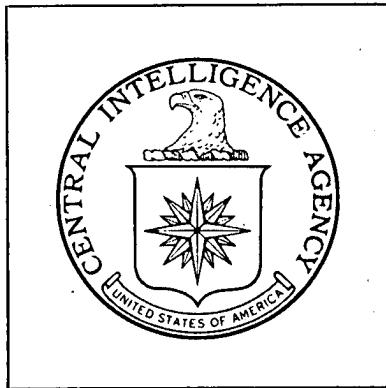


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**DIRECTORATE OF  
INTELLIGENCE**

**Industrial Facilities  
(Non-Military)**

*Basic Imagery Interpretation Report*

**Leng-hu Petroleum Refinery And Storage**

**Leng-hu, China**



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RCS 13/0183/69



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CENTRAL INTELLIGENCE AGENCY  
 Directorate of Intelligence  
 Imagery Analysis Service

RCS - 13/0183/69

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INSTALLATION OR ACTIVITY NAME		COUNTRY
Leng-hu Petroleum Refinery and Storage		CH

UTM COORDINATES	GEOGRAPHIC COORDINATES	WAC-PIC N
46SEH327742	38-36-40N 093-22-30E	0333-5

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MAP REFERENCE  
 ACIC. USATC 200, Sheet M0333-9HL, 1st ed, Dec 64, Scale 1:200,000 (SECRET)

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LATEST IMAGERY USED	NEGATION DATE (if required)
	None Required

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ABSTRACT

The Leng-hu Petroleum Refinery is of small size and capacity with facilities capable of performing only simple distillation processes. When first covered by photography in August 1961, construction was approaching the mid-stage. By July 1963, at least one of the main distillation units was in place and probably in operation. The facilities were all completed and probably in full operation by September 1965. Production since then appears to have been consistent, but at a low level. The products of this refinery include straight-run gasoline, kerosene, diesel and fuel oils, and residuum.

This report includes a detailed line drawing, a photograph of the area, mensuration of storage tanks, and a discussion of the status of facilities.

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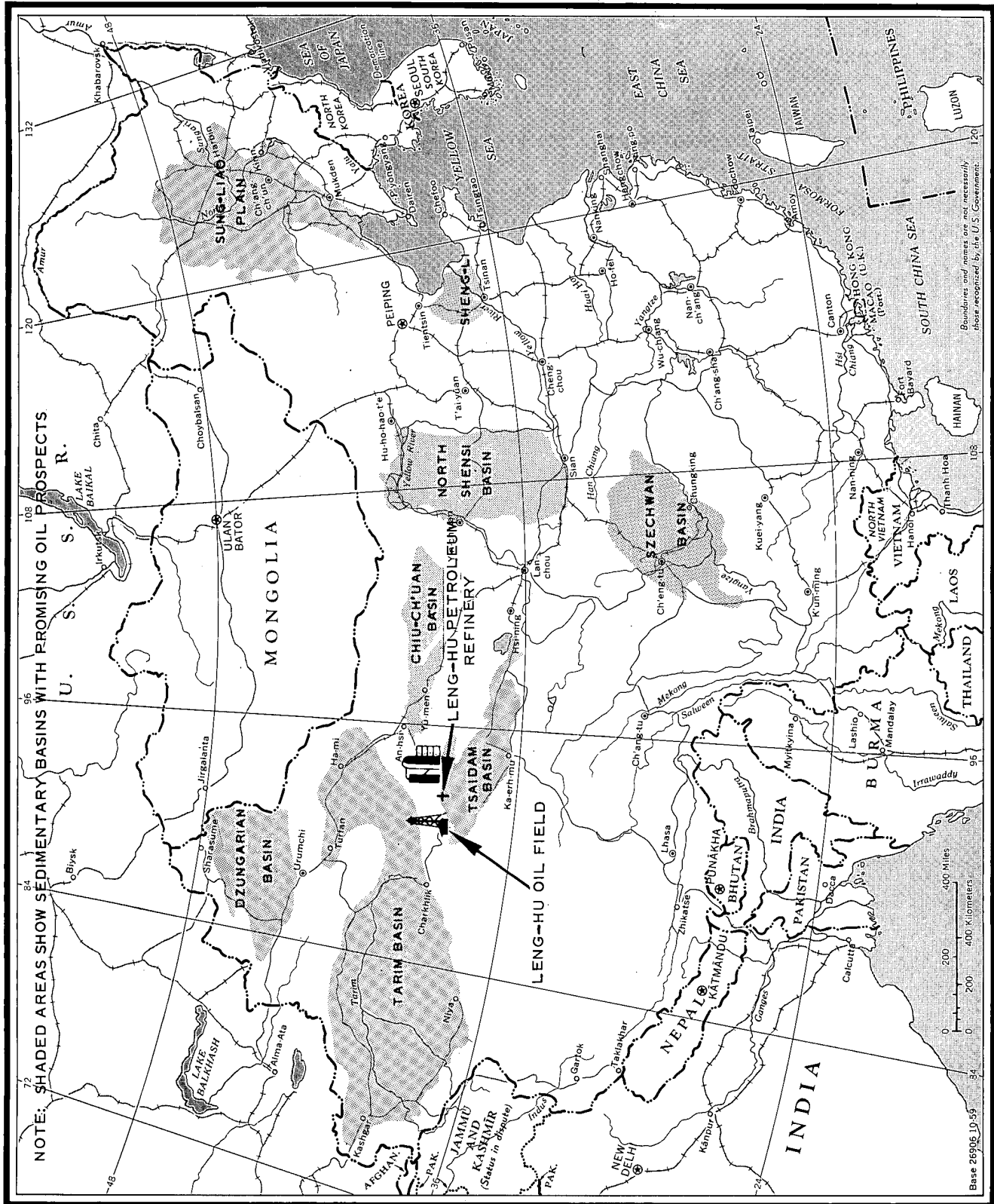


FIGURE 1. LOCATION MAP

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## INTRODUCTION

The Leng-hu Petroleum Refinery and Storage Area are located in north-west Tsinghai Province in the desert area of the northern Tsaidam Basin. Since the mid-1950's, the basin has been the scene of considerable exploration activity for oil and other mineral deposits.1/ The town of Leng-hu, as presently developed, was built to support the exploration work and the subsequent drilling and development program in the near-by oil fields. Vehicular activity, stockpiles of construction materials, the presence of pipe handling facilities, and construction of an extensive field gathering and storage system are indicative of continued exploitation of the Leng-hu oil deposits.

The refinery is located approximately 1 nautical mile (nm) east of the town. Crude oil for charging the refinery is brought in from the near-by fields by pipeline. Products and crude oil, in excess of that used locally, are transported from the Leng-hu area by truck. No pipeline or railroad has been constructed into the Leng-hu area. The nearest points of access to rail facilities are at Hsia-tung, about 160 nm to the northeast, and at Huang-yuan, about 400 nm east-southeast. The roads connecting Leng-hu with the rail facilities appear to be either hard surfaced or surface treated with bituminous material and capable of supporting all-weather traffic.

## BASIC DESCRIPTION

Physical Features

The refinery is small with the processing facilities occupying a rectangular area which measures approximately 625 by 2,140 feet and includes 30 acres. There is no external security around either the refinery or storage areas. The only visible method of limiting access into the facilities is by control of the only road into the refinery area.

Construction Status and Activity

Poor resolution and small scale of the early photography, from August 1961 through September 1964, made detailed analysis of the refinery's early development impossible. Part of the processing equipment was probably in place by August 1961. Coverage of July 1963, though of poor interpretability, showed that at least half of the distillation equipment and most of the storage tanks were in place and probably in use. The first good-quality, small-scale imagery, dated September 1965, revealed that all of the processing and storage facilities as depicted on Figure 3 had been constructed. Since that time, the only changes noted have been in the support and storage facilities, none of which appear to be of significance with respect to the refining processes.

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Operational Function

This refinery is capable of performing only simple distillation processes. The only major refining units present are two primary, atmospheric distillation columns and a smaller, probable redistillation column for finer fractionation of the atmospheric still products. These facilities would not be capable of processing very large quantities of crude oil. The products include straight-run gasoline, kerosene, diesel and fuel oils, and residuum which could be used for heating and road surface treatment. Most of the refined products are probably used locally in support of the Tsaidam Basin exploration and exploitation. It has been reported that small quantities of gasoline produced at this refinery are shipped by truck to Tibet.<sup>2/</sup>

The refinery appears to have been at least in partial operation by July 1963, and in full operation by September 1965. On all subsequent coverage, the refinery appeared to be in operation, but at a consistently low level. The general appearance of the plant and the light truck traffic within the refinery seem to indicate a low level 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  
Leng-hu Petroleum Refinery

<u>Area</u>	<u>Functional Description</u>	<u>Equipment*</u>
A	Crude Oil Distillation	2 Atmospheric stills; each with flash drum and strippers, bank of heat exchangers/accumulators, 1 pipe furnace, pre-fractionating treatment equipment, and control building 1 Redistillation still with 1 small pipe furnace, a bank of heat exchangers/accumulators and a processing/control building 11 Processing/support buildings 2 Cascade-type cooling racks 6 Cylindrical tanks, <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span>

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<u>Area</u>	<u>Functional Description</u>	<u>Equipment*</u>
B	U/I Processing	1 Large processing building with complex roof 8 Processing/storage and support buildings 1 Probable batch agitator/thickener, diam. 25 ft.
C	Steam Plant	1 Large building with 4 stacks 1 Small support building 3 Cylindrical tanks, 1 diam. 25 ft. 2 diam. 15 ft.
D	Drum Steaming and Filling	1 Drum steaming building 4 Support buildings 3 Cylindrical tanks, 1 diam. 25 ft. [redacted]
		Large number of small drums in open storage
E	Intermediates and Products Storage	8 Misc. buildings 31 Cylindrical tanks, 2 diam. 45 ft. 4 diam. 30 ft. 13 diam. 25 ft. 2 diam. 20 ft. [redacted]
		5 diam. 15 ft.
		3 Semiburied tanks
		1 Earth mound probably containing storage tanks
		4 Tank bases (tanks removed)
		1 Excavation, possibly for storage tanks
F	Crude and Products Storage and Shipping	4 Support buildings 7 Cylindrical tanks, 2 diam. 65 ft. 1 diam. 60 ft. 1 diam. 55 ft. 1 diam. 50 ft. 2 diam. 30 ft.
		An overhead loading rack for filling tank trucks

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\*NOTE: Diameter measurements of storage tanks are approximate.

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REFERENCES



Map

ACIC. US Air Target Chart 200, Sheet M0333-9HL, 1st edition, Dec 64,  
Scale 1:200,000 (SECRET [redacted])

Documents

1. CIA. [redacted] Far East Economic Review, Vol. XXXI,  
No. 3, January 1961 (UNCLASSIFIED)
2. CIA. [redacted] Report No. 1505377, July 1962  
(CONFIDENTIAL)

Requirement

EXSUBCOM - BR-N/002-69

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