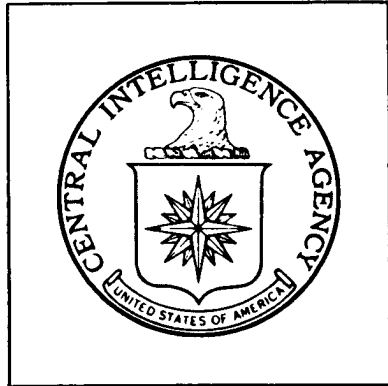


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**DIRECTORATE OF
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**Industrial Facilities
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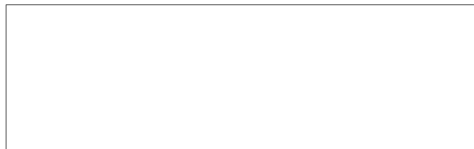
Basic Imagery Interpretation Report

Chu-chou Chemical Plant

Chu-chou, China



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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME		COUNTRY
Chu-chou Chemical Plant		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	25X1
49RGA047853	27-52-38N 113-04-50E	
MAP REFERENCE		
ACIC. USATC, Series 200, Sheet M0498-01AL, 2nd ed, Sep 60, Scale 1:200,000		
(SECRET)		
LATEST IMAGERY USED		NEGATION DATE (If required)
		NA

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ABSTRACT

Analysis of the Chu-chou Chemical Plant in China on high-resolution photography shows that the primary products of the plant are sulfuric acid, superphosphate fertilizer, caustic soda, bleaching powder and chlorine.

This study covers the period from March 1962 to October 1969. The major facilities in the chlorine, caustic soda, and bleaching powder production areas were complete and operational when observed in March 1962. Between March 1962 and June 1963 the sulfuric acid production facilities were constructed, and by October 1966 superphosphate production facilities had been added. Unidentified new construction in the northwestern section of the plant was observed in August 1967, but it has shown little progress through October 1969. From March 1962 through March 1965, the plant was probably in partial operation. Since that time, it has been in full operation on all photographic coverage.

This report includes a photograph, a process flow chart, a detailed line drawing of the plant and a chronological summary of construction and operational status.

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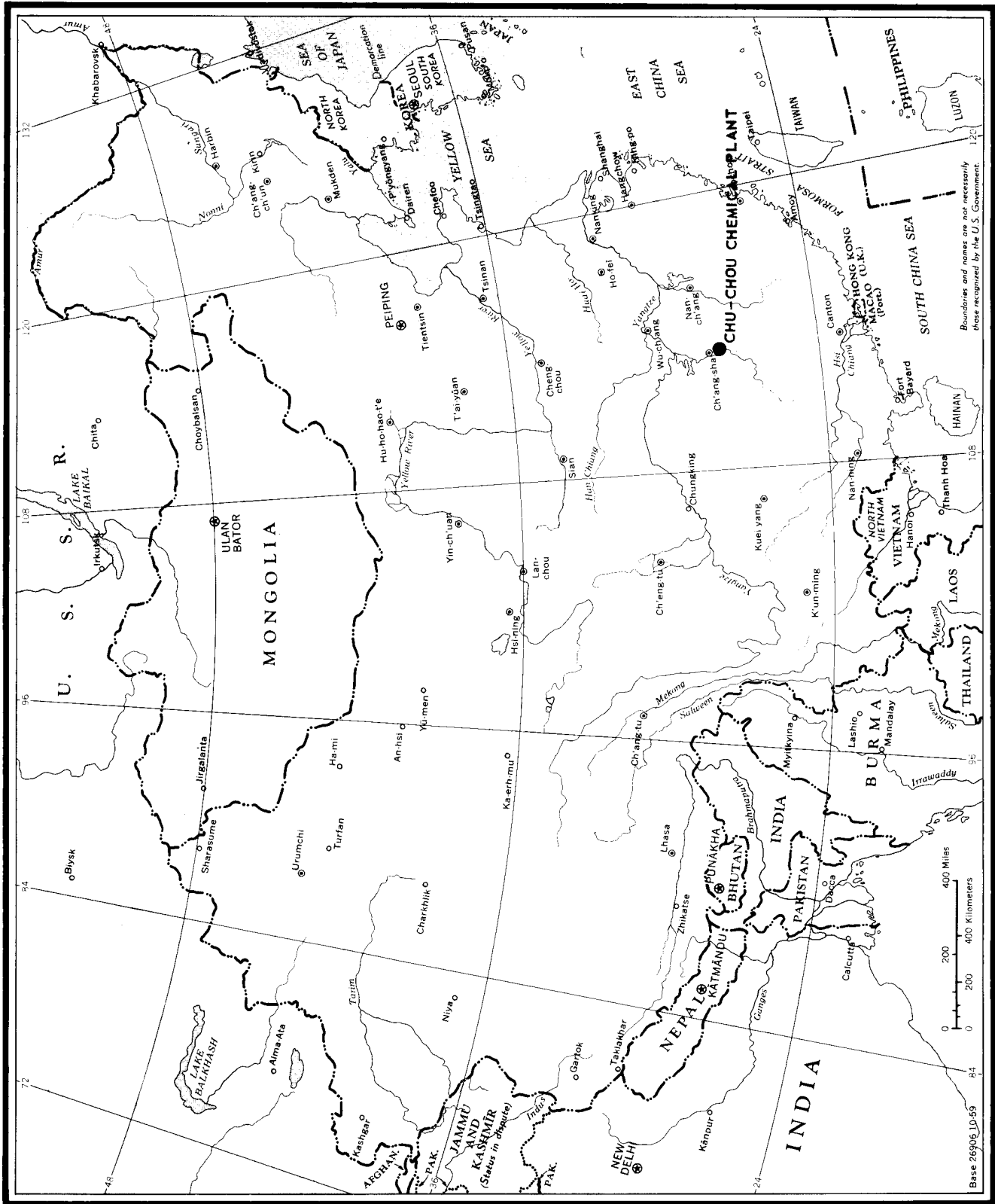





FIGURE 1. LOCATION MAP.

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INTRODUCTION

The Chu-chou Chemical Plant is located 3.5 nautical miles northwest of the center of Chu-chou, Hunan Province (see Figure 1). It is collocated with Chu-chou Nonferrous Metals Plant 601  and utilizes the sulfur dioxide waste gas from the copper and zinc production facilities in the formation of sulfuric acid. Steam is supplied to the chemical plant by the steam plant located within the nearby Chu-chou Nitrogen Fertilizer Plant  Electric power is provided by the Chu-chou Thermal Power Plant 

BASIC DESCRIPTION

Physical Features

The plant occupies an area approximately 7,600 by 5,000 feet which contains about 875 acres (see Figures 2 and 3). It is served by rail spurs from the Chu-chou to I-chia-wan rail line. Two roads enter the plant through controlled-access entrances, one on the northwestern side and the other at the northern corner.

Operational Functions

The primary function of the plant is the production of superphosphate fertilizer, sulfuric acid, chlorine, caustic soda and bleaching powder (calcium hypochlorite or sodium chlorite). The process flow for the products of the plant which have been identified is shown in Figure 4. The processes utilized in Areas A and C cannot be determined from photography.

Construction Chronology

In March 1962, when the plant was first covered on overhead photography, the major facilities in the chlorine and caustic soda area, the bleaching powder area, and in the unidentified production area (Area C) were complete and appeared to be operational. Between March 1962 and June 1963 the sulfuric acid production facilities were added. In March 1965 the superphosphate production facilities were in the midstage of construction and by October 1966 they were complete and operational.

Between March 1965 and August 1966, a flue was constructed to bring sulfur dioxide waste gas from the stack of the copper and zinc production facilities at Chu-chou Nonferrous Metals Plant 601 to the converter in the sulfuric acid production area of the chemical plant. During this time period, three water treatment basins were constructed adjacent to the plant.

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In August 1967 new unidentified construction was seen in the northwest section of the plant (Area A) and by October 1969 it had progressed only slightly.

In April 1968 an earth-mounded bunker of undetermined function had been completed in the northwest corner of the plant (Area B).

The chronology of construction is shown graphically in Figure 3.

Operational Status

The chlorine and caustic soda production area was probably operating in March 1962 as indicated by sodium chloride in open storage and several rail cars nearby. The bleaching powder production area was probably operating in March 1965 when residue from the production process was observed. The sulfuric acid production area was operating in October 1966 as indicated by smoke and vapors emanating from the sulfuric acid roasting unit and by tank cars observed in the area. Since October 1966, the plant has been operating on all photographic coverage. There has been ground phosphate ore in the superphosphate fertilizer production area, residue in the bleaching powder production area, and unidentified powdered materials in the unidentified production area (Area C).

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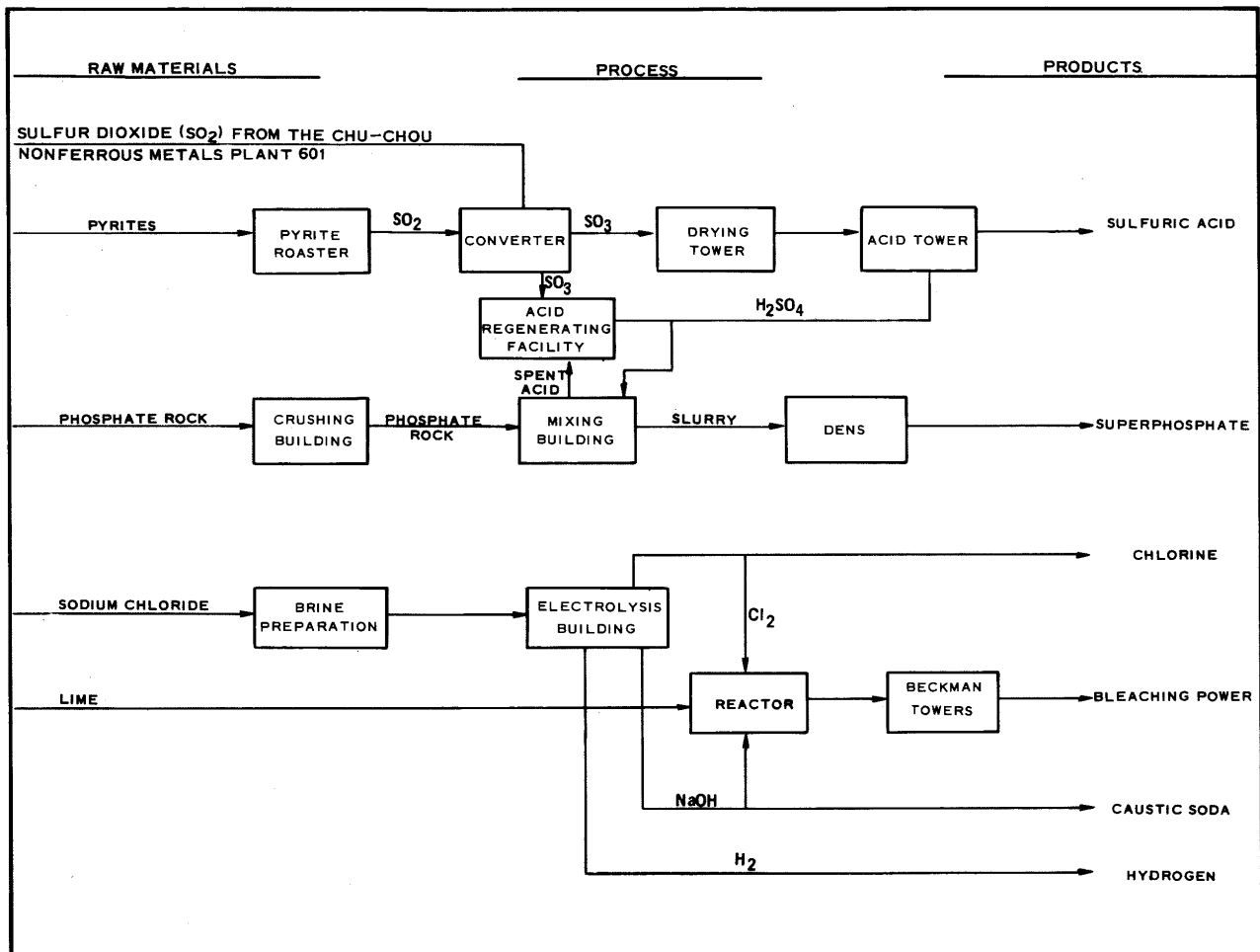


FIGURE 4. PROCESS FLOW AT CHU-CHOU CHEMICAL PLANT.

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REFERENCES

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Map

ACIC. US Air Target Chart, Series 200, Sheet M0498-IAL, 2nd edition, Sep 60,
Scale 1:200,000 (SECRET [redacted])

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Document

CIA. PIR 75071, Chu-chou Chemical Fertilizer Plant, Chu-chou, China,
January 1967, [redacted] (TOP SECRET RUFF)

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Requirement

COMIREX NO2

Support Number 420506

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