

PHOTOGRAPHIC INTERPRETATION REPORT



SELECTED
NORTH VIETNAMESE
ECONOMIC AND MILITARY
ACTIVITY

31 MARCH THROUGH
30 JUNE 1968

NPIC/R-84/68
JULY 1968

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SUMMARY

This report provides selected examples of photographic evidence of North Vietnamese reactions to the U.S. bombing restrictions commencing 31 March 1968. It is emphasized that during the period covered by this report that significant limitations of imagery-derived information have been imposed by the sparsity of coverage acquired above 19° North latitude. However, those examples selected are considered to be significant as well as representative in their efforts relative to transportation, shipping, air defenses, logistics, and major power plant restoration.

Aerial photography has revealed that the North Vietnamese are making an increased as well as open effort to improve their military and industrial posture. Major reconstruction is under way, if not complete, on the Paul Doumer Rail/Highway Bridge. Fifteen new rail by-passes have been developed in the immediate vicinity of Hanoi and increased rail transshipping is observed in the Thanh Hoa Area.

25X1D

25X1D

The level of shipborne imports has been on a steady rise since [redacted] with the most marked increases occurring since [redacted]. In addition to the SOVBLOC/Free World shipping increase, the return of several North Vietnamese-owned vessels to Haiphong which were believed to have sought sanctuary during the bombing period, are also identified. The re-appearance of maritime infiltration vessels to the Haiphong area is also a recent development.

A significant increase in both the SA-2 (SAM) site deployment and air order of battle has been observed since the bombing pause. A number of North Vietnamese aircraft have returned to the country from sanctuaries and significant activity is noted in the Vinh area and at Bai Thuong Airfield just south of the 20th parallel. Since the limited bombing order, 16 new SAM sites have been observed in the unprotected area south of the 19th parallel which significantly increases the North Vietnamese defensive missile deployment capability.

The FA/AAA repair facility at Hanoi Army Barracks NE Gia Thuong was observed on [redacted] photography showing a concentration of 100mm AAA guns. An increased effort is under way to repair the bomb-damaged power plants in North Vietnam as typified by activity at the Haiphong Thermal Electric Power Plant West.

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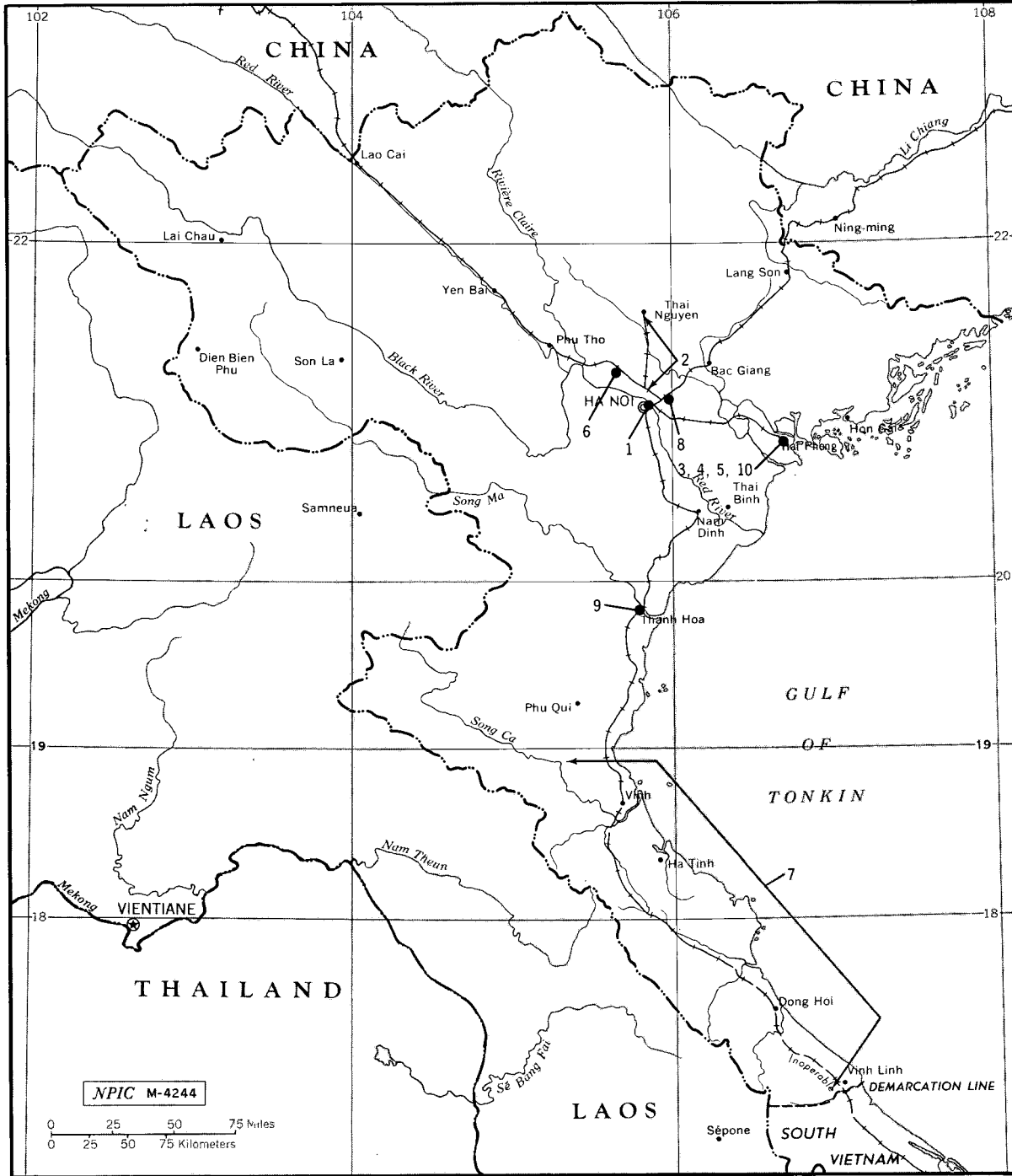
KEY TO MAP

1. Reconstruction Activity, Paul Doumer Rail/Highway Bridge
2. New Rail By-Pass, Hanoi Area
3. Increased Shipping, Haiphong Port
4. Return of North Vietnamese Ships to North Vietnam
5. Maritime Infiltration Activity, Haiphong Marine Hospital
6. Increased Air Activity, North Vietnam
7. Increased SA-2 (SAM) Activity South of the 19th Parallel
8. Concentration of 100mm AAA Guns, Hanoi
9. Increased Logistics Activity, Thanh Hoa
10. Haiphong Thermal Electric Power Plant West

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1. RECONSTRUCTION ON THE PAUL DOUMER RAIL/
HIGHWAY BRIDGE

This combination road and rail bridge over the Red River is located just northeast of Hanoi on Route 1A, the main rail and road route linking Hanoi with the Port of Haiphong, Thai Nguyen, and China.

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The 5,530-foot bridge was first struck on 11 August 1967. Reconstruction began almost immediately, probably permitting limited through traffic [redacted] later. By [redacted] the bridge was restored to complete serviceability. The bridge was struck again on 25 October 1967 and [redacted] later it was again serviceable. Airstrikes on 14 and 18 December 1967 left the bridge severely damaged. Reconstruction was not attempted until after the limited bombing order of 31 March 1968. Photography of [redacted] revealed major reconstruction underway. Three spans and four piers had been rebuilt, and a construction barge and crane were adjacent to the bridge (Figure 1). Photography of [redacted], although of poor interpretability, revealed the remaining spans in place and the bridge is now estimated to be possibly serviceable.

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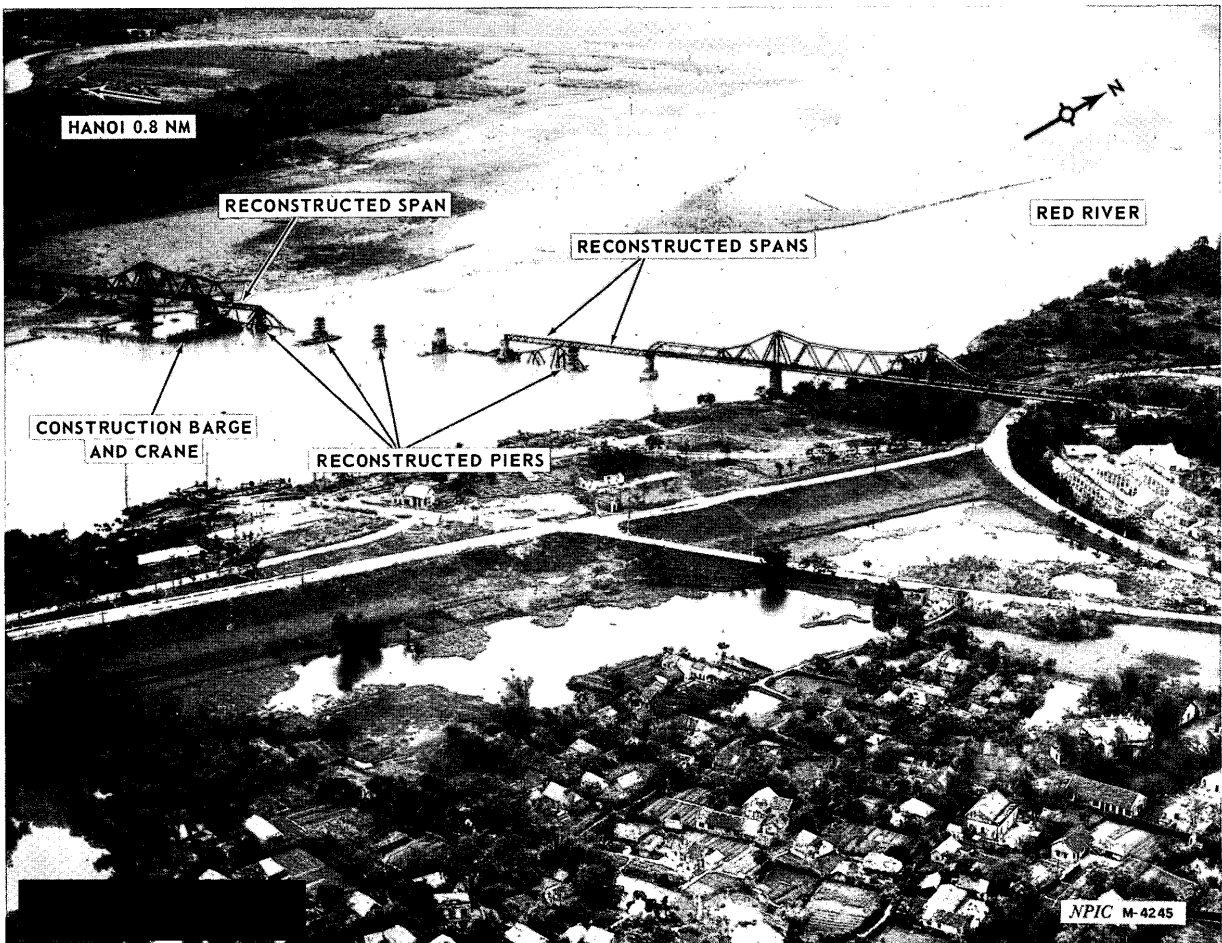


FIGURE 1. PAUL DOUMER RAIL/HIGHWAY BRIDGE.

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2. NEW RAIL BY-PASSES
HANOI AREA

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Photography of [REDACTED] revealed 15 new rail by-passes either under construction or recently constructed in the immediate vicinity of Hanoi. These rail by-passes circumvent rail yards, tunnels or rail bridges and add substantial assurance of continuous service-ability of the rail lines should the bombing of North Vietnam above the 19th parallel be resumed. Figure 2 depicts a representative example of by-pass techniques utilized relative to significant choke points.

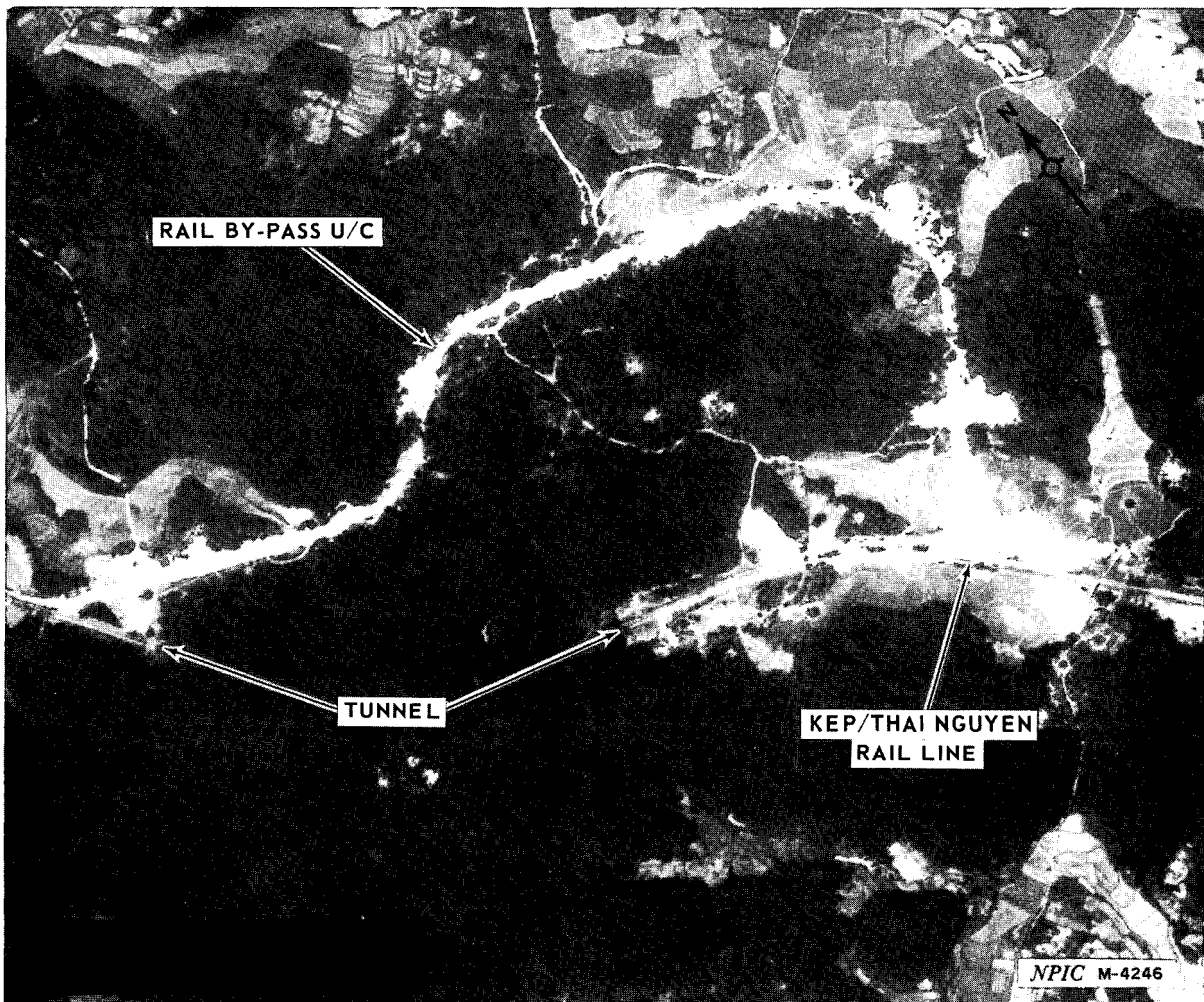


FIGURE 2. RAIL BY-PASS UNDER CONSTRUCTION AT 21-31N 106-05E AROUND A TUNNEL.

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SEE FIGURE 2

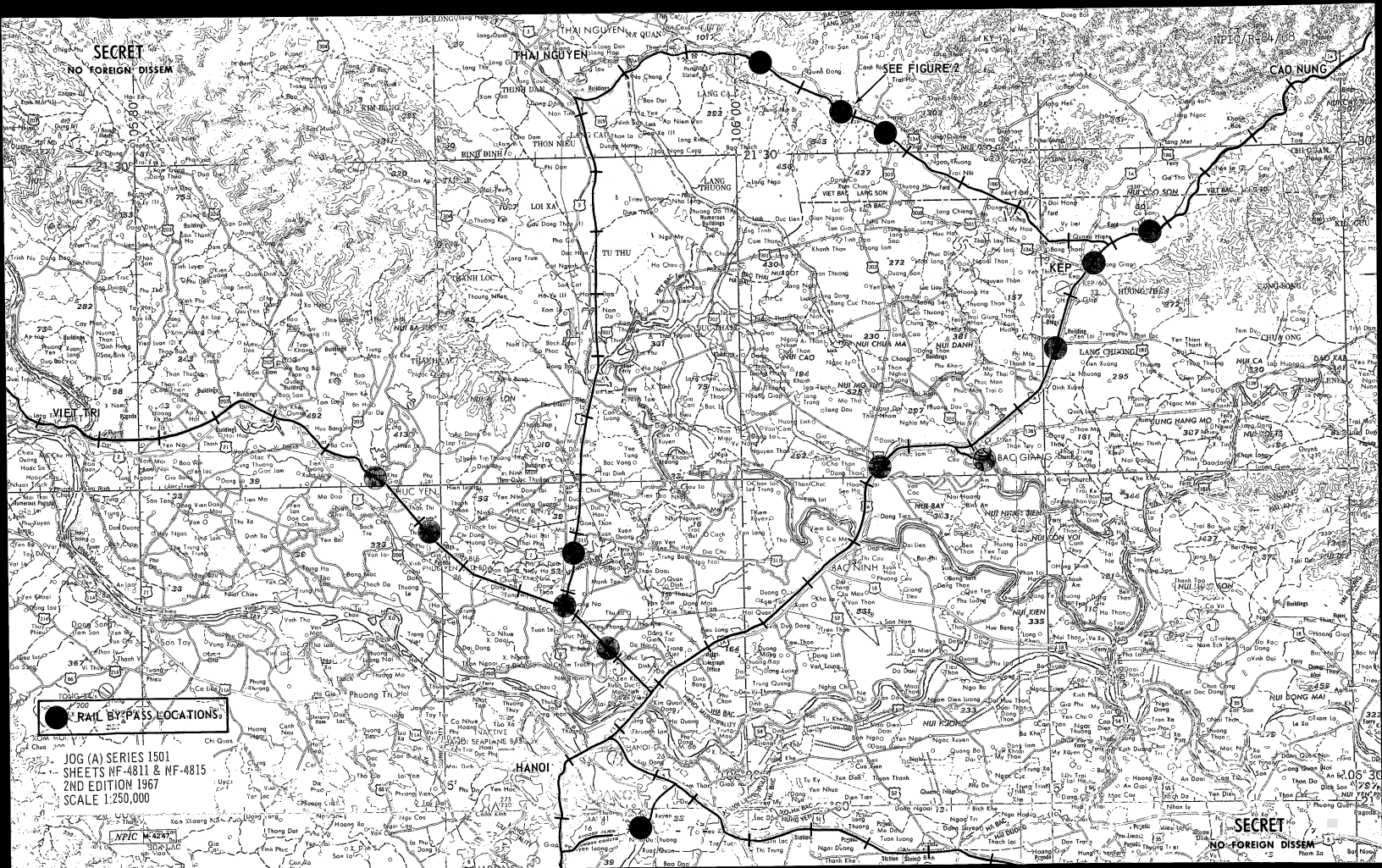
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● RAIL BYPASS LOCATIONS

JOG (A) SERIES 1501
SHEETS NF-4811 & NF-4815
2ND EDITION 1967
SCALE 1:250,000

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3. INCREASED SHIPPING ACTIVITY
HAIPHONG PORT

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Photography of [redacted] reveals the presence of 31 merchant ships in the Haiphong port area. This is the highest number of merchant ships in the Haiphong area in one day. Twenty ships are in the channel (two of which are transferring cargo onto barges) and eleven are in the port. The ships include 17 free world (all are chartered to the Chicom/NVN merchant fleet), 5 Soviet, 4 Polish, 1 Bulgarian, 1 Chinese Communist, and 3 North Vietnamese vessels.

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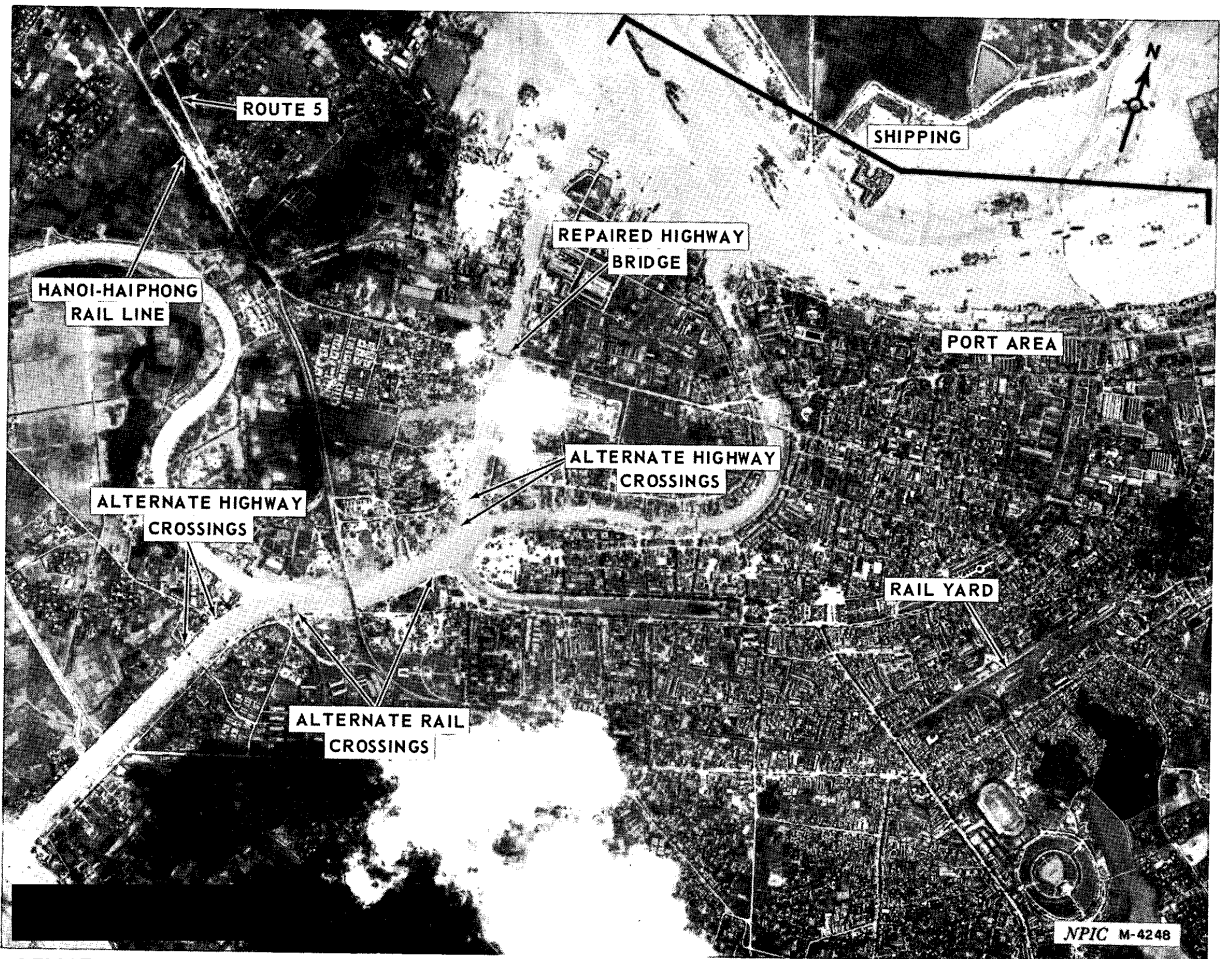
Shipping activity at Haiphong has been increasing at a steady rate since [redacted] with the most significant changes being noted since the bombing restriction of 31 March 1968. The month of [redacted] has shown the largest increase in shipping to date, with 58 ship arrivals and an average turnaround time of 17 days. This can be compared with the month preceding the bombing restriction when 44 ships arrived and had an average turnaround time of 28 days. 25X1D

Repaired rail and highway bridges leading out of Haiphong, extensive dredging activity, and cargo unloading unhindered by the threat of air strikes have allowed the North Vietnamese to significantly increase their cargo handling capability in the port. Consequently, they have been able to handle a greatly increased number of ships and at the same time decrease the time required in port. There is no major backlog on the docks or any significant overflowing in the open storage areas (Figure 3).

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FIGURE 3. HAIPHONG PORT COMPLEX.

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4. RETURN OF NORTH VIETNAMESE SHIPS TO HAIPHONG

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25X1D

Several North Vietnamese ships were observed in Haiphong Port on [redacted] photography for the first time since [redacted] (Figure 4). The ships observed are the suction dredge [redacted], the bucket dredge 1954/57, a salvage lifting ship (ARSD), probably the [redacted] and the dry cargo freighter, [redacted]

25X1D

25X1A

25X1A

25X1A

The [redacted] dredge was last observed in Haiphong in [redacted]. She subsequently was identified from photography in the Canton Shipyard Tunglang, China. The [redacted] is a metal-hull vessel capable of dredging 1,000 cubic yards per hour at a speed of three to six knots to a channel depth of 20 feet.

25X1A

25X1D

25X1D

The bucket dredge presumably went to China in [redacted] and returned to Haiphong in [redacted]. It dredges to a depth of [redacted] feet at a rate of 450 cubic yards per hour.

25X1D

25X1D

What is probably the [redacted] had not been observed in North Vietnam since [redacted] when she was imaged on photography in the islands south of Hon Gay. She is equipped with a bow-mounted 75-ton crane.

25X1A

25X1D

25X1A

25X1A

The [redacted] is one of nine North Vietnamese-owned freighters (one has been sunk), none of which had been observed in North Vietnam from [redacted] until the [redacted] was identified in [redacted]. Since then three more North Vietnamese freighters have been observed in Haiphong Port.

25X1D

This increase of North Vietnamese ships in Haiphong is probably a result of the bombing cessation. Prior to the bombing halt the North Vietnamese concealed them either in territorial waters or in a foreign port.

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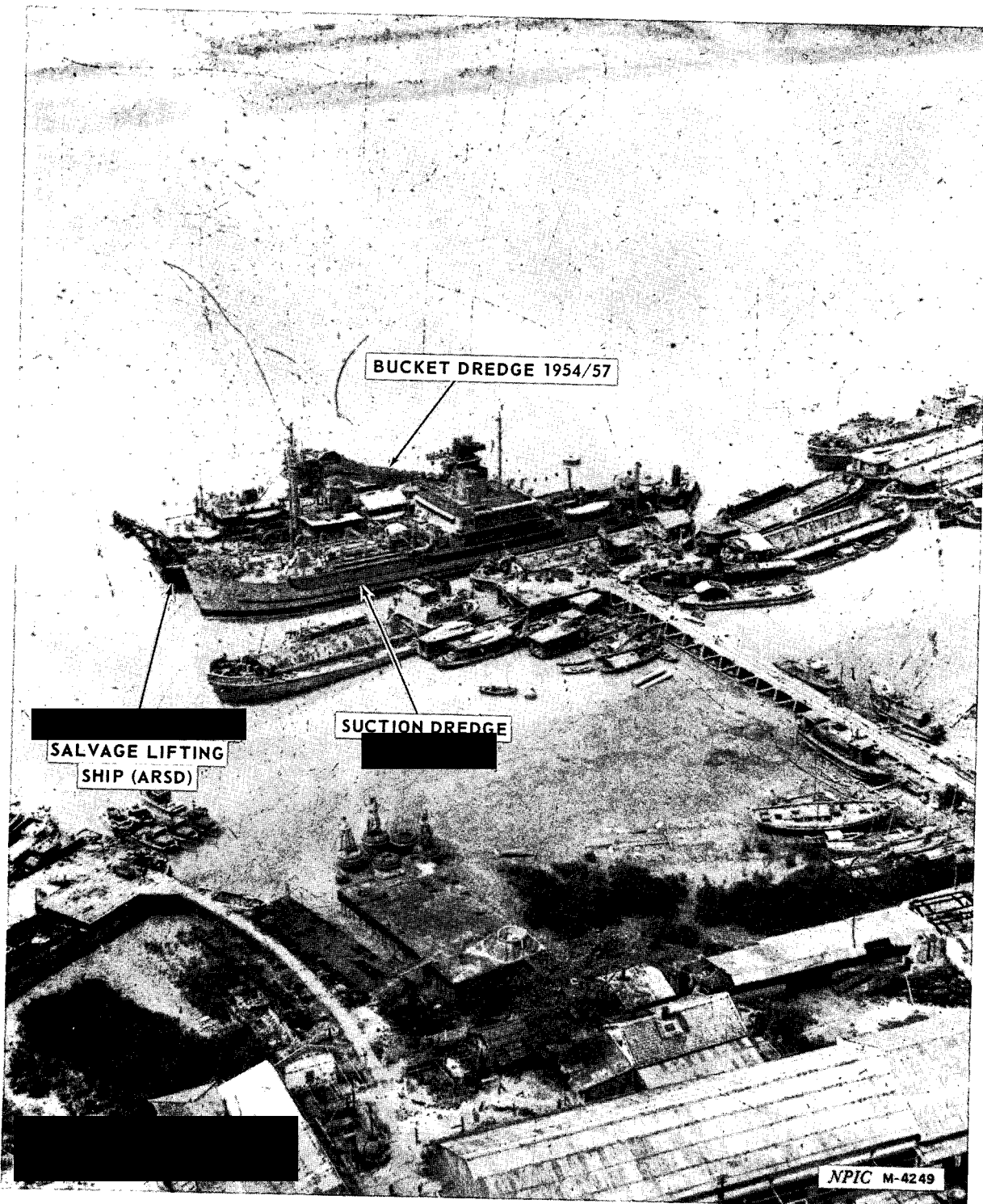


FIGURE 4. NORTH VIETNAMESE SHIPS IN HAIPHONG PORT.

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5. MARITIME INFILTRATION ACTIVITY,
HAIPHONG MARINE HOSPITAL

25X1D

25X1D

Recent low level reconnaissance has provided the first photographic evidence of infiltration vessels at a probable infiltration support area in Haiphong. On photography of [REDACTED] two armed infiltration-type trawlers [REDACTED] were identified at the Haiphong marine hospital (Figure 5). They were identical to vessels that have been destroyed or captured by [REDACTED] forces while attempting to infiltrate material into South Vietnam.

25X1D

One of the smaller trawlers captured intact on [REDACTED] was powered by a 225-horsepower diesel engine and was capable of an estimated speed of 12 knots. A trawler of the larger infiltration type, sunk in shallow water off the coast of South Vietnam on 1 March 1968, was probably powered by four German-made V-12 diesel engines capable of speeds of 17 to 20 knots. Both vessels had a cargo capacity of 100 tons.

Although maritime infiltration activity had been previously reported in Haiphong, only a few trawlers (not confirmed to be associated with infiltration activity) were observed between [REDACTED] and the bombing halt. This suggests a departure of the infiltration-type trawlers from Haiphong in search of sanctuary from reconnaissance and air strikes. With the bombing halt, the infiltrators have apparently returned.

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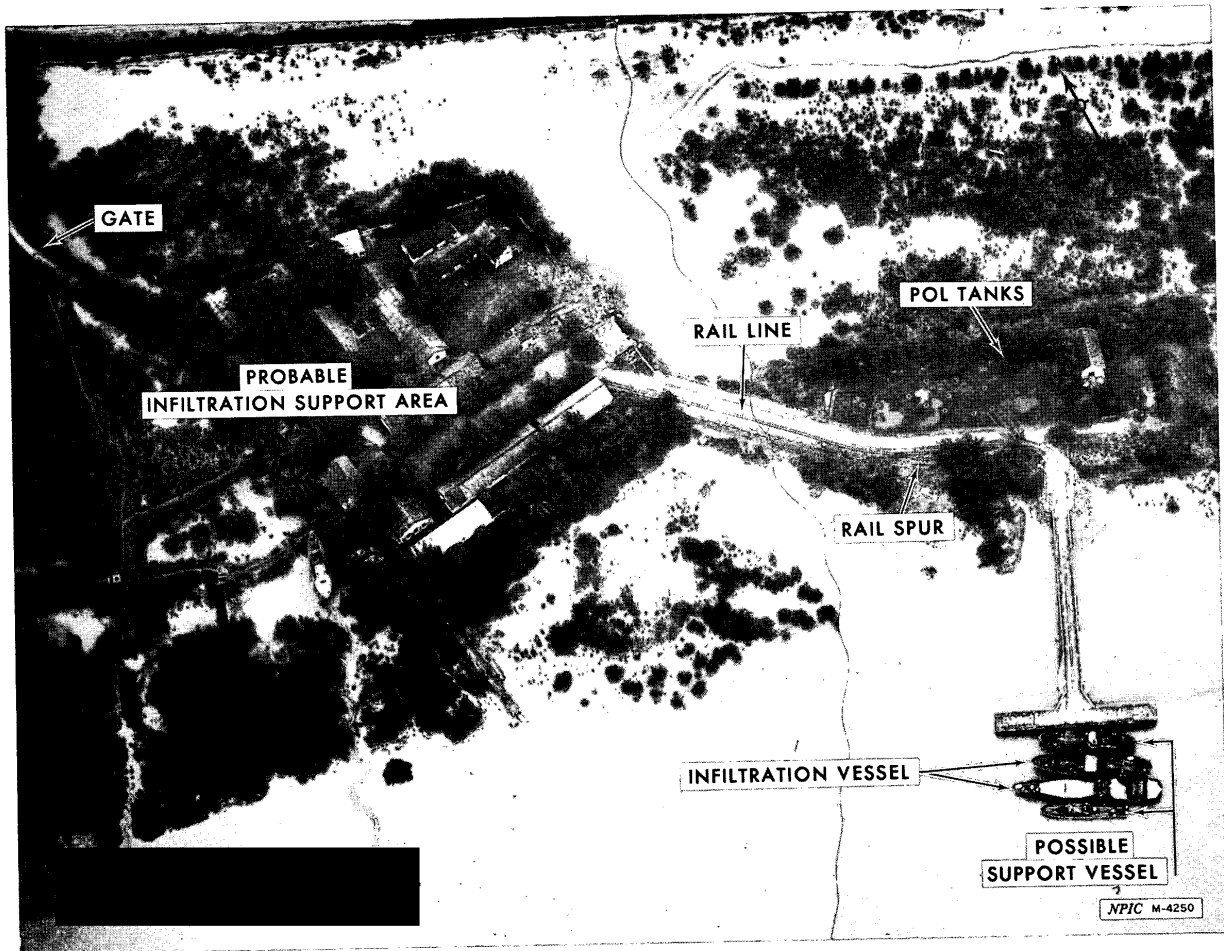


FIGURE 5. INFILTRATION ACTIVITY, HAIPHONG MARINE HOSPITAL.

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6. INCREASED AIR ACTIVITY

There has been a significant increase in the level of activity at airfields in North Vietnam since the bombing cessation of 31 March 1968.

25X1D

Photography of [REDACTED] revealed extensive activity at Bai Thuong Airfield in an apparent attempt to render the main runway serviceable. Prior to this the only serviceable part of the airfield was a natural surface strip adjacent to the main runway. Most of the craters in the 6,600- by 140-foot runway had been filled in and a probable motorized roller was operating on the ESE end of the runway. Subsequent photography has revealed two probable Fishbed and two probable Fagot/Fresco at the airfield. This is the first time jet aircraft have been observed at this airfield and marks an effort by the North Vietnamese to extend their jet-fighter area of operations into the southern Panhandle area. This provides them with a staging and recovery base as a deterrent to U.S. air strikes below the 19th parallel as well as a sanctuary from U.S. retaliatory strike forces (Figure 6).

25X1D

A significant increase in the level of activity at Phuc Yen Airfield was observed on low-level drone photography of [REDACTED]. An

25X1D

increase in the air order of battle in North Vietnam was first noted with the redeployment of an IL-28 (Beagle) and the first identification of a UMIG-21 (Mongol Trainer) at Phuc Yen. In addition there has been an increase in the number of MIG-21 (Fishbed) Fighters in North Vietnam, probably being redeployed from China. Sixteen Fishbed and possible

25X1D

Fishbed were observed on [REDACTED] the largest Fishbed count since

25X1D

[REDACTED] photography of Phuc Yen revealed the first sighting of AN-2 (Colt) shipping crates being transported by flatbed trailers and unloaded by crane in front of the airfield hangar.

25X1D

Other activity has been noted at Yen Bai, Kep, and Vinh Airfields. Construction activity at Yen Bai has been completed and the runway is serviceable, although no aircraft have been observed to date. The most recent change was noted at Kep Airfield on [REDACTED] photography. A second runway is under construction and will be approximately 6,100 by 150 feet and oriented NNW/SSE upon completion. Heavy equipment and concrete batching huts are observed in the area.

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Subsequent to the bombing halt the North Vietnamese continued their efforts to rehabilitate and use Vinh Airfield, probably because of its suitability as a staging or recovery base for air operations over southern North Vietnam and the DMZ. However, since Vinh is below the 19th parallel it was not immune to U.S. airstrikes and was rendered unserviceable. The North Vietnamese have now apparently abandoned all efforts to use Vinh.

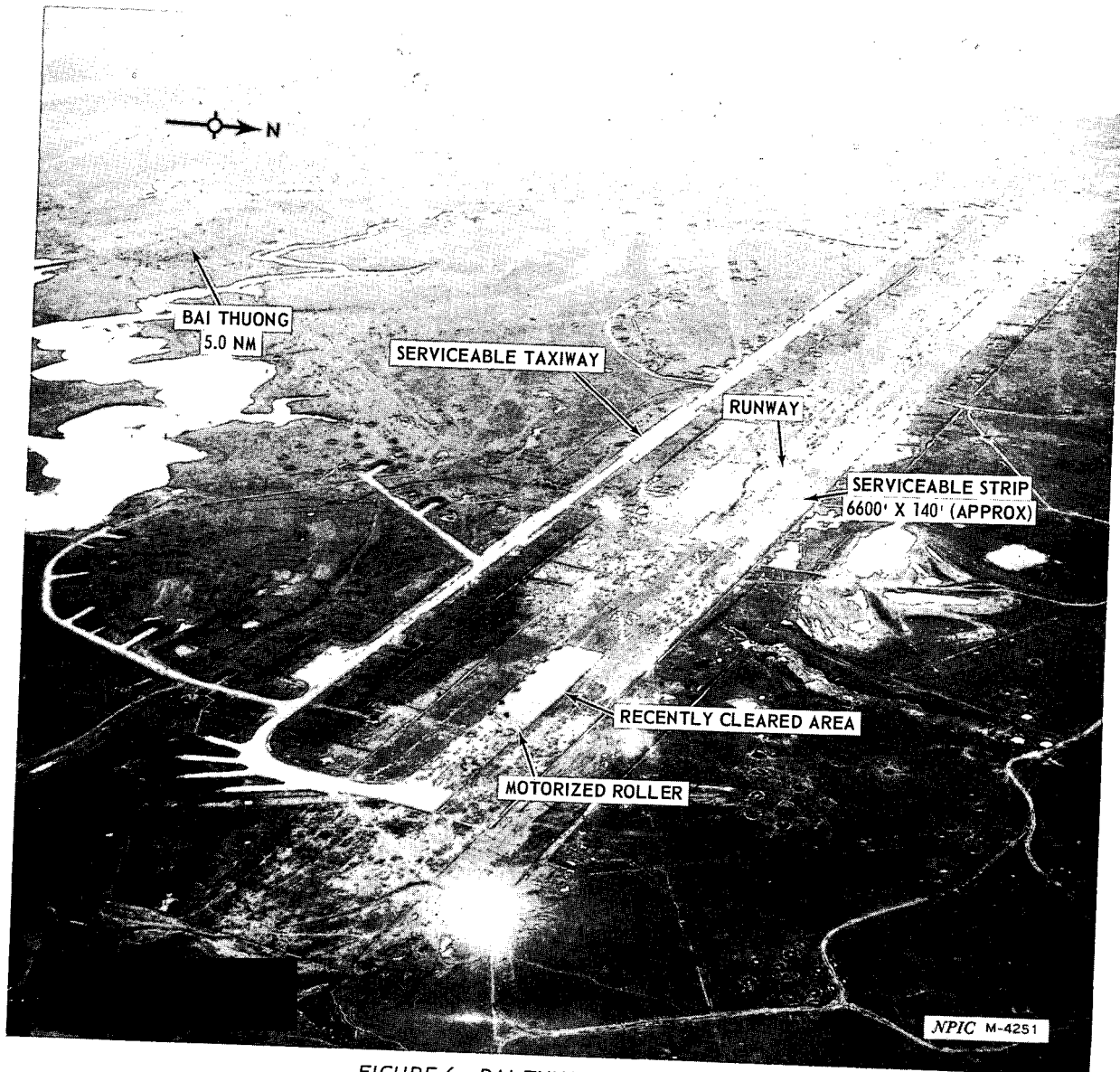


FIGURE 6. BAI THUONG AIRFIELD.

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7. INCREASED SAM ACTIVITY SOUTH OF
19th PARALLEL

North Vietnam's defensive missile deployment capabilities have increased in the only area where airstrikes are still taking place. Since the limited bombing order, sixteen new SAM sites have been photographed south of the 19th parallel. Five were occupied when first observed. Prior to the bombing restriction there were 15 active sites identified between [REDACTED] and [REDACTED], of which the highest number observed occupied on photography at any one time was three. Photography of the Hanoi/Haiphong area dated [REDACTED] revealed 24 occupied sites (the highest count of occupied SAM sites on one mission), indicating that equipment for the sites below the 19th parallel probably was not being drawn from the capital complex defenses.

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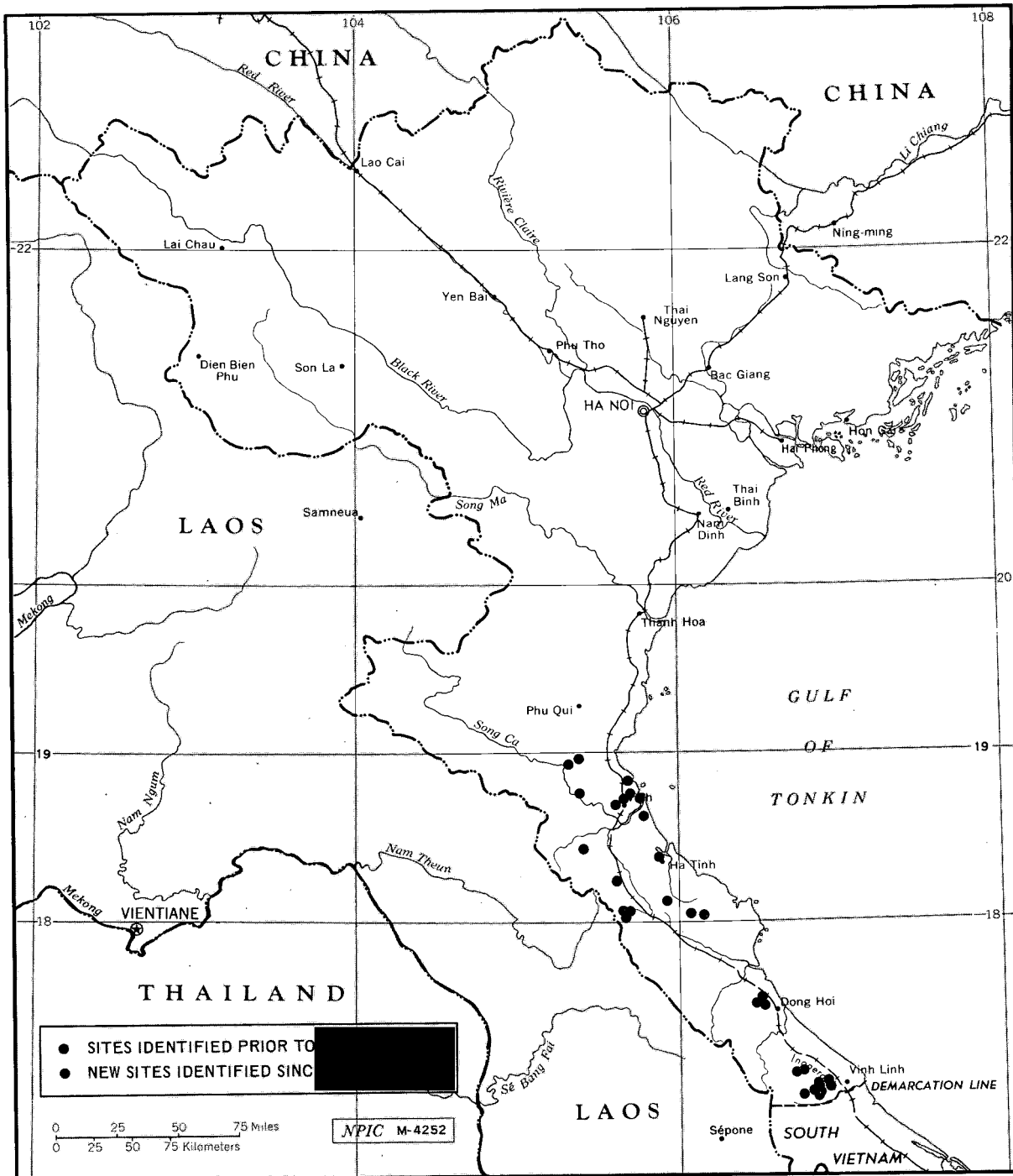
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8. CONCENTRATION OF
100MM AAA GUNS

25X1A

Recent photography reveals a relatively heavy concentration of 100mm anti-aircraft artillery assembled for probable maintenance/repair at the Hanoi Barracks Area Northeast Gia Thuong [REDACTED]

25X1D

Low-level drone photography of [REDACTED] reveals at least twenty-four of the Soviet-designed KS-19 guns dispersed throughout the barracks area. It is estimated that the North Vietnamese have approximately 100-150 of these weapons in their AAA inventory. Repair activity is suggested by the numerous "A-Frame" hoists, disassembled carriages of different type weapons, and gun tubes of varying calibers located in the area. The AAA weapons are parked with tubes in a travel position and are not operationally deployed. [REDACTED]

25X1B

25X1B

There is no photographic evidence to suggest that these weapons have been newly introduced into North Vietnam, therefore, it is possible that the North Vietnamese are taking advantage of the bombing restriction to provide the necessary ordnance service for the weapons prior to their redeployment. Further, there is no evidence that the North Vietnamese have weakened their AAA defenses during the bombing pause to facilitate maintenance/repair activity. However, the [REDACTED] coverage provides the first identification of 100mm AAA pieces identified at this installation.

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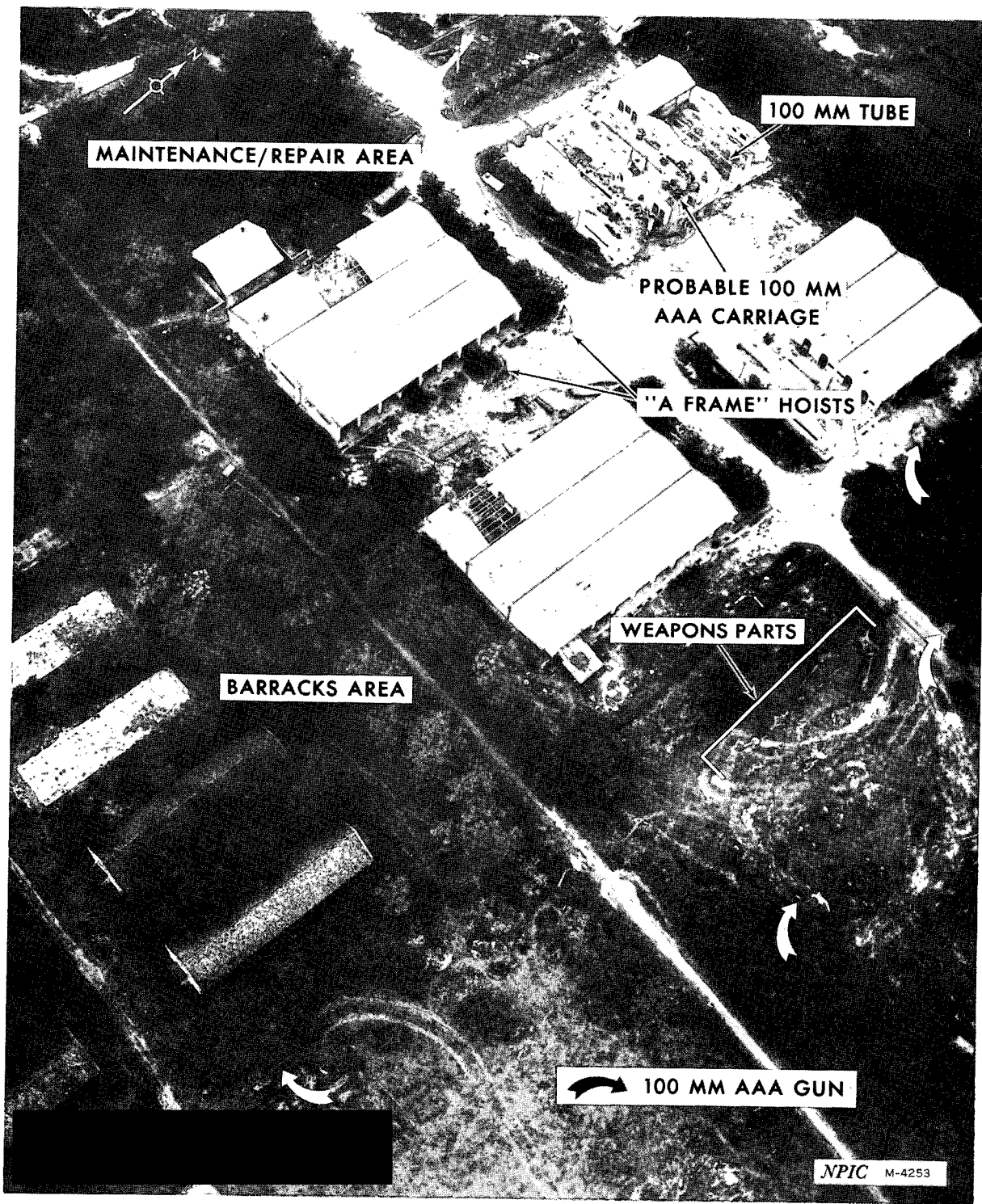


FIGURE 7. 100MM AAA CONCENTRATION, HANOI BARRACKS AREA NE GIA THUONG.

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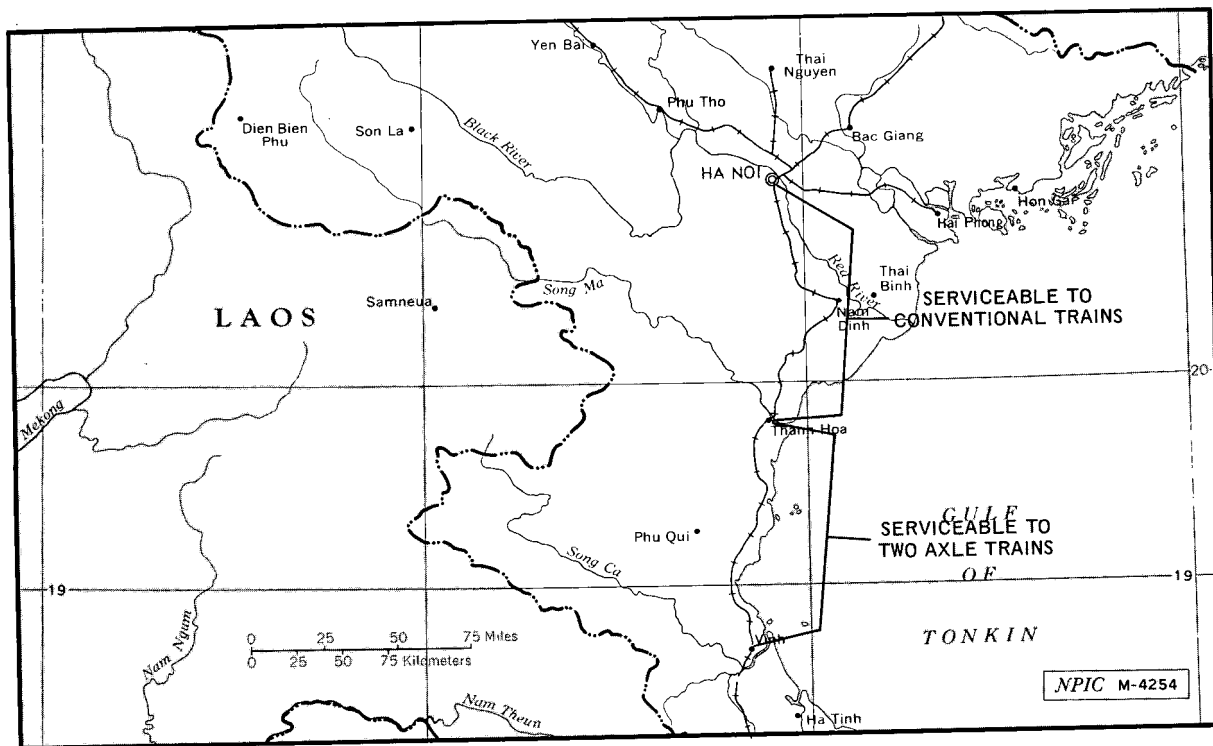
9. INCREASED LOGISTICS ACTIVITY,
THANH HOA

25X1D

Since [redacted] an increase in logistics activity in the city of Thanh Hoa has been evident on photography. The transshipment of supplies at Thanh Hoa has become increasingly important because of its location on the major rail and road routes south of Hanoi and its close proximity to the bombing sanctuary, just 48 NM north of the 19th parallel.

Despite continued strikes on the rail line north of Thanh Hoa prior to 31 March 1968, conventional supply trains were able to reach Thanh Hoa with prompt rail repairs. However, subsequently the number of trains arriving at Thanh Hoa substantially increased. Supplies are transferred at Thanh Hoa from conventional rail cars to smaller two-axle rail cars pulled by trucks. Conventional traffic cannot be supported on the Thanh Hoa to Vinh rail segment. Most of the supplies reaching Thanh Hoa are probably transferred to cargo and fuel tank trucks for continued southward movement. Comparative photography of [redacted] provides examples of this increased transshipment activity.

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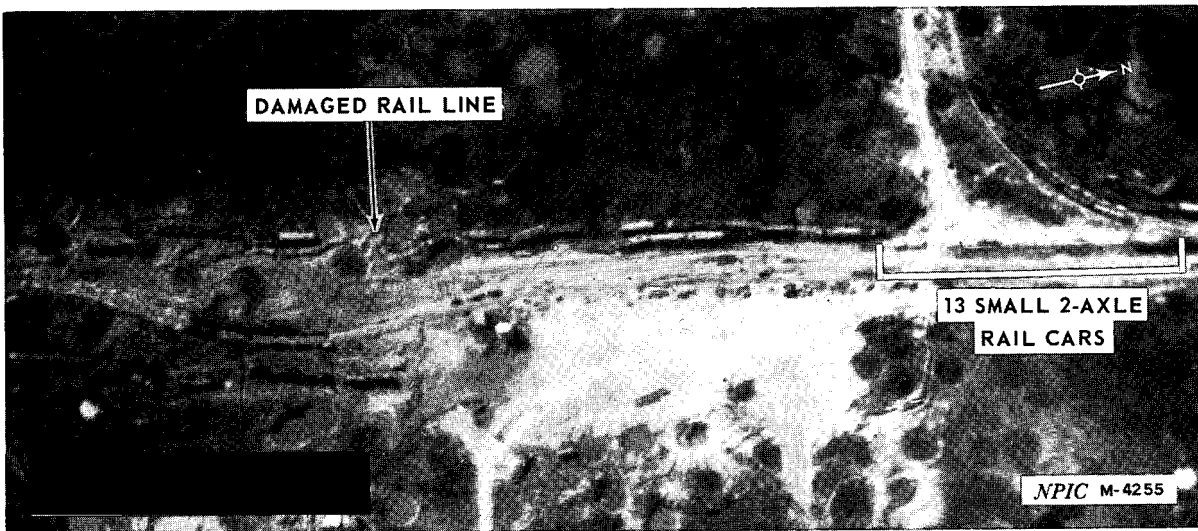
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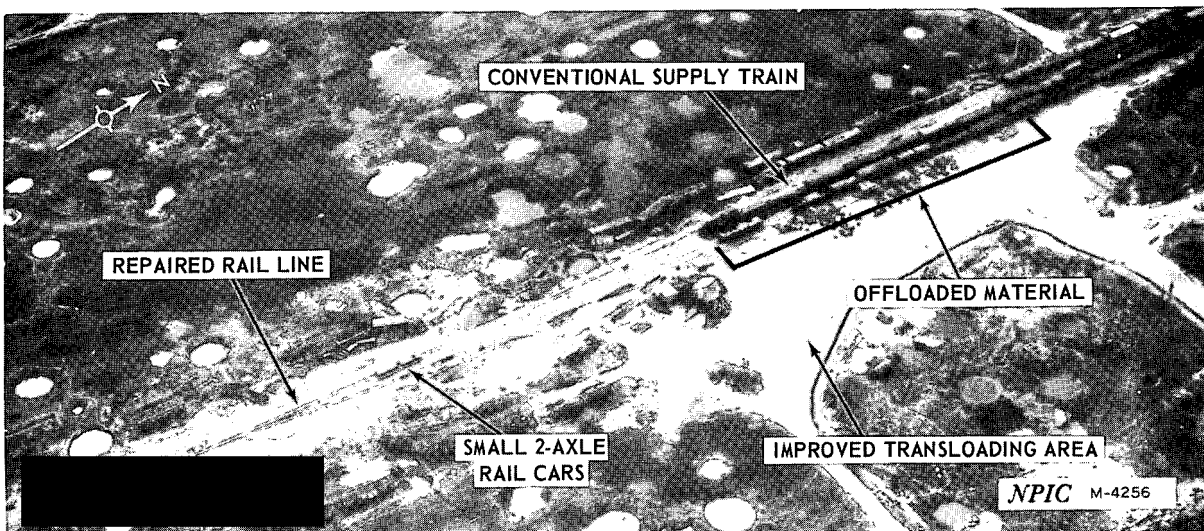
25X1A

Photography of [REDACTED] shows the Thanh Hoa Railroad Station Yard [REDACTED] to be heavily damaged and the rail lines interdicted. Thirteen small, two-axle rail cars are in the yard, but no other activity is observed (Figure 8). Photography of the same area in [REDACTED] shows a significant change. The rail lines have been repaired and a conventional supply train and several two-axle railcars are in the yard. The transloading area has been improved and increased amounts of offloaded materials are in evidence (Figure 9). A total of 385 pieces of rolling stock are in the area.



25X1D

FIGURE 8. THANH HOA RAILROAD STATION YARD.



25X1D

FIGURE 9. THANH HOA RAILROAD STATION YARD.

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10. HAIPHONG THERMAL ELECTRIC POWER PLANT WEST

This power plant, built by the French, is the third largest in the Tonkin delta region and is capable of supplying power to the industries and urban areas of Haiphong and Hanoi.

25X1D

Recent photography reveals the power plant to be in limited operation for the first time since it was struck on 20 May 1967. This strike halted plant operation. Limited activity was observed prior to 31 March 1968. Photography of [REDACTED] revealed the plant to have resumed operation, however, its current estimated production capacity is less than 25% of its original design capacity.

25X1D

Photography of [REDACTED] reveals smoke emanating from the single remaining stack atop the east boiler house. Coal is being unloaded at the coal wharves and transported by tractor-drawn trailers to an area where it is being hand-loaded onto a conveyor apparently feeding coal directly into the boiler. Minor repairs have been made to some structures, however, most of the plant remains heavily damaged.

A protective blast wall is under construction around the generator/transformer building, indicating a concern by the North Vietnamese over the possible resumption of U.S. bombing. Construction on the wall began subsequent to the bombing halt and is similar to six others that have been built around major power-generating facilities in North Vietnam (Figure 10).

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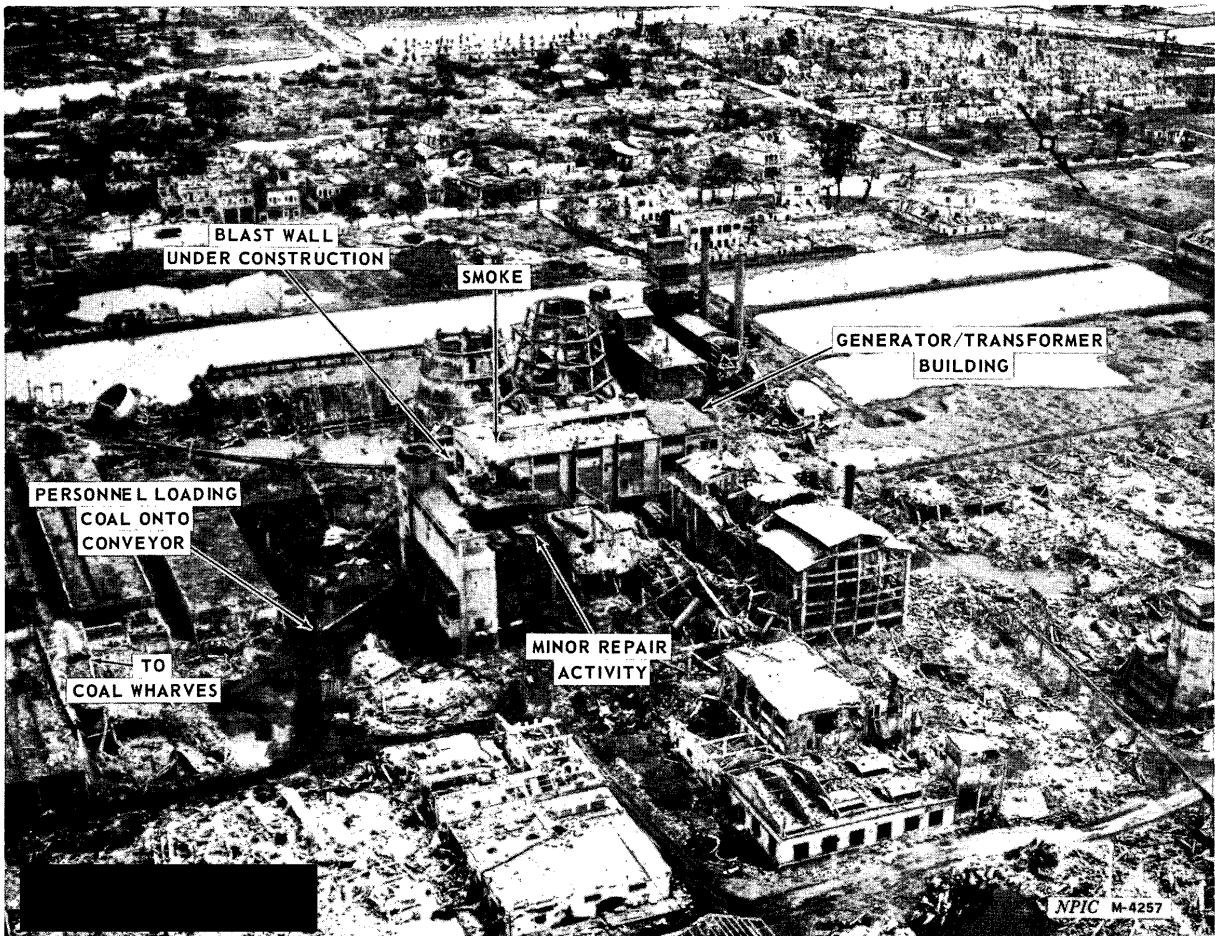


FIGURE 10. HAIPHONG THERMAL ELECTRIC POWER PLANT WEST.

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