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DIRECTORATE OF
INTELLIGENCE

Industrial Facilities
(Non-Military)

Basic Imagery Interpretation Report

Nan Chung Petroleum Refinery

Nan Chung, China

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME		COUNTRY
Nan Chung Petroleum Refinery		CH
UTM COORDINATES	**GEOGRAPHIC COORDINATES**	WAC-PIC NO. 25X1
48RXK049100	30-49-10N 106-06-10E	0495-55E

MAP REFERENCE
15th RTS. USATC 200, Sheet M0495-9HL, 2nd edition, May 65, Scale 1:200,000
(SECRET 25X1

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LATEST IMAGERY USED	NEGATION DATE (If required)
	Not Required

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ABSTRACT

This report provides a detailed imagery-derived analysis of the Nan Chung Petroleum Refinery, China, from January 1963 to June 1969.

The refinery appeared to be operating when first seen in June 1963 and on all subsequent photography. Products include gasoline, kerosene, diesel and fuel oils, and residuum.

The report includes a detailed line drawing, a photograph of the refinery, mensuration of the storage facilities, a discussion of physical features and operational functions, a construction chronology, and reference data.

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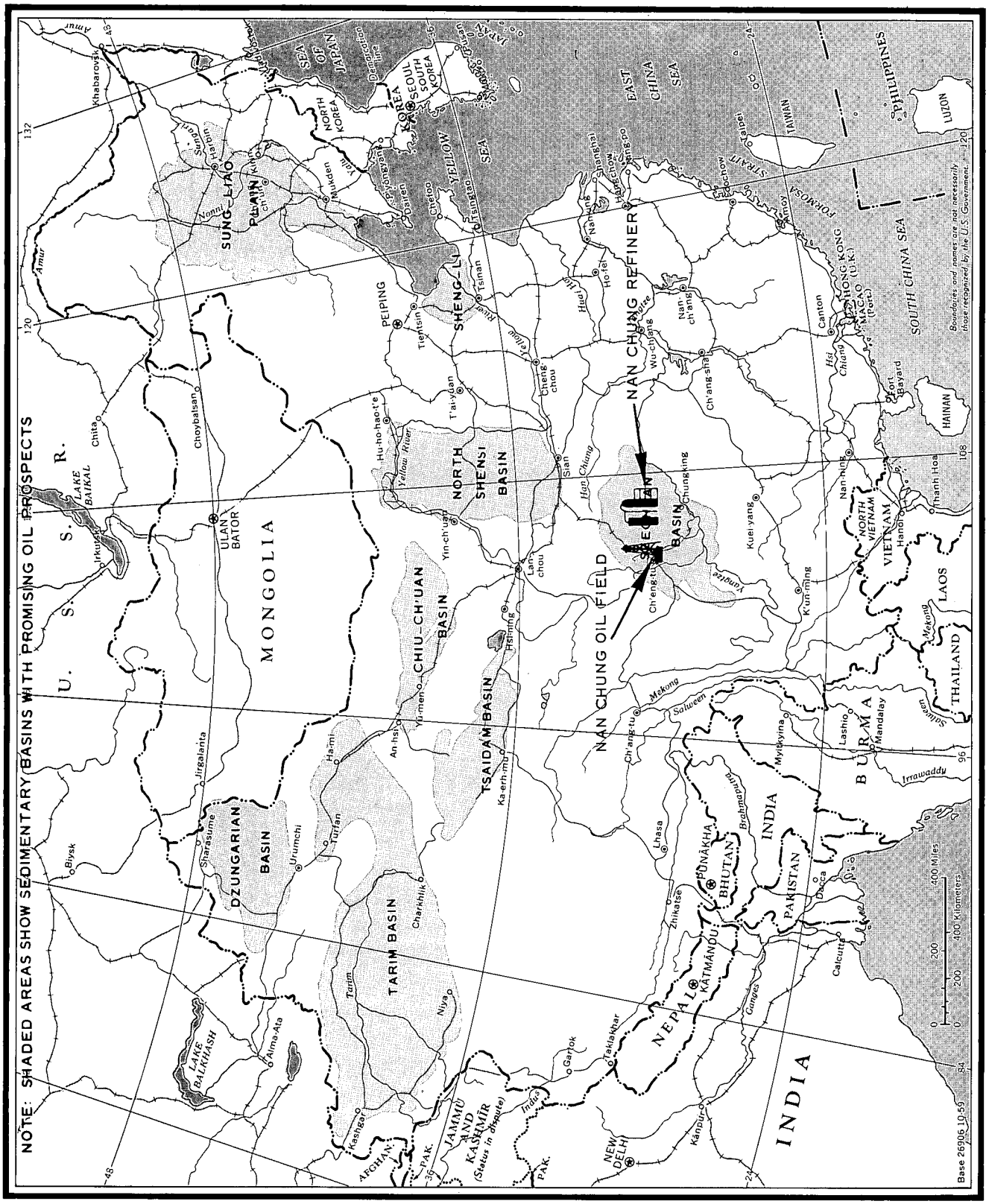

FIGURE 1. LOCATION MAP

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INTRODUCTION

The Nan Chung Petroleum Refinery is located in the Szechwan Basin, Szechwan Province, 2 nautical miles (nm) north-northeast of Nan Chung and approximately 105 nm east of Cheng-tu. The refinery is in an agricultural area on the flood plain of the Chia-ling River.

Crude oil for charging the refinery is probably brought in from the Szechwan Basin oil fields by truck. Products and crude oil in excess of that used locally are probably transported by barge from the Nan Chung area. A small transshipment facility is located on the river 1 nm southeast of the refinery. No pipeline or rail line has been constructed to the Nan Chung area. The nearest points of access to rail facilities are at Chung-ching 80 nm to the south, and at Cheng-tu about 105 nm to the west.

The Nan Chung Thermal Power Plant Refinery [redacted] is collocated with and furnishes electric power and steam to the refinery. 25X1

BASIC DESCRIPTION

Physical Features

The refinery area measures approximately 1,800 by 1,500 feet, is irregularly shaped, and occupies approximately 65 acres. It is secured by a wall.

Operation Functions

The major products are refined petroleum products, primarily gasoline, kerosene, diesel and fuel oils, and residuum. The residuum is probably used for fuel in the pipe furnaces, as reserve fuel at the thermal power plant, and for road surface treatment.

Construction Status and Activity

January 1963 -- The basic refinery components including the crude distillation unit, the secondary processing units, the thermal power plant, and several products storage tanks were present. The refinery appeared to be in production and the power plant spray pond was in operation.

June 1963 -- One covered crude oil storage reservoir and an open water pond had been added. The spray pond at the thermal power plant appeared to be in use.

May 1966 -- The following significant expansion was apparent: the addition of two open water ponds in the crude oil storage area; 30 cylindrical tanks, one piece of U/I processing equipment, and one pumphouse in

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the intermediates storage area; 13 buildings, eight cylindrical tanks and two horizontal tanks in the packaging and shipping area; 12 buildings in the maintenance and support area; and four cylindrical tanks in the products storage area. The plant appeared to be in production and the power plant spray pond was in operation.

August 1968 -- Two additional warehouses had been built in the maintenance and support area, and a large area of unidentified material was in open storage next to the larger storage building in the products storage area. The refinery appeared to be active.

January 1969 -- A heavy haze prohibited a detailed analysis, but the spray pond was in use, indicating that the refinery was probably in operation.

June 1969 -- Two cylindrical crude oil storage tanks had been built in the crude oil storage area. The refinery appeared to be in operation.

Facilities and Equipment

The following table lists the functional areas and equipment within the refinery. All items are keyed to Figure 3.

EQUIPMENT AND FACILITIES AT THE NAN CHUNG PETROLEUM REFINERY

Area	Description	Equipment
A	Crude Oil Storage	3 irregularly shaped water ponds 2 rectangular water treatment ponds 3 pumphouses 7 covered crude oil reservoirs each measure 4 cylindrical tanks

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Area	Description	Equipment
B	Crude Oil Distillation	1 atmospheric fractionating column 1 redistillation column 1 compressor building 1 pipe furnace 1 control building 2 banks heat exchanges/cooling coils 2 horizontal tanks [redacted] 25X1 4 cylindrical tanks 4 - 10 feet diameter 1 U/I building with at least 4 column/tank foundations 1 possible stack foundation 2 miscellaneous buildings
C	Intermediates Storage	39 cylindrical tanks [redacted] 25X1 1 piece U/I process equipment 1 pumphouse 3 miscellaneous buildings
D	Packaging and Shipping	2 packaging buildings 11 storage buildings 1 possible office building 2 possible pumphouses 8 cylindrical tanks 8 - 15 feet diameter 2 horizontal tanks 2 - [redacted] 25X1
E	Maintenance and Support	2 maintenance buildings 9 warehouses 1 possible forge foundry 8 small miscellaneous buildings 2 stockpiles of maintenance/ engineering material [redacted] 25X1

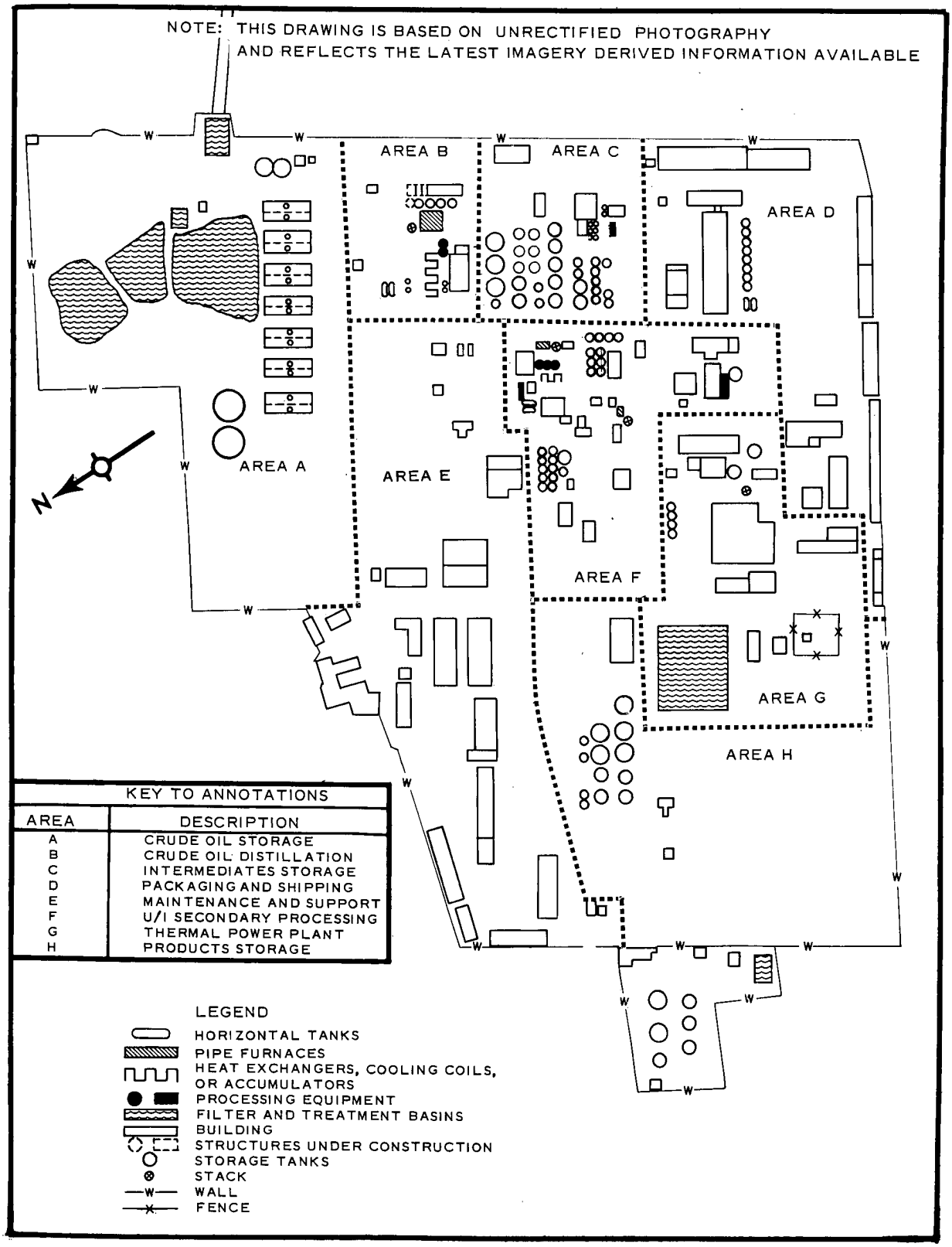

FIGURE 3. NAN-CHUNG PETROLEUM REFINERY

FIGURE 2. NAN-CHUNG PETROLEUM REFINERY

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Area	Description	Equipment
F	U/I Secondary Processing	3 U/I processing units (columns/reactors) 2 pipe furnaces 1 processing building with 6 rows of probable equipment on the roof 2 banks U/I processing equipment 1 bank heat exchanging cooling coils, or accumulators 18 associated buildings 23 cylindrical processing/storage tanks
		25X1
		2 horizontal storage tanks 2 - 20 feet long by 8 feet diameter
G	Thermal Power Plant	1 boilerhouse 1 generator hall 1 control building and transformer substation 2 coal preparation buildings 1 water tower 25 feet diameter 1 large spray pond 5 cylindrical tanks
		25X1
H	Products Storage	2 storage buildings 5 possible pumphouses 19 cylindrical tanks
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		1 water pond

NOTE: Diameter measurements of the storage tanks are approximate.

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REFERENCES

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Map

15th RTS. US Air Target Chart 200, Sheet M0495-9HL, 2nd edition, May 65, Scale 1:200,000 (SECRET

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Requirement

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