeast of the Strauss/Warrington area off the northern end of South Vietnam. The depth of water was 60 feet, and Hollister was making 15 knots when an explosion occurred 60 feet off the starboard quarter. Heavy concussion was felt throughout the ship, but no damage was sustained. As in the case of the Strauss and Warrington, a water plume and a circular discolored area were observed by the ships personnel.

(U) Four days later, on 21 August, USS Holt (DE 1074), operating at 15 knots about 6 miles off the DMZ, was subjected to two underwater explosions in a water depth of 66 feet. The closest explosion was estimated to be 40 feet off the port side. Water plumes and circular areas of discoloration were sighted. Only light equipment damage and a fire brick failure in one boiler was reported.

(U) ~~The Holt damage, or lack of it, is of some special interest. Holt is a new ship which received the benefits of shock-hardening in her design and construction. Subjected to a shock factor only slightly less than that which badly damaged the Warrington, Holt received no hull or major propulsion plant damage and continued operations.~~

* Characteristics of the ocean bottom and the water have a significant effect upon the performance of magnetic minesweeping gear in any specific area.

3-60

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(C) The series of underwater explosive incidents concluded on 17 December when USS Hoel (DDG 13) experienced one heavy underwater explosion when operating about 8 miles northeast of Dong Hoi in the general vicinity of the Strauss and Warrington incidents. Hoel observers saw a 100-foot plume and an underwater glow and felt a shock "similar to a gun mount firing". There was no damage to Hoel.

(C) Of the five incidents, three involved two separate but closely-spaced explosions. This could have been caused in either of two ways. First, the destroyer could have actuated both mines in a quick sequence. The other possibility is that the second explosion was caused by a sympathetic actuation from the detonation of the first weapon. ~~DST mechanisms~~ *Some Mine* are subject to the sympathetic explosion phenomenon over a fairly large range of distances. ~~This sympathetic detonation characteristic~~ *Possibility* ~~was~~ *was* a consideration in the planning for the clearance operations.

WRAP (U) If the conclusions reached by the investigators that the explosions were of DST 36 origin are accepted, it is apparent that the DST can damage a destroyer-sized ship severely under favorable conditions in relatively shallow water.

(U) One newspaper quoted the Navy as saying that it would cost \$4,000,000 to restore the Warrington to operating condition. In view of the expense and other factors, the Warrington was stricken from the Navy list and never returned to active service. That is a most effective use of a \$720. DST.

(U) Why were U.S. DST weapons scattered in significant numbers in waters being used constantly by U.S. ships? This aspect of the underwater explosion incidents has not been analyzed extensively. Equipment failures, errors in navigation, inadvertent jettisoning, and aircraft operational safety emergencies could all have played a role. The important point is that a means for accurately recording and reporting such events should be employed in future mining campaigns.

* 1972 price.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

SUN GASES
TILT EARTH'S
MAGNETISM

BOULDER, Colo. (UPI)- Intense magnetic storms, triggered by exploding gases on the surface of the sun, swept the earth yesterday threatening to cause power blackouts near the poles and pigeons to lose all sense of direction.

The storms were among the most intense ever observed by the National Oceanic and Atmospheric Administration (NOAA). Possible power losses were predicted in Canada, Alaska, Sweden, and countries in the extreme Northern Hemisphere.

- UPI Story 5 May 1972

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Sun Spot Incident

(C) On 4 August a Task Force 77 aircraft sighted 20-25 explosions in a DST field near Hon La. The explosions were random and spread over a two-mile length within a 30-second time span. In the same vicinity, aircraft crew members sighted 25 to 30 mud spots, indicating that other possible detonations had occurred, and, in addition, several destroyers reported feeling numerous underwater shocks. There were no obvious reasons for the detonations. Were the DSTs exploding prematurely, as they had earlier when the delay time was set too short? Did the weapons countermine extensively in response to one detonation? Or were some other phenomena causing the problem?

(C) Premature firing was ruled out quickly when it was ascertained that the DSTs in that field had been in place for four weeks or more. Nor could the self-destruct feature have been responsible, because the closest self-destruct time setting was not due for 30 days, and these mechanisms had a history of only a very small percentage of malfunctions.

(C) On 12 August, CINCPACFLT requested assistance from Washington in determining the cause of the multiple, simultaneous explosions, and asked specifically if an aircraft could have been the cause. COMNAV-ORDSYSCOM was given the lead by the Mine Warfare Project Office in providing the technical assistance required.

(C) On 15 August, a most interesting development took place. CINCPACFLT (in another message) discussed the possibility that the severe solar storms of early August had triggered the DST mechanisms. He asked for an analysis of this hypothesis. The connection between the solar storms and the explosions was first postulated by the Operational Evaluation Group (OEG) representative on the staff of the Commander in Chief, Pacific Fleet. At this point, the CNO requested additional assistance from another source - the Mine Advisory Committee of the National Academy of Sciences.

(C) It had been known for some time that geomagnetic fluctuations could cause certain magnetic mines either to detonate or register a magnetic look. The DSTs in NVN waters at that time required only a magnetic influence to fire. Geomagnetic fluctuations are one characteristic of solar storms, and during the period of 3-8 August, the most intense solar storm in 25 years was taking place. Magnetic field variations due to solar storm activity are detectable over the entire globe, although intensities differ at different locations. The more intense variations ~~can range up to several hundred gamma, which is much~~ more than enough to actuate DSTs on the more sensitive settings, and the frequency of the variations can vary in duration over a range which

~~CONFIDENTIAL~~

CONFIDENTIAL

(C) can meet the DST firing requirement. Measurements of geomagnetic activity are made on a routine basis at various laboratory and observation posts throughout the world. Among other recorded measurements, Dean Carl Menneken of the Naval Postgraduate School at Monterey, California, who had been a long-term member of the Mine Advisory Committee of the National Academy of Sciences, maintained an instrument, and he played a prominent role in the effort that was made to analyze the cause of Hon La explosions.

(U) By 16 August, NAVORD was ready with preliminary comments for CINCPACFLT:

(C) Aircraft at speeds greater than 20-30 knots should not activate the DST mechanism because the rate of change in the magnetic field intensity would be too fast.

(C) If the DSTs were spaced closer than 30 to 70 feet - depending upon the firmness of the bottom - the explosion of one weapon could damage an adjacent weapon in such a way that the self-destruct circuit would activate. (However, it was known that the weapons had been seeded to further apart than 30 to 70 feet). There was another possibility of sympathetic detonation with DSTs set on high sensitivity settings. Out to several hundred feet - again depending on the firmness of the bottom - an explosion of one weapon could cause enough movement of an adjacent weapon in the earth's magnetic field to actuate the firing circuit. (This DST characteristic was considered in the destroyer underwater explosion investigations and also in the planning for clearing the minefields.) The PAC option tended to prevent such occurrences since it inactivates the firing circuit for 100 out of every 150 seconds when cut.

Far Apart To
that to happen

(C) Significantly, the NAVORD message went on to indicate concurrence with the CINCPACFLT hypothesis that anomalous signals from the solar system activity would be of sufficient length and intensity to have fired the DSTs. They concluded that a significant portion of all the sensitive-setting DSTs could have been fired by the solar activity.

(C) A major effort to analyze the magnetic perturbations associated with the early August solar storms was instigated, with Dean Menneken from the Mine Advisory Committee and Mr. Harry Wolf from the Naval Ordnance Laboratory playing prominent roles. Widespread inquiries were made to locate sources of data on the magnetic storm activity suitable for use in ascertaining the effect on the DST fields. The best source turned out to be a scientist taking data for the National Oceanographic and Atmospheric Administration near Boulder, Colorado, and Menneken and Wolf flew there for a meeting. Data from a Solar Satellite maintained by the Naval Research Laboratory and from the Army Tank Automotive center in Michigan were also used.

However, certain features of the DST firing mechanism tend to prevent such occurrences.

~~CONFIDENTIAL~~

(C) In addition, tests were scheduled using actual DST mechanisms and other instrumentation during the next forecast period of sun spot activity in early September. Measurements were arranged to be taken at Fort Belvoir, Virginia; Maui, Hawaii; Boulder, Colorado; and the Naval Weapons Station at Yorktown, Virginia.

(C) As a result of the extensive analytical effort, the Naval Ordnance Systems Command on 5 September advised CINCPACFLT and all others concerned that there was a high degree of probability that all the sensitive and some insensitive DSTs seeded in NVN waters had been detonated by the solar storm activity in early August. The September storm activity, as it turned out, did not have sufficient magnetic activity in the frequency range needed to fire DSTs to have had any effect on the mine fields.

(C) Dean Carl Menneken of the Naval Postgraduate School and Mr. Harry Wolf of the Naval Ordnance Laboratory both filed reports on the Sun Spot Incident.

(C) Although the effect of geomagnetic fluctuations on magnetic mines was a well-known phenomenon, this was the first example of what happens to a major mining campaign in the face of the vagaries of nature. In due course, the JCS ordered the depleted fields reseeded. Perhaps more significant, however, was the arrival in quantity of the DST ~~Mechanism~~ ^{MAGNETIC/SEISMIC} which, because it required both a magnetic and a seismic influence to actuate, could not be detonated by solar storm activity alone.

(C) Large numbers of the ~~Mechanism~~ ^{NEW VERSION DSTs} were seeded in the late fall.

(C) There was no indication at that time, or later during the negotiations at Paris or during End Sweep, that the North Vietnamese were aware of any unusual mine field activity due to the solar storms.

mine clearance operations

CONFIDENTIAL

~~CONFIDENTIAL~~

Blank Page

3-66

~~CONFIDENTIAL~~

~~UNCLASSIFIED~~

Chapter 4 - EFFECTIVENESS OF THE MINING

- Admiral Dare's Assessment
- Appraisal
 - Quantifiable Results
 - Unquantifiable Results
- Asiatic News Media Reports
- Sir Robert Thompson's Statement
- Interview with Mayor of Haiphong

~~UNCLASSIFIED~~

UNCLASSIFIED

CHAPTER 4

EFFECTIVENESS OF THE MINING

~~(U)~~ The President stated, in announcing the mining of the ports of North Vietnam, "that Hanoi must be denied the weapons and supplies it needs to continue the aggression."

~~(U)~~ In the following pages the effectiveness of the mining will be assessed briefly both in light of the President's purpose and in accordance with normally-accepted criteria of mining effectiveness. The cost of the mining, including the weapons and the aircraft delivery costs, has been calculated to be \$9,506,314.¹ One A7E aircraft was lost on a mining mission - its value was \$3,030,000. For the \$12.5+ million expended directly on the mining, what was the return?

~~(U)~~ On 22 May 1972, New York Times correspondent Lewis reported from Hanoi that foreign observers in the NVN capitol agreed that mining had effectively closed the ports.

Admiral Dare's Assessment

~~(U)~~ Rear Admiral James A. Dare, U.S. Navy (Ret.), writing on 5 June 1972 (only recently retired from Commander Mine Warfare Force), summarized the results of the mining to that date:

~~(U)~~ "As of this writing, the investment of only 36 MK 52 and approximately 2,000 DSTs in both POCKET MONEY and LINEBACKER operations has paid handsomely. The fields remain essentially intact after 25 days, and it seems certain that no major cargoes have transited the planted areas. To my knowledge, no one has been killed or injured, friend or foe, as a direct consequence of these operations. If this situation continues, it will be well noted as humane, cost effective, and a most unambiguous expression of national intent. Contrary to the general press reaction, a respected mine field is a de-escalating factor since it must inevitably reduce actions which require material support. It also separates forces which might otherwise make contact."

~~(U)~~ The Defense Intelligence Agency prepared an appraisal of the effectiveness of the mining dated 23 August 1973. Much of the material which follows has been extracted from the DIA document.

~~(U)~~ ¹ Compared to a cost of \$17.5 million for 56,611 mines in the North Sea barrage in WW I.

UNCLASSIFIED

CONFIDENTIAL

In the late summer of 1973, intelligence sources

(U) summarized the direct and indirect results of the mining campaign which took place from May 1972 - January 1973 against the waterborne movement of supplies into and through North Vietnam. In assessing the effectiveness of a mining campaign, it is well to keep in mind a quotation from the final report² of Project Nimrod prepared by the Mine Advisory Committee of the National Academy of Sciences in 1970:

"Sea mines can be used to channel traffic and thus to create focal areas in which other weapon systems may operate with increased effectiveness; this synergistic effect should be counted to the credit of the mine field
. The resulting synergistic effect can raise the cost to an enemy far above that due to either the mine field or the other weapon alone."

Bombing alone could not have achieved the results that were achieved in NVN, nor could mining of the ports alone have done the job. It was the combination of all factors which made for success. However, the mining was a unique contribution which could not have been duplicated by other means.

APPRAISAL

(U) When the mines were activated on 11 May, Haiphong, Hon Gai, Cam Pha, and other ports were closed to shipping and 27 foreign ships chose not to risk crossing the minefields and remained in North Vietnamese ports.

(C) Prior to the mining, North Vietnam's maritime imports from its communist allies averaged an estimated 200,000 tons per month (Fig. 4-1). This represented about 85 percent of its total imports. With the ports closed, North Vietnam had been effectively denied its primary means of receiving foreign aid. Ships carrying North Vietnamese cargoes were diverted to ports in South China within two weeks. However, offloading of the Vietnamese cargo in China was slow. By the end of August, only an estimated 106,000 tons had been discharged in Chinese ports, and it was not until September that deliveries reached significant levels.

(C) The extended overland movement from the Chinese ports to North Vietnam created further delays. By the end of 1972, some 90 ships had delivered only 530,000 tons of North Vietnamese cargo to Chinese ports. During the same period in 1971, a total of about 380 ships delivered 1.4 million tons of cargo to North Vietnamese ports.

² Final Report of Project Nimrod, Volume I, MAC NAS 2028, 15 January 1970, pg 31

CONFIDENTIAL

CONFIDENTIAL

4-4

CONFIDENTIAL

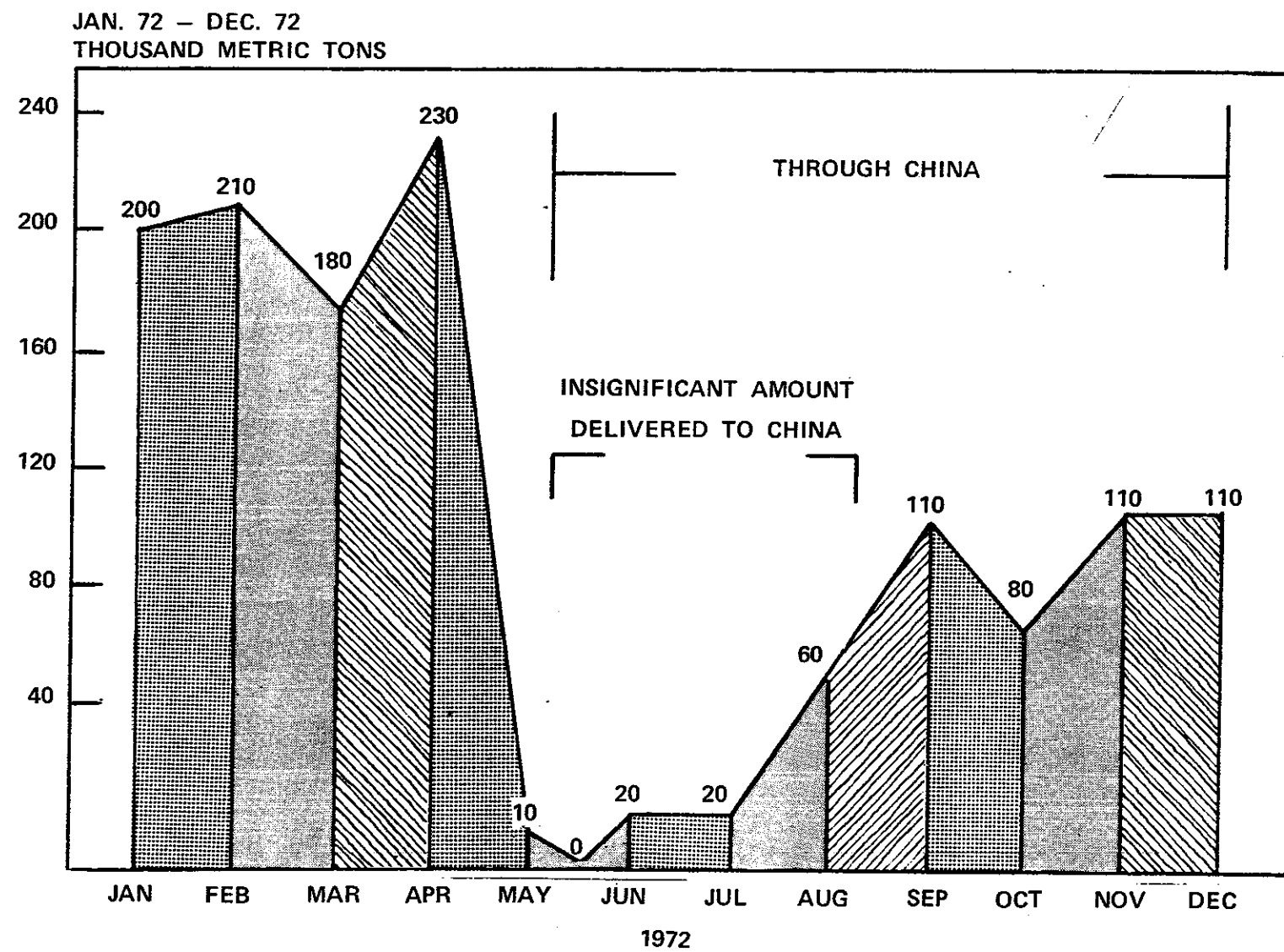


Fig. 4-1 Bar Chart of Mining Effect on Imports

~~CONFIDENTIAL~~

(C) To alleviate the impact of the reductions and the delays in delivery of seaborne imports, emphasis was centered on importing only essential commodities and less urgently needed imports decreased. As a result, the total amount of aid delivered to North Vietnam in 1972 was estimated to be 30 percent less than in 1971.

(C) With direct seaborne delivery stopped, the North Vietnamese were forced to rely on POL pipelines in order to maintain POL stockpiles.

(U) The mining also affected North Vietnam's export capability. With no outgoing shipments after May, the country's 1972 exports ceased.

(C) Other seaborne resupply into North Vietnam was denied by air strikes, naval gunfire, and strategic mining along North Vietnam's entire coastline. By the end of May, these actions had halted coastal shipping by the North Vietnamese. As an alternate method of seaborne resupply, the North Vietnamese began trying to float waterproof bundles of supplies ashore from Chinese ships at Hon Nieu and Hon La anchorages. However, much of this cargo was lost in attacks by U.S. forces and directional shifts in the wind and currents. Only 150 tons of seaborne supplies per day are estimated to have entered the panhandle logistic system, compared to 800 tons per day prior to the mining. This reduced level continued until mid-January 1973.

(C) The denial of coastal shipping and other seaborne resupply forced North Vietnam to rely heavily on interior transport routes for moving essential cargo into and through the panhandle. However, movement on these routes was also severely impeded. By early June, LINEBACKER strikes had damaged the North Vietnam rail system to a point where the lines south of Hanoi were closed and only an extremely small amount of shuttling on the northeast line was possible. With through rail traffic curtailed and no significant through waterway connections, highway transport became the principal method for moving war-supporting cargo southward through the panhandle.

(C) In the Red River Delta region, inland waterways became the primary mode for moving bulk cargo and, when available, were also used to bypass significant land-route interdictions. Most of the heavily travelled waterway routes were mined with MK 36 destructors, which impeded movement.

(U) A comparison of the load capacities of railroad cars, river barges, and cargo trucks illustrates why the North Vietnamese had placed such emphasis on rail and river traffic. The comparison points out the magnitude of truck traffic required to overcome a reduction in either rail or waterway logistics traffic. For example, a tug pulling four medium-sized barges can move 1,000 tons of freight. To move the same amount by land would require 250 trucks and drivers or 40 railway

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

(U) cars. These examples do not address the maintenance requirements of 250 trucks or a train versus the requirements of a single tug pulling four barges.

(C) By mid-June, the increased burden on highway transport was evident. Traffic was heavy on roads between the Chinese border and Hanoi.

(C) Although the NVN countermeasures efforts were evaluated as having made little impact on the effectiveness of the mine field, the NVN did employ various types of magnetic minesweeping methods varying from primitive to fairly sophisticated. Chinese minesweepers were used as well as Soviet technology. It is one measure of how effective the NVN considered the mine field that they did employ considerable effort in trying to counter the U.S. weapons.

(U) A residual effect of the mining was the deterioration of the deep ship approach channel into Haiphong. Because the mines prevented dredges from operating, about two feet of silt accumulated in the channel and reduced its depth to 23 feet at high tide.

There were (U) Although there were other important factors contributing to the cease-fire agreement, such as the B-52 strikes against the Hanoi area, intelligence analysis identifies numerous results that can be linked almost solely to the U.S. mining of the North Vietnamese ports.

(C) The mining of North Vietnam is believed to have accomplished the following quantified and unquantified results:

Quantifiable Results

- Closed the Democratic Republic of Vietnam's three maritime ports to foreign shipping for 300 days.
- Forced a 400-1400 mile railroad movement through the Peoples Republic of China to the Democratic Republic of Vietnam.
- Inactivated 27 foreign supply ships for 8000 ship days.
- Reduced total imports by 30 percent.
- Halted all Democratic Republic of Vietnam's exports, eliminating source of foreign exchange.
- Reduced coastal shipping to panhandle from 800 tons per day to 150 tons, increasing burden on interior transport system.

Unquantifiable Results

- Forced movement of imports over the vulnerable railroad, increasing impact of LINEBACKER strikes.³

³ Although this example is not fully authenticated, *this* is a good illustration of the synergistic effect in action. Prior to the mining, the railroad to Red China was not heavily travelled and the supply trains which carried up to 12 percent of NVN's inputs could travel by night and hide in tunnels by day-unseen by the air interdicting forces. After the mining the railroad traffic increased, *and was subjected* to air bombing.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

- ~~(U)~~ Damaged and destroyed WBLCs, impeding waterway movement and increasing burden on less economical truck transport; diverted unknown amounts of manpower into logistic support.
- Delayed southbound movement of supplies as well as personnel, causing temporary shortages in Southern Democratic Republic of Vietnam, South Vietnam, Laos, and Cambodia.
- Provided a negotiating lever in Paris talks.
- Created a continuous deterioration of the Haiphong channel.

Asiatic New Media Reports

~~(U)~~ As matters of interest to a student of the mining campaign, other sources provide pertinent information on the effects of mining.

Asiatic newspapers printed the following:

"Barges of the Minh Tien Transport Cooperative Haiphong transported 760 tons of cargo through the mined waters during the three months of June to August."⁴ (1972)

"Foreign vessels anchor off shore and unload cargoes on to the barges which transport them to shore."⁵

"Further, 500 tons of lumber made into rafts were transported through the mines."⁶

~~(U)~~ It is worth noting also that U.S. Navy Attack Squadron 52 in their squadron history for 1972 reported a sharp decrease in AA fire and in the enemy's use of surface-to-air missiles during the summer of 1972.

~~(U)~~ Finally, history does record that the DRV did return to the negotiating table and that the Peace Agreement itself did follow the mining campaign. It is not the intent of this history to assign the coming of peace as a direct result of the mining; however, it played a part. ~~the~~ ~~assessment, on which the material in this assessment is largely~~ based, concluded that mining of the ports in conjunction with earlier interdiction operations may have shortened the war considerably.

Intelligence Source

Sir Robert Thompson's Statement

~~(U)~~ Sir Robert Thompson, a British official in Malaysia during the successful campaigns against the communist guerillas from 1948-1960 and later (1969-1971) advisor to the U.S. President, wrote the following in 1973:

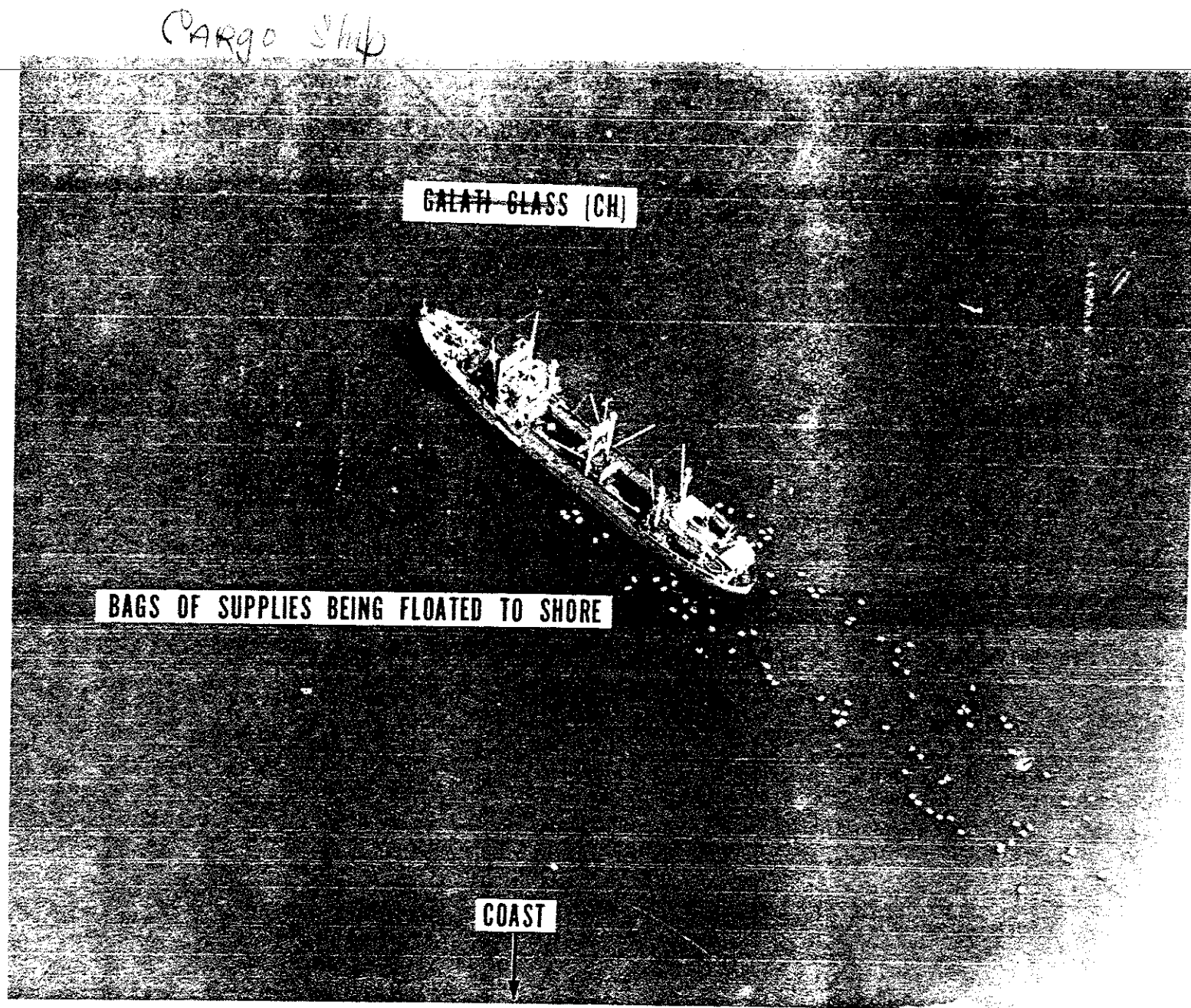
⁴ BAO TEN VIET HOA, 27 September 1972, Hanoi, Pg. 2.

⁵ JAN MIN JIH-PAO, 26 August 1972, Peking, Pg. 6.

⁶ LAO DONG, 12 July 1972, Hanoi, Pg. 1.

~~CONFIDENTIAL~~

CONFIDENTIAL



4-8

CONFIDENTIAL

Fig. 4-2
Freighter Anchored Outside
Mine Field Floating Supplies Ashore in Plastic Bags

(U) "There were three main pressures operating on Hanoi: the defeat of the invasion and the enormous casualties suffered by NVA divisions in the South, certainly over 100,000 killed and possibly as many as 150,000; the disruption in the North caused by the bombing of communications and the mining of Haiphong; and the certainty of President Nixon's reelection. The renewed bombing of Hanoi in December presented Hanoi with its first real crisis. Surface to Air Missiles were expended much faster than they could be resupplied. Fuel, lubricants, and food were in short supply and the means of distribution disrupted. All electrical power and other war-making facilities were destroyed. There was also the risk that all gains made in the South by NVA might, except along the DMZ, be lost before the end of the Dry Season in May, 1973.

For the first time the war was really brought home to the elite in Hanoi with the possibility of disastrous consequences; namely, that if war continued in these circumstances, administrative, and therefore political, control in the North might be lost and the NVA in the South might be irretrievably defeated. The regime itself was threatened by the prospect of defeat." 7

(U) Although he did not so state, Sir Robert Thompson was describing the synergistic effect which the mining had on North Vietnam.

Interview with Mayor of Haiphong

(U) One official in a key position to assess the effects of the mining was the Mayor (Military Governor) of Haiphong. In an interview with Murrey Marder published on 22 January 1973 in the Washington Post, the Mayor discussed the mining, its effect on his city, and some of the countermeasures used. The article in its entirety has been appended to this assessment to give a view from the other side of the fence. (Fig. 4-3).

(U) One conclusion that may be drawn from this assessment is that although mining is extremely economical of forces on the part of the attacker,⁸ it requires an inordinate expenditure of effort on the part of the defender in order to maintain essential services.

(U) In concluding this assessment, it is well to mention one effect of the mining on the U.S. Navy: Another generation in the Navy had been given a lesson that has to be relearned periodically - that the mine, properly employed, can be the most effective weapon in naval warfare.

in time and place

7 Sir Robert Thompson, Why Did Hanoi Sign the Cease-Fire Agreement?; Ordnance, Vol. LVIII, No. 319, July/August, 1973, Washington, D.C., pp. 50, 51.

8 Only about 3 percent of the total Naval air effort from May 1972 to January 1973 was required for the Mining Operations.

~~UNCLASSIFIED~~

HAIPHONG ASKS U.S.
TO REMOVE MINES

Washington Post
Mon. Jan. 22, 1973

By Murrey Marder
Washington Post Staff Writer

HAIPHONG, Jan. 21 - North Vietnam's major port, its lifeline to the sea mined with concealed American weaponry, will still have to deal with special hazards after a cease fire.

It will certainly take months and it may take years to locate and deactivate all the thousands of underwater explosives planted in the harbor approaches, rivers and canals of this area, the mayor of this bruised city said today.

"Since the United States planted the mines," said Mayor Le Duc Thinh, "I think it is also the responsibility of the Americans to remove them."

"We of course hope to sweep them away as soon as we can," said the mayor, but he stressed: "I wanted to emphasize the moral responsibility of the American side."

Mayor Thinh said that he and other municipal and military officials in the Haiphong region do not know what has been said in the secret Paris talks about the mine removal task ahead. But, he said, "The quantity of mines is quite great." He recalled that for years after World War II mines continued to endanger shipping off many coasts, especially in heavily mined European waters.

Mining technology has become considerably more sophisticated since then, the mayor noted, and with the United States boasting of having the most modern technology, he said, if that is correct, "I think it will take much longer to remove the mines from North Vietnam's waters."

Mayor Thinh agreed on short notice to give the first interview of its kind to this reporter, presently the only American newsman in North Vietnam. The mining of North Vietnam's waters never has been publicly discussed in this manner by any North Vietnamese official, nor was the discussion initiated by them. The request for an interview centered on the mining was made only a few hours before-hand, upon my arrival in Haiphong. The recent American air attacks on Haiphong were described by a group of foreign journalists allowed to enter the city two weeks ago, but there was no opportunity then to report on the mining.

The mayor emphasized at one point that he was expressing "purely opinion" about the American responsibility for actual removal of the bombs by

Copyright - The Washington Post 1973. Reprinted with Permission.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

American equipment. This obviously could make security complications if American ships or men were permitted to enter North Vietnamese Waterways. In this tightly disciplined, Communist-ruled society, however, officials do not speak haphazardly, especially to Western newsmen.

Even the title of "mayor" evokes an imprecise impression. Mayor Think is in command of Haiphong, as his counterpart, Mayor Tran Duy Hung, is in command of Hanoi, the capital. In addition to running the cities administratively, they control the regional armed forces which defend them. Both are commanding personalities, and Haiphong's mayor arrived for the interview dressed in khaki accompanied by a military guard in a very new looking Chinese-built jeep.

The mayor had come from what is called here his "evacuation place" - outside Haiphong - for the interview. High officials all continue to work from such outposts away from the cities even though the American bombing of this portion of North Vietnam stopped Dec. 31. Mayor Think said, "The townspeople and I will remain vigilant about what Mr. Nixon has said. He might have some pretext to reattack our town any time."

Before meeting with the mayor, a brief trip to the harbor provided a look at the extraordinary sight of a line of foreign seagoing freighters tied up at the quay, bottled up in Haiphong harbor since President Nixon's May 8 order for mining this country's harbors.

It was surprising to find the ships so close to the shore, only about 30 feet away, alongside the pier. Storage Warehouses, some with bomb-damaged roofs, are a short distance away. There were oil drums and other equipment on the ground, but there was no sign of much activity in this section of the port. Out in the harbor, one could see sampans and junks, two patrol vessels, and a very large sunken dredge.

The identifiable mine-blocked ships at the dock were a Chinese freighter, the East German vessel Frieden, the Soviet freighter Divnogorsk, Cuba's Imias, Poland's Jozef Conrad and, at its stern, the Polish freighter Kilinski. All are about 10,000 tons.

Photographs are permitted only of the heavily damaged Conrad. Even then, when I stepped back for an amateurish snapshot, an armed guard accompanied me to check the camera angle to make sure no other vessel would show on the film.

The vice director of the port, Le Van Hon, said that at 6:15 a.m., Dec. 17 (after the Paris talks ended in stalemate on Dec. 13), American planes "began to put more mines in the water at the entrance to the harbor" which is about 12 miles away on the coast of North Vietnam.

"And on the 18th, at 9:45 p.m.," he continued, "they dropped bombs throughout the harbor." The Jozef Conrad was hit in subsequent bombing on Dec. 20 at 4:45 a.m. when there was a standby crew of about 30 aboard, he said. The port official said that three bombs, which he described as 500 pounders, hit the ship and, as previously reported,

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

killed three of the crew. Another reportedly died afterward.

An examination of the vessel showed yawning holes squarely in the middle, with buckled and torn steel plates and the charred remains from a fire that gutted the ship. Hon said, "We mobilized the firemen to save the ship and to move the other ships away which were then moored alongside it."

The United States disavows any intention to hit the foreign merchant ships caught in Haiphong's harbor by the mining, but several have been damaged. Mayor Thinh said that "not only the entrance to the harbor has been mined, but mines have been placed in all the rivers."

"Some mines are as close as three to five miles to the harbor," he said. "Mostly, they place the mines at night, but in some cases during the day. We have organized a sentry system, but of course we couldn't watch all (the minelaying planes)", he said. "From May 9, they continuously placed mines in our waters."

Soon after the first mines were dropped, he said, "70 or 80 of them exploded without anyone touching them, about two miles from the coastal resort of Do Son in a period of just one hour."

The mayor said he did not know if the mines exploded because they were defective or what caused them to explode.

In at least three incidents, he said, fishing boats "touched them" and the mines exploded, blowing up boats and fisherman.

He said he couldn't provide casualty totals, but in one case two boats were destroyed and "10 people died" and in the Cathai area, "there were tens killed fishing."

Once a crew of traveling film projectionists were aboard a ferryboat that struck a mine, he said, and four were killed and four wounded crossing near the mouth of Haiphong Harbor.

The mayor was asked if there have been casualties among personnel attempting to sweep or deactivate the mines. He replied, "There are a few cases because it is necessary for us to paralyze the mines. We have done some. How we did it, excuse me, I cannot tell you."

"If the Americans think that we have the means to paralyze the mines, they will continue to place them" he said.

In the 12 days of unprecedented American air attacks on the Hanoi-Haiphong region, December 18 to 29, he said more mines were dropped than at any other period.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

"Each time they mine," he said "the quantity is higher than the previous time."

"These activities aim to block our harbors and also all of our activities on the seas and rivers. Naturally it has caused some consequences in the long run."

He was asked to what extent the mining was effective. The mayor replied: "The American administration has waged a war of aggression by all means of warfare, using all sophisticated weapons to attack our people."

"In spite of all the sophisticated weapons, our counterattack limits the consequences. They hope to stop our aid to our Vietnamese sisters and brothers in the South, and block the port to prevent the aid coming from Socialist countries."

"Of course, there are some difficulties. Many of our people have sacrificed their lives. But the Americans cannot stop our communications, our transport."

"You have seen this afternoon many of the ships of our friends there since May - but we have other means of transportation to overcome that condition."

"If it is claimed that there is real blockage of our port, we say that it is a failure for although it causes some difficulties, it does not completely stop our communications."

"For all kinds of weapons, there are limits, and we have all the means to face them, and to overcome them" he said, "But as I said before, the consequences will be left behind for many years."

The mayor declined to discuss types of mines removed or numbers or the number remaining, saying that because some "are moved by the currents, we cannot count how many there are."

When asked about published reports from the Pentagon last August that two or three small shallow-draft Chinese minesweepers had come from China hugging the coast and slipped into Haiphong Harbor, the mayor said: "As long as we have been manning the harbor, we haven't seen any Chinese minesweeper."

When the question was repeated, he said: "If there are any such activities, they are far from the harbor," but he again said he has seen "no Chinese minesweepers at all."

"We think the mining of our harbor and our port," he said, "is a sabotage of international law against other countries who trade with us."

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

When asked how long he thought it might take to clear the mines if there is no shooting war, he said: "It is hard to say precisely because it is a big and complicated job" for there are "many types of mines."

Asked if North Vietnam favors an international operation by Russians, Chinese, Americans and others to clear the mines, he replied: "So far we have not thought of that, and we haven't heard any discussion of it."

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Chapter 5 - REACTION AND OPINION

- World Opinion
- Press Reporting
- Public Response

~~UNCLASSIFIED~~

UNCLASSIFIED

Weather
Cloudy, rain,
high 66. Tonight:
clear, cool, low
54. Tomorrow:
sunny, cool, high
mid 60s.
Today at:
7 a.m. 57
8 a.m. 58
9 a.m. 59

The WASHINGTON DAILY News

CITY EDITION

Tuesday, May 9, 1972

1013 12th St., N.W. (20005) Phone 624-8400
Circulation 624-8864

51st Year—No. 155

Published Daily Except Sunday
Second Class Postage at Washington, D. C.

Serving the
Federal City,
Northern
Virginia and
Suburban
Maryland

10¢

The 2002 NEWSpaper

U.S. PLANES MINE N. VIET HARBORS

*Timers set for Thursday; Moscow seen
unlikely to test blockade; MIG downed*

Nixon:

'There is only one way to stop the killing, and that is to keep the weapons of war out of the hands of the international outlaws of North Vietnam... At this moment, we must stand together in purpose and resolve.'

Humphrey:

'The course he has taken is filled with unpredictable danger... It offers no real hope.'

McGovern:

'This new escalation is reckless, unnecessary and unworkable.'

Stories and map

Pages 2 and 3

•
'Nixon shoots
the works'

Editorial, Page 16



Defense Secretary Melvin Laird, Col. Gerald T. Carlson and Adm. Thomas Moorer, chairman of the Joint Chiefs of Staff, discuss strategy in front of a map of Indochina in Mr. Laird's office.

Figure 5-1. The Washington Daily News, U.S. PLANES MINE N. VIET HARBORS
Copyright - The Washington Star 1972. Reprinted with Permission.

UNCLASSIFIED

CHAPTER 5

Reaction and Opinion

(U) Probably no act of the U.S. Government during the SEASIAN conflict brought to light such a divergence of opinions as did the mining of Haiphong. A microcosm of this divergence was to be found on the front page of the Washington Daily News for Tuesday, 9 May 1972, as reproduced in Figure 5-1.

(U) Within the U.S., the opinion was divided sharply along the line of those who supported or opposed the war. In other countries, the reactions were somewhat predictable along communist bloc/free world lines. At least one public opinion poll within the U.S. showed surprisingly strong support for the President's mining policy.

(U) In the pages that follow, a brief sampling of the world, press, and man-in-the-street reaction is set down for historical purposes. The act of mining evokes strong opinions, and it would be well for future planners to be aware of this reality.

World Opinion

(U) Interestingly enough, the Communist side responded in less than demanding language. Yakov Malik, the Soviet Ambassador to the United States, condemned the U.S. mining as a "new act of aggression" while Tass, the official Soviet News Agency, stated:

".....the Soviet Union considers as inadmissible the U.S. actions which jeopardize the freedom of navigation and security of Soviet and other ships....."
Tass further stated that "the Soviets resolutely insist that the United States' steps to block the coast and disrupt ground communications be cancelled without delay....(The Government of the United States) will bear the entire responsibility for the possible consequences of its illegal actions." (In addition, Tass said of the mining), (it) "can only lead to a new complication of the international situation and to lawlessness in international relations."

(U) The Chinese Peoples Republic through the People's Daily said of the mining "... (it) is a dangerous step in expanding the war ... and a frenzied provocation against the people of Vietnam and the people of the whole world."

(U) Further, the PRC expressed "extreme indignation and strong condemnation against this serious act of war escalation by U.S. imperialism."

~~UNCLASSIFIED~~

~~(U)~~ The New China News Agency said that North Vietnam "... appeals to the governments and peoples of the fraternal Socialist countries to act in time to stop . . . the U.S. aggressors."

~~(U)~~ Both the Soviet Union and the Peoples Republic of China may have been restrained in their comment and reaction due to the newly developing closer relationships between them and the U.S.

~~(U)~~ In the free world, a British source said that the mining was inevitable and hoped that Mr. Nixon's proposals would lead to an early end to hostilities. The Secretary of State of External affairs in Canada stated that he did not think it would be helpful for the Canadian Government to make a statement on the situation in Vietnam. And in India, the foreign minister said that "India condemned the latest escalation by the U.S. in the Vietnam War"

~~(U)~~ Perhaps the most positive comment from a foreign country came from the Foreign Ministry of an unnamed allied country as reported in the Baltimore News-American on 17 May by Mr. Kingsbury Smith:

"Despite the reluctance of the Allied Governments to openly support the President's action because of our public opinion, which is . . . opposed to the Vietnam War, we are relieved that President Nixon had the courage to do what he did."

Press Reporting

~~(U)~~ The press covered the mining in two ways. In one approach they attempted to describe the weapons, how they were used, and their effect upon North Vietnam. The mine is not a well-known or understood weapon, and some of the printed material was not accurate. This fact in itself may have been due to an understandable lack of press material on mines flowing from the Navy and the Defense Department information and public affairs offices on the weapons and on the mining campaign. Other press coverage in this vein discussed the legality of mining in terms of international law. Two contrasting headlines illustrate this point: "Covenant Bans Mining to Stop Cargo Ships" and "War Law Loophole Allows Mining of Ports by U.S."

~~(U)~~ Other coverage commented on the effects of the mining on Vietnam. Mr. Ray Cromley, writing on 11 May 1972, included the following: "Since they (NVN) have stockpiled large amounts of war material, the mining of Haiphong Harbor should not interfere with North Vietnam's operations for weeks to come, perhaps not critically for months."

¹ Kingsbury Smith, "Soviet Reaction Analyzed", Baltimore News-American, May 17, 1972, page 18.

~~UNCLASSIFIED~~

UNCLASSIFIED

~~(U)~~ Mr. Cromley did not take into account² the synergistic effect of the mining - plus the bombing plus the shore bombardment plus the attrition at front line levels in SVN.

~~(U)~~ The other aspect of the press coverage was the political one, which assessed the pros and cons of the mining on the war, on peace prospects, and on world opinion.

~~(U)~~ In his article, "Fingleaf for Defeat",³ Mr. Joseph Kraft stated "... no fix has been put in between Washington and Moscow. It is still touch and go, and the risks the President has already taken to cover the failure of his policy add up to a staggering total."

~~(U)~~ The British publication The Economist was of the opinion that the President "... has improved the chances that he may succeed in doing what he wants to do in Vietnam."⁴

~~(U)~~ And the Toronto Globe and Mail, a known critic of U.S. foreign policy, said: "The vague, shakey outlines of peace can be seen. Whether they take firm shape will depend initially on the Russians, but finally on the Chinese."

~~(U)~~ Another newspaper critic of the U.S. mining was found in Kowloon when the Coral Sea visited Hong Kong later in the year. Some of the pilots who had made the original mining runs observed headlines in a Chicom propaganda paper which denounced "the Imperialist Yankee pigs who had mined Haiphong." The amused Yankees bought all copies of the paper available and distributed them to the staterooms aboard the Coral Sea.

Public Response

~~(U)~~ The White House announced that public (and Congressional) response to the mining was in favor by a margin of 5 or 6 to 1. On 12 May the Philadelphia Inquirer carried the following public response to the question,

"Is Nixon Right in Mining the North Vietnam Harbors?"

Yes: 60.6 percent

No: 39.4 percent

² Ray Cromley "3 Way Deal?" Washington Daily News, Thursday, 11 May 1972, page 31.

³ Joseph Kraft, "Fingleaf for Defeat", Washington Post, Thursday, 11 May 1972.

⁴ Kingsbury Smith, "Soviet Reaction Analyzed", Baltimore News-American, 17 May 1972, page 18.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Those supporting the "yes" answer commented:

"It should have been done years ago."
"This is the one thing those people can understand."
"Nixon should get the full support of the people."
"It's nice to have a President with guts."
"It's the only way to bring the boys home safely."
"The greatest thing he ever did."

The "no" answers included these expressions of disapproval:

"His actions are irresponsible, reckless and futile."
"He has put us on the brink of WW III."
"We are just compounding our mistakes."

(b) And finally Mr. Clark Clifford, then a private citizen but earlier Mr. MacNamara's replacement as Secretary of Defense in the Johnson administration, was quoted in the Washington Post as saying, "President Nixon's policy of bombing North Vietnam and mining its ports cannot succeed and means indefinite war in Indo China".⁵

⁵ Richard L. Lyons, "Mines Mean Longer War, Clifford Says"; Washington Post, Friday, 19 May 1972.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

Chapter 6 - KEY OFFICES AND PERSONALITIES AT THE WASHINGTON LEVEL

- Admiral Thomas B. Moorer, USN Chairman of the Joint Chiefs of Staff
- Office of the Joint Chiefs of Staff
- Office of the Chief of Naval Operations
- Naval Material Command

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

CHAPTER 6

KEY OFFICES AND PERSONALITIES AT THE WASHINGTON LEVEL

(U) The small community at the National planning level who directly advocated, executed, and supported the mining campaign is of interest to a history of the Navy's first use of mines in some 27 years. At the top of the list is Admiral Thomas H. Moorer, USN, Chairman of the Joint Chiefs of Staff who persuaded the Secretary of Defense, the Presidential advisor for National Security affairs, Mr. Henry Kissinger and, ultimately, the President himself that mining was the best means of stopping the NVN invasion and of bringing an end to the war.

(U) Admiral Moorer wrote in 1968:

"The significance of Mine Warfare has a tendency to be overlooked in today's age of space exploration and nuclear weapons. The sea mine is a relatively inexpensive and simple weapon; however, it is very effective."

(U) Admiral Moorer's early naval career had prepared him for his prominent role in the NVN mining. In 1942-43, Lt. Cdr. Moorer served with the British Fifth Bomber Command and in the British Admiralty as the mining observer for the Commander in Chief of the U.S. Fleet. For eight months he observed and took part in the planning and operations for British and Allied mining. At that time, the U.S. Navy was new to the use of aerial mining, and LCdr. Moorer's assignment was to prepare the first U.S. Navy tactical instruction for aerial mining. Later, as the war was ending in the Pacific, Cdr. Moorer was assigned to the staff of the Strategic Bombing Survey in Japan, where he was engaged in interrogating Japanese officials as to the effectiveness of the mining carried out against the Japanese in World War II. Thus, the future Chairman of the JCS had an unusual, first-hand opportunity to observe minefield planning and then to assess the effectiveness of the weapon. A paragraph from the final report of the Strategic Bombing Survey is most significant.

(U) "The possible future use of aerial mines in settling international disputes should therefore not be overlooked. Mines can be dropped so as to produce a blockade effect without actually resulting in direct harm or bloodshed to the local populace. The economic effects of such blockade might well assist settlement of disputes without actual combat."¹

¹ "The Offensive Mine Laying Campaign Against Japan," USS BS, page 29, reprinted by D.O.N. Washington, D.C. 1969.

~~UNCLASSIFIED~~

UNCLASSIFIED

(U) Admiral Moorer had advocated the use of mines against the Haiphong port complex as CINCPACFLT, as the CNO, and again as the Chairman of the JCS. He saw his efforts and his belief in the mine as a weapon system culminate in the highly effective mining campaign of 1972.

(U) Within the office of the Joint Chiefs of Staff, the primary action officer for executing the mining operations was Capt. (then Cdr.) Billy B. Traweek, USN, a graduate of the Mine Warfare School and later the executive officer of an MSO in the Mine Force. Capt. Traweek, in addition to being well prepared in mine warfare, also had the advantage of graduate study in political science and foreign relations. The latter qualification served him in good stead when he was assigned as Mr. Kissinger's mine advisor at the Paris Peace Talks and later as advisor to COMINELWARFOR (CTF78) in the End Sweep Negotiations with the North Vietnamese.

(U) Within the Office of the Chief of Naval Operations, the primary burden for the planning and supporting of the mining campaign fell on the Mine Warfare Branch in the Surface Warfare Directorate (OP03). This office was headed by Capt. Stuart M. Brownell, USN, one of the 23 graduates of the Mine Warfare Post Graduate course and, at one time, the CO of a mine hunter on the Atlantic Coast. Capt. Brownell's staff included Dr. Lawrence Hoisington, a veteran of 30 years in mine warfare, and Capt. Ward Lasley, with extensive MCM operating experience, staff experience in mines and mining, and a graduate of the Mine Countermeasures course at the Mine Warfare School. These three well-qualified mine warfare personnel worked very closely with OJCS throughout the campaign and personally did much of the planning for the WBLC fields. Although originally constrained to work only through the Navy chain of command in supporting the OJCS mining efforts, the OPNAV mine warfare personnel eventually were authorized to work directly with their OJCS counterparts.

(U) The technical and logistics support for the mining at the Washington level was the responsibility of Adm. I. C. Kidd, USN, Chief of the Navy's Material Command. Admiral Kidd recognized immediately the need for central direction and coordination of mine warfare matters within his command, and on 12 May, he established the Mine Warfare Project Office to centralize control of both mining support and preparations for sweeping, which commenced at the same time. Capt. J. J. Strohm, USN, with both MSO and Airborne MCM experience, was designated head of the project. His principal assistants were Capt. E. C. Hill, USN, Mr. Roger Smith from the MCM division in the Navy Ships Engineering Center, and Mr. Ned Kenney from NAVORDSYSCOM. Technical support for the mines and mining came principally from COMNAVORDSYSCOM - Mr. Robert Blouin and Capt. T. W. Pstrak, USN, both of whom had long experience in mine warfare. Mr. Blouin, as noted earlier, was sent to Westpac to provide first-hand advice to the staff mining personnel at CINCPAC, CINCPACFLT, and COMSEVENTHFLT level.

~~UNCLASSIFIED~~

~~UNCLASSIFIED~~

(S) Although those mine warfare experts cited above bore the major responsibility - mostly at the working level - for planning and supporting the mining in Washington, it should not be construed that these were the only ones who contributed significantly to the successful campaign. The individuals named might be called the hard core of experienced and knowledgeable men who were at the right place at the right time.

(S) Personnel at other echelons of command, such as COMINELWARFOR, CINCPACFLT, COMSEVENTHFLEET, and CTF 77, and other activities such as the Naval Ordnance Laboratory and the Naval Magazine at Subic, all played prominent roles. Of some interest is the fact that out of the 23 Mine Warfare graduates of the Mine Warfare Post graduate course, only two were in key billets for this major mining campaign. Already noted was Capt. Brownell in the Office of the CNO. The other was Cdr. David Staples, CINCPACFLT Mine Plans Officer.

~~UNCLASSIFIED~~

~~CONFIDENTIAL~~

Chapter 7 - EPILOGUE - LESSONS LEARNED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Chapter 7

EPILOGUE - LESSONS LEARNED

(U) The U.S. Naval Air-Delivered Mine Weapon System was ready when it was needed in the late spring of 1972 to conduct a major mining campaign against the sea and water-borne logistics of North Vietnam. The mining campaign was successful in that it all but eliminated water-borne logistic support to the North Vietnamese war machine. The success did not entail heavy human casualties on either side, and it did play a significant role in ending the nearly eight years of combat for U.S. forces in the SEASIAN conflict.

(U) It is not easy to remonstrate against a success, but neither the weapon system itself, its support, nor its use was perfect. The campaign pointed the way, in most cases only reiterating earlier direction, to improvements in the weapons themselves, in the method of delivery, and in the supporting skills and operations which will be necessary if the mine as a weapon system is to continue to be an effective option for the U.S. Navy whenever and wherever it might be needed.

(U) From various sources, including the CINCPACFLT report "~~Mine Warfare Lessons Learned~~" *on lessons learned*, a short compilation of required improvements to the weapon system as a whole has been included as a finale to this history of the mining campaign.

(C) • Excessive air drag of the ~~MK 52/55/56~~ *externally carried mines* weapon restricted the speed and maneuverability of the aircraft to a degree that would prevent effective aerial mine laying in a heavily defended port complex. This problem had two aspects: the aircraft itself becomes a more vulnerable target when carrying high drag mines; and because of the reduced speed and range of the mining aircraft, the CVA ~~had to~~ *had to* operate closer to the target than would be acceptable if the target area were a heavily-defended complex.

(C) Two paths of improvement ~~are~~ *were* indicated by the high drag of the weapons:

- Lowering the air drag of the weapon shape.
- Providing a stand-off air delivery capability so that the delivery aircraft will not have to fly directly over the mining target and thus will be able to avoid the concentration of the anti-air defense system.

~~CINCPACFLT serial 3100/62/3101 of 14 March 1974.~~

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~(c)~~ • The MK 52 weapons used in North Vietnam required a minimum depth of 18 feet in order to arm. The DST weapons armed in any depth. Although there are situations where a depth restriction is appropriate, the arming-depth should be an option of the miner and not an inflexible weapon characteristic.

~~(c)~~ • MK 52 mines were easily recoverable in the Haiphong area. In the mining of an area such as the outer segment of the Haiphong minefield, where the dredged channel is narrow and surrounded by a shallow delta area, there is a significant possibility of enemy recovery using relatively simple techniques. The DST weapon is protected against tampering on high sensitivity settings, but the coarser DST setting and the MK 52 weapon have no anti-tamper feature.

~~(c)~~ • While there are occasions when there is good reason not to use an anti-tamper device on the mines, its use or non-use should be an option of the miner.

~~(c)~~ • The early MK 52 weapons used in the Haiphong channel had no self-destruct feature. Later, a modification to the sterilization device was made which allowed a selection of sterilization or self-destruct. All DST weapons had a self-destruct setting. The self-destruct option should be available on all mines.

~~(c)~~ • The major mine mechanism settings on the MK 52 mines required a degree of skill and test equipment that was available only at a mine stowage site such as the Naval Magazine at Subic. Once the mines were delivered to the CVA, no changes in such fundamental options as the ship count, delay arming time, or sterilization time were possible, except to certain functions using emergency procedures. In order to provide flexibility to the operational commander, the weapons should be designed so that settings can be adjusted and the weapon checked for operational readiness on board the delivery carrier.

~~(c)~~ • The air method of mine delivery in the NVN mining campaign was successful, effective, and, with the exception of one aircraft loss, was a relatively safe operation under the conditions existing. It was, however, the only option available to the Navy. There was no surface laying capability in the Navy even had the circumstances dictated its use. Nor was there a satisfactory means by which a submarine could have mined Haiphong and the other coastal mining targets in NVN. These deficiencies in the weapons system were not of any great significance in the NVN campaign, but the delivery option, by air, surface, submarine or stand-off means, must be available if mining is to remain a viable option to the U.S. operational planners. The conditions which allowed the methods used at Haiphong and elsewhere in NVN may not be duplicated in future conflicts.

~~(c)~~ • During the course of the mining campaign and particularly during the peace and clearance negotiations, it was apparent that the capability to remotely arm, disarm, or self-destruct mines which were

CONFIDENTIAL

~~CONFIDENTIAL~~

(e) already implanted would be a valuable tactical and diplomatic tool. In fact, NVN believed well into the clearance process that the U.S. could disarm the mines at will. In order to provide a full flexibility to the mining weapon system, the national authorities and operational commander must be able to maintain positive control of planted mines

(c) Such a capability would tend to increase the confidence of the operational planners and higher authorities in mining as a course of action, and might very well increase their willingness to use mines.

~~CONFIDENTIAL~~