

Selected Readings in Tactics
1975

Projection Study

Effectiveness of Mining in North Vietnam
May 1972 -- January 1973

Location: Naval War College Archives
Record Group: 4
Box: 290
File: --

Declassification Statement:

Declassified by authority of General Declassification Schedule
of Executive Order 12958 dated 17 April 1995

Photos By: Christopher Carlson
Taken On: 09 March 2017
Camera: Canon PowerShot G12

NAVWARCOL
#41-75

SECRET
NOFORN

MASTER COPY

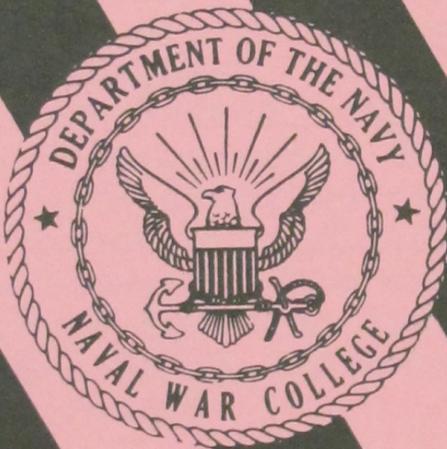
THE UNITED STATES NAVAL WAR COLLEGE

SELECTED READINGS IN TACTICS (U)

1975

PROJECTION STUDY

Declassified by authority of
General Declassification
Schedule of Executive Order
12958 dated 17 April 1995



MINE WARFARE

EFFECTIVENESS OF U.S. MINING IN NORTH VIETNAM
MAY 1972--JANUARY 1973

Extracts from DIA Intelligence Appraisal

UNCLASSIFIED

SAFEGUARD IN ACCORDANCE WITH THE REQUIREMENTS FOR THIS CLASSIFICATION SET FORTH IN THE
DEPARTMENT OF THE NAVY SECURITY MANUAL FOR CLASSIFIED INFORMATION
CLASSIFIED BY DIA SUBJ TO G.D.S. OF E.O. 11652 AUTOMATICALLY
DOWNGRADED AT TWO-YR INTERVALS DECLAS ON 31 DEC 1982

SECRET/NOFORN

SECRET—NO FOREIGN DISSEM

EFFECTIVENESS OF US MINING
IN NORTH VIETNAM
MAY 1972—JANUARY 1973

The Defense Intelligence Agency has completed an in-depth analysis of the US mining of North Vietnamese ports during 1972. It indicates that the mining operations were highly effective.

When the mines were activated on 11 May, Haiphong, Hon Gai, and Cam Pha (figure 1) were closed to shipping and 27 foreign ships were trapped in North Vietnamese ports (figure 2). One ship -- JOZEF CONRAD -- was damaged while trapped and remains in Haiphong. The other ships departed between February and June 1973.

Prior to the mining, North Vietnam's maritime imports from its communist allies averaged an estimated 200,000 tons per month (figure 3). 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.

The extended overland movement from the Chinese ports to North Vietnam created further delays (figure 4). By the end of 1972, some 90 ships had delivered only 530,000 tons of North Vietnamese cargo to Chinese ports (figure 5). During the same period in 1971, a total of about 380 ships delivered 1.4 million tons of cargo to North Vietnamese ports.

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

CLASSIFIED BY DIA

SUBJ TO GDS OF EO 11652
AUTOMATICALLY DOWNGRADED
AT TWO-YR INTERVALS
DECLAS ON 31 DEC 1982

DIA Intelligence Appraisal

Page 1

SECRET—NO FOREIGN DISSEM

amount of aid delivered to North Vietnam in 1972 was estimated to be 30 percent less than in 1971 (figure 6).

Regarding the receipt of POL, with direct sea-borne delivery stopped, the North Vietnamese were forced to expend up to 6,500 man-days to construct POL pipelines from Hanoi to China in order to maintain POL imports (figure 7). The subsequent movement of POL by pipeline enabled the North Vietnamese to release scarce land-transportation assets for the movement of the other essential goods to the Hanoi area from China and at the same time approach the 1971 levels of POL imports.

The mining also affected North Vietnam's export capability (figure 8). With no outgoing shipments after May, the country's 1972 exports ceased.

Other seaborne resupply into North Vietnam was denied by air strikes, naval gunfire, and strategic mining along North Vietnam's entire coastline (figure 9). 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 US 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.

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, LINE BACKER strikes had damaged North Vietnam's 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.

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 traveled waterway routes were mined with MK-36 destructors, which impeded movement.

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. This emphasis is shown clearly in the pre air-war transport statistics published by the North Vietnamese in 1965. Furthermore, the comparison points out the magnitude of truck traffic that would be required to overcome a reduction in either rail or waterway logistics traffic. For example, the tug pulling four medium-sized barges can move 1,000 tons of freight. To move the same amount by truck would require 250 trucks and drivers. In addition, this example does not address the maintenance requirements of 250 trucks versus the requirements of a single tug pulling four barges.

By mid-June, the increased burden on highway transport was evident. Traffic was heavy on roads between the Chinese border and Hanoi, and by the end of July, temporary shortages of food, ammunition, weapons, and equipment had been experienced by the forces in the South.

Soon after the mining, there was evidence of the North Vietnamese conducting some mine-countermeasure activity against MK-36 destructors. We believe there was little impact on the effectiveness of the mines.

North Vietnam had no minesweeping capability against MK-52 mines until late July, when China provided it with four minesweepers. The capability of the Chinese minesweeper against the MK-52 was rated as marginal. No sweeping was noted against the MK-52s until late January 1973, when a Soviet minesweeping method was observed in use in the Haiphong Channel.

The arrival of the Chinese minesweepers' and the Soviet technical advice indicated by the use of a Soviet sweep method were the only indications of Chinese and Soviet reaction to the mines. Neither had a significant impact on the mines' effectiveness.

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. This, in turn, curtailed the amount of cargo that large ships could carry into the port. Consequently, ships are forced to lighter at Cac Ba anchorage before entering the port.

The US mining of North Vietnam is believed to have accomplished the quantified and unquantified results shown on figures 17 and 18.

In conclusion, 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 US mining of the North Vietnamese ports. DIA concludes, therefore, that mining of the ports in conjunction with earlier ROLLING THUNDER operations could have shortened the war significantly.
(SECRET/NO FOREIGN DISSEM)



FIGURE 1

MINING INACTIVATED 27 SUPPLY SHIPS, CAUSED LOSS OF 8,000 SHIP DAYS

11 May 72-Aug 73

	<u>TRAPPED BY MINES ON 11 MAY</u>	<u>FLAG</u>	<u>CARGO CAPACITY (Short Tons)</u>	
Haiphong	10	Soviet	84,095	
	4	Somalian	25,460	
	3	Polish	30,554	
	3	PRC	15,120	
	3	UK	18,850	
	2	Cuban	22,700	
	1	East German	11,500	
	1	Soviet	4,143	
	Cam Pha	1		
	Hon Gai	0		
Total	27		Total 212,422 (Short Tons)	

SOURCE: Photography
DIA

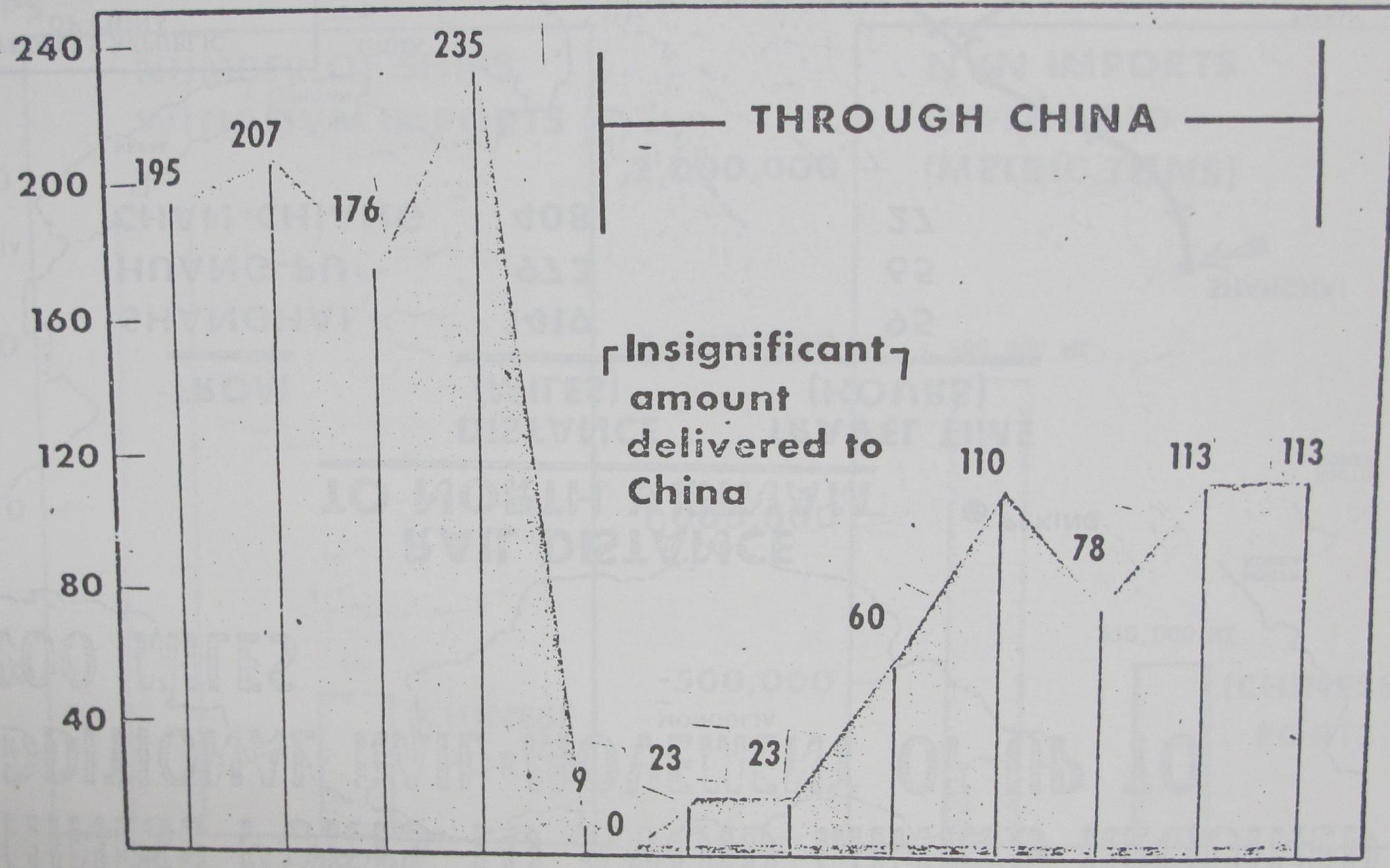
SECRET

SECRET NO FOREIGN DISSEM

DROPPED

SEABORNE IMPORTS DROPPED SHARPLY AFTER MINING

JAN 72-DEC 72
Thousand
Metric Tons



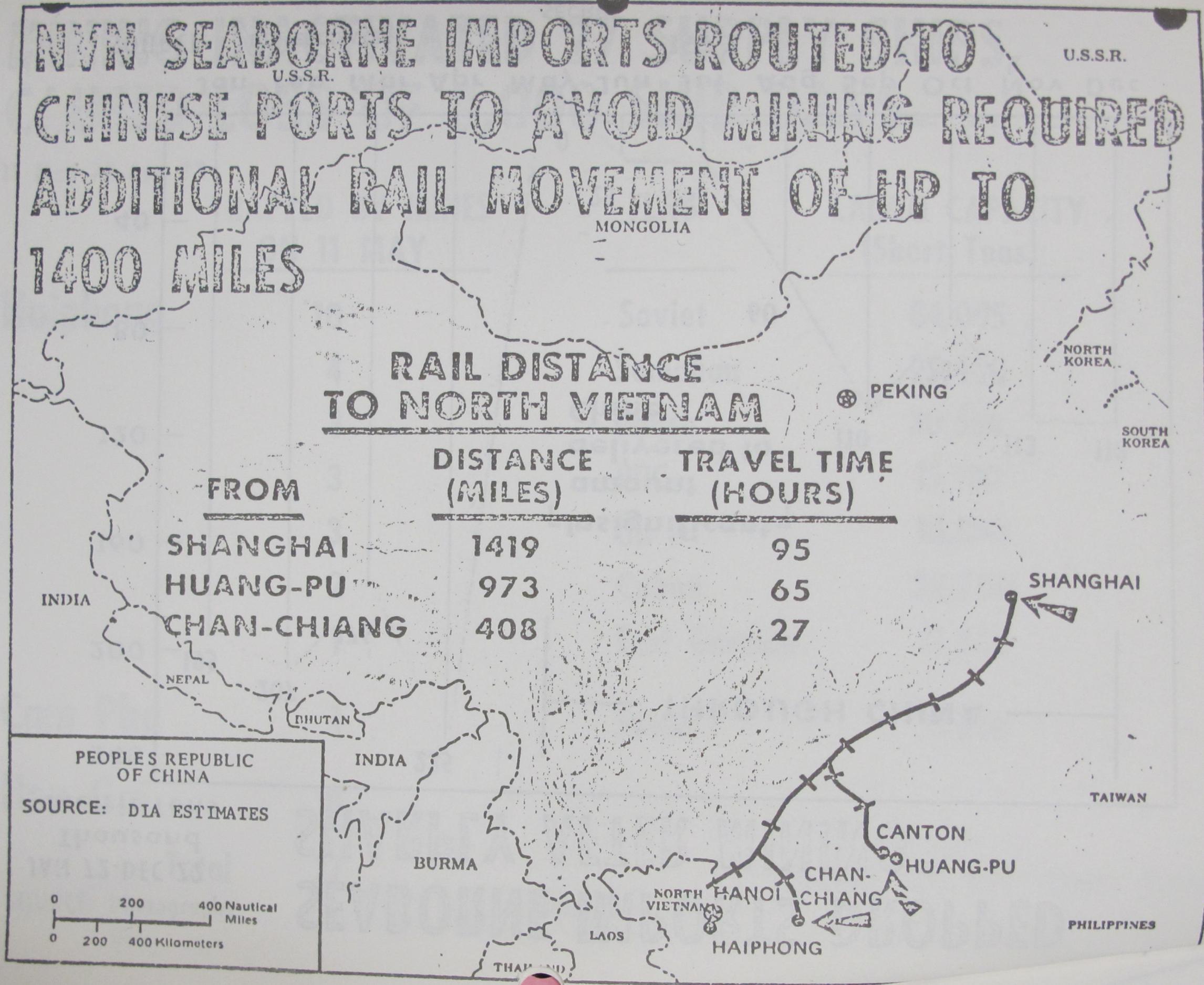
SECRET NO FOREIGN DISSEM

FIGURE 3

SECRET NO FOREIGN DISSEM

SOURCE: DIA ESTIMATES
1972

NVN SEABORNE IMPORTS ROUTED TO CHINESE PORTS TO AVOID MINING REQUIRED ADDITIONAL RAIL MOVEMENT OF UP TO 1400 MILES



RAIL DISTANCE TO NORTH VIETNAM

<u>FROM</u>	<u>DISTANCE (MILES)</u>	<u>TRAVEL TIME (HOURS)</u>
SHANGHAI	1419	95
HUANG-PU	973	65
CHAN-CHIANG	408	27

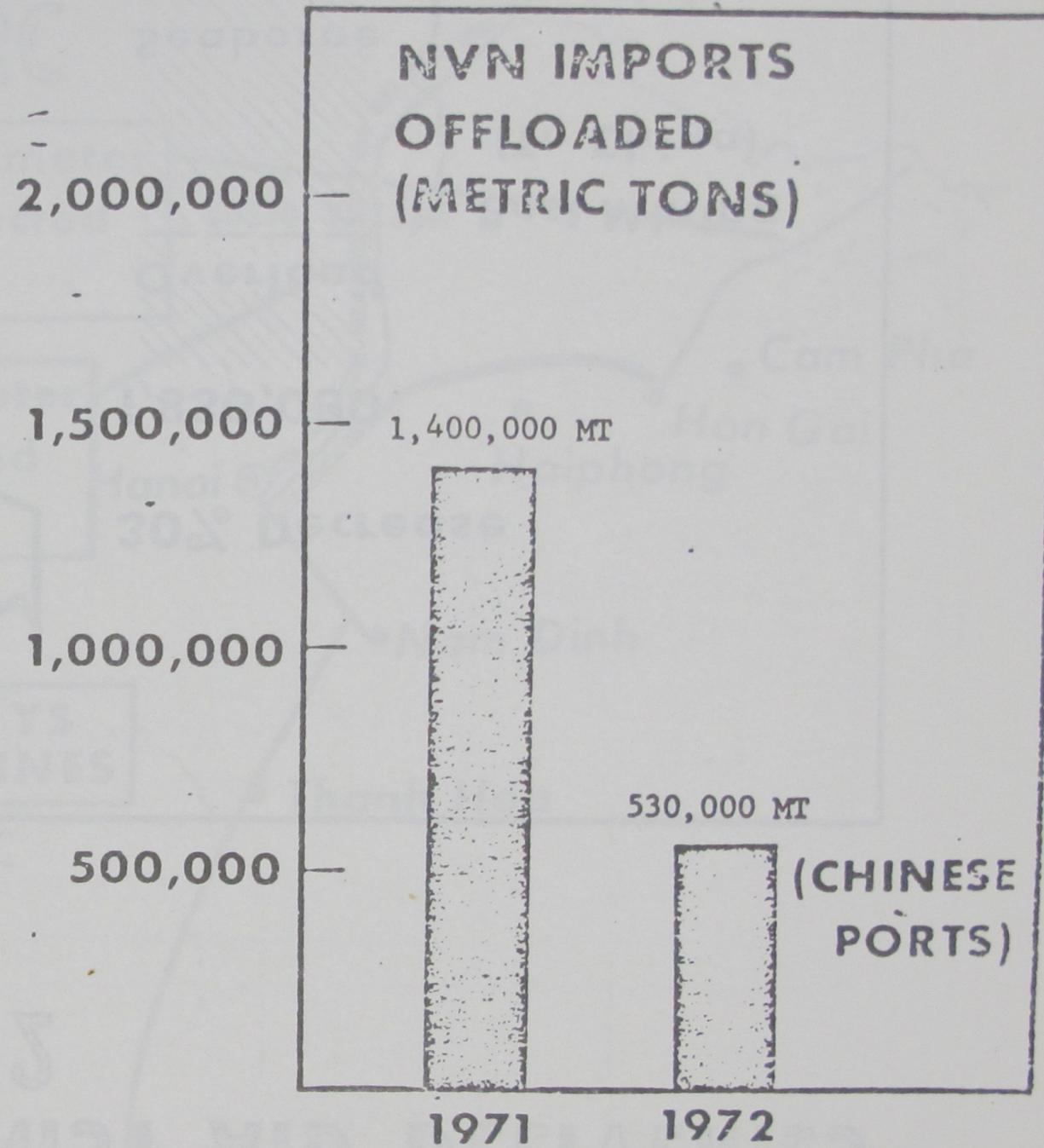
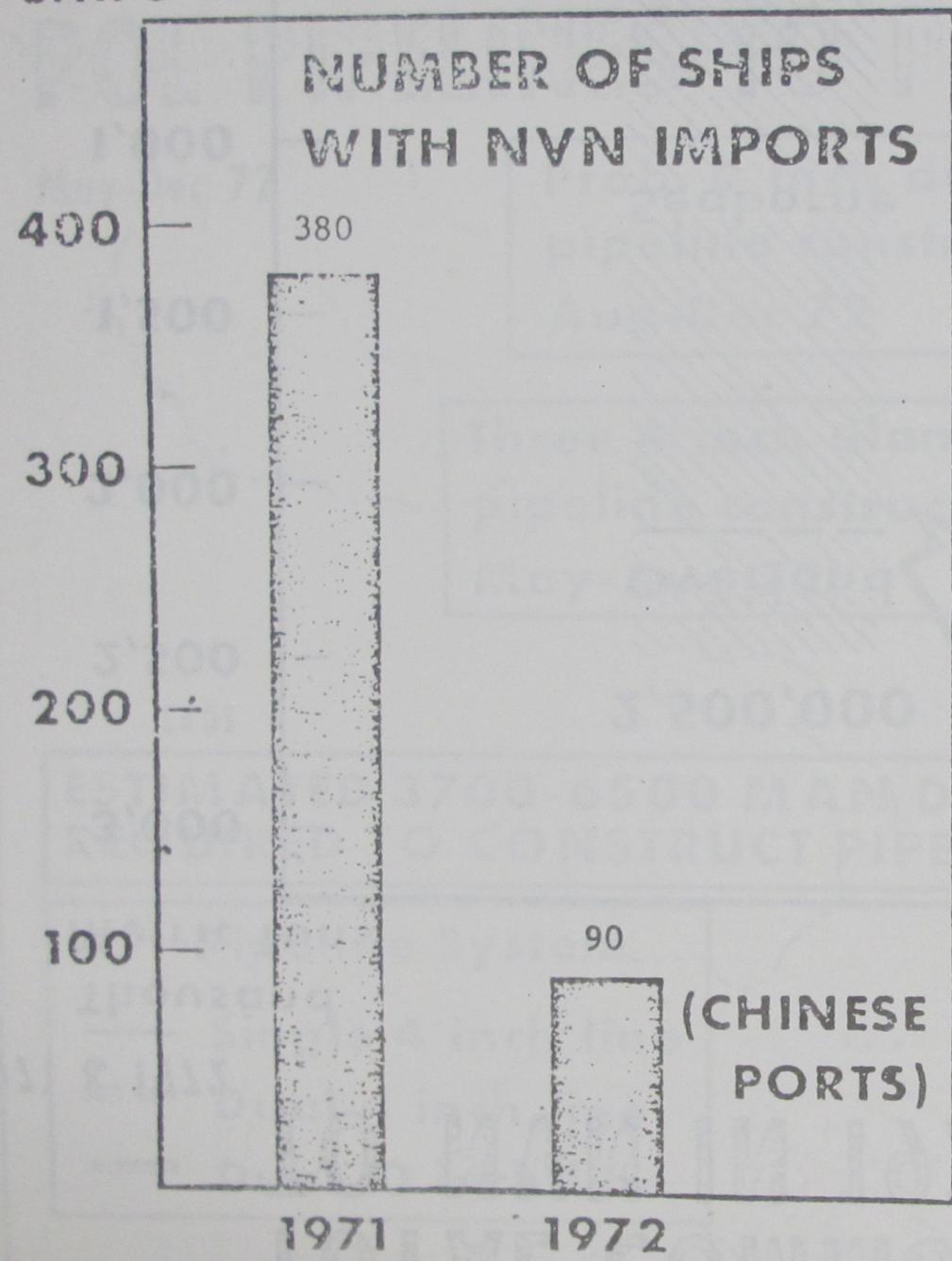
PEOPLES REPUBLIC OF CHINA
 SOURCE: DIA ESTIMATES
 0 200 400 Nautical Miles
 0 200 400 Kilometers

FIGURE 4

SECRET NO FOREIGN DISSEM

BRAGED

SEABORNE IMPORTS AVERAGED 60% LESS AFTER MINING SHIPS METRIC TONS



SECRET NO FOREIGN DISSEM

SECRET NO FOREIGN DISSEM

SOURCE: DIA ESTIMATES

12 MAY-31 DECEMBER 1972
 12 MAY-31 DECEMBER 1971

MINING CAUSED 30% DECREASE IN TOTAL COMMUNIST AID DELIVERIES TO NVN IN 1972

1971 & 1972

Thousand
Metric Tons

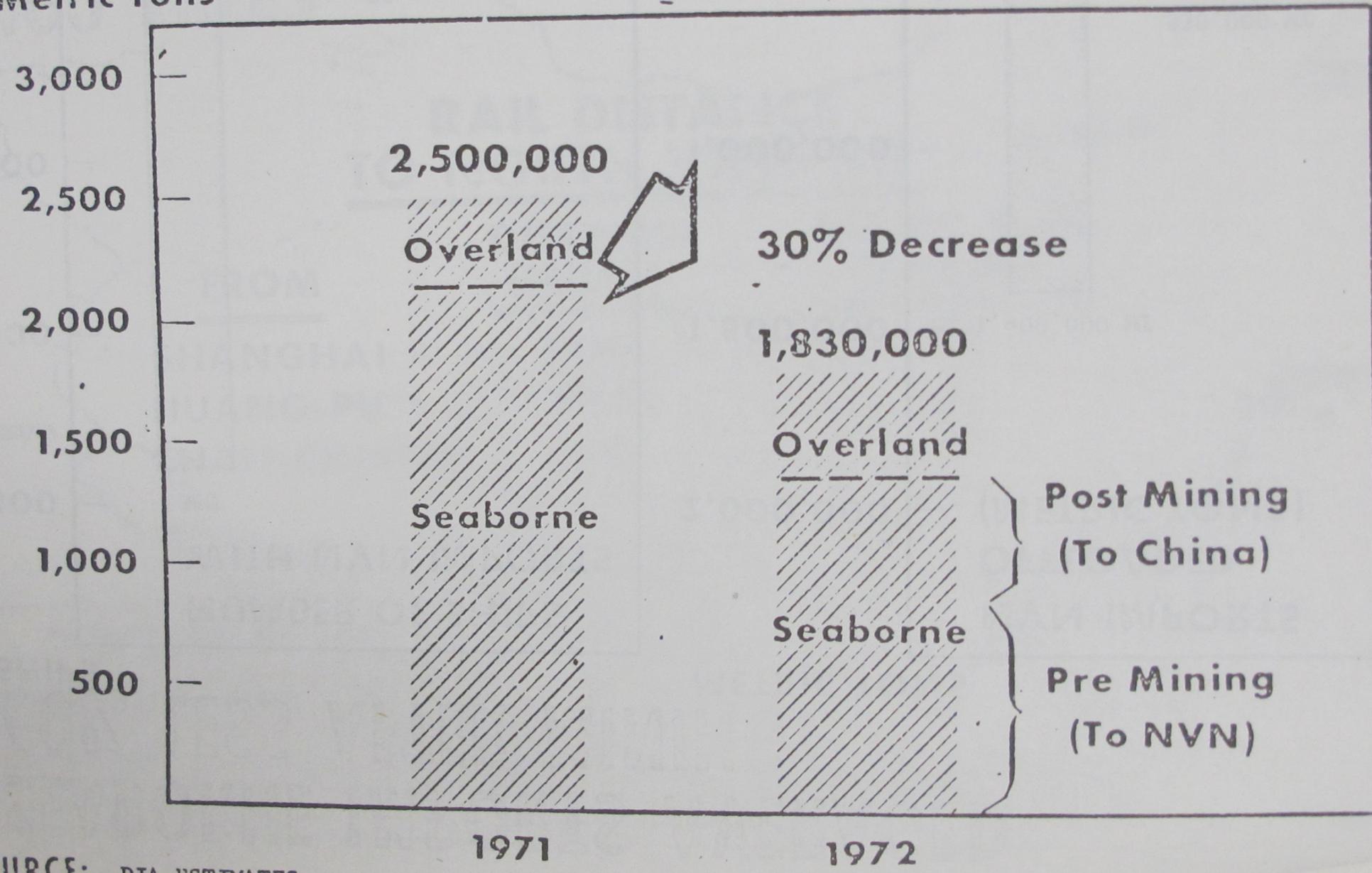


FIGURE 6

SECRET NO FOREIGN DISSEM

SECRET NO FOREIGN DISSEM

SOURCE: DIA ESTIMATES

SECRET

SECRET

CHINA

US MINING FORCED NVN TO DIVERT MANPOWER TO CONSTRUCT POL PIPELINES TO PRC

May-Dec 72

Prob. 4 inch diameter
pipeline constructed
Aug-Dec 72

Three 4 inch diameter
pipeline constructed
May-Aug 72

ESTIMATED 3700-6500 MAN DAYS
REQUIRED TO CONSTRUCT PIPELINES

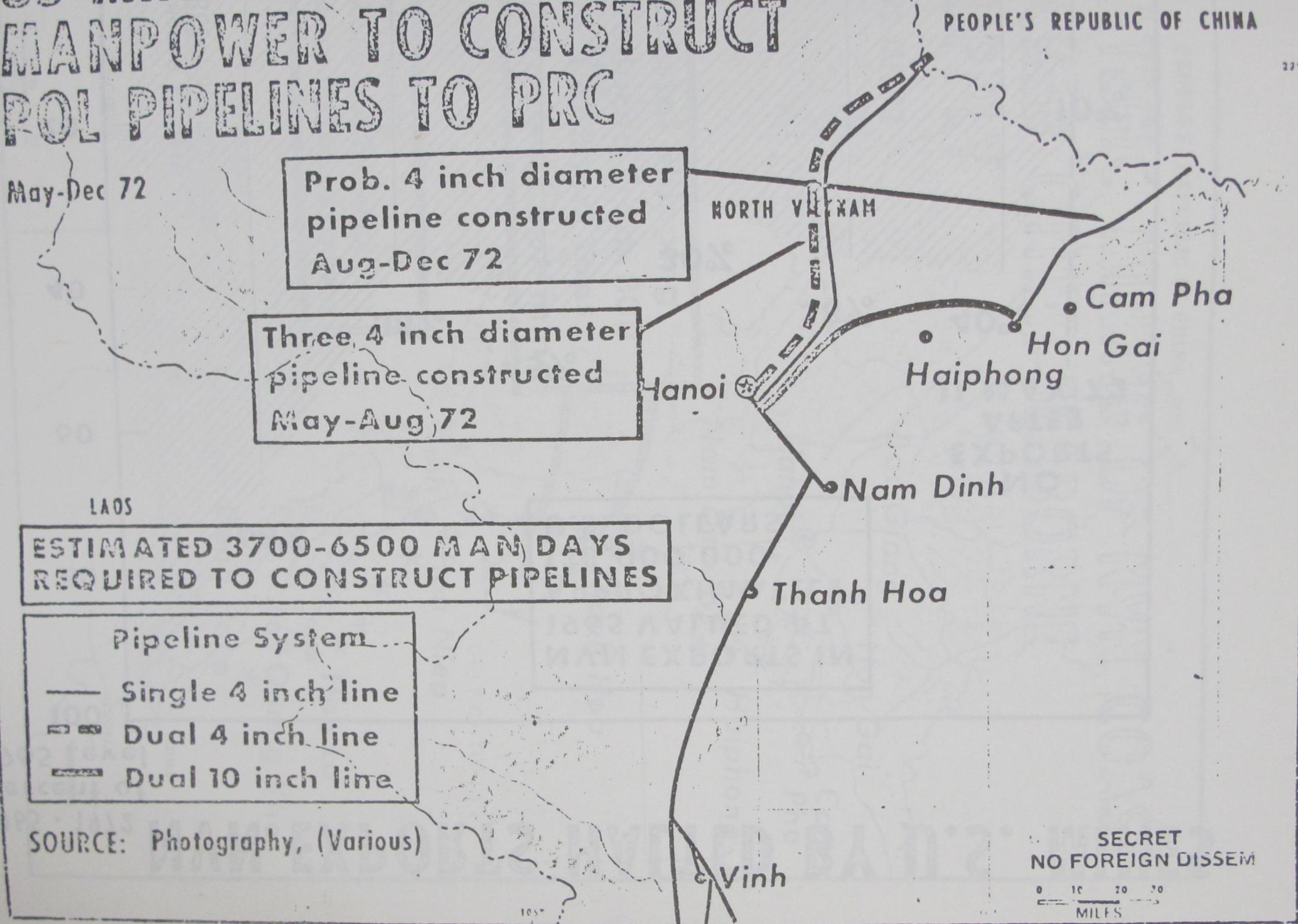
Pipeline System

- Single 4 inch line
- == Dual 4 inch line
- Dual 10 inch line

SOURCE: Photography, (Various)

FIGURE 7

SECRET NO FOREIGN DISSEM



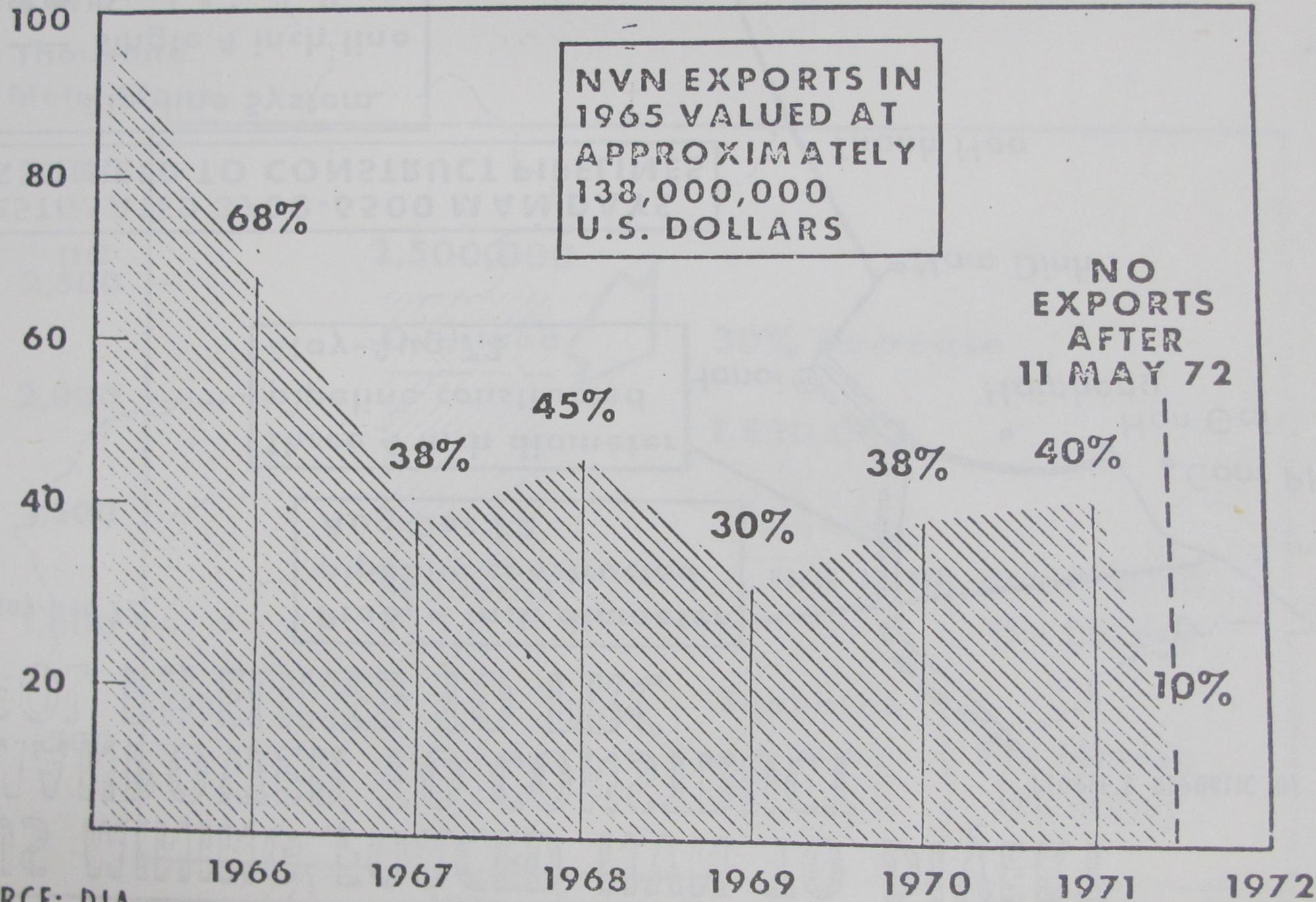
SECRET NO FOREIGN DISSEM

SECRET
NO FOREIGN DISSEM

0 10 20 30
MILES

NVN EXPORTS HALTED BY U.S. MINES

1965 - 1972
Percent of
1965 Level



SECRET NO FOREIGN DISSEM
FIGURE 8

SECRET NO FOREIGN DISSEM

SOURCE: DIA

SECRET

SECRET

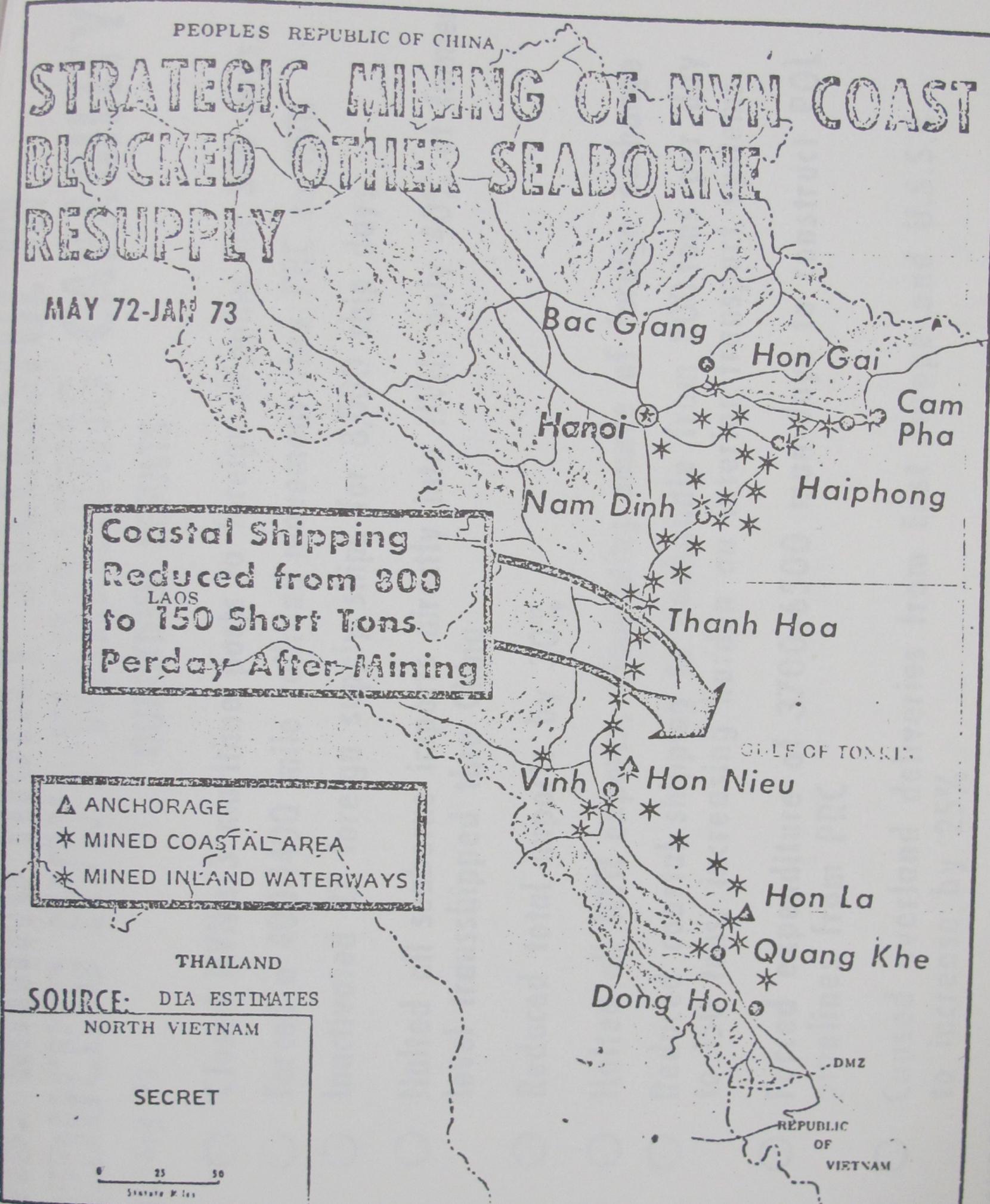
PEOPLES REPUBLIC OF CHINA

STRATEGIC MINING OF NVN COAST BLOCKED OTHER SEABORNE RESUPPLY

MAY 72-JAN 73

Coastal Shipping
Reduced from 800
to 150 Short Tons
Perday After Mining

- ▲ ANCHORAGE
- * MINED COASTAL AREA
- * MINED INLAND WATERWAYS



THAILAND
SOURCE: DIA ESTIMATES
NORTH VIETNAM

SECRET

0 25 50
Statute Miles

FIGURE 9

1972
1970

U.S. MINING HIGHLY SUCCESSFUL IN REDUCING NVN's WARMAKING CAPABILITY

22 Aug 73

QUANTIFIED RESULTS

- Closed NVN's 3 maritime ports to foreign shipping for 300 days,
- Forced a 400-1400 mile railroad movement thru PRC to NVN
- Inactivated 27 foreign supply ships for 8,000 ship days
- Halted all seaborne imports directly into NVN; only 40% of former level transshipped thru China
- Reduced total imports by 30%
- Halted all NVN exports, eliminating source of foreign exchange
- Reduced coastal shipping to panhandle from 800 tons per day to 150 tons, increasing burden on interior transport systems
- Forced expenditure of 3700-6500 man-days to construct POL pipelines from PRC
- Caused overland deliveries from East Europe and U.S.S.R. to increase by 25%

SOURCE: DIA ESTIMATES

SECRET

SECRET NO FOREIGN DISSEM

FIGURE 17

SECRET NO FOREIGN DISSEM

U.S. MINING WAS A KEY FACTOR IN FORCING NVN TO AGREE TO CEASE-FIRE

UNQUANTIFIED RESULTS

22 Aug 73

- Forced movement of imports over vulnerable railroad, increasing impact of LINE BACKER strikes
- Damaged and destroyed NVN watercraft, impeding waterway movement and increasing burden on less economical truck transportation system; diverted more people into logistic support
- Delayed southbound movement of supplies and personnel, causing temporary shortages in Southern NVN, SVN, Laos, and Cambodia
- Provided a negotiating lever in Paris talks
- Caused a lingering deterioration of Haiphong channel which continues to affect foreign shipping into NVN

SOURCE: DIA ESTIMATES

SECRET

SECRET NO FOREIGN DISSEM

FIGURE 18

SECRET NO FOREIGN DISSEM