TOP SECRET

IMAGERY
ANALYSIS
DIVISION

PIR

PHOTOGRAPHIC INTELLIGENCE REPORT

[redacted]

CHINESE POWER PLANTS

LIAONING PROVINCE

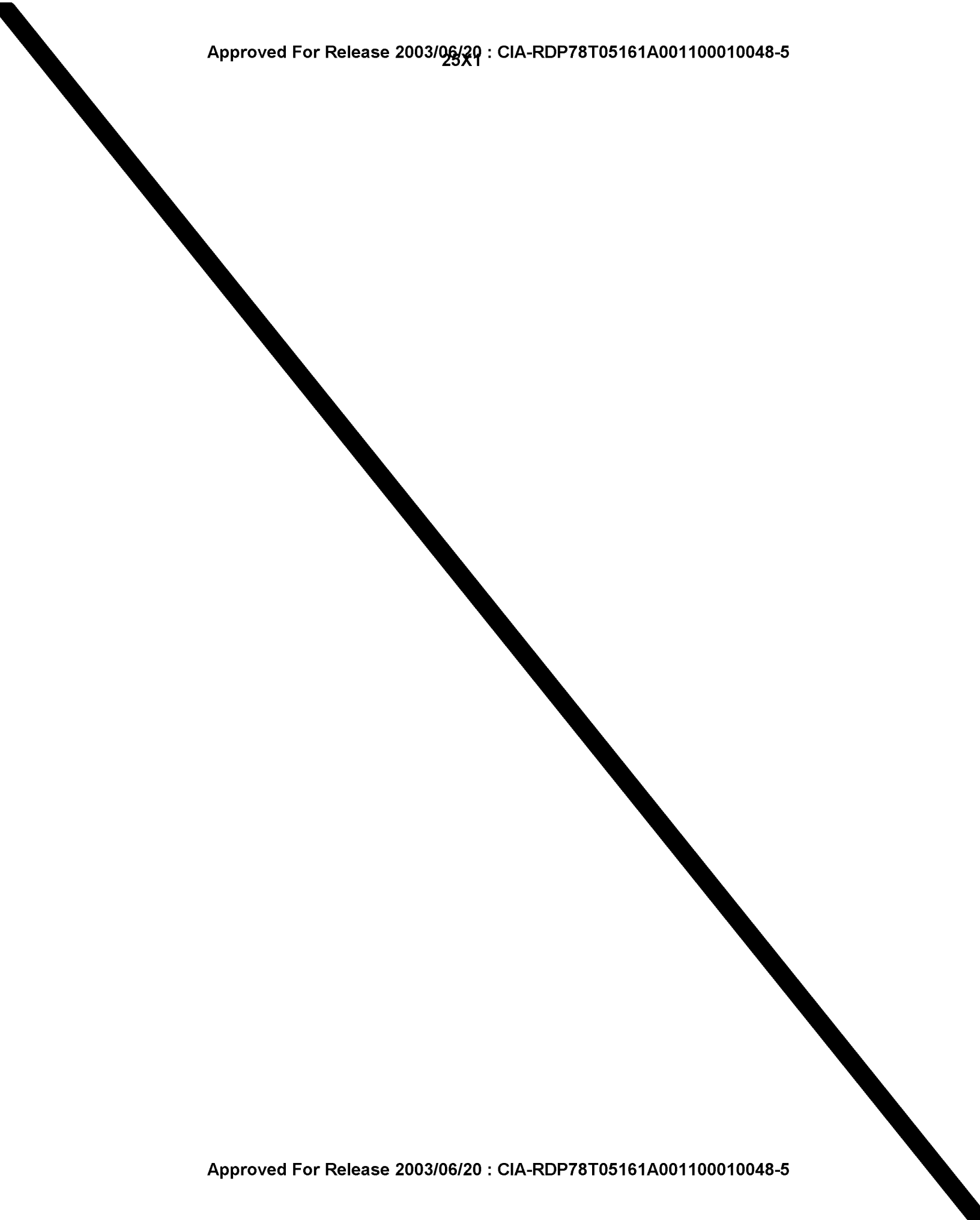
[redacted] 25X1

25X1

[redacted]

DATE JULY 1966
COPY
PAGES 59

TOP SECRET



25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

CHINESE POWER PLANTS

LIAONING PROVINCE

(A) An-shan Thermal Power Plant (Iron and Steel Combine)

(B) Chin-chou Thermal Power Plant

(C) Fou-hsin Thermal Power Plant

(D) Fu-shun Thermal Power Plant (Liaoning)

(E) Fu-shun Thermal Power Plant (Shale Oil Plant)

(F) Fu-shun Hydro Power Plant (Ta-huo-fang)

(G) Fu-shun Thermal Power Plant (Taikanton 1)

(H) Huan-jen Hydro Power Plant

(I) Kai-yuan Thermal Power Plant (Ch'ing-ho)

(J) Lu-ta Thermal Power Plant (Amanogawa 1)

(K) Lu-ta Thermal Power Plant (Kan-ching-tzu)

(L) Pen-chi Thermal Power Plant No. 2

(M) Pen-chi Thermal Power Plant No. 3

(N) Shen-yang (Mukden) Thermal Power Plant

(O) Shen-yang (Mukden) Thermal Power Plant NE

(P) Supung-Nodongjagu Hydro Power Plant

REQUIREMENT

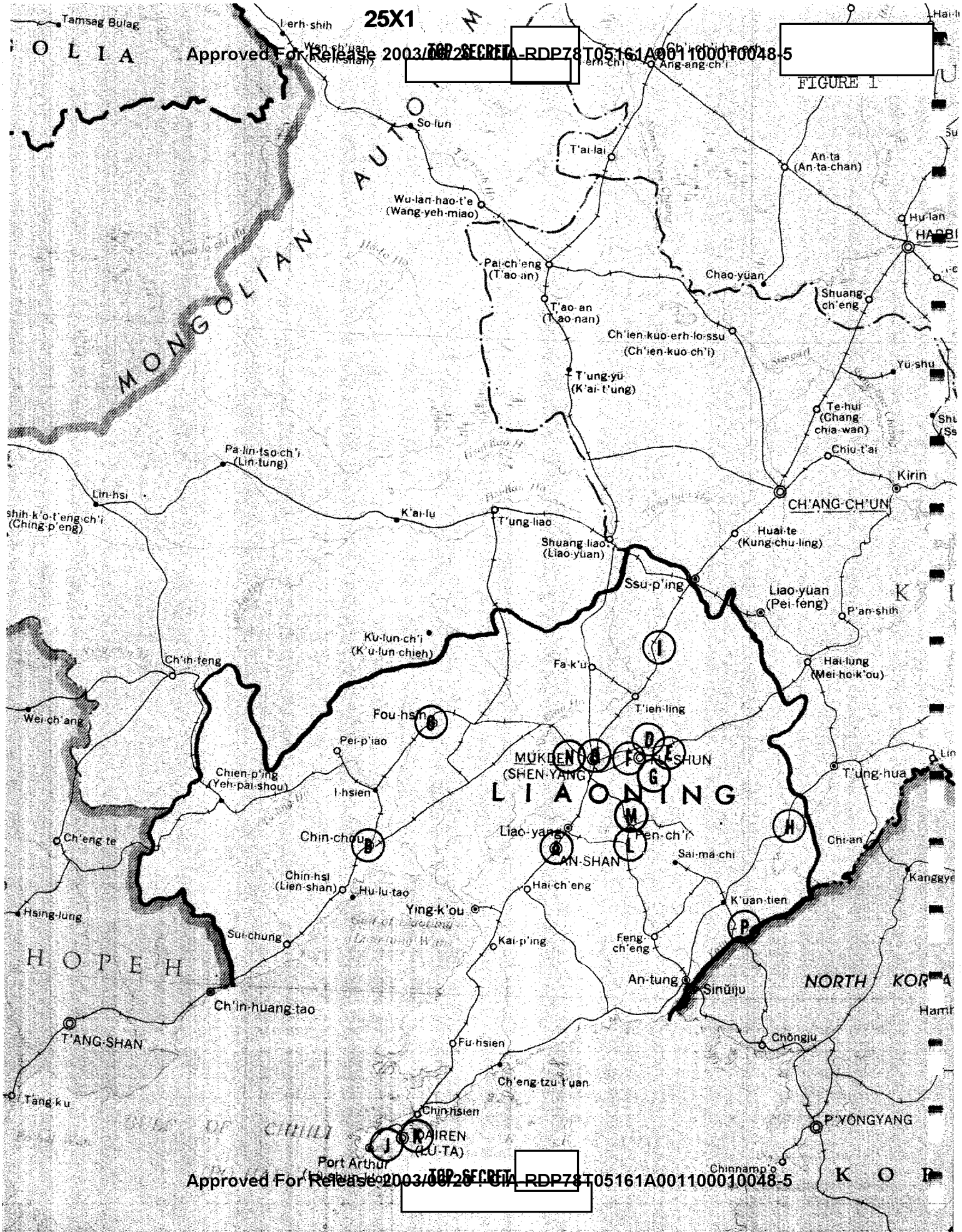
C-RR5-83,218

CIA/IAD PROJECT

30647-6

25X1

FIGURE 1



A

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

CIA IMAGERY ANALYSIS DIVISION

AN-SHAN THERMAL POWER PLANT
(IRON AND STEEL COMBINE)

NPIC NUMBER - 1-C1

An-shan Thermal Power Plant (also known as Showa 1) is located in the southern sector of the An-shan Iron and Steel Complex at coordinates 41 07 55N - 122 59 05E. The plant is primarily gas operated, but the conveyor system to the southwest of the plant and the apparent coal stockpile may indicate coal is a secondary source of fuel. The plant consists of eight natural draft cooling towers of various sizes, large gas holder, small gas holder, control house, sub-station, and spray ponds. The spray ponds are located west of the plant and are not shown in either the photo or line drawing.

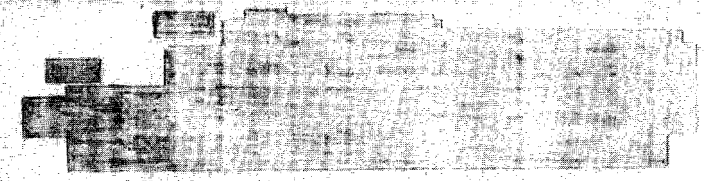
There are ten small metal stacks along the main boilerhouse section and four additional small metal stacks on a smaller boiler section contiguous to the main section. The generator hall has four roof sections. Power cables are not visible leading to the control house or what appears to be transformers immediately north of the generator hall. However, smoke/vapor preclude any detailed analysis.

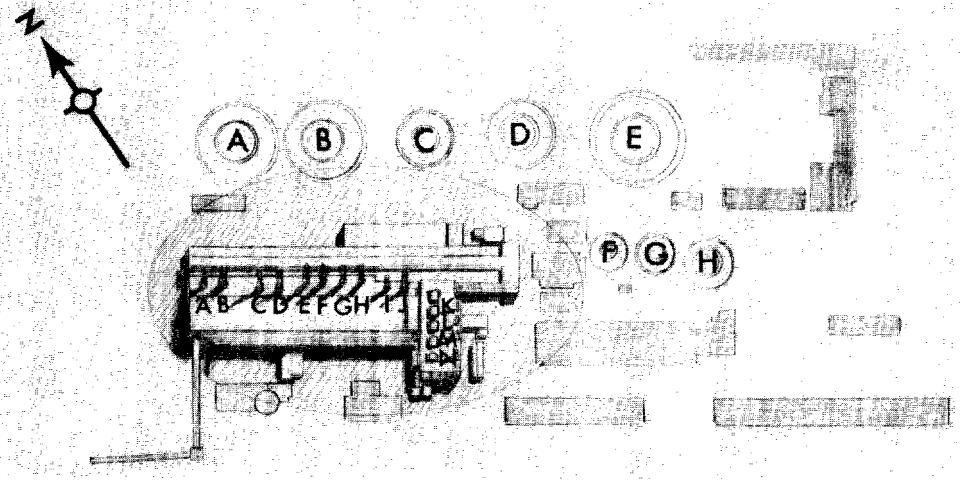
No new construction has occurred during the specified period

FIGURE 2

AN-SHAN THERMAL POWER PLANT
(IRON AND STEEL COMBINE)

25X1





25X1
25X1

TOP SECRET

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

AN-SHAN THERMAL POWER PLANT
(IRON AND STEEL COMBINE)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None. Foundations is in place for additional cooling tower but is never completed.	Moderate smoke from stack A. There appear to be six or seven additional stacks in operation but smoke/vapor precludes analysis. Cooling towers A and B are observed but heavy vapor is rising from C with wisp of vapor from cooling tower H. Spray ponds are in operation.
	None	Moderate smoke from stack A. Light smoke from stack K. Appears to be six or seven other stacks in operation, but smoke/vapor precludes further analysis. Spray ponds are in operation.
	None	Appears to be moderate smoke from stacks D, E, F, G, H, and J, but smoke precludes further analysis. Light vapor from cooling towers C, D, F, G, and H. Spray ponds are in operation.
	None	Smoke/vapor precludes analysis of power plant. Light vapor from cooling towers A, B, C, D, and E. Spray ponds are in operation.
	None	Smoke/vapor precludes analysis of stacks. Heavy vapor from cooling towers A, D, E, and H. Spray ponds are in operation.

25X1

25X1

TOP SECRET

CIA IMAGERY ANALYSIS DIVISION

AN-SHAN THERMAL POWER PLANT
(IRON AND STEEL COMBINE)

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Heavy smoke/vapor precluded further analysis. Spray ponds are in operation.
None	Heavy smoke/vapor precluded further analysis. Spray ponds are in operation.
None	Heavy smoke from what appears to be stacks A, C, D, E, F, G. Smoke/vapor precludes further analysis. Heavy vapor from cooling tower D. Moderate vapor from cooling tower C. Light vapor from cooling tower B. Smoke/vapor obscure cooling towers F, G, and H. Spray ponds are in operation.

B

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

CHIN-CHOU THERMAL POWER PLANT

25X1

The Chin-chou Thermal Power Plant is located northwest of Chin-chou in the Chin-chou Synthetic Fuels Plant at coordinates 41 07 57N - 121 05 52E. The plant is rail-served, apparently coal-operated and includes a small substation located east of the plant and two small octagonal wooden cooling towers (A and B). The power plant has no coal handling equipment, but is linked by a conveyor to a retort building located to the north which contains coal conveying and treatment facilities.

The powerhouse consists of an older section which probably contains two operable boiler-generator units and a new section, partially completed, which appears to contain one completed boiler unit serviced by stack C. The generator hall for this new section has not been erected; however, the new boiler unit is connected to the existing generator hall by a conduit and may be in service as an alternate source of steam.

There may have been limited construction activity but poor quality photography precluded any such analysis.

25X1

25X1

25X1

FIGURE 3

CHIN-CHOU THERMAL POWER PLANT

25X1

25X1

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

CHIN-CHOU THERMAL POWER PLANT

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
Construction on addition to boilerhouse - generator hall is apparently arrested.	No steam/vapor present.
None apparent.	Light smoke from stacks A and B.
None apparent.	No smoke/vapor observed.
None apparent.	No smoke/vapor observed.
None apparent.	No smoke/vapor observed.

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

CHIN-CHOU THERMAL POWER PLANT

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None apparent.	No smoke/vapor observed.
	None apparent.	Light smoke from stacks A and B.
25X1	None apparent.	No smoke/vapor observed.

C

CIA IMAGERY ANALYSIS DIVISION

FOU-HSIN THERMAL POWER PLANT

NPIC NUMBER - 8-B

The Fou-hsin Thermal Power Plant is located in central Fou-hsin at coordinates 41 59 40N - 121 39 50E. The plant is rail-served, coal-operated and includes fourteen natural-draft, reinforced concrete/masonry cooling towers, two spray ponds, sub-station, control house and support/storage facilities.

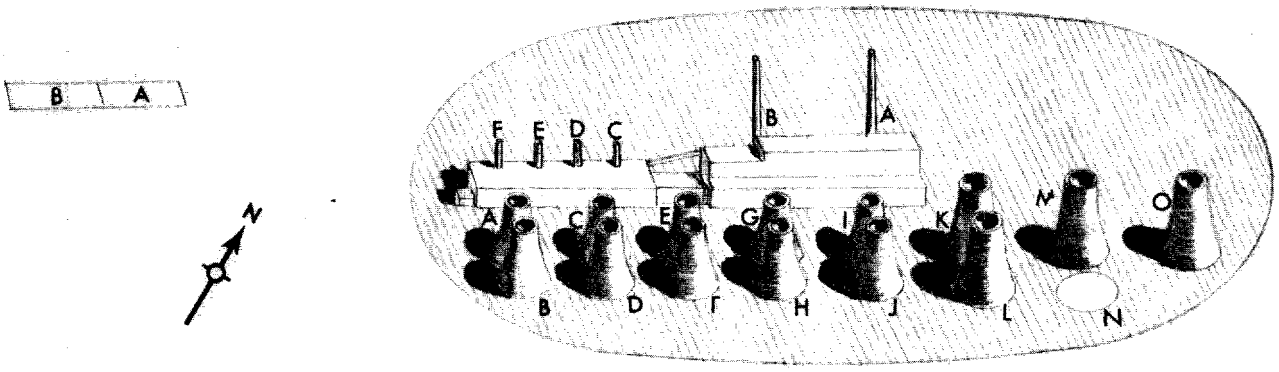
Poor quality, small scale, or obliquity of existing photography preclude detailed analysis of this facility, however, there appears to be two or possibly three distinct powerhouses with a total of at least nine boiler-generator units. The western section is equipped with at least four metal roof-stacks (probably one per boiler-generator unit); the newer and larger section has two large masonry stacks (A and B) and probably contains three or four units. There may be a small powerhouse section (probably the original plant) between the two main sections. No power leads or other indicators of the number of generators could be identified.

The construction of cooling tower O was the only instance of new construction during the period

FIGURE 4

FOU-HSIN THERMAL POWER PLANT

25X1



25X1

25X1

FOU-HSIN THERMAL POWER PLANT

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
Foundations are in place for cooling towers N and O.	Moderate smoke from stacks A, B, C, D, E, and F. Light vapor from cooling towers A, B, C, D, E, F, G, H, I, J, K, and M. Six sprinklers are in operation in spray pond A. Three sprinklers are in operation in pond B.
None	Moderate smoke from stack B. Light smoke from stack A. Light vapor from cooling towers E, F, G, H, I, K, and M. Six sprinklers in each spray pond are in operation.
None	Heavy smoke from stack A. Moderate smoke from stacks C, D, and F. Moderate vapor from cooling towers G, H, J, and L. Light vapor from cooling tower H.
None	Moderate smoke from stacks A, B, and D. Possible light smoke from stacks C, E, and F. Moderate vapor from cooling towers L and M. Light vapor from cooling towers A, B, C, D, E, F, G, H, I, J, K, and L.
Cooling tower O is being completed.	Moderate smoke from stacks A, B, C, D, E, and F. Moderate vapor from cooling towers A, C, D, E, G, I, J, K, L, and M. Three spray units are in operation in each pond.

25X1

CIA IMAGERY ANALYSIS DIVISION

FOU-HSIN THERMAL POWER PLANT

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Light smoke from stacks A, B, C, D, E, and F. Light vapor from cooling towers A, B, C, D, E, G, H, I, J, K, L, and M. Spray ponds don't appear to be in operation.
None	Heavy smoke from stacks A and B. Moderate smoke from stacks C, D, E, and F. Heavy vapor from cooling towers A, B, C, D, E, G, I, J, K, and M. Spray ponds appear to be in operation.
Cooling tower O is completed. Site for cooling tower N shows no progress.	Heavy smoke from stack B. Light smoke from stacks A, C, D, and E. Light vapor from cooling towers A, C, E, G, I, J, K, and L. Wisp of smoke from cooling towers B, D, and F. Spray ponds appear frozen.
None	Heavy smoke from stack B. Moderate smoke from stacks A, D, E, and F. Light vapor from cooling towers B, E, G, I, J, K, and M.

D

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

FU-SHUN THERMAL POWER PLANT (LIAONING)

[redacted] 25X1

NPIC NUMBER - 36-B1

The Fu-shun Thermal Power Plant (Liaoning) is located 2.2 nm north of the Ta-huo-fang Dam at the coordinates of 41 55 02N - 124 05 38E. The plant is rail served and coal operated. It includes a sub-station, control house, maintenance building, six small oil storage tanks, and numerous support/storage buildings. There are no transformers visible in the sub-station indicating that the power is utilized locally. Cooling water is evidently obtained from the small canals located near the sub-station; no cooling towers or spray ponds have been constructed.

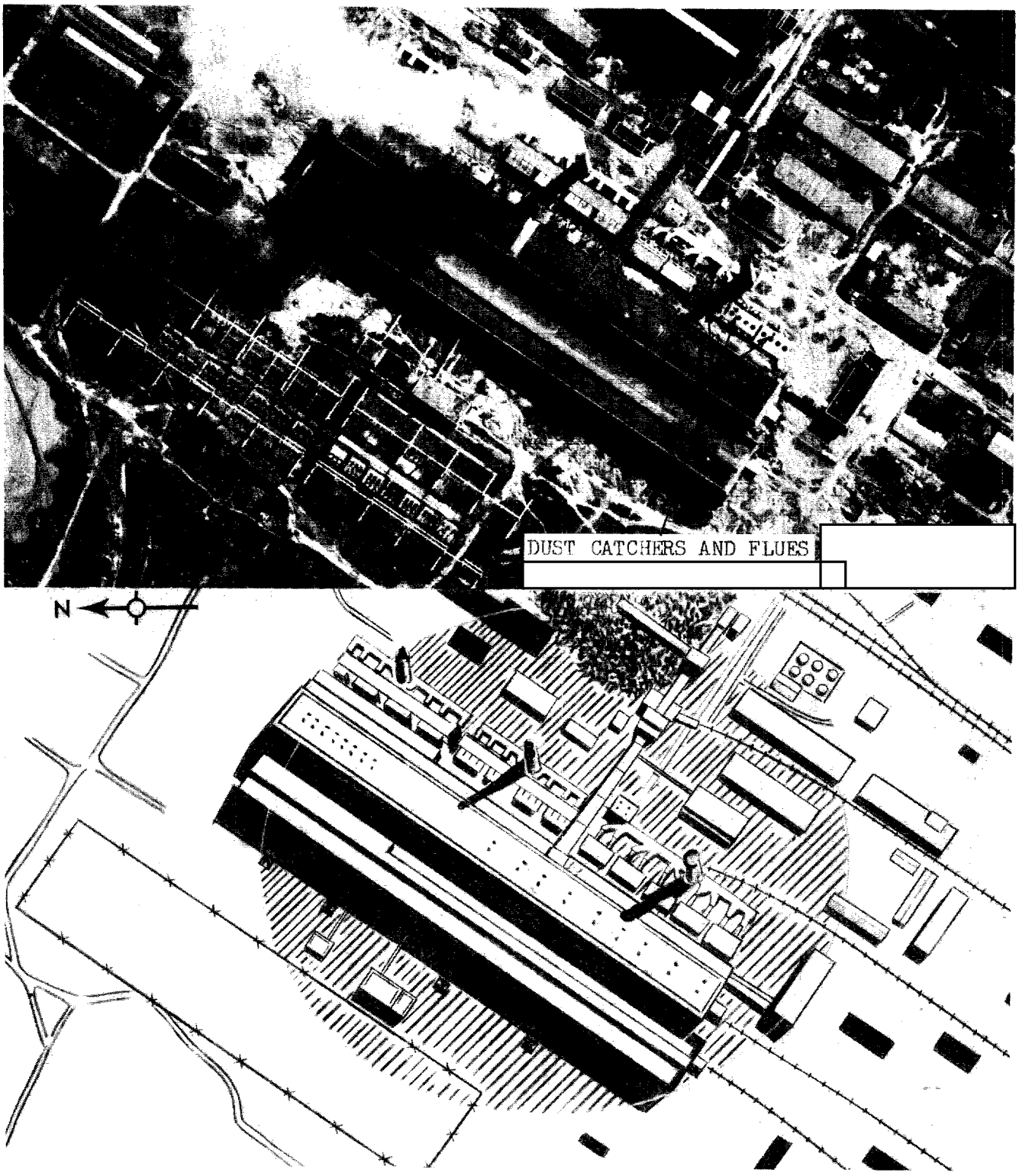
The boiler house appears to contain thirteen operable boiler units serviced by three masonery stacks. The southwest end of the boiler house and generator hall is unfinished and will probably be expanded to house an additional boiler unit for a total of fourteen.

The generator hall is compartmented into seven sections, each in line with two boiler units. No power leads could be detected between the generator hall and sub-station. There are, however, four sets of transmission towers which lead from the generator hall in a northwest direction.

New construction [redacted] period consisted of the installation of five sets of dust catchers and completion of three flue systems in the boiler house section serviced by stack C. 25X1

FIGURE 5

FU-SHUN THERMAL POWER PLANT
(LIAONING)



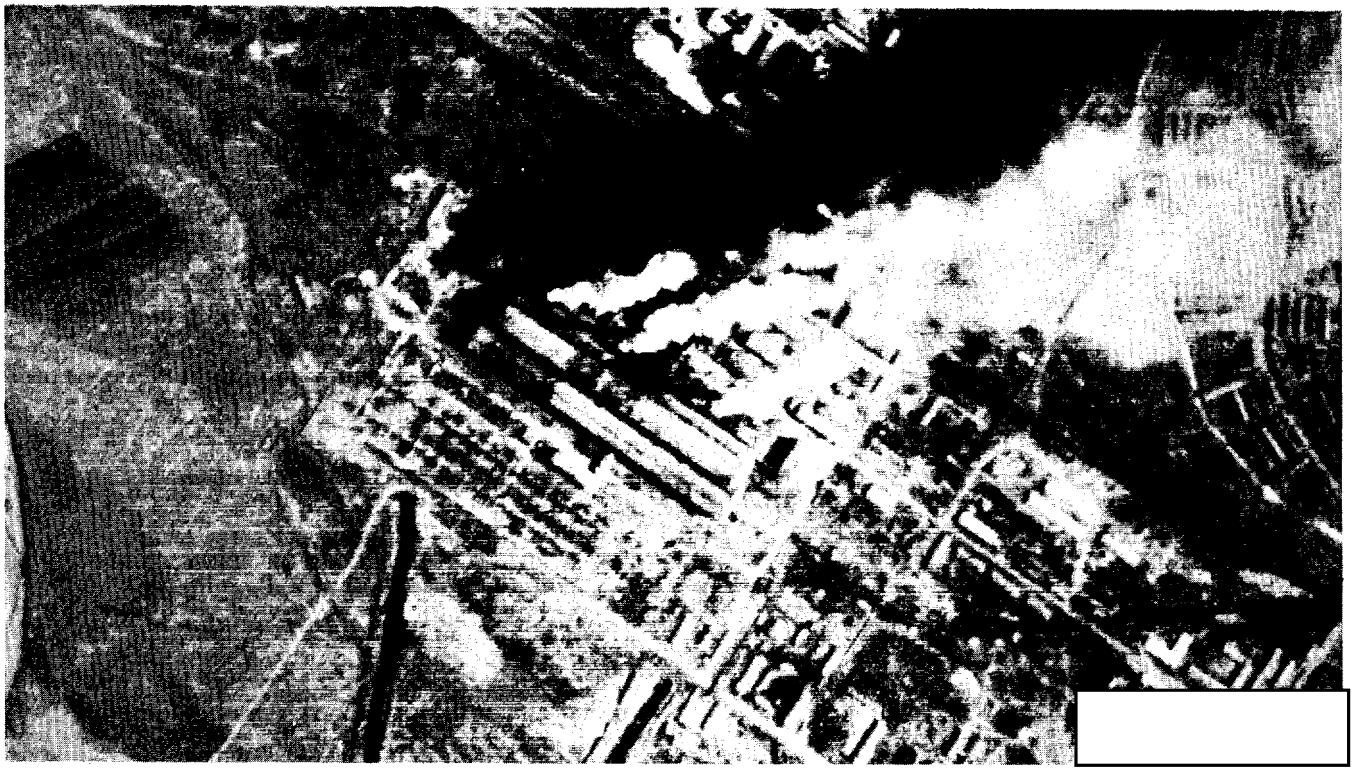
25X1

25X1

FIGURE 6

FU-SHUN THERMAL POWER PLANT
(LIAONING)

25X1



25X1

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

FU-SHUN THERMAL POWER PLANT
(LIAONING)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Construction is occurring on the five boiler units served by stack C (See Figure 1).	Heavy smoke from stack B.
	Obliquity precluded analysis.	Heavy smoke from stacks A and B.
25X1	Obliquity precluded analysis.	Heavy smoke from stacks A and B.
	Undeterminable; however, three boiler units were probably completed as indicated by heavy smoke from stack C.	Heavy smoke from all three stacks.
	Undeterminable due to smoke/ haze over plant.	Heavy smoke from stack B with light smoke over stack C.

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

FU-SHUN THERMAL POWER PLANT
(LIAONING)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	Two southern most boiler units were not observed connected to stack C.	Heavy smoke from stacks A and B.
	Obliquity precluded analysis.	Moderate smoke from stack B.
	Undeterminable due to heavy smoke/haze over plant.	Heavy smoke from all three stacks.
	All five boiler sections are now connected to stack C. No apparent construction on sixth boiler unit.	Heavy smoke from all three stacks.

25X1

25X1

E

FU-SHUN THERMAL POWER PLANT (SHALE OIL PLANT)

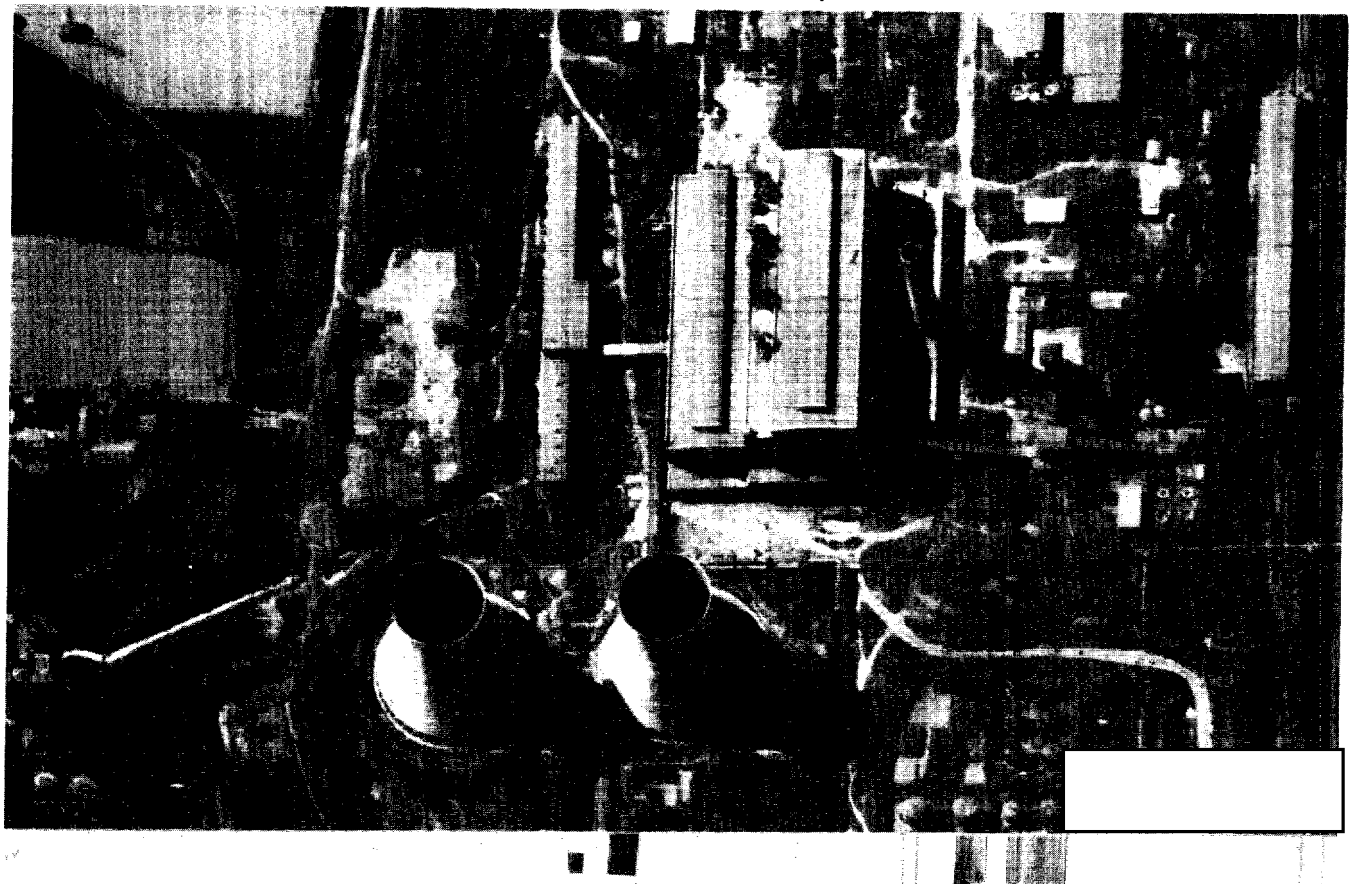
NPIC NUMBER - 36-G1

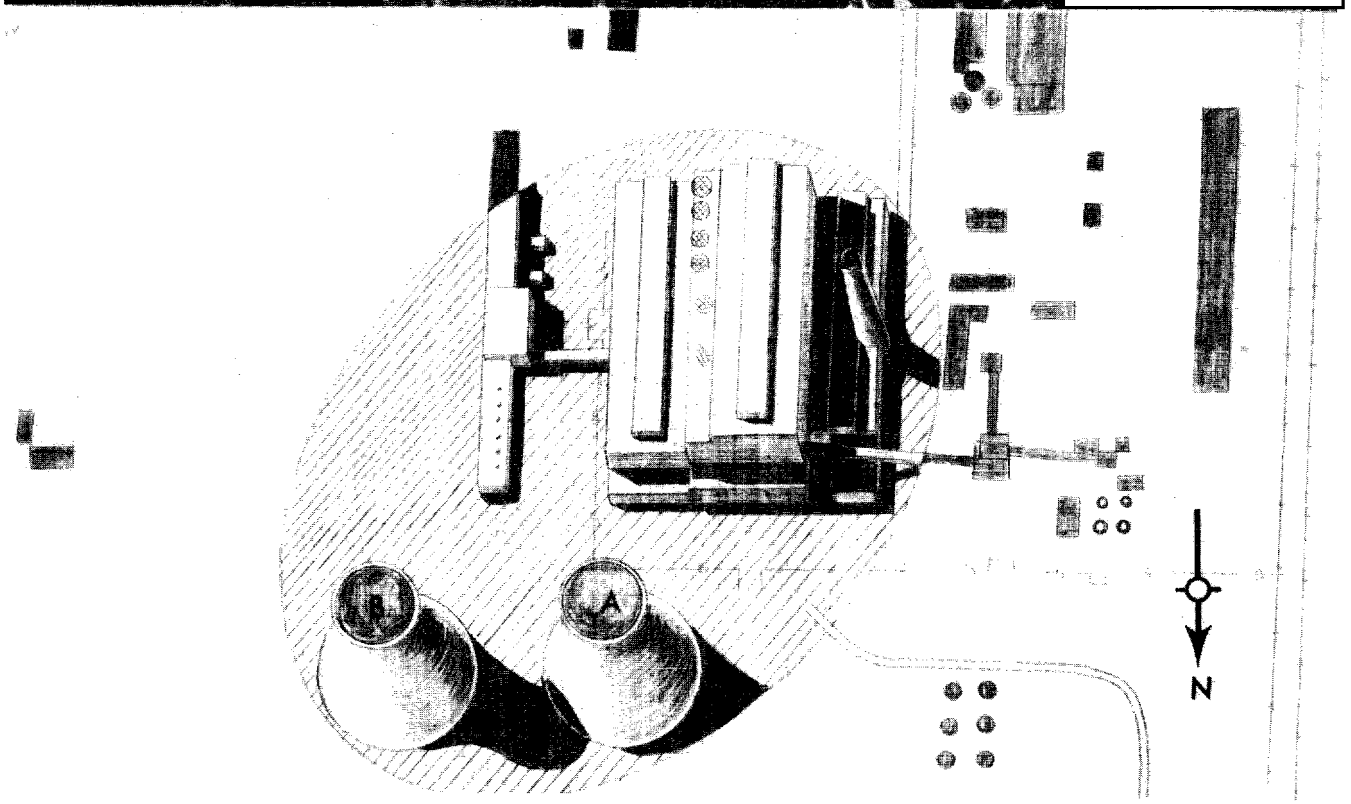
The Fu-shun Thermal Power Plant (Shale Oil Plant) is located in the southeast sector of the shale oil plant in eastern Fu-shun at coordinates 41 49 50N - 124 02 50E. The facility is rail served, coal operated, and consists of a coal car unloading building, coal conveyor system, control house with two visible transformers, two natural draft masonery cooling towers, pumphouses, and several small tanks (which probably are utilized for oil storage). A steam line extends from the eastern end of the building and services various buildings in the shale oil plant.

There are four sets of flues - each containing four ducts which connect the boiler house to the large masonery stack. Four dust-catcher units are also present suggesting that four boiler units are present. Power cables leading from the generator hall to the control house are not evident although four sets of probable power lead terminals can be seen on the control house wall facing the generator hall.

FIGURE 7

FU-SHUN THERMAL POWER PLANT
(SHALE OIL PLANT)





FU-SHUN THERMAL POWER PLANT (SHALE OIL PLANT)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Very light smoke is seen above the stack. No vapor is visible from the cooling tower A but moderate vapor is visible above B.
	None	Heavy smoke is observed from the stack. Heavy vapor is visible over the cooling tower labeled B. Whisp of vapor is seen over cooling tower labeled A.
	None	No smoke or vapor observed.
	None	Heavy smoke is observed from the stack. Heavy vapor from cooling tower B.
	None	Heavy smoke from stack. Heavy vapor from cooling tower B.

CIA IMAGERY ANALYSIS DIVISION

FU-SHUN THERMAL POWER PLANT (SHALE OIL PLANT)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Not in operation.
	None	Not in operation.
25X1	None	Not in operation.
	None	Not in operation
	None	Light smoke coming from the stack. Light possible vapor is coming from both cooling towers.

F

CIA IMAGERY ANALYSIS DIVISION

FU-SHUN HYDRO POWER PLANT (TA-HUO-FANG)

NPIC NUMBER - 36-J

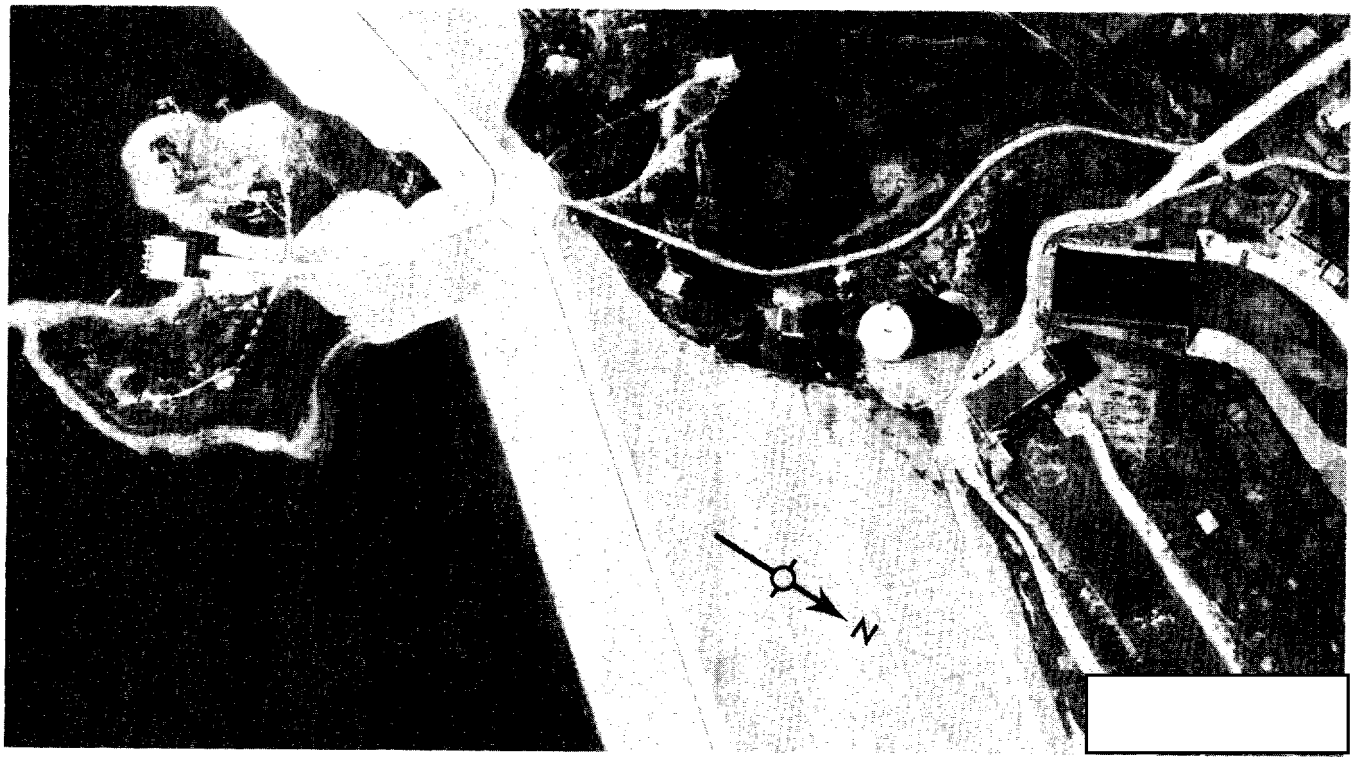
The Fu-shun Hydro Power Plant (Ta-huo-fang) is located at the mouth of the Fu-shun Reservoir at coordinates 41 53 05N - 124 05 30E. The facility includes an intake control house, underground conduits and penstocks, spillway outlet west of the generator hall, and a small adjacent sub-station. There are no transformers visible, indicating that power is utilized locally.

Water is apparently carried by two underground conduits to a surge-tank and finally to the generator hall which appears to contain two sets of outlets.

No new construction occurred during the specified period

FIGURE 8

FU-SHUN HYDRO POWER PLANT (TA-HUO-FANG)



25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

FU-SHUN HYDRO POWER PLANT (TA-HUO-FANG)

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Turbulence noted; appears to be from both outlets.
None	Heavy turbulence from western outlet.
None	Oblique coverage precluded detection of turbulence.
None	Apparent turbulence from eastern outlet.
None	No turbulence apparent; however, water in front of the outlets is free of ice.

25X1

25X1

FU-SHUN HYDRO POWER PLANT (TA-HUO-FANG)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
[redacted]	None	Turbulence noted from one and possibly both outlets.
	None	Turbulence observed from apparently one outlet; possibly eastern.
25X1	None	No turbulence observed; however, water at outlets is free of ice.

G

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

FU-SHUN THERMAL POWER PLANT (TAIKANTON 1)

25X1

NPIC NUMBER - 36-I

The Fu-shun Thermal Power Plant (Taikanton 1) is located in the central part of Fu-shun at coordinates 41 51 13N - 123 53 02E and consists of two plants. The power complex contains two large spray ponds, thirteen cooling towers, a sedimentation pond, three sub-stations with two control houses and numerous support/storage buildings.

The older and smaller plant is located in the eastern section of the complex, and probably has two boiler units and two and possibly three generators. The larger plant is of two distinct designs. The eastern section is served by eight short and three taller metal stacks, and probably contains eleven boiler-generator units. The western section of the larger plant has four dust catcher units serviced by a single free-standing masonery stack. The generator hall, however, does not extend the full length of the combined boilerhouses, making it unlikely that at least two of the four boiler units are connected to generators.

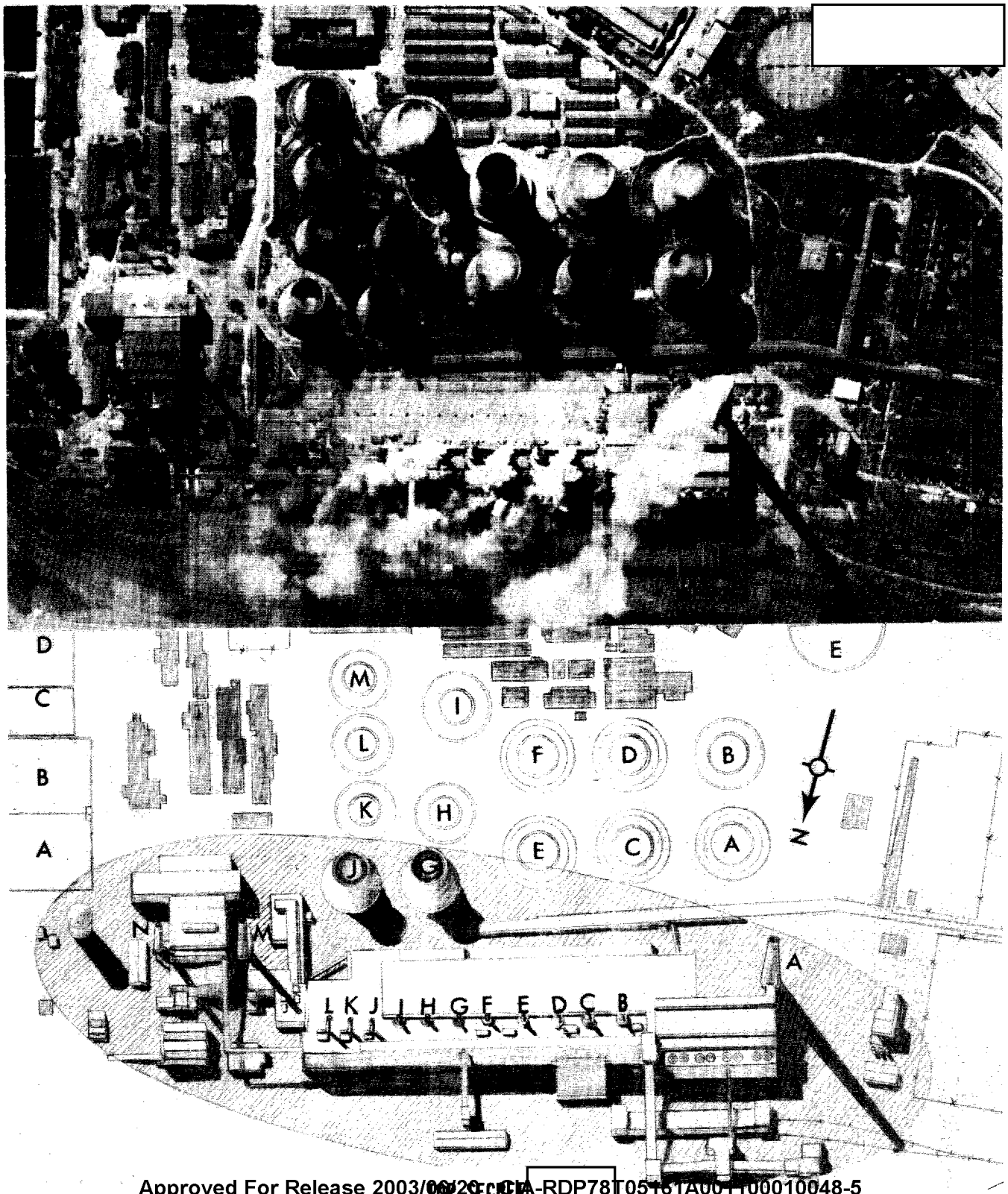
There has been no change or new construction

25X1

25X1

FIGURE 9

FU-SHUN THERMAL POWER PLANT
TAIKANTON 1



CIA IMAGERY ANALYSIS DIVISION

FU-SHUN THERMAL POWER PLANT (TAIKANTON 1)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Appears as if all the stacks are smoking (poor quality coverage precludes analysis). Heavy vapor from cooling towers C, D, E, F, G, and H. Light vapor from cooling tower A. Spray ponds are activated.
	None	Heavy smoke from stack A. Moderate smoke from stacks B, C, F, G, and M. Apparent light smoke from stacks D and E. Light vapor from cooling towers A, B, C, D, E, F, G, I, K, L, and M. Spray ponds appear to be in operation.
	None	Heavy smoke from stacks A, B, C, D, E, and F. Moderate smoke from stacks H and L. Cooling towers are obscured by smoke/vapor. Spray ponds A and B are in operation. Spray ponds C and D are frozen.

CIA IMAGERY ANALYSIS DIVISION

FU-SHUN THERMAL POWER PLANT (TAIKANTON 1)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks A, B, D, F, G, H, and I. Moderate vapor from all cooling towers except C, F and G. Spray pond A has five units in operation. Ponds B, C, and E are in operation.
	None	Heavy smoke from stack E. Moderate smoke from stack B, C and D. Possible smoke from stacks K and J. Heavy vapor from cooling tower A and and possibly B. Moderate vapor from cooling tower C. Light vapor from cooling towers M, L, J, H, and I. Spray ponds are activated.
	None	Heavy smoke from stack A. Moderate smoke from stacks B and C. Appears to be very dense vapor from all the cooling towers with the exception of A and B. Spray ponds are all activated.
	None	Heavy smoke from stack A. Moderate smoke from stacks B, C, D, E, and F. Light vapor from cooling towers A, B, H, and I. Spray ponds do not appear to be activated.
	None	Heavy smoke from stack A. Moderate smoke from three or four stacks (possibly C. E. G. and I). Heavy vapor from cooling towers E, D, and M. Moderate vapor from cooling tower J. Spray pond A is in operation. Half of spray pond B is in operation.

H

CIA IMAGERY ANALYSIS DIVISION

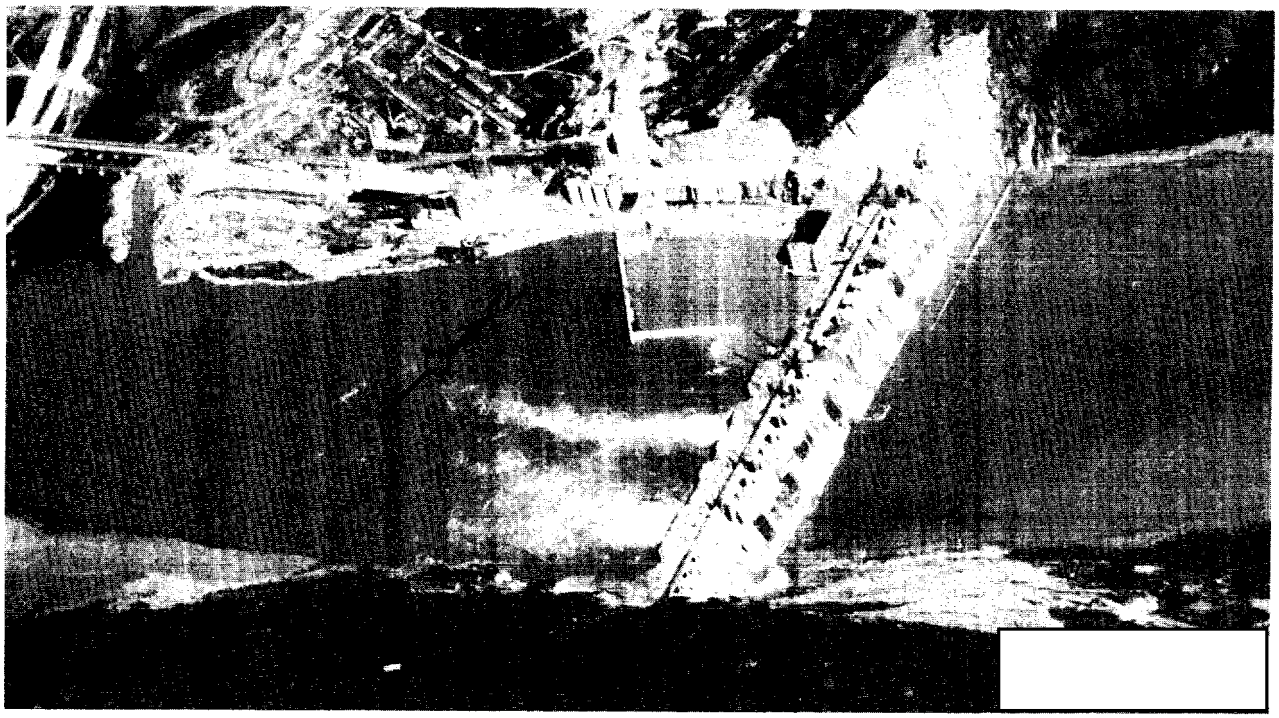
HUAN-JEN HYDRO POWER PLANT

NPIC NUMBER - 119-C

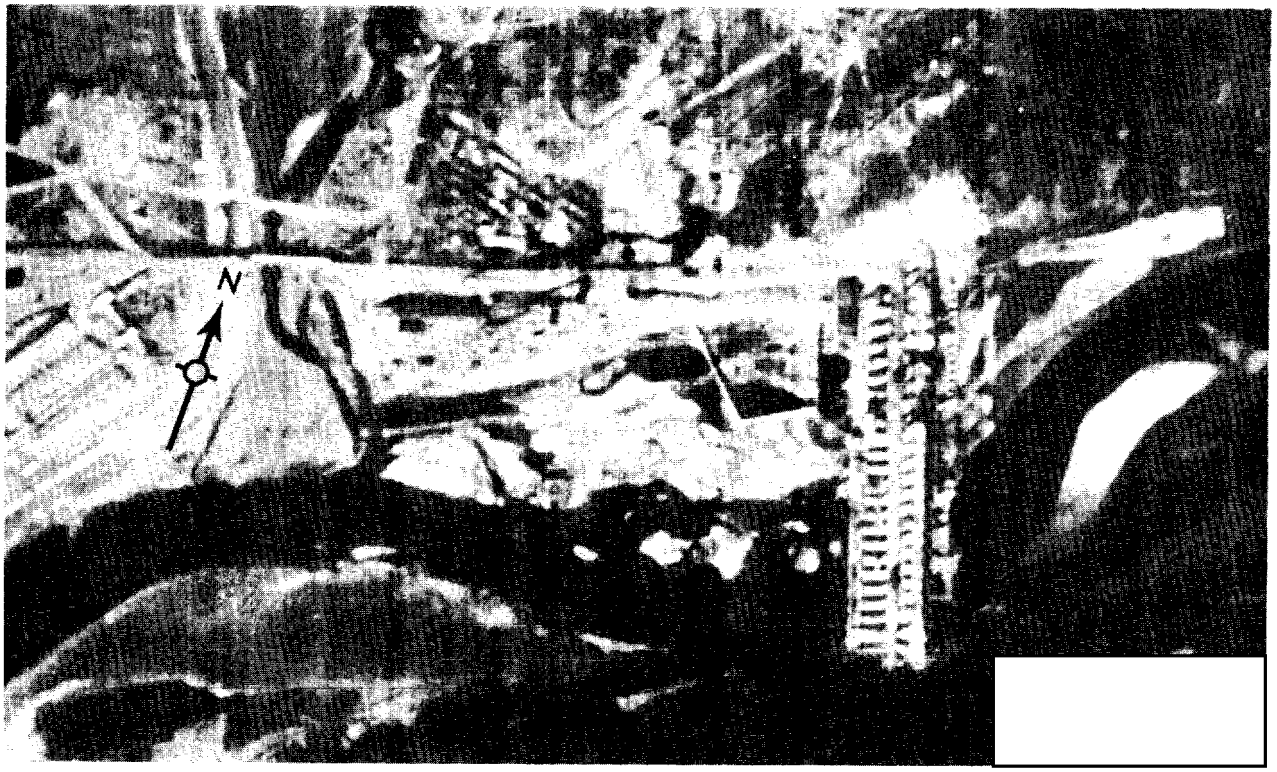
The Huan-jen Hydro Power Plant is located on the Hun Chiang (River) 2.8 nm east of the Huan-jen Highway Bridge at coordinates 41 17 35N - 125 23 55E and is still incomplete. Construction was begun and has progressed little, if any, since that time. The dam completely spans the Hun Chiang and appears to be nearly finished. Housing for at least two turbo-generator units has been erected and the southern edge of the powerhouse appears unfinished indicating that additional units may be added. No sub-station or transmission facilities are apparent.

FIGURE 10

HUAN-JEN HYDRO POWER PLANT



25X1



25X1

25X1

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

CIA IMAGERY ANALYSIS DIVISION

KAI-YUAN THERMAL POWER PLANT (CH'ING-HO)

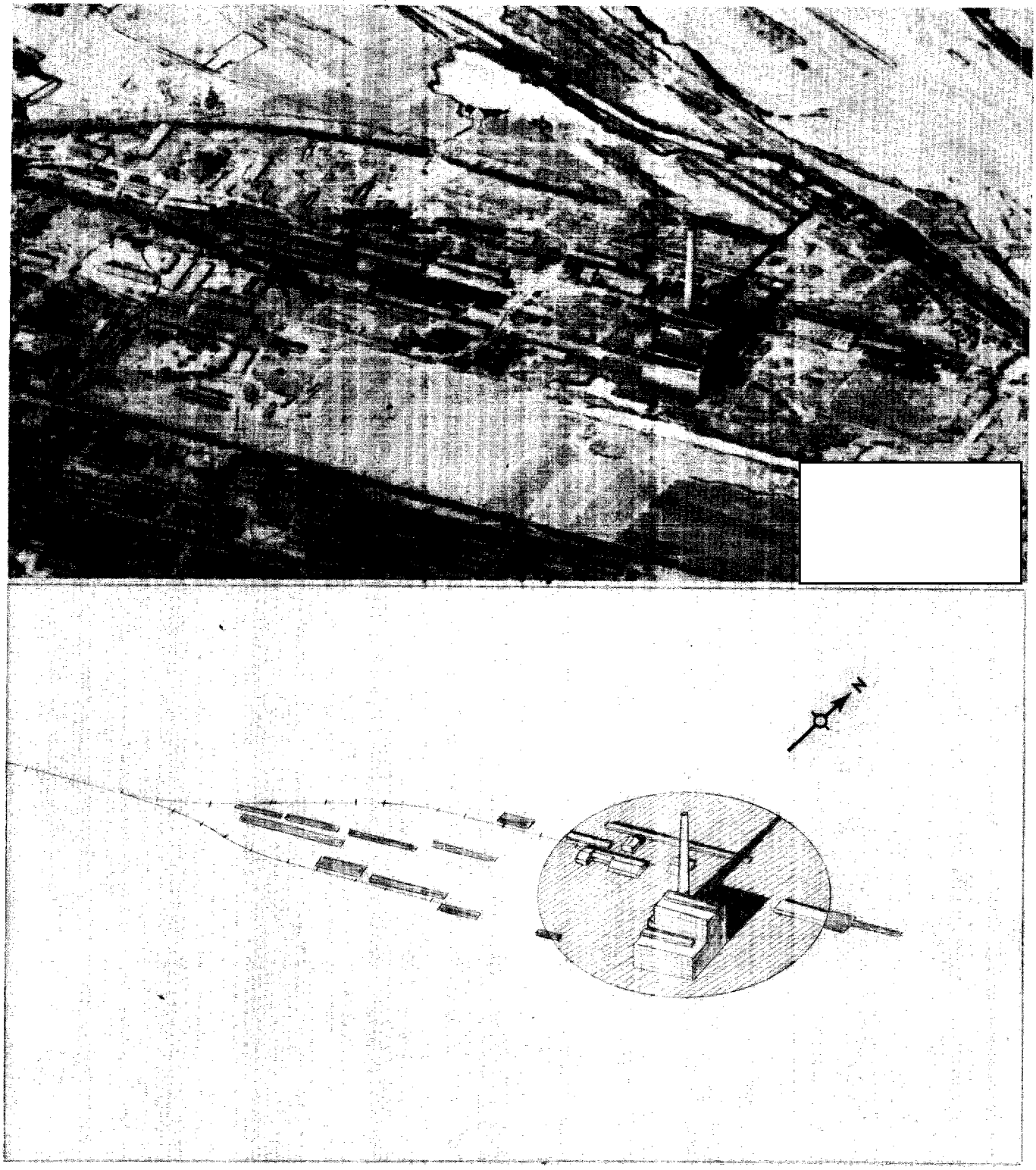
NPIC NUMBER - 40-C

The Kai-yuan Thermal Power Plant (Ch'ing-ho), also known as Sun-chia-tai, is located 7.5 nm east of Kai-yuan Airfield at coordinates 42 32 40N - 124 09 30E and has been in an arrested state of construction since first observed

If this plant is completed it will be rail-served, coal-operated and capable of housing at least four boiler-generator units. At present, it is large enough to house two boilers and two generators; however, the absence of coal-conveying and processing buildings and switching and transmitting facilities makes the plant totally inoperable. Footings and uprights for an addition to the powerhouse have been in place This will double the present plant area when completed.

FIGURE 11

KAI-YUAN THERMAL POWER PLANT (CH'ING-HO)



J

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

LU-TA THERMAL POWER PLANT (AMANOGAWA 1)

25X1

NPIC NUMBER - 18-S

Lu-ta Thermal Power Plant (Amanogawa 1) is located approximately 3.5 nm south of Chou-shui-tzu Airfield at coordinates 38 54 20N - 121 34 40E. The plant is rail-served, coal-operated and includes a large spray pond, integrated control house, sub-station with at least three transformers, and numerous support/storage buildings.

The boilerhouse appears designed for at least three boiler units. The eastern section is equipped with a single longitudinal monitor, one centrally located dust-catcher, and a single metal roof-stack. The western boilerhouse section contains two closely spaced metal roof-stacks and a single metal roof-stack, suggesting two boiler units of different capacities. The generator hall has about 35 vents arranged (in no apparent pattern) in clusters of two, four, six or eight. No power cables could be detected.

No significant construction occurred during the period

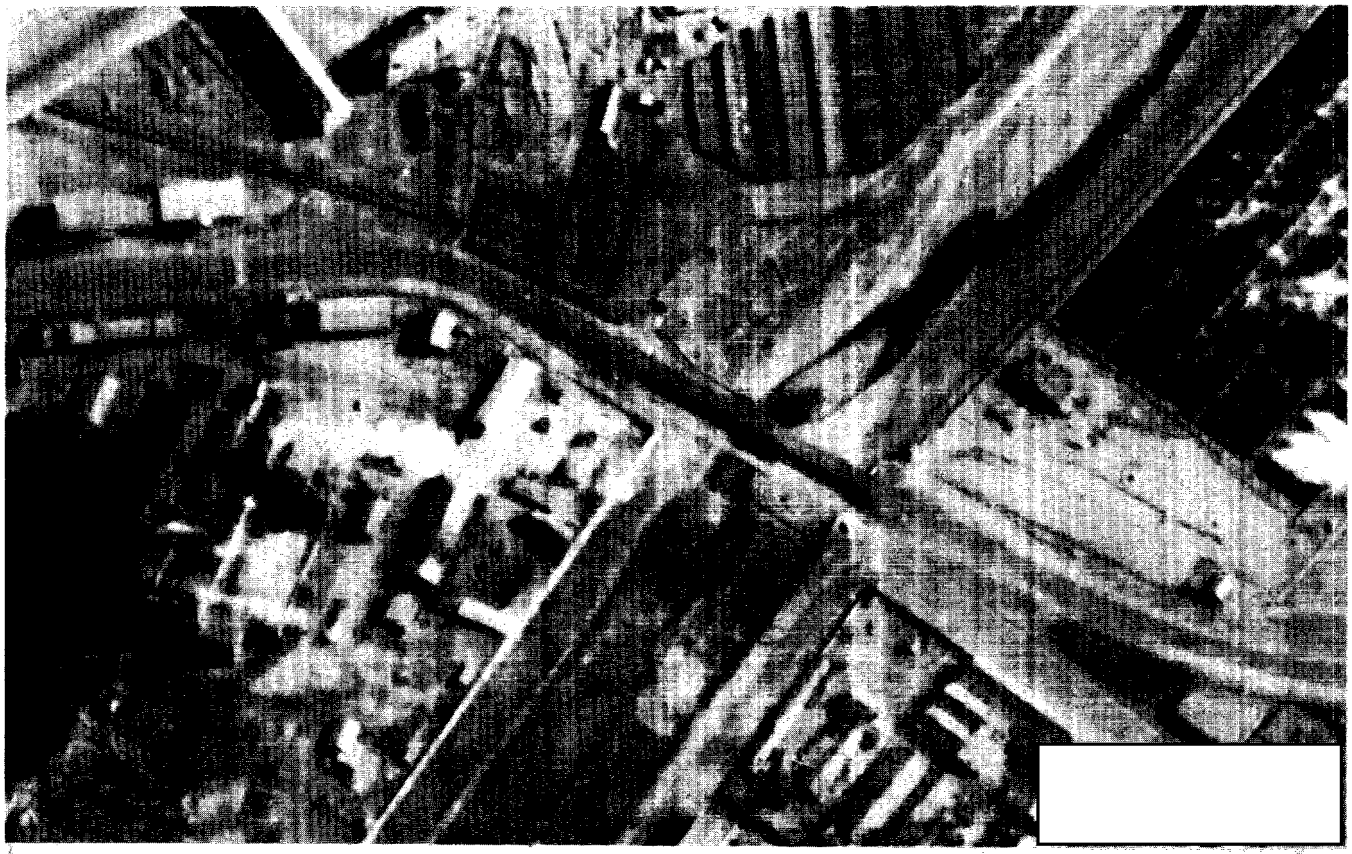
25X1

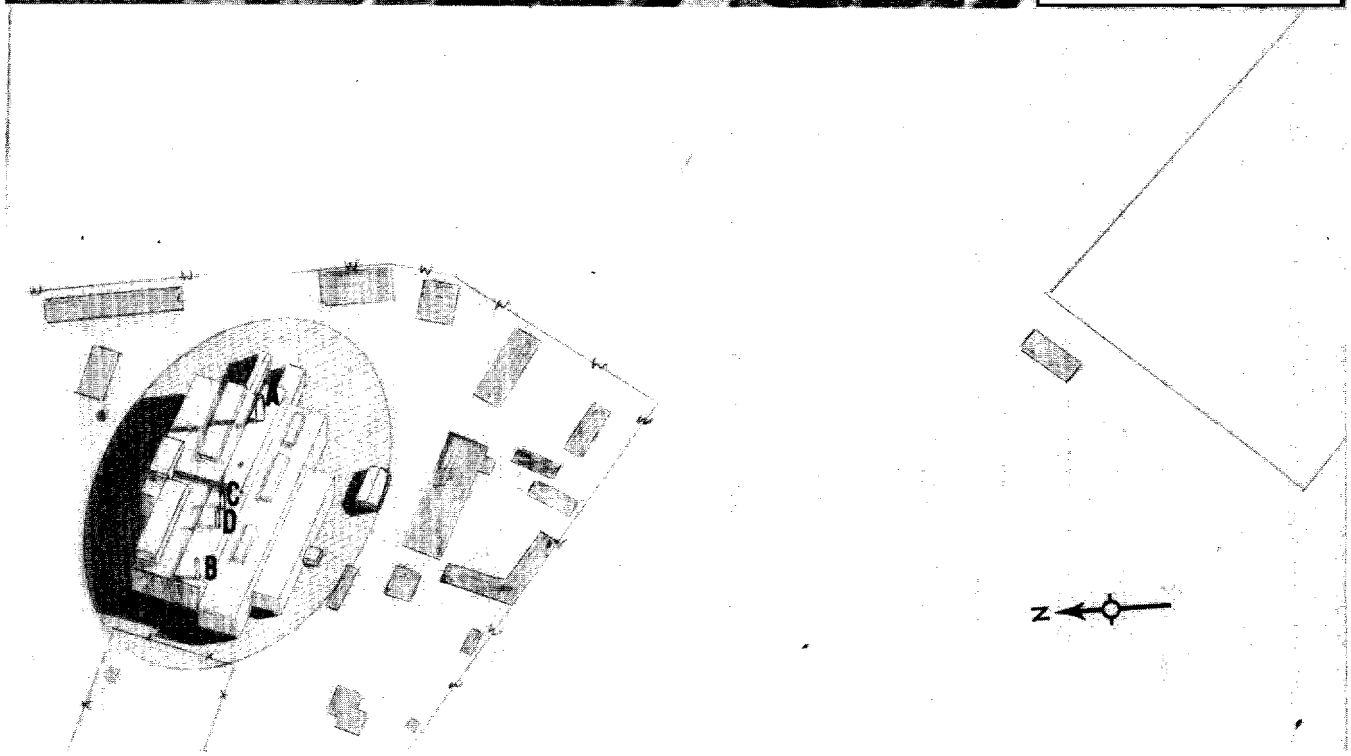
25X1

25X1

FIGURE 12

Lu-ta Thermal Power Plant (Amanogawa 1)





CIA IMAGERY ANALYSIS DIVISION

LU-TA THERMAL POWER PLANT (AMANOGAWA 1)

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Light smoke from stacks C and D.
None	Light smoke from stack A.
None	No smoke/vapor observed.
None	No smoke/vapor observed.
None	Light smoke from stack B.

CIA IMAGERY ANALYSIS DIVISION

LU-TA THERMAL POWER PLANT (AMANOGAWA 1)

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Moderate smoke from stacks A and B. Light activity at spray pond.
None	Heavy smoke over plant precludes analysis.
None	Light smoke from stacks A and B.
None	No smoke apparent.
None	Light smoke from stacks A and B. Spray pond is in operation.

K

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

25X1

LU-TA THERMAL POWER PLANT NO. 2 (KAN-CHING-TZU)

NPIC NUMBER - 18-N2

The Lu-ta Thermal Power Plant No. 2 (Kan-ching-tzu) is located 3.5 nm east of Chou-shui-tzu Airfield at coordinates 38 57 40N - 121 37 50E. The plant is rail-served, coal-operated, and includes two large and six small POL storage tanks, integrated control house, small water basin, and extensive coal handling and processing facilities.

The powerhouse has been expanded several times and presently consists of two main sections. The northern powerhouse section contains a boiler-house equipped with four transverse monitors and four metal roof-stacks, suggesting four boiler units. The generator hall contains a longitudinal monitor equipped with fourteen small vents, but has no power cables visible. The southern powerhouse section appears designed to accommodate four boiler units, although only three dust-catchers and three four-duct flues are installed. No power cables or other indicators of the number of generator units could be discerned.

No new construction occurred during the period

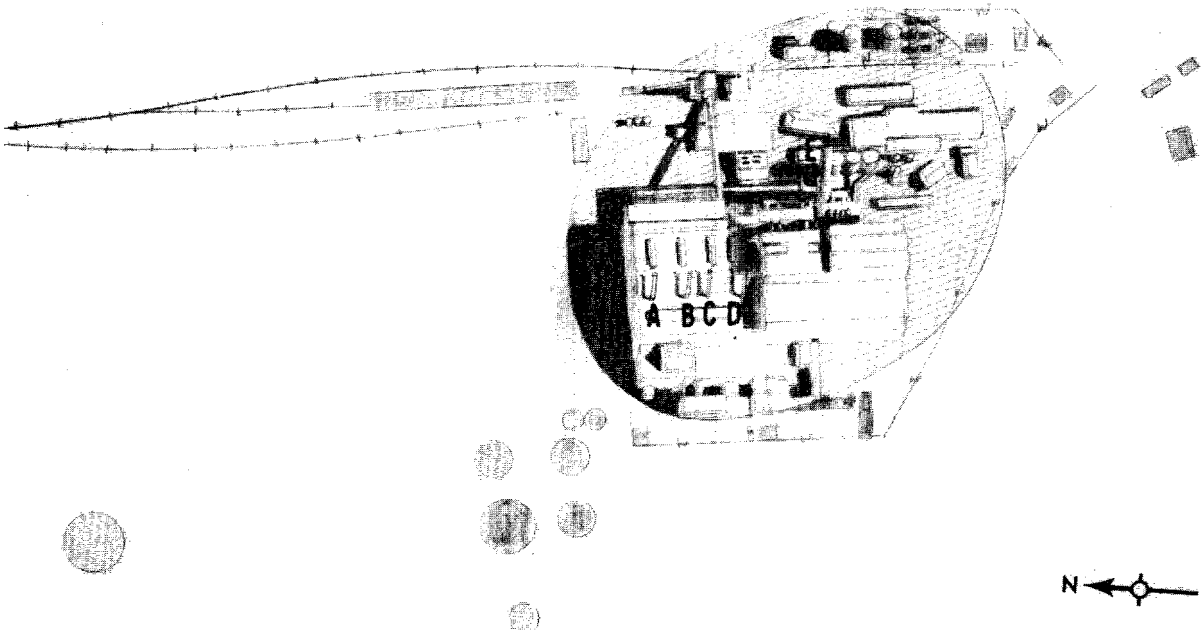
25X1

25X1

FIGURE 13

LU-TA THERMAL POWER PLANT 2 (KAN-CHING-TZU)

25X1



25X1

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

LU-TA THERMAL POWER PLANT NO. 2 (KAN-CHING-TZU)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke precludes analysis.
	None	Heavy smoke from stacks D, E, and possibly C.
	None	Heavy smoke from stacks A, B, C, and D.
	None	Heavy smoke from stack E. Heavy clouds preclude further analysis.
	None	Heavy smoke from stacks D and E.

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

LU-TA THERMAL POWER PLANT NO. 2 (KAN-CHING-TZU)

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stacks B, C, D, and E.
	None	Heavy smoke from stacks B, C, D, and E.
25X1	None	Heavy smoke from stacks B, C, D, and E.
	None	Moderate smoke from stack E obscures other stacks.
	None	Heavy smoke from stacks A, B, C, and D.

L

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

PEN-CHI THERMAL POWER PLANT NO. 2

[redacted] 25X1

NPIC NUMBER - 51-B1

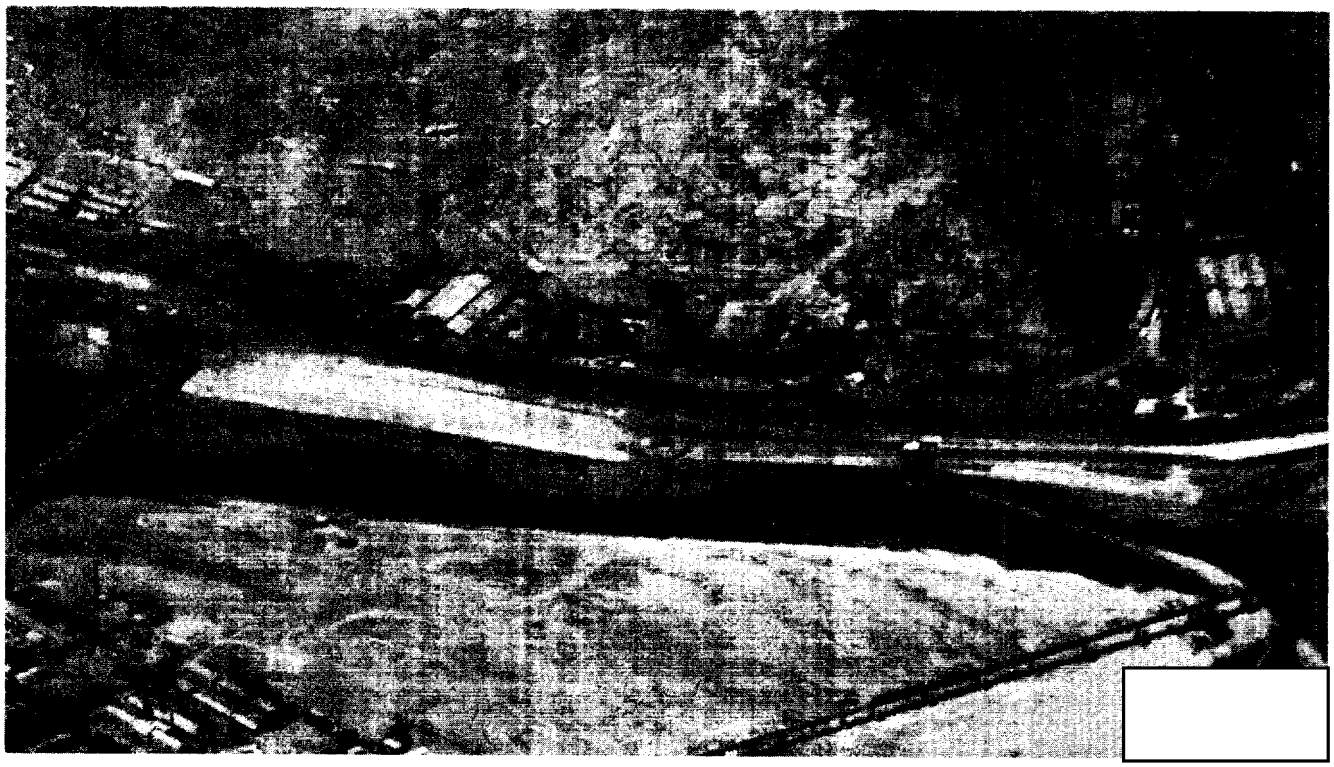
Pen-chi Thermal Power Plant No. 2 is located on the north bank of the Tai-tzu Ho (River) within the confines of the Manchu Iron Complex at coordinates 41 18 55N - 123 46 05E. The facility consists of two cooling towers, pumping station, possible control house and a number of small support/storage buildings. One of the cooling towers (A) is only one-half completed, but has been observed emitting vapor on all missions covering the plant. Coal handling and storage facilities were not present, suggesting that the plant may be gas fired. Coke-oven gas could be supplied from the steel complex.

The boilerhouse is equipped with three short metal roof-stacks and three probable vents, indicating three boiler units. The generator hall has a single longitudinal monitor; small scale coverage precluded detection of any power leads.

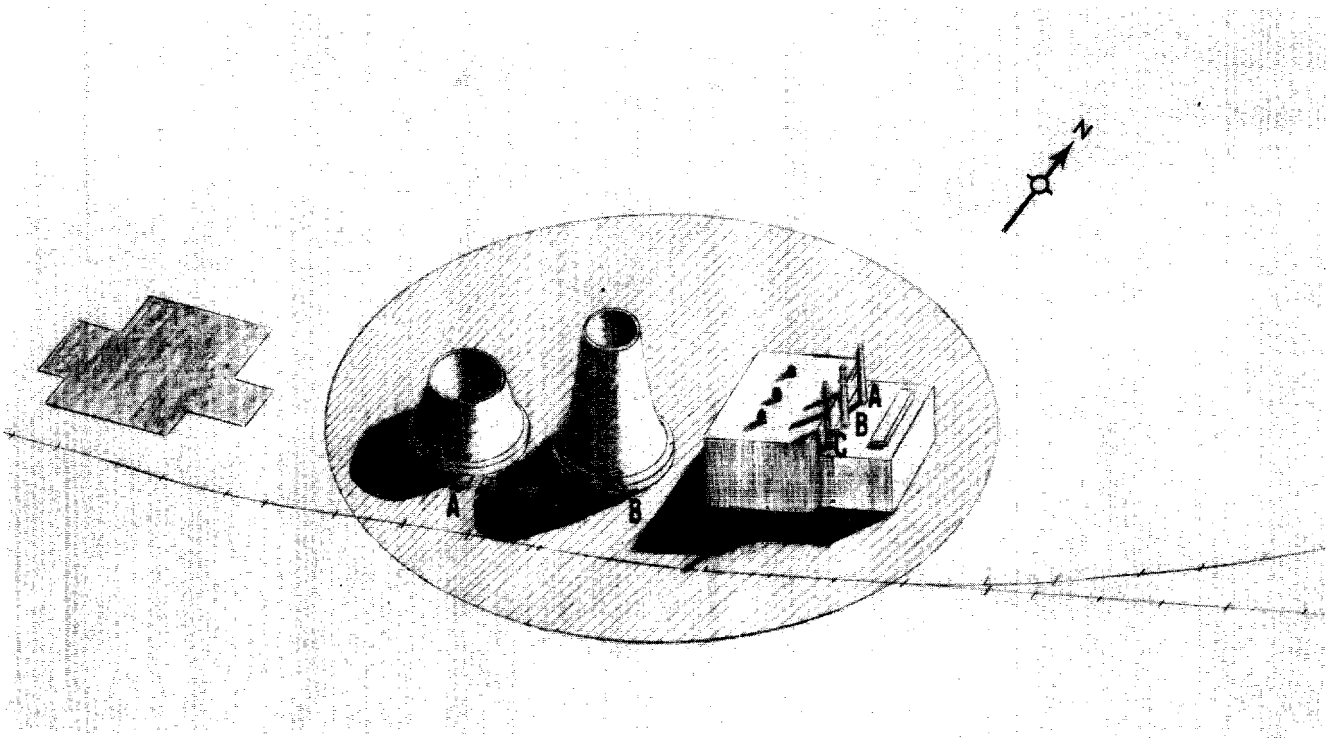
No new construction occurred during the period [redacted] 25X1

FIGURE 14

PEN-CHI THERMAL POWER PLANT NO. 2



25X1



25X1

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

PEN-CHI THERMAL POWER PLANT NO. 2

25X1

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Poor quality photography precludes analysis.
None	Moderate smoke from stack B. Light smoke from stack C. Light vapor from cooling towers A and B.
None	Moderate smoke from stack A. Moderate vapor from cooling tower A.
None	Moderate smoke from stack B. Heavy vapor from cooling tower A.
None	Heavy smoke from stack B. Light vapor from cooling tower A.

25X1

PEN-CHI THERMAL POWER PLANT NO. 2

	CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
	None	Heavy smoke from stack A. Heavy vapor from cooling tower A.
	None	Light smoke from stacks B and C. Heavy vapor from cooling tower A.
25X1	None	Light smoke from stacks A and C. Moderate vapor from cooling tower B. Light vapor from cooling tower A.
	None	Light smoke from stacks A and C. Light vapor from cooling tower A.
	None	Moderate smoke from stack A. Light vapor from cooling tower A.
	None	Moderate smoke from stack A. Moderate vapor from cooling tower A. Light vapor from cooling tower B.

M

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5

PEN-CHI THERMAL POWER PLANT NO. 3

[redacted] 25X1

NPIC NUMBER - 51-F

Pen-chi Thermal Power Plant No. 3 is located in the confines of the Pen-chi Iron and Steel Plant (Kung-yuan) at coordinates 41 16 29N - 123 44 06E. The plant is rail-served and probably gas fired; a large pipeline connects the plant with the by-products coke plant located to the east. The power plant facilities include four natural-draft cooling towers, integrated control house, small adjacent sub-station with at least three probable transformers, and several unidentified support-type buildings.

The boilerhouse has four metal roof-stacks and four short longitudinal monitors, which suggest the presence of four boiler units. The generator hall is equipped with three longitudinal monitors and has three sets of power cables visible.

No new construction occurred during the period [redacted] 25X1

FIGURE 15

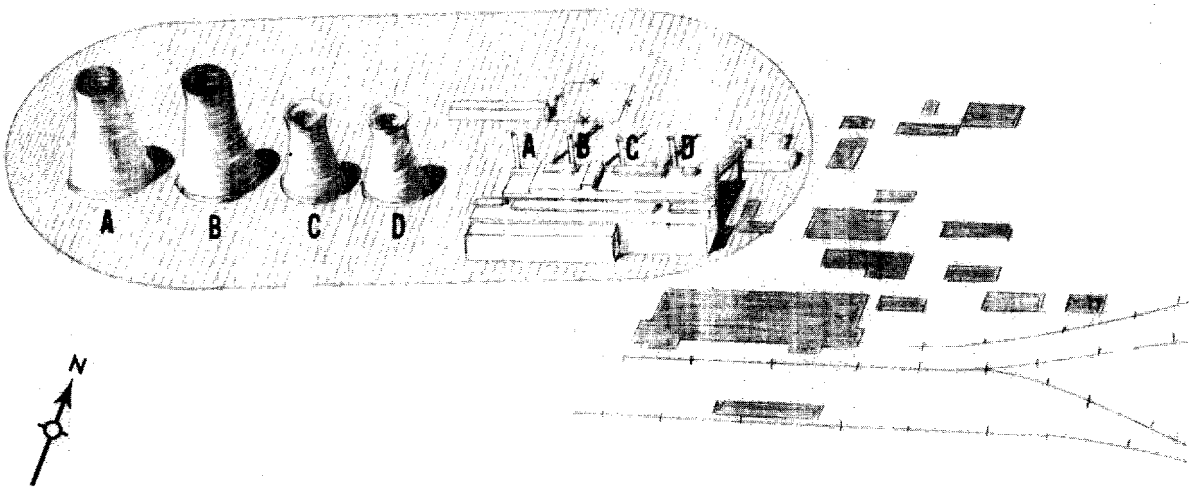
25X1

25X1

PEN-CHI THERMAL POWER PLANT NO. 3

25X1

25X1



25X1

25X1

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

PEN-CHI THERMAL POWER PLANT NO. 3

25X1

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Possible vapor from cooling tower A. Haze and obliquity precluded analysis.
None	Moderate smoke from stacks B and C. Light smoke from stack D. Light vapor from cooling towers A and B.
None	Moderate smoke from stacks B and D. Light smoke from stack C. Moderate vapor from cooling tower B. Light vapor from cooling towers A, C, and D.
None	Apparent heavy smoke from stacks A, B, and C. Heavy vapor from cooling towers A and B. Moderate vapor from cooling towers C and D.
None	Moderate smoke from stacks B and D. Light vapor from cooling towers A and B.

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

PEN-CHI THERMAL POWER PLANT NO. 3

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Heavy smoke from stack A. Other stacks obscured by smoke/ haze. Heavy vapor from cooling tower A. Light vapor from cooling towers C and D.
None	Heavy smoke from stack C. Light smoke from stack B. Heavy vapor from cooling tower B. Moderate vapor from cooling towers C and D.
None	Heavy smoke from all stacks. Light vapor from cooling towers B and D.
None	Moderate smoke from stacks B and D. Light smoke from stack D. Light vapor from cooling towers A, C, and D.
	Moderate smoke from stacks B and D. Heavy vapor from cooling towers B and D. Light vapor from cooling towers A and C.

N

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

SHEN-YANG (MUKDEN) THERMAL POWER PLANT

25X1

NPIC NUMBER - 55-Y

The Shen-yang (Mukden) Thermal Power Plant is located in the northwest sector of Shen-yang, 2.0 nm east of Shen-yang Airfield West at coordinates 41 48 56N - 123 21 20E. The plant is rail-served, coal-operated and includes one large natural draft masonry cooling tower, control building with two visible transformers and coal processing and conveying facilities.

The boilerhouse appears presently capable of accommodating two boiler units, although the absence of one set of dust catchers indicates that only one boiler unit is installed. The boilerhouse section is connected to a single large masonry stack by two sets of flues (consisting of two ducts each). The generator hall is apparently not yet connected to the control house.

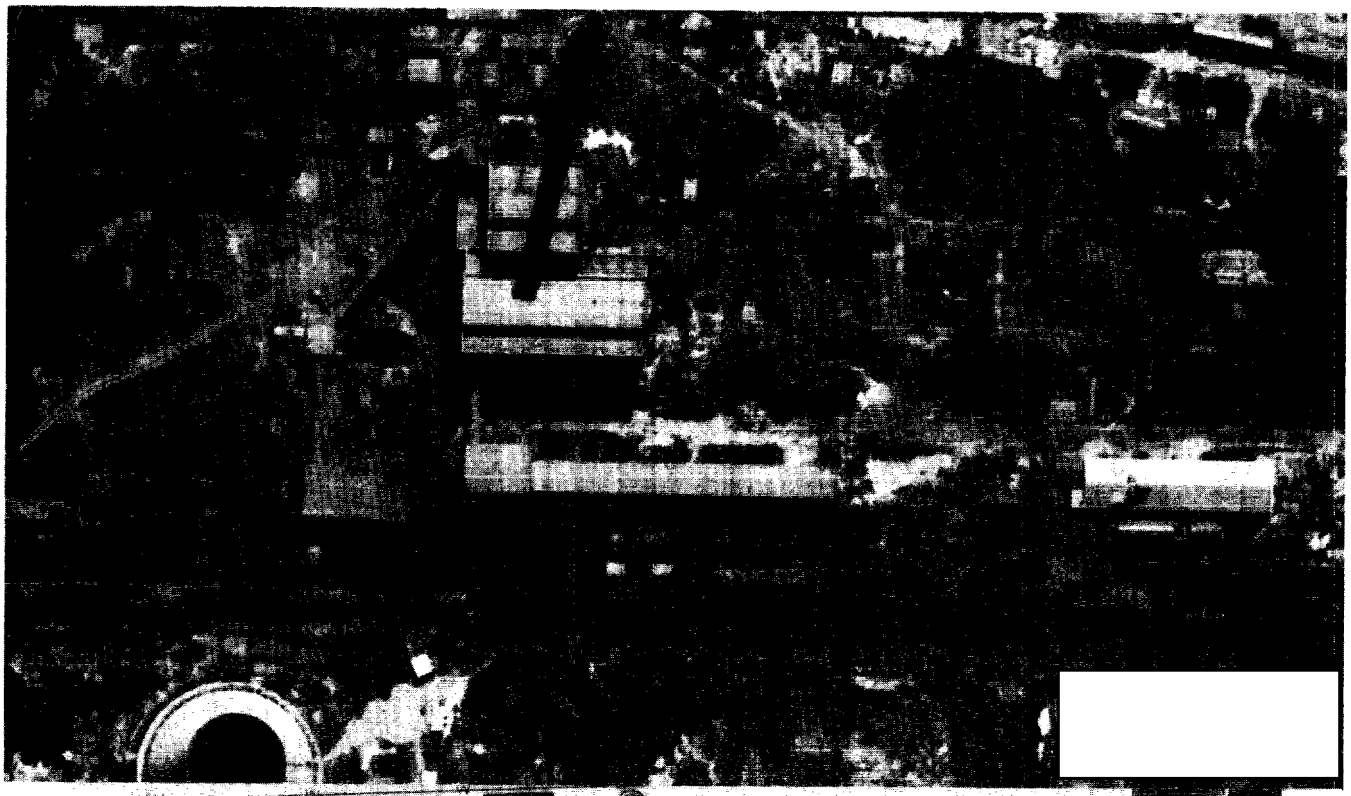
The present configuration of these facilities suggests that both the boilerhouse and generator hall may eventually be expanded. There has been no change in plant facilities since first observed and the plant has never been observed in operation.

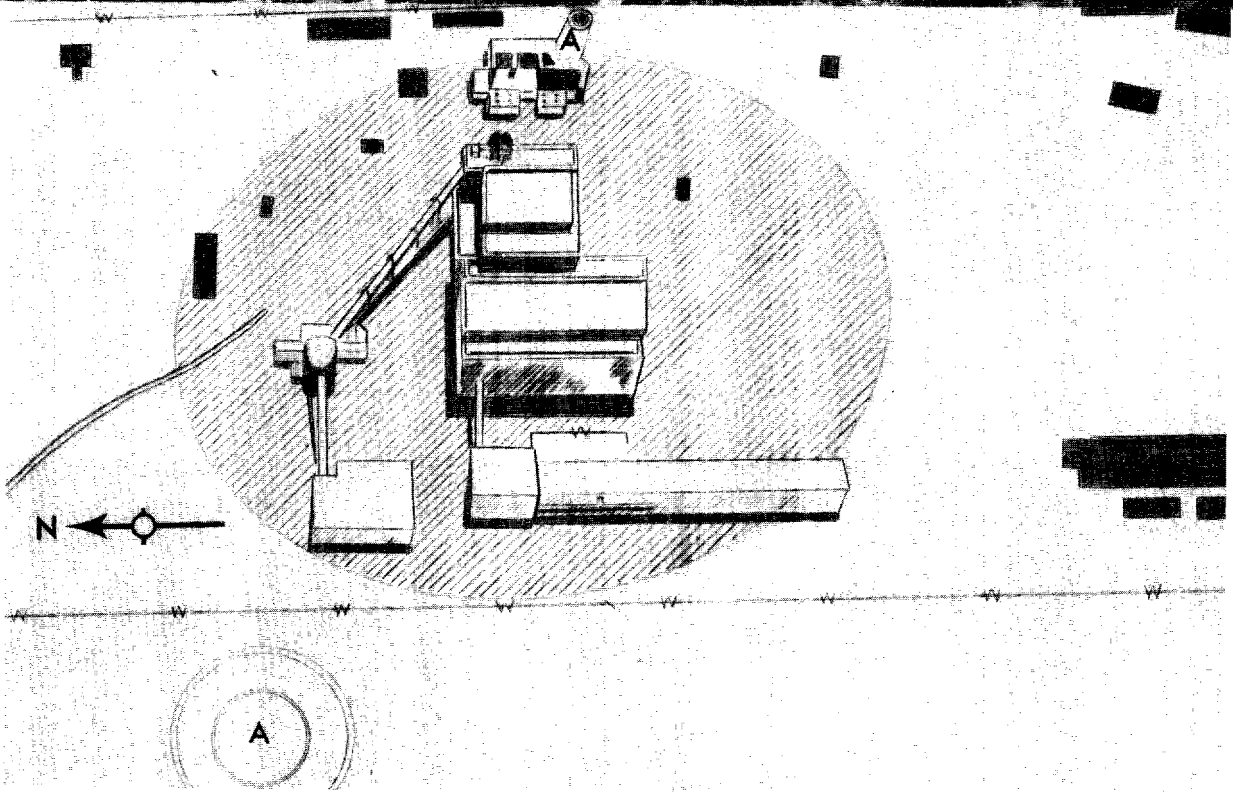
25X1

25X1

FIGURE 16

SHEN-YANG (MUKDEN) THERMAL POWER PLANT





O

25X1

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

25X1

SHEN-YANG THERMAL POWER PLANT NE

The Shen-yang (Mukden) Thermal Power Plant NE is located in the northern section of Shen-yang at coordinates 41 48 40N - 123 26 28E. The plant is rail-served and coal fired. The facility consists of a natural draft cooling tower, a second cooling tower which is partially constructed, a cooling pond with three sprinkler units, a sub-station and control house, and numerous support/storage buildings not usually associated with a thermal power plant.

The unique construction of the power plant makes an analysis difficult; however, the presence of one dust catcher unit and the single stack suggests that one boiler unit is installed. No cables are visible connecting the generator hall to the adjacent sub-station.

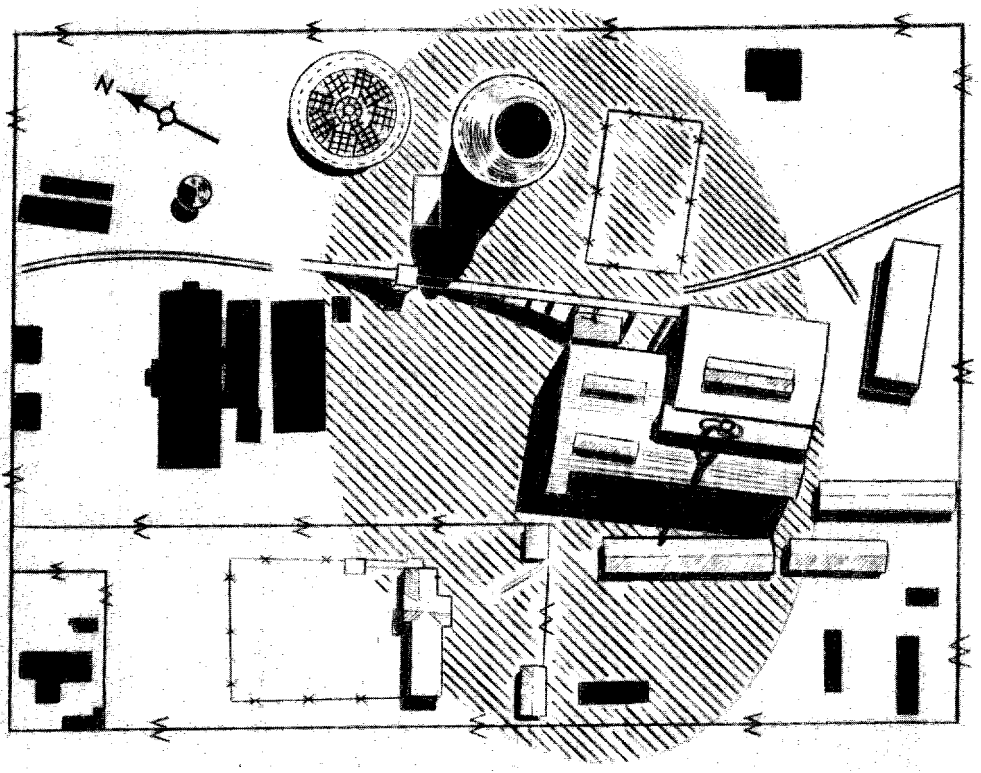
No new construction or plant activity was noted on ten photographic missions during the specified period

25X1

25X1

FIGURE 17

SHEN-YANG THERMAL POWER PLANT NE



P

25X1

CIA IMAGERY ANALYSIS DIVISION

25X1

25X1

SUPUNG-NODONGJAGU HYDRO POWER PLANT

25X1

NPIC NUMBER - 80

The Supung-Nodongjagu Hydro Power Plant is located at the mouth of the Shui-feng - Chu-shui-chih (revervoir) 8.5 nm northeast of the Chang-tien-ho Kou Highway Bridge at coordinates 40 27 25N - 114 52 40E, and consists of a large enlongated sub-station, a control house, a second small sub-station southeast of the facility, a water tower, and several support/storage buildings.

The generator hall is serviced by seven penstock intake-gates and has fourteen tailwater outlets, indicating that the plant might be designed to accommodate seven turbo-generators. Thirteen probable transformers are positioned on the downstream side of the generator hall; there are three sets of three and four single transformers. No power leads were visible between the sub-station and transformers.

No new construction occurred during the period

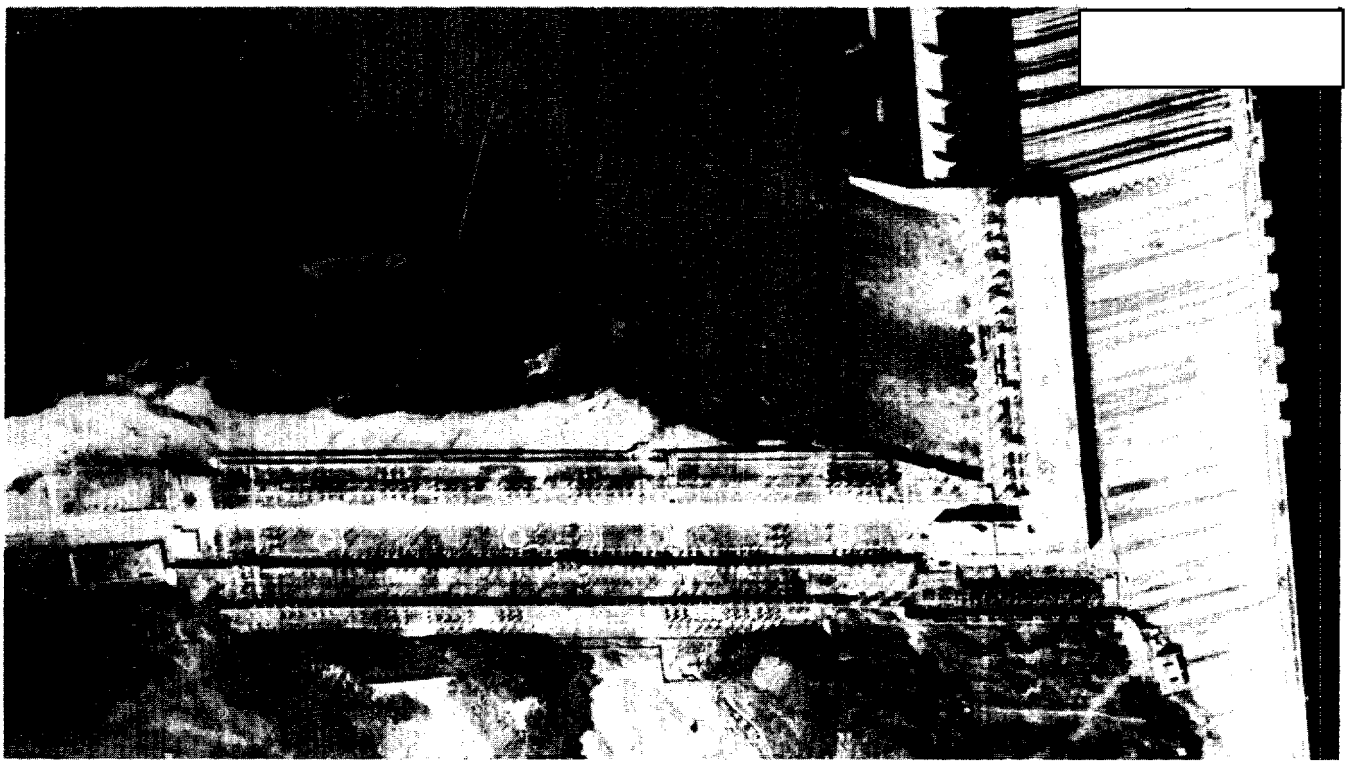
25X1

25X1

FIGURE 18

SUPUNG-NODONGJAGU HYDRO POWER PLANT

25X1



CIA IMAGERY ANALYSIS DIVISION

SUPUNG-NODONGJAGU HYDRO POWER PLANT

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Moderate turbulence from three areas.
None	Heavy turbulence from two areas.
None	Heavy turbulence from one area. Light turbulence from two areas.
None	Heavy turbulence from one area.
None	Heavy turbulence from one area. Light turbulence from two areas.

25X1

CIA IMAGERY ANALYSIS DIVISION

SUPUNG-NODONGJAGU HYDRO POWER PLANT

CONSTRUCTION ACTIVITY	LEVEL OF PRODUCTION
None	Heavy turbulence from two areas.
None	Moderate turbulence from one area. Light turbulence from two areas.
None	Heavy turbulence from one area. Moderate turbulence from one area. Light turbulence from one area.
None	Moderate turbulence from three areas.
None	Heavy turbulence from two areas.
None	Heavy turbulence from two areas.

Approved For Release 2003/06/20 : CIA-RDP78T05161A001100010048-5