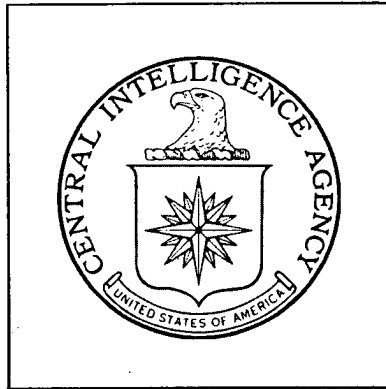


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**Industrial Facilities  
(Non-Military)**

**DIRECTORATE OF  
INTELLIGENCE**

*Basic Imagery Interpretation Report*

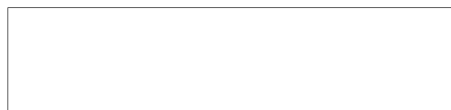
**Kai-yuan Chemical Fertilizer Plant**

(BE Name: Kai-yuan Chemical Plant)

**Kai-yuan, China**



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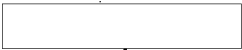
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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
Imagery Analysis Service

RCS-13/0066/69

INSTALLATION OR ACTIVITY NAME		COUNTRY
Kai-yuan Chemical Plant*		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	WAC-PIC N(25X1)
48QUM218260	23-44-05N 103-14-41E	0616-12D
MAP REFERENCE		
ACIC. US Air Target Chart 200. Sheet MO 616-2HL. 3rd edition, Sep 65, Scale		
LATEST IN		NEGATION DATE (If required)
[Redacted]		Not Required

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ABSTRACT

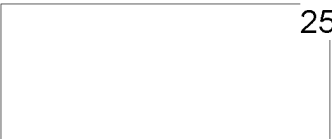
The primary product of the Kai-yuan Chemical Fertilizer Plant is ammonia-based fertilizer. This plant was first seen in operation on photography of November 1964 and has appeared to be in production on all subsequent coverage.

Since March 1966, several additions have been made to the plant. These include a large unidentified building, one tank, an induced-draft cooling tower, and an addition to the packaging and shipping building. Between November 1967 and November 1968, no significant changes were noted.

\*NOTE: The plant name given in the Data Block is from the Basic Encyclopedia. The results of this study show that the name should be Kai-yuan Chemical Fertilizer Plant. Action has been initiated through appropriate channels to have the BE corrected.

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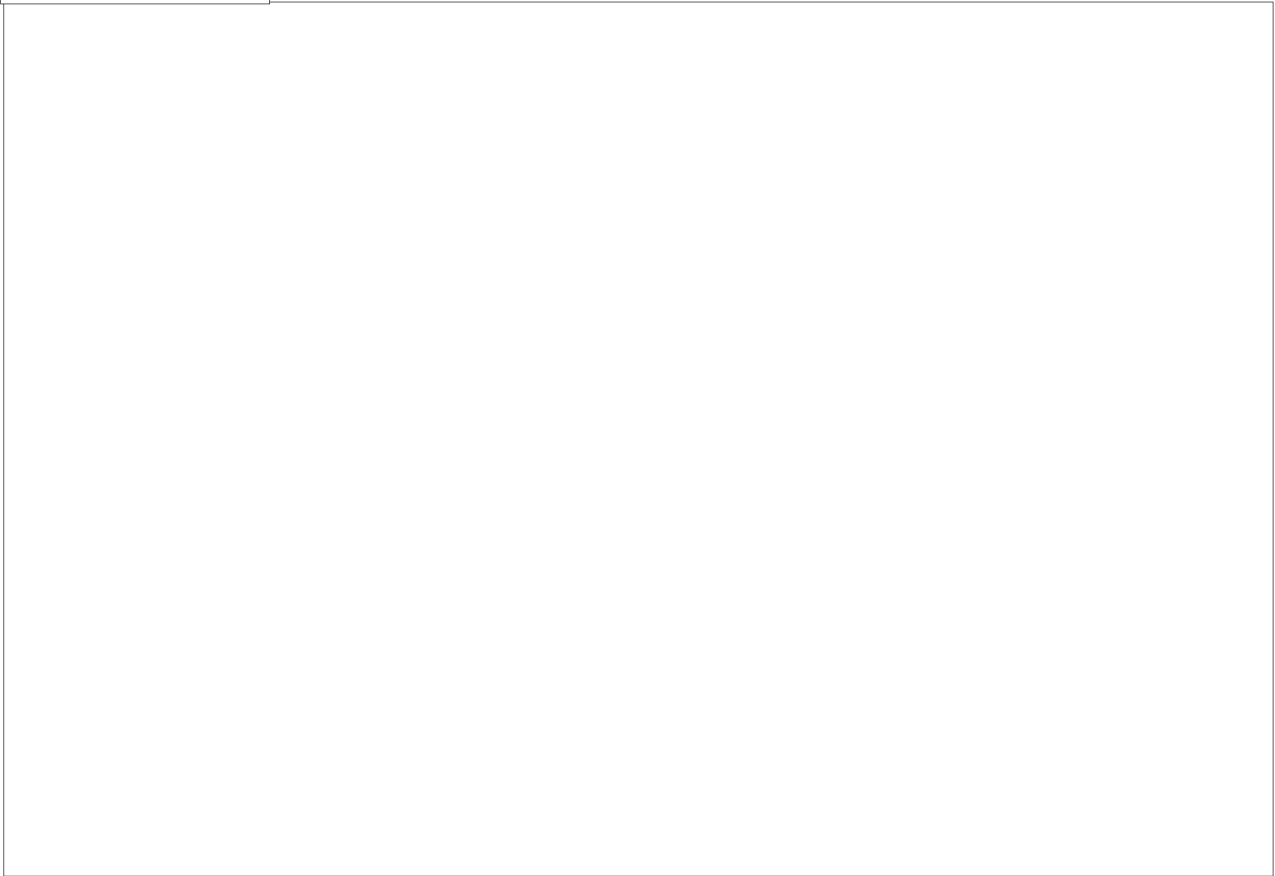
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INTRODUCTION

The Kai-yuan Chemical Fertilizer Plant is located 1 nautical mile (nm) northeast of the center of Kai-yuan, Yunnan Province, China (Figure 1). Electric power is supplied by the Kai-yuan Thermal Power Plant, Chemical Plant [redacted] which is located immediately west of the fertilizer plant.

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## BASIC DESCRIPTION

Physical Features

The plant measures approximately 2,000 by 1,400 feet and occupies 64 acres. It is secured by a fence and is served by a rail spur from the main line between Kun-ming, China and Lao-Kay, North Vietnam. Water is supplied by a tributary of the Nan-pan-chiang (River) which flows along the eastern side of the plant.

Between March and July 1965, two gasholders and one building in the plant were camouflaged by disruptive painting (see Figure 2). Since that time there has been no further attempt to camouflage the facilities.

Operational Functions

The primary function of this plant is the production of ammonium nitrate. Both the hydrogen and nitrogen for the ammonia synthesis are obtained from water gas retorts using coal as the raw material. The dilute nitric acid necessary for the fertilizer production is obtained by oxidizing part of the synthetic ammonia. The end product, ammonium nitrate, is produced by reacting the ammonia with the nitric acid. The major production facilities are annotated on Figure 3.

Status and Activity

When first observed on photography in December 1962, this plant was in the late stages of construction. By November 1964, the plant was complete and in production. It appeared to be operating on all subsequent coverage through November 1968.

A number of new facilities have been constructed at this plant since March 1966 (see Figure 3). Photography of January 1967 showed that an unidentified building and tank had been completed west of the water treatment facilities (Area H). Also, an addition to the packaging and shipping building (Item 18) was nearly completed. Just south of an existing cooling tower in the nitric acid production area, a second induced-draft cooling tower was in the late stages of construction. At the thermal power plant, a second natural-draft cooling tower was under construction. By August 1967, the addition to the packaging and shipping building and the cooling tower at the thermal power plant were both completed.

Analysis of photography from November 1967 through November 1968 revealed no significant changes in the facilities.

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FIGURE 2. CHEMICAL FERTILIZER PLANT, KAI-YUAN, CHINA

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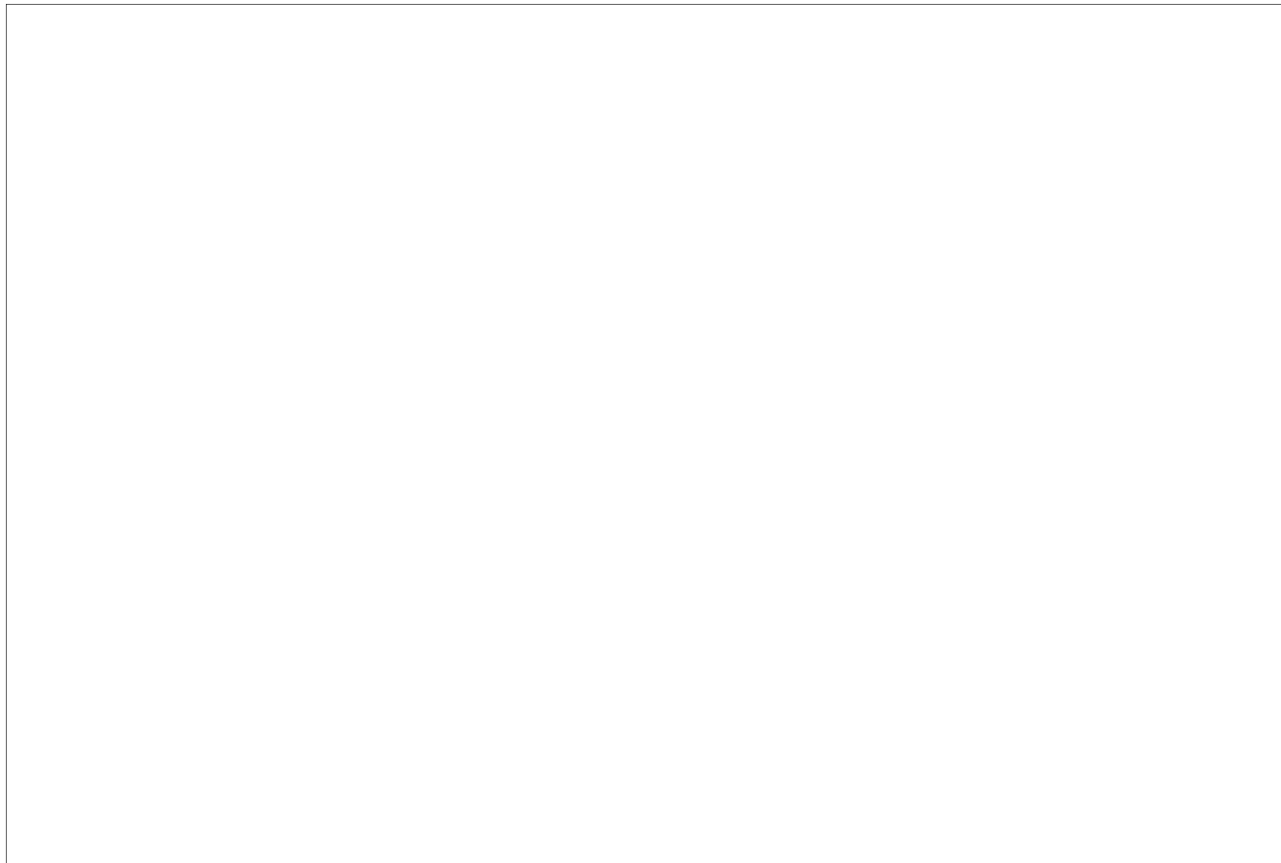


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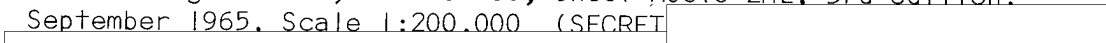
REFERENCES

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Map

ACIC. US Air Target Chart, Series 200, Sheet M0616-2HL, 3rd edition.  
September 1965. Scale 1:200,000 (SECRET)



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Documents

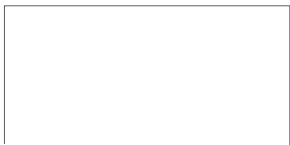


1. CIA. PIR 65118, Kai-yuan Nitrogen Fertilizer Plant, Kai-yuan, China,  
May 1966 (TOP SECRET RUFF)

Requirement

EXSUBCOM - BR-N/002-69

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