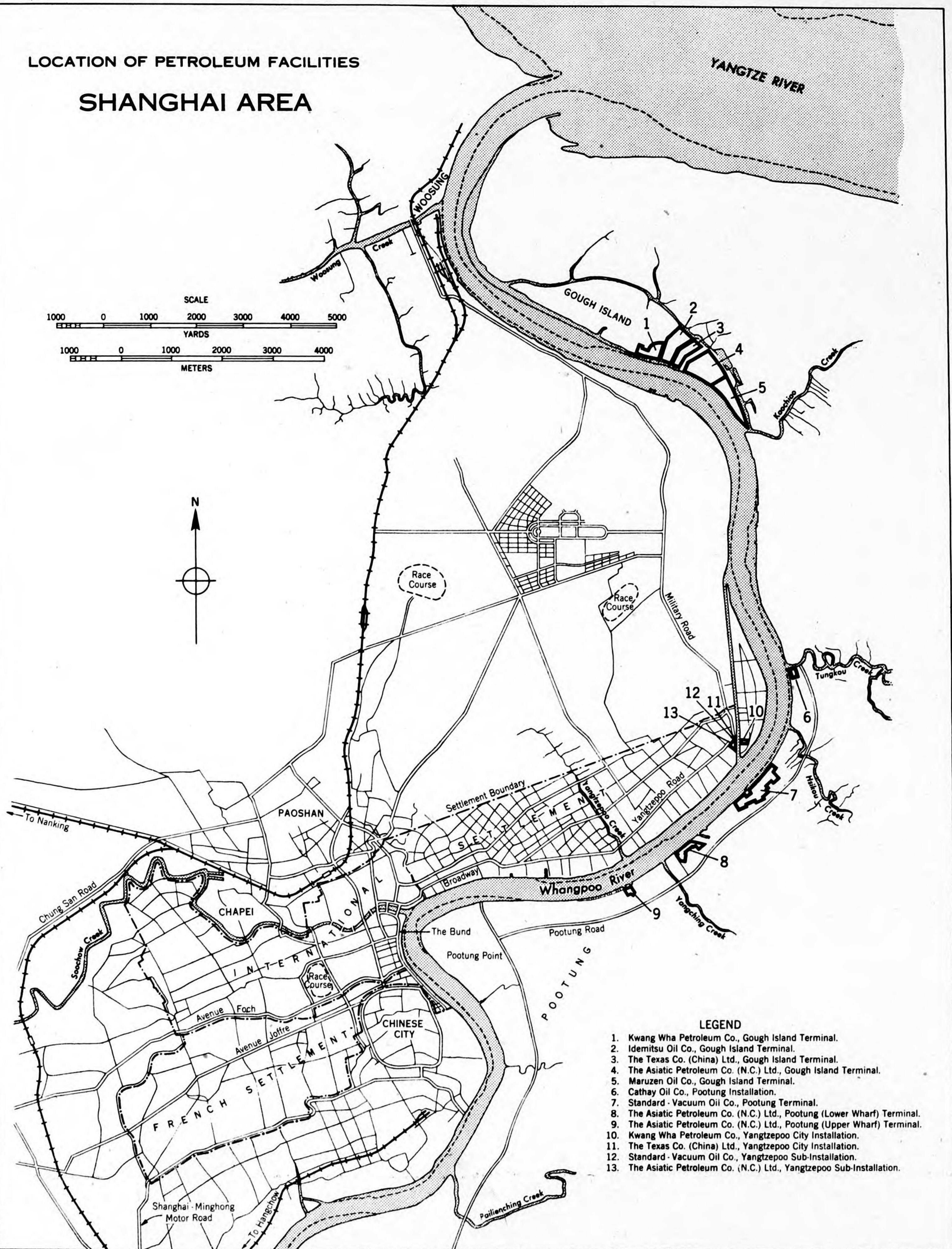


LOCATION OF PETROLEUM FACILITIES
SHANGHAI AREA



LEGEND

1. Kwang Wha Petroleum Co., Gough Island Terminal.
2. Idemitsu Oil Co., Gough Island Terminal.
3. The Texas Co. (China) Ltd., Gough Island Terminal.
4. The Asiatic Petroleum Co. (N.C.) Ltd., Gough Island Terminal.
5. Maruzen Oil Co., Gough Island Terminal.
6. Cathay Oil Co., Pootung Installation.
7. Standard - Vacuum Oil Co., Pootung Terminal.
8. The Asiatic Petroleum Co. (N.C.) Ltd., Pootung (Lower Wharf) Terminal.
9. The Asiatic Petroleum Co. (N.C.) Ltd., Pootung (Upper Wharf) Terminal.
10. Kwang Wha Petroleum Co., Yangtzepoo City Installation.
11. The Texas Co. (China) Ltd., Yangtzepoo City Installation.
12. Standard - Vacuum Oil Co., Yangtzepoo Sub-Installation.
13. The Asiatic Petroleum Co. (N.C.) Ltd., Yangtzepoo Sub-Installation.

ing products in bulk and the other for discharging and loading packaged goods. Vessels with a draft up to 28 feet could be berthed. All deliveries from this installation were made by water. Bunkering of vessels with both diesel and fuel oil could be done with electrically propelled shore pumps.

Reconnaissance in 1944 showed that eight tanks had been removed by the Japanese and probably re-erected at the site of the Asiatic Gough Island terminal.

A drawing of this terminal and two photographs appear on pages 104 and 105.

The Asiatic Petroleum Company (N.C.) Ltd., Gough Island terminal.- This was the main gasoline storage installation of the company at Shanghai but kerosene and turpentine in bulk were also stored. The tankage consisted of four large, two medium and one small tanks and there were nine service tanks with ethyl-blending facilities for aviation gasoline. There were filling arrangements for both cans and drums and drum cleaning and repairing facilities but no packages were manufactured. There were two commodious warehouses. There were two pontoon wharves accommodating vessels with a draft up to 29 feet. One of the wharves was equipped to handle the discharge and loading of bulk vessels and the other was used for the handling of packaged products. All deliveries from the plant were made by water. Black products were not stocked and no bunkering was done here.

From reconnaissance in 1944 it appears that all of the original tanks have been removed and seven others, probably transferred from the Texas installation, have been erected on the site.

A drawing and an old photograph of the terminal appear on pages 106 and 107.

Maruzen Oil Company, Gough Island terminal.- This terminal occupied the entire eastern end of the island. No details are available beyond the fact that it was supposed to have three large, three medium and one small storage tanks in 1941. It was said by persons resident in Shanghai before the Japanese occupation to have been only a storage and packaging plant but there are rumors that there was a small refinery connected with it.

Reconnaissance in 1944 shows a total of 30 tanks on the site and it is believed that all of the Gough Island installations have been combined into one large plant since the occupation.

Standard-Vacuum Oil Company, Pootung terminal.- This large terminal was located across the Whangpoo River from the northeastern end of the International Settlement. It had 22 storage tanks ranging from 1,000 to 70,000 barrels capacity and nine service tanks for the storage and handling of aviation and motor gasoline, kerosene, diesel oil, fuel oil and lubricating oils in bulk. There were ethyl-blending facilities and filling arrangements for cans and drums of all products. There was a can factory at this installation with a daily capacity of 16,000 cans, a drum cleaning and welding plant, blending facilities for lubricating oils, a candle factory, a powerhouse, a machine shop and repair facilities with a slip-way for river vessels. There were 13 large warehouses for all packaged products, including asphalt.

The installation had a long river frontage with two long wharves, fitted with pipe lines where ocean tankers could discharge and bulk river vessels could load, which would take vessels drawing up to 32 feet. There were in addition five pontoons, one with a gasoline pipe line and the other four for the discharge and loading of packaged products. Ocean vessels and river craft were bunkered here.

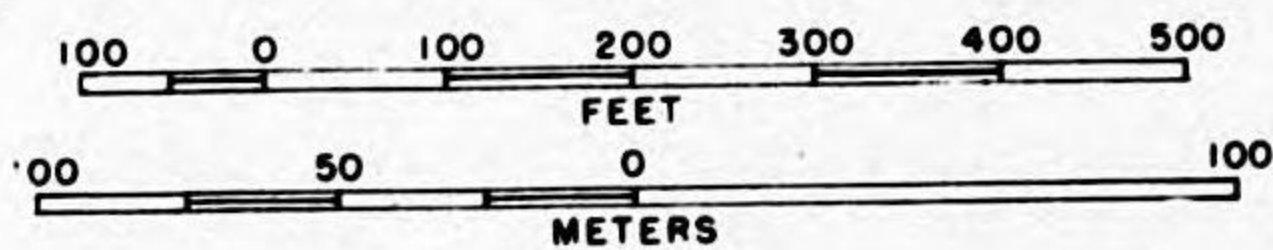
Recent reconnaissance shows it to be intact and in use by the Japanese.

A drawing of the plant, an aerial photograph and a photograph taken from the river are shown on pages 108, 109 and 110.

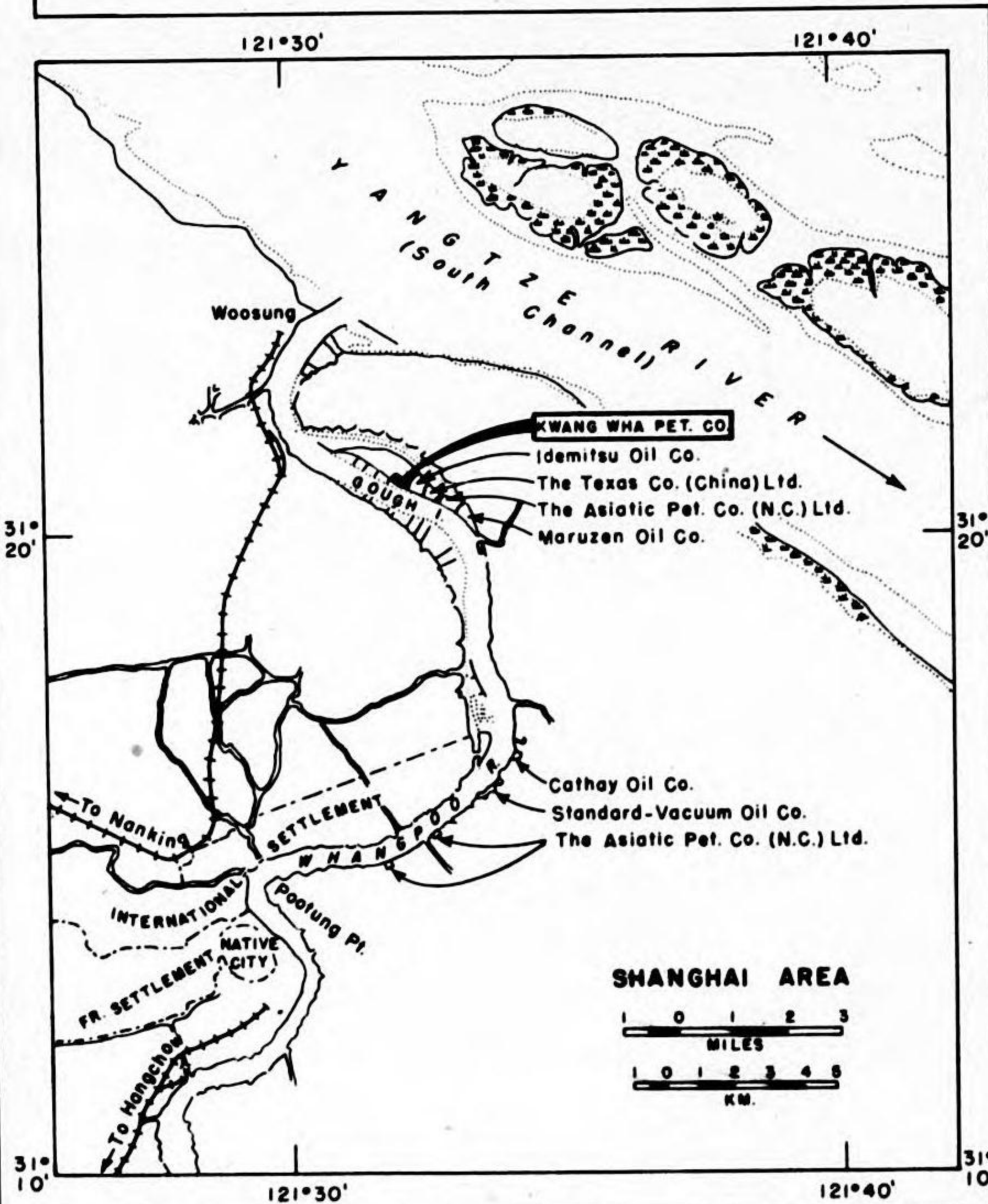
NORTH CHINA SHANGHAI (GOUGH I.) INSTALLATION

KWANG WHA PETROLEUM CO.

(OWNED JOINTLY BY)
STANDARD-VACUUM OIL CO. AND THE ASIATIC PETROLEUM CO. (N.C.) LTD.



(Approximate Scale)

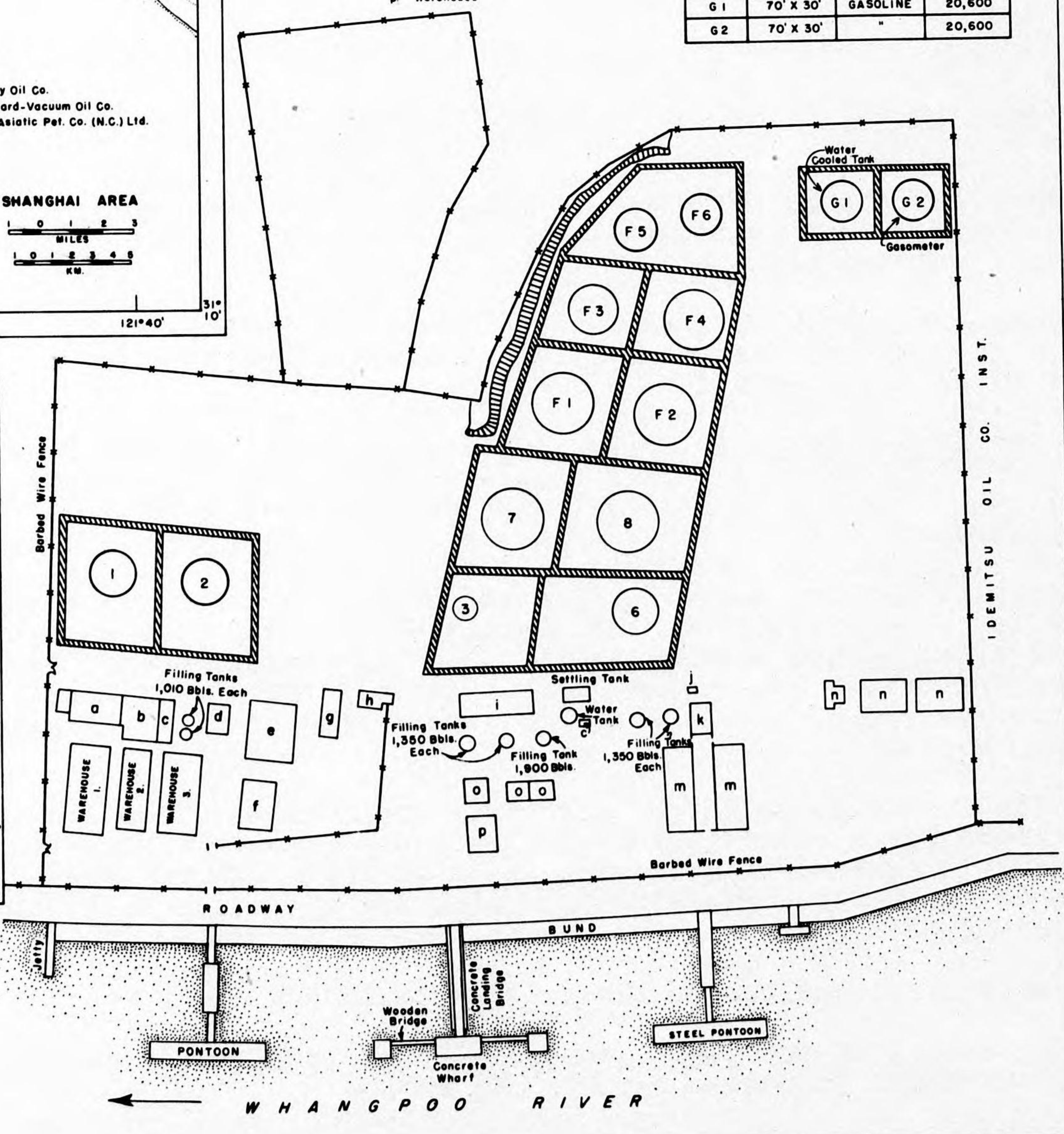
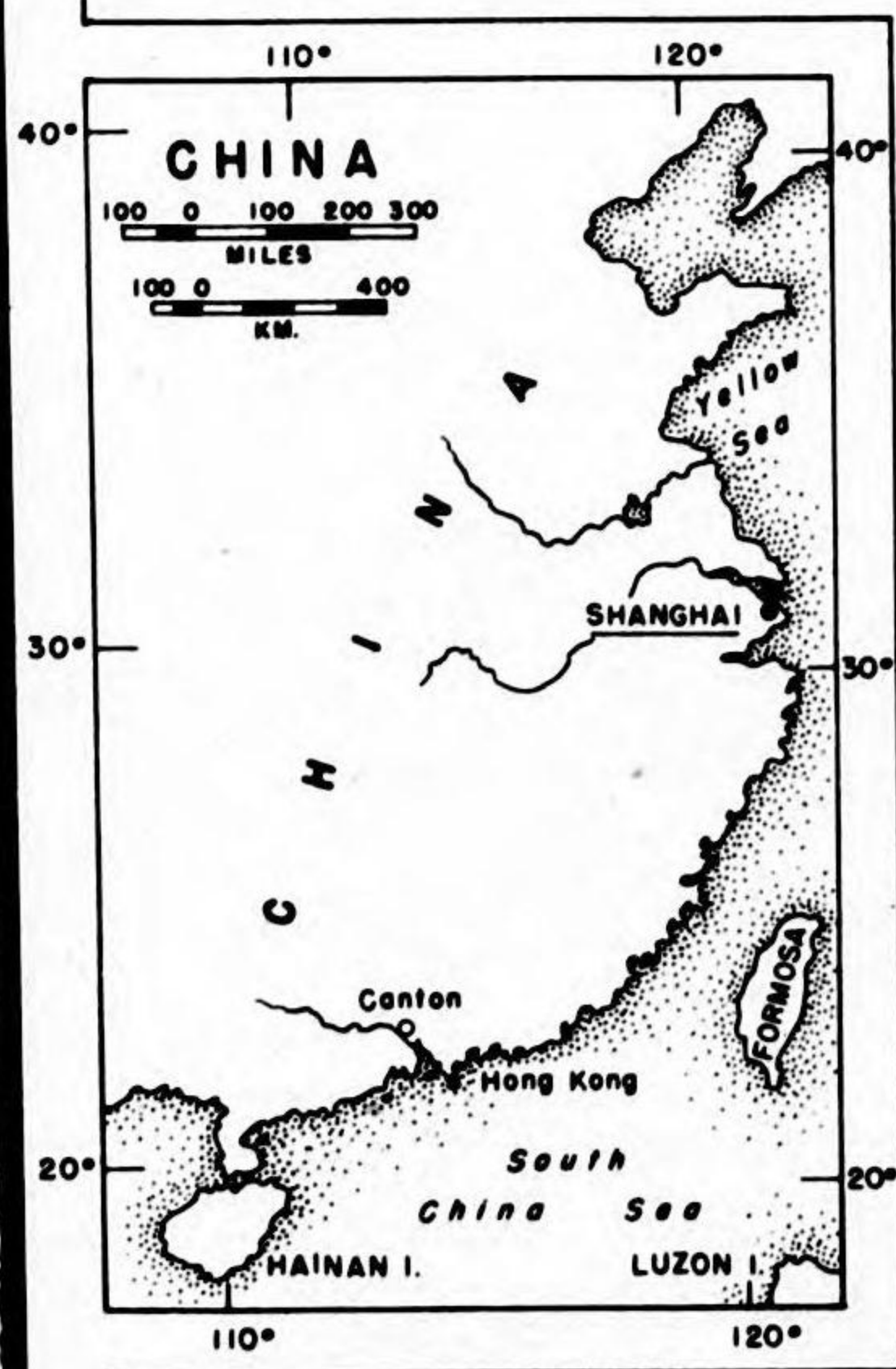


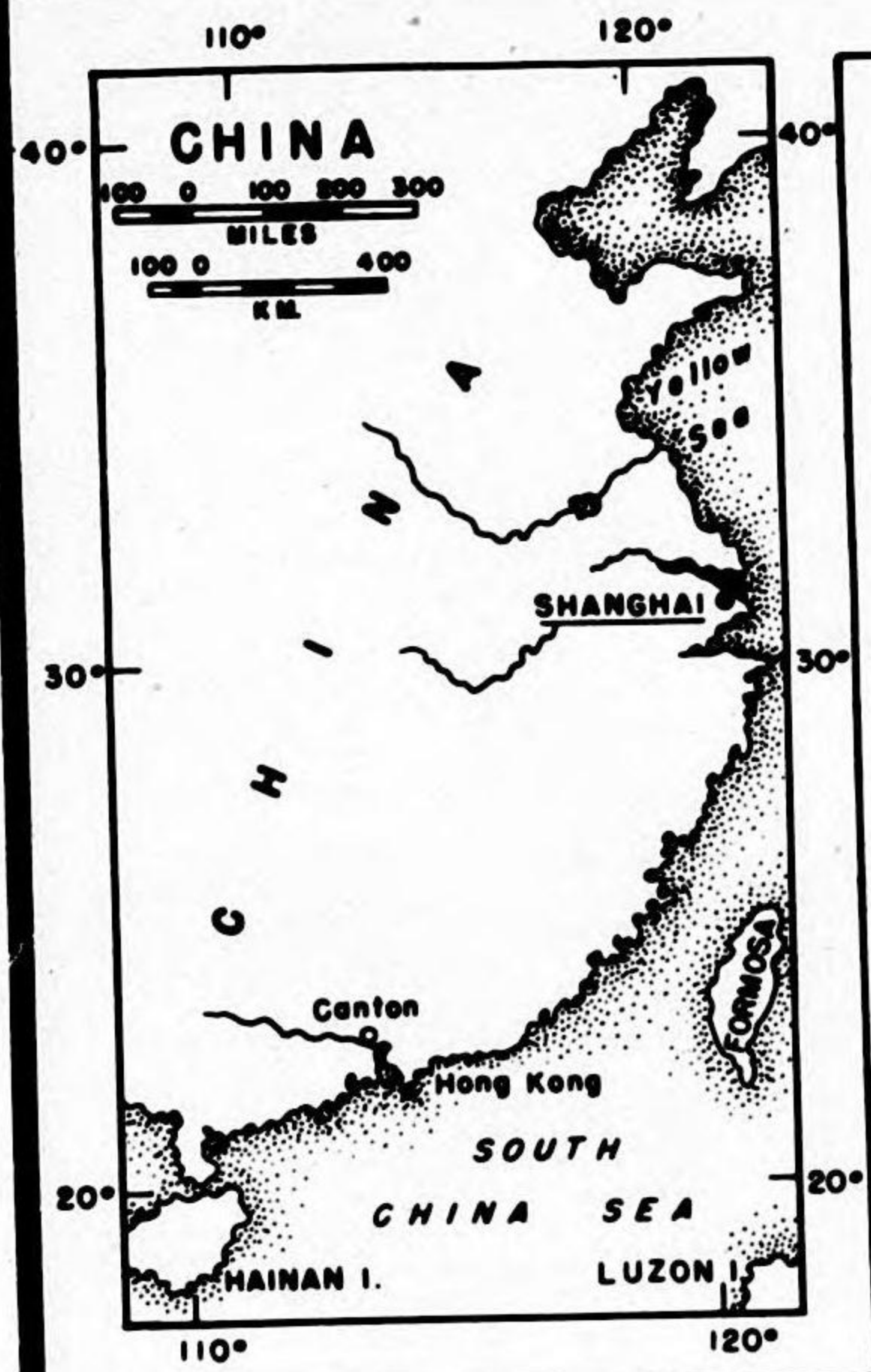
LEGEND

- a. Can Shop
- b. Filling House
- c. Pump Houses
- d. Box Factory
- e. Storage House
- f. Office
- g. Workers' Quarters
- h. Police Quarters
- i. Pump House and Blacksmith Shop
- j. Soldering Shed
- k. Gasoline Filling Shed
- m. Gasoline Warehouses
- n. Staff Quarters
- o. Drum Filling Sheds
- p. Warehouse

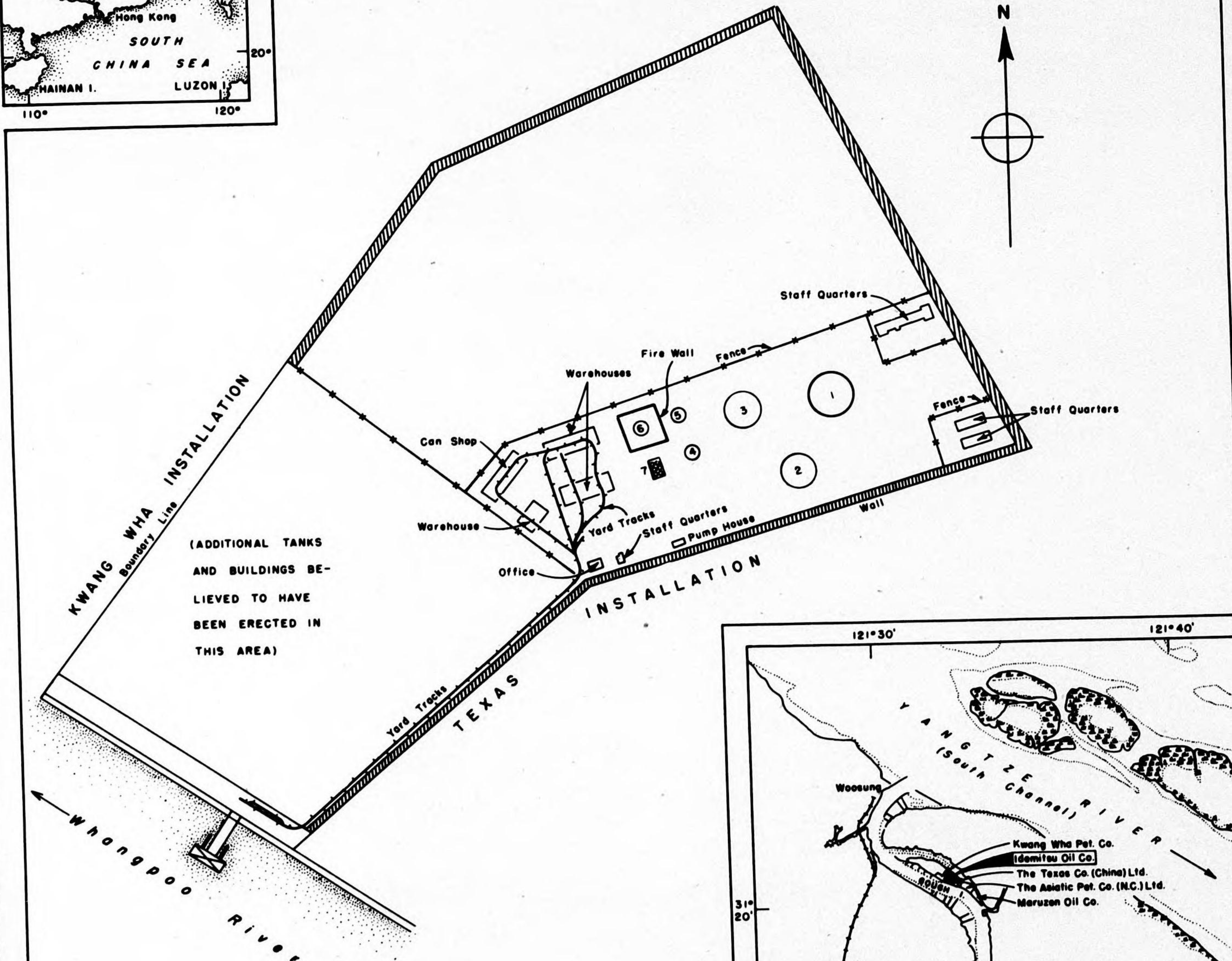
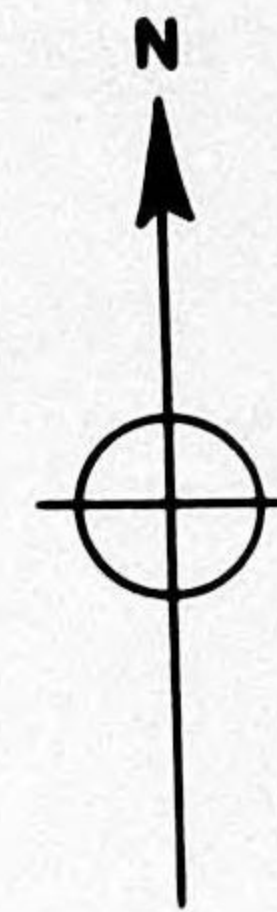
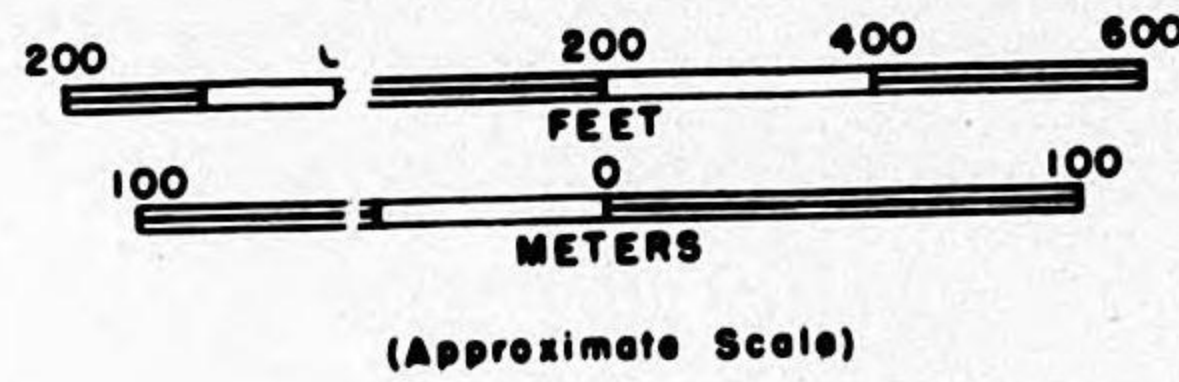
TANKS

NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
1	80' X 30'	KEROSENE	26,900
2	80' X 30'	"	26,900
3	35' X 20'	"	3,450
6	77' X 29'	"	24,200
7	107' X 30'	"	48,200
8	107' X 30'	"	48,200
F 1	107' X 30'	FUEL OIL	48,200
F 2	107' X 30'	"	48,200
F 3	80' X 30'	"	26,900
F 4	107' X 30'	"	48,200
F 5	75' X 30'	"	23,600
F 6	75' X 30'	"	23,600
G 1	70' X 30'	GASOLINE	20,600
G 2	70' X 30'	"	20,600





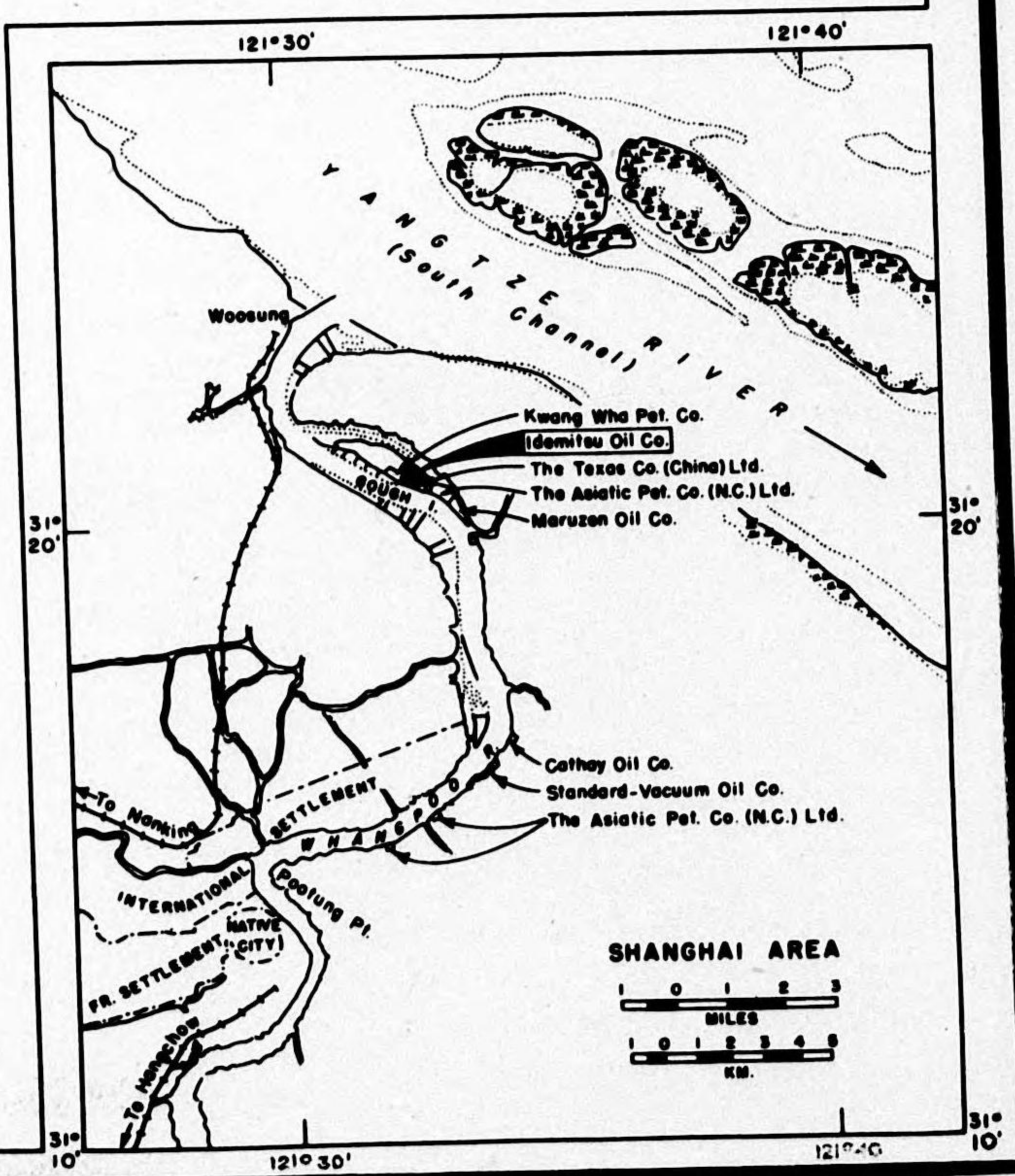
NORTH CHINA SHANGHAI (GOUGH I.) INSTALLATION IDEMITSU OIL COMPANY



TANK LEGEND

KEY	CAPACITY (BBLs)
1.	82,000
2.	31,500
3.	31,500
4.	6,300
5.	6,300
6.	6,300
7.	Six (6) 630 Barrels Filling Tanks

NOTE: Dimensions and Products of Tanks unknown.
Capacity Approximate.





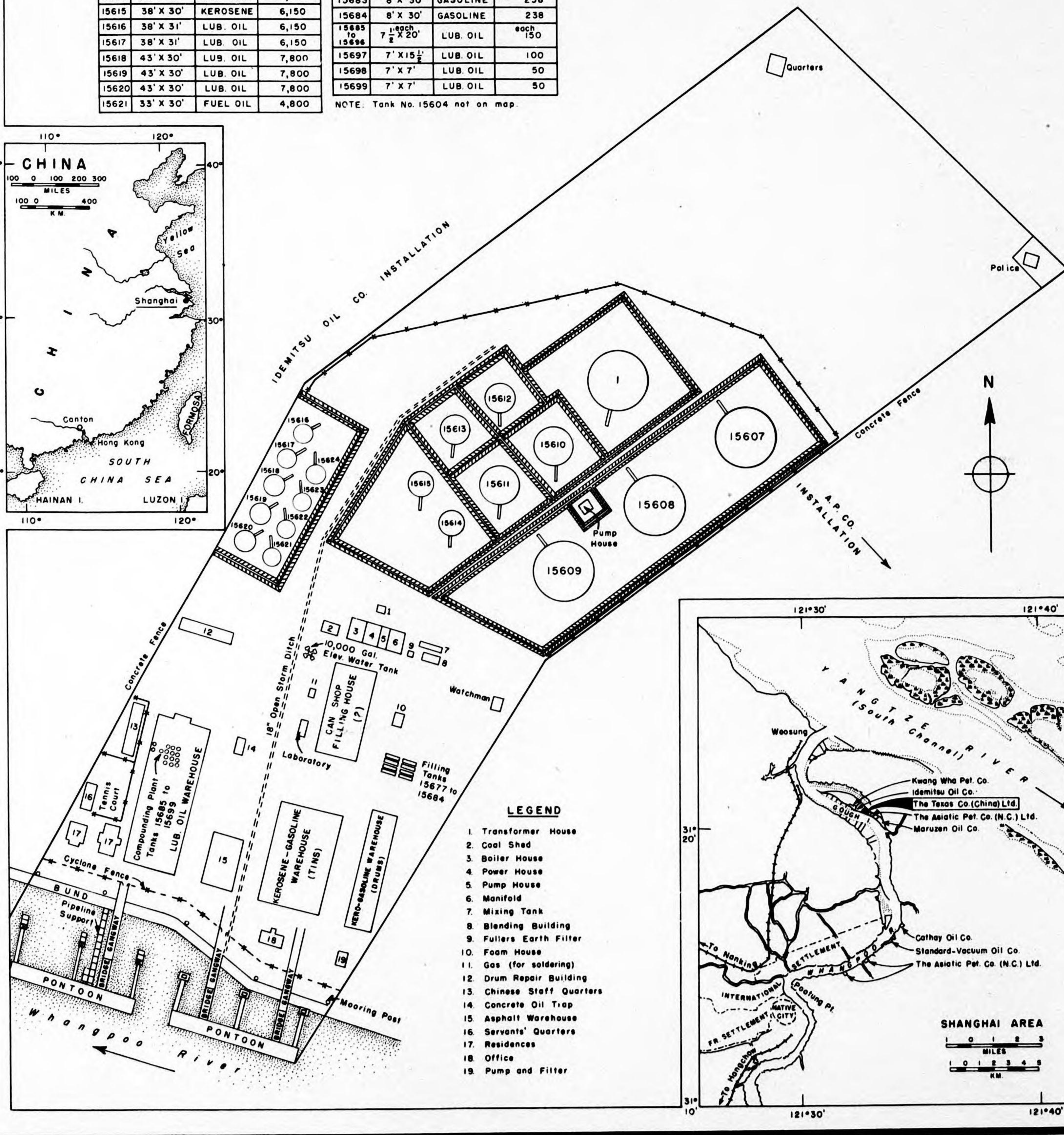
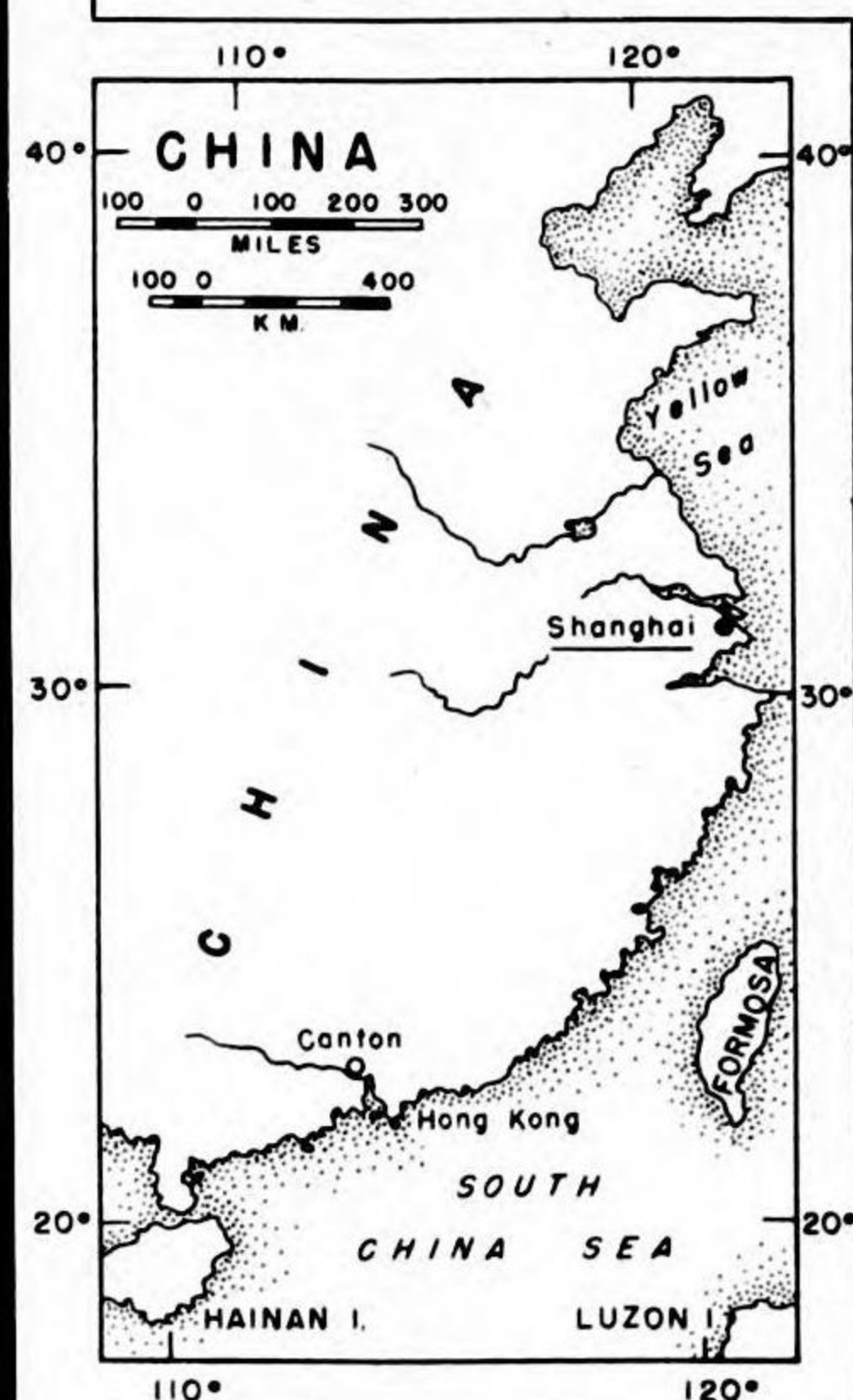
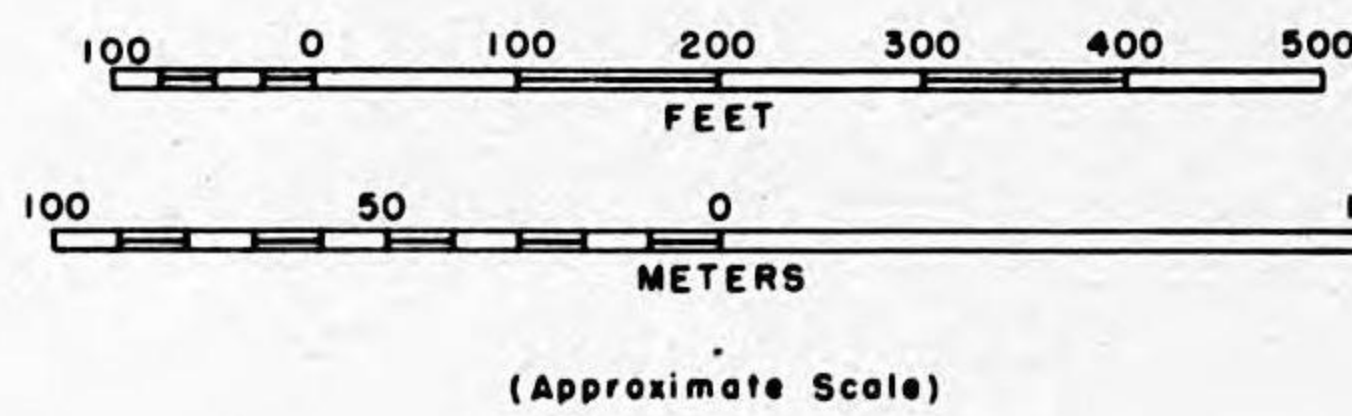
TWO VIEWS OF THE TEXAS CO. GOUGH ISLAND INSTALLATION, SHANGHAI

NORTH CHINA SHANGHAI (GOUGH I.) INSTALLATION THE TEXAS COMPANY (CHINA) LTD.

TANKS

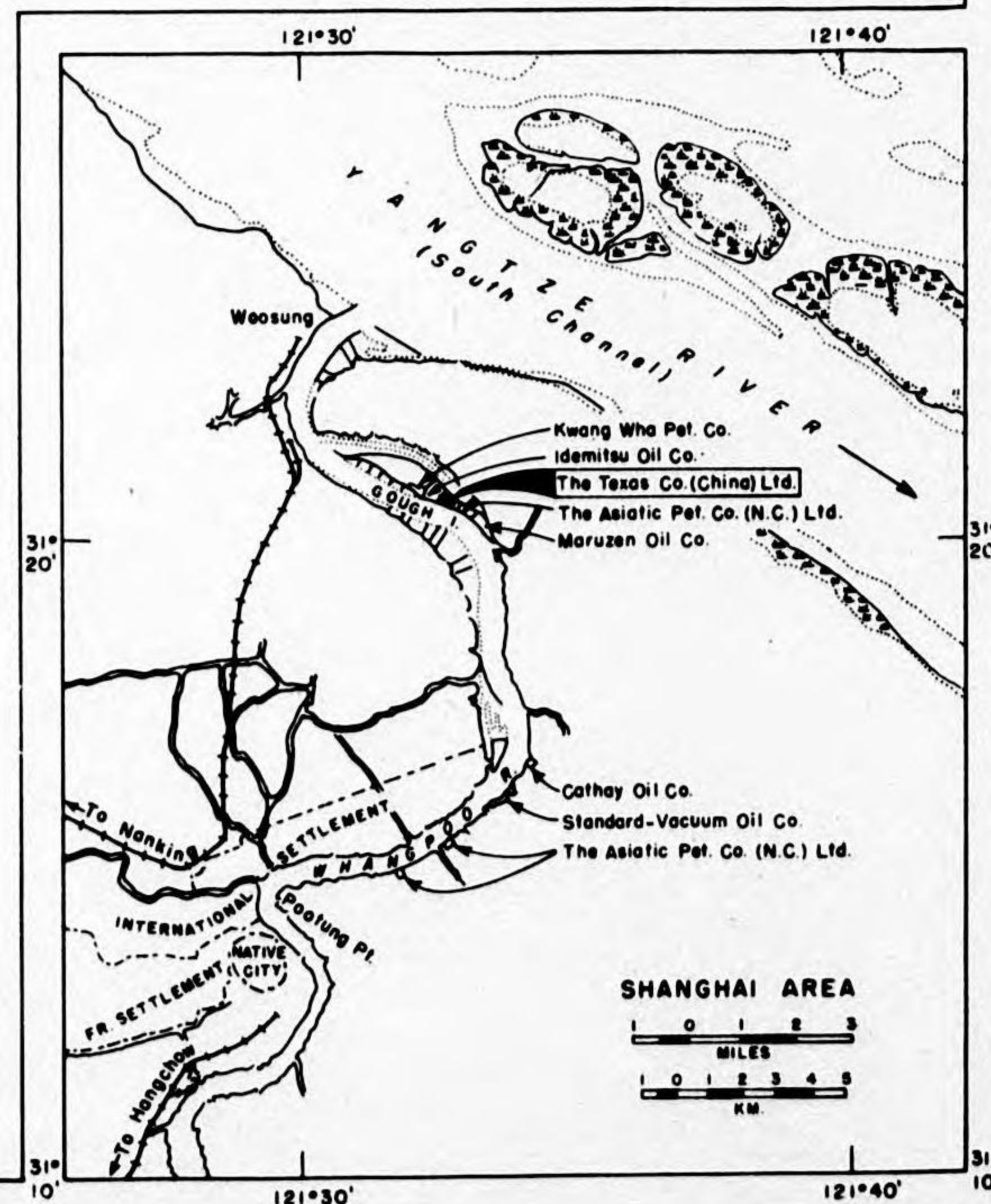
TANK NO.	DIMENSIONS	PRODUCT	CAPACITY (BARRELS)	TANK NO.	DIMENSIONS	PRODUCT	CAPACITY (BARRELS)
1	120' X 35'	KEROSENE	70,000	15622	33' X 30'	LUB. OIL	4,800
15604	10 1/2' X 42'	GASOLINE	650	15623	33' X 30'	LUB. OIL	4,800
15607	114' X 35'	KEROSENE	64,000	15624	33' X 30'	LUB. OIL	4,800
15608	114' X 35'	GASOLINE	64,000	15677	8' X 30'	KEROSENE	238
15609	115' X 35'	DIESEL OIL	64,000	15678	8' X 30'	KEROSENE	238
15610	71' X 35'	KEROSENE	25,000	15679	8' X 30'	GASOLINE	238
15611	71' X 35'	GASOLINE	25,000	15680	8' X 30'	GASOLINE	238
15612	53' X 30'	KEROSENE	11,700	15681	8' X 30'	KEROSENE	238
15613	52' X 30'	GASOLINE	11,700	15682	8' X 30'	KEROSENE	238
15614	38' X 30'	GASOLINE	6,150	15683	8' X 30'	GASOLINE	238
15615	38' X 30'	KEROSENE	6,150	15684	8' X 30'	GASOLINE	238
15616	38' X 31'	LUB. OIL	6,150	15685 to 15686	7 1/2' X 20'	LUB. OIL	each 150
15617	38' X 31'	LUB. OIL	6,150	15697	7' X 15 1/2'	LUB. OIL	100
15618	43' X 30'	LUB. OIL	7,800	15698	7' X 7'	LUB. OIL	50
15619	43' X 30'	LUB. OIL	7,800	15699	7' X 7'	LUB. OIL	50
15620	43' X 30'	LUB. OIL	7,800				
15621	33' X 30'	FUEL OIL	4,800				

NOTE: Tank No. 15604 not on map.



LEGEND

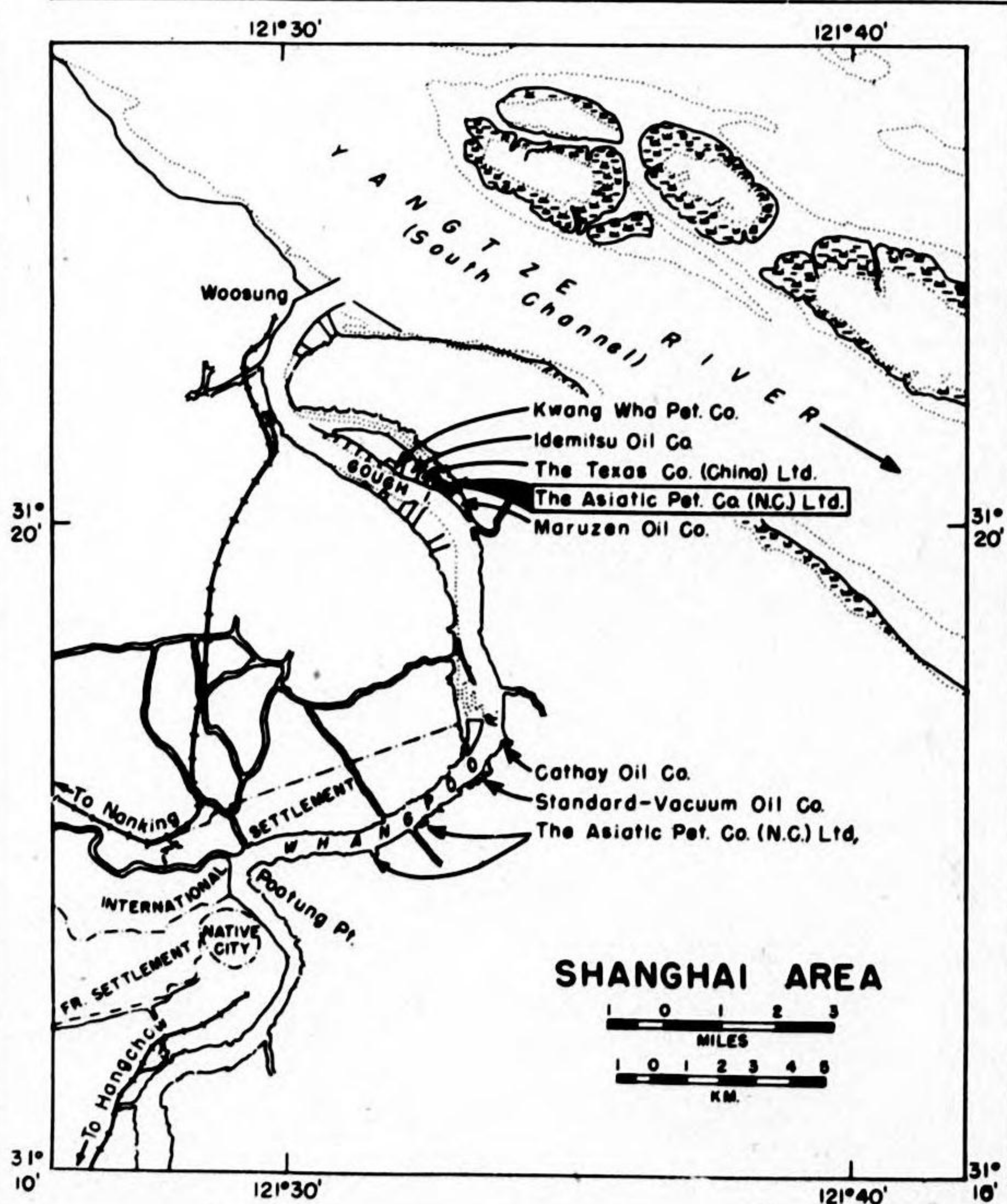
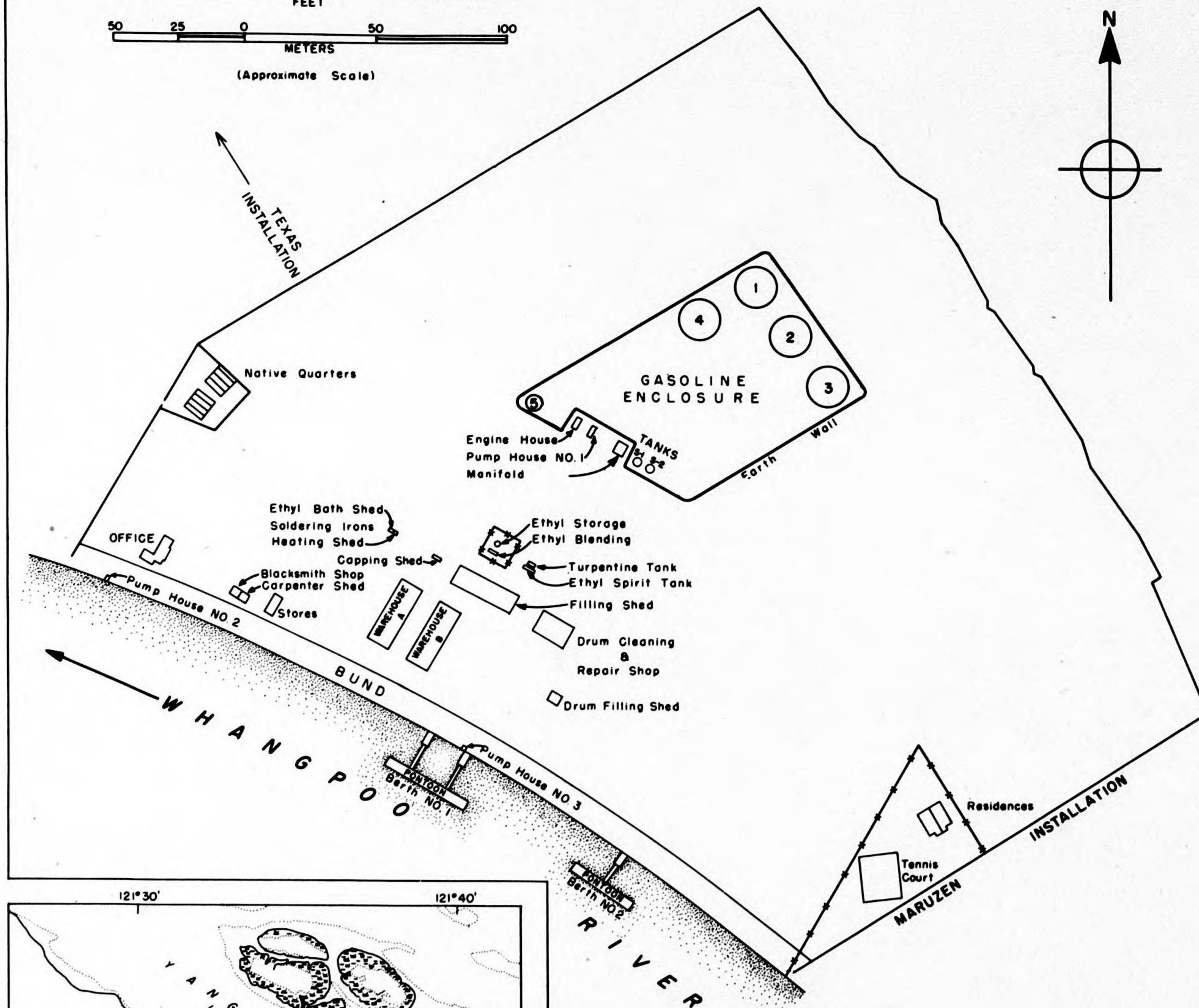
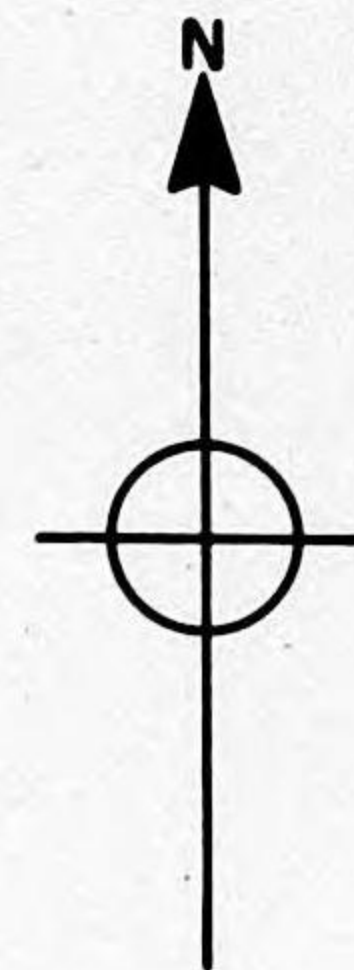
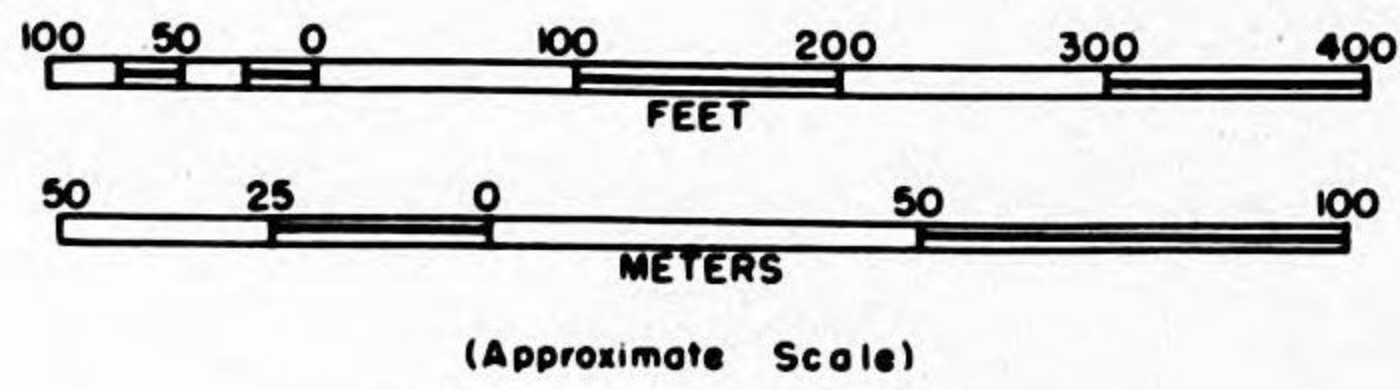
1. Transformer House
2. Coal Shed
3. Boiler House
4. Power House
5. Pump House
6. Manifold
7. Mixing Tank
8. Blending Building
9. Fullers Earth Filter
10. Foam House
11. Gas (for soldering)
12. Drum Repair Building
13. Chinese Staff Quarters
14. Concrete Oil Trap
15. Asphalt Warehouse
16. Servants' Quarters
17. Residences
18. Office
19. Pump and Filter





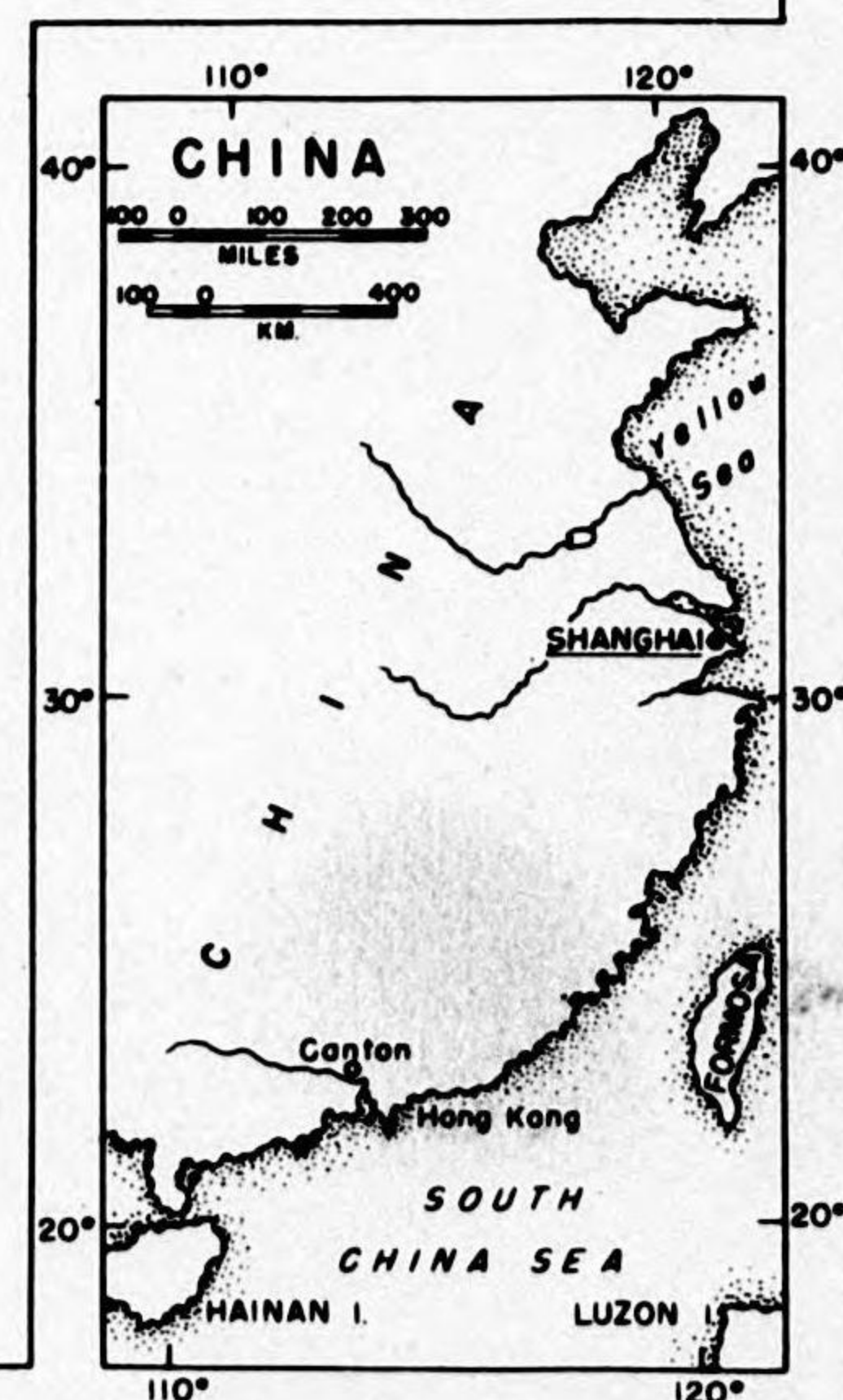
ASIATIC PETROLEUM CO. GOUGH ISLAND INSTALLATION, SHANGHAI

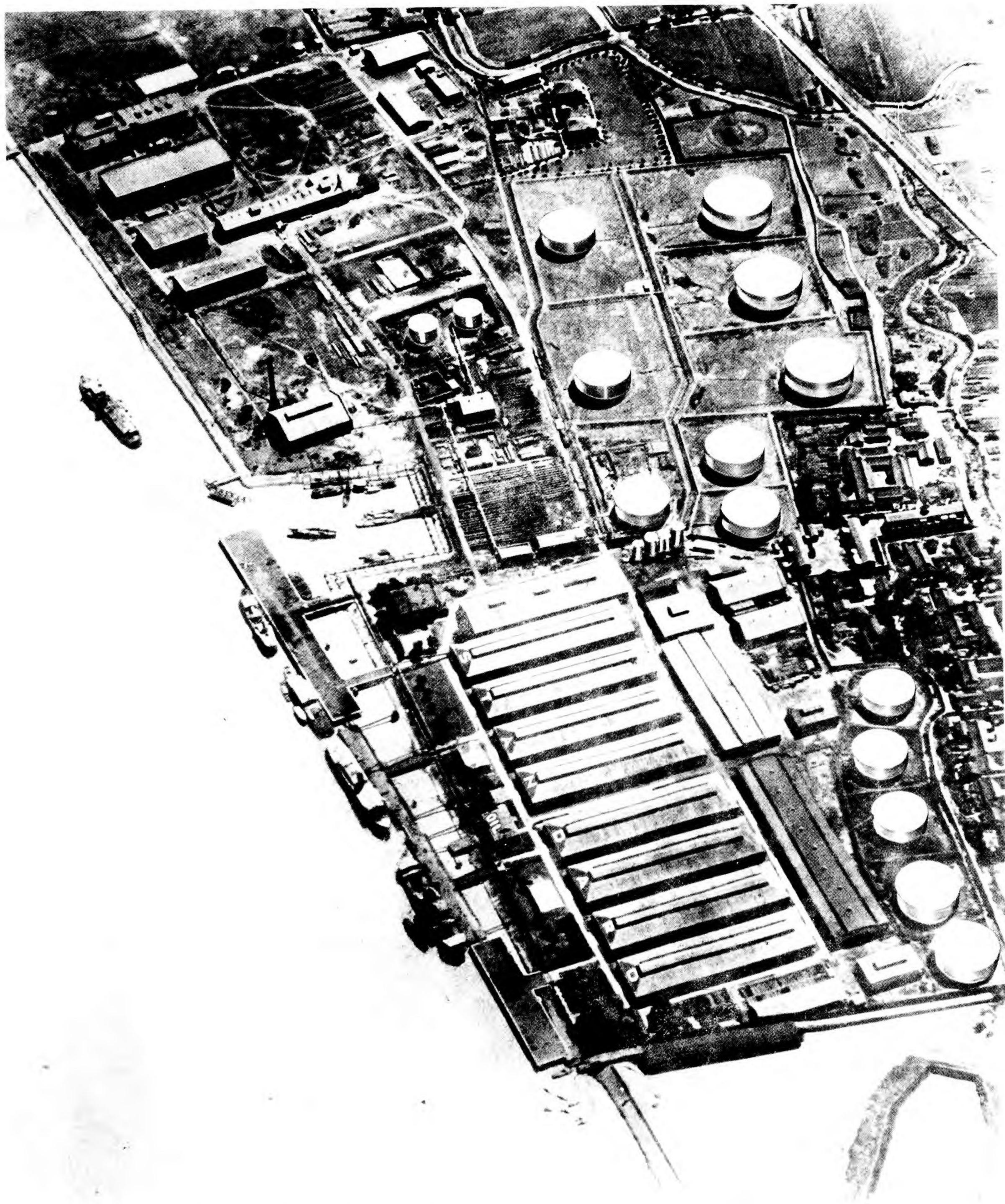
NORTH CHINA
SHANGHAI (GOUGH I.) INSTALLATION
THE ASIATIC PETROLEUM CO. (N.C.) LTD.
(ROYAL DUTCH SHELL)



TANKS		
NO.	PRODUCT	CAPACITY (Barrels)
1	GASOLINE	52,950
2	"	52,950
3	KEROSENE	52,950
4	GASOLINE	52,950
5	"	5,880
*6	AVIATION GASOLINE	19,400
*7	TURPENTINE	16,280
S-1	GASOLINE	1,200
S-2	TURPENTINE	1,200
*S-3	GASOLINE	1,200
*A	AVIATION GASOLINE	333
*B	"	333
*C	"	325
*D	"	275
*E	—	218
*F	KEROSENE	333

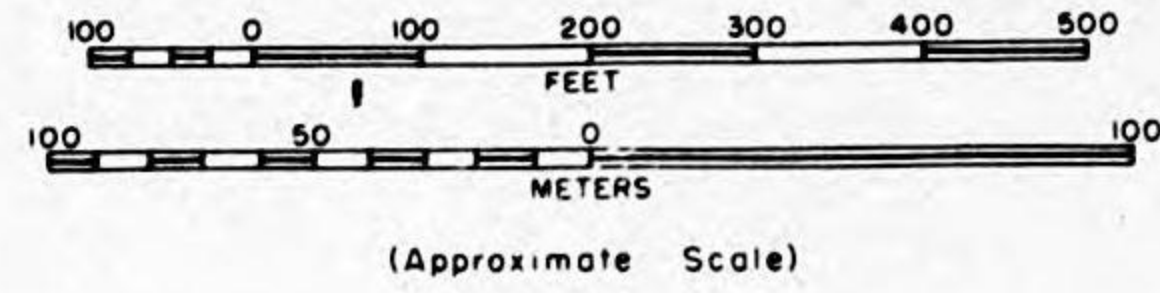
*These tanks either are not shown or are not clearly indicated.



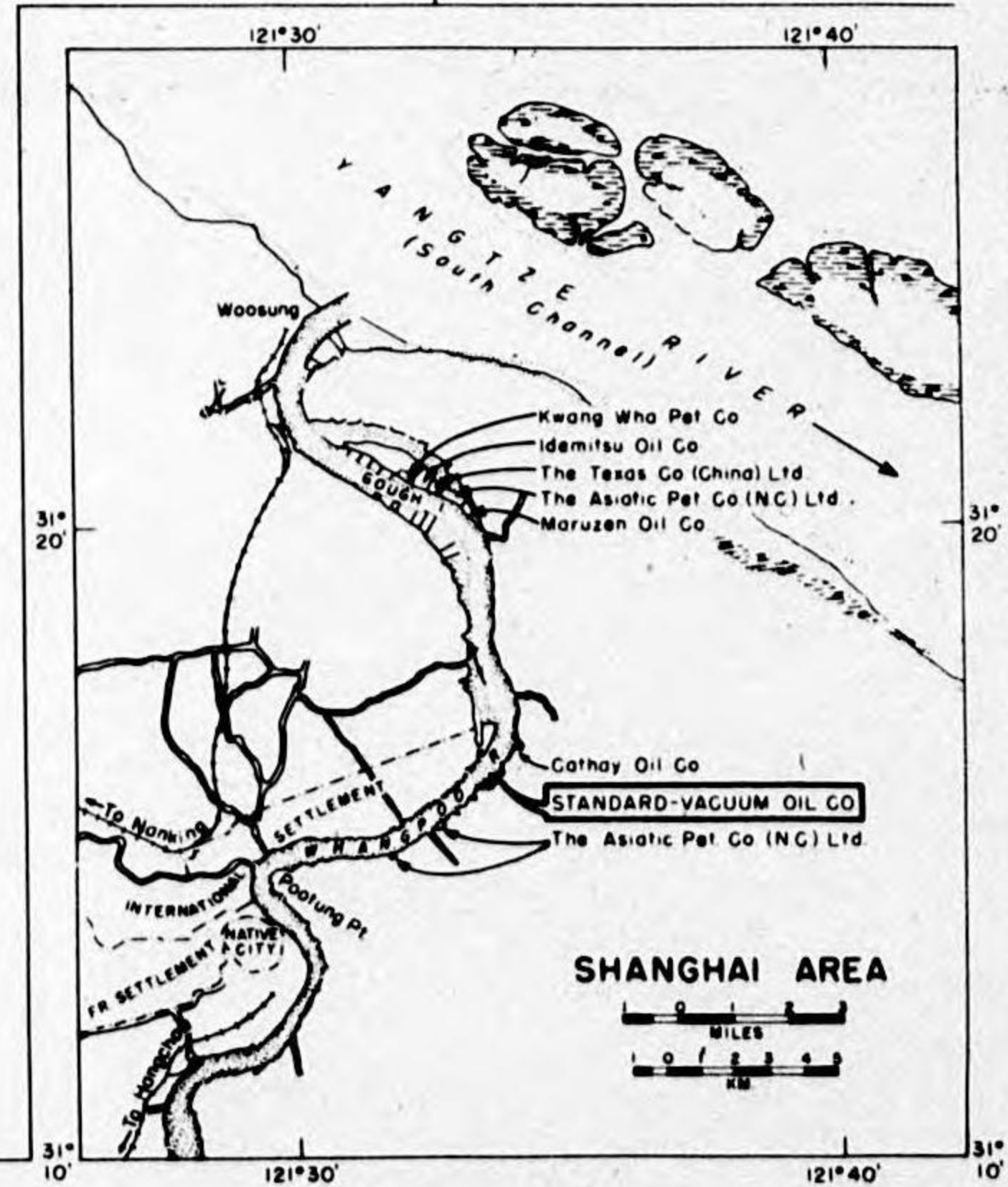
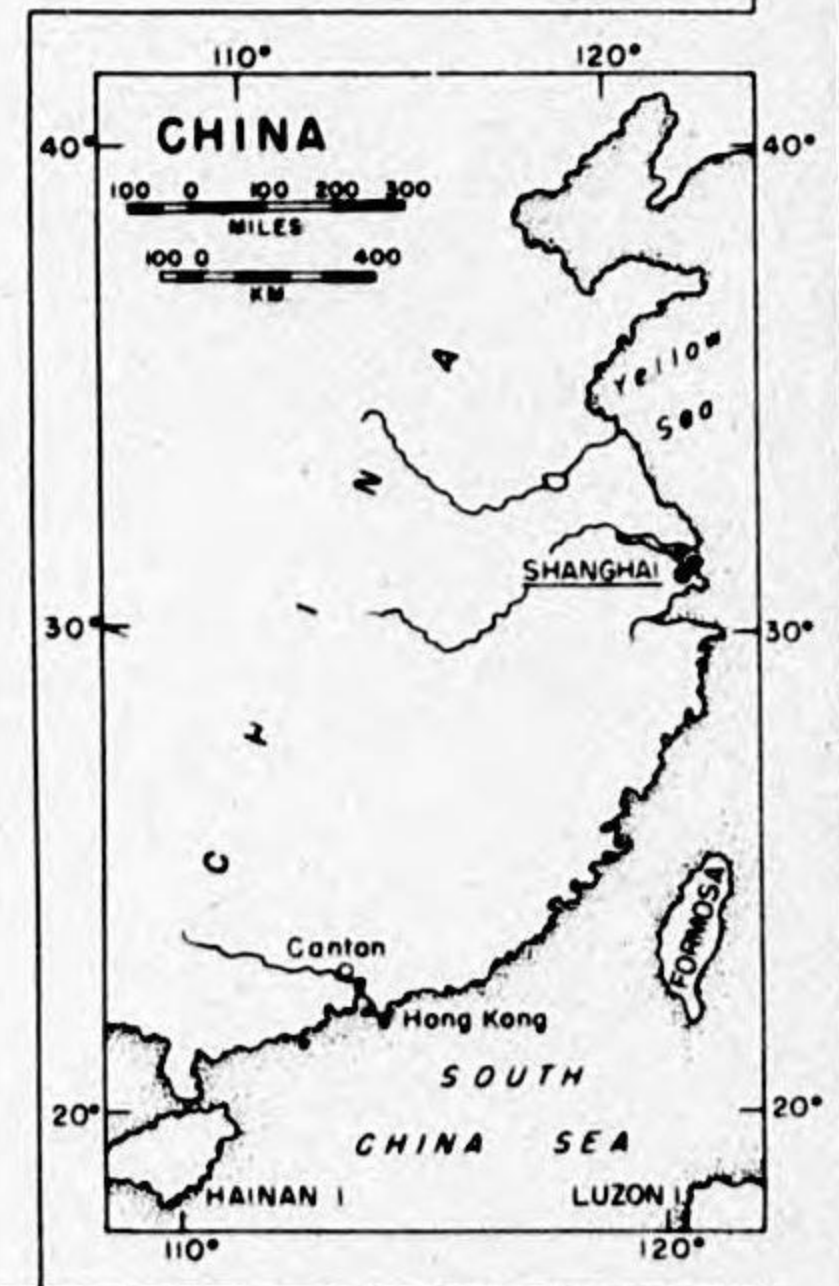
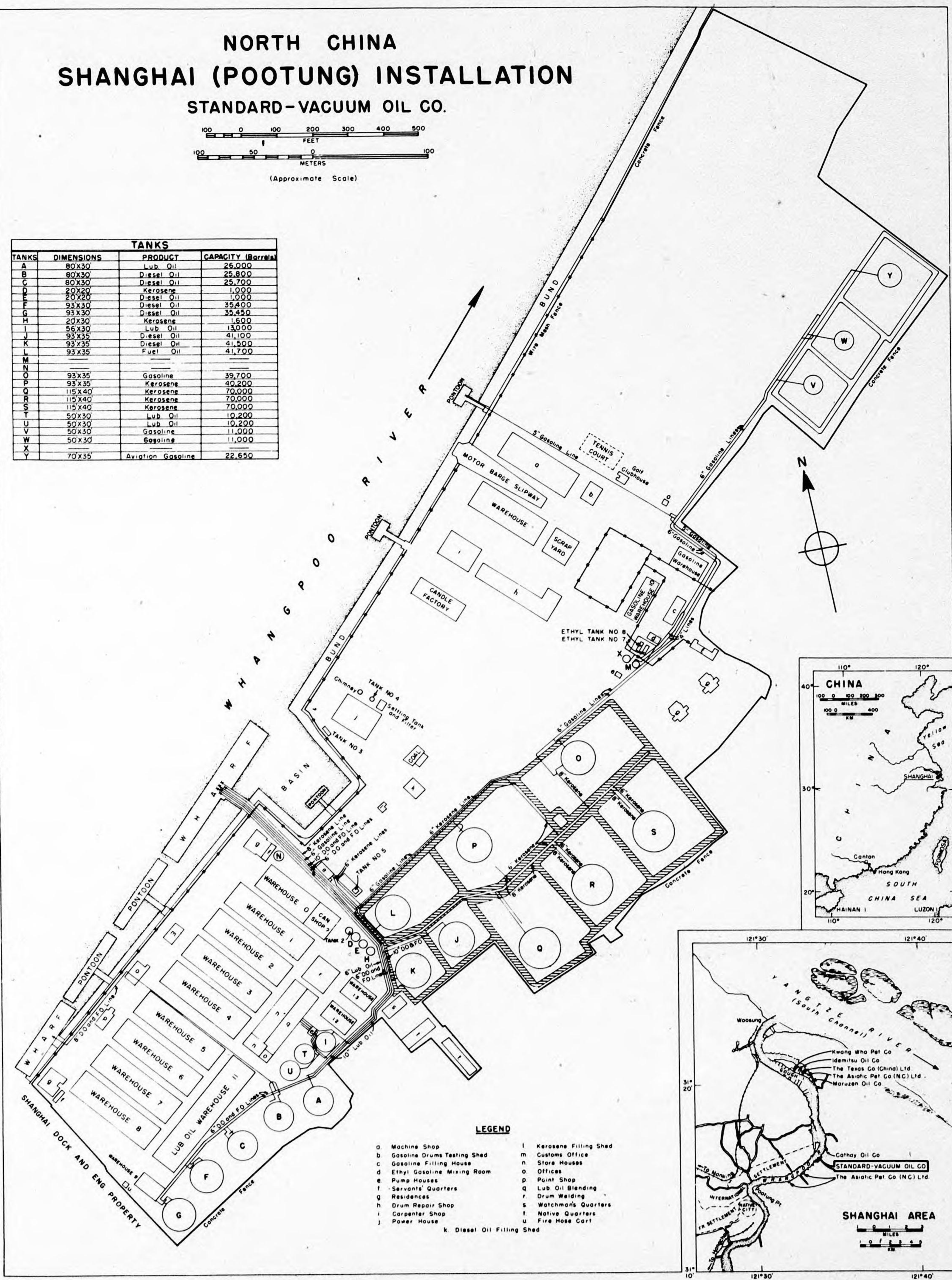


AIR VIEW OF PART OF STANDARD-VACUUM OIL CO. POOTUNG INSTALLATION, SHANGHAI

NORTH CHINA
SHANGHAI (POOTUNG) INSTALLATION
STANDARD-VACUUM OIL CO.



TANKS			
TANKS	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	80X30	Lub. Oil	26,000
B	80X30	Diesel Oil	25,800
C	80X30	Diesel Oil	25,700
D	20X20	Kerosene	1,000
E	20X20	Diesel Oil	1,000
F	93X30	Diesel Oil	35,400
G	93X30	Diesel Oil	35,450
H	20X30	Kerosene	1,500
I	56X30	Lub. Oil	13,000
J	93X35	Diesel Oil	41,100
K	93X35	Diesel Oil	41,500
L	93X35	Fuel Oil	41,700
M			
N			
O	93X35	Gasoline	39,700
P	115X40	Kerosene	40,200
Q	115X40	Kerosene	70,000
R	115X40	Kerosene	70,000
S	115X40	Kerosene	70,000
T	50X30	Lub Oil	10,200
U	50X30	Lub Oil	10,200
V	50X30	Gasoline	11,000
W	50X30	Gasoline	11,000
X			
Y	70X35	Aviation Gasoline	22,650



- LEGEND**
- a Machine Shop
 - b Gasoline Drums Tasting Shed
 - c Gasoline Filling House
 - d Ethyl Gasoline Mixing Room
 - e Pump Houses
 - f Servants' Quarters
 - g Residences
 - h Drum Repair Shop
 - i Carpenter Shop
 - j Power House
 - k Diesel Oil Filling Shed
 - m Customs Office
 - n Store Houses
 - o Offices
 - p Paint Shop
 - q Lub Oil Blending
 - r Drum Welding
 - s Watchman's Quarters
 - t Native Quarters
 - u Fire Hose Cart

110 - DISTRIBUTING
Shanghai



LOWER PART OF STANDARD-VACUUM OIL CO. POOTUNG INSTALLATION
SHOWING MACHINE SHOP AND GASOMETER TANK FOR AVIATION GASOLINE STORAGE

The Asiatic Petroleum Company (N.C.) Ltd., Lower Wharf Terminal.- This large terminal lay a short distance up the river from the Standard plant on the Pootung side. There were 10 storage tanks ranging from large to medium and six service tanks for kerosene, diesel and gas oil. There was a can factory and filling arrangements for cans and drums, a large machine shop, a lubricating oil blending plant and seven fairly large warehouses for packaged products, and also an office and two residences.

Along the water front there were four large and one small pontoons. Two of the large pontoons had pipe connections and were used to discharge tankers with a draft up to 27 feet and for loading river vessels carrying bulk oil. The other two large pontoons were for the receipt and dispatch of packaged goods and the small pontoon was used by the ferry which crossed the river to Shanghai. Diesel bunkering service was provided.

Reconnaissance to May 1944 reveals that only one large tank of about 130 feet diameter is left at this site and that all the others have been removed.

An aerial photograph and a drawing, of this terminal appear on pages 112 and 113.

The Asiatic Petroleum Company (N.C.) Ltd., Upper Wharf Terminal.- This plant was located a short distance up-river from the company's Lower Wharf installation and on the same side. It was devoted entirely to the storage of diesel oil, gas oil and fuel oil for industrial purposes and lubricating oil. No bunker fuels were handled. The tankage consisted of one large, four medium and one small sized storage tanks and four service tanks. There were filling arrangements for cans and drums and a drum cleaning and repair plant. There were three large warehouses, several sheds, lubricating oil blending facilities and two residences in the compound.

On the water front there was a large pontoon where tankers and cargo vessels drawing up to 20 feet could discharge and two small jetties for the use of river craft.

Reconnaissance in 1944 revealed that only three tanks remain.

A drawing of the plant is shown on page 114.

The Asiatic Petroleum Company (N.C.) Ltd., sub-installation at Yangtzepoo.- This plant was located at the northeast end of the International Settlement and served as a city distribution center for bulk gasoline and fuel oils and for packaged products. There were four small vertical tanks for black oils and six small horizontal tanks for gasoline together with five service tanks. Bulk trucks were filled here with both gasoline and fuel oils and there were filling arrangements for packages. The plant was handily situated on the Whangpoo Canal so that both bulk and packaged products could be delivered across the river from the main installations by lighter. There were two jetties on the canal where the lighters could unload. There were four good sized warehouses at this installation.

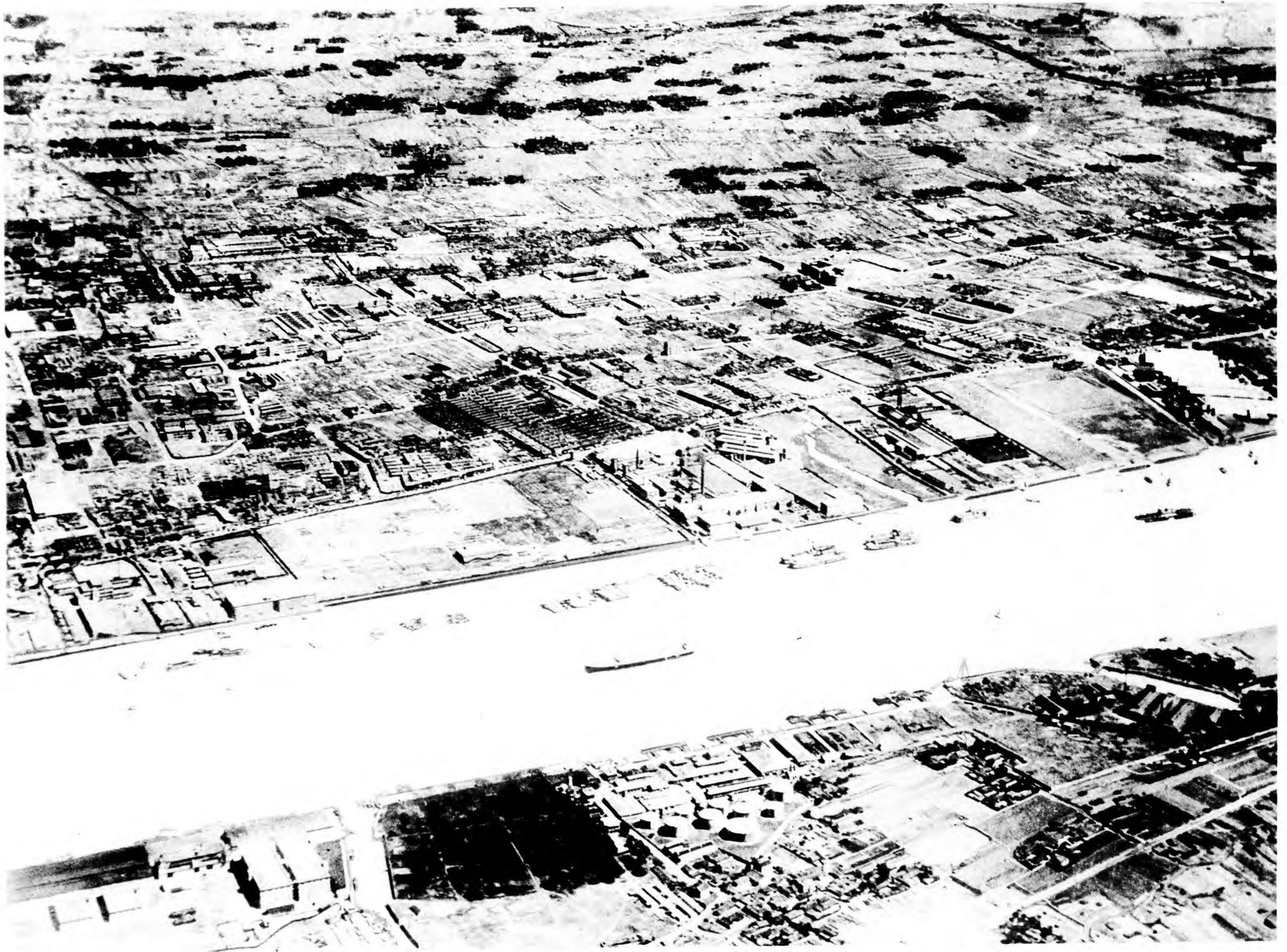
This installation is said to have been damaged during the fighting in Shanghai in 1937. Its present condition is not known.

No drawing of this plant has been made. The location is shown on page 100.

Standard-Vacuum Oil Company sub-installation at Yangtzepoo.- This small installation was situated near that of Asiatic on the Whangpoo Canal and was used principally for the distribution of bulk gasoline. There were two small storage tanks and a warehouse.

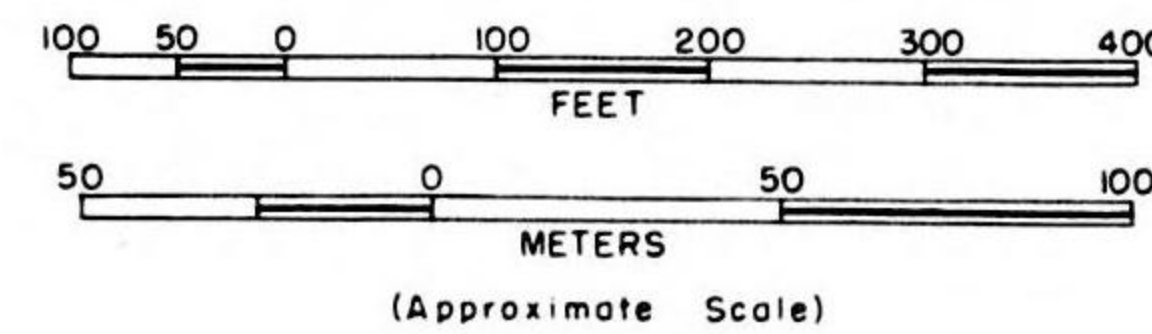
The present condition of this plant is not known.

No drawing has been made. The location appears on the map on page 100.



AIR VIEW OF WHANGPOO RIVER, SHANGHAI, SHOWING ASIATIC PETROLEUM CO.
LOWER WHARF INSTALLATION ON NEAR SIDE OF RIVER IN FOREGROUND

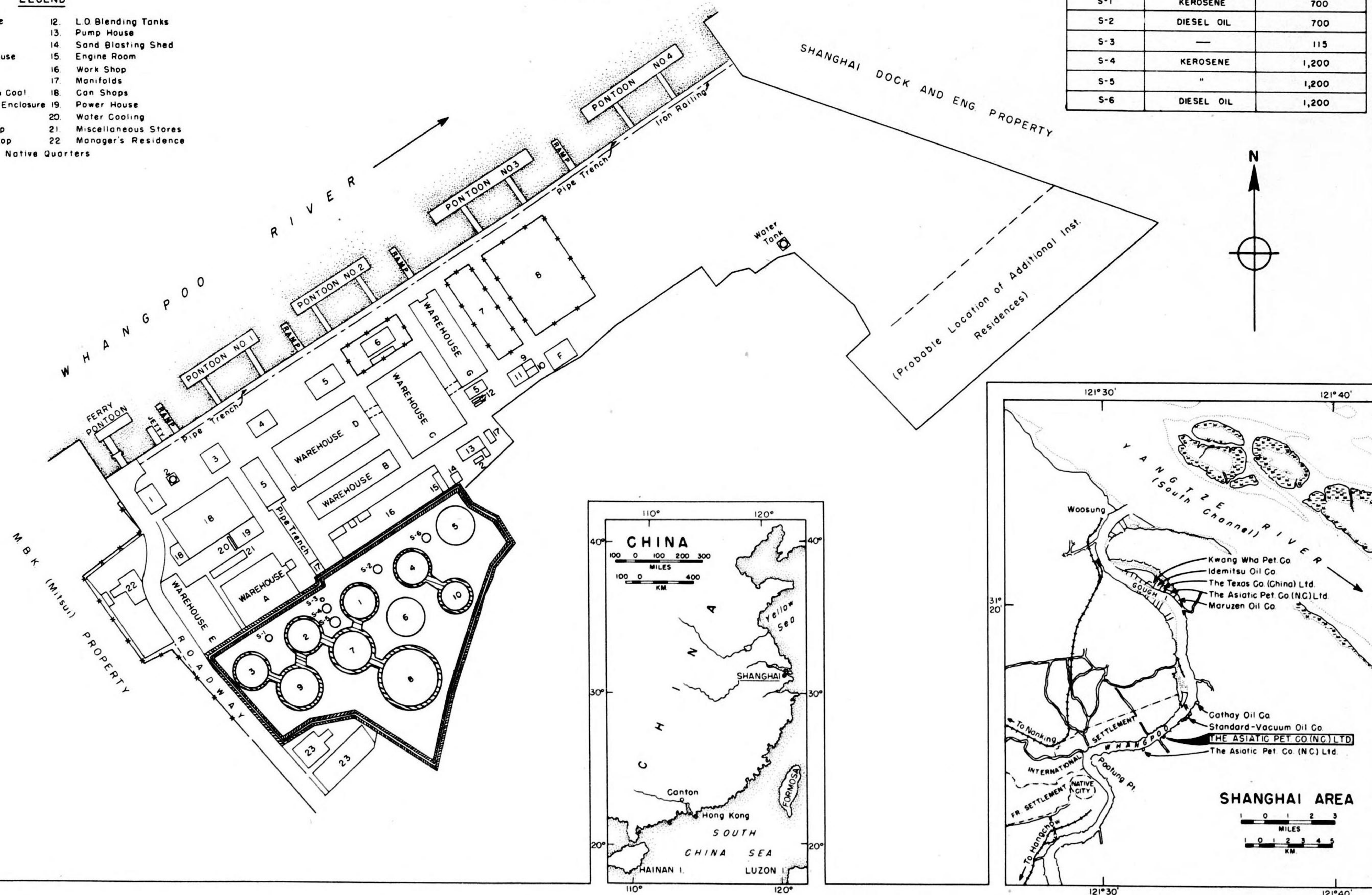
NORTH CHINA SHANGHAI (LOWER WHARF) INSTALLATION THE ASIATIC PETROLEUM CO. (N.C.) LTD. (ROYAL DUTCH SHELL)



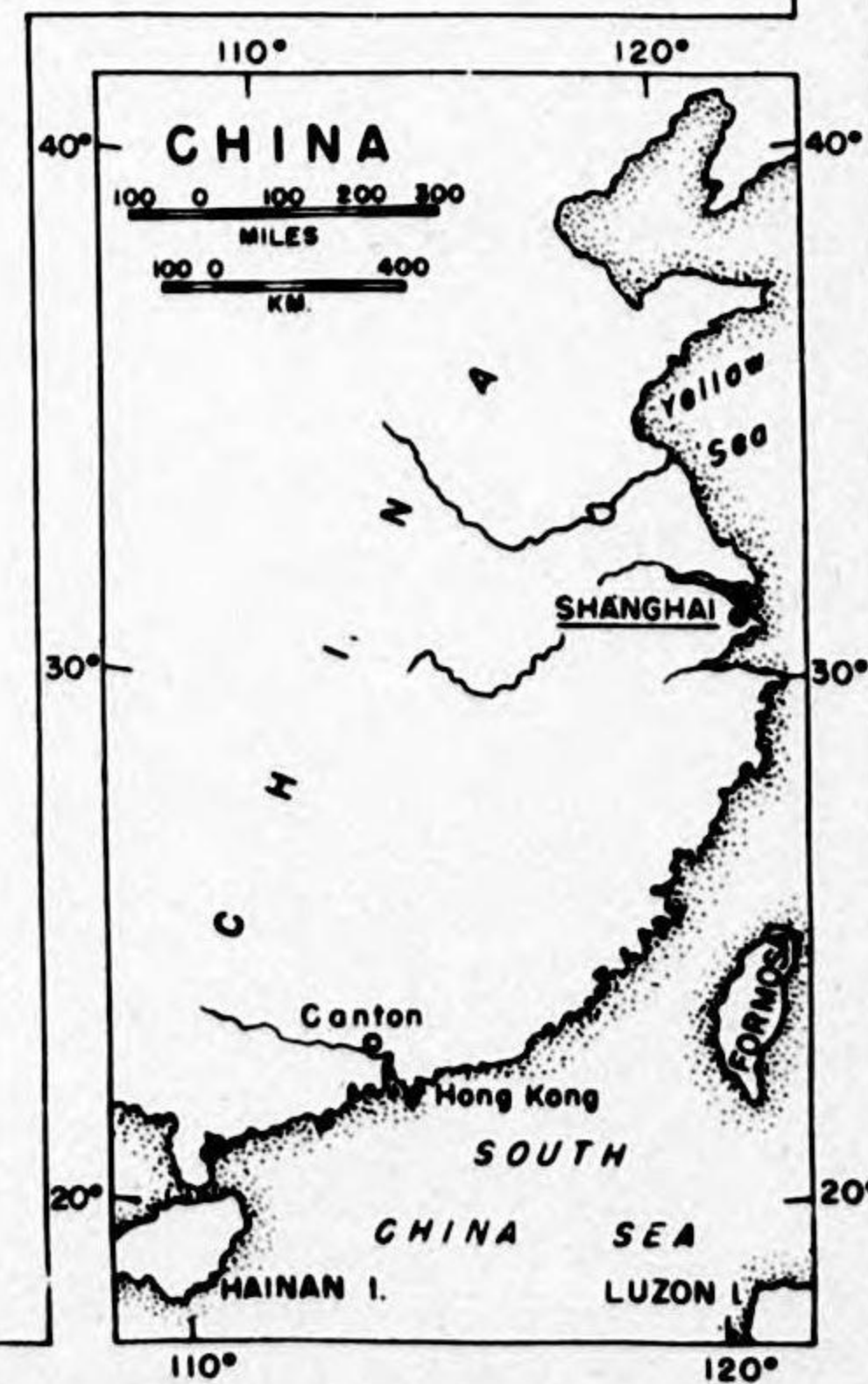
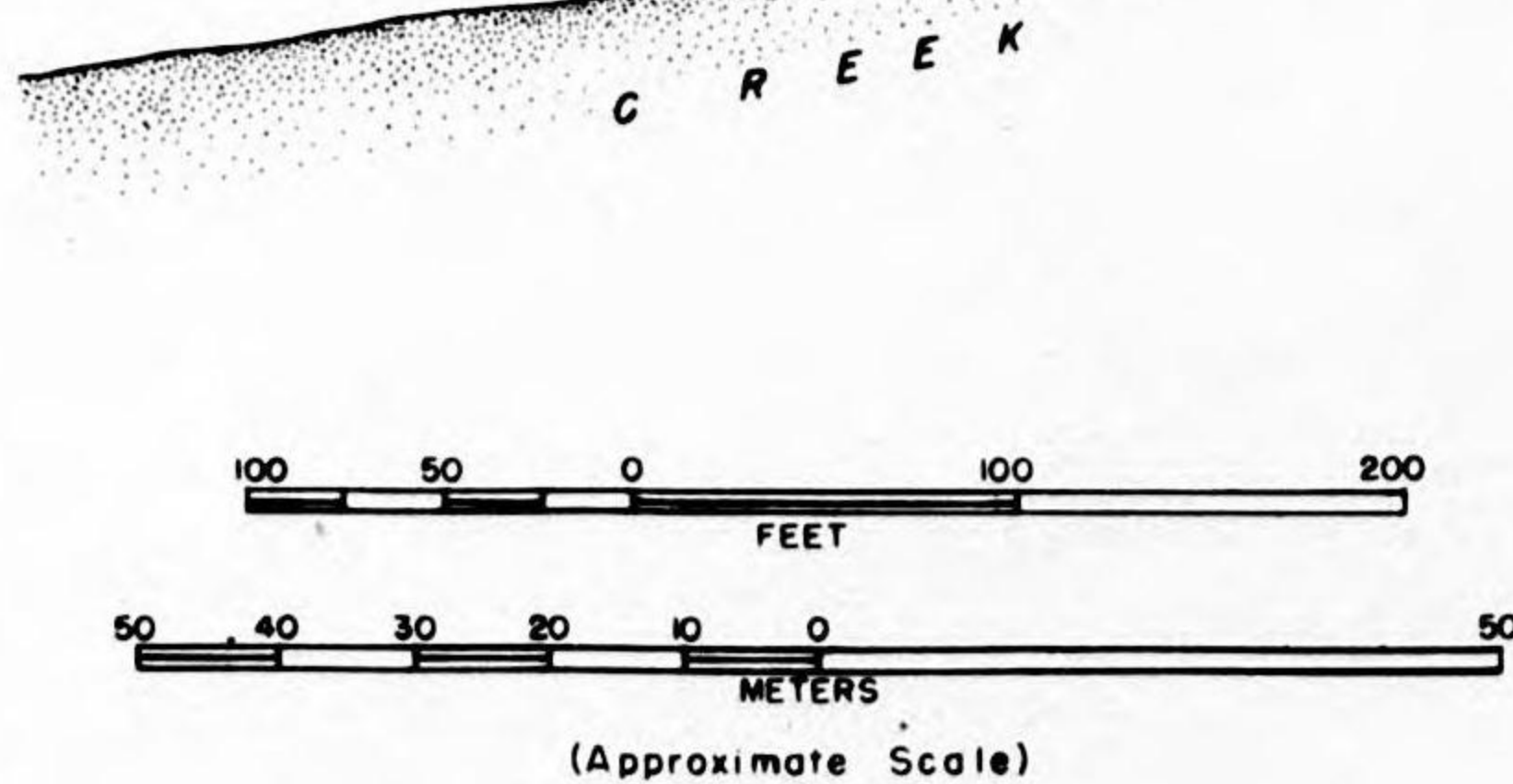
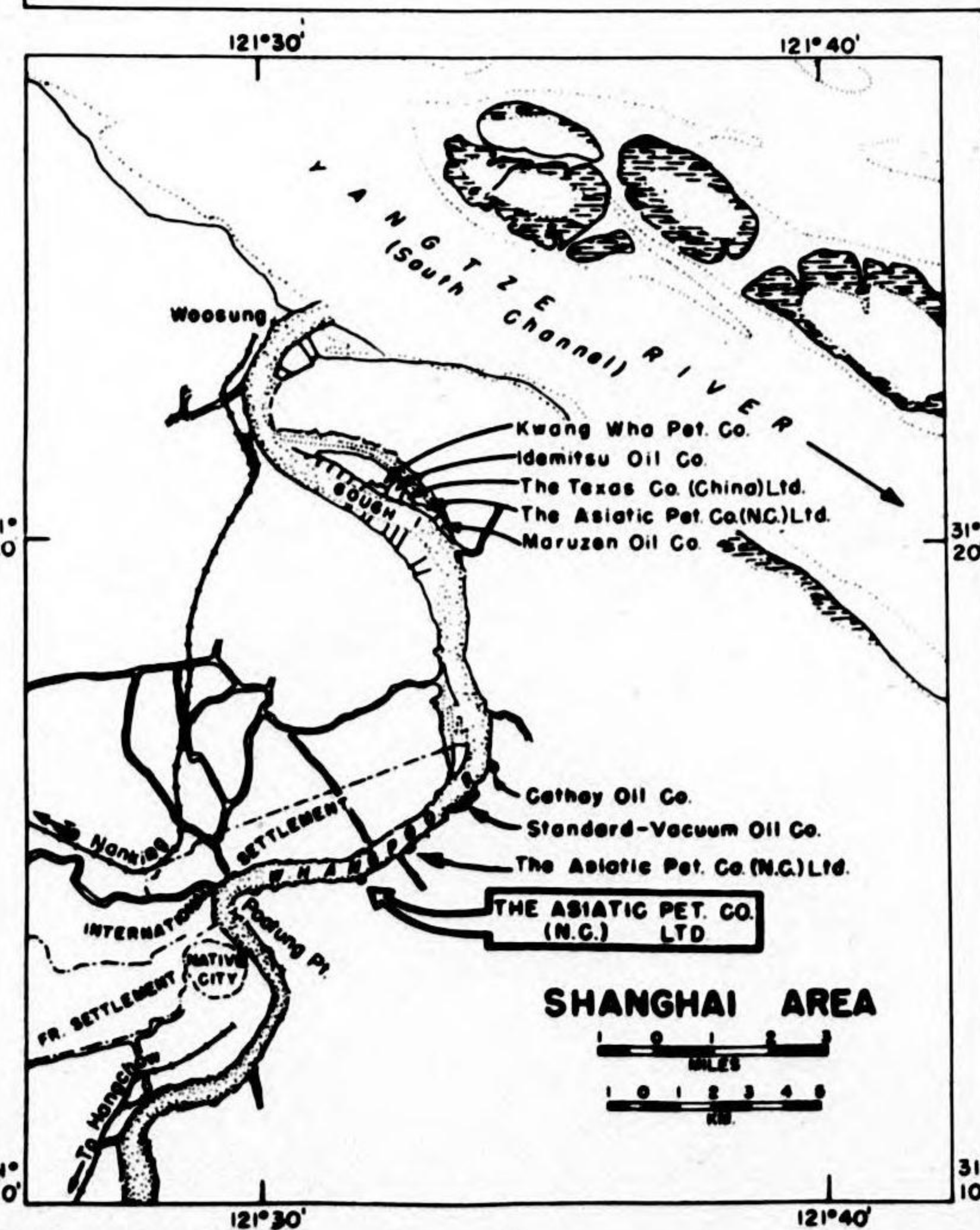
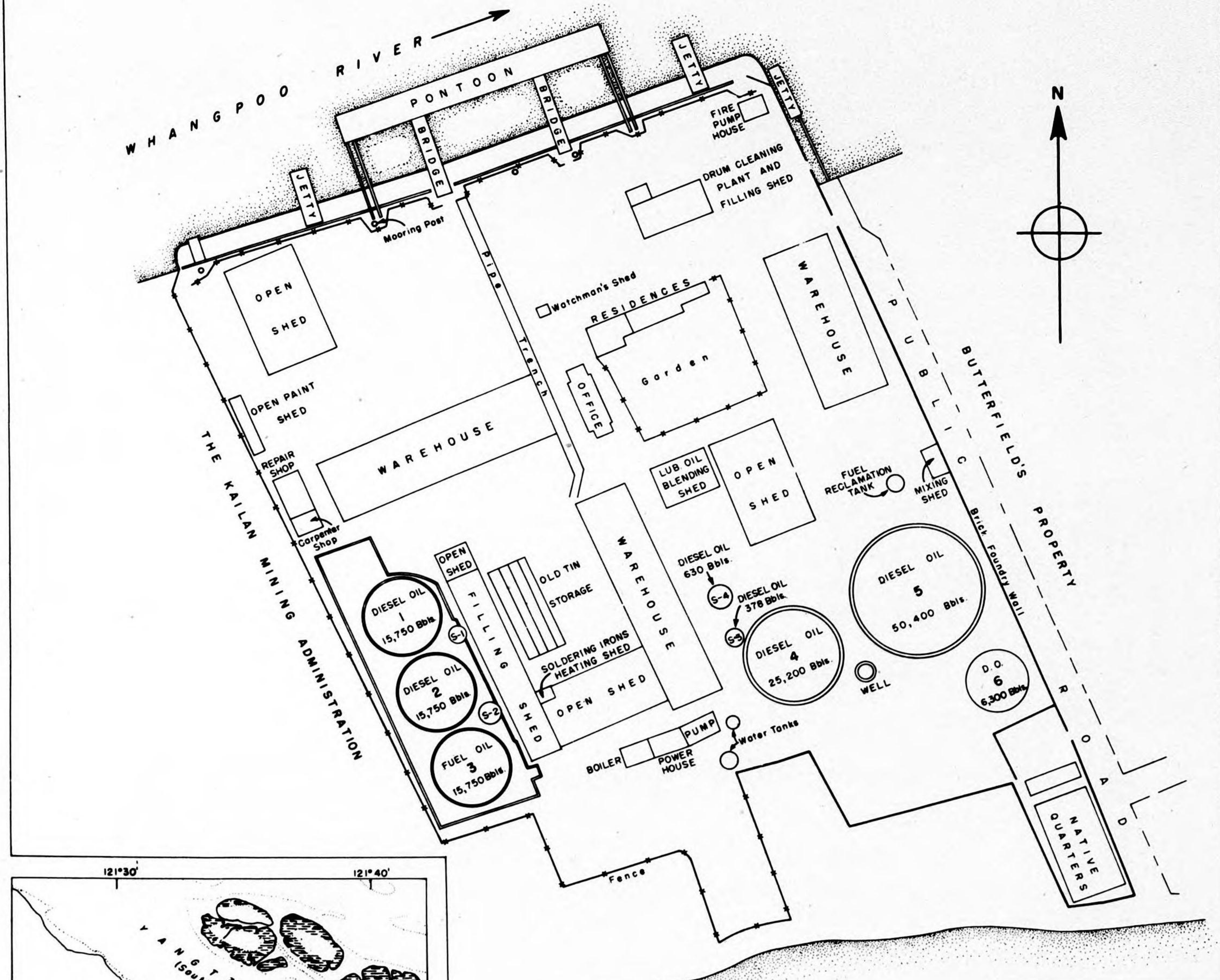
LEGEND

- | | |
|-----------------------------|--------------------------|
| 1. Customs Office | 12. L.O Blending Tanks |
| 2. Water Tanks | 13. Pump House |
| 3. Office | 14. Sand Blasting Shed |
| 4. Staff Mess House | 15. Engine Room |
| 5. Filling Sheds | 16. Work Shop |
| 6. Residence | 17. Manifolds |
| 7. Marine Stores & Coal | 18. Can Shops |
| 8. General Stores Enclosure | 19. Power House |
| 9. Fitter | 20. Water Cooling |
| 10. Carpenter Shop | 21. Miscellaneous Stores |
| 11. Blacksmith Shop | 22. Manager's Residence |
| 23. Native Quarters | |

TANKS		
NO.	PRODUCT	CAPACITY (Bbls)
1	KEROSENE	16,300
2	"	16,340
3	"	16,340
4	DIESEL OIL	10,600
5	"	30,675
6	"	30,600
7	KEROSENE	30,600
8	DIESEL OIL	53,780
9	KEROSENE	30,620
10	DIESEL OIL	14,760
S-1	KEROSENE	700
S-2	DIESEL OIL	700
S-3	"	115
S-4	KEROSENE	1,200
S-5	"	1,200
S-6	DIESEL OIL	1,200



NORTH CHINA
SHANGHAI (UPPER WHARF) INSTALLATION
ASIATIC PETROLEUM CO. (N.C.) LTD.
(ROYAL DUTCH SHELL)



The Texas Company (China) Ltd., city installation at Yangtzepoo.- This company maintained a city bulk installation a short distance north of the other plants. Particulars are not available and no drawing has been made.

Kwang Wha Petroleum Company, city installation at Yangtzepoo.- This bulk installation was situated on "The Point", the reclaimed portion of the Tunghow Flats directly across the canal from Yangtzepoo. It was a station of considerable size with 13 small tanks but it is not known what products were stocked there and no plan of it is available. See map on page 100 for location.

Cathay Oil Company Pootung installation.- This small installation was owned by a company believed to have been financed by Chinese capital and managed by foreigners. It was situated at Pootung across the Whangpoo River from the International Settlement and about six miles up the river from Gough Island. The business of this company was in kerosene and lubricating oils, but they were not yet well established. No plan of this installation and no particulars are available.

Reconnaissance in 1944 shows that only one tank of about 50 feet diameter remains at this site.

Marine equipment.- The three major companies maintained the following marine equipment at Shanghai:

Asiatic Petroleum Company

- 9 Bulk oil tankers of 300 to 1,800 tons capacity
- 11 Self-propelled bulk barges of 50 to 100 tons capacity
- 17 Dumb bulk barges of 50 to 400 tons capacity
- 1 Self-propelled barge for packages of 60 tons capacity
- 14 Dumb barges for packages of 40 to 60 tons capacity
- 4 Sailing junks for packages of 20 to 65 tons capacity
- 16 Sampans for packages of 20 tons capacity each
- 10 Launches
- 6 Motor tugs
- 3 Steam tugs
- 2 House boats

This fleet was controlled from Shanghai but was used up and down the coast and up the Yangtze River.

Standard-Vacuum Oil Company

- 2 Small river steamers for both bulk and package cargo
- 3 Motor vessels
- 4 Motor barges for both bulk and package cargo
- 5 Sailing junks for bulk cargo
- 6 Dumb lighters for bulk and package cargo
- 4 Motor sampans
- 1 Other sampan
- 3 Motor launches

This fleet was used principally on the Yangtze River. The company also owned other floating equipment based at points farther up-river.

Texas Company

- 1 Bulk lighter for gasoline - 50 tons capacity
- 1 Tug with accommodation for 9 tons package cargo
- 2 Motor launches

Distribution. - The territory supplied from the Shanghai installations was as follows:

- (1) Shanghai local market by company craft
- (2) Supplementary stocks during low water seasons to Tientsin, Chinkiang, Pukow, Wuhu, Kuikiang and Hankow installations and Hsiakwan (Nanking) sub-installation by company craft (APC and SVOC only).
- (3) Markets along the Chekiang and Shantung coasts by company craft (APC and SVOC only)
- (4) Markets on the Yangtze River by company craft (APC and SVOC only)
- (5) Markets on inland waterways by company craft (APC and SVOC only)
- (6) By rail to Zankow and Soochow
- (7) By rail to Nanking and via Pukow to northern rail points
- (8) By junk to many markets in the delta and along the river

The table below shows the points in the territory supplied from Shanghai, where facilities were maintained by the oil companies and the methods of supply.

Points Supplied From Shanghai

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied*</u>
Yangtzepoo	Kiangsu	APC	Sub-installation	(1)
"	"	SVOC	"	(1)
"	"	Texas Co.	"	(1)
Chinkiang	"	APC	Ocean terminal	(2)
"	"	SVOC	"	(2)
"	"	Texas Co.	Warehouse	(8)
Nanking	"	"	"	(8)
"	(Sanchaho)	APC	Bulk depot	(4)
"	(Hsiakwan)	SVOC	Sub-installation	(4)
Pukow	Kiangsu	APC	Bulk depot	(4)
"	"	SVOC	Ocean terminal	(2)
Kiukiang	"	APC	"	(2)
"	"	SVOC	"	(2)
Hankow	Hupeh	APC	"	(2)
"	"	SVOC	"	(2)
Tientsin	Hopeh	APC	"	(2)
Wuhu	Anhwei	"	Sub-installation	(4)
"	"	Texas Co.	Warehouse	(8)
"	"	SVOC	Ocean terminal	(2)
Ningpo	Chekiang	APC	Sub-installation	(3)
"	"	SVOC	"	(3)
Tungchow	Kiangsu	APC	"	(4)
"	"	SVOC	"	(4)
Soochow	"	APC	"	(5) and-(6)
"	"	SVOC	"	(5) and-(6)
Nanchang	Kiangsi	Texas Co.	Warehouse	(8)
Haimen	Chekiang	APC	Sub-installation	(3)
"	"	SVOC	"	(3)
Wenchow	"	APC	Warehouse	(3)
"	"	SVOC	Sub-installation	(3)

(*) Refer to preceding paragraph.

Points Supplied From Shanghai (Continued)

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied*</u>
Anking	Anhwei	APC	Bulk depot	(4)
Kashing	Chekiang	APC	Sub-installation	(5)
"	"	SVOC	Sub-installation	(5)
Konzenchiao	"	APC	Bulk depot	(5)
Kunshan	Kiangsu	APC	" "	(5)
"	"	SVOC	" "	(5)
Luhö	"	APC	" "	(4)
Kweiteh	Honan	APC	" "	(7)
Suchowfu	Kiangsu	APC	" "	(7)
Zahkow	Chekiang	APC	" "	(6)
"	"	SVOC	" "	(6)
"	"	"	Warehouse	(6)
Haian	Kiangsu	SVOC	Bulk depot	(5)
Jukao	"	"	" "	(5)
Yenchengku	"	"	" "	(5)
Weihaiwei	Shantung	APC	Warehouse	(3)
Chefoo	"	"	"	(3)
Lungkow	"	"	"	(3)

* Refer to preceding paragraph.

4.4.3 Soochow - Kiangsu Province

Latitude 31° 19' N., longitude 120° 37' E.

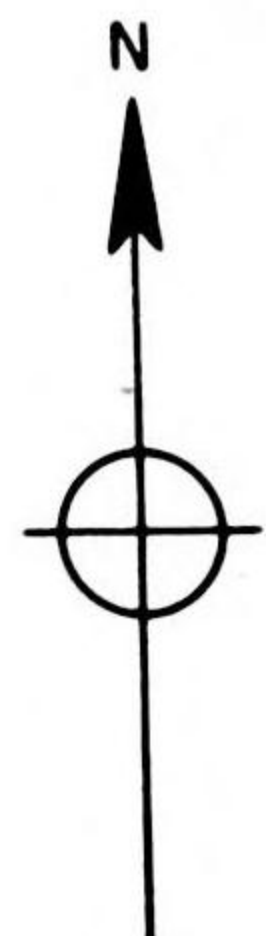
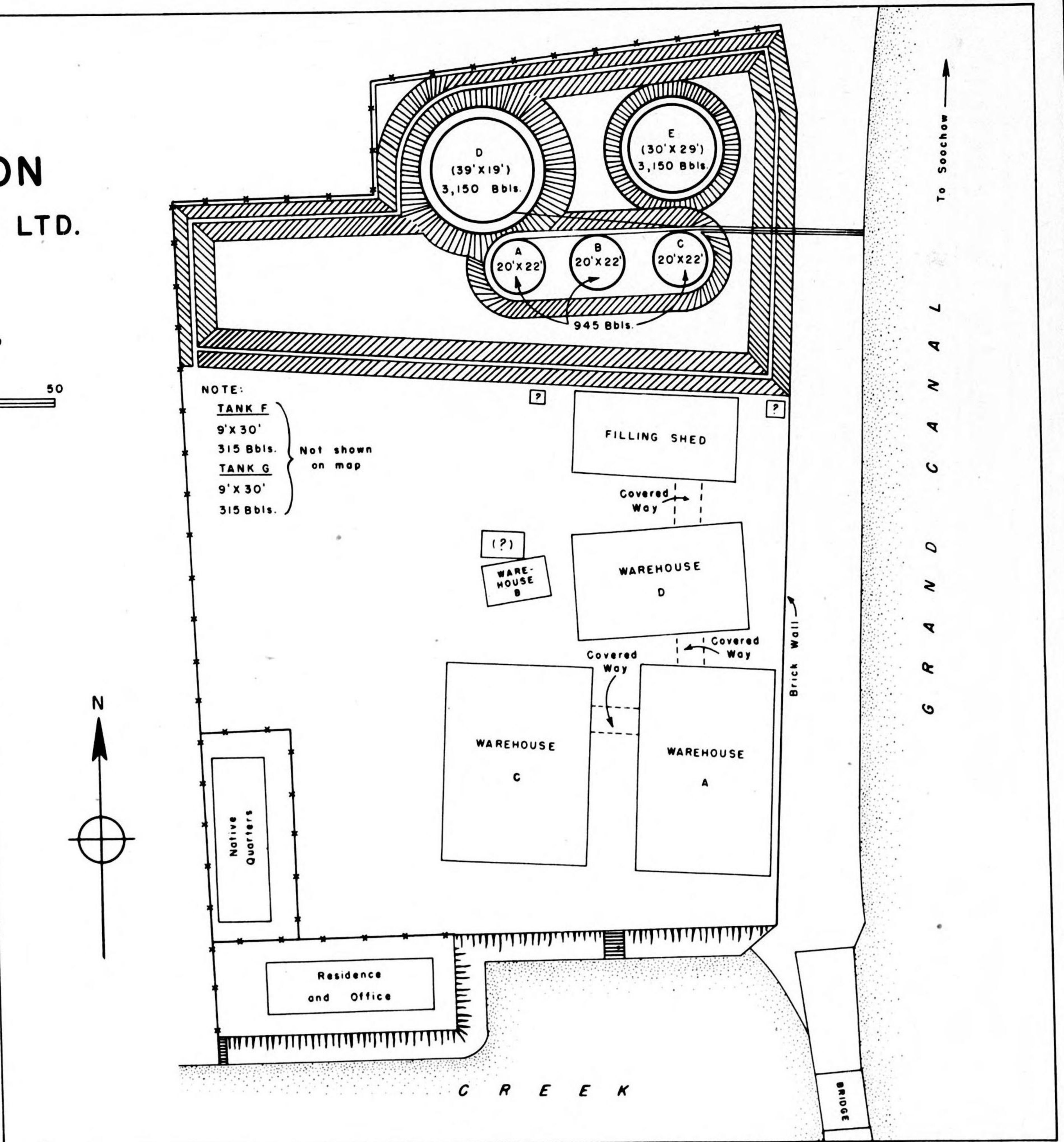
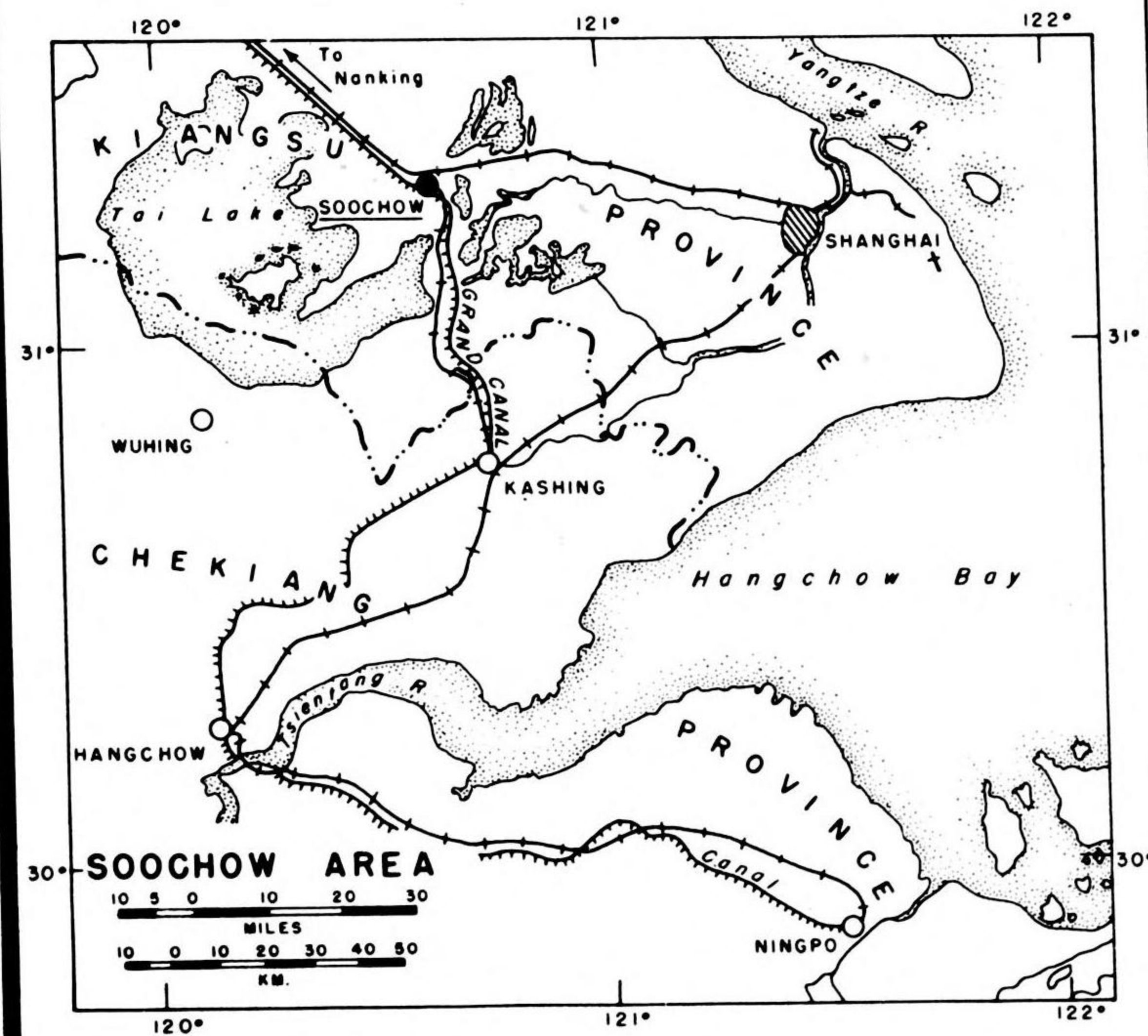
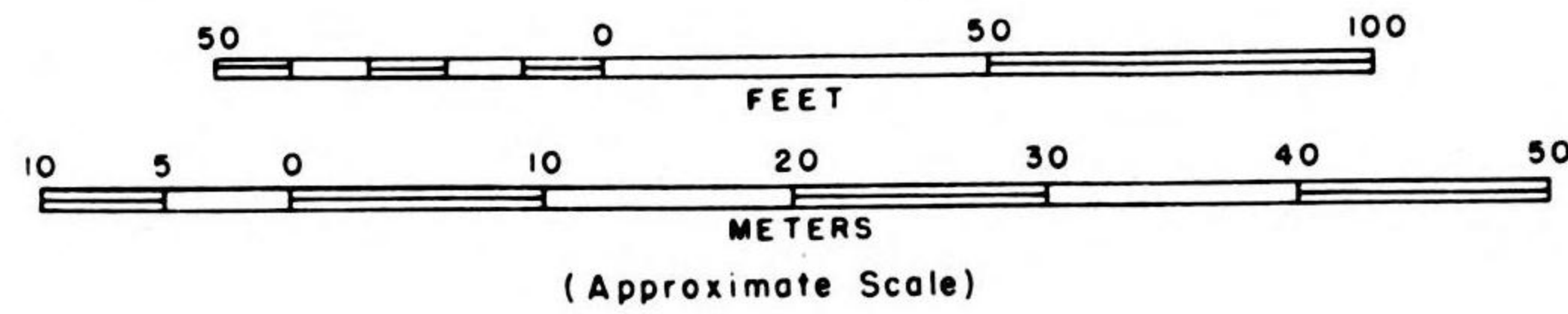
The Asiatic Petroleum Company (N.C.) Ltd., sub-installation.- This rather small plant was situated on the Grand Canal a short distance west of the city. It had two medium sized tanks for the storage of bulk kerosene and three small tanks for the storage of diesel oil. In addition there were two small filling tanks and filling facilities for both products. Gasoline was not handled in bulk at this installation. There were four warehouses, a residence and an office. Supplies reached Soochow both by rail and by water through the Soochow Creek and the Grand Canal from Shanghai. Pipe lines led down to the canal bank from the plant. Products were distributed by water to the city and surrounding markets.

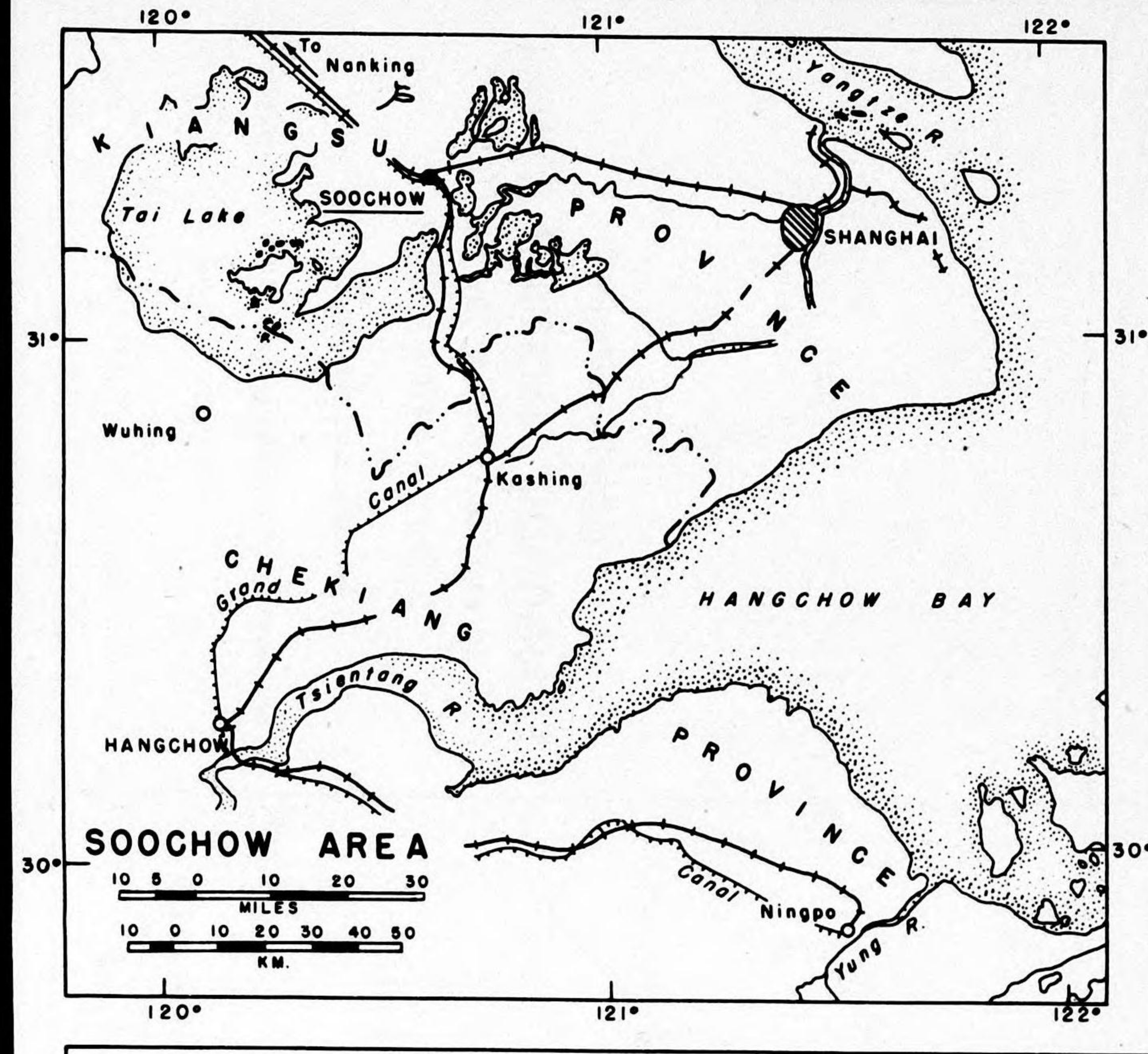
A drawing of this installation appears on page 118.

Standard-Vacuum Oil Company sub-installation.- This plant was somewhat larger than that of the Asiatic Petroleum Company and was situated on a branch canal. It had one medium and two small tanks for kerosene storage, one medium tank for diesel oil and one small tank for gasoline. There were filling arrangements for all three products and three warehouses for packaged products and one for lamps and miscellaneous goods. There were four small jetties in the canal and facilities for the discharge of bulk barges which came from Shanghai via the inland waterways. Products were delivered by water to the city market.

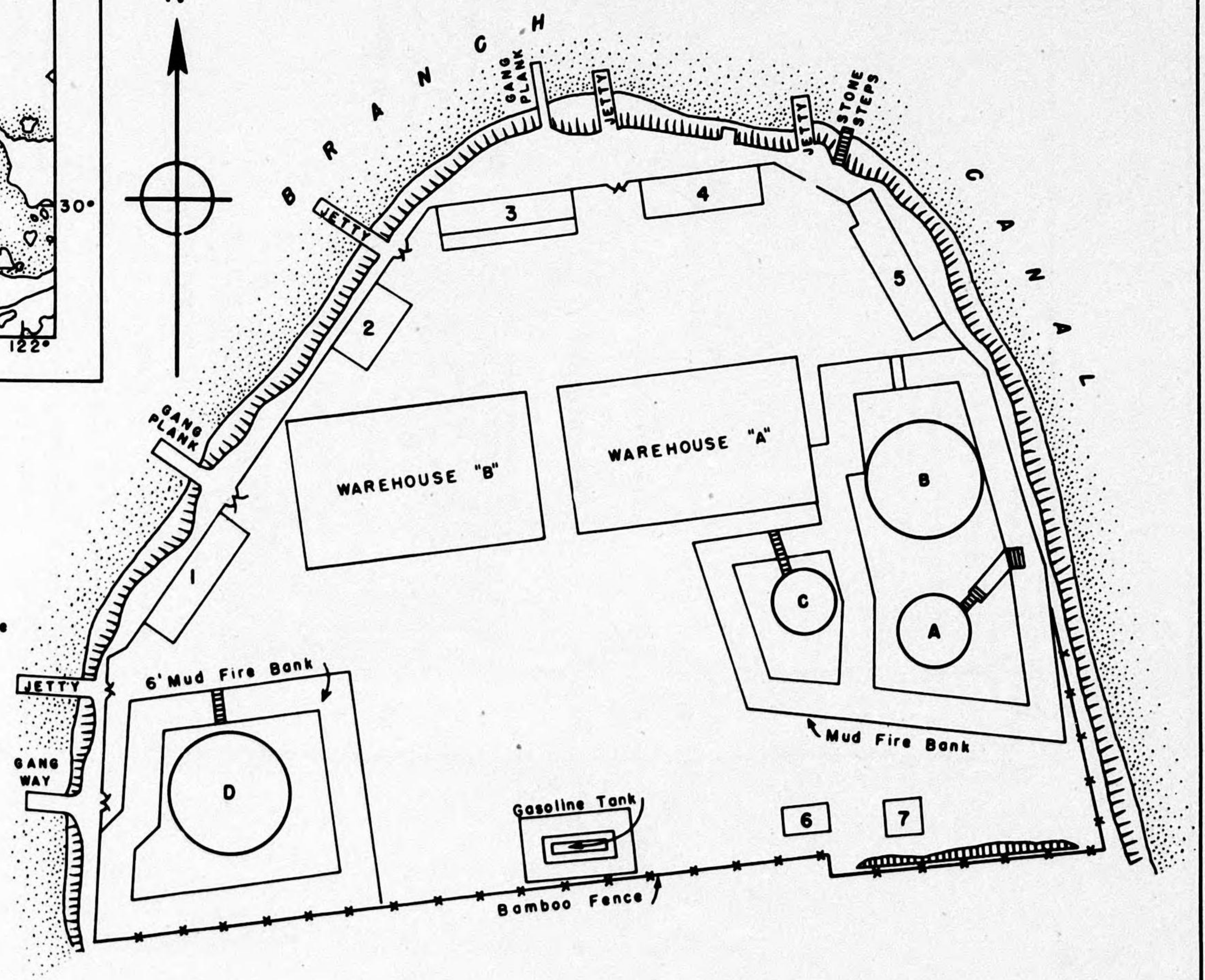
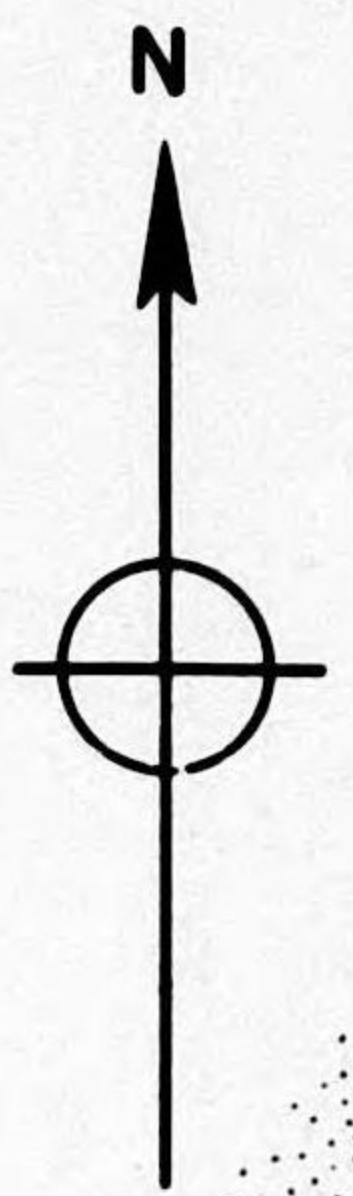
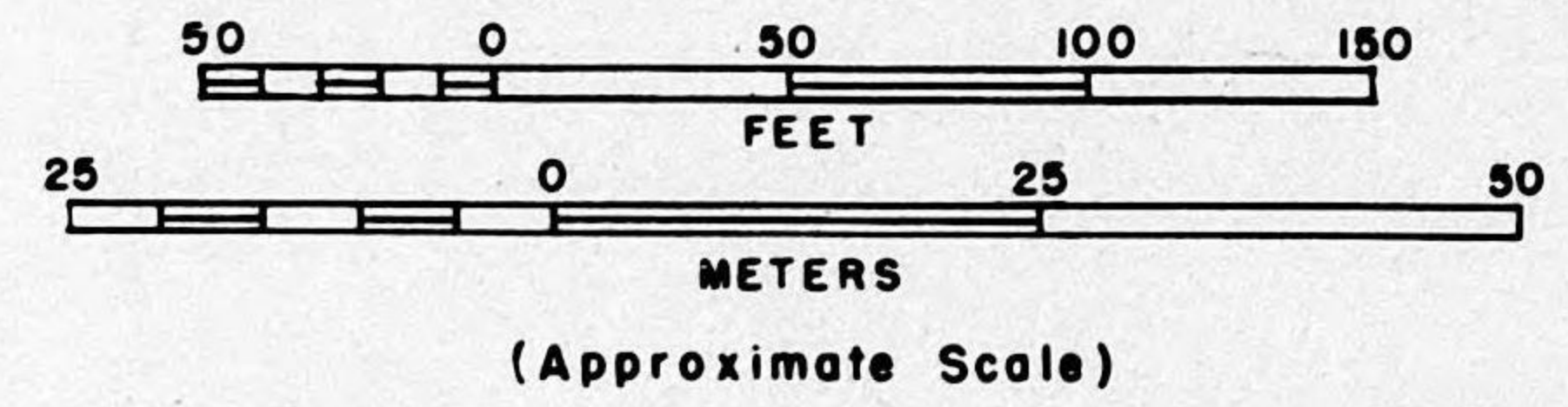
A drawing of this plant is reproduced on page 119.

NORTH CHINA
SOOCHOW INSTALLATION
THE ASIATIC PETROLEUM CO. (N.C.) LTD.
(ROYAL DUTCH SHELL)





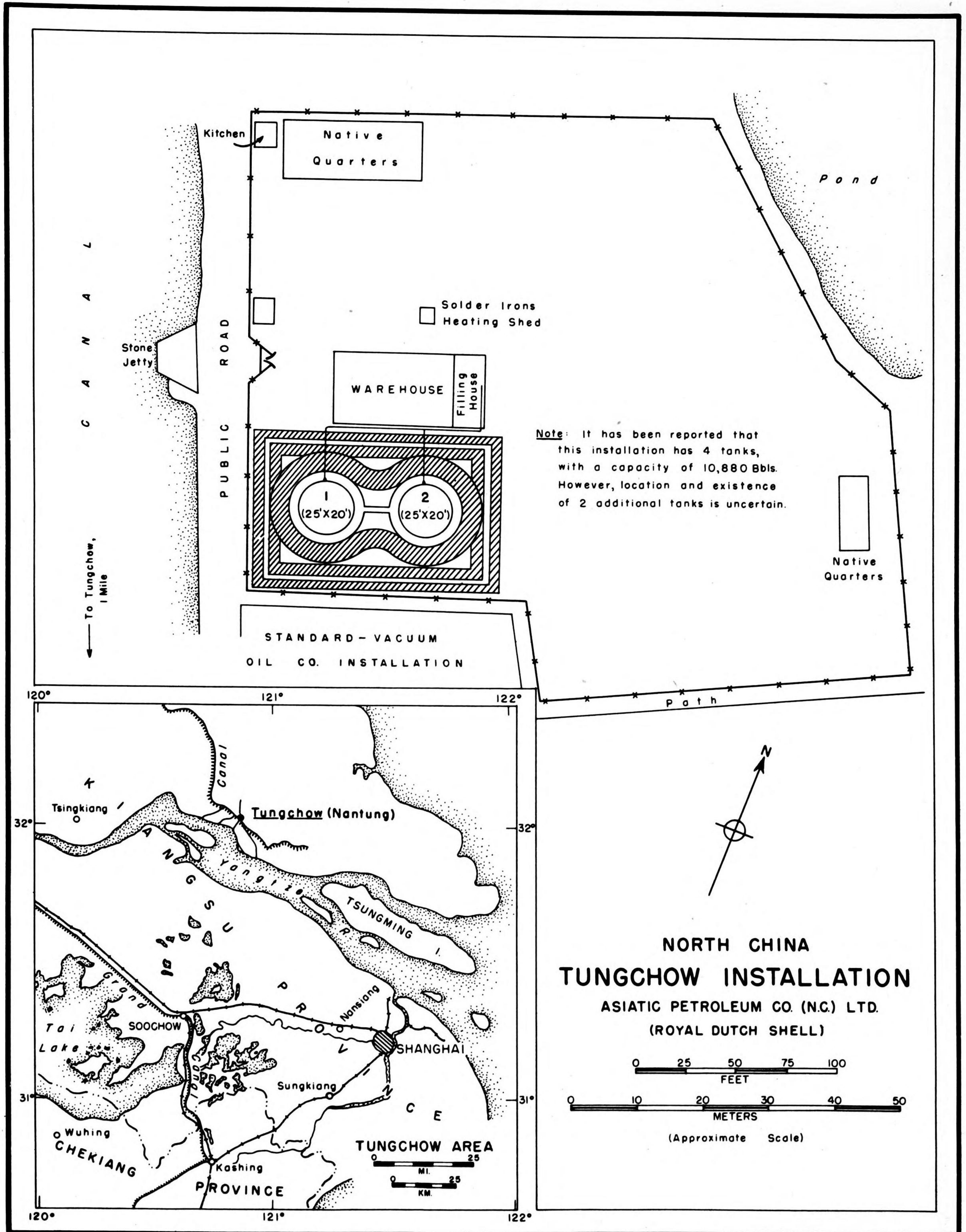
NORTH CHINA SOOCHOW INSTALLATION STANDARD-VACUUM OIL COMPANY

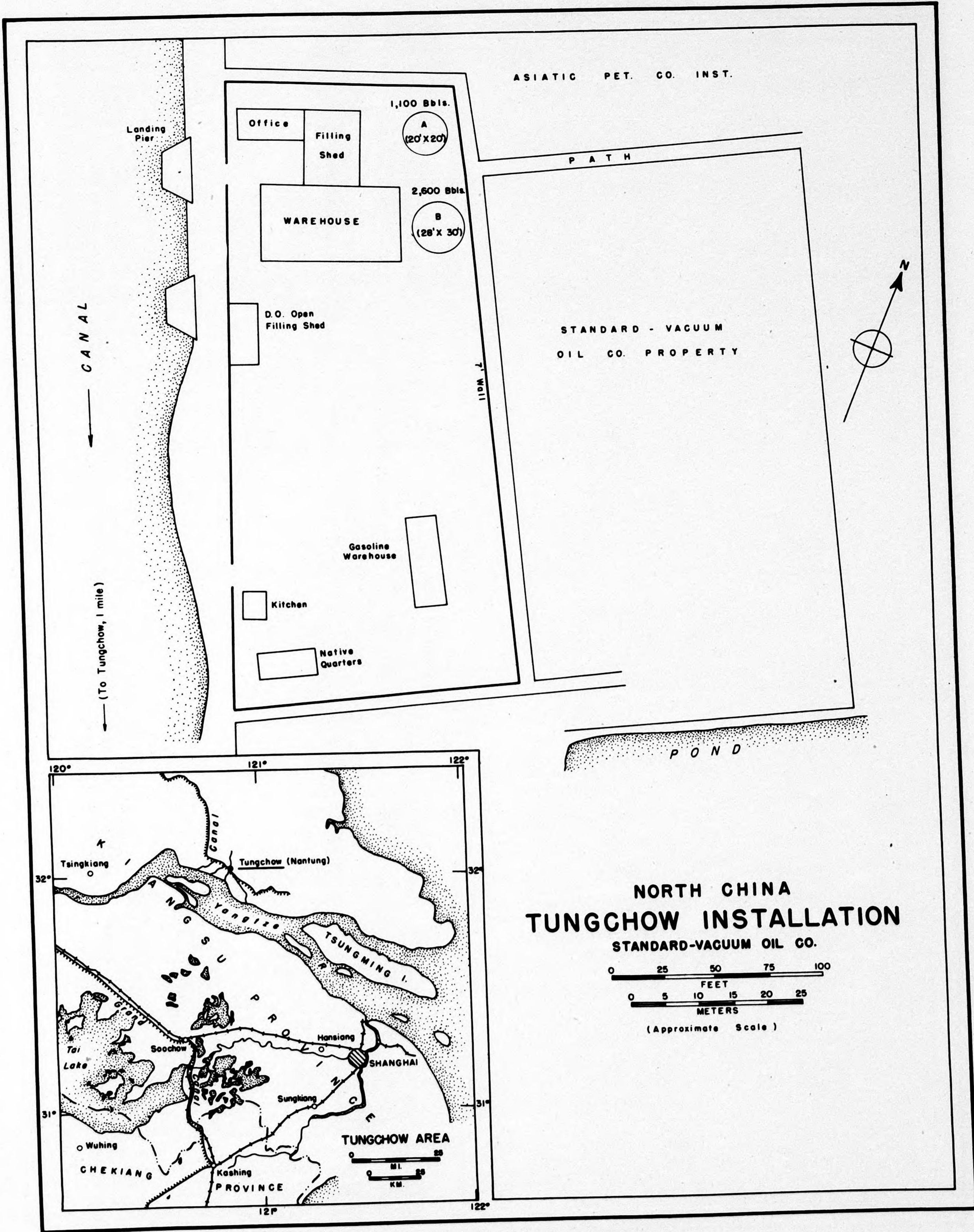


LEGEND

TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (BARRELS)
A	29' X 27'	-	3,100
B	50' X 30'	-	10,285
C	25' X 30'	-	2,600
D	50' X 30'	-	10,285
-	10' X 30'	GASOLINE	400

- 1. D.O. Filling Shed
- 2. Lamp Goods and Misc. Storage
- 3. Residence
- 4. Kerosene Filling Shed
- 5. Native Quarters and Office
- 6. Gasoline Filling Shed
- 7. Gasoline Warehouse





ASIATIC PET. CO. INST.

P A T H

STANDARD - VACUUM
OIL CO. PROPERTY

7' Wall

CANAL

(To Tungchow, 1 mile)

Gasoline
Warehouse

Kitchen

Native
Quarters

Office

Filling
Shed

WAREHOUSE

D.O. Open
Filling Shed

1,100 Bbls.

A
(20' x 20')

2,600 Bbls.

B
(28' x 30')

POND

NORTH CHINA
TUNGCHOW INSTALLATION
STANDARD-VAGUUM OIL CO.

0 25 50 75 100

FEET

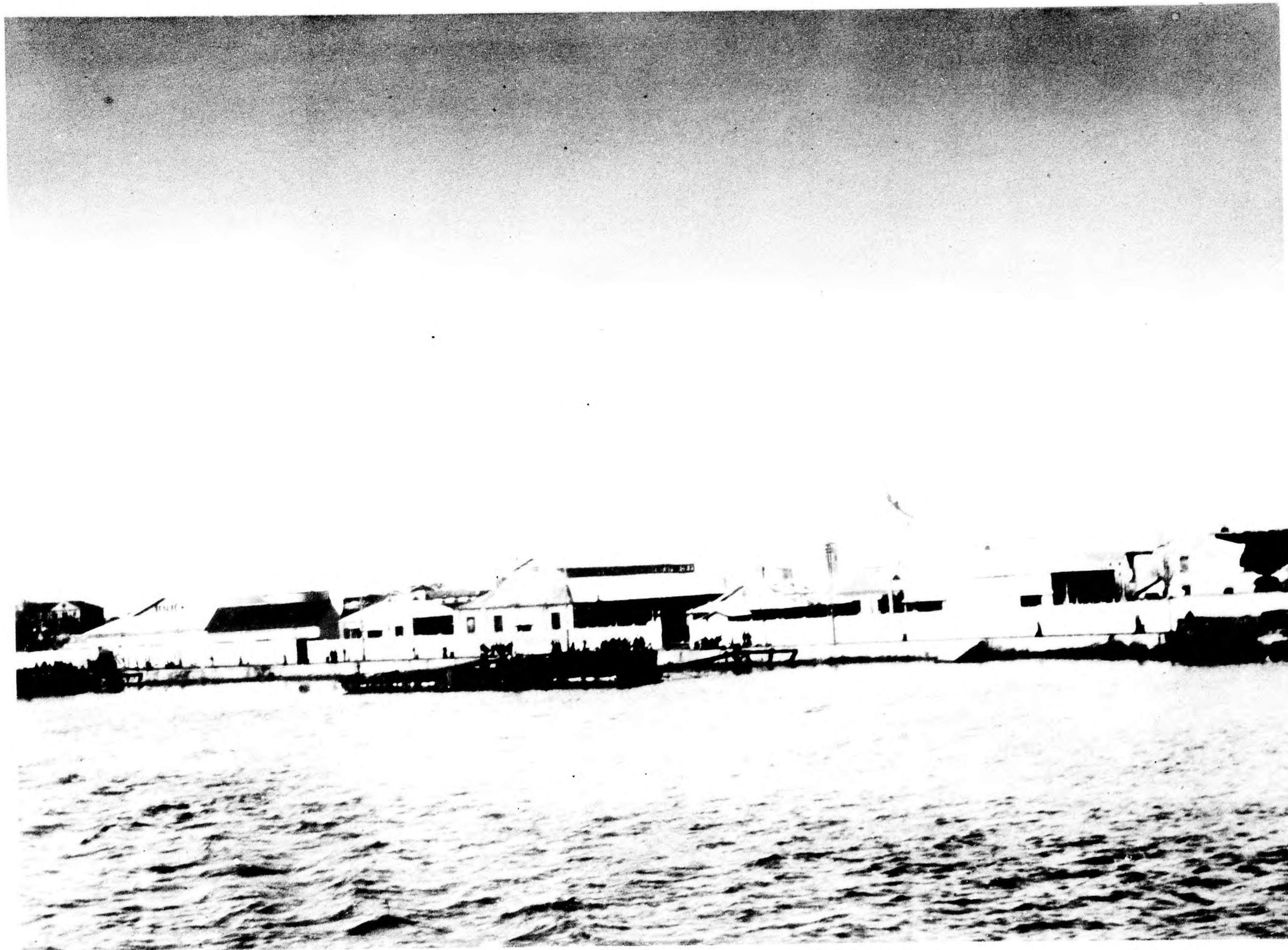
0 5 10 15 20 25

METERS

(Approximate Scale)

TUNGCHOW AREA

0 25
MI
0 25
KM



THE ASIATIC PETROLEUM CO. NINGPO INSTALLATION, WITH STANDARD-VACUUM OIL CO.
INSTALLATION AT LEFT OF PHOTOGRAPH

4.4.4 Tungchow - Kiangsu Province

Latitude 32° 2' N., longitude 120° 52' E.

The Asiatic Petroleum Company (N.C.) Ltd., sub-installation.- This small installation, situated on the east bank of the canal, north of the city had bulk storage consisting of two medium sized tanks and two small tanks. There was also a warehouse with 2,400 square feet of floor area. The installation was supplied by river from Shanghai and fed some markets in the country to the north along the canals as well as Tungchow city.

A plan of the plant appears on page 120.

Standard-Vacuum Oil Company, sub-installation.- This plant, located on the banks of the canal about one mile north of the city, was supplied by company vessels from Shanghai. It had a 2,600 barrel tank for kerosene and a 1,100 barrel tank for diesel oil and two filling sheds. There was a small warehouse for packaged gasoline storage and a large one for packaged kerosene and other products. In addition to supplying the city market, this plant served as a distributing point for other towns along the canal.

A drawing of the plant appears on page 121.

4.4.5 Ningpo - Chekiang Province

Latitude 29° 54' N., longitude 121° 32' E.

The Asiatic Petroleum Company (N.C.) Ltd., sub-installation.- This installation was situated on the west bank of the Yung River. There were three medium and one small tanks for the storage of black oils, kerosene and gasoline, two small service tanks and filling arrangements for all three products. There were four warehouses and repair facilities for drums and a superintendent's residence. A large steel pontoon in the river provided a berth for loading and unloading tankers and package cargo vessels. The installation was supplied by sea from Shanghai. Deliveries could be made by both road and water to the city and by water and to the markets along the Ningpo-Hangchow canal.

A photograph and a drawing of this plant are reproduced on pages 122 and 124.

Standard-Vacuum Oil Company, sub-installation.- This small installation was situated immediately to the south and adjoining the Asiatic installation. It had one medium sized tank for kerosene storage and a small filling tank with filling arrangements. There were three warehouses, one of which was for gasoline in packages. There was an office but no residence. A pontoon in the river with pipe line connections to the installation served for receipt and shipping of both bulk and package cargo. Supply and delivery arrangements were similar to those of the APC. The company maintained a warehouse at Yuyao, a short distance northwest of Ningpo which could be supplied by rail or canal from this installation.

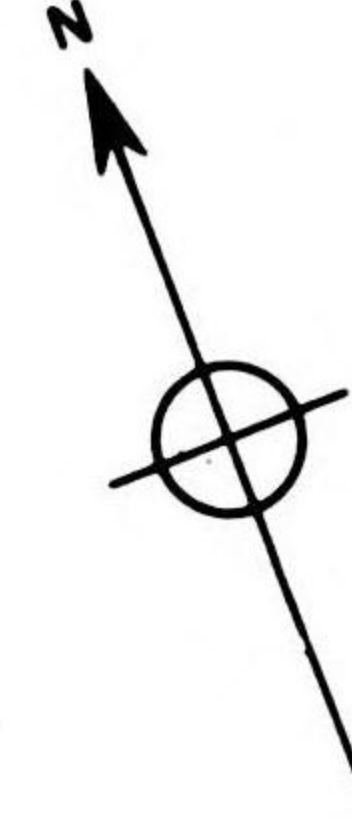
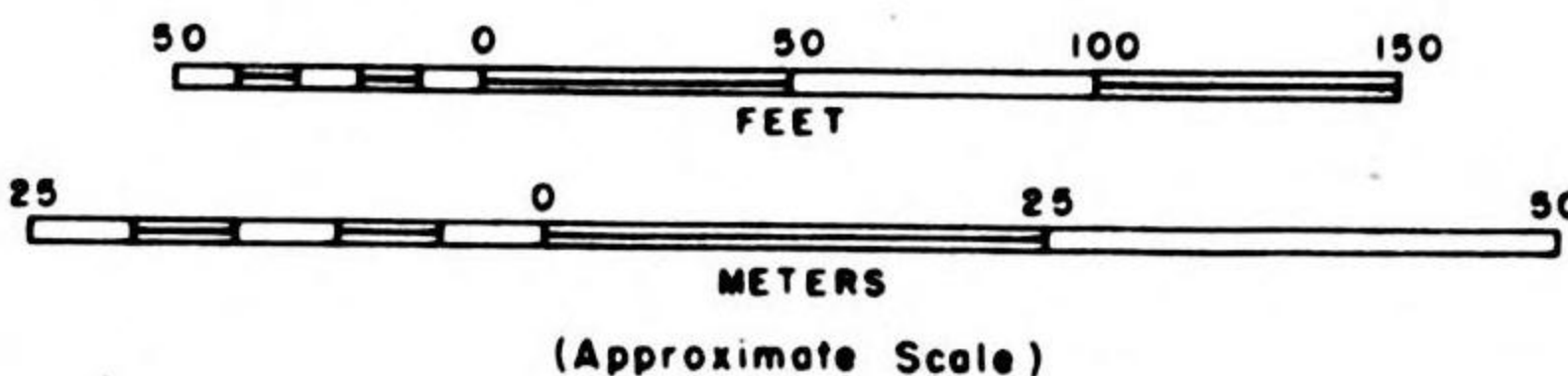
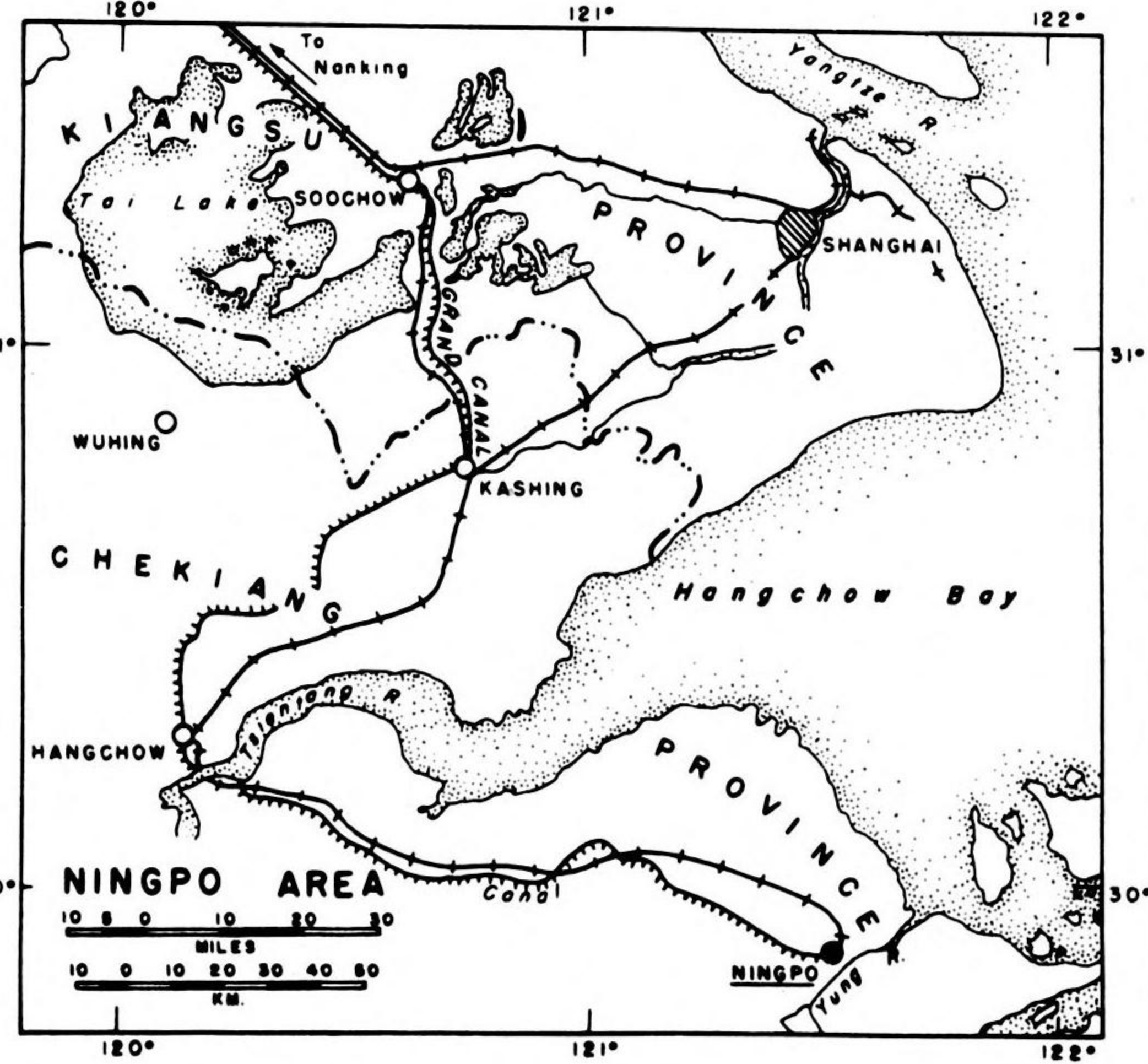
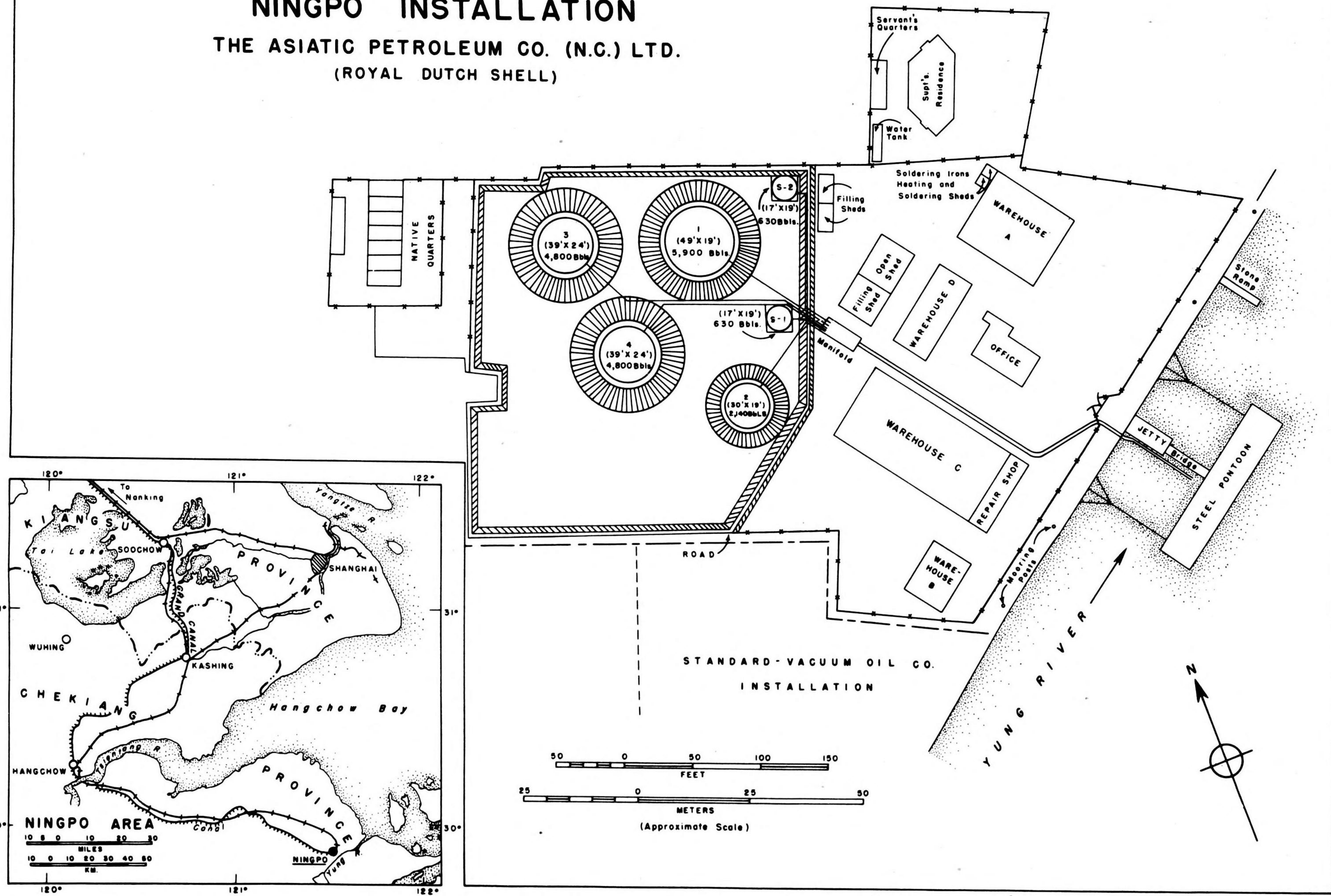
A drawing of this installation appears on page 125. The photograph on page 122 shows the plant at the left of the APC installation.

4.4.6 Wenchow - Chekiang Province

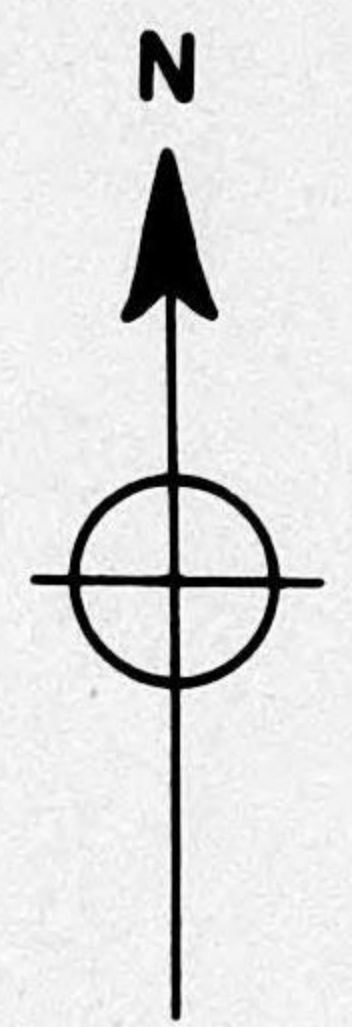
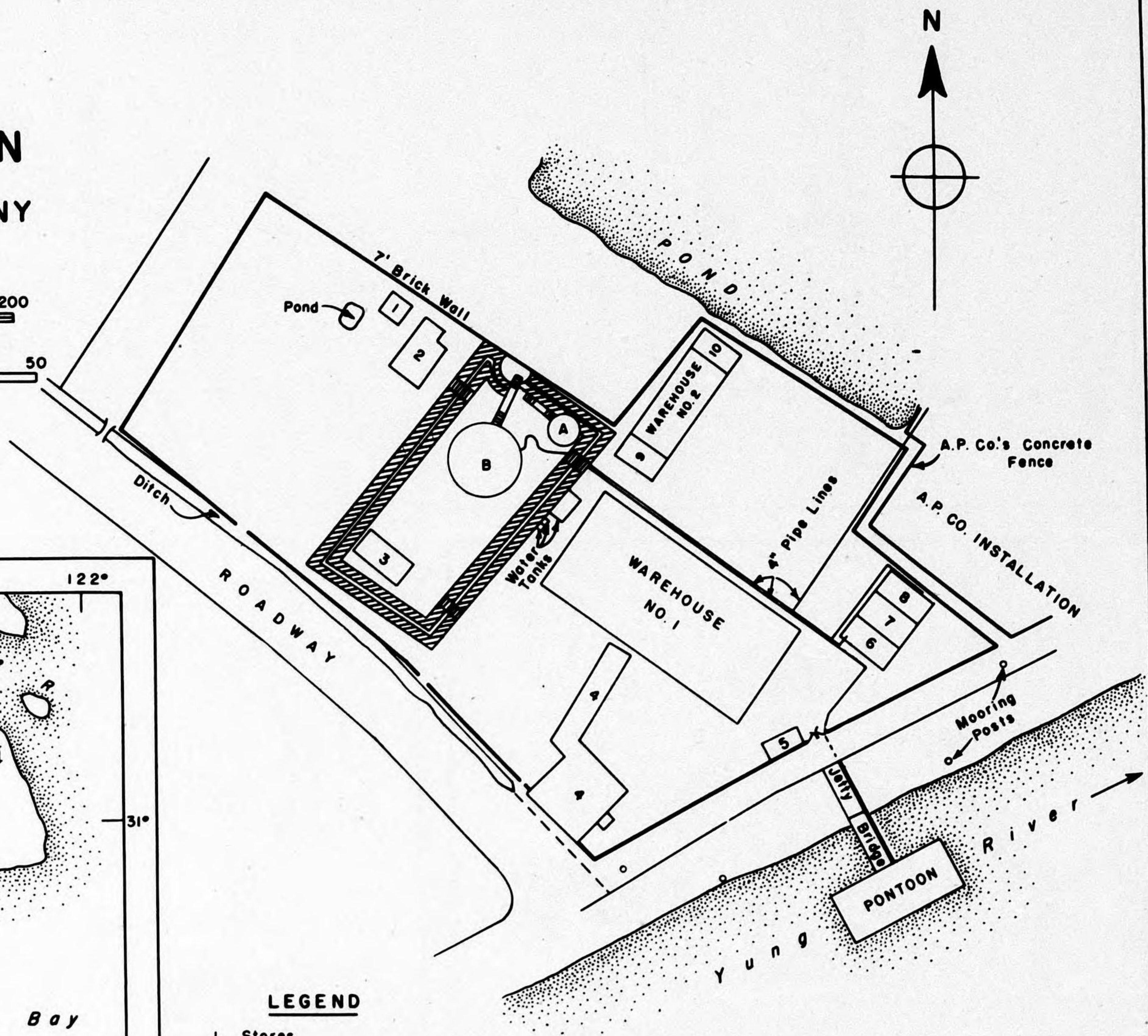
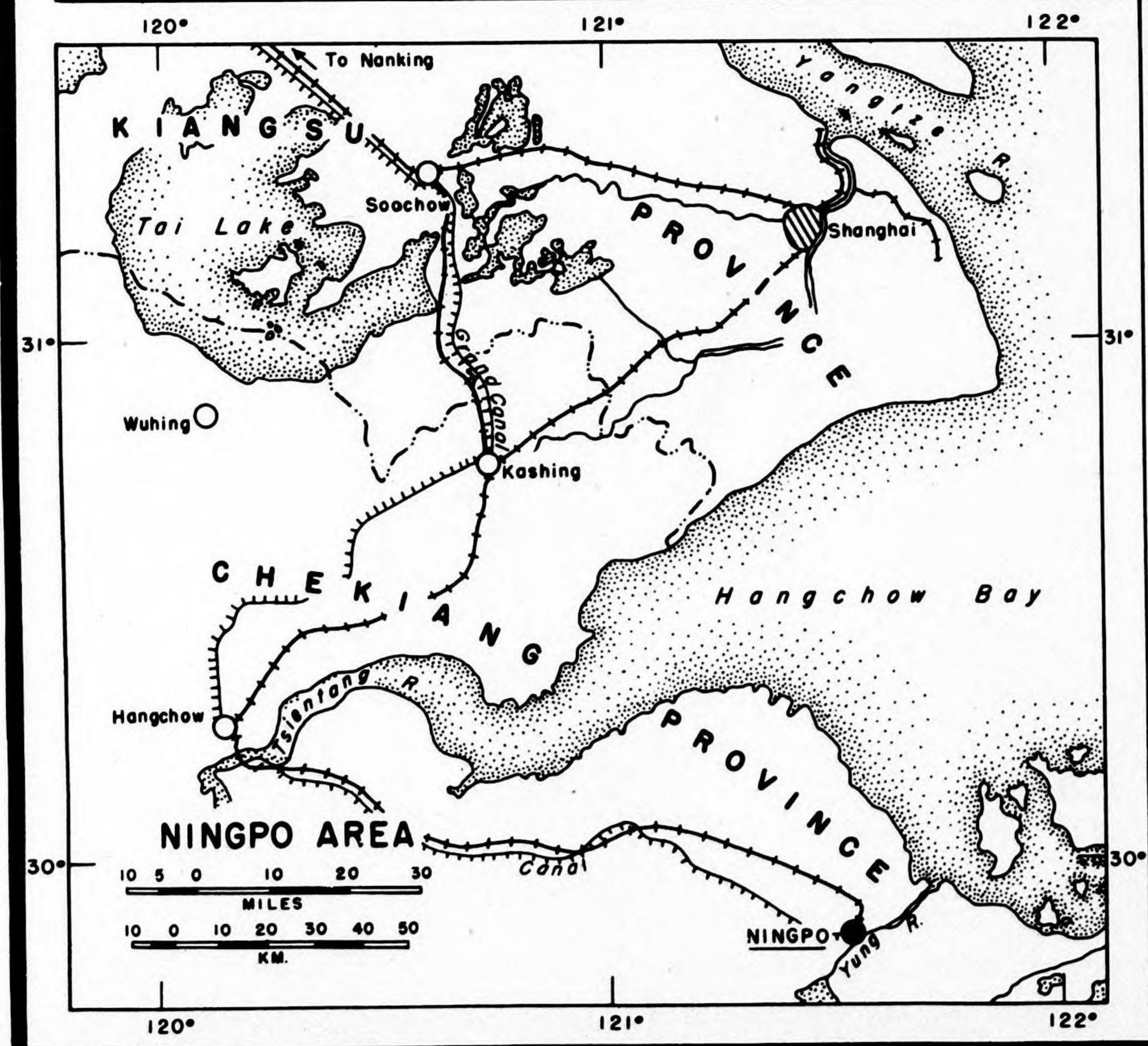
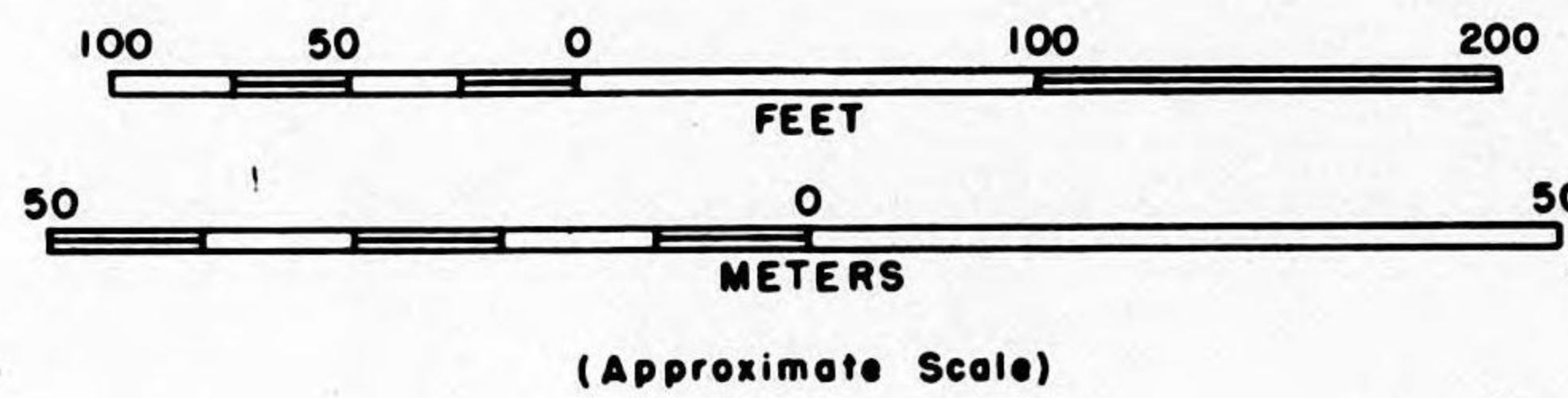
Latitude 28° 01' N., longitude 120° 38' E.

Standard-Vacuum Oil Company sub-installation.- This small installation was situated on the Wenchow River about three miles east of the city. It was supplied with bulk kerosene and packaged oil from Shanghai by company vessels and served as a dis-

NORTH CHINA
NINGPO INSTALLATION
THE ASIATIC PETROLEUM CO. (N.C.) LTD.
(ROYAL DUTCH SHELL)



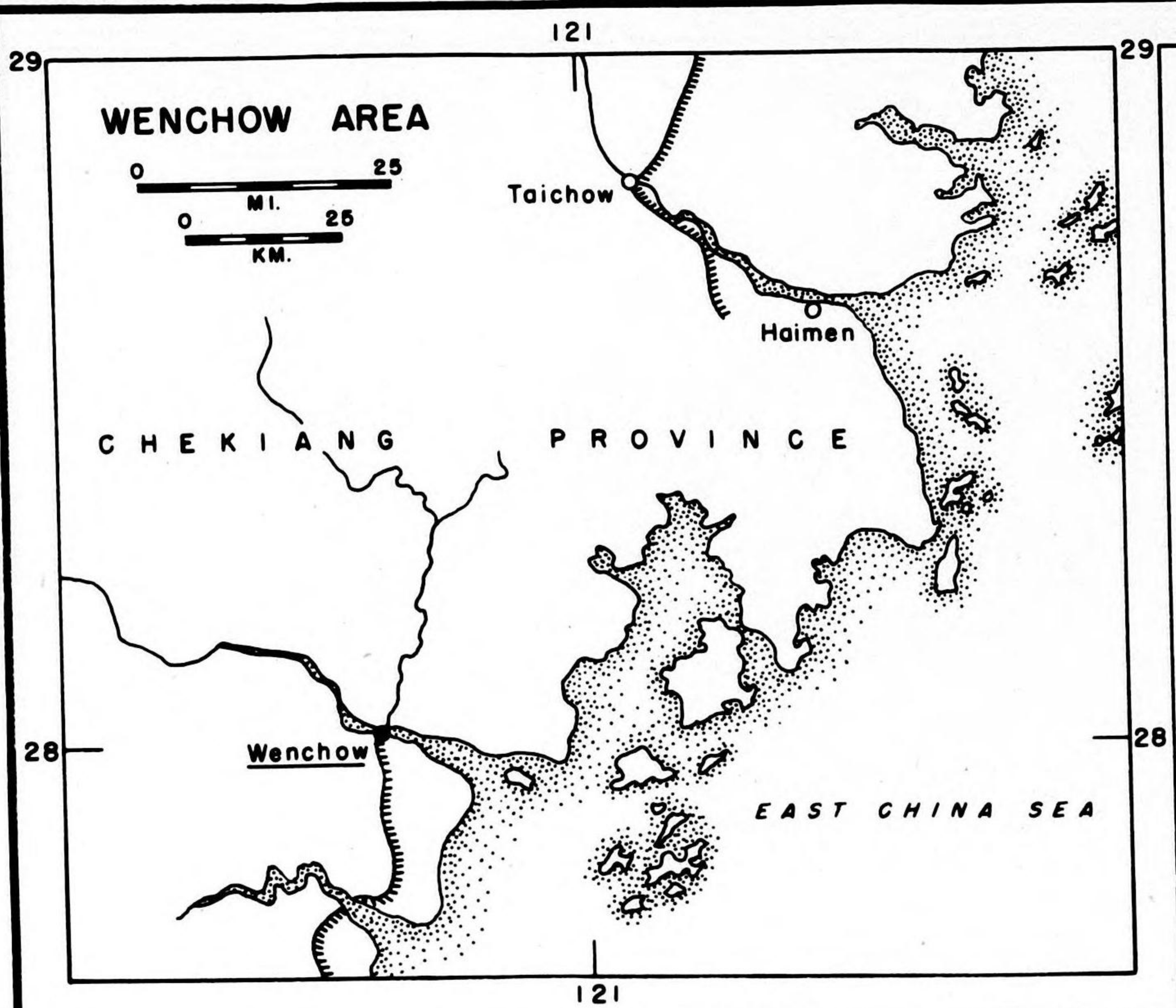
NORTH CHINA
NINGPO INSTALLATION
 STANDARD-VACUUM OIL COMPANY



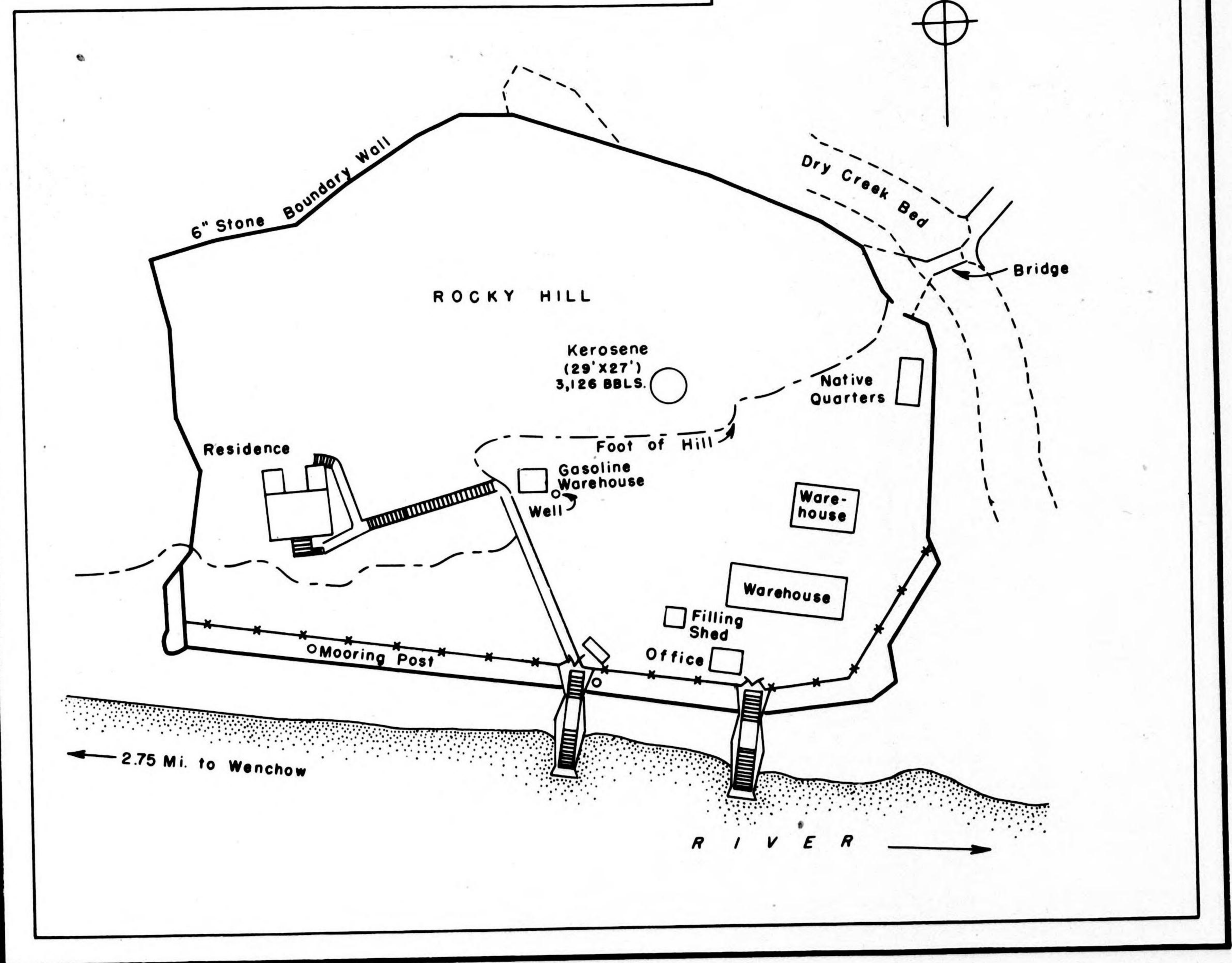
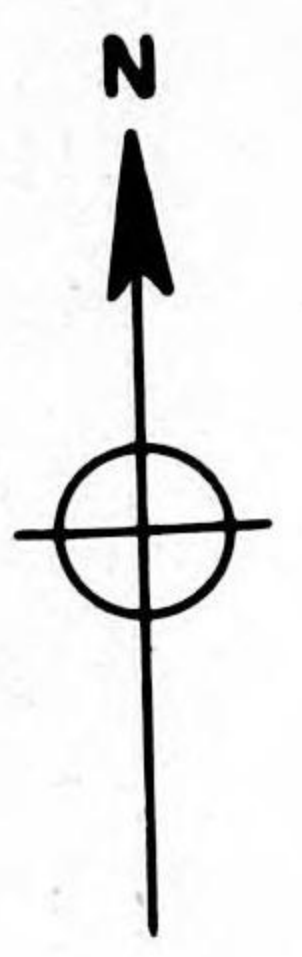
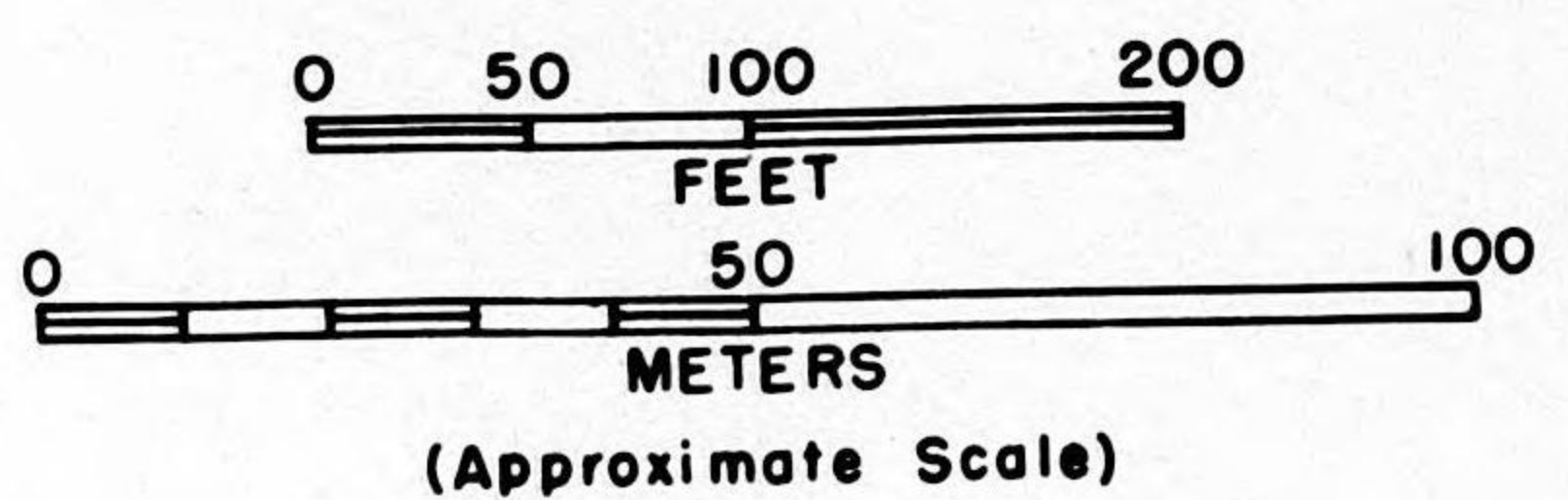
LEGEND

1. Stores
2. Native Quarters
3. Gasoline Warehouse
4. Office
5. Godownman's Office
6. Pump Room
7. Reconditioning Shed
8. Filling Room
9. Carpenter Shop
10. Storehouse

TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Bbls.)
A	16' X 12'	KEROSENE	430
B	40' X 30'	"	6,400



**NORTH CHINA
WENCHOW INSTALLATION
STANDARD-VACUUM OIL CO.**



tributing point for markets in the vicinity. The installation was equipped with one kerosene tank of about 3,000 barrels, three warehouses and arrangements for filling bulk kerosene into cans and diesel oil from drums into cans. There was an office and a residence for the superintendent and two jetties where vessels discharged and loaded.

A drawing of the plant appears on page 126.

4.4.7 Haimen - Chekiang Province

Latitude 28° 43' North, Longitude 121° 25' East.

The Asiatic Petroleum Company (N.C.) Ltd., Sub-installation.- This was a small installation which was supplied with bulk and packaged products by company craft from the Shanghai terminals. It had two tanks with a combined capacity of about 1,900 barrels and warehouse floor space of 4,000 square feet. It was used as a distributing point for surrounding markets as well as for Haimen itself. No plan is available.

Standard-Vacuum Oil Company, Sub-installation.- This plant was located on the river a short distance east of the city. It had one kerosene tank of about 2,000 barrels capacity, a combination kerosene filling shed and gasoline tin storage shed and a warehouse with a capacity of 8,000 units of kerosene in cans. There was an office and superintendent's residence. Access to the installation was both by water and by road. Supplies were brought by company vessels from Shanghai and redistributed to the city market and the surrounding territory.

A plan of the plant appears on page 128.

4.4.8 Kashing - Chekiang Province

Latitude 30° 46' N., longitude 120° 45' E.

The Asiatic Petroleum Company (N.C.) Ltd., Sub-installation.- This small installation had four tanks with a combined capacity of a little over 2,400 barrels and one small warehouse with floor space of 400 square feet. It was supplied by company barge from Shanghai via the Soochow Creek and the Grand Canal and supplied surrounding markets in addition to Kashing itself. No plan is available.

Standard-Vacuum Oil Company, Sub-installation.- This small plant was located on the Grand Canal and was supplied in the same manner as the A.P.C. installation. It had one 6,800 barrel kerosene tank and a small 1,100 barrel diesel oil tank with arrangements for filling cans and drums. There was a small warehouse for packaged gasoline and a large one for packaged kerosene and other products. There was a small residence in the compound. The installation served the local market and surrounding territory.

A drawing of the plant appears on page 129.

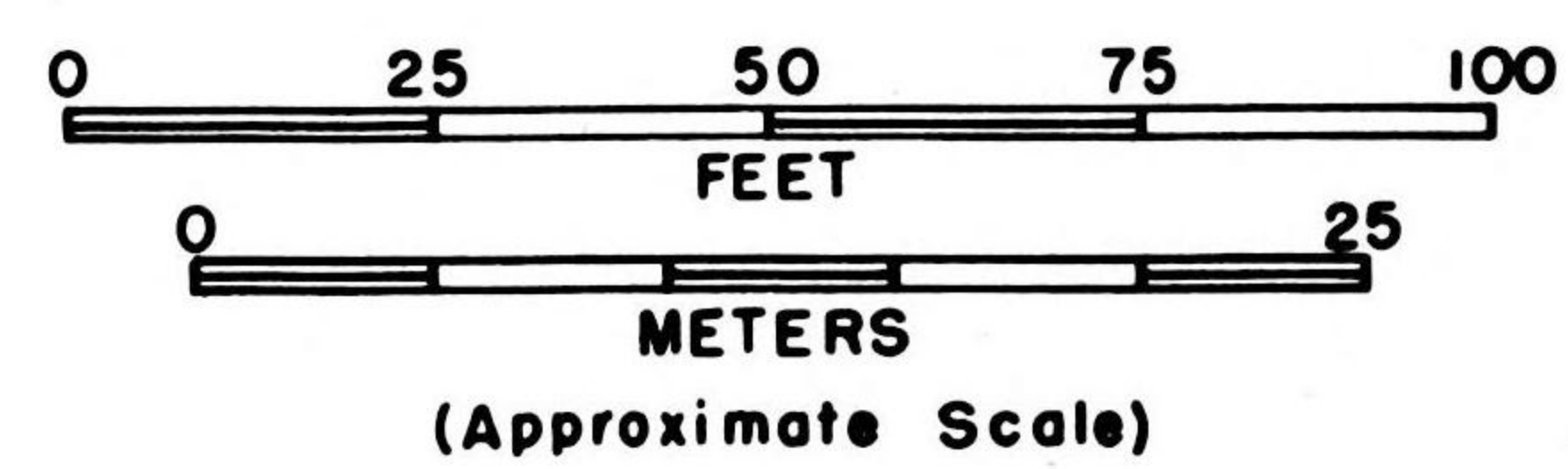
4.4.9 Chinkiang - Kiangsu Province

Latitude 32° 12' North, Longitude 119° 28' East.

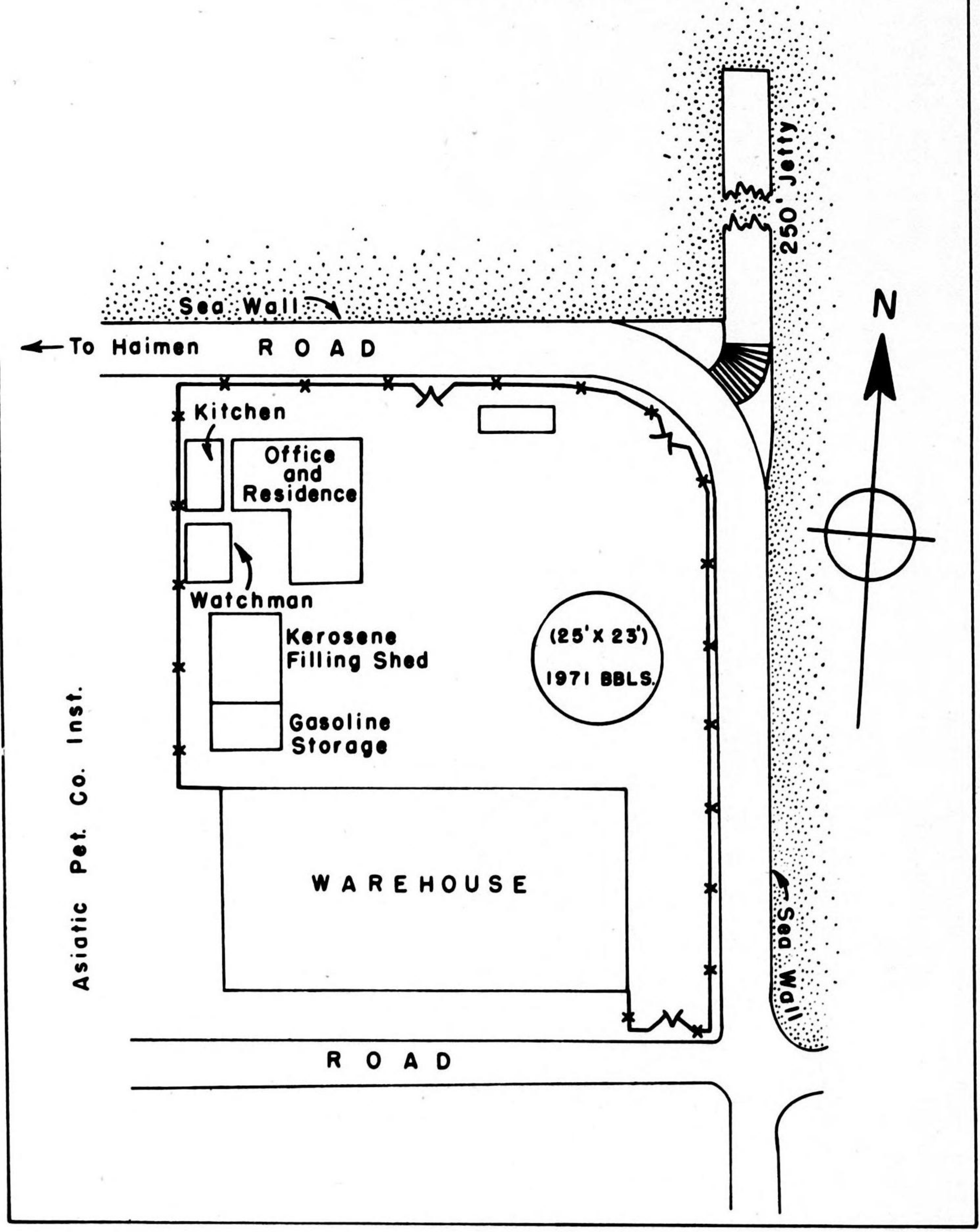
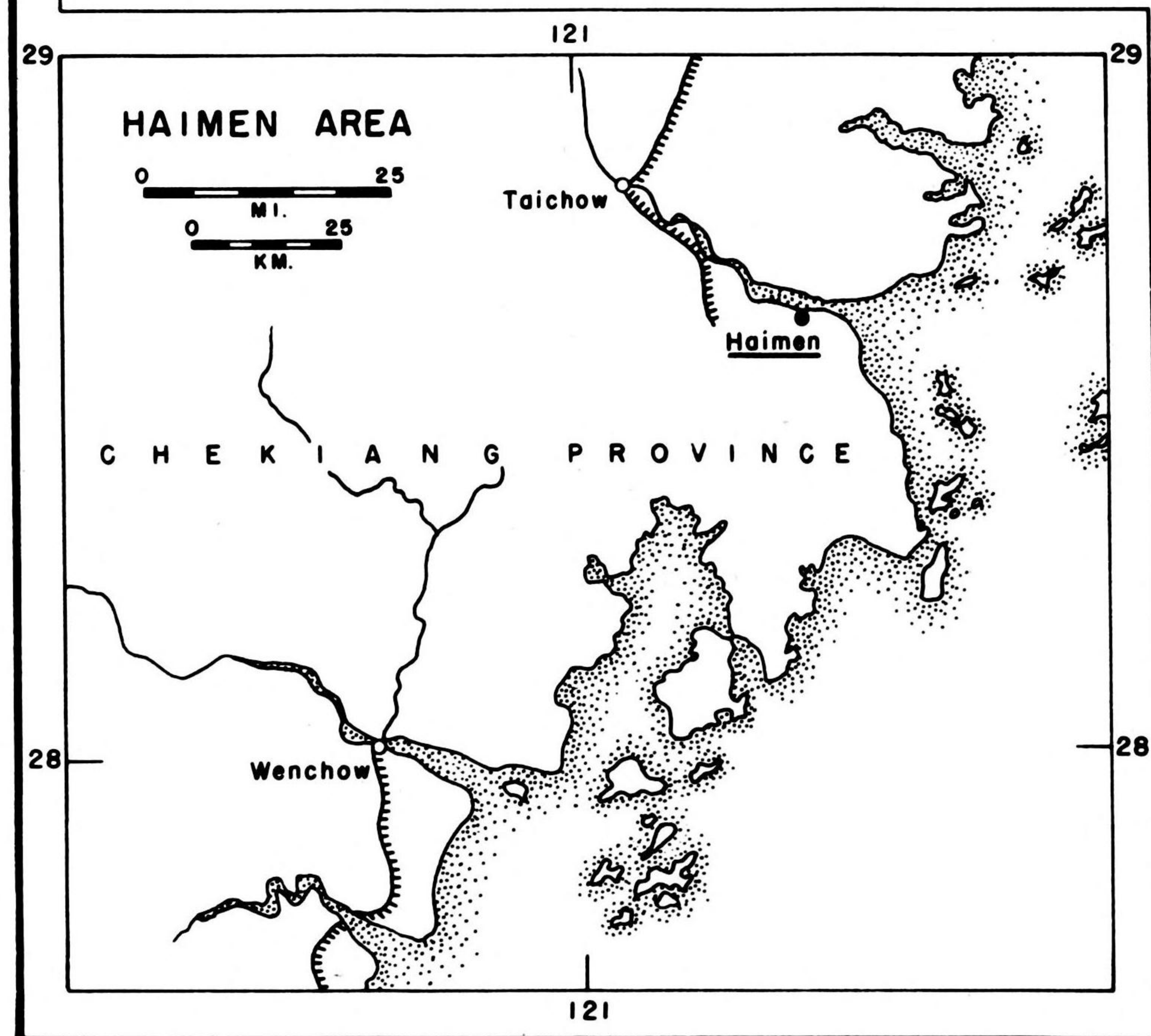
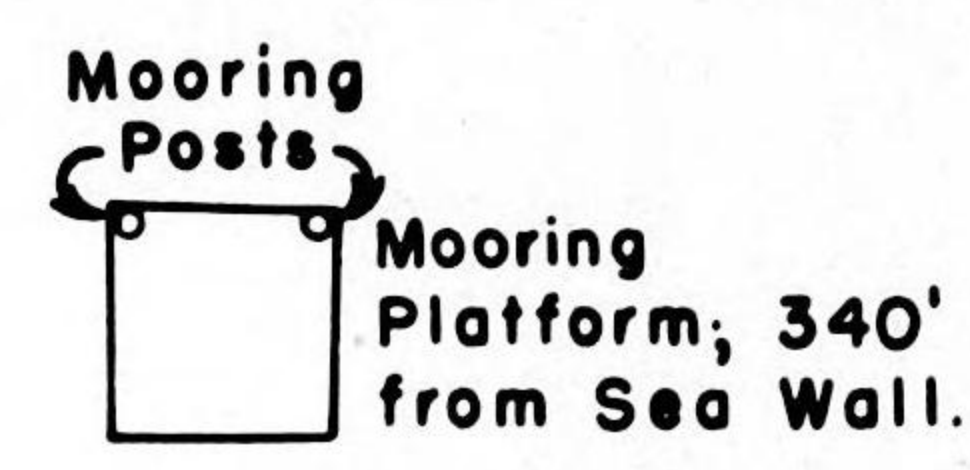
Chinkiang is about 242 miles up the Yangtze River from the pilot station at the mouth of the river.

The Asiatic Petroleum Company (N.C.) Ltd., Terminal.- This terminal was situated on the south bank of the Yangtze River a short distance northeast of the city. It had one large and four medium sized tanks for the storage of kerosene, gas oil and diesel oil and two small service tanks. There were filling arrangements for both

NORTH CHINA HAIMEN INSTALLATION STANDARD-VACUUM OIL CO.

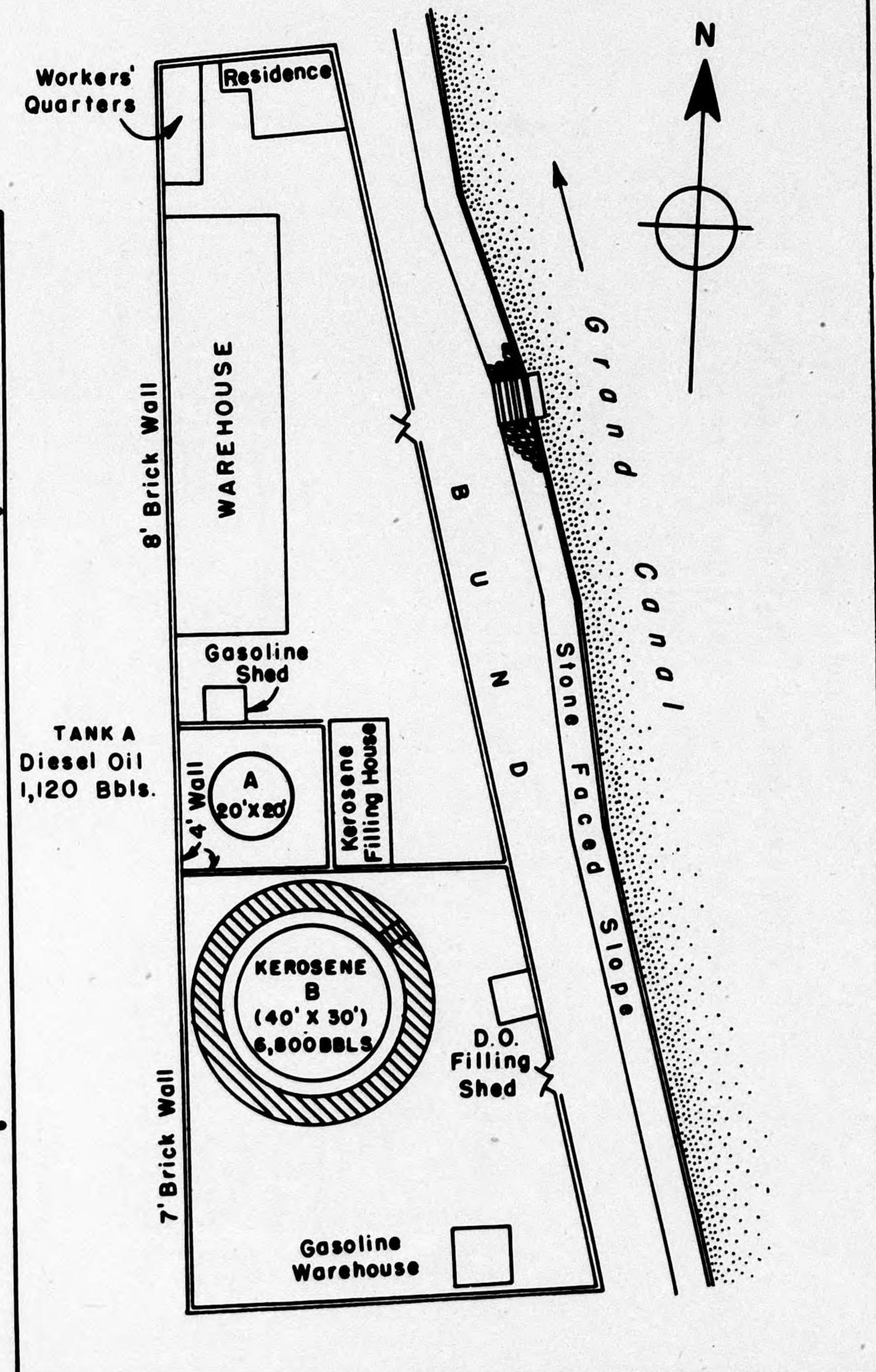
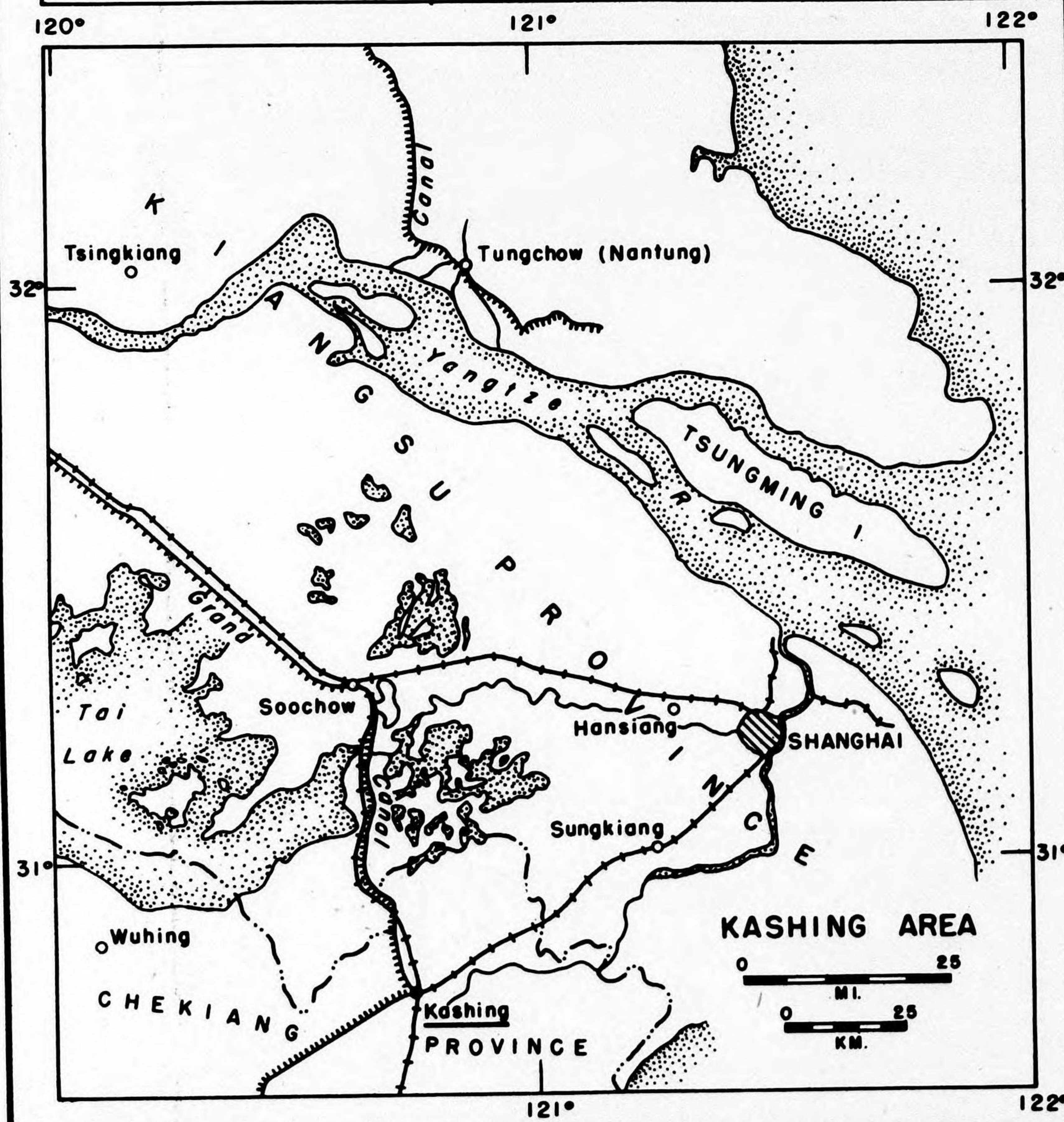
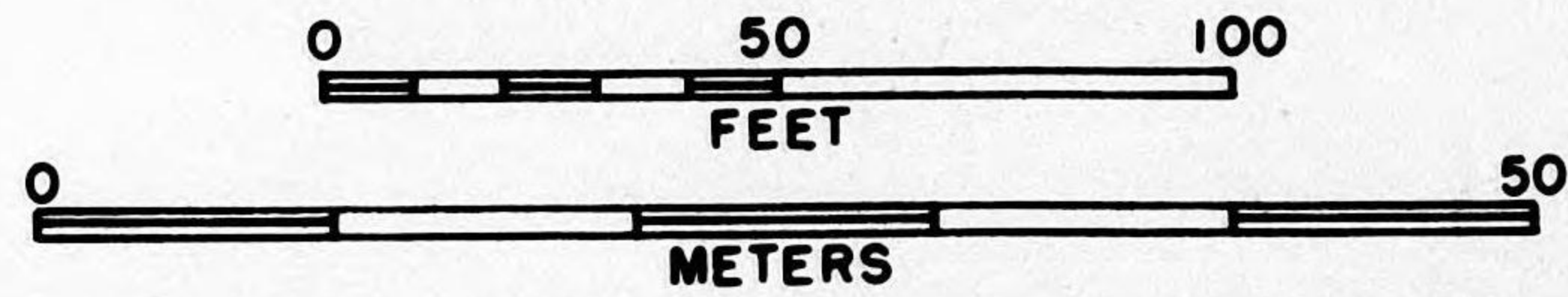


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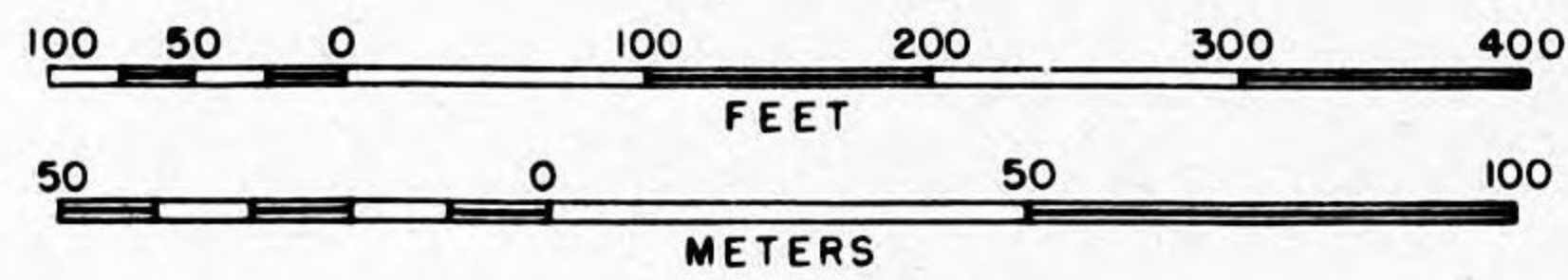


NORTH CHINA
KASHING INSTALLATION

STANDARD-VACUUM OIL CO.



NORTH CHINA CHINKIANG INSTALLATION STANDARD-VACUUM OIL COMPANY



(Approximate Scale)

LEGEND

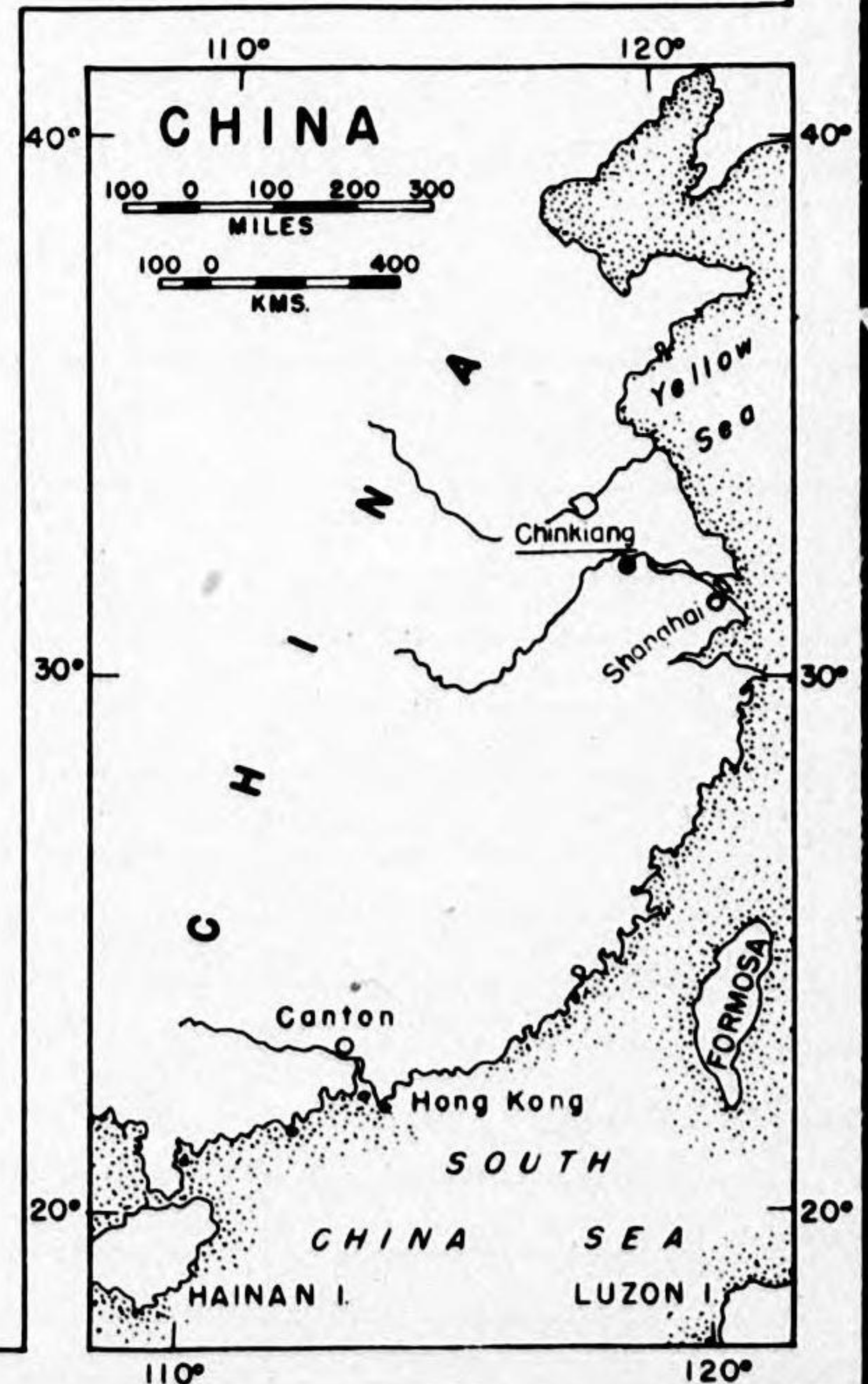
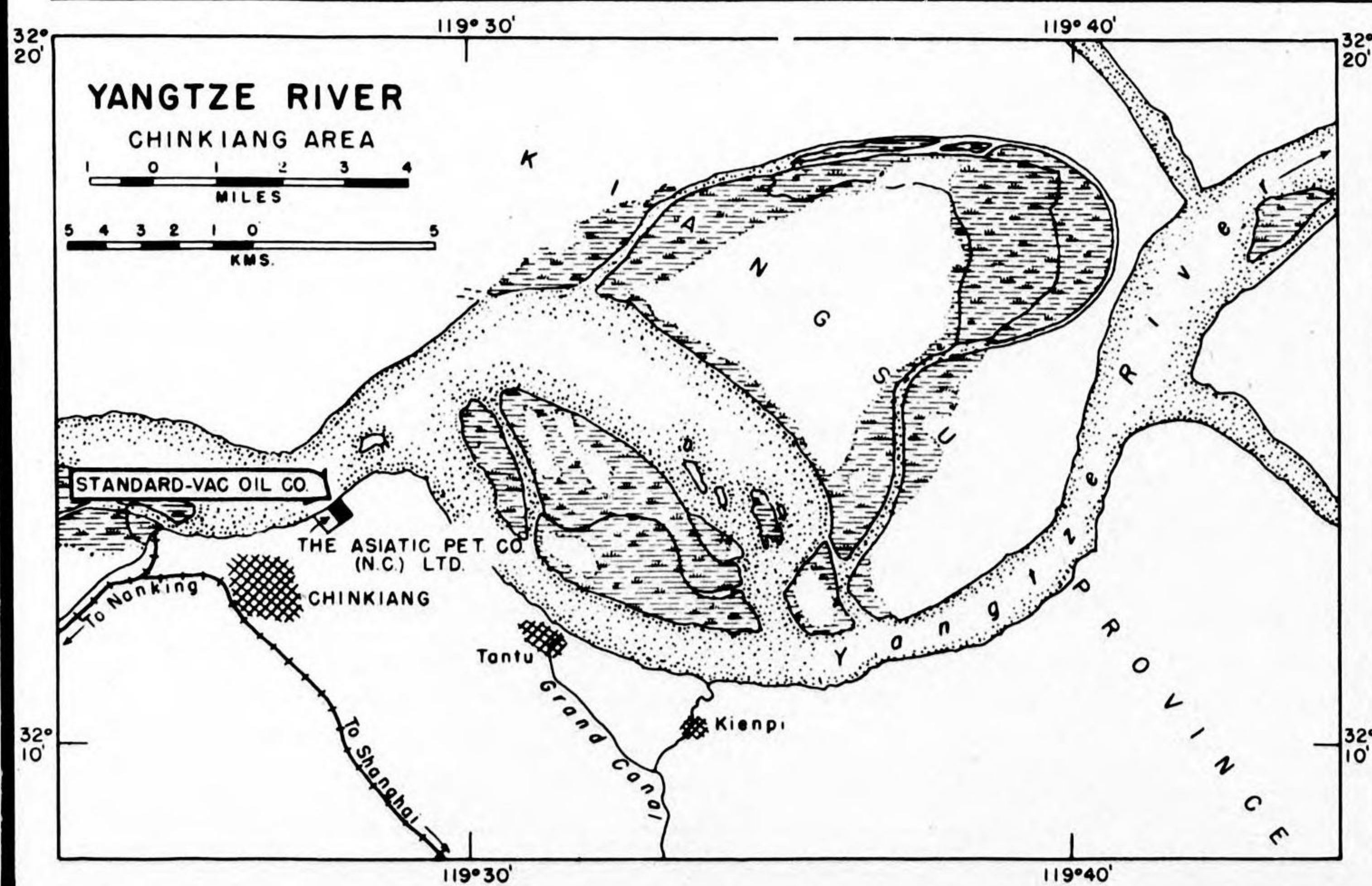
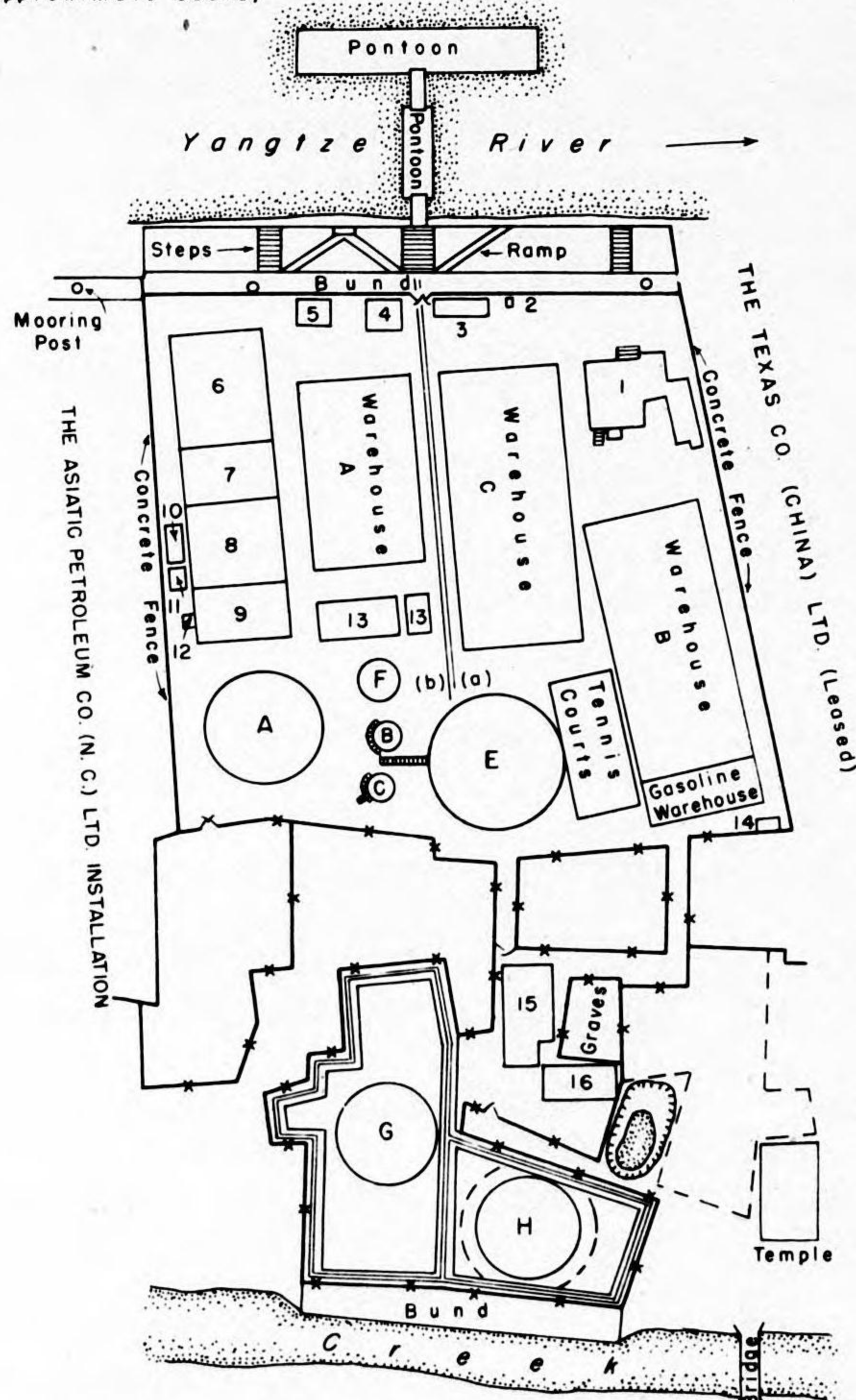
- 1 Residence and Manager's Office
- 2 Fire Hose Cart House
- 3 Watchman
- 4 Barrel Filling Shed
- 5 Pump House
- 6 Stacking Room
- 7 Filling Room
- 8 Can Shop
- 9 Engine Room
- 10 Blacksmith Shop
- 11 Tool House
- 12 Cooling Tanks
- 13 Store Houses
- 14 Carpenter Shop
- 15 Native Quarters
- 16 Installation Office

TANKS

TANK NO.	SIZE	PRODUCT	CAPACITY (Barrels)
A	80' x 30'	Kerosene	25,000
B	20' x 20'	Kerosene	1,040
C	20' x 20'	Kerosene	1,000
E	93' x 30'	Kerosene	34,200
F	25' x 30'	Diesel Oil	2,600
G	70' x 30'	Kerosene	19,300
H	70' x 40'	Diesel Oil	26,800

NOTE: There is no Tank "D"

2 PIPE LINES (a) 1 1/2" Kerosene (b) 1 1/2" D. O. TO RIVERFRONT



white and black oil and a can factory with a daily capacity of 8,200 cans. The plant also contained six warehouses, an office and a manager's residence. A steel pontoon wharf in the river provided a berth for ocean tankers and river boats. Maximum drafts were 29 feet from June 1 to October 31, and 20 feet the rest of the year. There were no bunkering facilities. Deliveries to the city could be made by both road and river.

A drawing of the terminal appears on page 130.

Standard-Vacuum Oil Company, terminal.- This large terminal adjoined the APC plant on the east with a frontage on the river. It had four large tanks for the storage of kerosene and diesel oil and three small service tanks. There were filling facilities for diesel oil drums and kerosene cans and a can factory with a daily capacity of 10,000 cans. There were four warehouses for package storage, including one for gasoline, and an area manager's residence and office. There was a pontoon wharf equipped with pipe lines where ocean tankers drawing up to 23 feet could discharge and where river craft could discharge or load. There was road access to the installation and products could be delivered to the city by this means. The principal approach, however, was by water.

A drawing of the terminal appears on page 131.

The Texas Company (China) Ltd., warehouses.- There were two warehouses leased by this company on a plot of land adjoining and to the east of the Standard installation. They were supplied with packaged stock from their Shanghai terminal by boat. There was accommodation for 30,000 units (cases) of two/5 gallon tins in these warehouses.

Marine equipment.- The marine equipment maintained by Standard at Chinkiang consisted of one motor vessel for both bulk oil and packages and five sailing junks for bulk only and two motor launches. Asiatic kept no floating equipment permanently at Chinkiang but sent it from Shanghai when necessary.

Distribution.- In addition to supplying the city market and the immediate neighborhood, the main channels of distribution from Chinkiang were as follows:

(1) By company-owned and native craft via the Grand Canal to markets in northern and central Kiangsu on the canal itself and on branches extending eastward such as Fowning and the depot towns shown below.

(2) By company-owned and native craft via the Grand Canal, the lakes and the Hwai and Kuo Rivers to markets in western and northwestern Anhwei such as Pengpu, Chenyangkwan, Lianchow, Taihohsien and Pochow.

The table below shows the facilities maintained by the oil companies in the area and the methods of supply.

Points Supplied From Chinkiang

Place	Province	Company	Nature of Facility	How Supplied *
Hinghwa	Kiangsu	APC	Bulk depot	(1)
"	"	SVOC	" "	"
Hwaiianfu	"	"	" "	"
Pengpu	Anhwei	APC	" "	(2)
Sutsien	Kiangsu	APC	" "	"
"	"	SVOC	" "	"
Taichow	"	APC	" "	"
"	"	SVOC	" "	"
Tsingkiangpu	"	APC	" "	"
"	"	SVOC	" "	"
Tungtai	"	APC	" "	"
"	"	SVOC	" "	"
Yaowan	"	"	" "	"

* Refer to preceding paragraph

4.4.10 Nanking - Kiangsu Province

Latitude 32° 5' N., longitude 118° 45' E.

Nanking is located about 280 miles up the Yangtze River from the pilot station at the mouth of the river.

Standard-Vacuum Oil Company, Pukow Terminal.- This small terminal was located at Pukow, on the north side of the river opposite the city of Nanking. It had one large storage tank for kerosene and one small filling tank with facilities for filling kerosene cans. There was a can assembly plant where knocked-down cans manufactured at the Chinkiang or Shanghai plants were assembled and a fairly large warehouse for packaged goods. There was an office but no residence. The installation lay about 300 yards back from the river but was connected to a pontoon wharf in the river by a pipe line. Ocean tankers with a draft up to 25 feet could discharge here at all times. Both bulk and packaged products were delivered from this installation by water and by rail as there was a siding connecting with the Tientsin-Pukow railway line. No bunkering was done at this point.

The following sub-installations and bulk oil depots belonging to the company were supplied from this installation:

<u>P l a c e</u>	<u>Province</u>	<u>How Supplied</u>
Hsiakwan (Nanking City)	Kiangsu	By river
Hochawan	Anhwei	" "
Luhoh	Kiangsu	" "
Kweiteh	Honan	By rail
Suchowfu	Kiangsu	" "
Pengpu	Anhwei	" "

A drawing of this terminal appears on page 135.

Standard-Vacuum Oil Company, Sub-installation.- This plant was located in the Hsiakwan section of the city of Nanking on the bank of a canal which gave access to the Yangtze River. It had one kerosene tank of about 1,680 barrels capacity and a small underground tank into which drums of gasoline were decanted. There were two warehouses, one for gasoline in drums, and another for packaged kerosene and other products. There were arrangements for filling kerosene cans and the gasoline bulk trucks which served the city pumps. The installation was generally supplied with bulk kerosene by water from the Pukow terminal and occasionally from Chinkiang and gasoline drums and other packaged products were brought by river craft or by rail from Shanghai.

A drawing of the plant appears on page 134.

Other facilities at Nanking and Pukow.- The Asiatic had a small bulk plant at Pukow adjoining and to the west of the Standard terminal. The Maruzen Oil Company also had a small plant there as well as one in Nanking itself. Asiatic maintained a bulk depot at Sanchaho on the Nanking side of the river, and supplied both of their depots direct from Shanghai. The Texas Company owned one and leased three warehouses in Nanking which they also supplied from Shanghai.

4.4.11 Wuhu - Anhwei Province

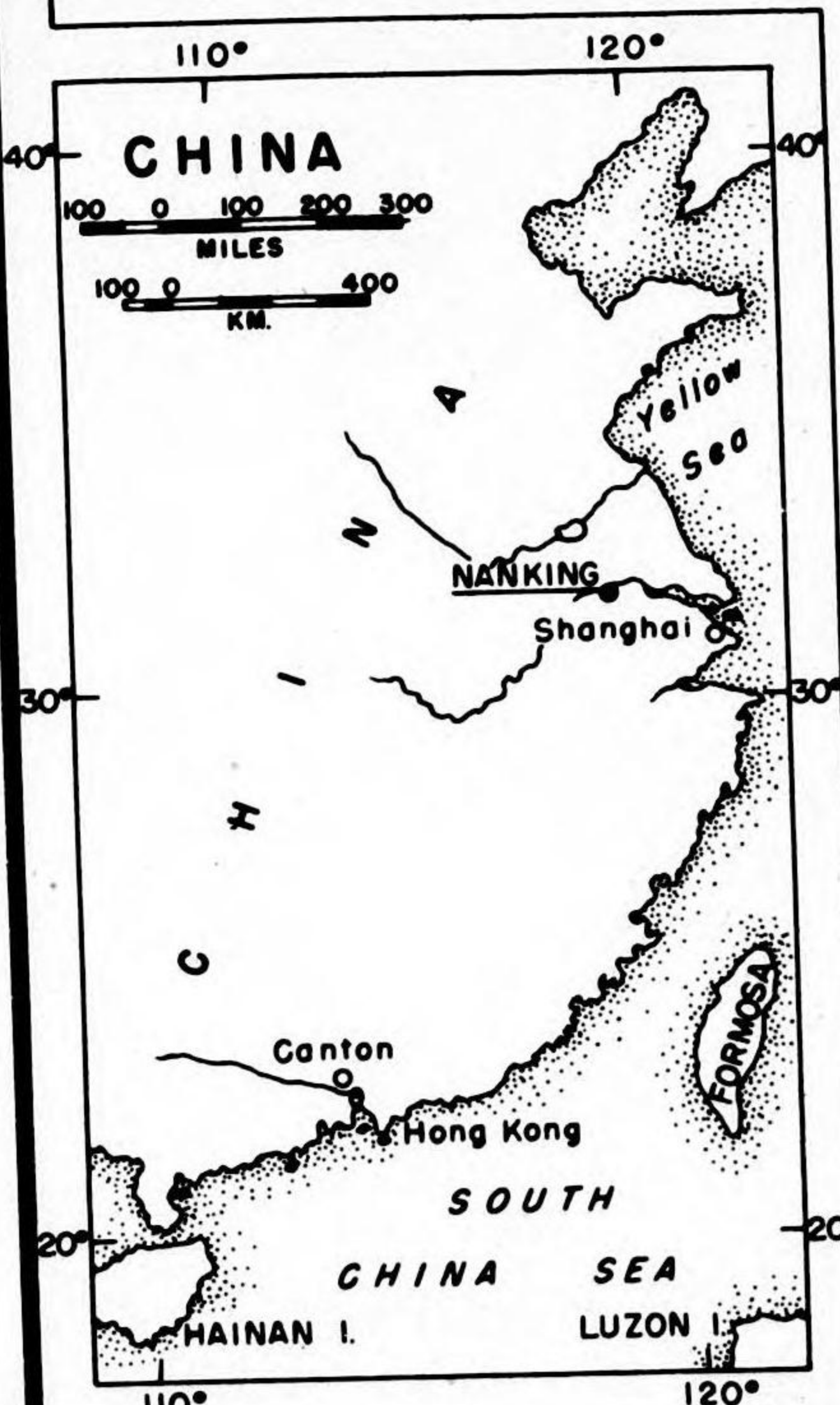
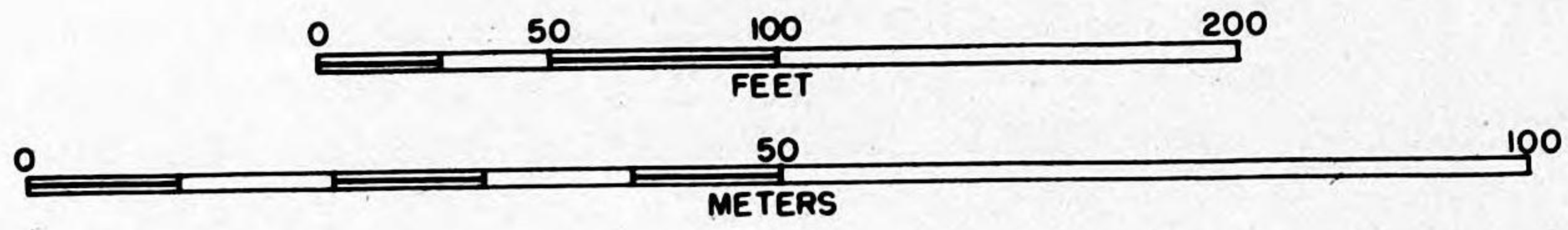
Latitude 31° 20' N., longitude 118° 20' E.

Wuhu is located about 300 miles up the Yangtze River from the pilot station at the mouth of the river.

NORTH CHINA

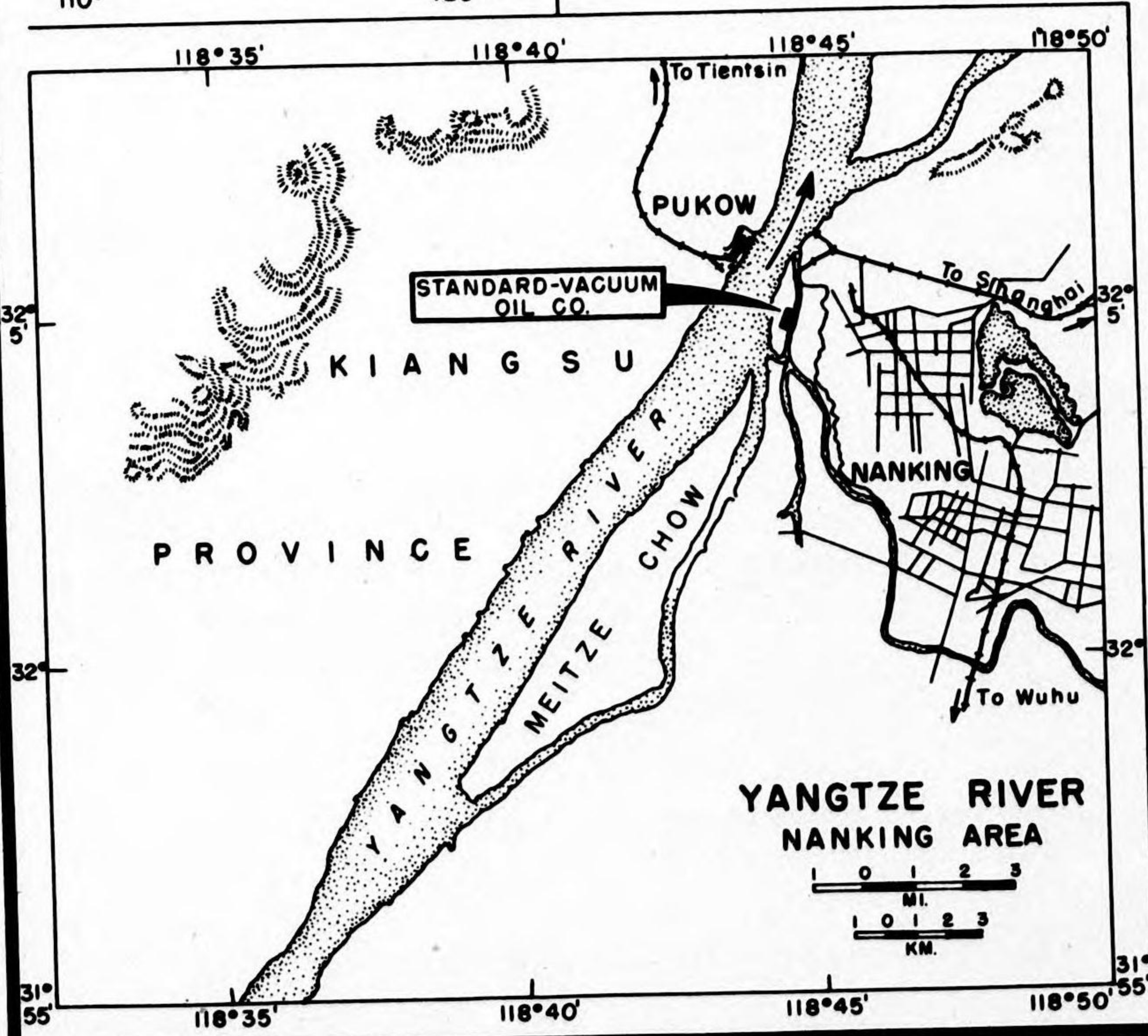
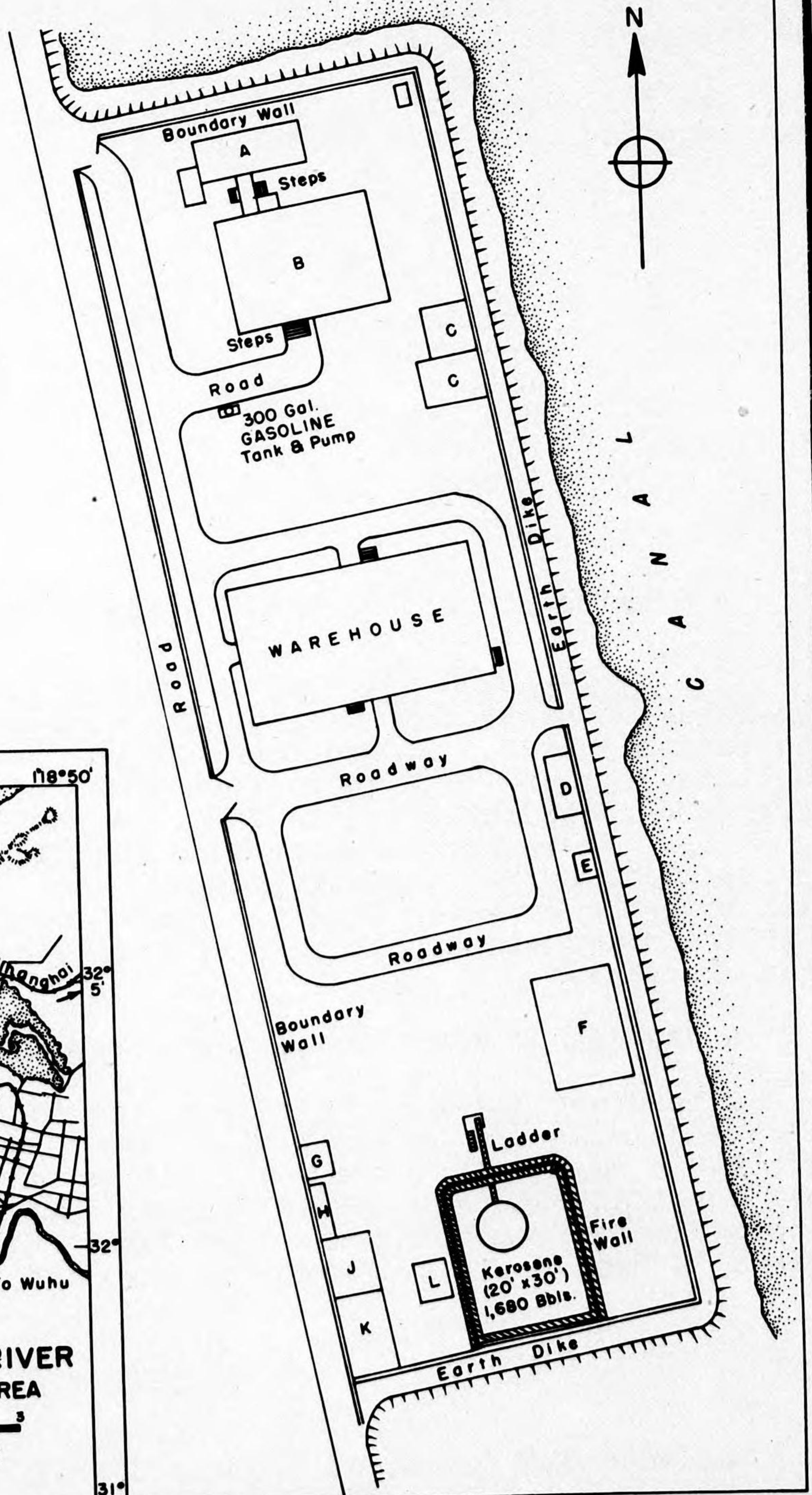
NANKING (HSIAKWAN) INSTALLATION

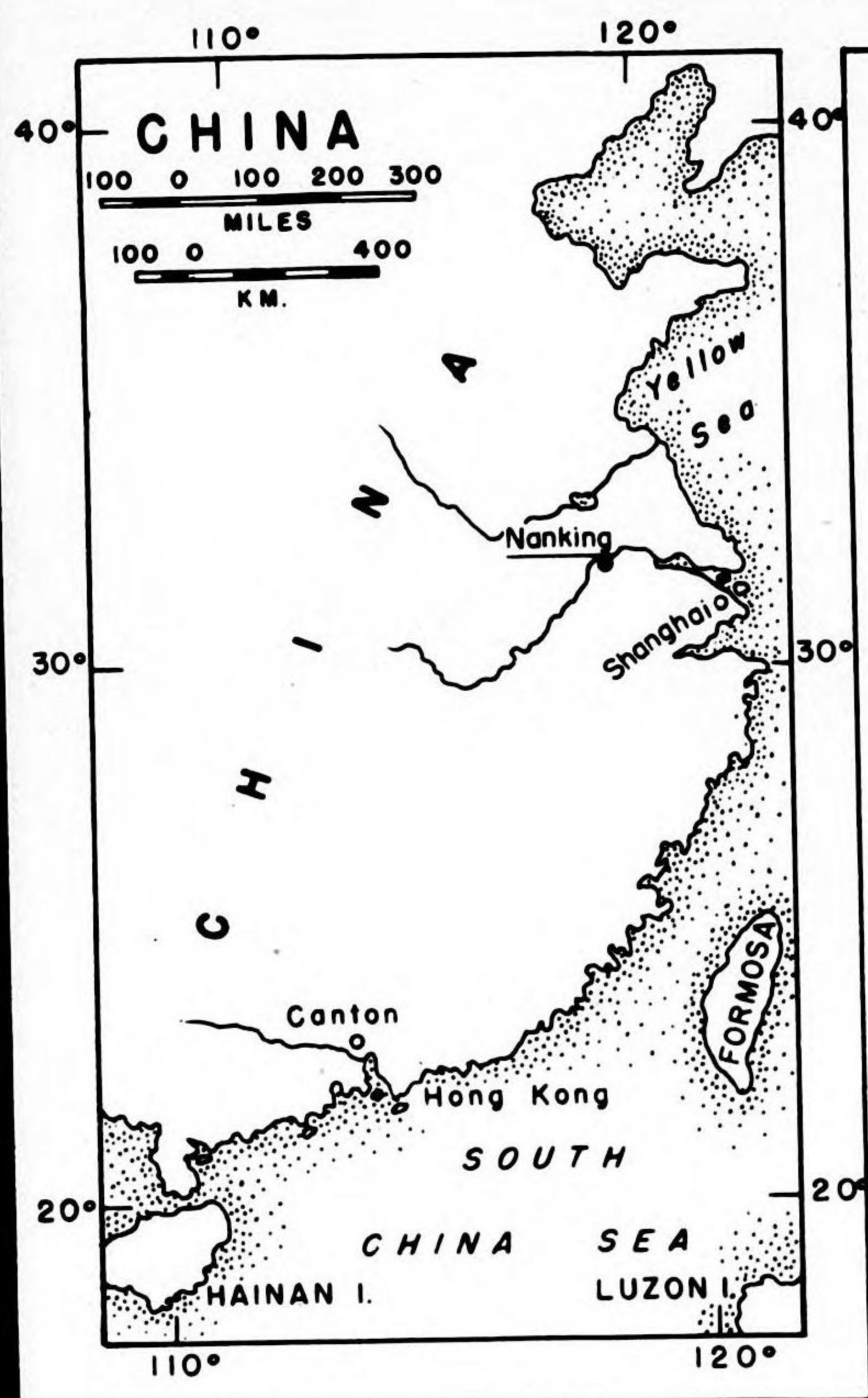
STANDARD-VACUUM OIL CO.



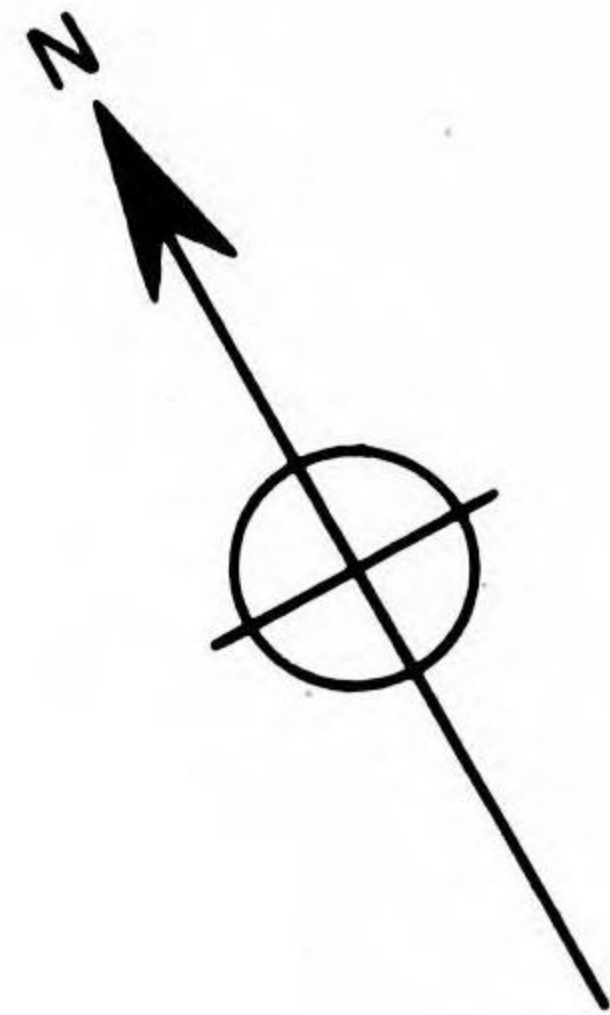
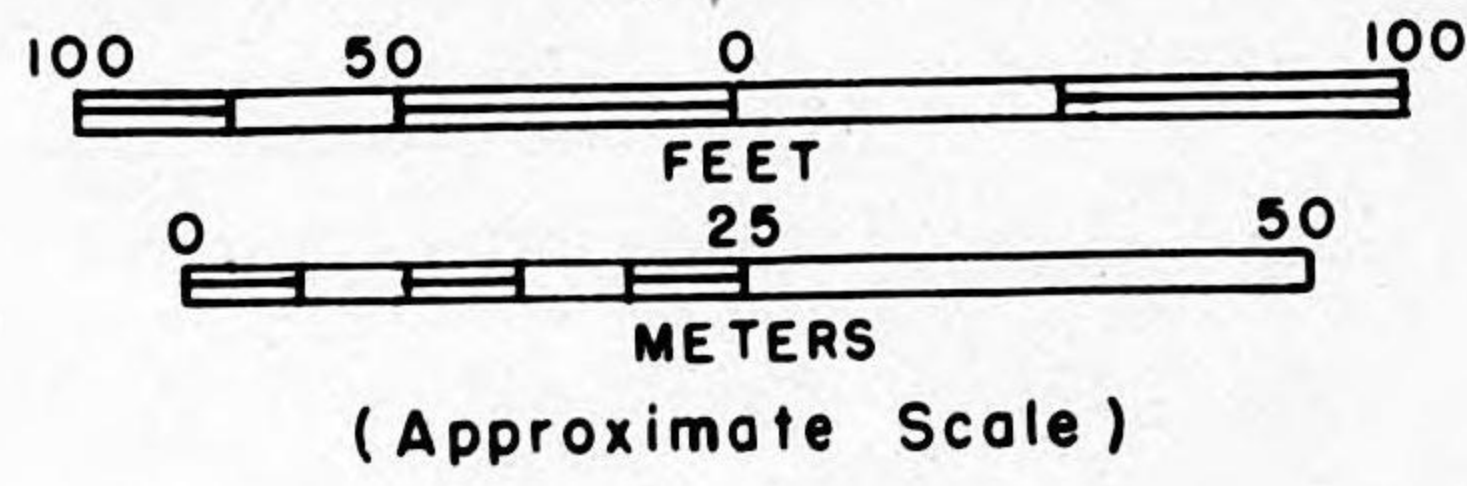
LEGEND

- A. Residence
- B. Office
- C. Garages
- D. Watchman's Gate House
- E. Fire Hose Cart House
- F. Gasoline Warehouse
- G. Watchman's Quarters
- H. Gasoline Stores
- J. Filling Shed (Tins)
- K. Empty Tin Storage
- L. Drum Filling Shed

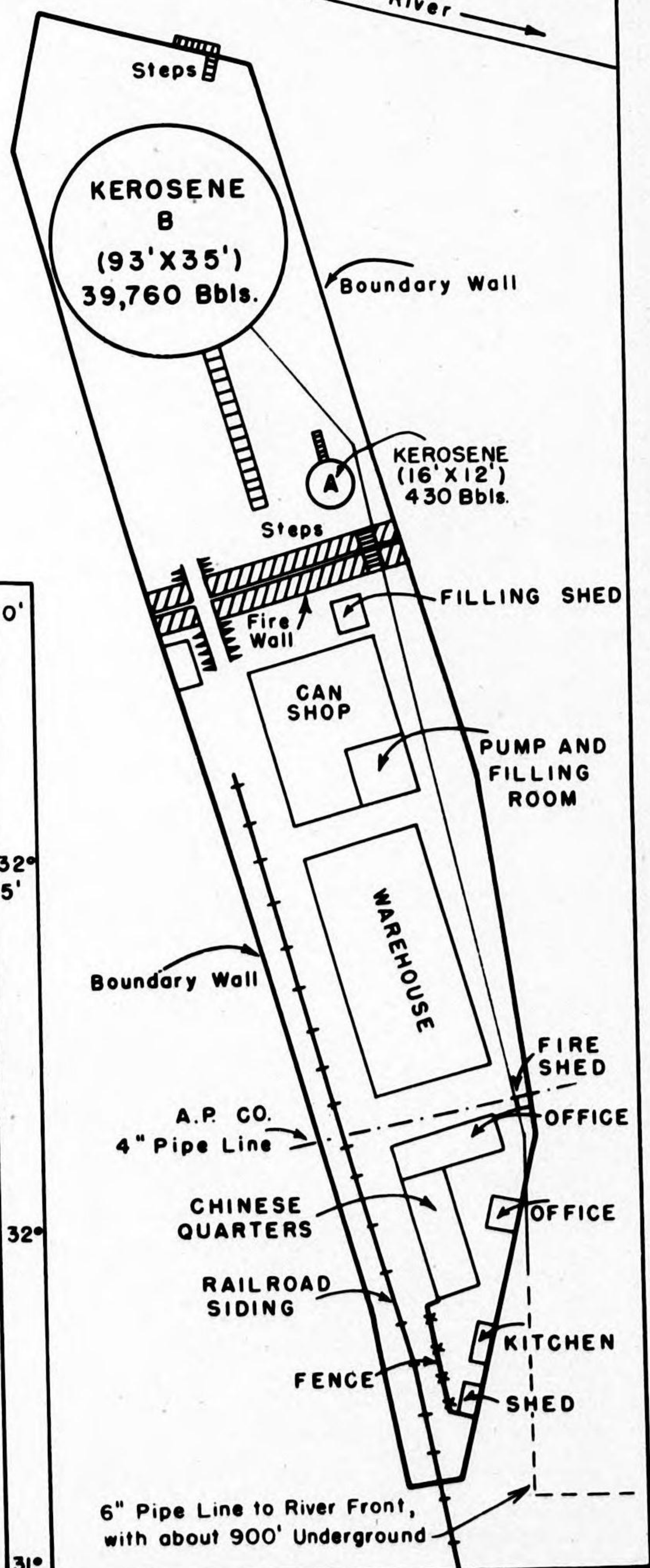
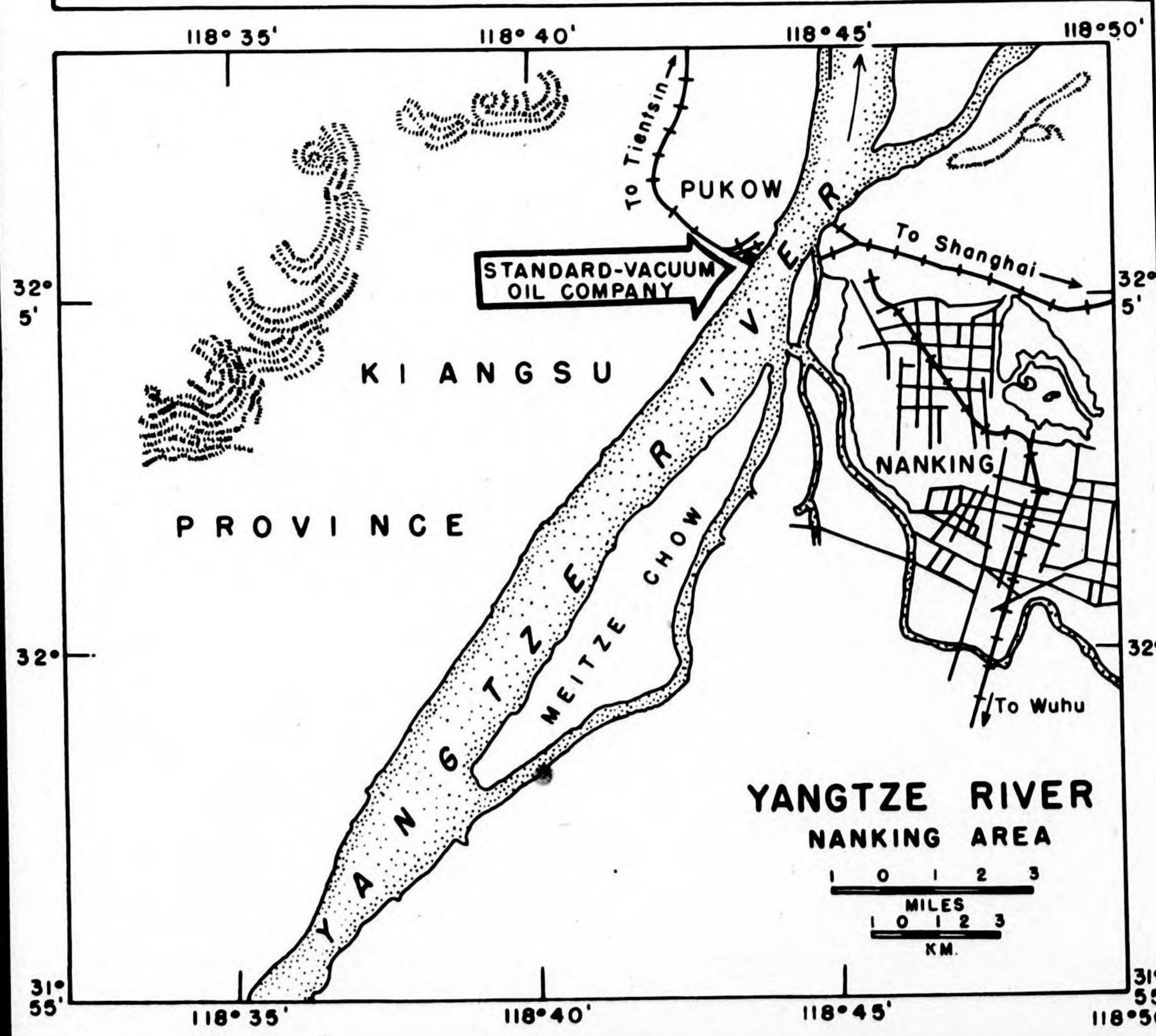
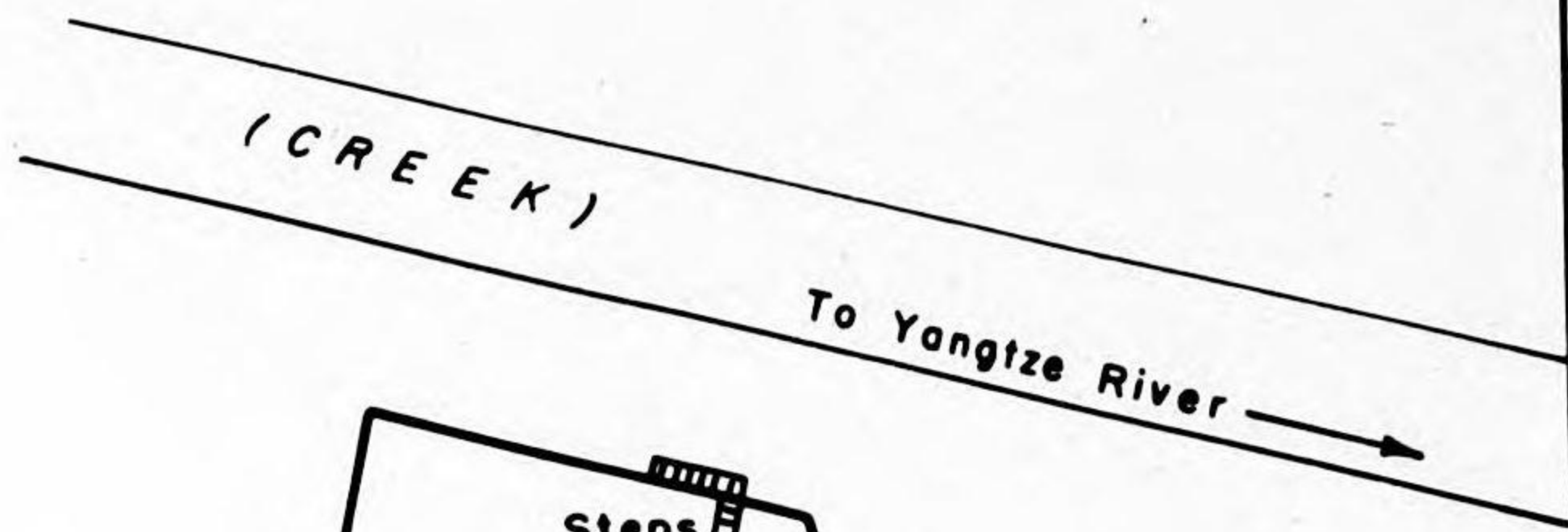




NORTH CHINA NANKING (PUKOW) INSTALLATION STANDARD-VACUUM OIL COMPANY



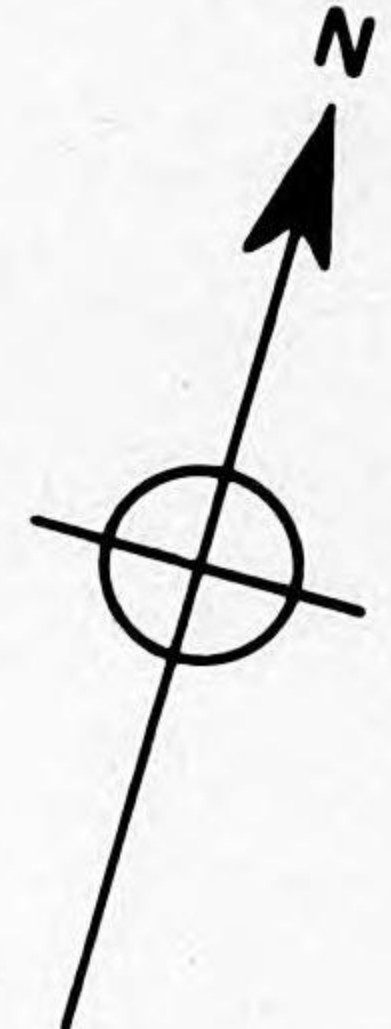
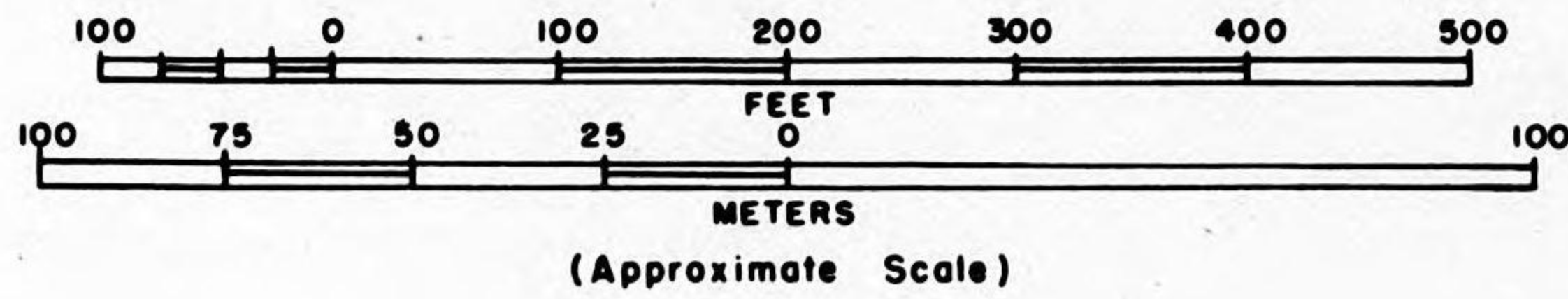
The Asiatic Petroleum Co.
(N.C.) Ltd.
DEPOT



NORTH CHINA

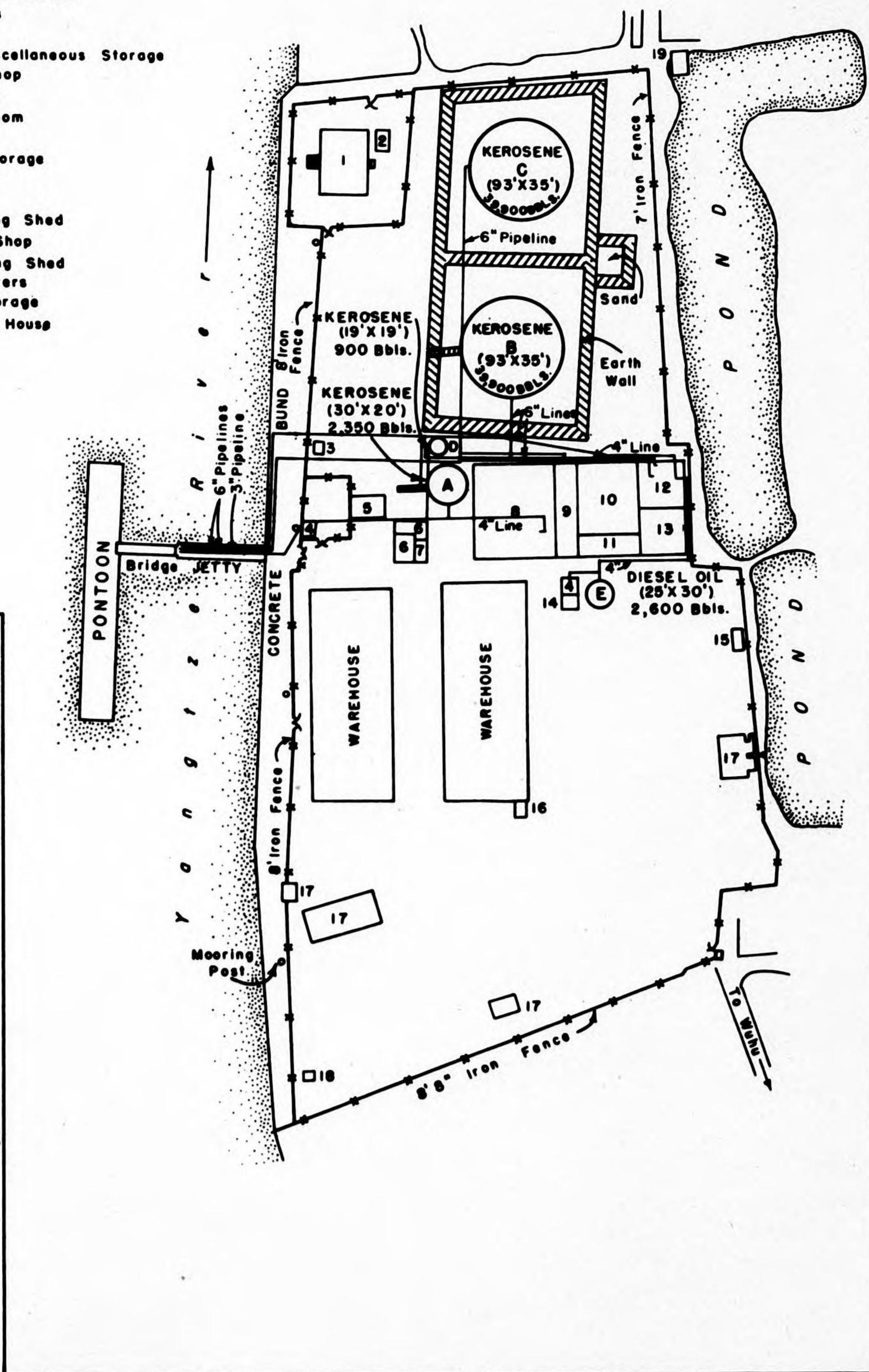
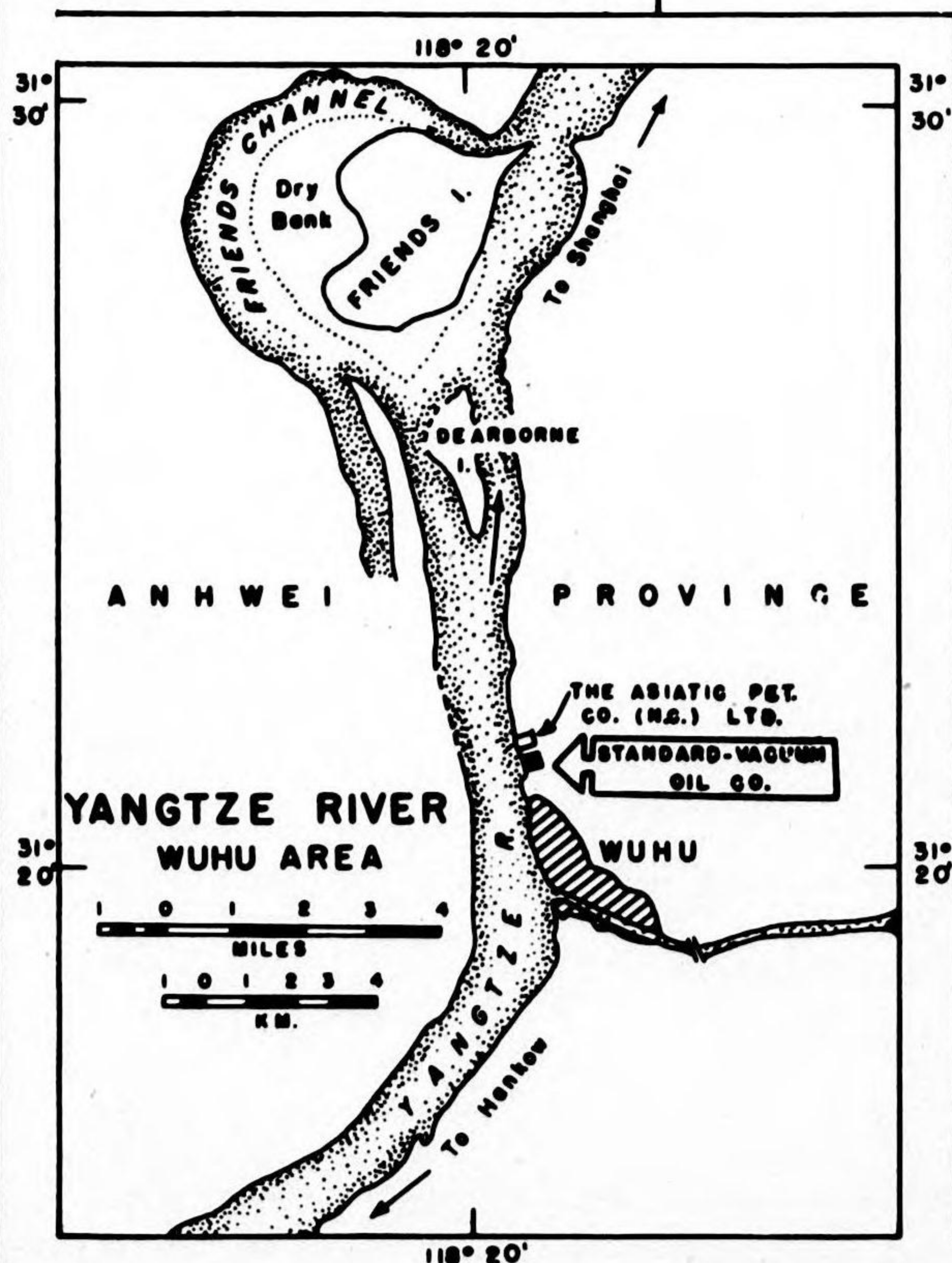
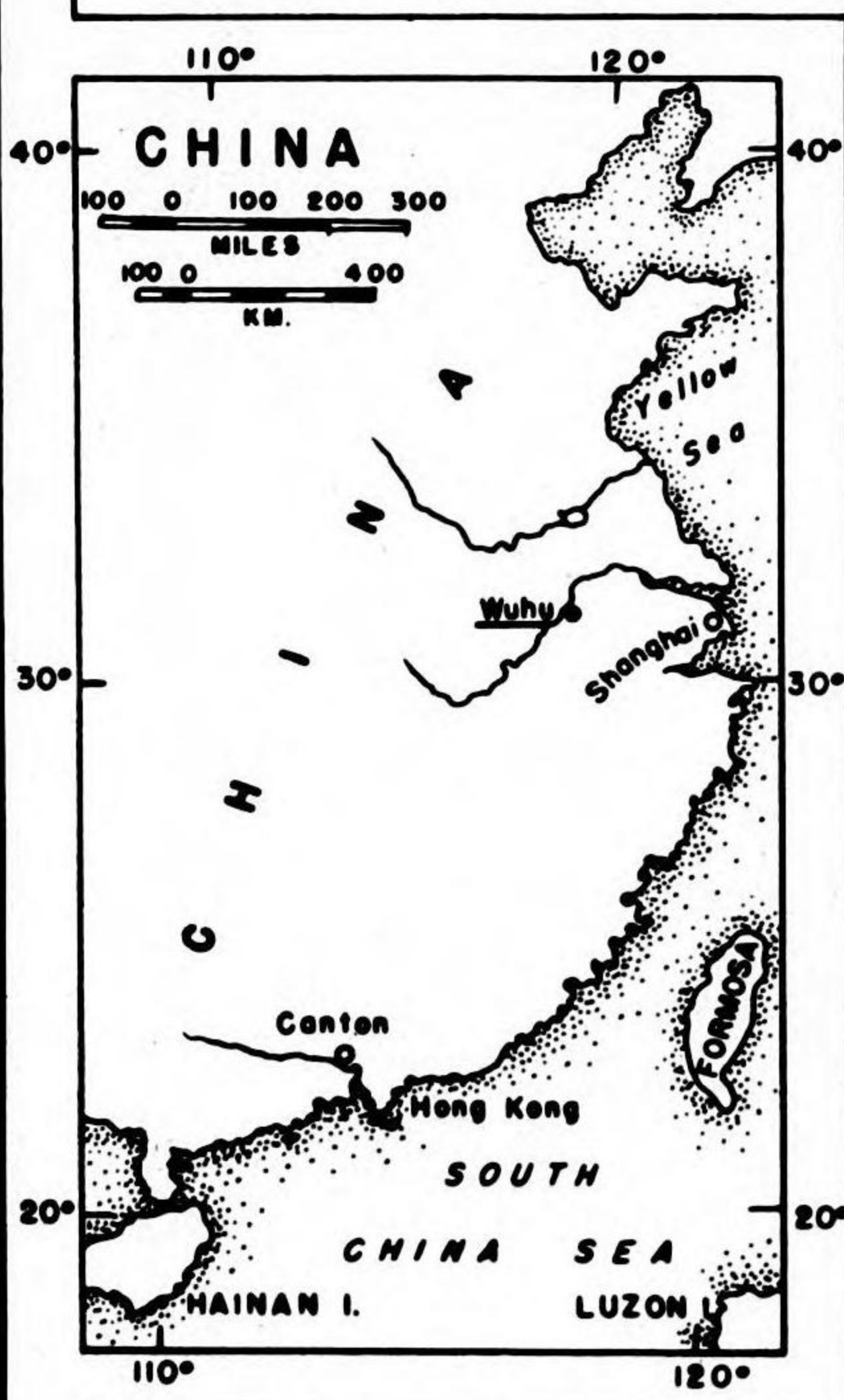
WUHU INSTALLATION

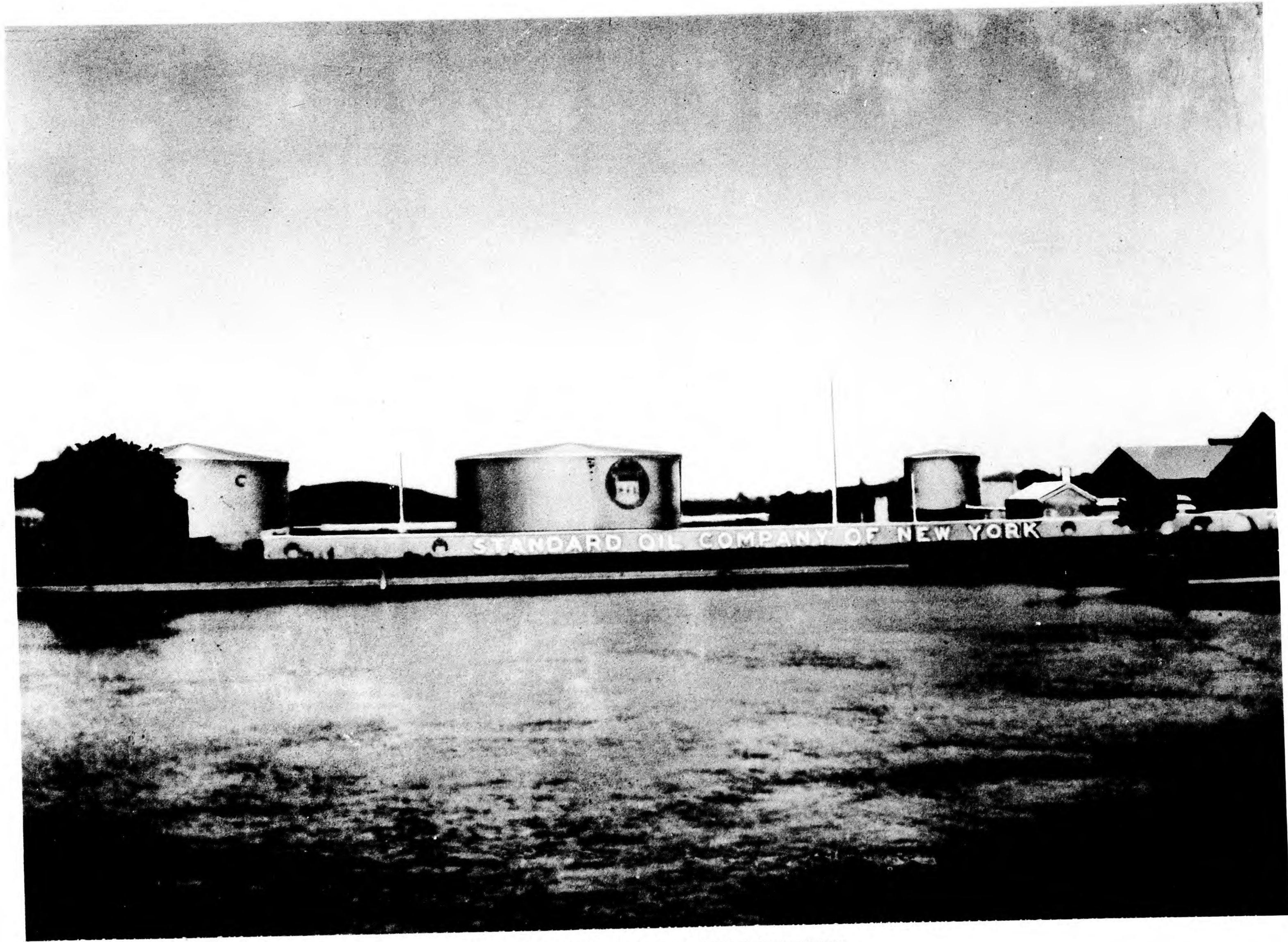
STANDARD-VACUUM OIL COMPANY



LEGEND

1. Manager's Residence
2. Servant's Quarters
3. Fire Hose Cart House
4. Filling Sheds
5. Office
6. Coal and Miscellaneous Storage
7. Carpenter Shop
8. Filling House
9. Soldering Room
10. Can Shop
11. Tin Plate Storage
12. Engine Room
13. Storehouse
14. Drum Washing Shed
15. Blacksmith Shop
16. Reconditioning Shed
17. Native Quarters
18. Gasoline Storage
19. Transformer House





STANDARD-VACUUM OIL CO. WUHU INSTALLATION

The Asiatic Petroleum Company (N.C.) Ltd., sub-installation.- This installation was situated on the south (east) bank of the river a little north and downstream from the city. It had four small tanks for the storage of gasoline, kerosene and gas oil, and filling arrangements for these products. There were five warehouses, an office and two residences. A steel pontoon wharf in the river provided discharge facilities for the company's small tankers that brought supplies of bulk products from Shanghai and was also used for the receipt and delivery of packaged products. No bunkering was done.

A drawing of the plant is shown on page 136.

Standard-Vacuum Oil Company, terminal.- This terminal was located a short distance south of the Asiatic installation on the same side of the river and between it and the city. The tankage consisted of one small and two large tanks for kerosene, a small tank for diesel oil, a kerosene filling tank and arrangements for filling cans and drums. There were two large warehouses and one small one for packed gasoline, a can factory with a daily capacity of 5,000 cans, an office and an installation superintendent's residence. The terminal had a long frontage on the river and a large pontoon wharf which could accommodate tankers with drafts of 16 feet at all times of year and with deeper drafts between July and October. There was road access to the city but products were moved mostly by water.

A drawing of this plant and a photograph appear on pages 137 and 138.

The Texas Company (China) Ltd., warehouses.- This company owned a warehouse at Wuhu with accommodation for 30,000 units of packaged oil. Stocks were supplied by river from Shanghai and distributed to the city and neighboring markets from this warehouse.

Marine equipment: At Wuhu the Standard owned one sailing junk for bulk oil and one motor launch. Asiatic kept no equipment at this point.

Distribution: Standard-Vacuum had several bulk depots in the Wuhu area which were supplied from this terminal. They were as follows:

Points Supplied From Wuhu

Place	Province	Nature of Facility	How Supplied
Wuhu City	Anhwei	Bulk depot	By river
Anking	"	" "	"
Kaoshan	Kiangsu	" "	"
Kienping	Anhwei	" "	"
Nanling	"	" "	By rail water
Ningkwofu	"	" "	" river
Tatung	"	" "	"
Tsungyanchan	"	" "	"
Wuweichow	"	" "	"
Yuntsao	"	" "	"

4.4.12 Kiukiang - Kiangsu Province

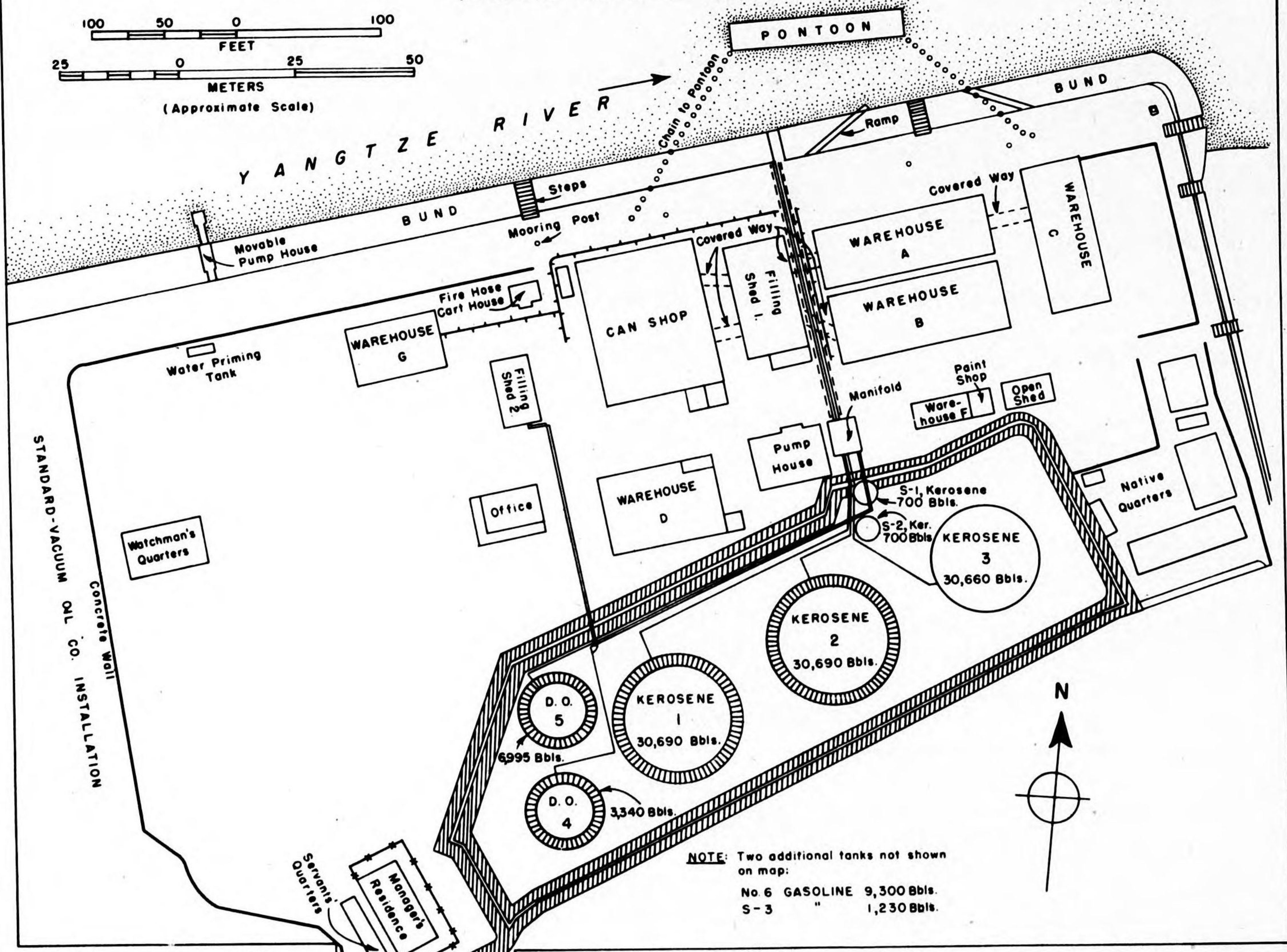
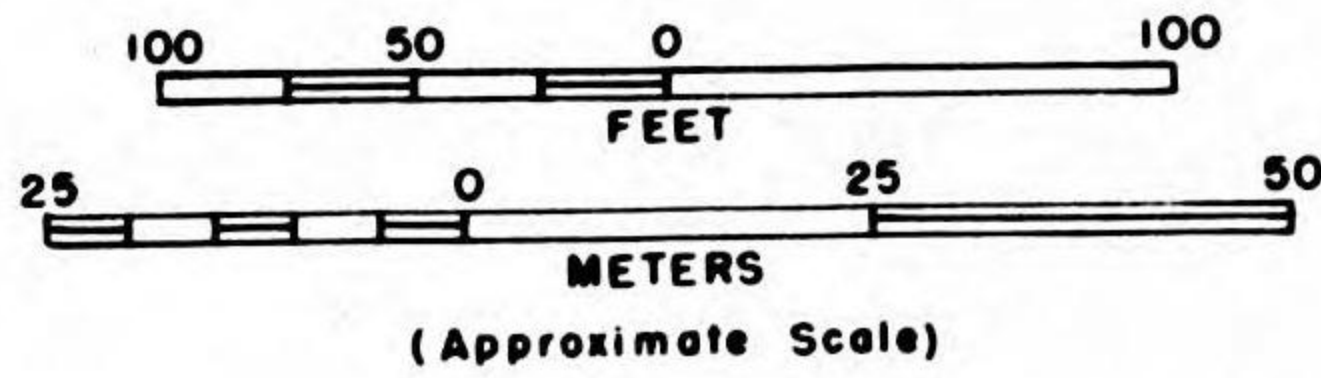
Latitude 29° 40' N., longitude 116° 5' E.

About 460 miles up the Yangtze River from pilot station at the rivers mouth.

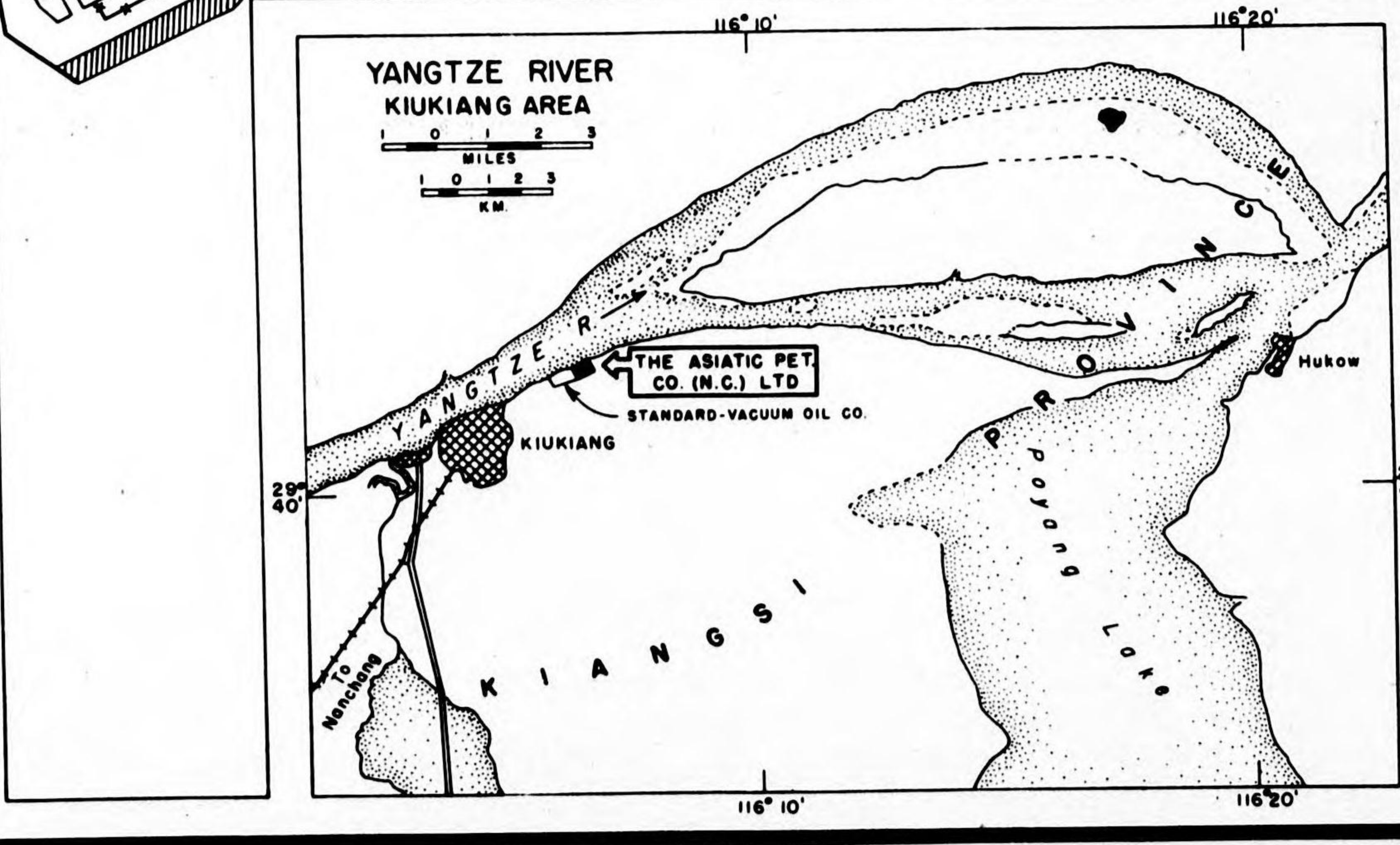
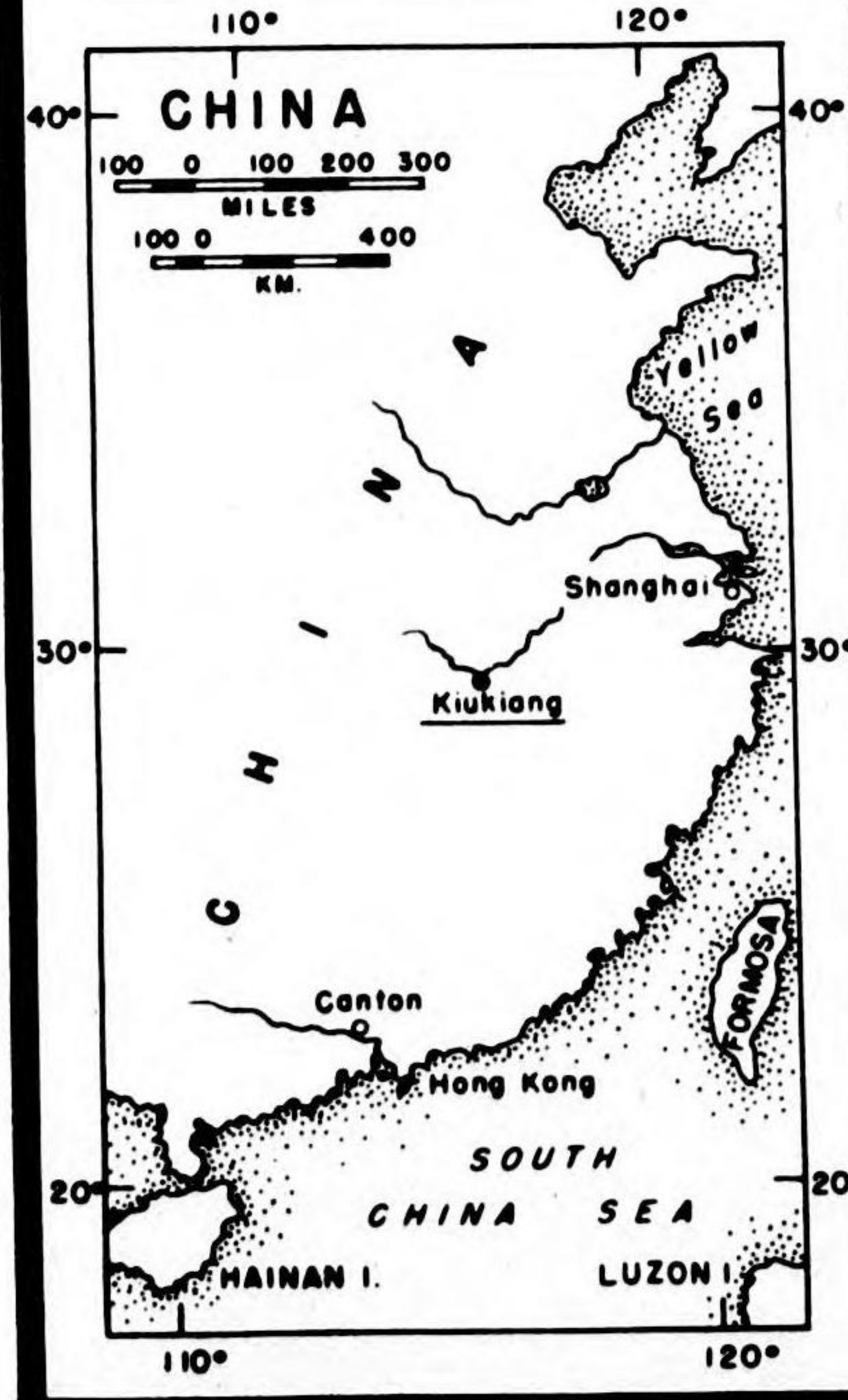
The Asiatic Petroleum Company (N.C.) Ltd., terminal.- The terminal was located on the south bank of the river some distance east of the city. It had three medium sized storage tanks for kerosene and three small ones for gasoline, diesel and gas oil, three service tanks for gasoline and kerosene and filling arrangements for cans and drums. There was a can factory with a daily capacity of 7,700 cans, six

NORTH CHINA KIUKIANG INSTALLATION

THE ASIATIC PETROLEUM COMPANY (N.C.) LTD.
(ROYAL DUTCH SHELL)



NOTE: Two additional tanks not shown on map:
No 6 GASOLINE 9,300 Bbls.
S-3 " 1,230 Bbls.



LEGEND

- 1 Native Quarters
- 2 Watchman
- 3 Fire Hose Cart House
- 4 Gasoline Stores
- 5 Office
- 6 D.O. Filling Shed
- 7 Filling Room
- 8 Filling Shed (Barrels)
- 9 Stove and Lamp Goods Warehouse
- 10 Can Shop
- 11 Engine Room
- 12 Gasoline Warehouse
- 13 Storehouse
- 14 Blacksmith and Soldering Shed
- 15 Servants' Quarters

TANKS

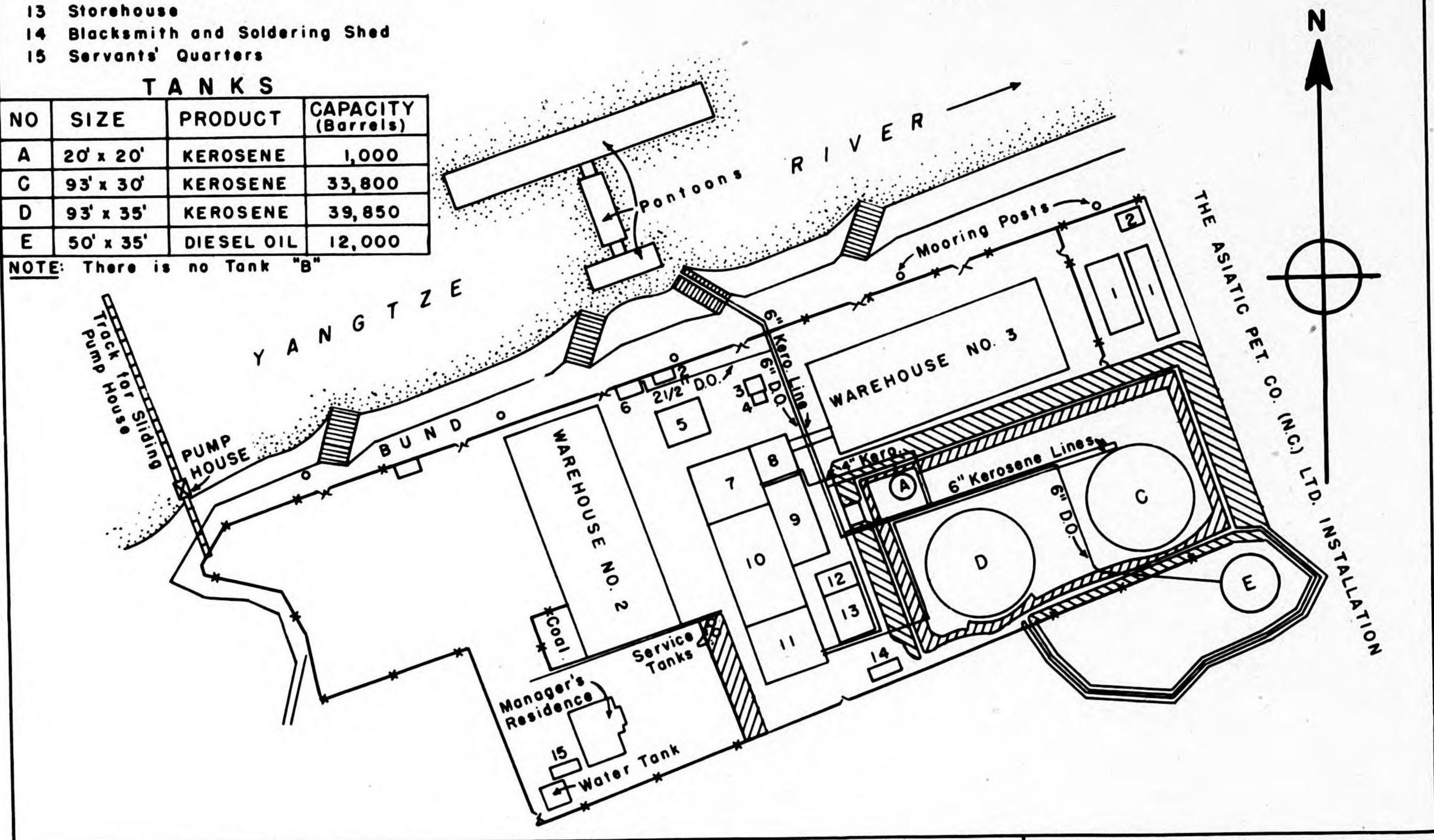
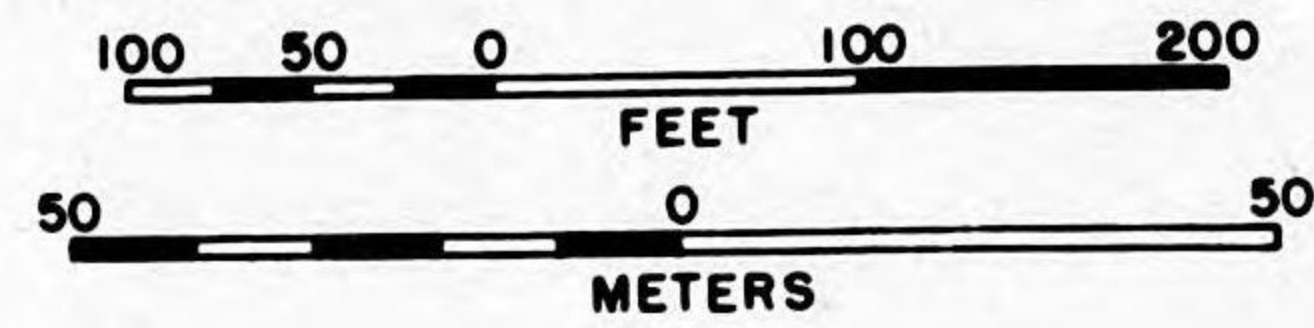
NO	SIZE	PRODUCT	CAPACITY (Barrels)
A	20' x 20'	KEROSENE	1,000
C	93' x 30'	KEROSENE	33,800
D	93' x 35'	KEROSENE	39,850
E	50' x 35'	DIESEL OIL	12,000

NOTE: There is no Tank "B"

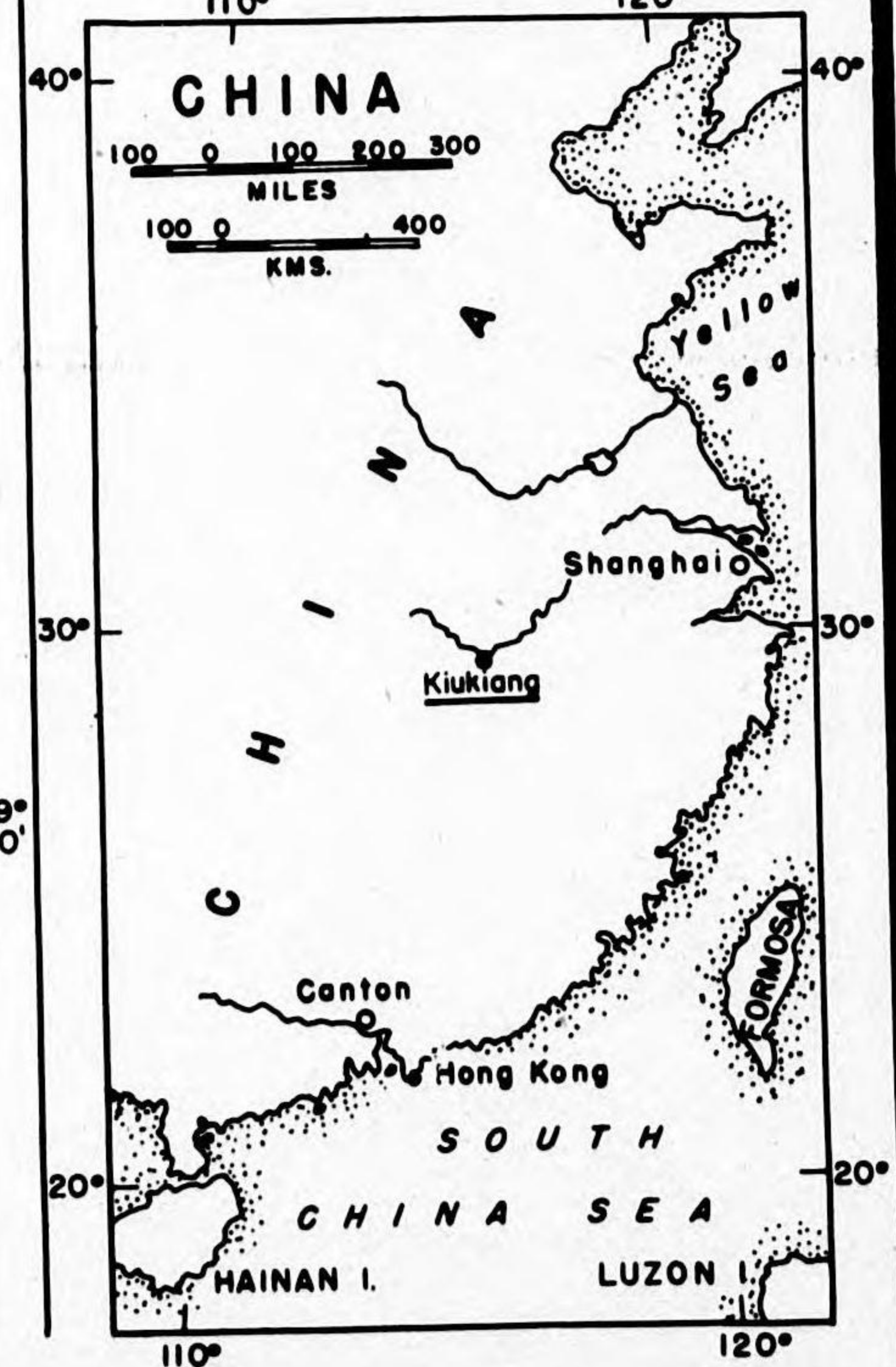
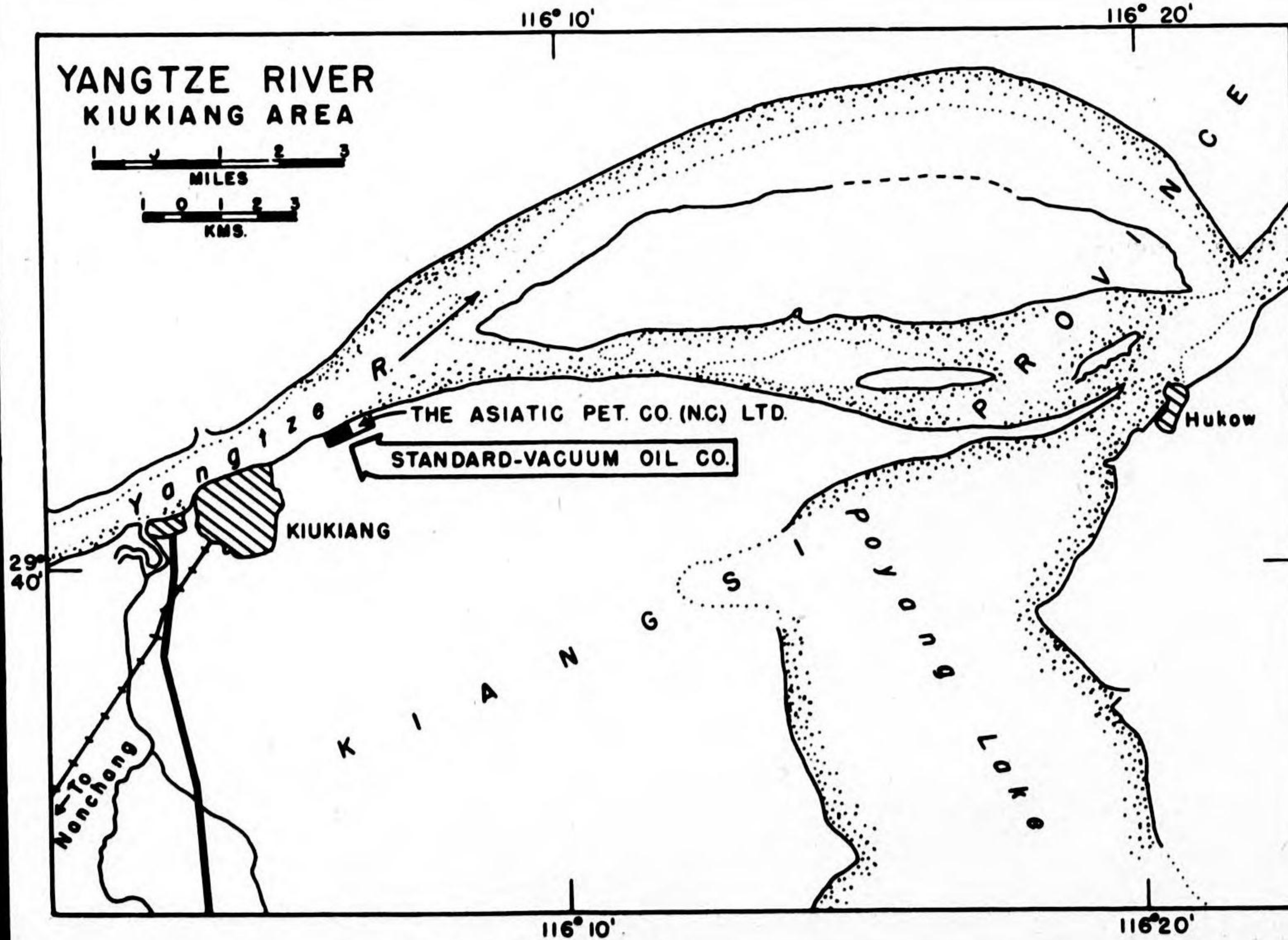
NORTH CHINA

KIUKIANG INSTALLATION

STANDARD-VACUUM OIL COMPANY



**YANGTZE RIVER
KIUKIANG AREA**





ASIATIC PETROLEUM CO. AND STANDARD-VACUUM OIL CO. INSTALLATIONS AT KIUKIANG

warehouses, an office and a superintendent's residence. The terminal had a long river frontage with a pontoon wharf swung on chains from the river bank. The pipe lines on the river bund were connected to the vessel by means of a movable pipe line with a pump which could be moved up or down the slope of the bund to suit the height of the river. From May to October vessels drawing up to 28 feet could reach the pontoon but during the winter months the draft was limited to about 10 feet. The installation was supplied by ocean tanker in the summer and, if necessary, stocks were supplemented in the winter by small tankers from Shanghai. All deliveries were made by water. Bunkering with diesel oil could be done here.

There is a drawing and a photograph of the terminal on pages 140 and 142.

Standard-Vacuum Oil Company Terminal.- This terminal adjoined that of the Asiatic on the west and was, therefore, slightly nearer the city. It had two large storage tanks for kerosene and a smaller one for diesel oil. There was one service tank for kerosene and filling arrangements for kerosene cans and diesel oil drums. The can factory had a daily capacity of 5,000 cans. There were two large and two small warehouses, the latter two for gasoline in packages and for miscellaneous goods. There was an office and a superintendent's residence in the compound. The terminal had a wide frontage on the river and there was a wharf consisting of three pontoons which was used for the discharge of tankers and for the delivery of bulk stocks and the handling of packaged products. The same conditions as to depth of water prevailed here as at the Asiatic installation and there was a movable pipe line and pump here similar to the one used by Asiatic. No bunkering was done.

On page 141 there is a drawing of this plant and the photograph on page 142 also shows the installation at the right.

Marine equipment.- At Kiukiang Standard maintained a motor vessel handling both bulk oil and packages, a sailing junk and two dumb lighters for bulk oil, a sampan and two motor launches. Asiatic's equipment used at Kiukiang was based on Shanghai.

Distribution.- The Kiukiang terminals served the province of Kiangsi through two main channels.

- (1) By company-owned lighters to depots on the Poyang Lake and thence by junk to markets eastward and westward.
- (2) By company-owned lighters and by rail to Nanchang and thence by junk southward and southeastward to markets on the Kan River and its tributaries.

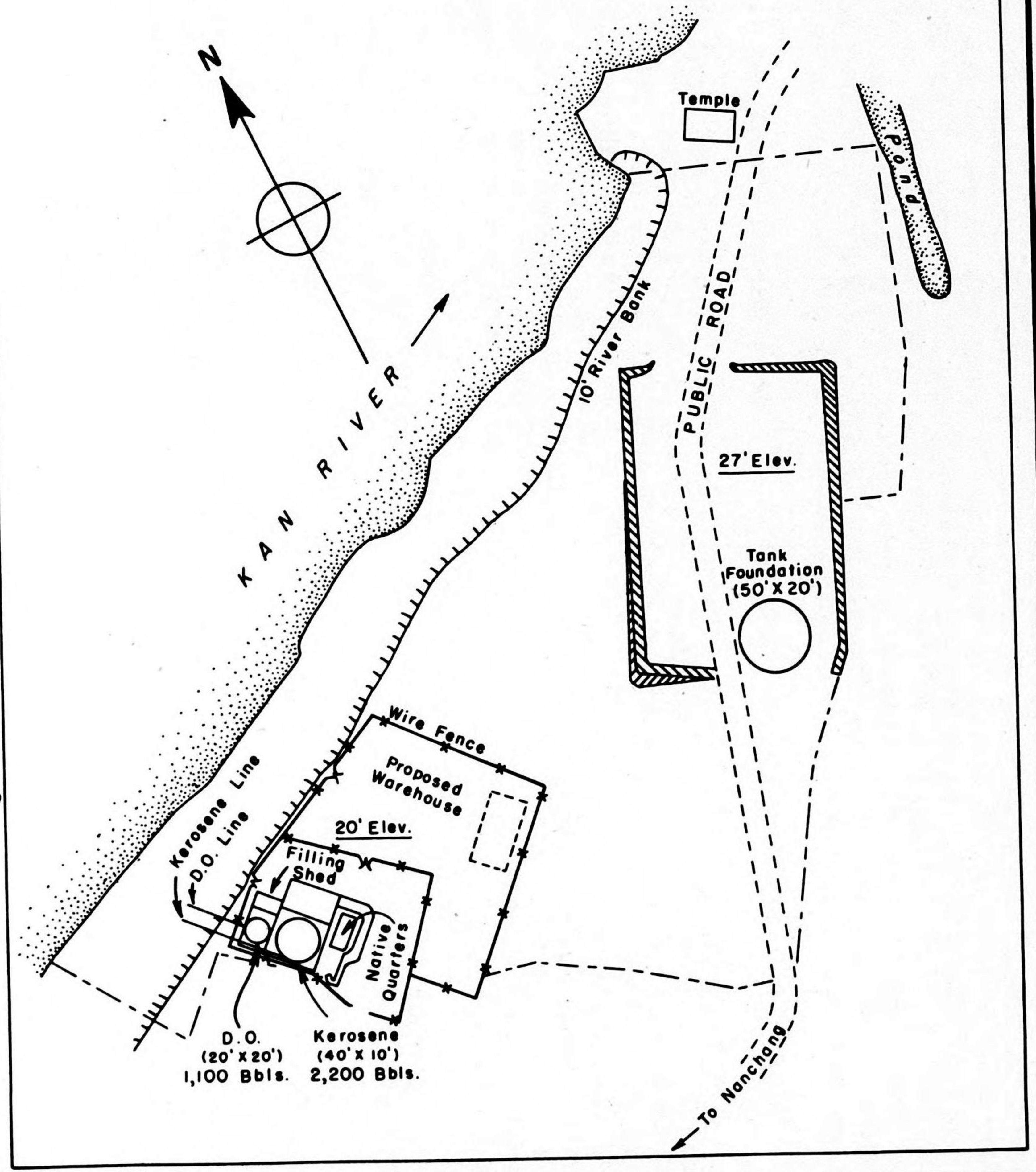
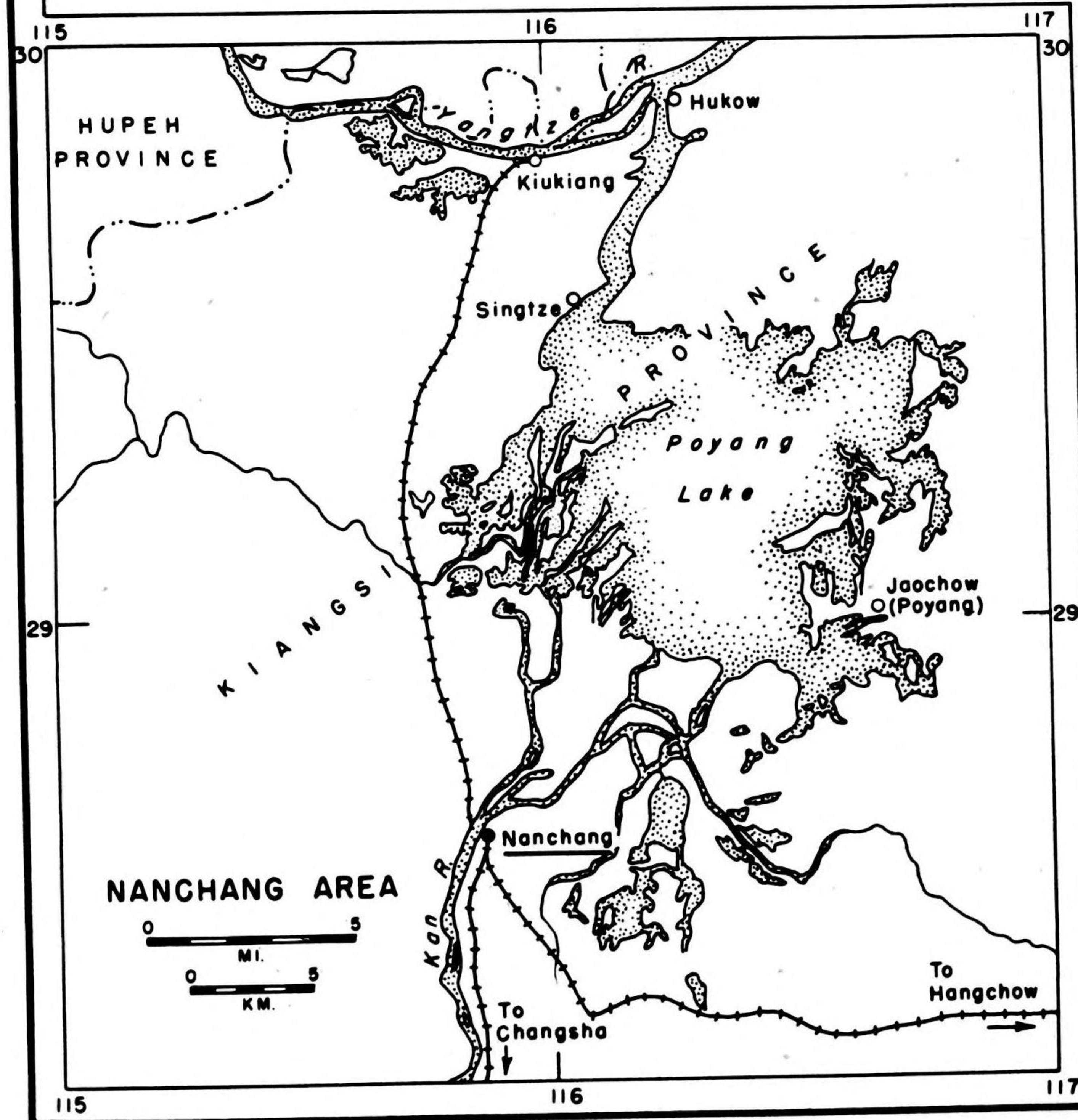
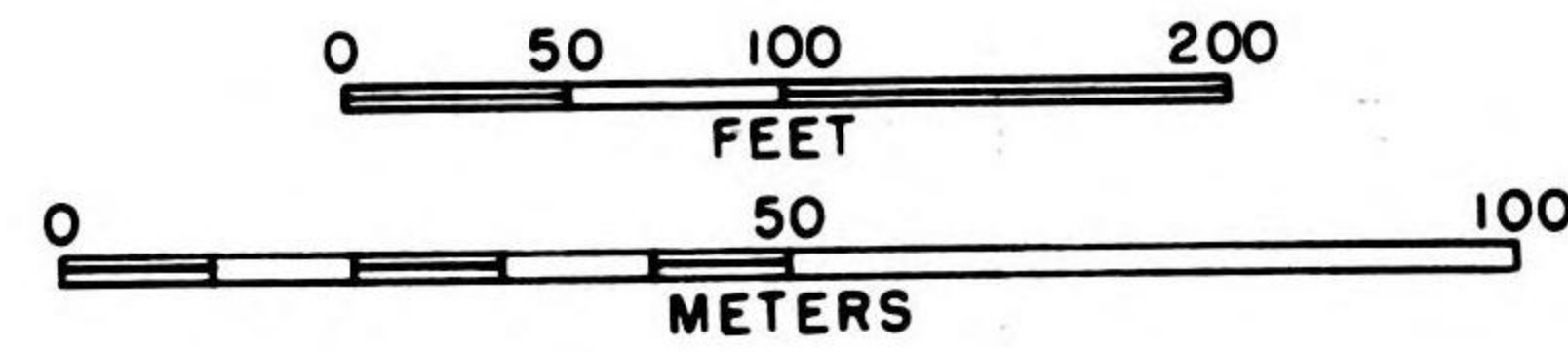
The table below shows the facilities maintained by the oil companies in this area and the methods of supply.

Points Supplied from Kiukiang

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied *</u>
Changsuki	Kiangsi	APC	Bulk depot	(2)
"	"	SVOC	" "	(2)
Jaochow	"	APC	" "	(1)
"	"	SVOC	" "	(1)
Kanchow	"	SVOC	Warehouse	(2)
Kianfu	"	APC	Bulk depot	(2)
"	"	SVOC	" "	(2)
Linchwan	"	SVOC	Warehouse	(1)
Loping	"	SVOC	Bulk depot	(1)
Nanchang	"	APC	Sub-installation	(2)
"	"	SVOC	" "	(2)
Tukiafow	"	SVOC	Bulk depot	(2)
Wucheng	"	APC	" "	(1)
Yukiang	"	SVOC	" "	(1)

* Refer to preceding paragraph.

NORTH CHINA NANCHANG INSTALLATION STANDARD-VACUUM OIL CO.



4.4.13 Nanchang - Kiangsi Province

Latitude 28° 40' N., longitude 115° 53' E.

The Asiatic Petroleum Company (M.C.) Ltd., sub-installation.- This small installation was situated on the Kan River and was supplied by company lighter via Poyang Lake and the Kan River and by rail from Kiukiang. It was a distributing point for markets further up the river reached by junk. It had three tanks with a combined capacity of about 2,200 barrels and warehouses with a floor area of about 2,700 square feet. No drawing of the installation is available.

Standard-Vacuum Oil Company, sub-installation.- This was a small plant, also on the Kan River, and was supplied with bulk kerosene and diesel oil and with packaged goods from Kiukiang and was used as a redistributing point. There was one small tank for diesel oil and a larger one for kerosene. The two tanks had a combined capacity of about 3,200 barrels. There were filling arrangements for cans and drums and a warehouse which would accommodate about 7,000 units of packaged oil. One other tank and another warehouse had been proposed but had not been erected at the time of evacuation.

A drawing of the plant appears on page 144.

4.4.14 Hankow - Hupei Province

Latitude 30° 30' N., longitude 114° 20' E.

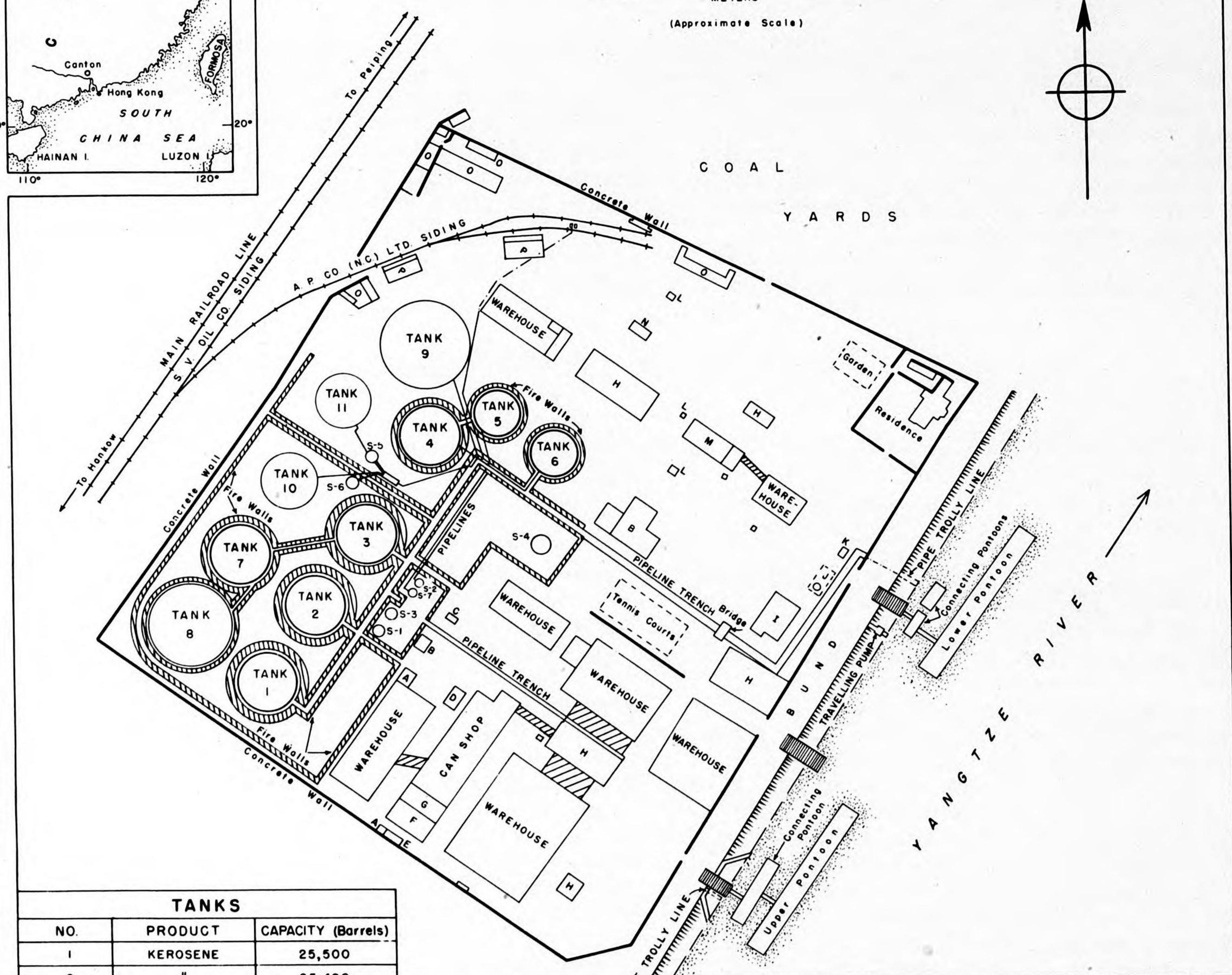
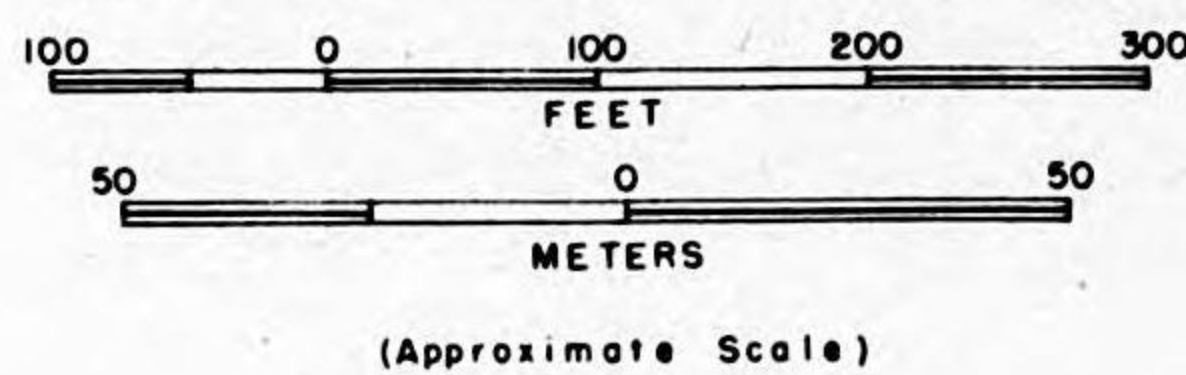
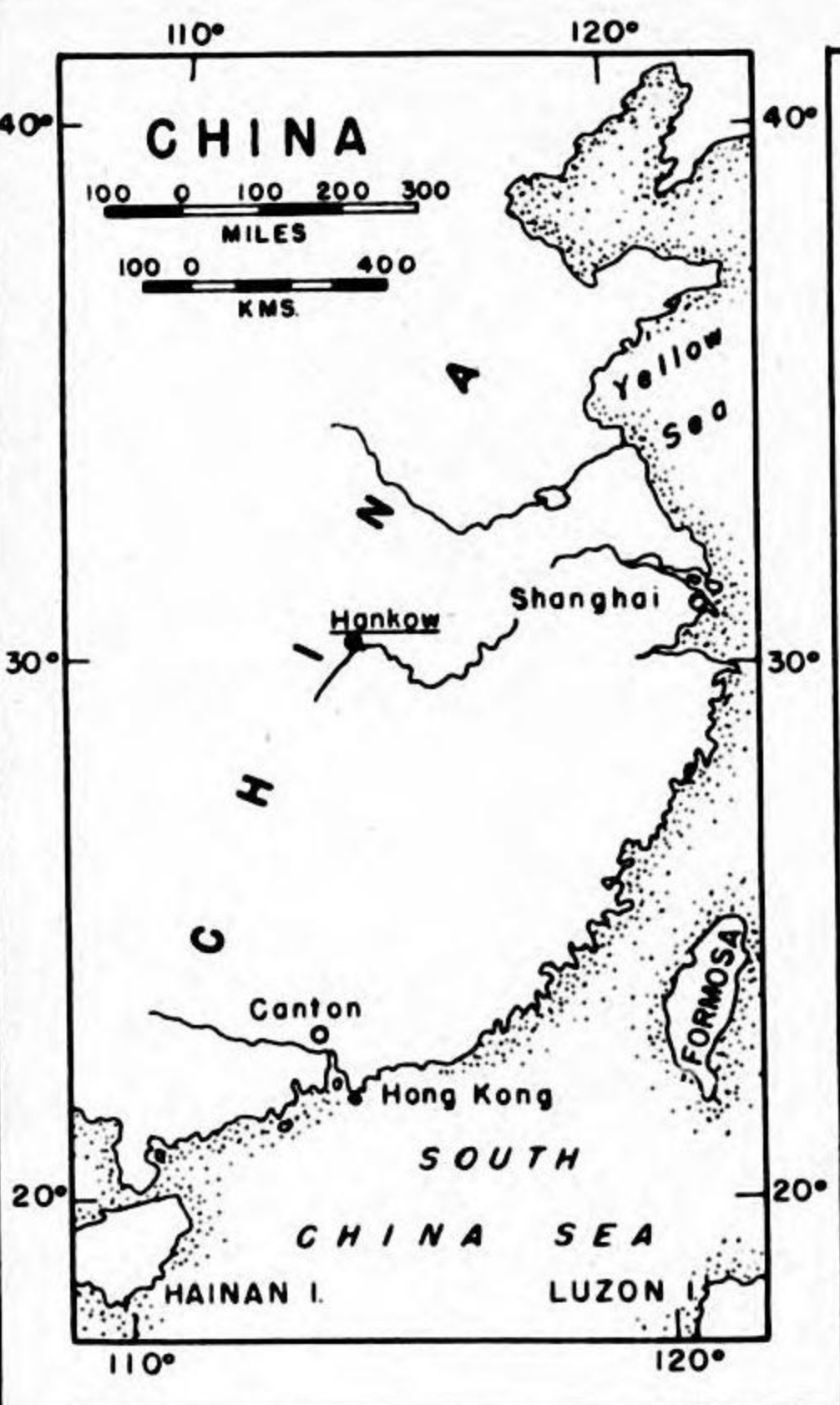
About 642 miles up the Yangtze River from the pilot station at the mouth of the river.

The Asiatic Petroleum Company (M.C.) Ltd., terminal.- This terminal was situated some distance north of the city in a locality known as Tan Sui Chi on the north bank of the river. It was a large plant with 11 storage tanks ranging from medium to large size for gasoline, kerosene, gas oil and diesel oil and also seven service tanks. There were arrangements for filling both cans and drums and a can factory with a daily capacity of 14,500 cans. There were seven warehouses, an office and a superintendent's residence. The terminal had a wide frontage on the river with two pontoon wharves and there were similar pumping arrangements as at Kiukiang with traveling pumps and movable pipe lines. The wharves could be used from May 15 to the end of October by ocean tankers with drafts between 23 and 30 feet but only shallow draft tankers could use them during the winter. At the rear of the installation there was a siding leading to the Peking-Hankow railway. Despatches of bulk oil and packaged goods could be made both by water and by rail. Hankow was the last point up the river reached by the Asiatic's ocean tankers and thus this terminal was used as a supply point for their main installations farther up the river. Bunkering of vessels with diesel oil could be done at Hankow.

A drawing of this terminal appears on page 146 and there is a photograph of the terminal and the river front on page 149.

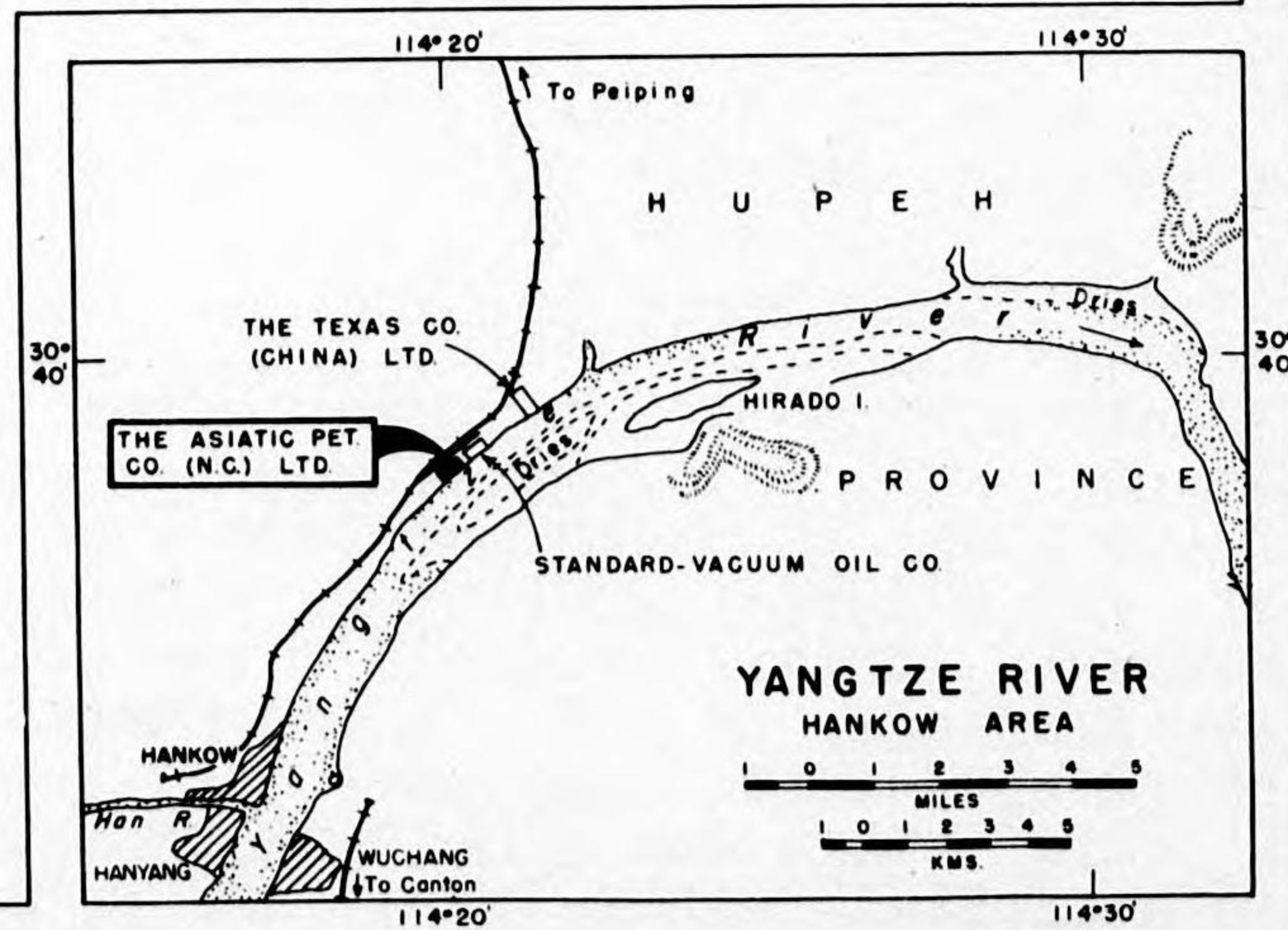
Standard-Vacuum Oil Company, terminal.- This terminal was on the north bank of the river a short distance down stream from the Asiatic plant. It was a large installation with nine large and five medium and small tanks for the storage of aviation gasoline, motor gasoline, kerosene, diesel oil and fuel oil. There were eight service tanks of which two were used for ethyl-blending, complete filling arrangements and a large can factory with a daily capacity of 16,000 cans, seven good sized warehouses, an office and a superintendent's residence. The installation had a wide river frontage and two pontoon wharves and movable pumps and pipe lines. Ocean tankers could discharge here only during the summer months. In the rear of the installation there was a railway siding leading to the Peking-Hankow line and products were delivered both by water and by rail. Although Standard sent their ocean tankers as far up the river as Yochow, they frequently supplied their up-river installa-

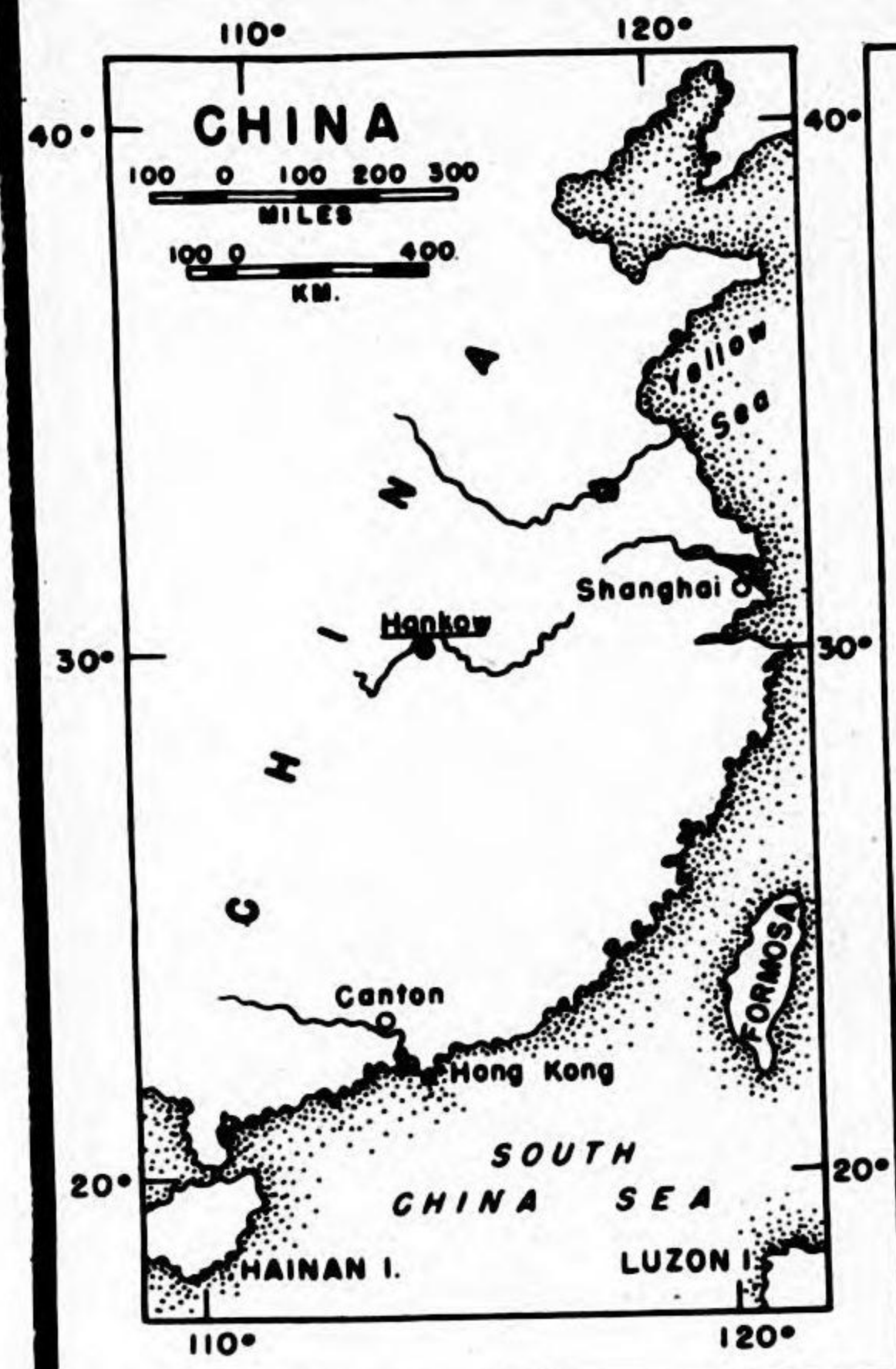
NORTH CHINA
HANKOW INSTALLATION
THE ASIATIC PETROLEUM COMPANY (N.C.) LTD.
(ROYAL DUTCH SHELL)



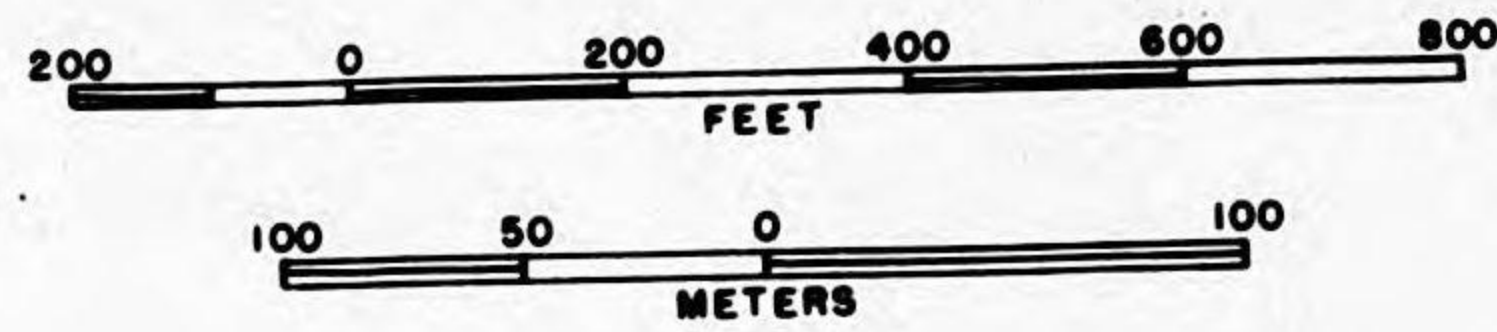
TANKS		
NO.	PRODUCT	CAPACITY (Barrels)
1	KEROSENE	25,500
2	"	25,490
3	"	30,625
4	DIESEL OIL	30,700
5	"	19,200
6	"	19,200
7	KEROSENE	30,605
8	"	52,880
9	DIESEL OIL	53,075
10	GASOLINE	32,030
11	"	32,035
S-1	KEROSENE	700
S-2	DIESEL OIL	475
S-3	KEROSENE	700
S-4	DIESEL OIL	1,200
S-5	GASOLINE	550
S-6	"	550
S-7	DIESEL OIL	980

- LEGEND**
- A Solder Sheds
 - B Pump Houses
 - C Cleaning Plant (Oil)
 - D Acid Clay Storage
 - E Blacksmith Shop
 - F Power House
 - G Repair Shop
 - H Filling Sheds
 - I Office
 - J Water Plant, with Tank
 - K Watchman
 - L Soldering Irons Heating Sheds
 - M Open Shed
 - N Soldering and Testing Shed
 - O Native Quarters
 - P Railroad Loading Platforms





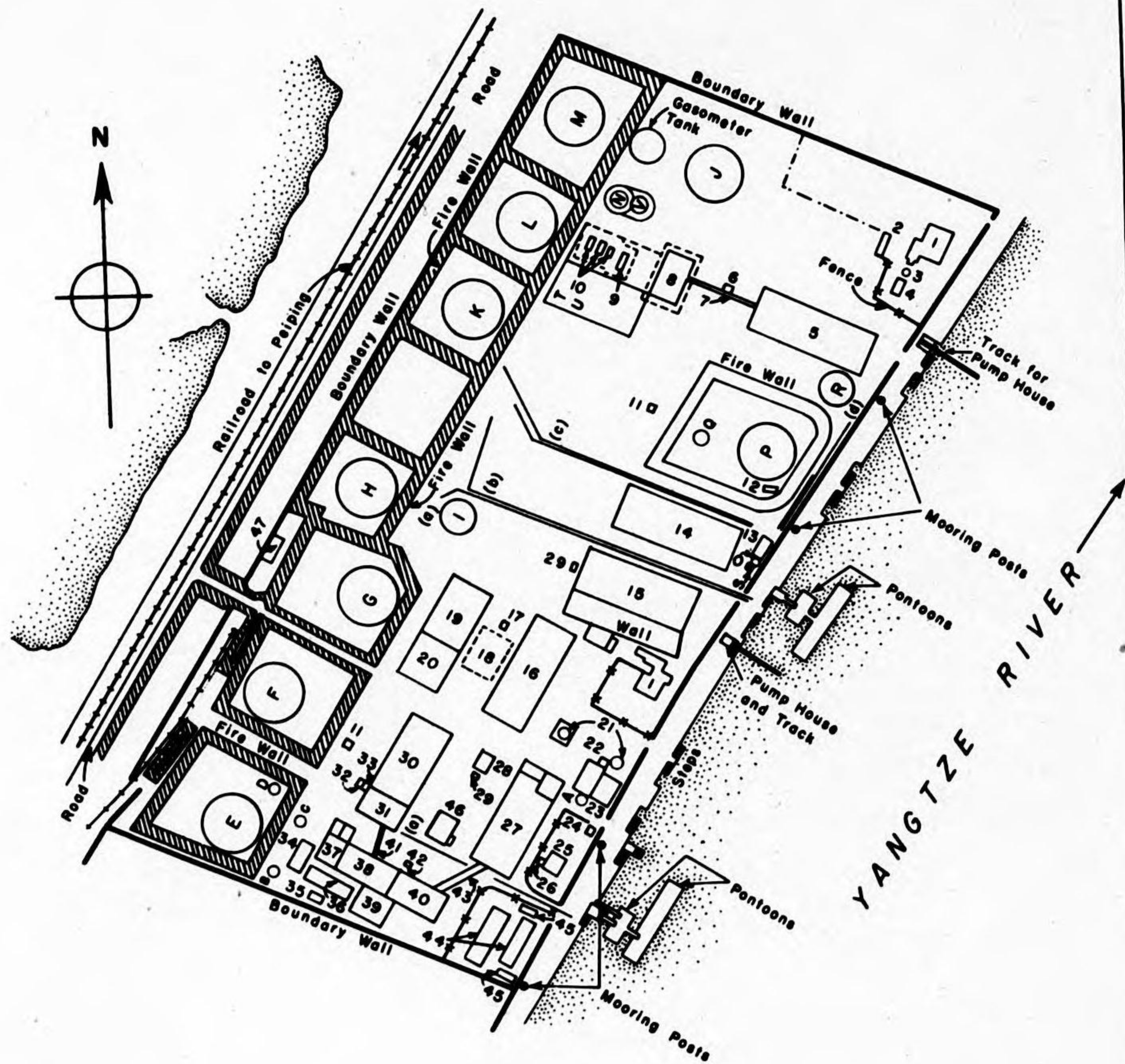
NORTH CHINA HANKOW INSTALLATION STANDARD-VACUUM OIL COMPANY



(Approximate Scale)

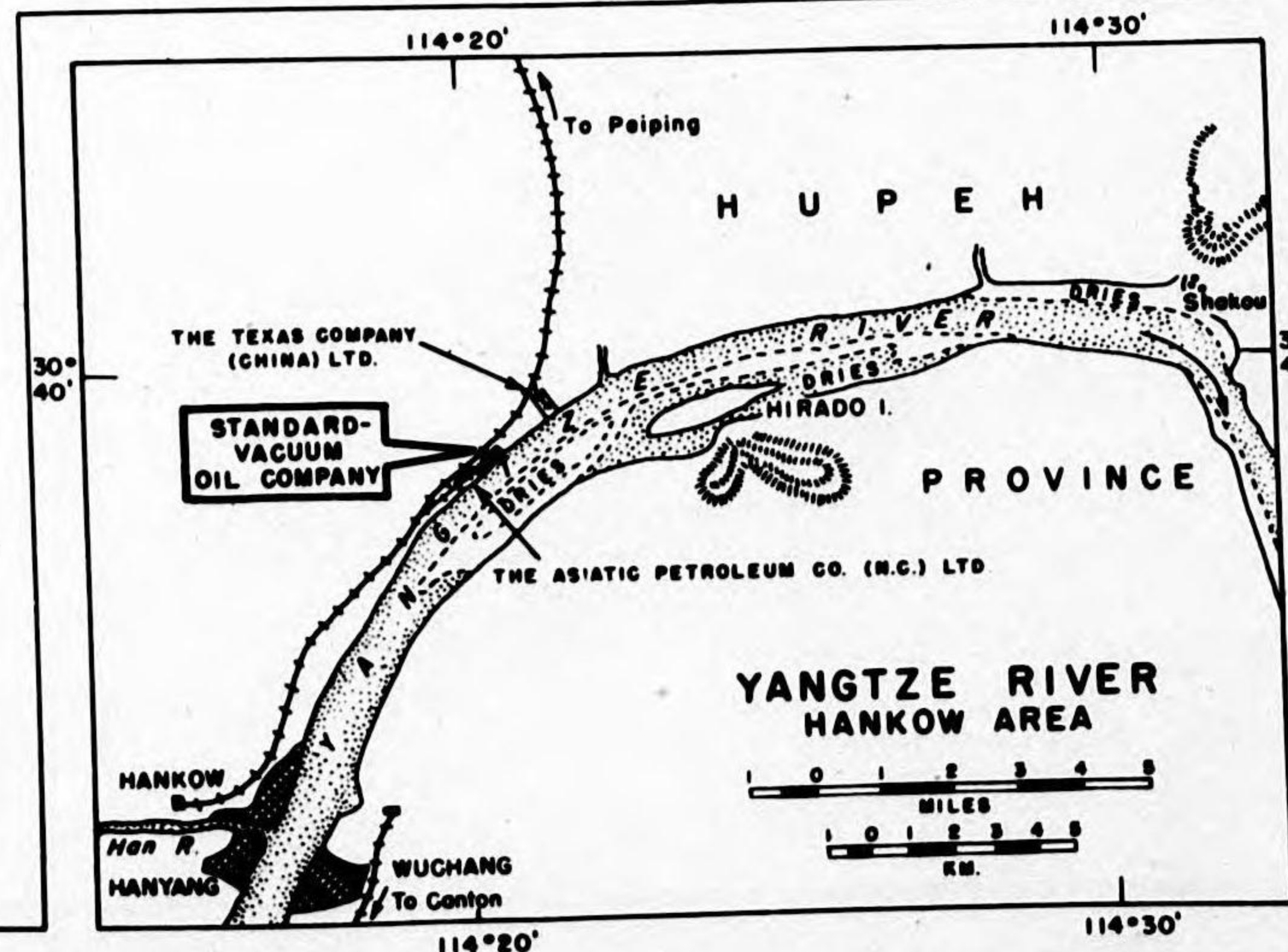
LEGEND

1. Residences
2. Servants' Quarters
3. Sump
4. Swimming Pool
5. Warehouse No. 6
6. Gasoline Reconditioning Shed
7. Gravity Conveyor
8. Filling Shed
9. Ethyl Mixing Shed
10. Mixing Tanks ("T" & "U" incl'd)
11. Fire Hose Cart Houses
12. Pump House
13. Diesel Oil Filling Shed
14. Warehouse No. 7
15. Warehouse No. 5
16. Warehouse No. 3
17. Rest House
18. Tennis Court
19. Warehouse No. 4
20. Garage
21. Water Towers
22. Soldering Shed
23. Barrel Filling Shed
24. Gate House
25. Office
26. Coal Bin
27. Warehouse No. 1
28. Carpenters Shop
29. Sand Box
30. Warehouse No. 2
31. Filling House
32. Solder Burner
33. Stove Room
34. Machine Shop
35. Blacksmith Shop
36. Storage
37. Engine House
38. Can Shop
39. Tin Plate Storage
40. Filling House
41. Conveyor
42. Tank
43. Covered Way
44. Chinese Quarters
45. Kitchens
46. Box Factory
47. Stable

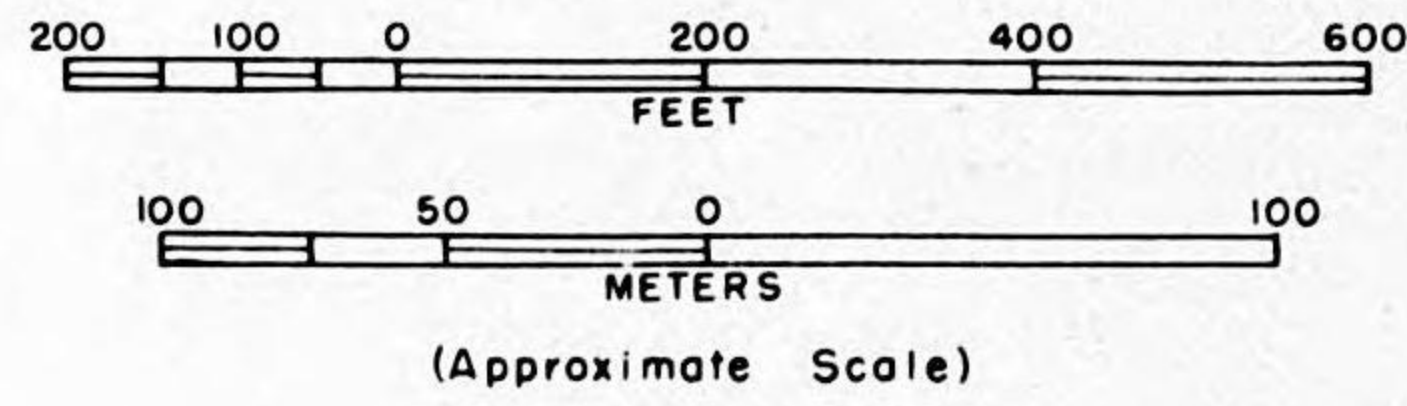
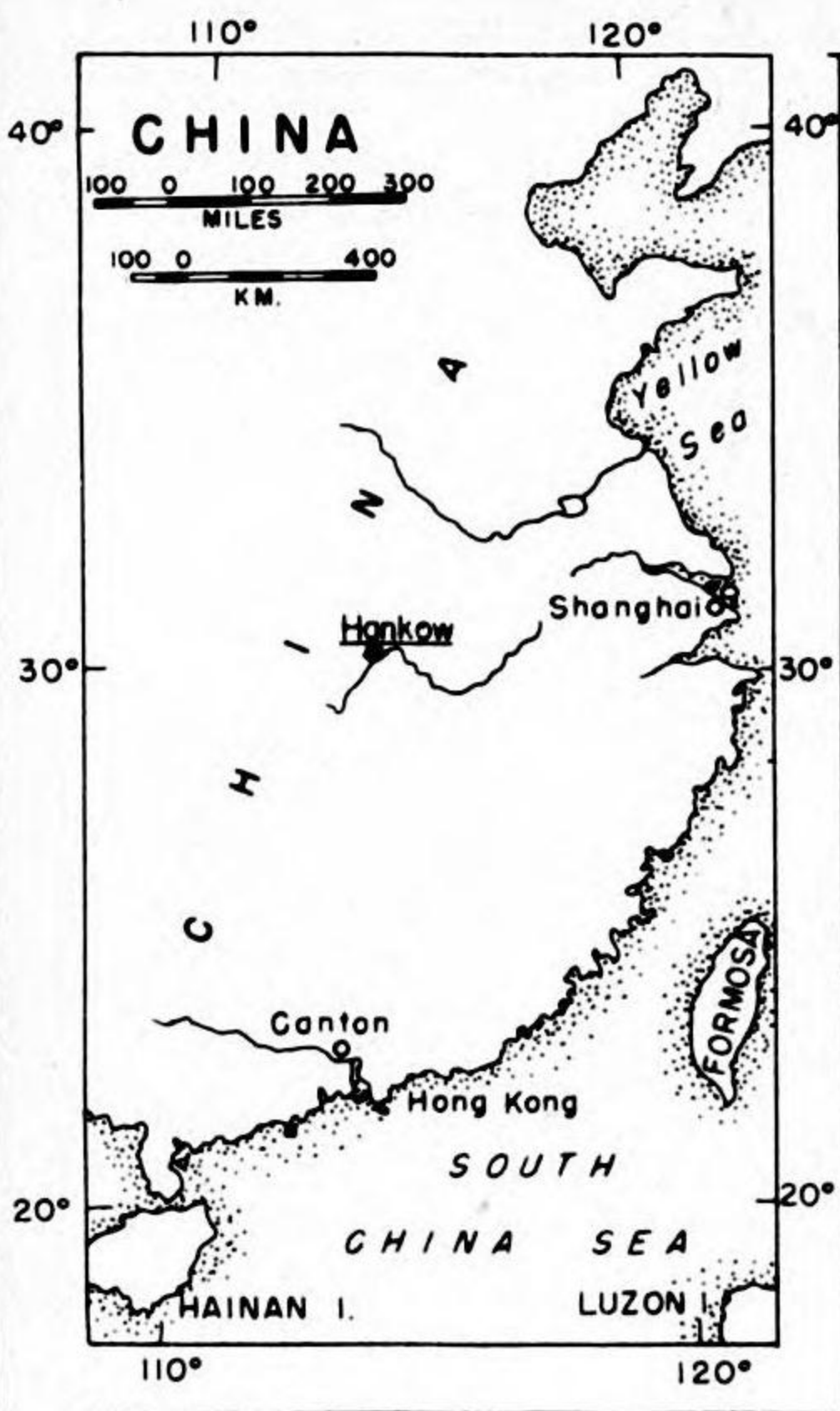


TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	16' X 20'	KEROSENE	350
B	20' X 30'	KEROSENE	1,600
C	20' X 30'	KEROSENE	1,600
D	20' X 20'	KEROSENE	1,050
E	93' X 35'	KEROSENE	39,800
F	93' X 35'	KEROSENE	39,900
G	93' X 35'	KEROSENE	40,000
H	93' X 35'	KEROSENE	40,000
I	96' X 30'	KEROSENE	12,950
J	93' X 35'	GASOLINE	40,000
K	93' X 35'	DIESEL OIL	40,900
L	93' X 30'	DIESEL OIL	35,550
M	93' X 35'	GASOLINE (Aviation)	39,800
N	30' X 27'	GASOLINE (Aviation)	3,150
O		DIESEL OIL	15
P	93' X 35'	FUEL or DIESEL OIL	41,050
Q	25' X 30'	DIESEL OIL	2,550
R	50' X 35'	FUEL or DIESEL OIL	12,000
S	8' X 6'	DIESEL OIL	30
T	11'5" X 26'	GASOLINE (Aviation)	480
U	11'5" X 26'	GASOLINE (Aviation)	480
V	30' X 20'	GASOLINE	2,515

7 PIPELINES: -
 (a) - Two 6" Kerosene to river front.
 (b) - One 6" Gasoline " " "
 (c) - Two 6" Diesel Oil " " "
 (d) - Two 6" Fuel or Diesel Oil to river front.



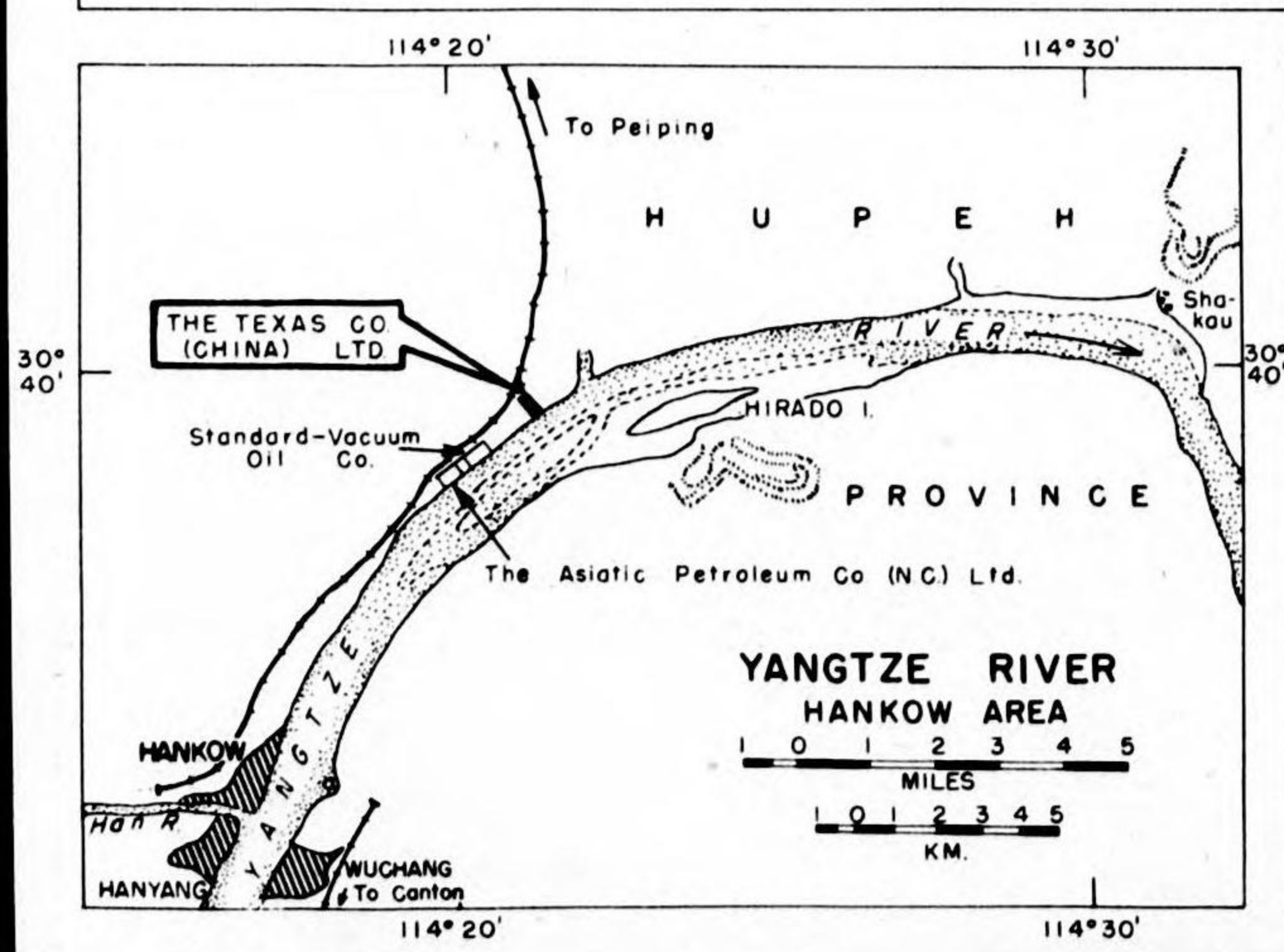
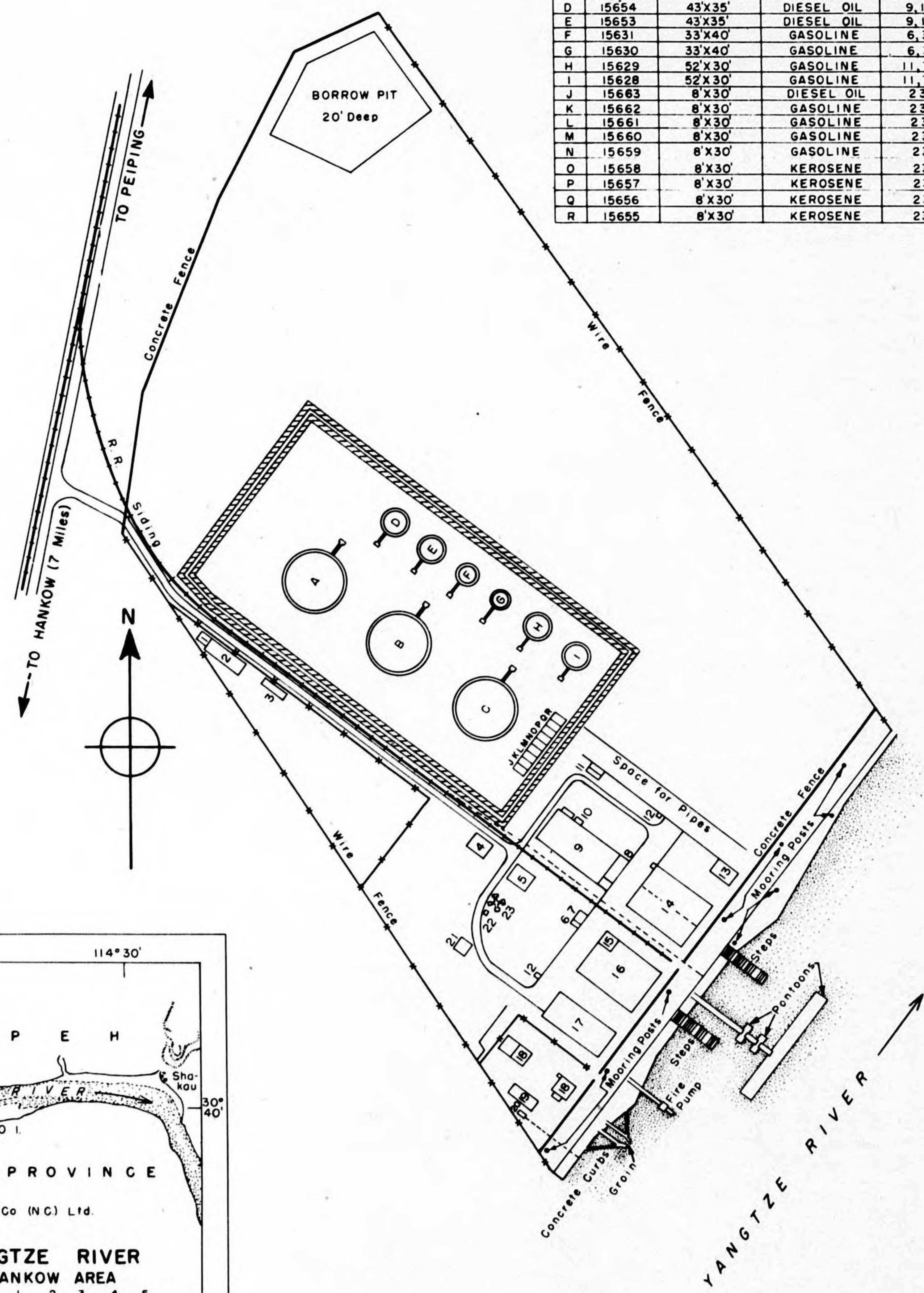
NORTH CHINA
HANKOW INSTALLATION
THE TEXAS COMPANY (CHINA) LTD.

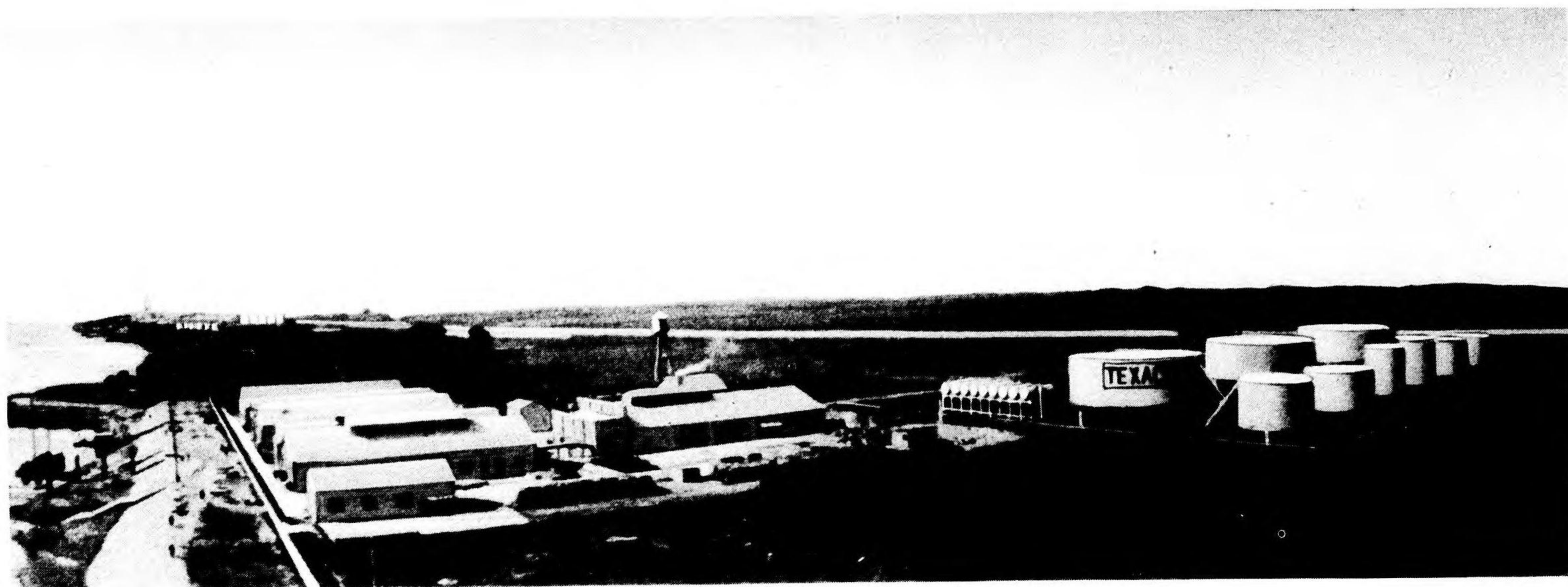


TANKS				
KEY	TANK NO	DIMENSIONS	PRODUCT	BBL. CAPACITY
A	15627	114'X35'	KEROSENE	64,000
B	15626	114'X35'	KEROSENE	64,000
C	15625	114'X35'	KEROSENE	64,000
D	15654	43'X35'	DIESEL OIL	9,100
E	15653	43'X35'	DIESEL OIL	9,100
F	15631	33'X40'	GASOLINE	6,300
G	15630	33'X40'	GASOLINE	6,300
H	15629	52'X30'	GASOLINE	11,700
I	15628	52'X30'	GASOLINE	11,700
J	15663	8'X30'	DIESEL OIL	238
K	15662	8'X30'	GASOLINE	238
L	15661	8'X30'	GASOLINE	238
M	15660	8'X30'	GASOLINE	238
N	15659	8'X30'	GASOLINE	238
O	15658	8'X30'	KEROSENE	238
P	15657	8'X30'	KEROSENE	238
Q	15656	8'X30'	KEROSENE	238
R	15655	8'X30'	KEROSENE	238

LEGEND

1. Kitchen
2. Chinese Staff Quarters
3. Watchman's House
4. Garage
5. Power House
6. Laboratory
7. Foam House
8. Inspection Room
9. Can Shop
10. Lavatory
11. Pump House
12. Hose House
13. Drum Filling House
14. Gasoline and Kerosene Warehouse
15. Office
16. Lub Oil Warehouse
17. Asphalt Warehouse
18. Residences
19. Servants' Quarters
20. Septic Tank
21. Water Pump House
22. Water Reservoir
23. Elevated Water Tank





THE TEXAS CO. INSTALLATION, HANKOW, SHOWING IN BACKGROUND
THE HANKOW-PEIPING RAILROAD AND STANDARD-VACUUM OIL CO. INSTALLATION



WATER FRONT VIEW OF ASIATIC PETROLEUM CO. AND STANDARD-VACUUM OIL CO. INSTALLATIONS AT HANKOW,
SHOWING RIVER BANK STEPS, MOVABLE PUMPHOUSES AND HOSE CONNECTIONS

tions from Hankow during the low water season. Bunkering was done at this plant.

A drawing of the terminal and a photograph appear on pages 147 and 149.

The Texas Company (China) Ltd., Terminal.- This terminal was a short distance downstream from the Standard plant on the same side of the stream. It was the most modern plant of the three but somewhat smaller than the others. It had three large kerosene storage tanks, four small gasoline tanks and two small diesel oil tanks together with nine service tanks and complete filling arrangements for drums and cans. There was a can factory with a daily capacity of 7,000 cans, three warehouses for all products including lubricating oil and asphalt, an office and two residences, one for the area manager and one for the plant superintendent. There was a pontoon on the river front where tankers could discharge and from which river craft were loaded. There was also a siding connecting with the Peking-Hankow railway. The company supplied their up-river warehouses at Changsha and at Chungking from Hankow. Most deliveries were of packaged oil but bunkering with diesel oil could be done.

A drawing and a photograph of this terminal appear on pages 148 and 149.

Other facilities at Hankow.- The Idemitsu Oil Company maintained a terminal at Hankow which adjoined the Texas property on the east. At least one large storage tank was erected there in 1940. No drawing or further information about this facility are available.

The Kwang Wha Oil Company once had a plant at Hankow but this had been dismantled before the Japanese occupation.

Marine equipment.- At Hankow, Standard had four bulk sailing junks and a motor launch.

Distribution.- The Hankow terminals supplied eastern Hupeh and southern Honan Provinces direct and, particularly in the cases of the Asiatic and Texas companies, were the supply points for the main installations and warehouses farther up the Yangtze River. The main channels of supply were:

- (1) By company-owned shallow draft tankers and other river vessels to Changsha, Changteh, Ichang and Chungking installations and warehouses on the Yangtze.
- (2) By the Peking-Hankow railroad northward to numerous points from where eastern Hupeh and southern Honan markets were served by junk traffic via the rivers which flow eastward.
- (3) By company-owned and other river craft along the Yangtze to depots and markets serving southern Hupeh and northern Hunan.
- (4) By junk up the Han River to northwestern Hupeh. Laohokow, an important distribution point, was 500 miles up the river and from there a large area was supplied by junk.

The table on the following page shows the facilities maintained by the oil companies in this area and the methods of supply.

Points Supplied from Hankow

Place	Province	Company	Nature of Facility	How Supplied
Changsha	Hunan	APC	Main installation	(1)*
"	"	SVOC	" "	"
"	"	Texas	Warehouse	"
Changteh	"	SVOC	Sub-installation	"
Ichang	Hupei	APC	Main installation	"
"	"	SVOC	"	"
Chungking	Szechwan	APC	"	"
"	"	SVOC	"	"
"	"	Texas	Warehouses	"
Chengchow	Honan	SVOC	Bulk depot	(2)
Changkiangfow	Hupei	SVOC	" "	"
Chumatien	Honan	APC	" "	"
"	"	SVOC	" "	"
Hsuchow	"	APC	" "	"
"	"	SVOC	" "	"
Honanfu	"	"	" "	"
Hwangpei	Hupei	"	" "	"
Hwangshikang	"	APC	" "	(3)
Kichow	"	SVOC	" "	"
Kuhingchi	Honan	"	" "	(2)
Kunghsien	Honan	"	" "	"
Kaifeng	Honan	"	" "	"
Laohokow	Hupei	"	Warehouses	(4)
Linying	Honan	"	Bulk depot	(2)
Shasi	Hupei	APC	Sub-installation	(3)
"	"	SVOC	" "	"
Sientaochen	"	SVOC	Bulk depot	(4)
"	"	SVOC	" "	"
Siping	Honan	"	" "	(2)
Sinchengho	Honan	"	" "	"
Sinti	Hupei	APC	" "	(3)
"	"	SVOC	" "	"
Sinyangchow	Honan	APC	" "	(2)
"	Honan	SVOC	" "	"
Tsingshih	Hunan	APC	" "	(3)
Twangfeng	Hupei	"	" "	"
"	"	SVOC	" "	"
Wuchanghsien	"	APC	" "	"
"	"	SVOC	" "	"
Wusueh	"	APC	" "	"
"	"	SVOC	" "	"
Yenchengho	Honan	APC	" "	(2)
"	"	SVOC	" "	"
Yokiakow	Hupei	"	" "	(4)

* Refer to preceding paragraph, page 150.

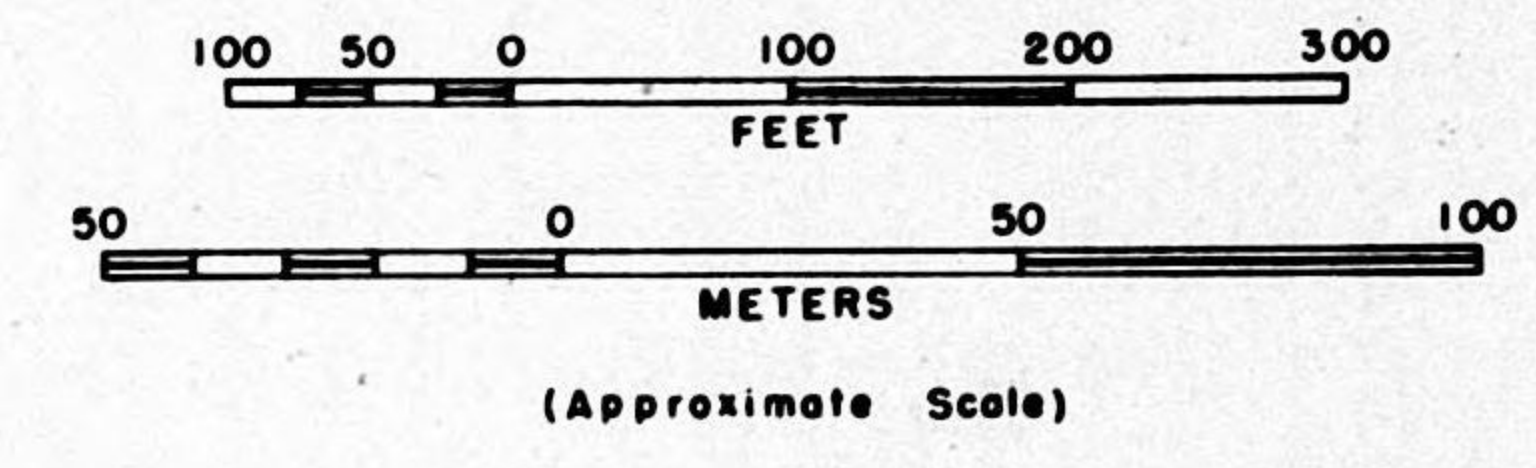
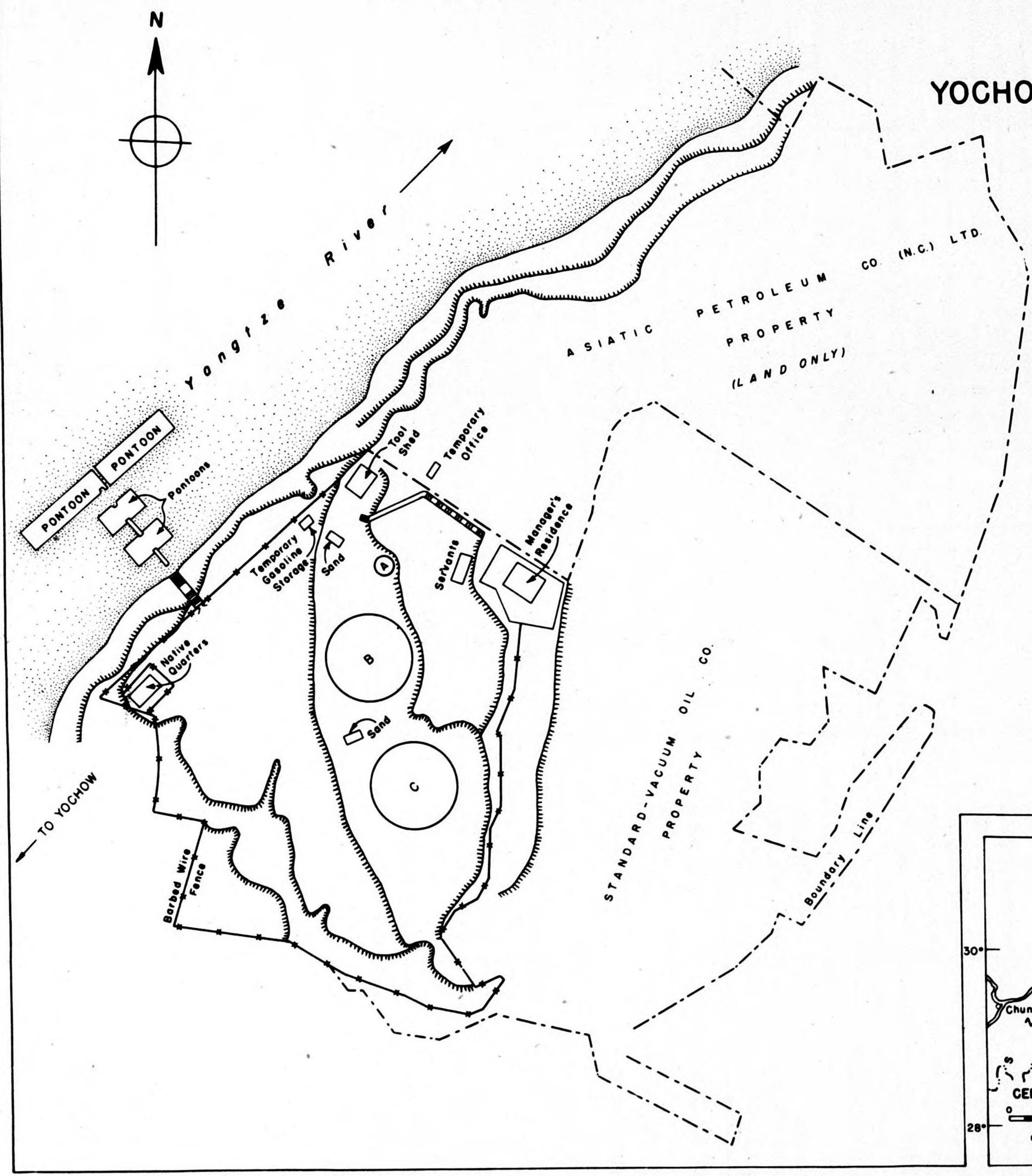
4.4.15 Yochow (Chenglingki) Hunan Province

Latitude 29° 30' N., longitude 113° 10' E.

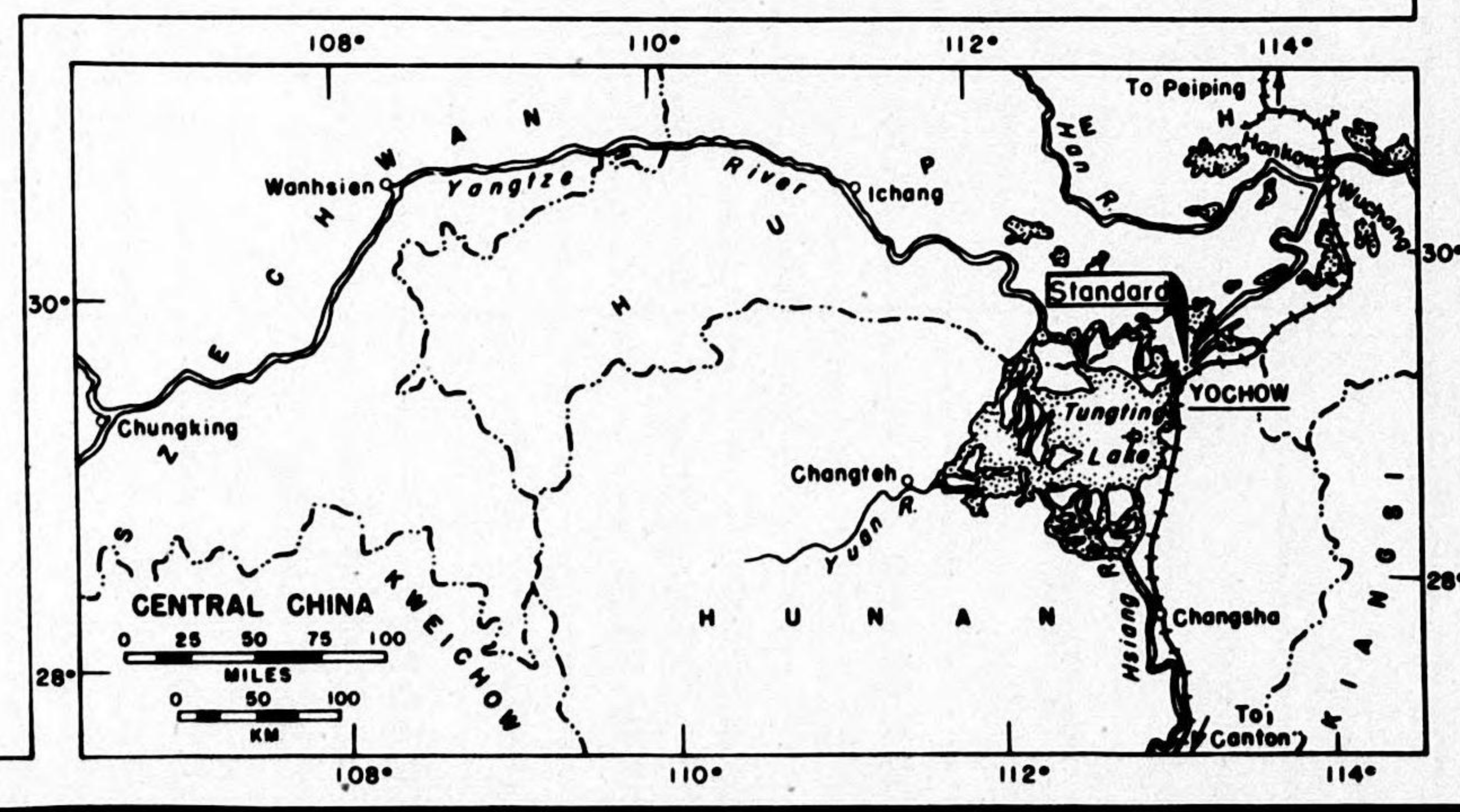
About 742 miles up the Yangtze River from the pilot station at the mouth of the river.

Standard-Vacuum Oil Company, Chenglingki terminal.- This terminal was situated on the east bank of the river a few miles northeast of Yochow city in a section known as Chenglingki. There were two large storage tanks and one small service tank for kerosene but no oil was packed here and the terminal was used primarily as a bulk distributing point for supplying the company's installations farther up the river.

NORTH CHINA
YCHOW (CHENGLINGKI) INSTALLATION
STANDARD-VACUUM OIL COMPANY



TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	25' X 25'	KEROSENE	2,050
B	115' X 40'	"	70,000
C	115' X 40'	"	70,000



This was the limit to which ocean tankers could proceed up the Yangtze and then only between June 1, and September 30. There was a small warehouse and an installation superintendent's residence in the compound. A double pontoon wharf provided berthing accommodation for tankers drawing up to 20 feet. No bunkering was done at this terminal. Bulk kerosene was shipped by river craft to the company's installation at Changteh and Changsha to the south across the Tungting Lake and to Ichang, Wanhsien and Chungking up the river and to the following bulk depots and sub-installations in the neighborhood:

<u>Place</u>	<u>Province</u>	<u>How Supplied</u>
Kienli	Hupeh	Via Yangtze River
Shasi	"	" " "
Siangyin	Hunan	" Tungting Lake and Hsiang River
Tsingshih	"	" " " " river
Yiyanghun	"	" " " " Hsiang River

A drawing of this terminal appears on page 152.

The Asiatic owned a piece of property which adjoined the Standard terminal but had not built on the plot up to the time of the withdrawal.

4.4.16 Changteh - Hunan Province

Latitude 29° 2' N., longitude 111° 32' E.

About 238 miles above Hankow via Yangtze River, Tungting Lake and Yuan River.

Standard-Vacuum Oil Company, sub-installation.- This installation was located on the south bank of the Yuan River across from the city and a short distance up the river from the Tungting Lake. It had two medium sized storage tanks, one for kerosene and one for diesel oil, and a small service tank for kerosene. It had filling arrangements for both cans and barrels and a can shop where knocked-down cans made at Hankow were assembled. There was one large warehouse and a smaller one for gasoline in packages and an installation superintendent's residence. There was a long masonry bund along the river front where river craft could tie up and discharge or load. All deliveries were made by water. Kerosene was supplied from Yochow (Chenglingki) and diesel oil from Hankow by bulk vessels.

A drawing of this installation appears on page 154.

4.4.17 Changsha - Hunan Province

Latitude 28° 12' N., longitude 112° 59' E.

The Asiatic Petroleum Company (N.C.) Ltd., installation.- This installation was situated opposite the city on the west bank of the Hsiang River. There were two medium sized tanks for kerosene storage and three small ones for kerosene and diesel oil. In addition there were three service tanks and filling arrangements for cans and drums. There was a can factory with a daily capacity of 4,500 cans. An office and area manager's residence were included in the compound and there were three warehouses. A small wharf on the river was used both for receipt and delivery where bulk river craft supplying the installation from Hankow discharged. All deliveries were made by water.

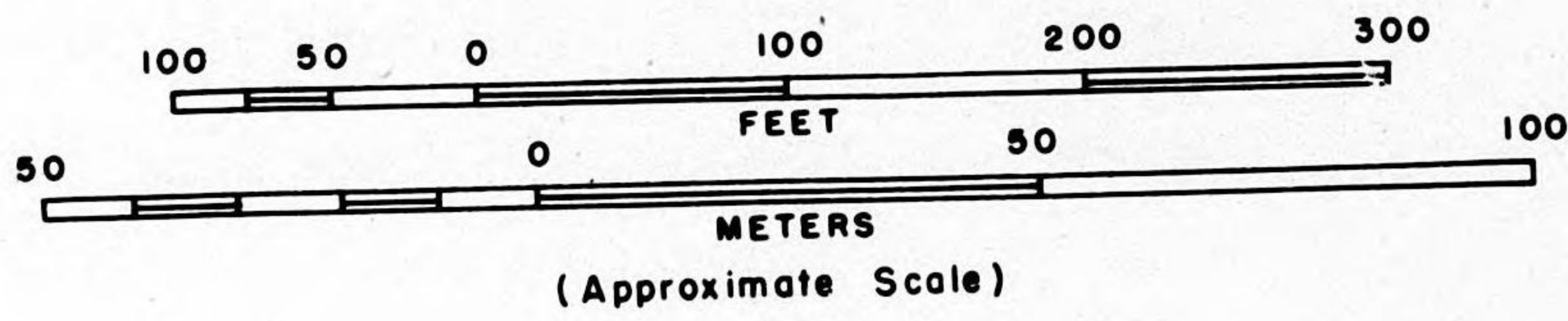
A drawing of this installation appears on page 155.

Standard-Vacuum Oil Company installation.- This installation was located on the east bank of the Hsiang River on the same side as the city and a little north

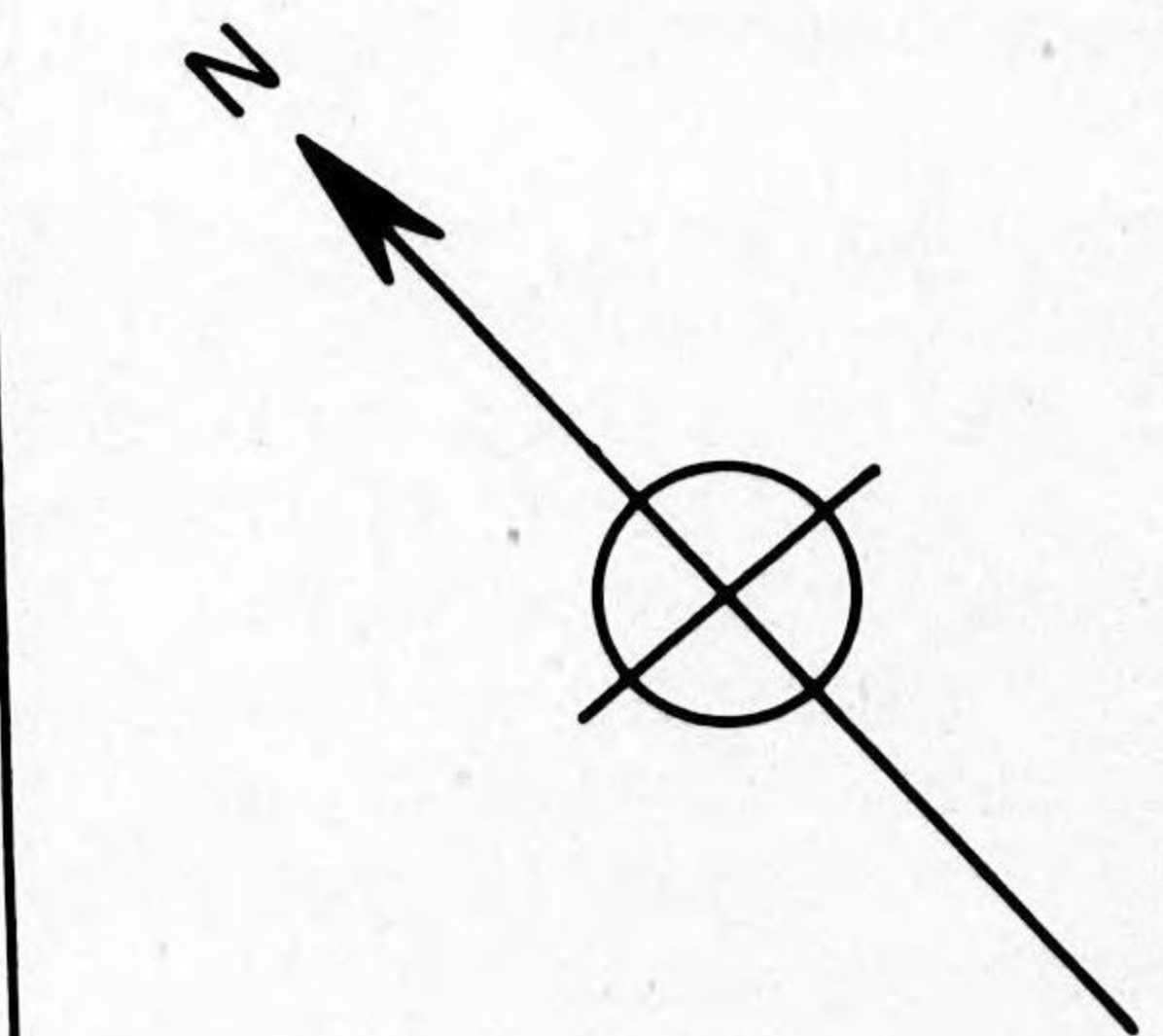
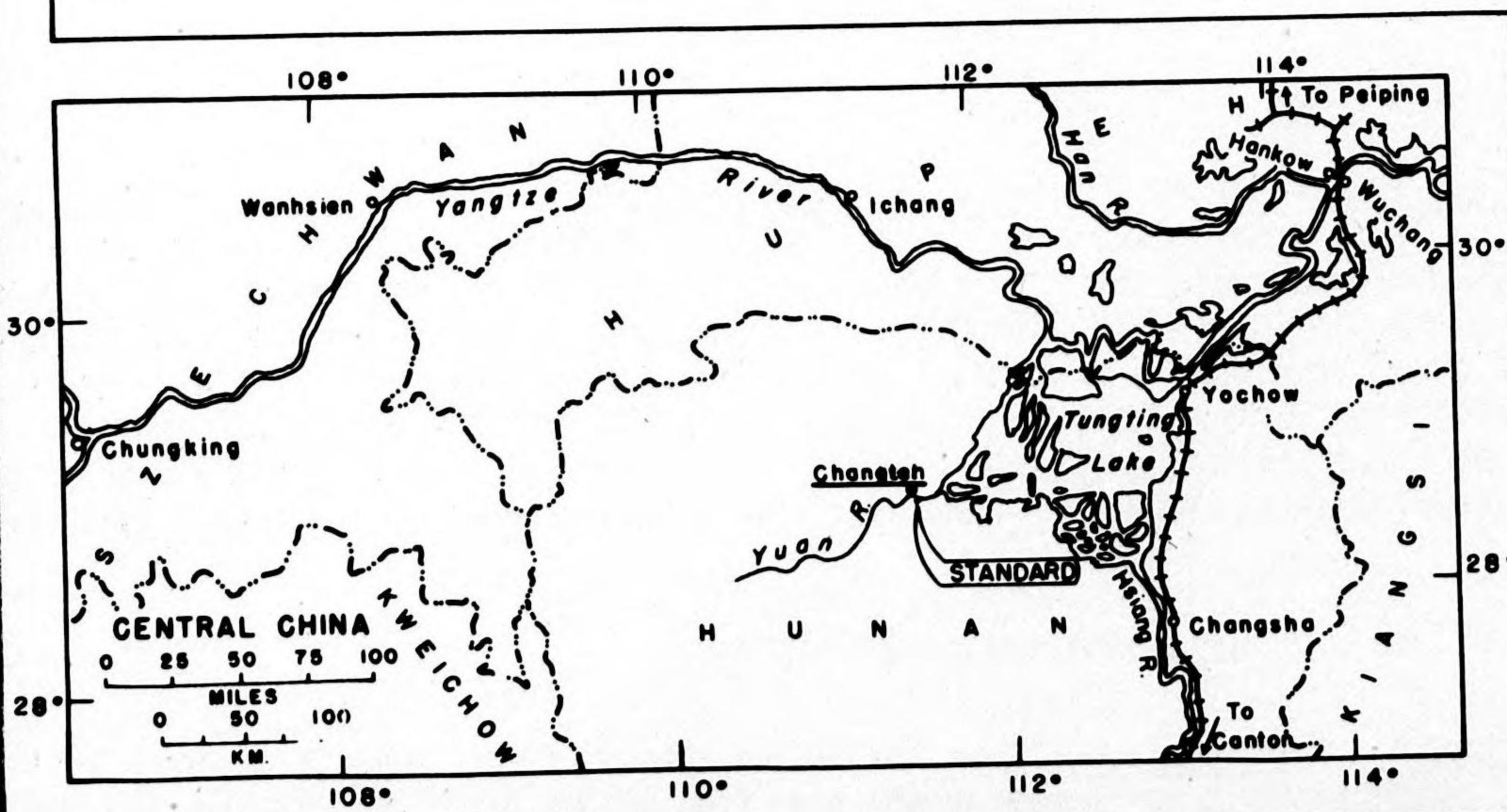
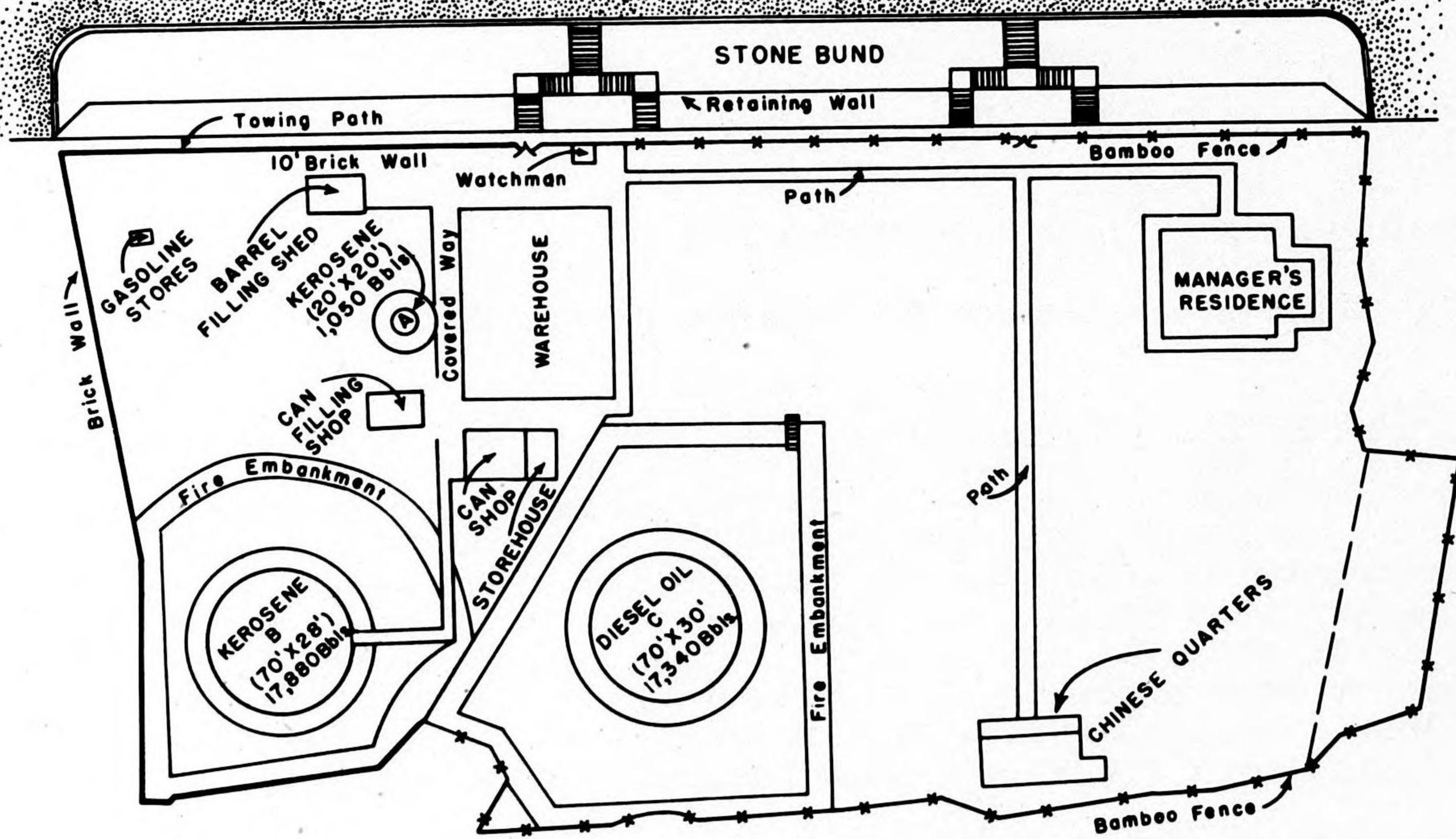
NORTH CHINA

CHANGTEH INSTALLATION

STANDARD-VACUUM OIL COMPANY



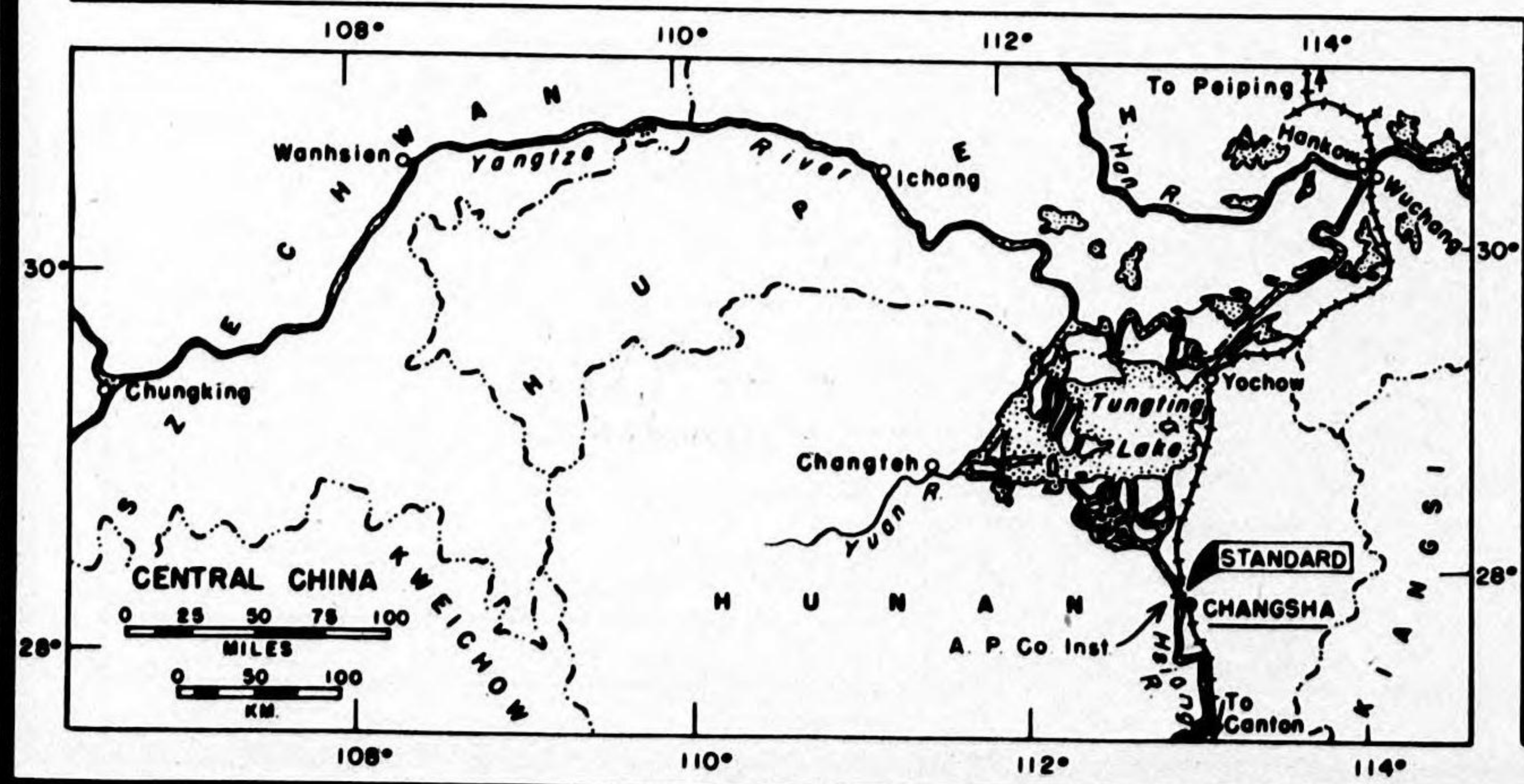
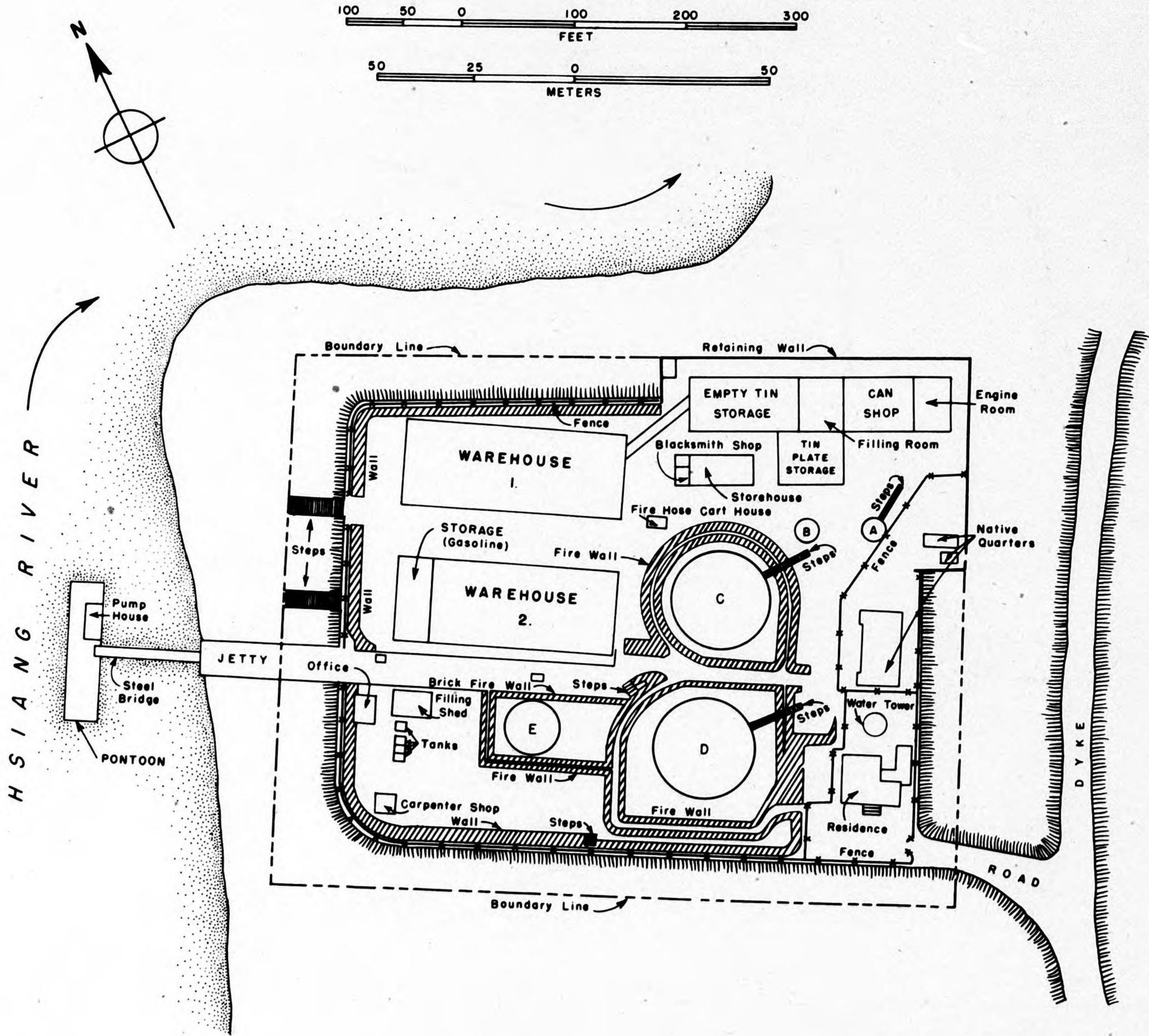
Y U A N R I V E R →



NORTH CHINA

CHANGSHA INSTALLATION

STANDARD-VACUUM OIL COMPANY



TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	20' X 30'	DIESEL OIL	1,650
B	20' X 20'	KEROSENE	1,050
C	93' X 35'	"	39,760
D	93' X 35'	"	40,050
E	50' X 35'	"	11,620

of it. There were two large and one medium sized storage tanks for kerosene and a small one for diesel oil; one medium and four small sized service tanks and filling arrangements for cans and drums. There was a can factory with a daily capacity of 5,000 cans, two moderate sized warehouses, an office and an area manager's residence. At the river front there was a jetty and a pontoon wharf, equipped with a pump, from where all receipts and deliveries were handled. Stocks of bulk kerosene were brought by barge from Yochow (Chenglingki) and Hankow and diesel oil from Hankow.

A drawing of the installation appears on page 156.

The Texas Company (China) Ltd., warehouse.- This company owned a warehouse at Changsha which was supplied with packaged products from Hankow. It is said that this building has been dismantled.

Marine equipment.- Marine equipment belonging to Standard at Changsha consisted of one motor launch, one motor sampan and one other sampan. Texas also had a motor launch at this station.

Distribution.- The Changsha installations served the Province of Hunan, except for the northernmost portion supplied from Hankow. All the trade was water borne and the main channels of supply were:

- (1) Up the Yuan River and its tributaries
- (2) Up the Tsu River and its tributaries
- (3) Up the Hsiang River and its tributaries

The table below shows the facilities maintained by the oil companies in this area and the methods of supply.

Points Supplied from Changsha

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied *</u>
Changteh	Hunan	APC	Bulk depot	(1)
Hengchowfu	"	APC	" "	(3)
"	"	SVOC	" "	(3)
Lukow	"	APC	" "	(3)
"	"	SVOC	" "	(3)
Siangtan	"	APC	" "	(3)
"	"	SVOC	" "	(3)
Tsingkang	"	APC	" "	(3)
Yiyanghun	"	APC	" "	(2)

* Refer to preceding paragraph.

4.4.18 Shasi - Hupeh Province

Latitude 30° 16' N., longitude 112° 17' E.

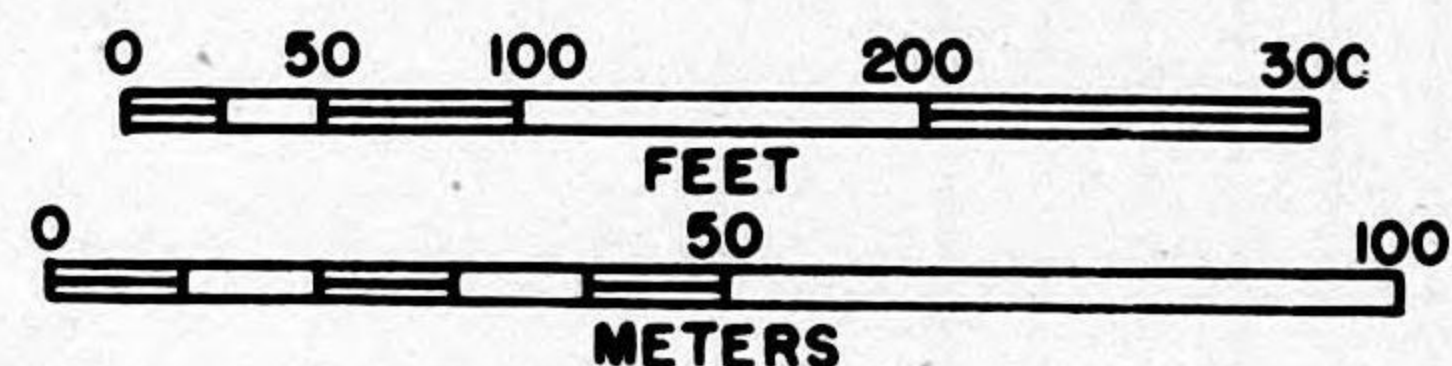
Asiatic Petroleum Company (N.C.) Ltd., sub-installation.- This small installation was situated on the Yangtze River and was supplied with both bulk and packaged products by company craft from Hankow. It was used as a distributing point for the markets in southern Hupeh Province. It consisted of three tanks with a total capacity of some 5,250 barrels, filling arrangements for cans and drums and warehouses with a floor area of over 8,000 square feet. No drawing of the plant is available.

Standard-Vacuum Oil Company, sub-installation.- This small installation was located on the Yangtze River and was supplied with bulk products from Hankow and Chenglingki. It fed the same area as the A.P.C. plant. It consisted of one tank for kerosene of about 3,750 barrels capacity and filling arrangements for cans and a large warehouse with a capacity of 20,000 units of two-5 gallon cans.

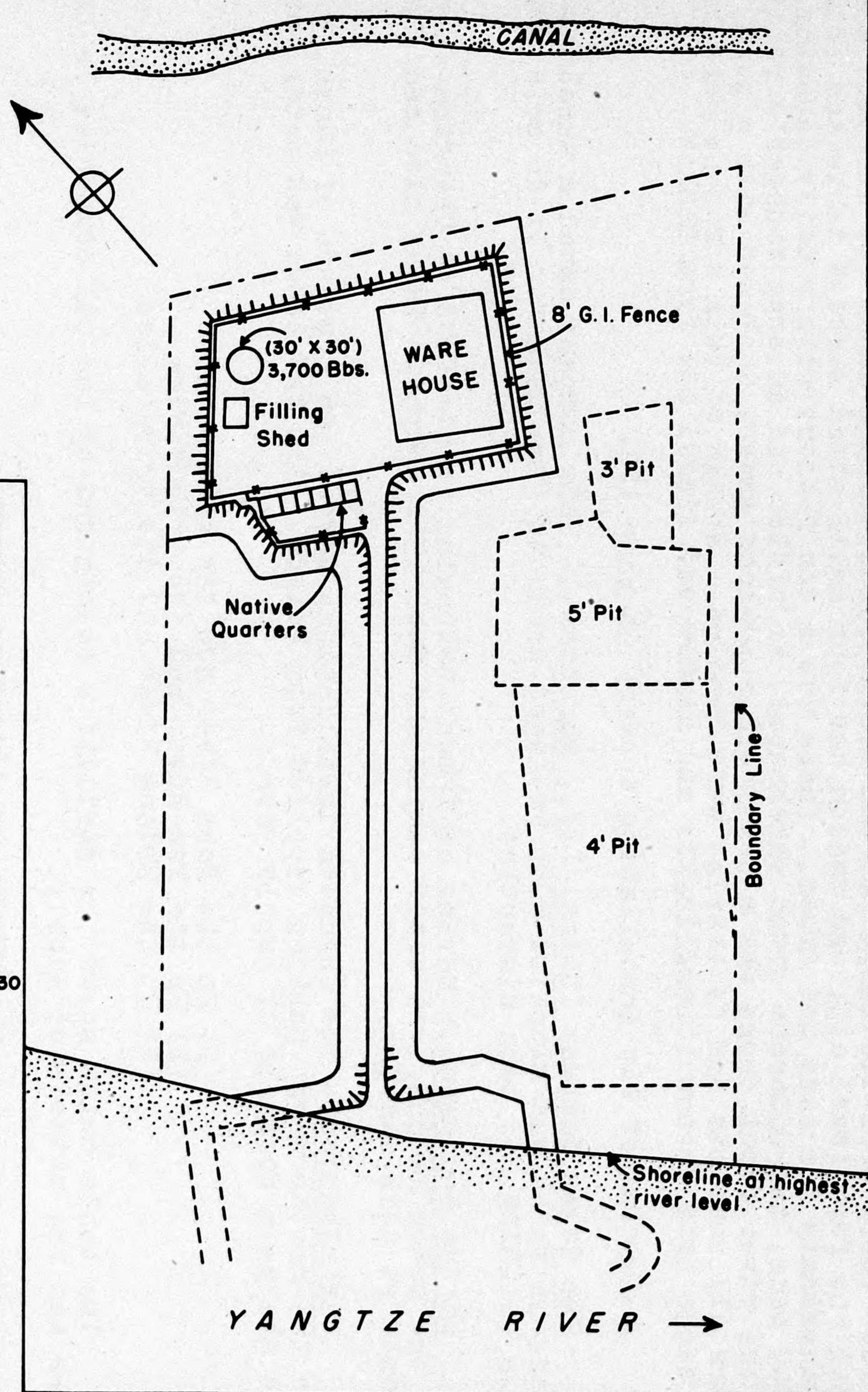
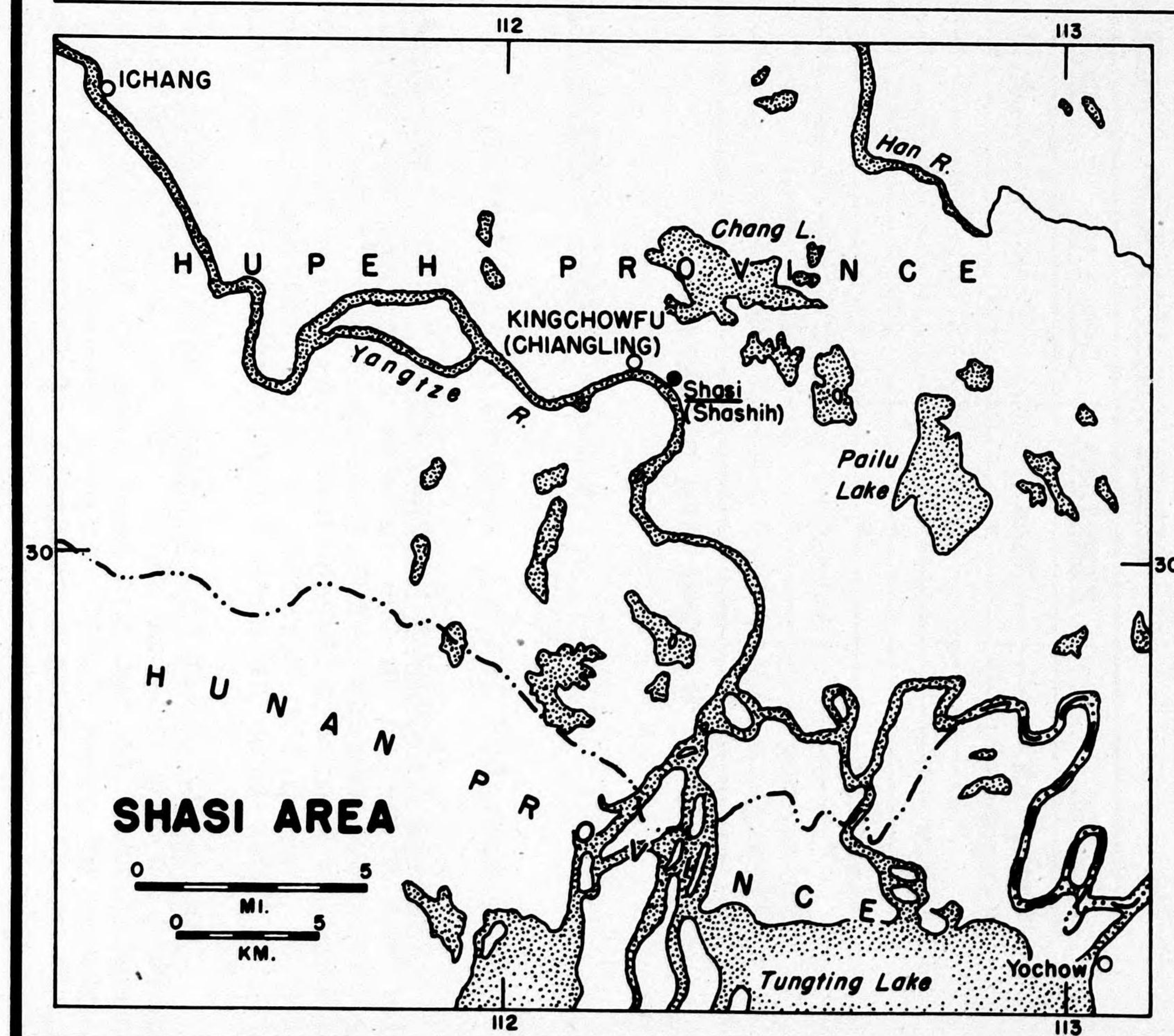
A drawing of the installation appears on page 158.

NORTH CHINA SHASI INSTALLATION

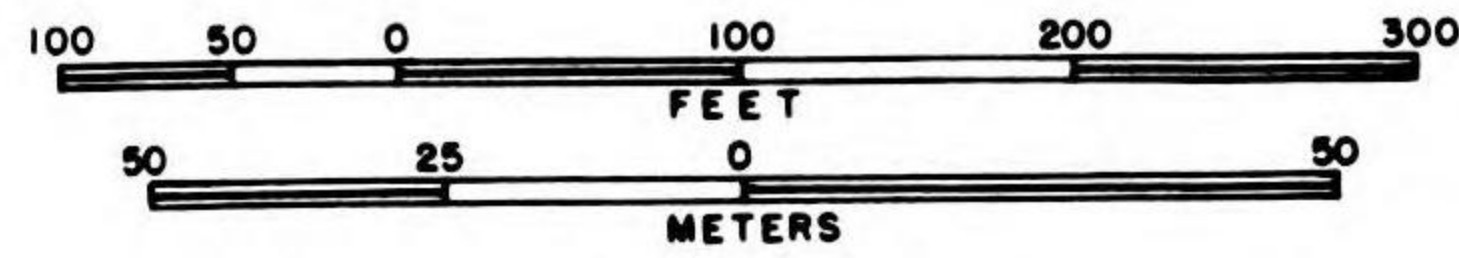
STANDARD - VACUUM OIL CO.



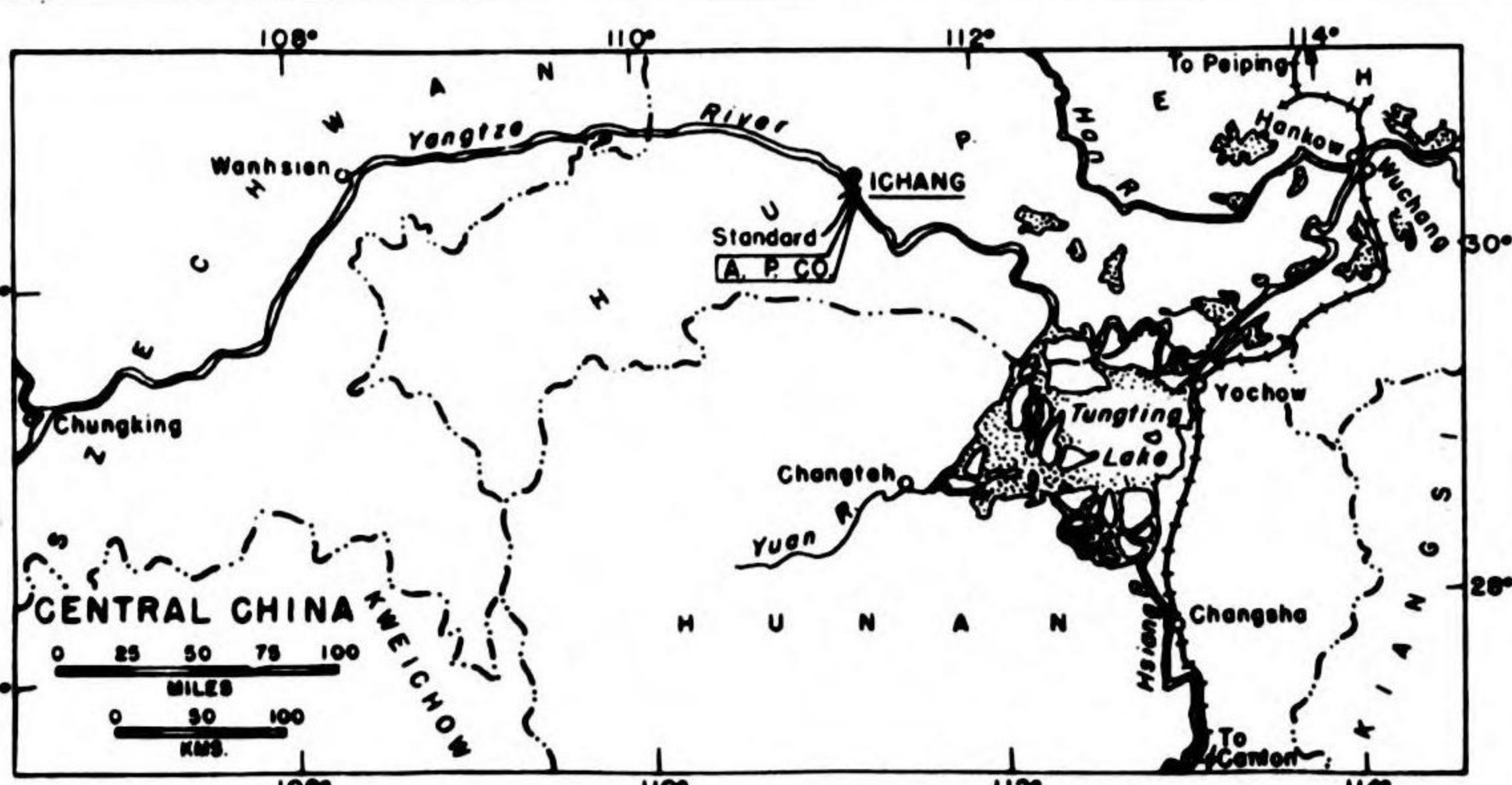
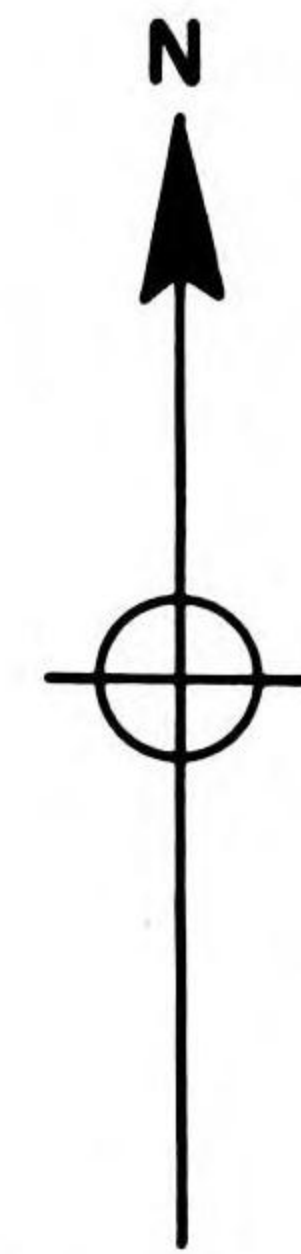
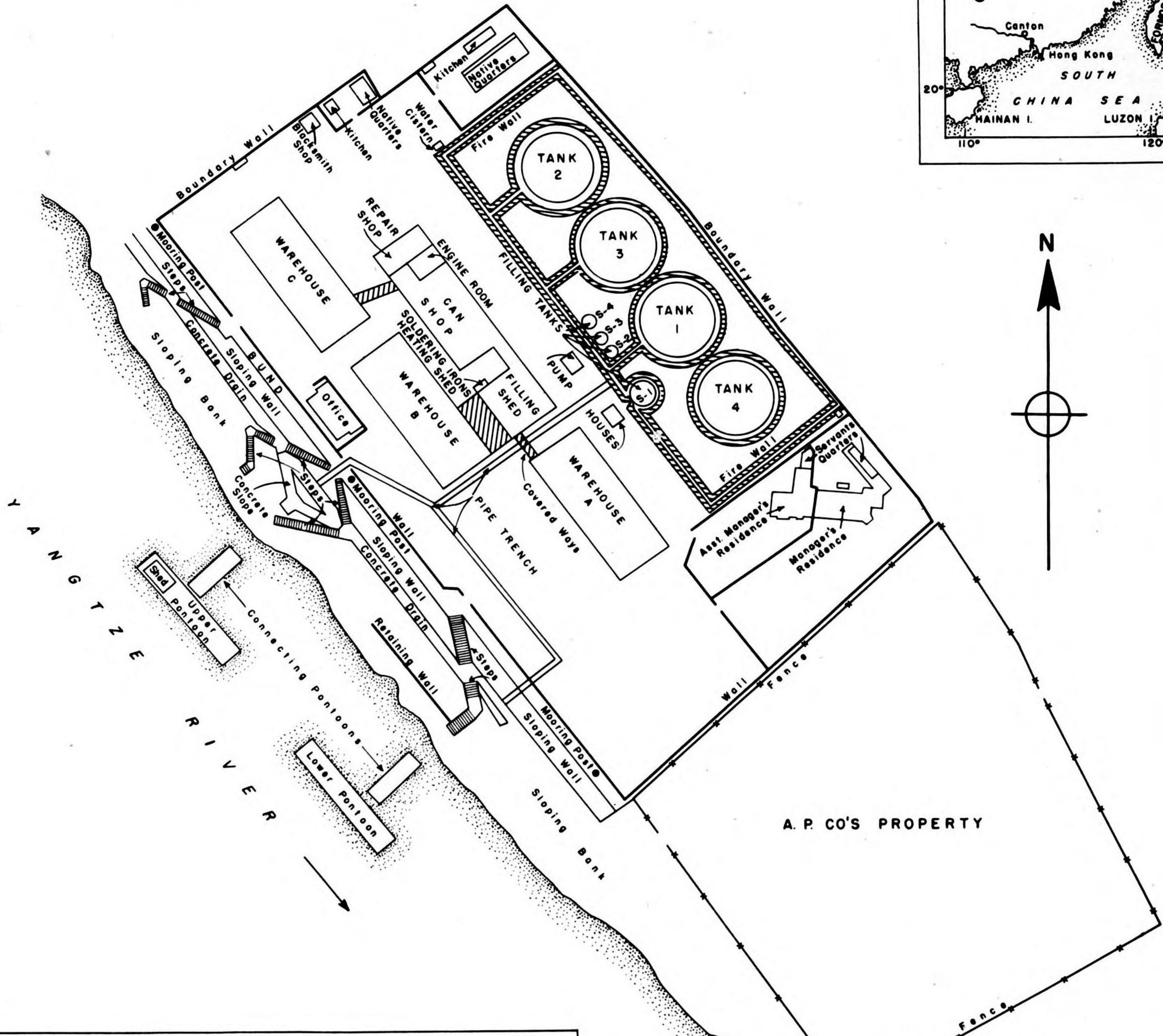
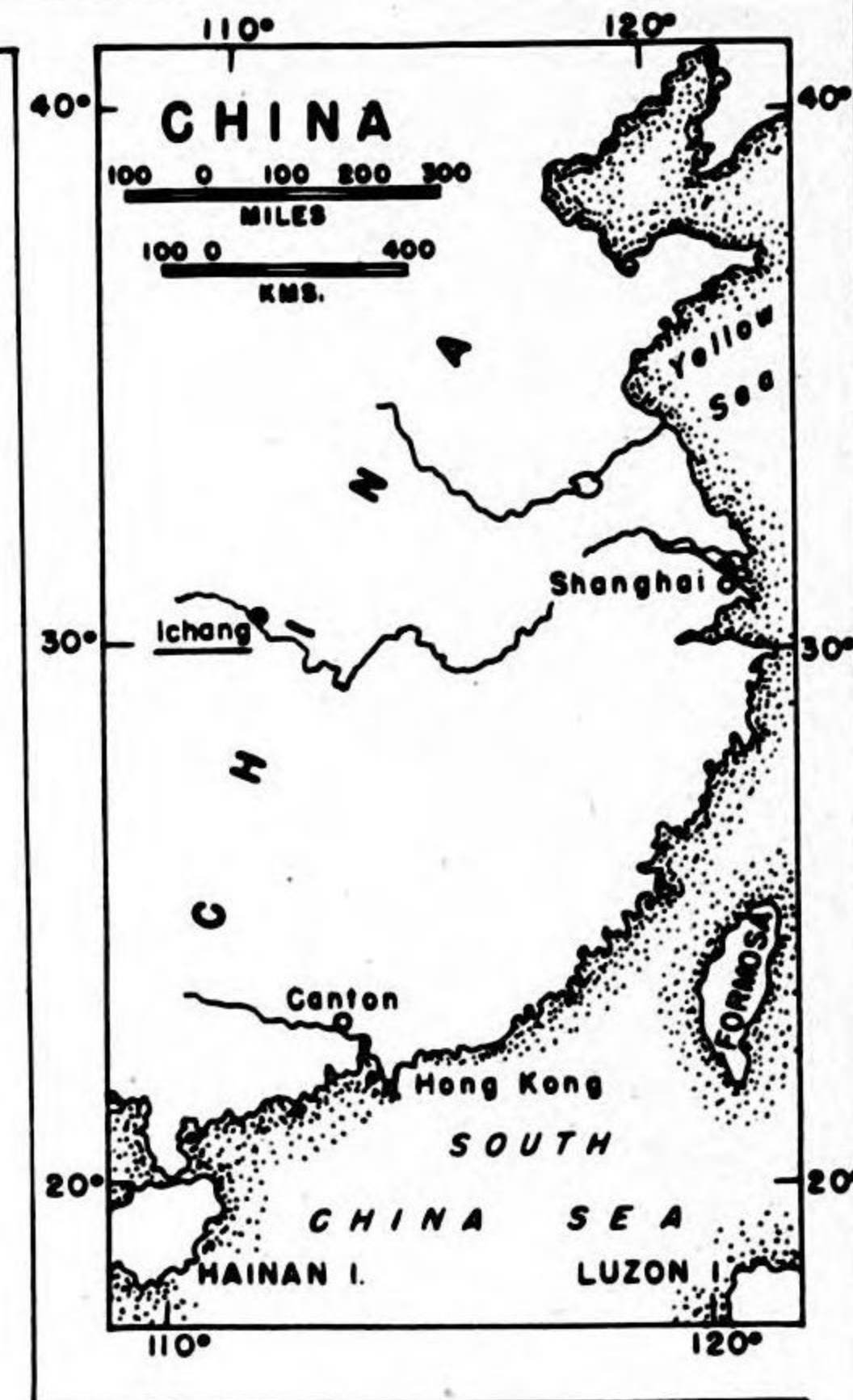
(Approximate Scale)



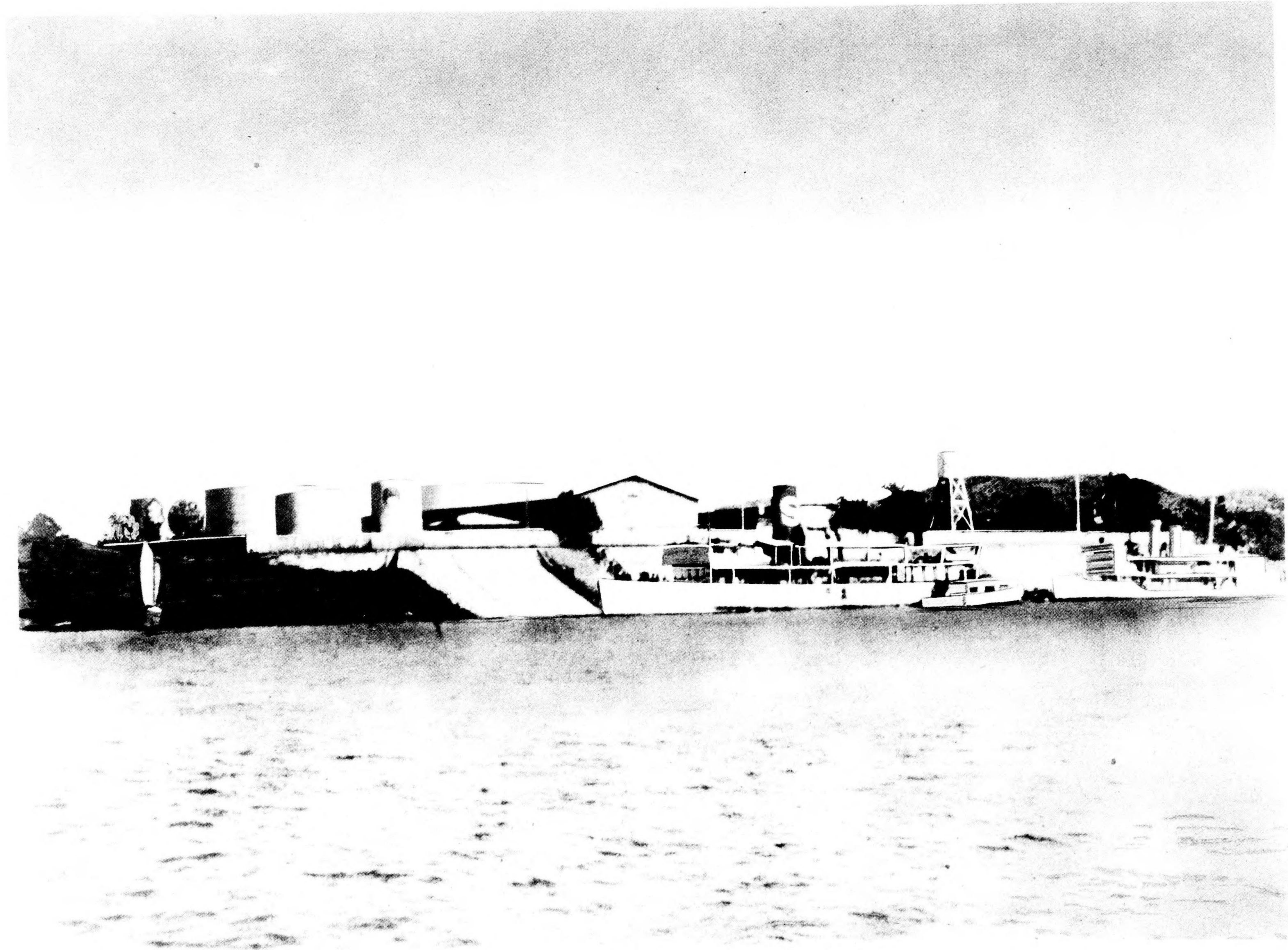
NORTH CHINA
ICHANG INSTALLATION
THE ASIATIC PETROLEUM COMPANY (N.C.) LTD.
(ROYAL DUTCH SHELL)



(Approximate Scale)

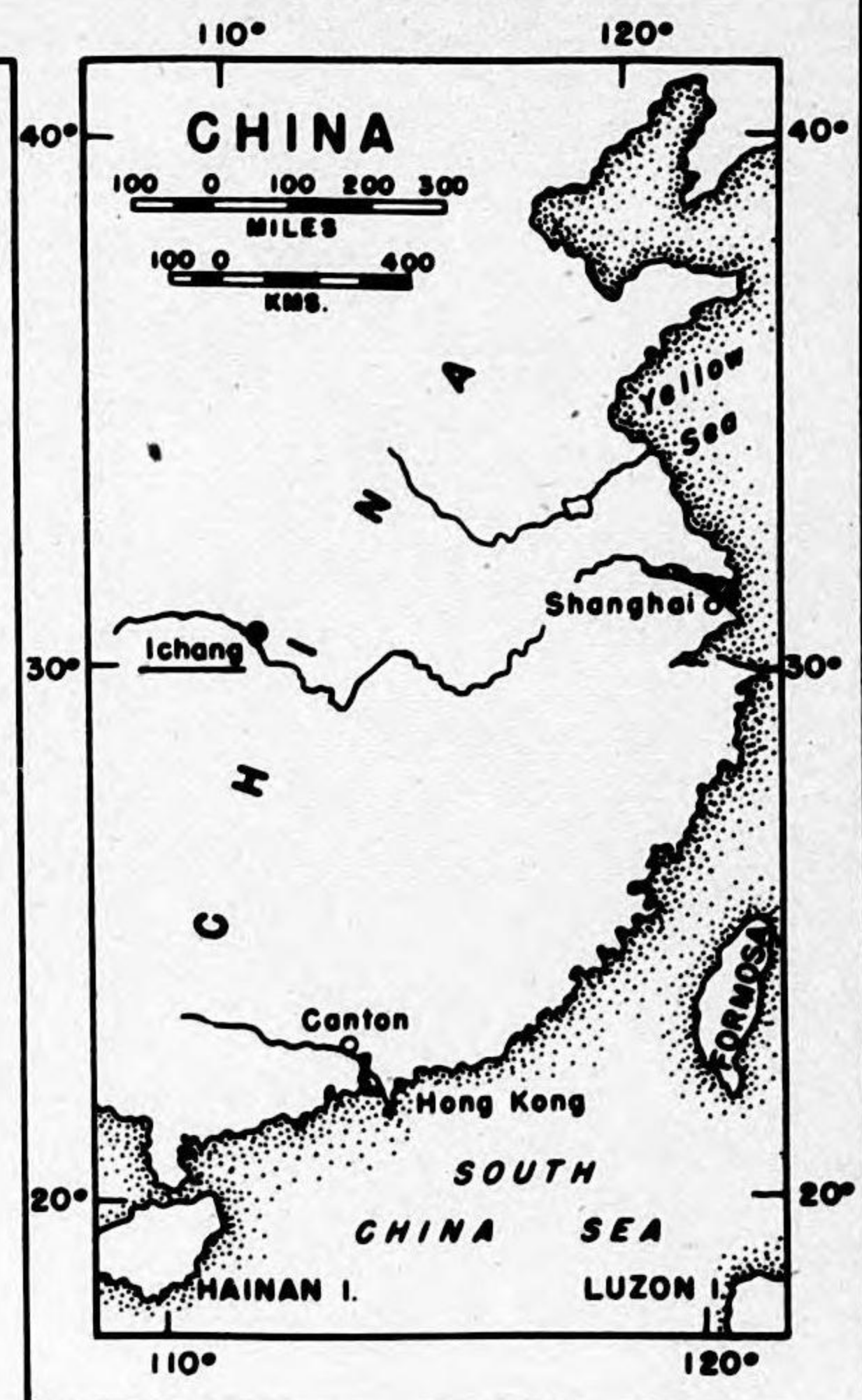
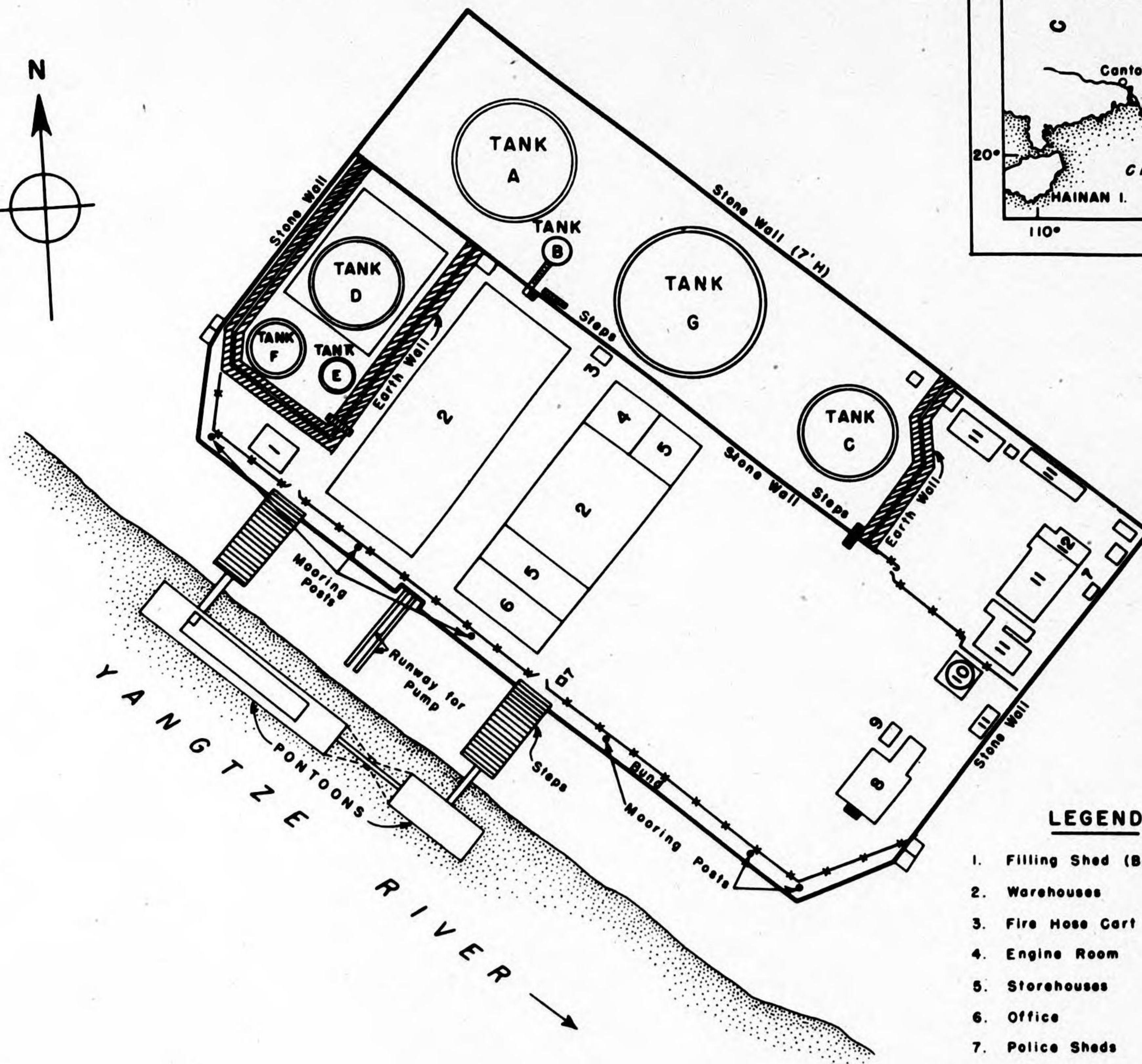
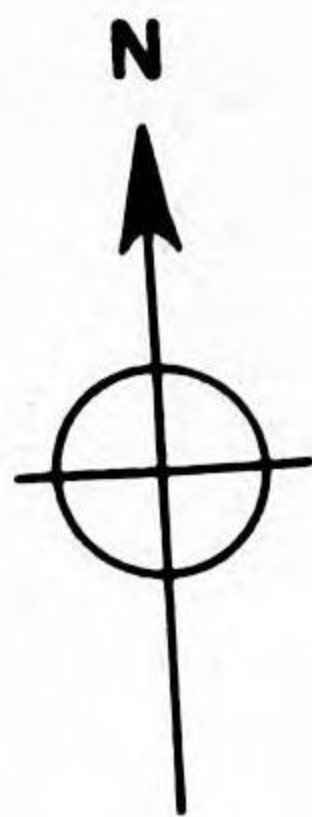
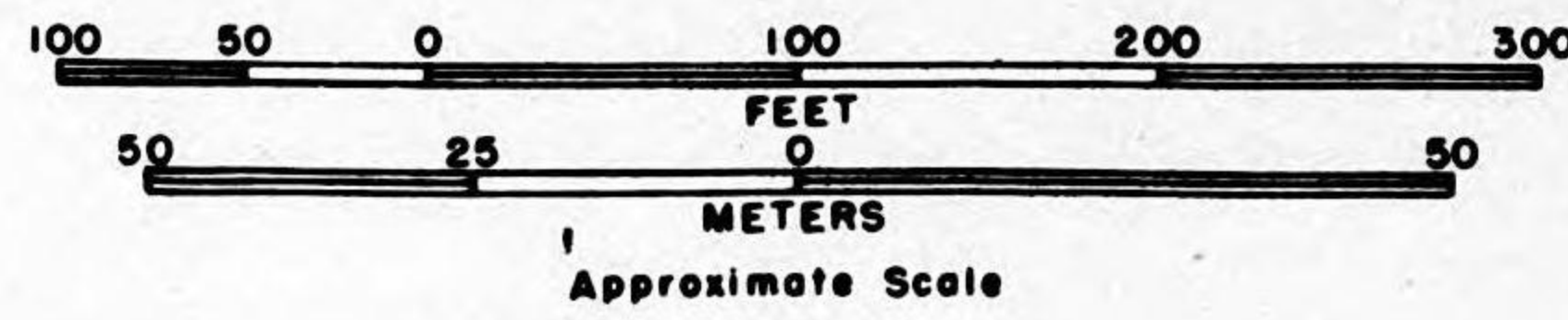


TANKS			
NO	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
1	38' x 77'	KEROSENE	30,605
2	35' x 70'	DIESEL OIL	22,850
3	38' x 77'	GASOLINE	30,630
4	38' x 77'	DIESEL OIL	30,510
S-1	10' x 25'	KEROSENE	790
S-2	19' x 13'	DIESEL OIL	420
S-3	19' x 13'	DIESEL OIL	408
S-4	19' x 17'	DIESEL OIL	700



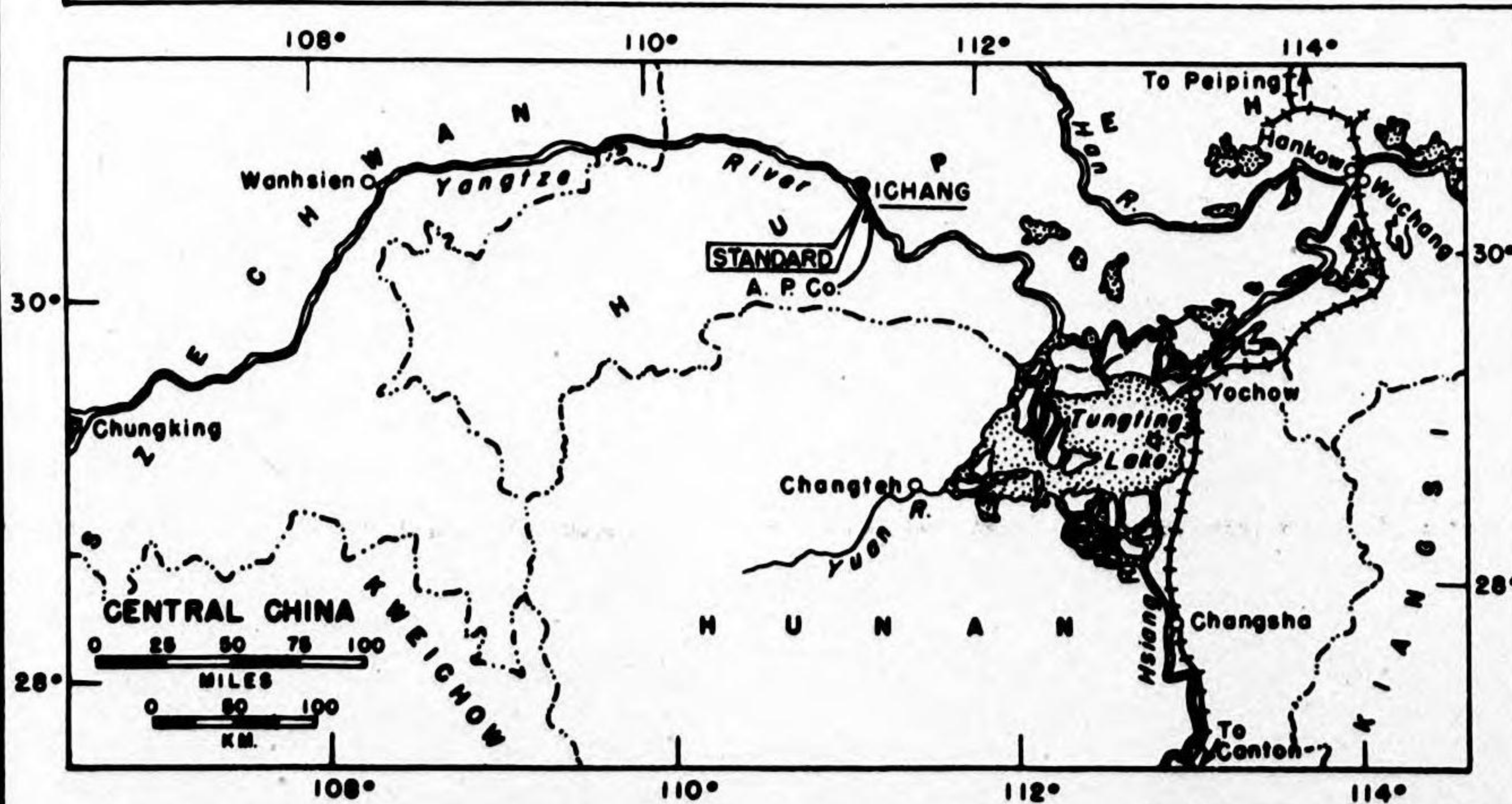
STANDARD-VACUUM OIL CO. INSTALLATION AT ICHANG

NORTH CHINA ICHANG INSTALLATION STANDARD-VACUUM OIL COMPANY



LEGEND

1. Filling Shed (Barrels)
2. Warehouses
3. Fire Hose Cart House
4. Engine Room
5. Storehouses
6. Office
7. Police Sheds
8. Residence
9. Concrete Water Cistern
10. Water Tank
11. Native Quarters
12. Watchman's House

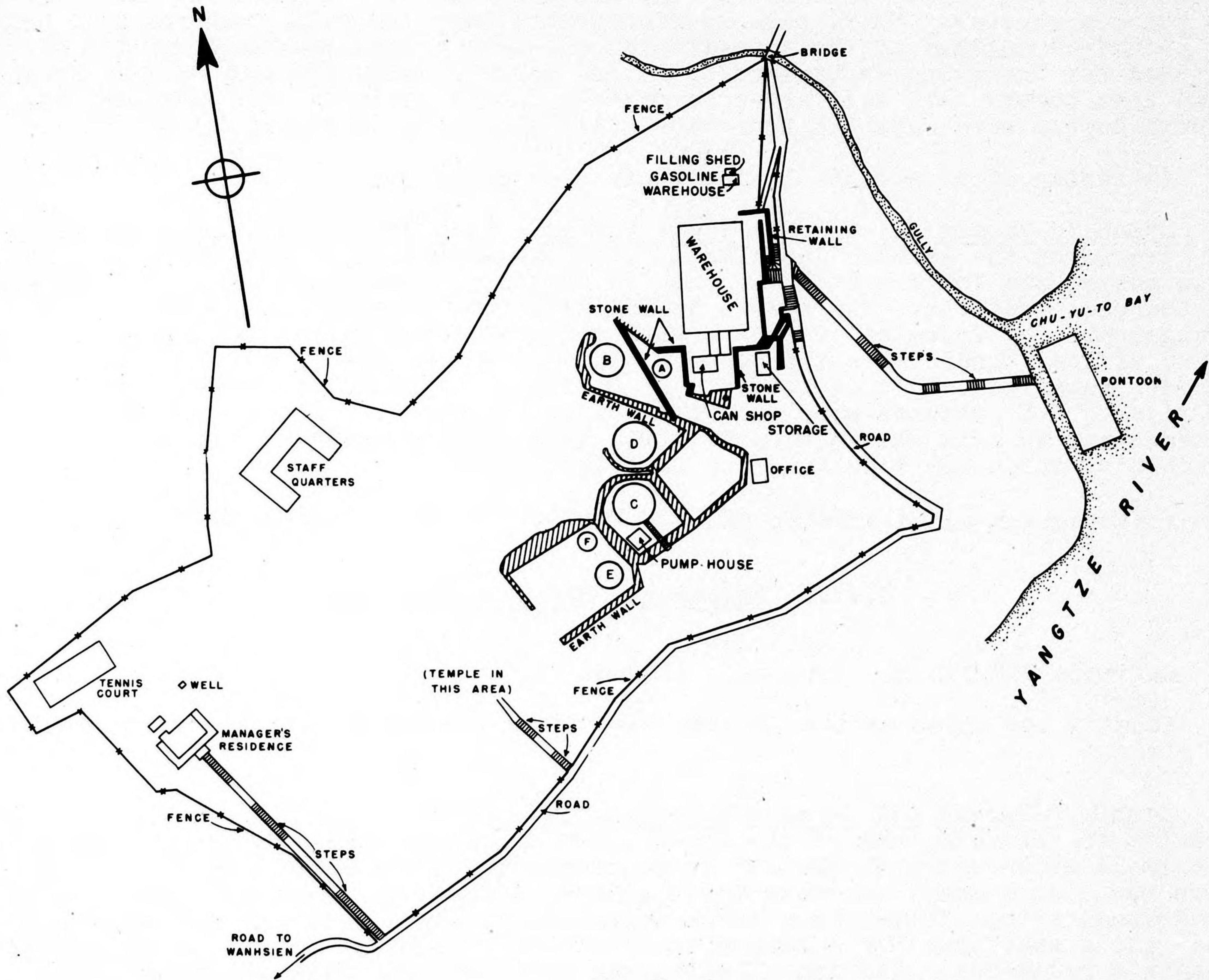
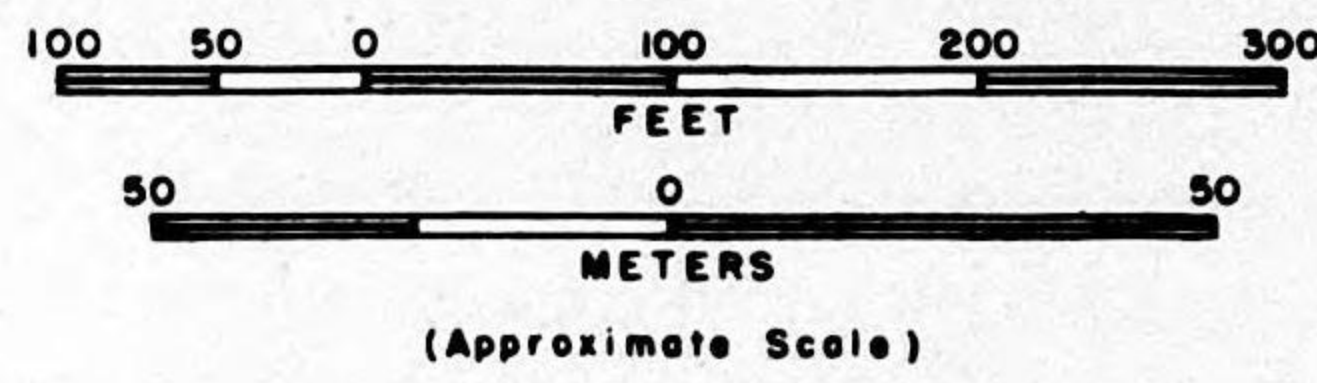


TANKS			
NO.	DIMENSIONS	PRODUCT	Bbl. CAPACITY
A	93' X 35'	DIESEL OIL	41,075
B	20' X 20'	KEROSENE	1,040
C	70' X 30'	"	19,170
D	70' X 30'	DIESEL OIL	19,800
E	25' X 30'	"	2,500
F	40' X 24'	KEROSENE	5,200
G	115' X 40'	"	70,660



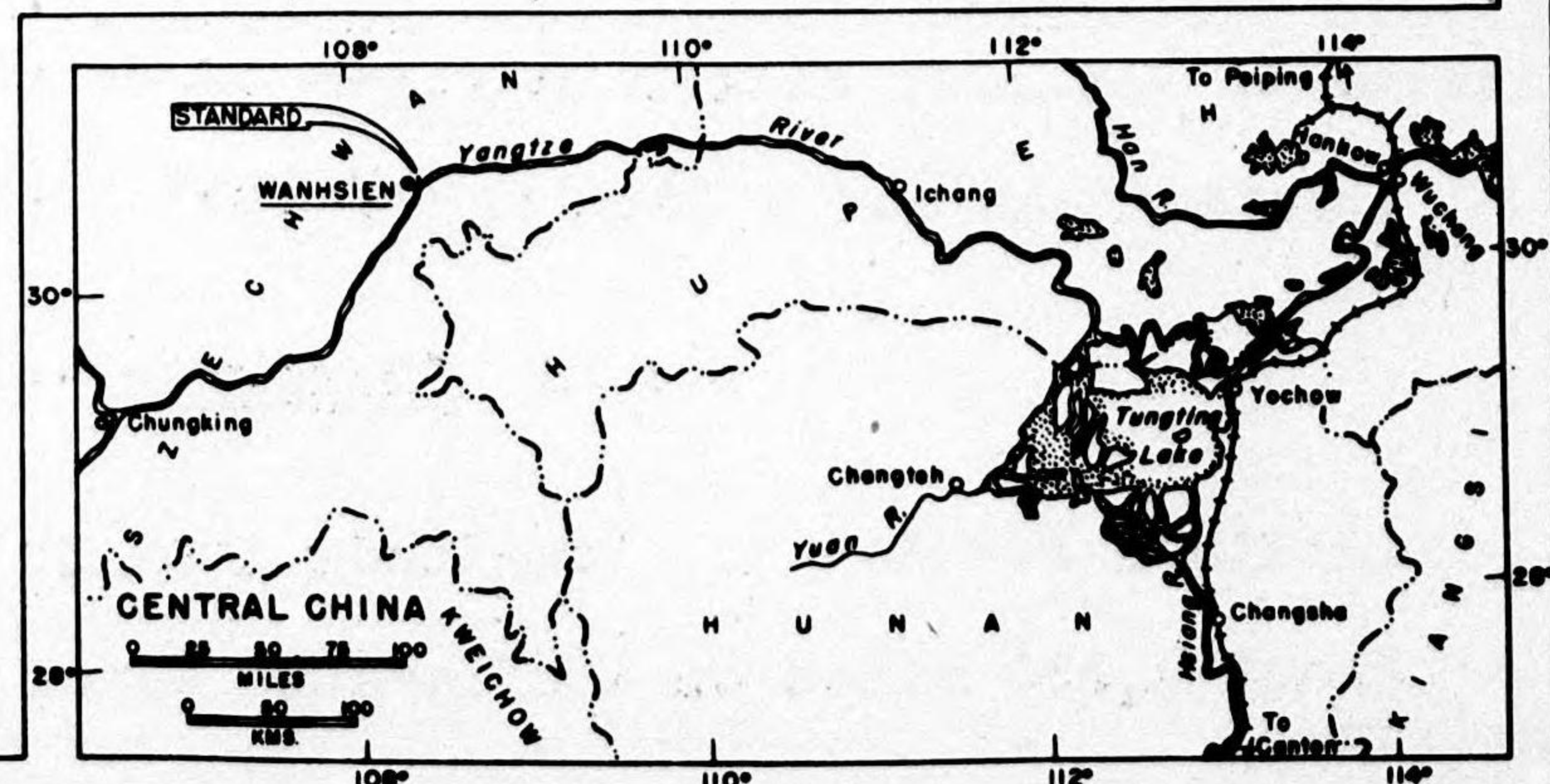
STANDARD-VACUUM OIL CO. WANHSIEN INSTALLATION

NORTH CHINA WANHSIEN INSTALLATION STANDARD-VACUUM OIL COMPANY



TANKS			
NO	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	20' x 20'	KEROSENE	1,050
B	40' x 24'	KEROSENE	4,905
*C	50' x 30'	—	10,285
D	50' x 35'	KEROSENE	11,500
*E	35' x 30'	—	5,100
*F	23' x 14'	—	1,000

*NOTE: These tanks were used for Wood Oil; actual existence of "E" and "F" uncertain.



4.4.19 Ichang - Hupeh Province

Latitude 30° 42' N., longitude 111° 17' E.

About 980 miles up the Yangtze River from the pilot station at the mouth of the river.

Asiatic Petroleum Company (N.C.) Ltd., installation.- This installation was located on the north bank of the river on the same side as the city and a short distance south of it. It had four medium sized tanks for gasoline, kerosene, gas oil and diesel oil and four small service tanks. There were filling arrangements for cans and drums and a small can factory. There were three large warehouses, an office and a two family residence. The plant had a wide frontage on the river with two pontoon wharves. Small tankers from Hankow supplied bulk products from Hankow. The principal function of the installation was as a transshipment point for cargoes destined for Chungking as tankers operating below Ichang were not able to proceed above that point. All deliveries to markets in the vicinity were packaged oil and no bulk depots were supplied from here. All shipments were made by water.

A drawing of this installation appears on page 159.

Standard-Vacuum Oil Company, installation.- This plant was a short distance up the river from the Asiatic installation, on the north bank of the river. It had two large tanks, one for kerosene and one for diesel oil and three medium sized tanks for the same products. There were in addition, two service tanks and filling arrangements for drums only. There were two good sized warehouses and a residence and an office. There were two pontoon wharves in the river, at one of which bulk products were received from Yochow, and delivered to boats proceeding farther up the river. All products supplied to the city and markets in the vicinity were in packages and no bulk depots were fed from here. The company maintained a warehouse in the city which was supplied from this installation.

A photograph and a drawing of this facility appear on pages 160 and 161.

4.4.20 Wanhsien - Szechwan Province

Latitude 30° 19' N., longitude 108° 24' E.

About 1,160 miles up the Yangtze River from the pilot station at the mouth of the river.

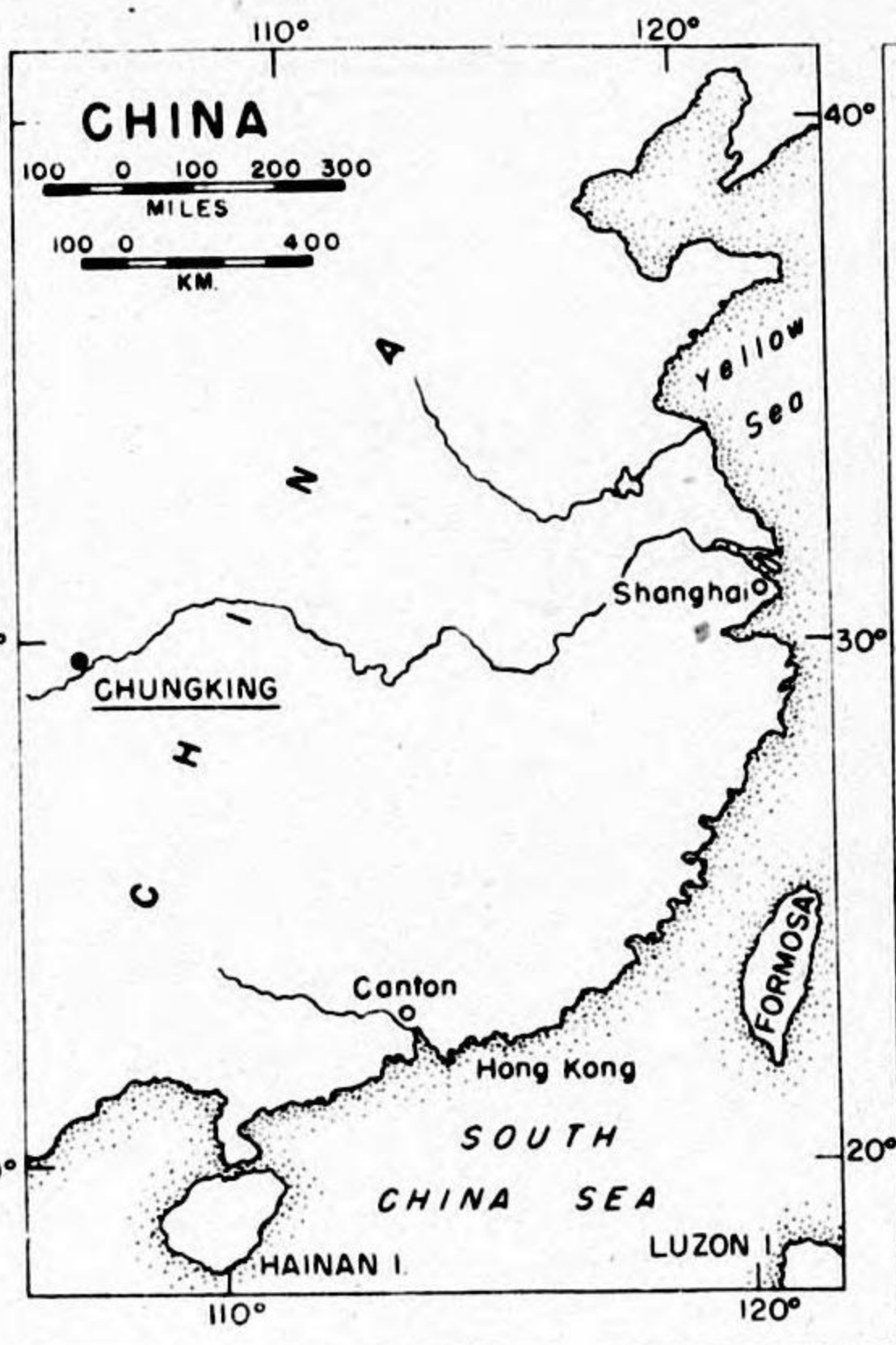
Standard-Vacuum Oil Company, sub-installation.- This small installation was situated on the north bank of the river about two miles below the city. There were five small storage tanks, two for kerosene and three used latterly for tung oil. There was also a small kerosene filling tank, a small can assembly plant and filling arrangements. There was a large warehouse for kerosene cans and miscellaneous goods and a small one for gasoline in packages. There was an office and an area manager's residence. The installation was supplied with bulk oil direct from Yochow and packaged oil from Ichang. There was a pontoon in the river at which vessels discharged and loaded. No bulk was delivered but packages could be delivered to the city either by river or by road.

A photograph and a drawing of this installation appear on pages 162 and 163.

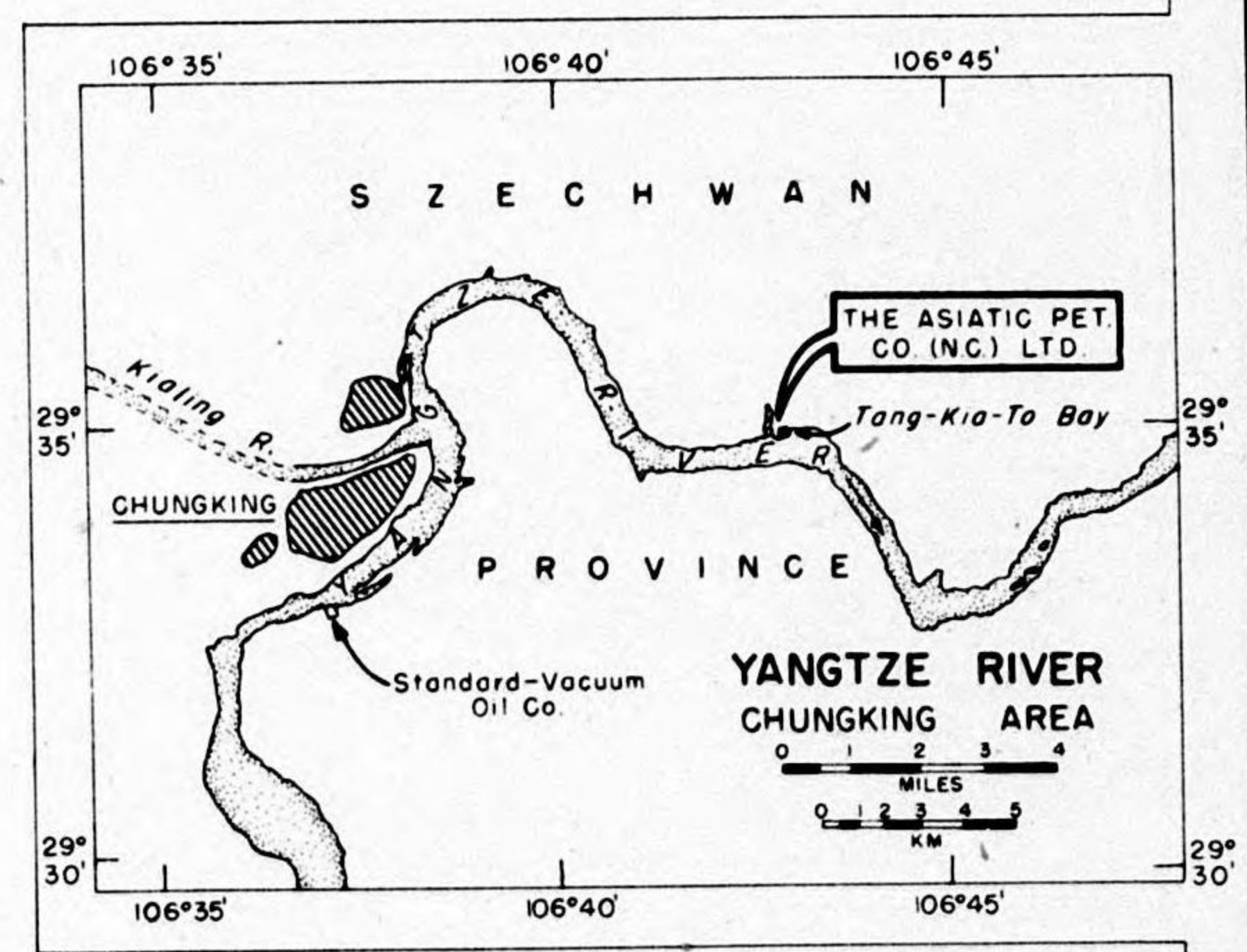
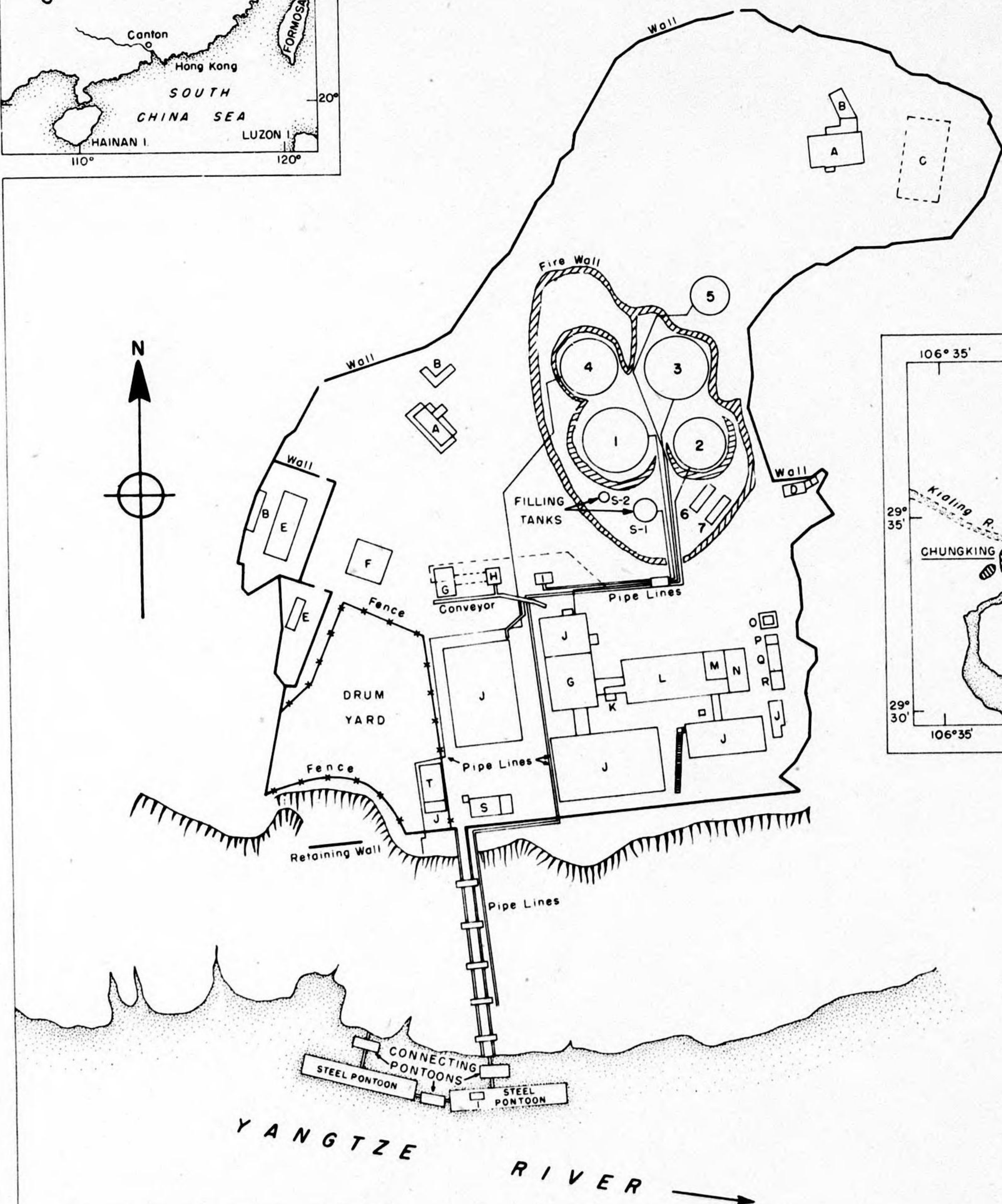
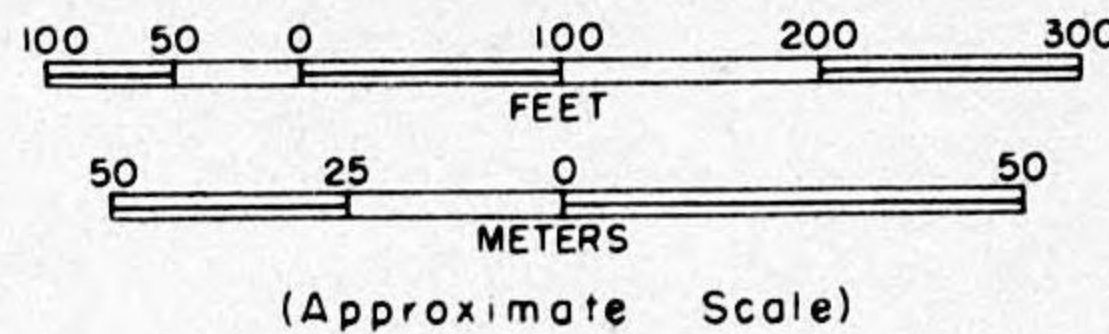
4.4.21 Chungking - Szechwan Province

Latitude 29° 34' N., longitude 106° 37' E.

About 1,330 miles up the Yangtze River from the pilot station at the mouth of the river.



NORTH CHINA
CHUNGKING INSTALLATION
 ASIATIC PETROLEUM CO. (N.C.) LTD.
 (ROYAL DUTCH SHELL)

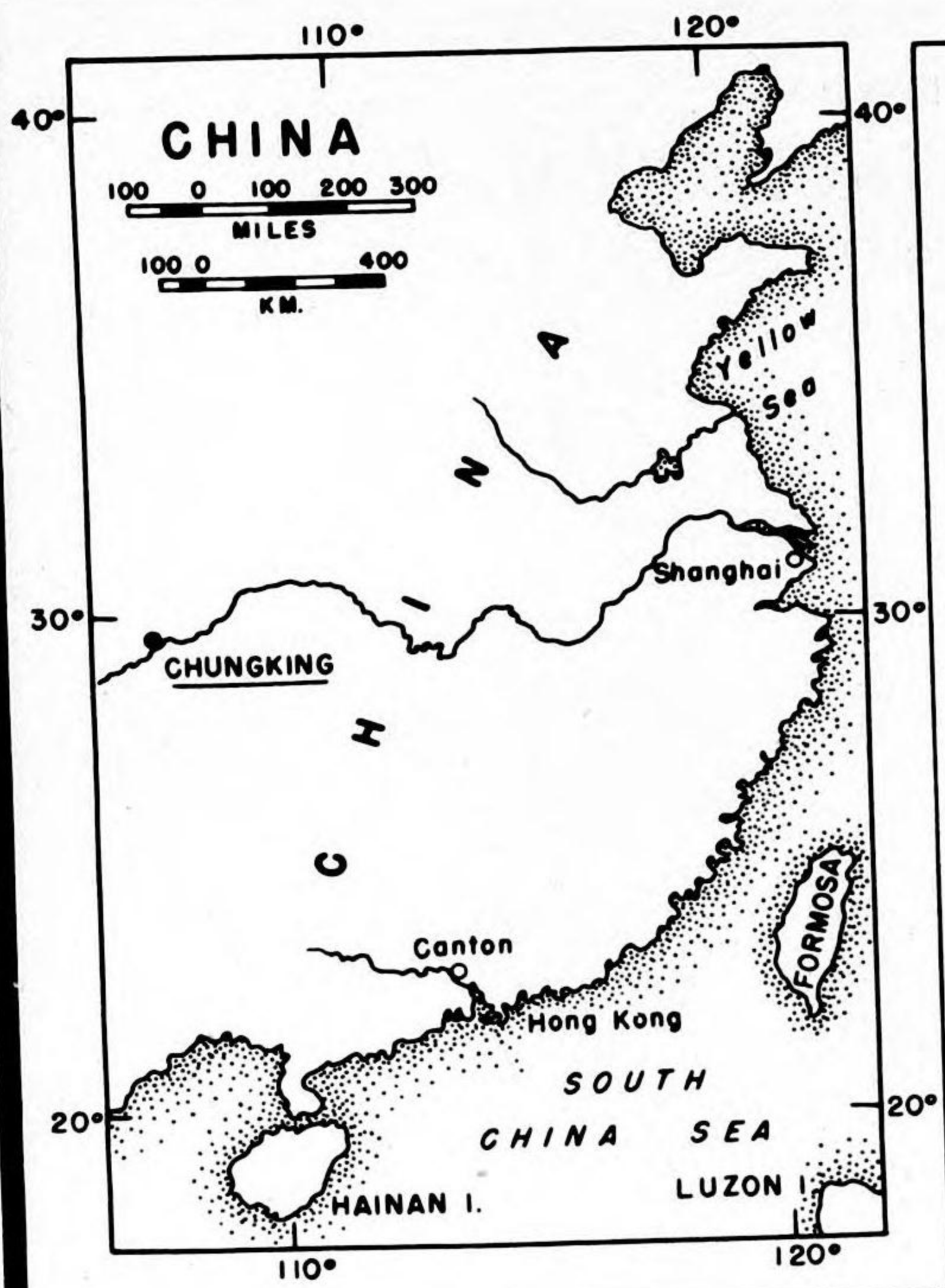


LEGEND

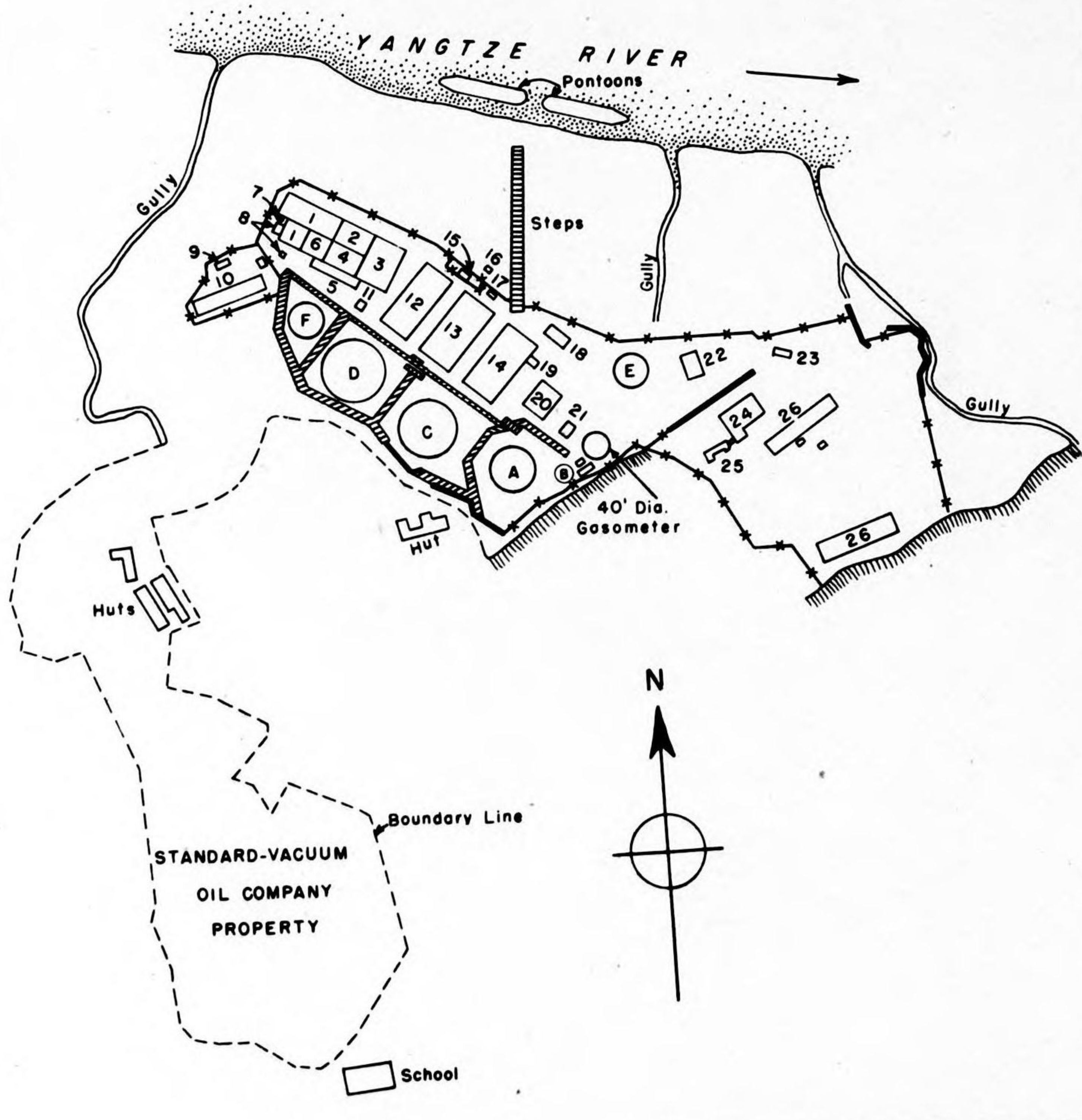
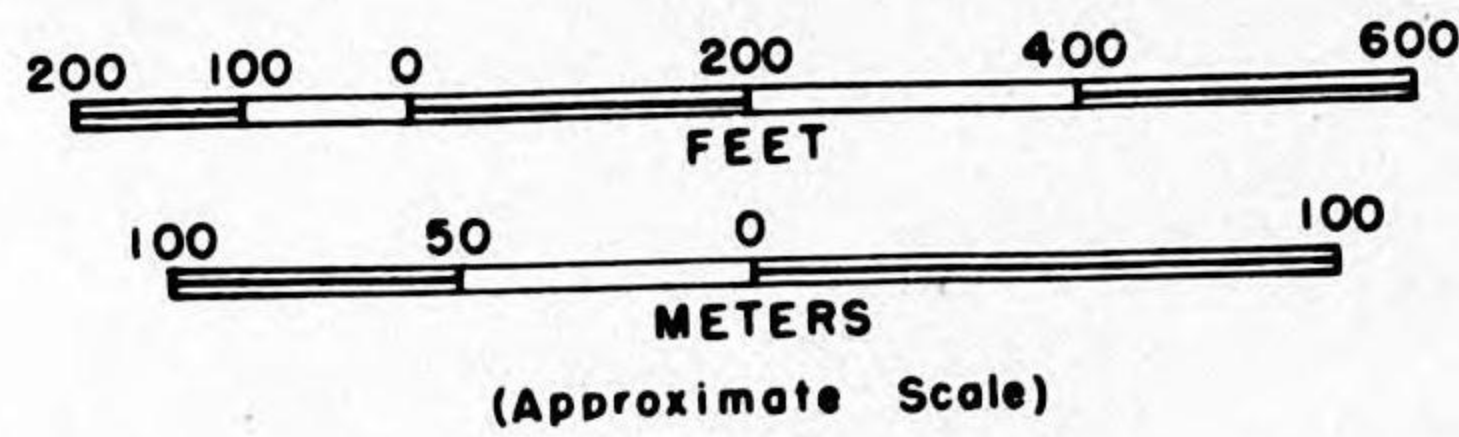
- A Residences
- B Servants' Quarters
- C Tennis Court
- D Stables
- E Native Quarters
- F Coal Yard
- G Filling Sheds
- H Soldering Shed
- I Pump Houses
- J Warehouses
- K Soldering Irons Heating Shed
- L Can Shop
- M Power House
- N Repair Shop
- O Cooling Pond
- P Blacksmith Shop
- Q Ice Plant
- R Carpenter Shop
- S Office
- T Open Shed

TANKS		
NO	PRODUCT	BARREL CAPACITY
1	KEROSENE	30,000
2	FUEL OIL	18,500
3	KEROSENE	30,000
4	DIESEL OIL	16,000
5	—	9,000
6	—	340
7	—	340
S-1	—	775
S-2	—	400

NOTE: It is believed one 35,000 Bbls. Gasoline Tank was erected in recent years.



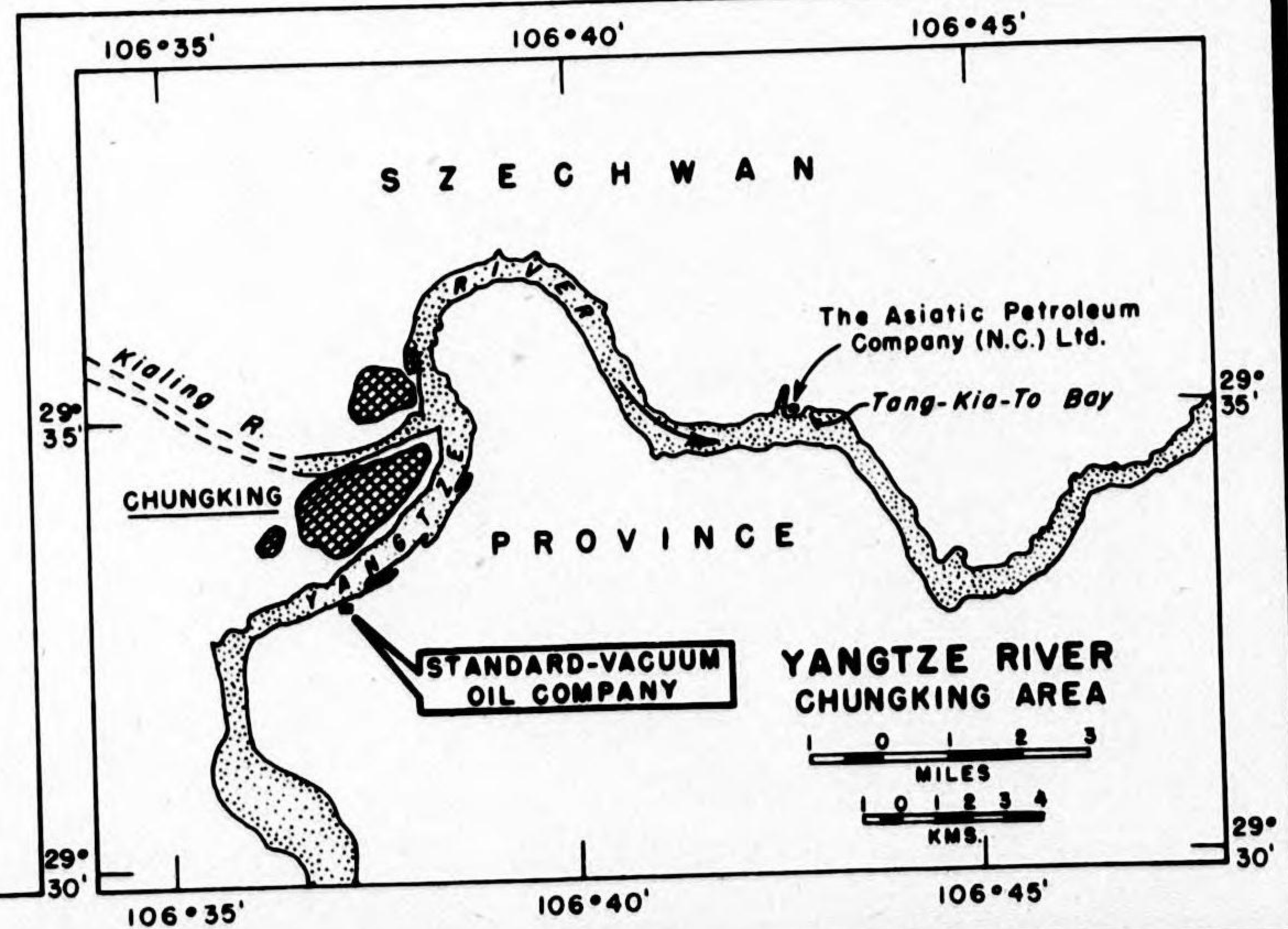
NORTH CHINA CHUNGKING INSTALLATION STANDARD - VACUUM OIL COMPANY



LEGEND

1. Storehouses
2. Tin Plate Storage
3. Filling Room
4. Can Shop
5. Soldering Shed
6. Engine Room
7. Water Reservoir
8. Soldering Irons Heating Shed
9. School House
10. Chinese Quarters
11. Fire Hose Cart House
12. Warehouse "D"
13. Warehouse "C"
14. Warehouse "B"
15. Filling Shed (Barrels)
16. Fuel Oil Filling Tank
17. Fuel Oil Filling Shed
18. Office
19. Reconditioning Shed
20. Filling Shed
21. Ethyl Gasoline Mixing Shed
22. Gasoline Warehouse "A"
23. Swimming Pool
24. Residence
25. Servants' Quarters
26. Water Reservoirs

TANKS			
NO.	DIMENSION	PRODUCT	BARREL CAPACITY
A	70' X 30'	GASOLINE	19,640
B	20' X 20'	"	1,060
C	93' X 35'	KEROSENE	39,880
D	93' X 36'	"	40,950
E	50' X 35'	GASOLINE (Aviation)	11,930
F	50' X 30'	KEROSENE	9,980



The Asiatic Petroleum Company (N.C.) Ltd., installation.- This installation was located a considerable distance downstream from the city on the north bank at Tang Kia To Bay. The storage for bulk products consisted of five medium sized tanks and two small tanks for kerosene, diesel oil and fuel oil. There were also two service tanks. Although not shown on the plan of the installation, it is understood that a large gasoline storage tank and arrangements for filling gasoline packages were installed in recent years. There was a can factory with a daily capacity of 3,900 cans, six warehouses, two residences, an office and an ice factory. There were two pontoon wharves at one of which bulk oil could be discharged and the other was used for handling packaged products. All deliveries were made by water. Supplies came from Hankow via Ichang. No bulk oil was delivered from this plant.

A drawing of the installation appears on page 165.

Standard-Vacuum Oil Company installation.- This installation lay about one mile from the center of the city on the south bank opposite the city in a district known as Sukiapa. The storage tankage consisted of three medium sized tanks for gasoline and kerosene and two smaller ones for aviation gasoline and kerosene. There were two bulk hulks in the river which served the dual purpose of wharves and storage for fuel oil. There were filling arrangements for all these products and a can factory with a capacity of 10,000 cans per day. There was a small ethyl blending plant for aviation gasoline and a gasometer which was used to conserve the vapor from the gasoline tanks. There were four warehouses, an office and a superintendent's residence. Supplies of bulk gasoline and fuel oil came up from Hankow and kerosene from Hankow, Yochow and Ichang. River vessels could bunker at this installation. All other deliveries were in packages and were made by water. The company's warehouse at Luchow farther up the river drew supplies of packaged oil from this source.

A drawing of this installation appears on page 166.

The Texas Company (China) Ltd., warehouses.- This company leased six warehouses at Chungking which were supplied with packaged products by river from their installation at Hankow. The capacity of these buildings is not known.

Distribution.- The Chungking facilities served the province of Szechwan via the following main waterways:

- (1) The Min Ho, which joins the Yangtze at Suifu (Ipin).
- (2) The Fu Ho, which joins the Yangtze at Luchow.
- (3) The Kialing, which joins the Yangtze at Chungking.
- (4) The Wu, which joins the Yangtze at Fouling.

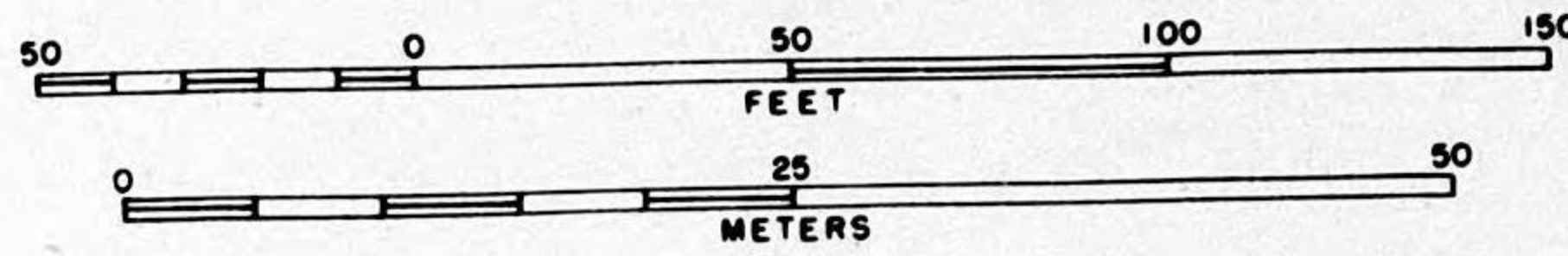
4.4.22 Tsingtao - Shantung Province

Latitude 36° 4' N., longitude 120° 19' E.

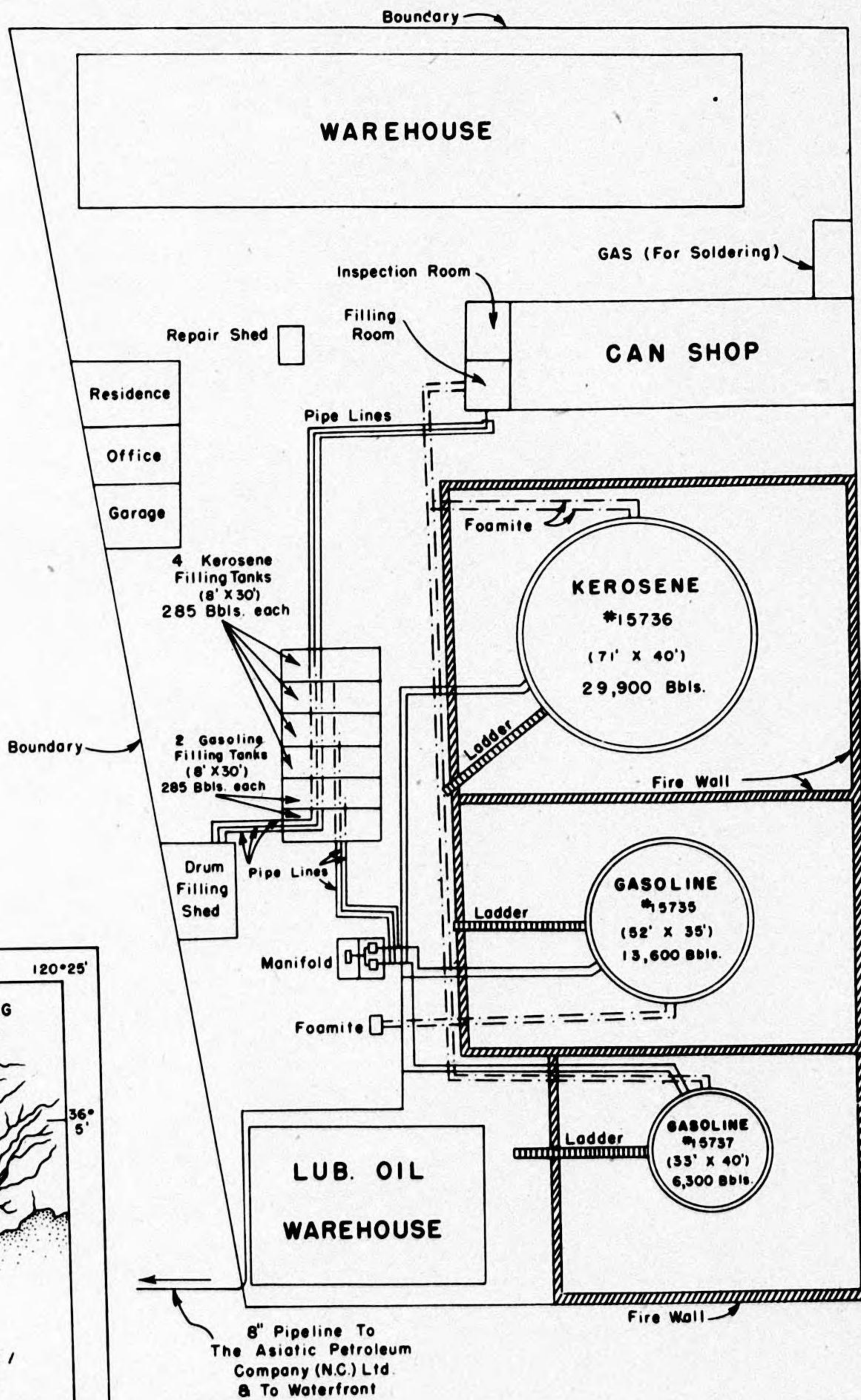
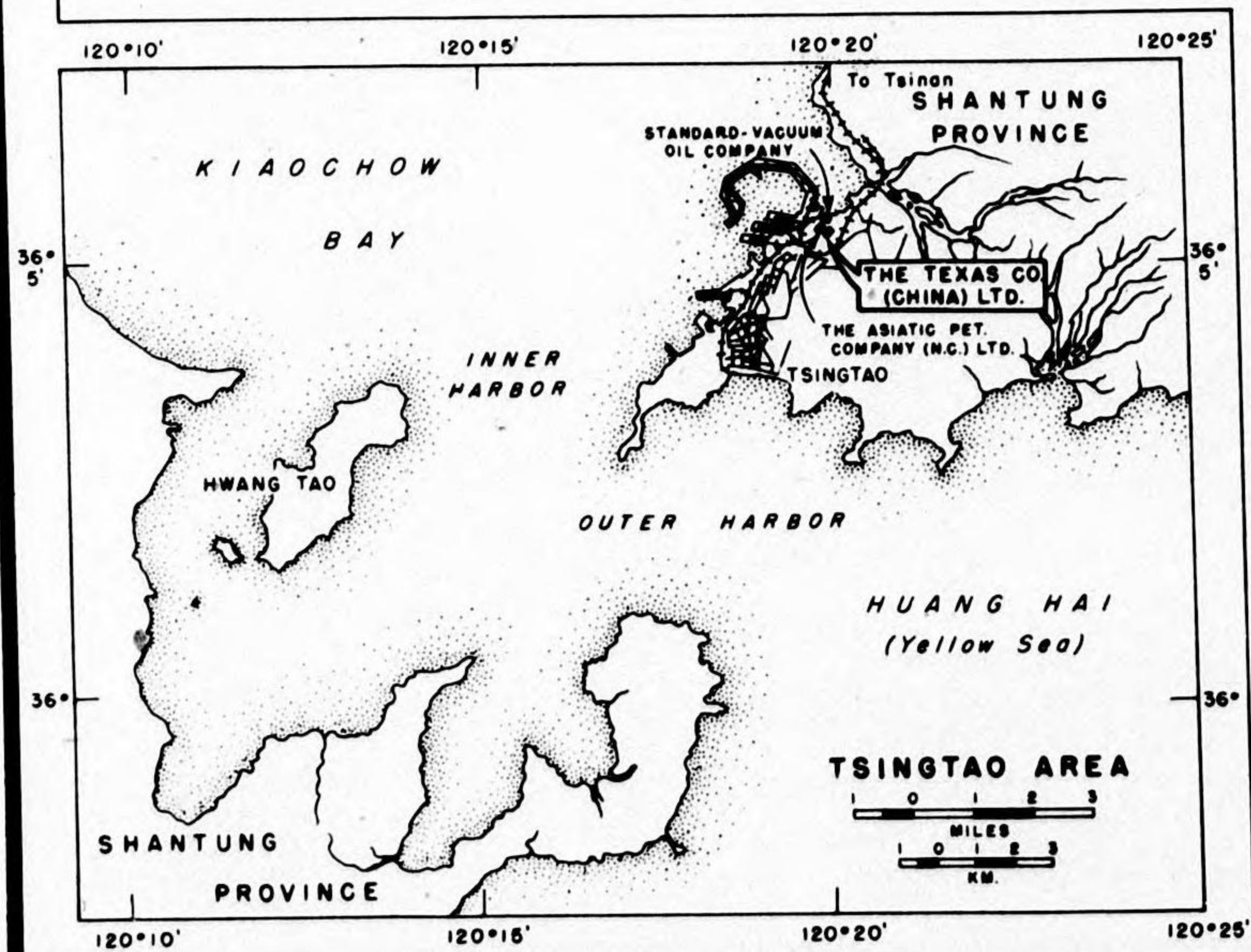
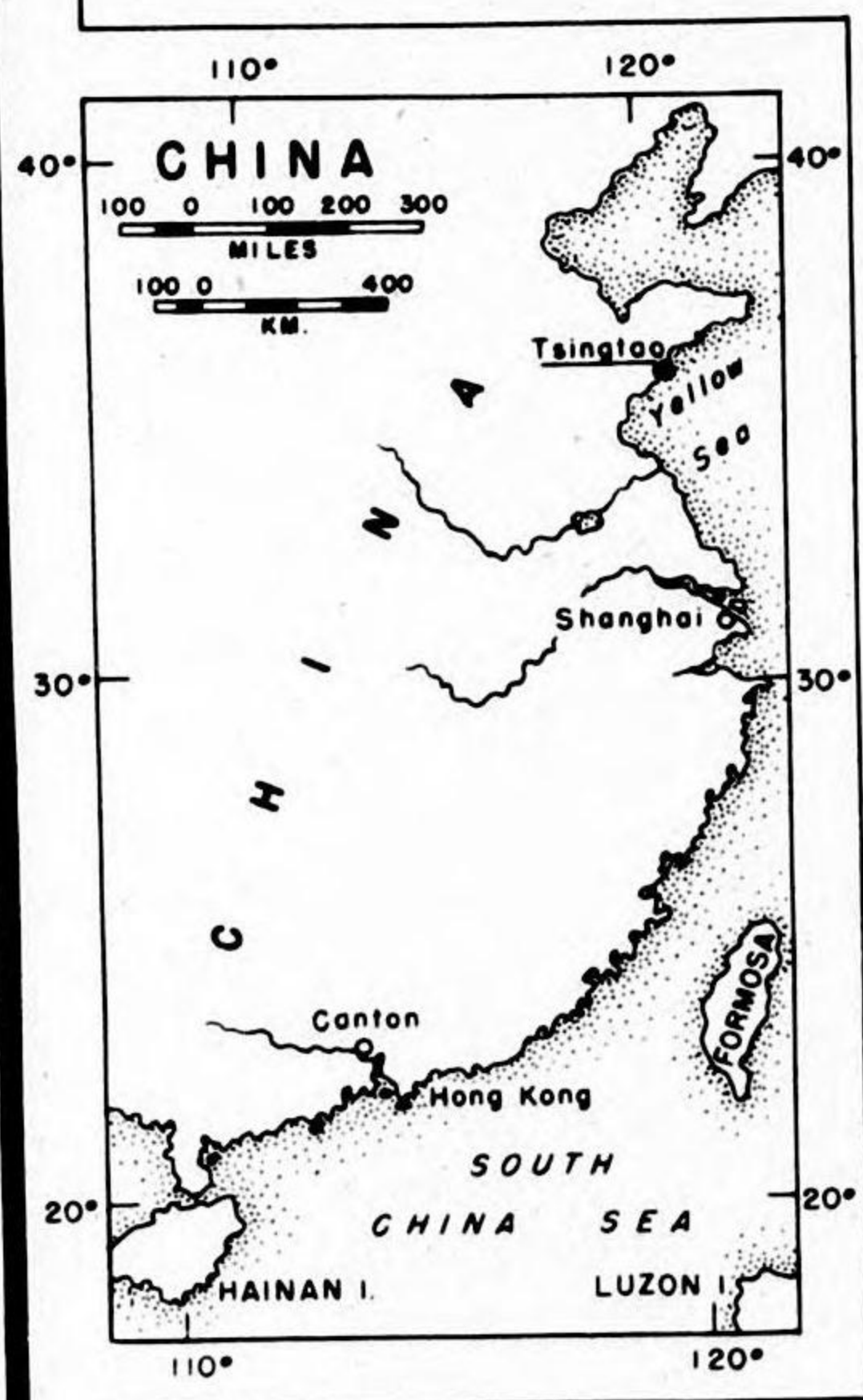
The Asiatic Petroleum Company (N.C.) Ltd., terminal.- This terminal was situated a short distance northeast of the city on Kiachow Bay. It lay a little back from the water front and was connected by pipe line to the oil berth in the harbor. It had three medium sized storage tanks for kerosene and one for gasoline and four small service tanks, one of which was for gas oil, probably for installation use. There was a can factory capable of turning out 7,700 cans per day and filling arrangements for packaging both kerosene and gasoline. There were four large and two small warehouses and an office and a superintendent's residence. All deliveries to the interior were made by rail except to the city where both bulk gasoline and kerosene in cans were delivered by truck. Shipments were also made by water to coastal markets. There was a siding within the installation which connected with the Tsingtao-Tsinan railroad line. Ocean tankers with a draft up to 21 feet could discharge at all times of the year at the oil berth which was used jointly by all the oil companies. No bunkering was done at this installation.

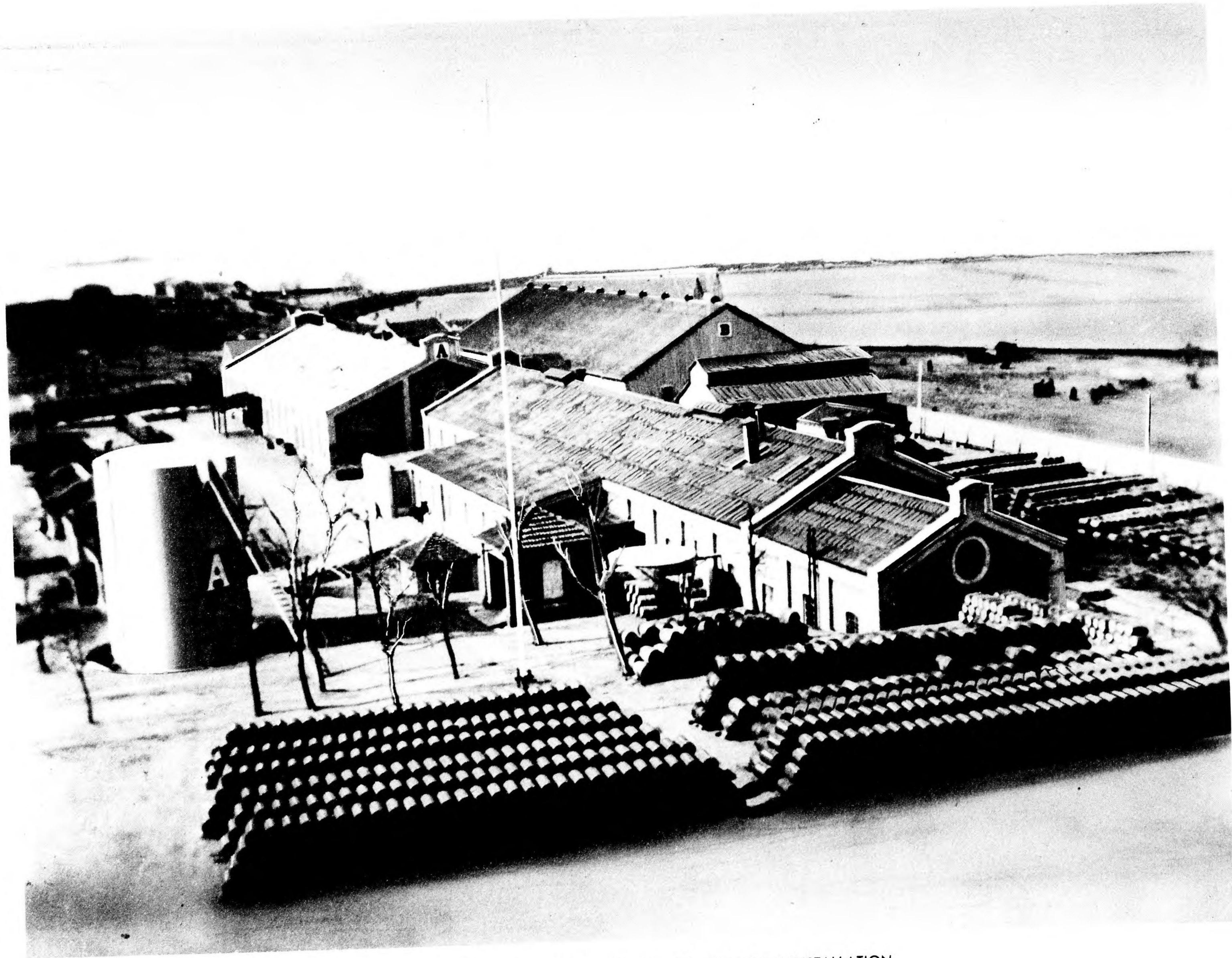
A drawing of the terminal appears on page 168.

NORTH CHINA TSINGTAO INSTALLATION THE TEXAS COMPANY (CHINA) LTD.



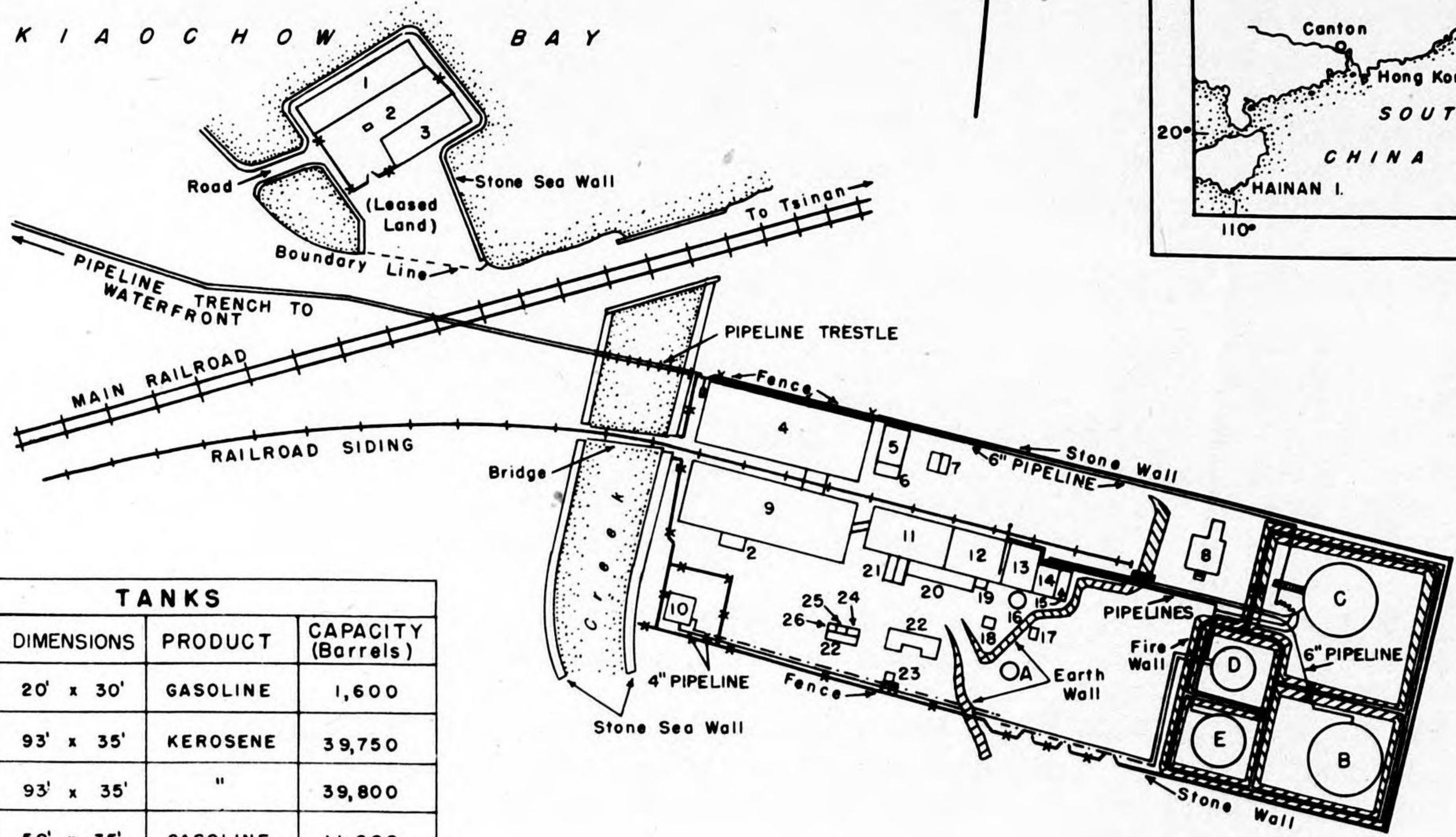
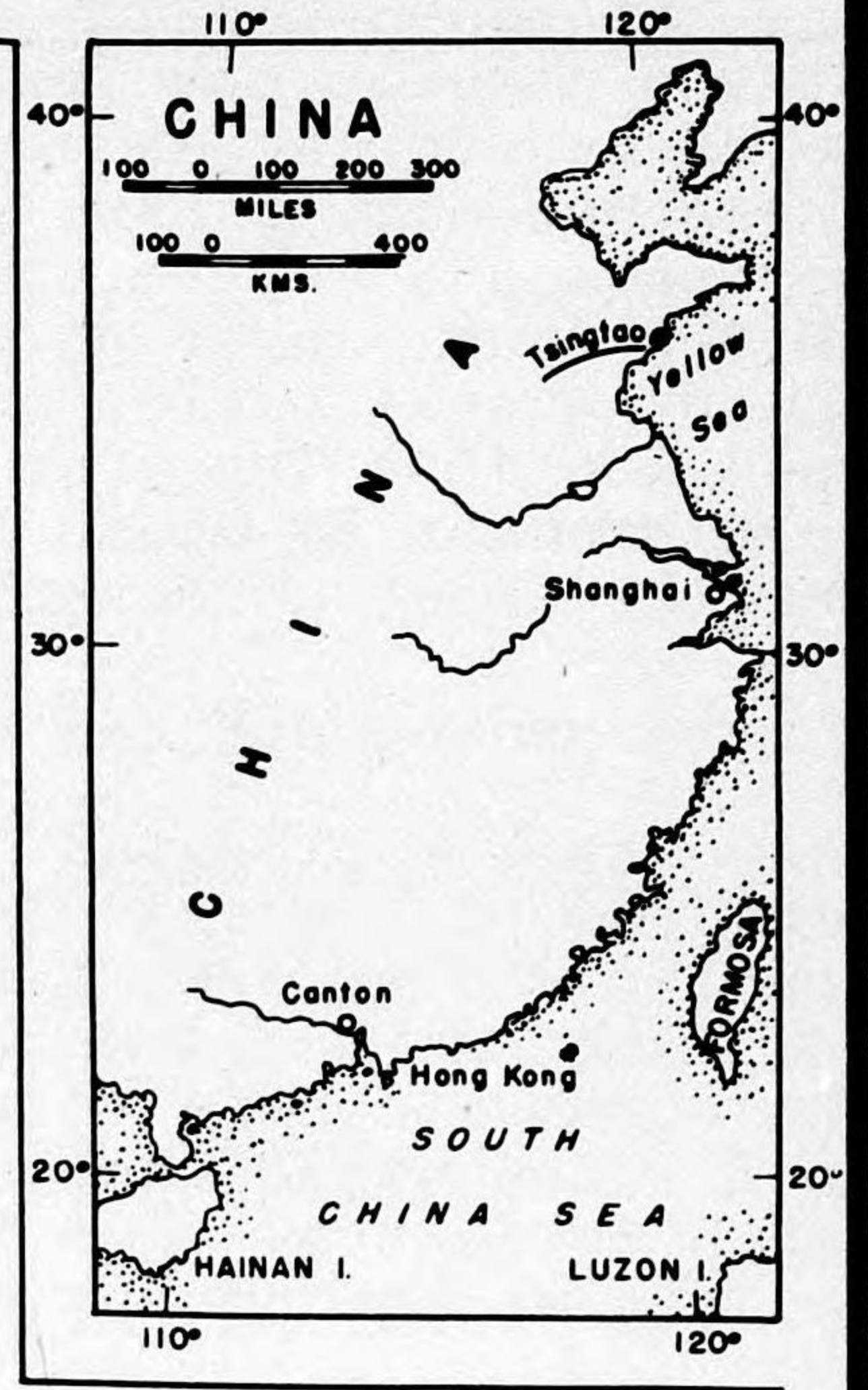
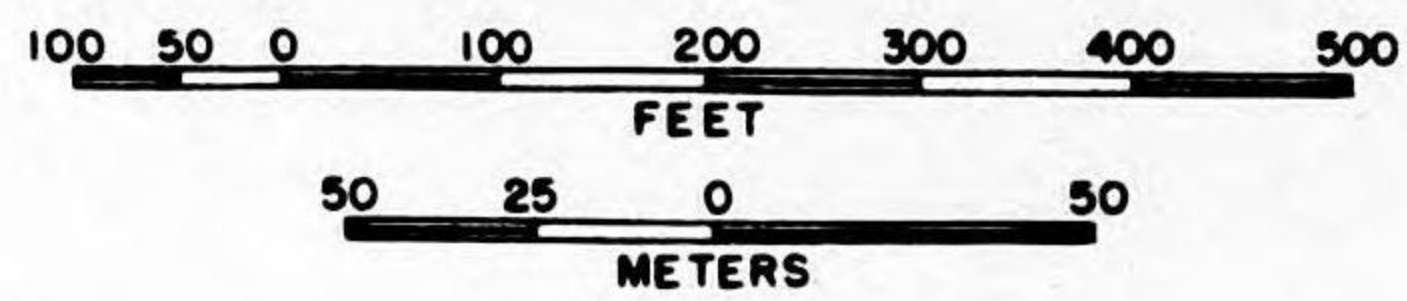
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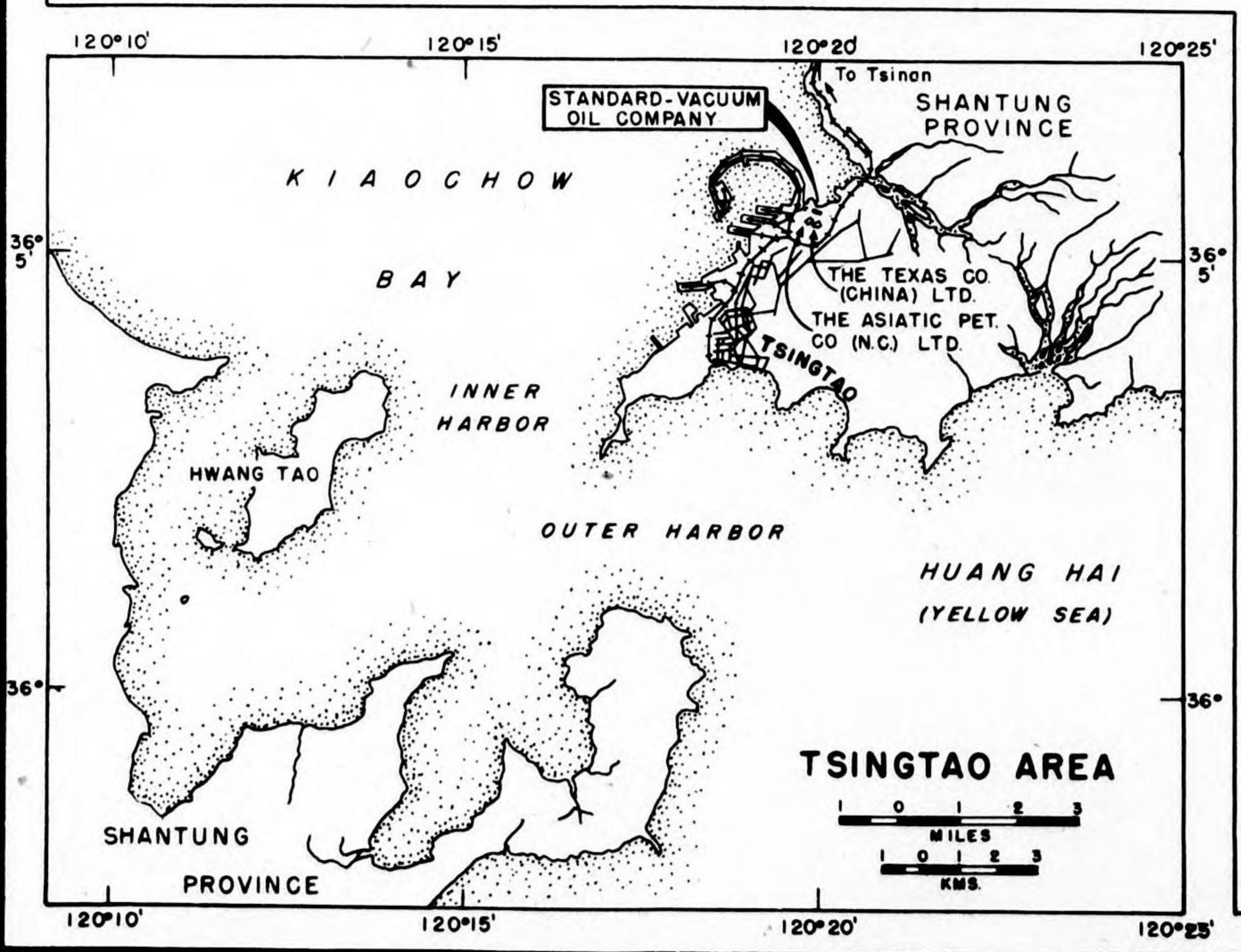


A SECTION OF STANDARD-VACUUM OIL CO. TSINGTAO INSTALLATION

NORTH CHINA TSINGTAO INSTALLATION STANDARD-VACUUM OIL COMPANY



TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
A	20' x 30'	GASOLINE	1,600
B	93' x 35'	KEROSENE	39,750
C	93' x 35'	"	39,800
D	50' x 35'	GASOLINE	11,600
E	50' x 45'	KEROSENE	15,100



- LEGEND**
- 1 Warehouse "D"
 - 2 Open Sheds
 - 3 Warehouse "C"
 - 4 Warehouse "B"
 - 5 Storehouse
 - 6 Office
 - 7 Shed
 - 8 Residence
 - 9 Warehouse "A"
 - 10 Filling Shed (Gasoline)
 - 11 Storage (Tins)
 - 12 Filling Room
 - 13 Can Shop
 - 14 Engine and Pump Room
 - 15 Storage
 - 16 Water Tank
 - 17 Fire Hose Cart House
 - 18 Tool House
 - 19 Filling Shed (Barrels)
 - 20 Tin Plate Storage
 - 21 Garages
 - 22 Native Quarters
 - 23 Carpenter Shop
 - 24 Solder Shed
 - 25 Blacksmith Shop
 - 26 Watchman

Standard-Vacuum Oil Company terminal.- This plant was located a little north of the Asiatic premises and slightly nearer the harbor. It had two large tanks for kerosene storage and two medium tanks, one for gasoline and the other for kerosene. There was also a service tank of 1,600 barrels capacity for gasoline and filling arrangements for both products. There was a can factory with a daily capacity of 10,000 cans. Four warehouses, an office and superintendent's residence constituted the principal buildings in the compound. A siding from the Tsingtao-Tsinan railroad led into the premises and there was also road access to the city. Supplies were brought by ocean tanker and methods of delivery were similar to those described for the Asiatic Company. No bunkering was done.

A photograph and a drawing of the terminal appear on pages 170 and 171.

The Texas Company (China) Ltd., terminal.- This terminal adjoined the Asiatic premises on the east. There were three storage tanks, one large one for kerosene and two medium ones for gasoline. In addition there were four small service tanks for kerosene and two for gasoline and filling facilities for both cans and drums. There was a can factory capable of turning out 5,000 cans per day. There were two good sized warehouses one of which was for lubricating oil and there was an office and a residence. The installation had access to rail and to road and shipments could also be made by water. No bunkering was done.

A drawing of the plant appears on page 169.

Mitsubishi Oil Company terminal.- This Japanese company constructed a large installation at Tsingtao in 1940-1941. It lay a little north of the other plants. There were said to be three medium sized tanks for the storage of kerosene and gasoline and one large and two medium tanks for black oils of which two were reserved for fuel supplies for the Japanese navy. There were also two small service tanks. No further details and no plan of the terminal are available.

Distribution.- The Tsingtao terminals served most of Shantung Province and the northern part of Kiangsu. The main distributing channels were:

- (1) By junk to coastal markets north and south of Tsingtao, including north Kiangsu down to the old mouth of the Yellow River. At Sinpuchen packed supplies were transferred to the Lunghai Railway for markets to the west.
- (2) By rail to points on the Tsingtao-Tsinan Railway.
- (3) By rail via Tsinan to points on the Tientsin-Pukow Railway in Shantung.
- (4) By rail to the river depots of Lokow and Hwangtaichow, both near Tsinan, and thence by junk to Yellow River and Grand Canal markets in Shantung.

The north side of the Shantung promontory, including the ports of Weihaiwei, Chefoo and Lungkow were supplied by coastal craft from Shanghai on northbound trips and from Tientsin on the return journey.

Standard supplied packaged oils to some of their depots in Honan Province such as Chengchow, Kaifeng, Kunghsien, Kuhingchi and Honanfu, from Tsingtao by sea and rail via Sinpuchen.

The facilities owned by the oil companies at points supplied from Tsingtao are listed on the following page.

Points Supplied from Tsingtao

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How supplied *</u>
Chowtsun	Shantung	APC	Bulk depot	(2)
"	"	SVOC	" "	(2)
Hwangtaichiao	"	APC	" "	(4)
"	"	SVOC	" "	(4)
Lokow	"	APC	" "	(4)
"	"	SVOC	" "	(4)
Mingshui	"	APC	" "	(2)
Poshan	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Sianfu	Shensi	SVOC	Warehouse	(1)
Sinpuchen	Kiangsu	SVOC	"	(1)
Tsinan	Shantung	APC	Bulk depot	(2)
"	"	SVOC	" "	(2)
Tsingchowfu	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Tsining		APC	" "	(3)
"		SVOC	" "	(3)
Tsoshan		APC	" "	(2)
"		SVOC	" "	(2)
Weih sien		APC	" "	(2)
"		SVOC	" "	(2)

* Refer to preceding paragraph on page 172.

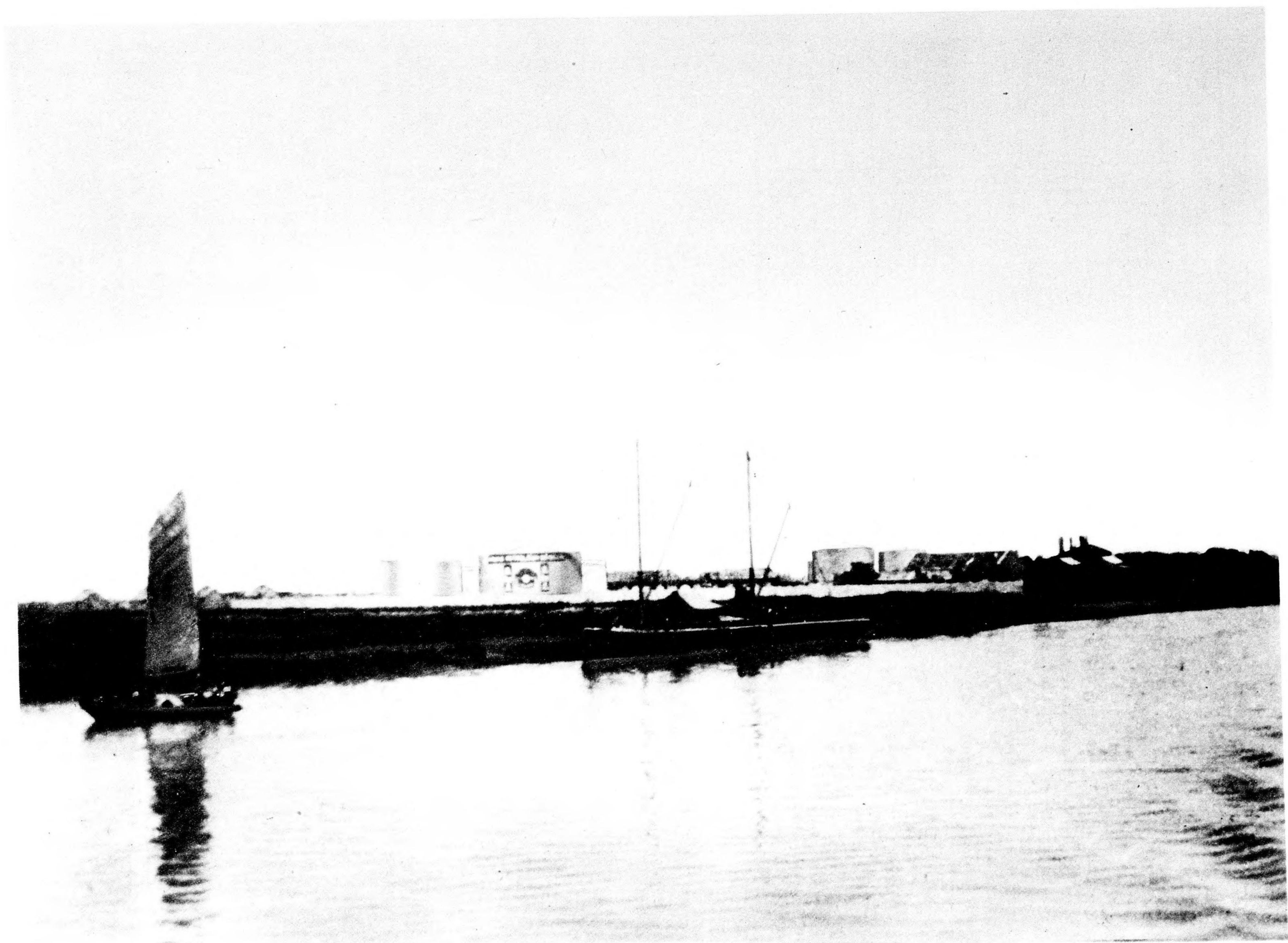
4.4.23 Tientsin - Hopeh Province

Latitude 39° 8' N., longitude 117° 12' E.

The Asiatic Petroleum Company (N.C.) Ltd., terminal at Tangku.- This terminal was located on the north bank of the Hai River (or Pei, as it is sometimes called), not far from the mouth. It was some distance eastward, and down river, from the city. The tankage consisted of eight tanks ranging from large to medium in size for the storage of gasoline, kerosene and diesel oil and three small service tanks. There were filling arrangements for all three products. Wooden cases were made at this installation. Cans were manufactured and sent in from the company's city installation farther up the river. There were three filling sheds and four large warehouses for packaged goods, together with an office and a residence. The terminal had a wide frontage on the river and a pier and pontoon wharf but large ocean vessels could not proceed into the river because of a sand bar, known as the Taku Bar, a few miles off shore and were obliged to discharge into lighters at the anchorage outside the bar. In normal times vessels drawing up to 14 feet could proceed to Tientsin. The lighters were taken to the wharf and discharged into the installation tanks. All supplies came from overseas and deliveries were made by water and by rail. There was a siding which entered the installation and connected with the Peking-Mukden Railway and thence to the Tientsin-Pukow, Peking-Hankow and Peking-Suiyuan railway systems. Bunkering with diesel oil could be done at the wharf for river craft and by lighter for ocean vessels.

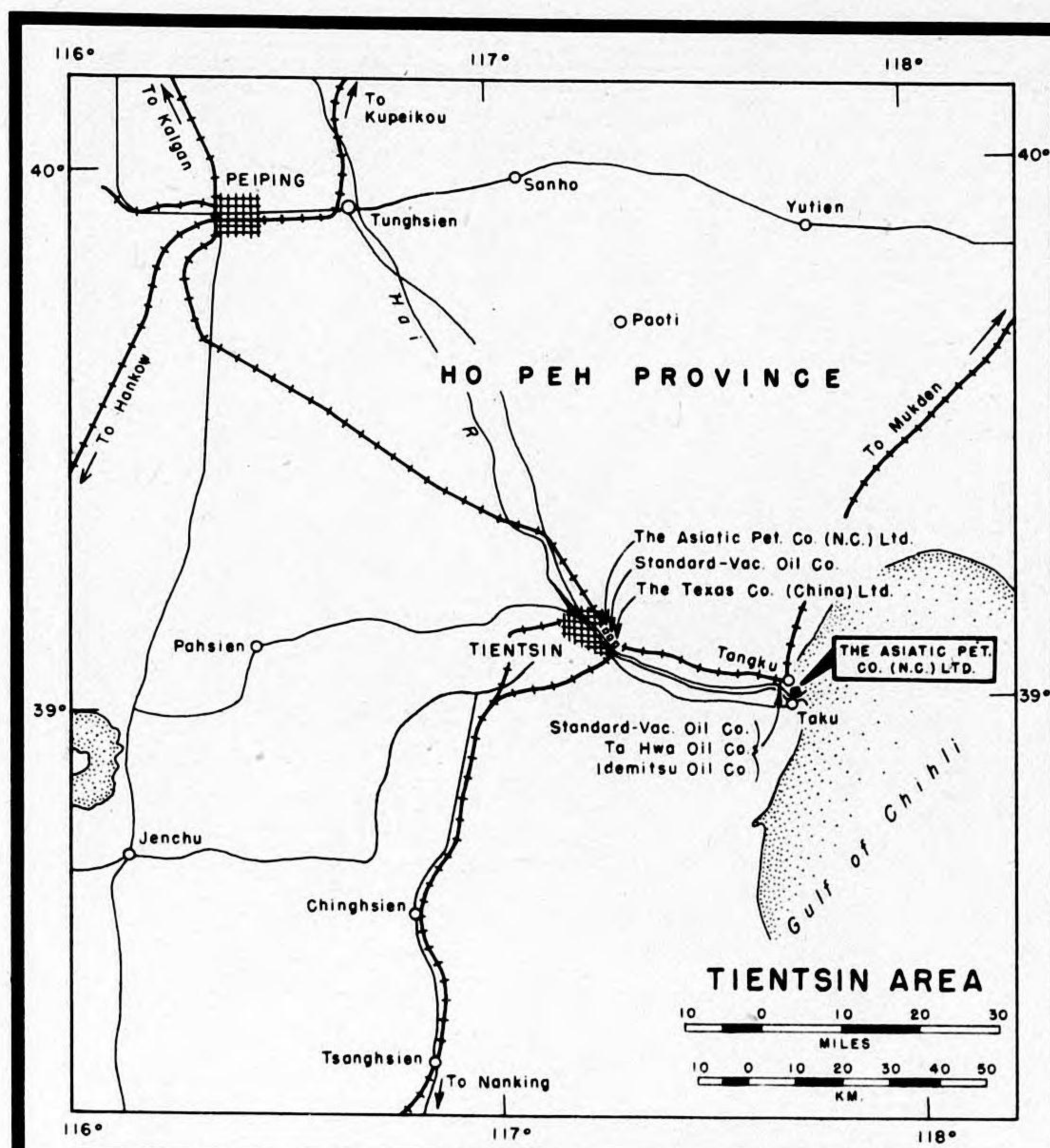
A photograph and a drawing of the plant appear on pages 174 and 175.

Standard-Vacuum Oil Company terminal, at Hsinho.- This terminal was located somewhat farther up the river than the Asiatic Tangku terminal and was about 20 miles from the anchorage. It was on the north bank of the river near the Hsinho railroad station. It had three tanks of medium size for bulk kerosene and a filling tank of 1,000 barrels capacity. There were facilities for filling kerosene cans although no cans were made here but were supplied from the company's city installation. There were two warehouses, one for kerosene and the other for packaged gasoline brought in already packed from abroad or from the city plant. There was



ASIATIC PETROLEUM CO. TANGKU INSTALLATION NEAR TIENSIN



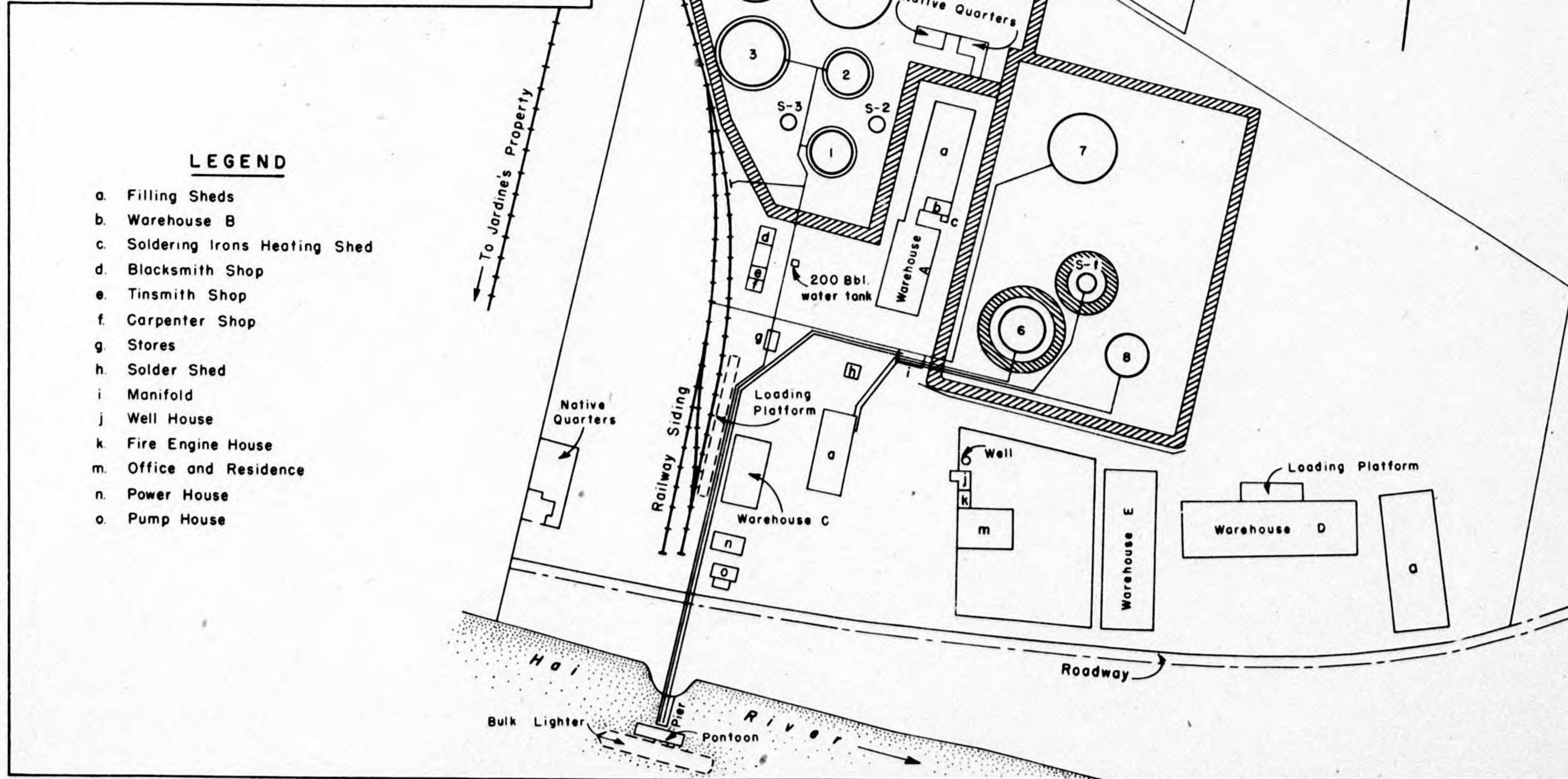
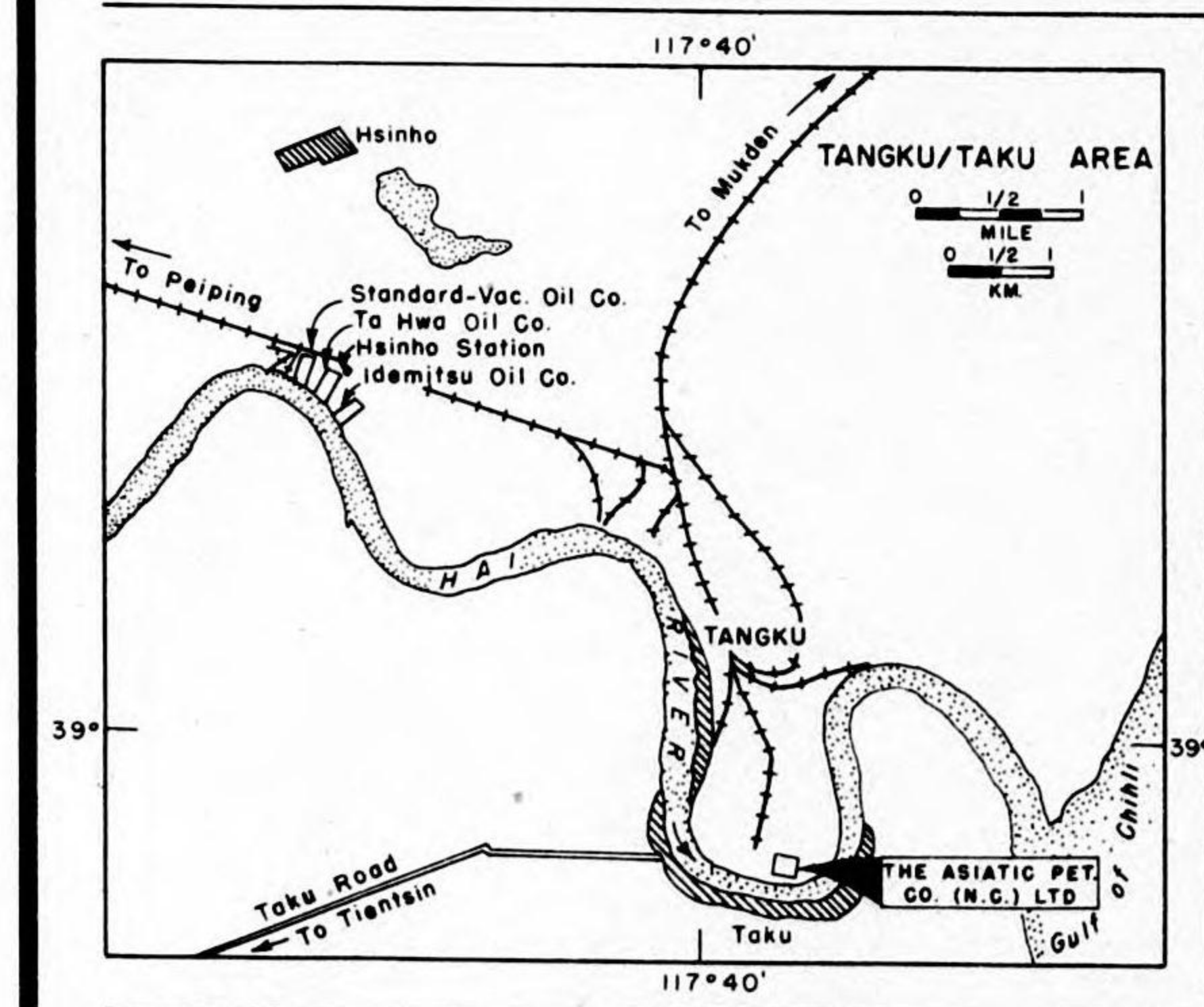


NORTH CHINA
TIENTSIN (TANGKU) INSTALLATION
THE ASIATIC PETROLEUM CO. (N.C.) LTD.
(ROYAL DUTCH SHELL)



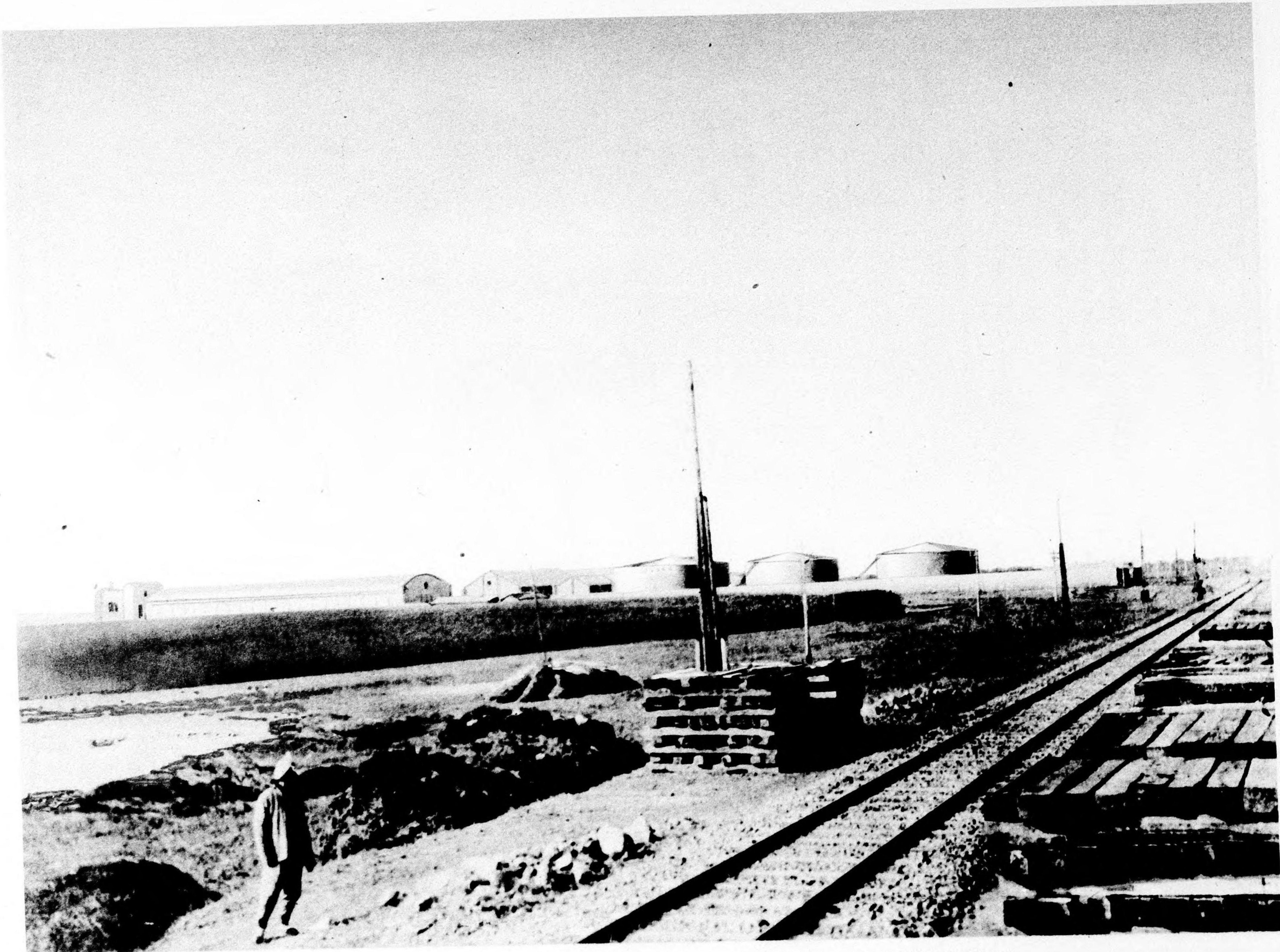
(Approximate Scale)

TANKS		
NO.	PRODUCT	CAPACITY (Bbls)
1	KEROSENE	11,580
2	"	11,580
3	"	22,940
4	"	30,610
5	"	37,230
6	GASOLINE	13,216
7	"	23,820
8	DIESEL OIL	8,895
S-1	GASOLINE	700
S-2	KEROSENE	1,230
S-3	"	1,230

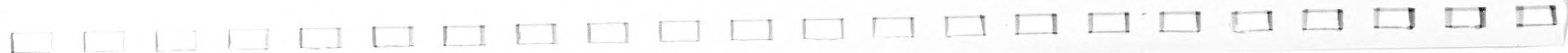


LEGEND

- a. Filling Sheds
- b. Warehouse B
- c. Soldering Irons Heating Shed
- d. Blacksmith Shop
- e. Tinsmith Shop
- f. Carpenter Shop
- g. Stores
- h. Solder Shed
- i. Manifold
- j. Well House
- k. Fire Engine House
- m. Office and Residence
- n. Power House
- o. Pump House



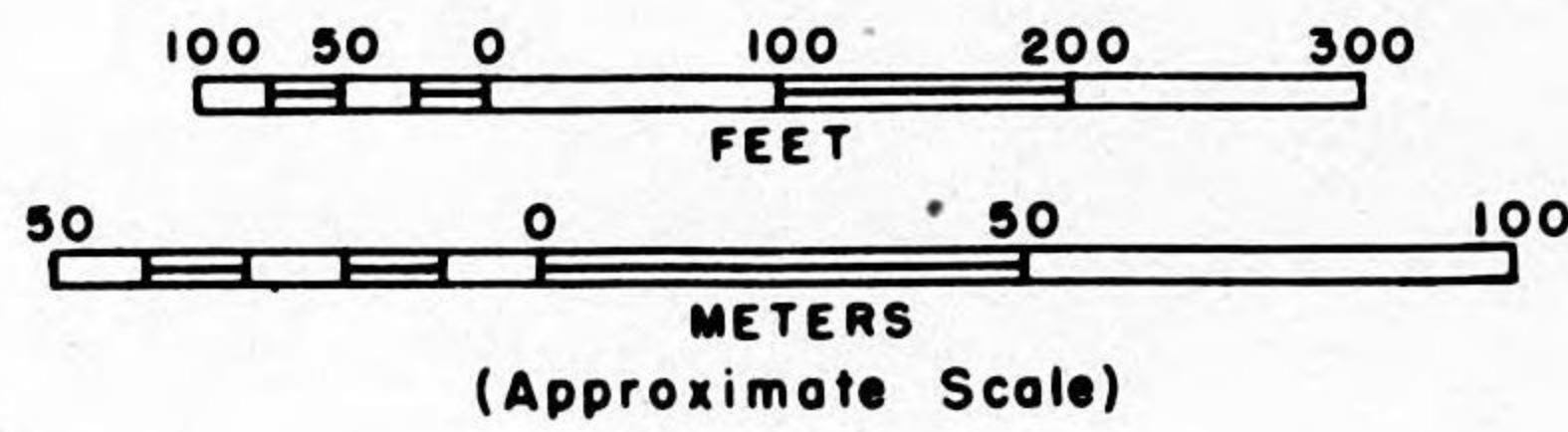
STANDARD-VACUUM OIL CO. HSINHO INSTALLATION IN TANGKU/TAKU AREA, NEAR TIENSIN



NORTH CHINA

TIENTSIN (HSINHO) INSTALLATION

STANDARD-VACUUM OIL COMPANY

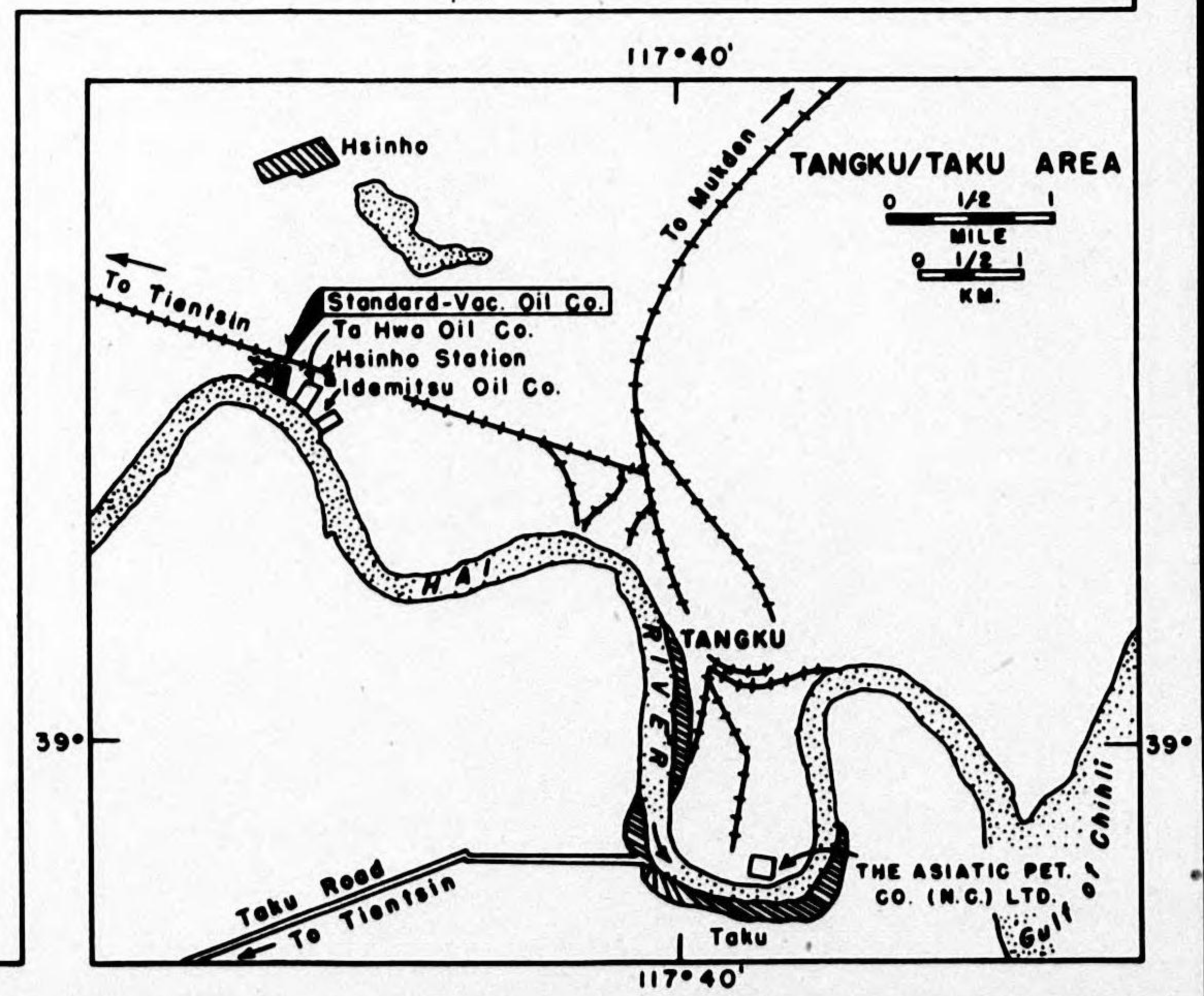
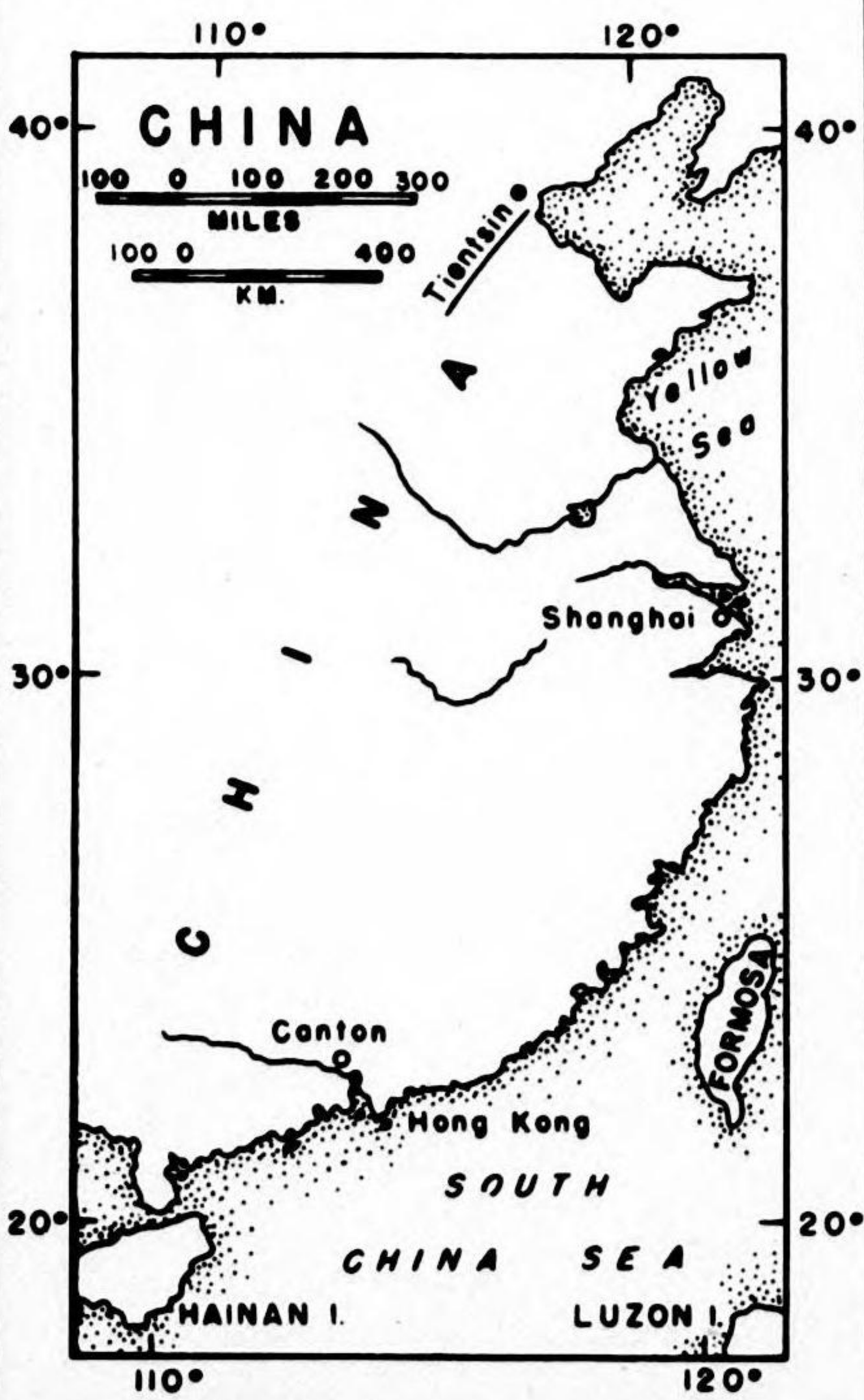
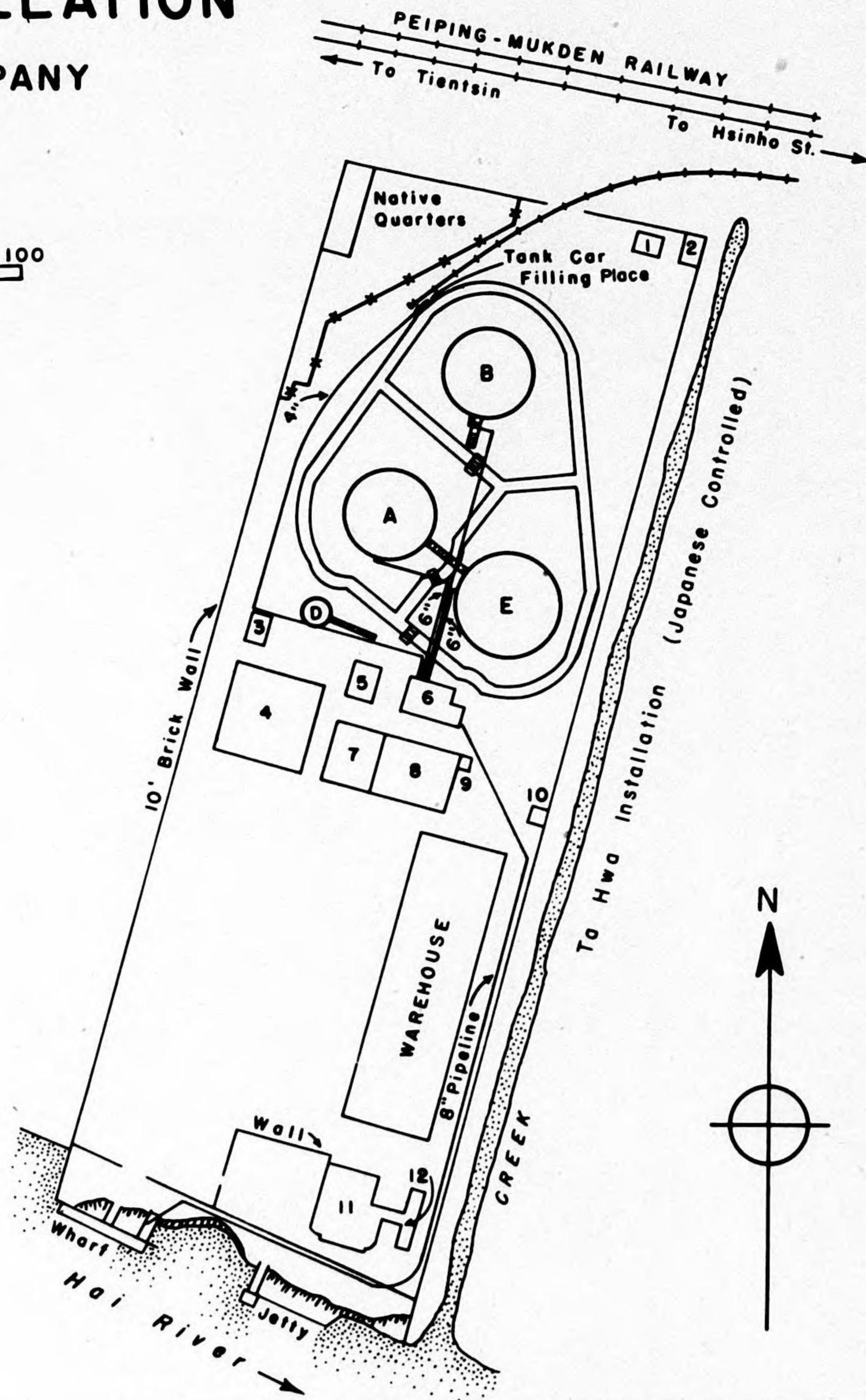


LEGEND

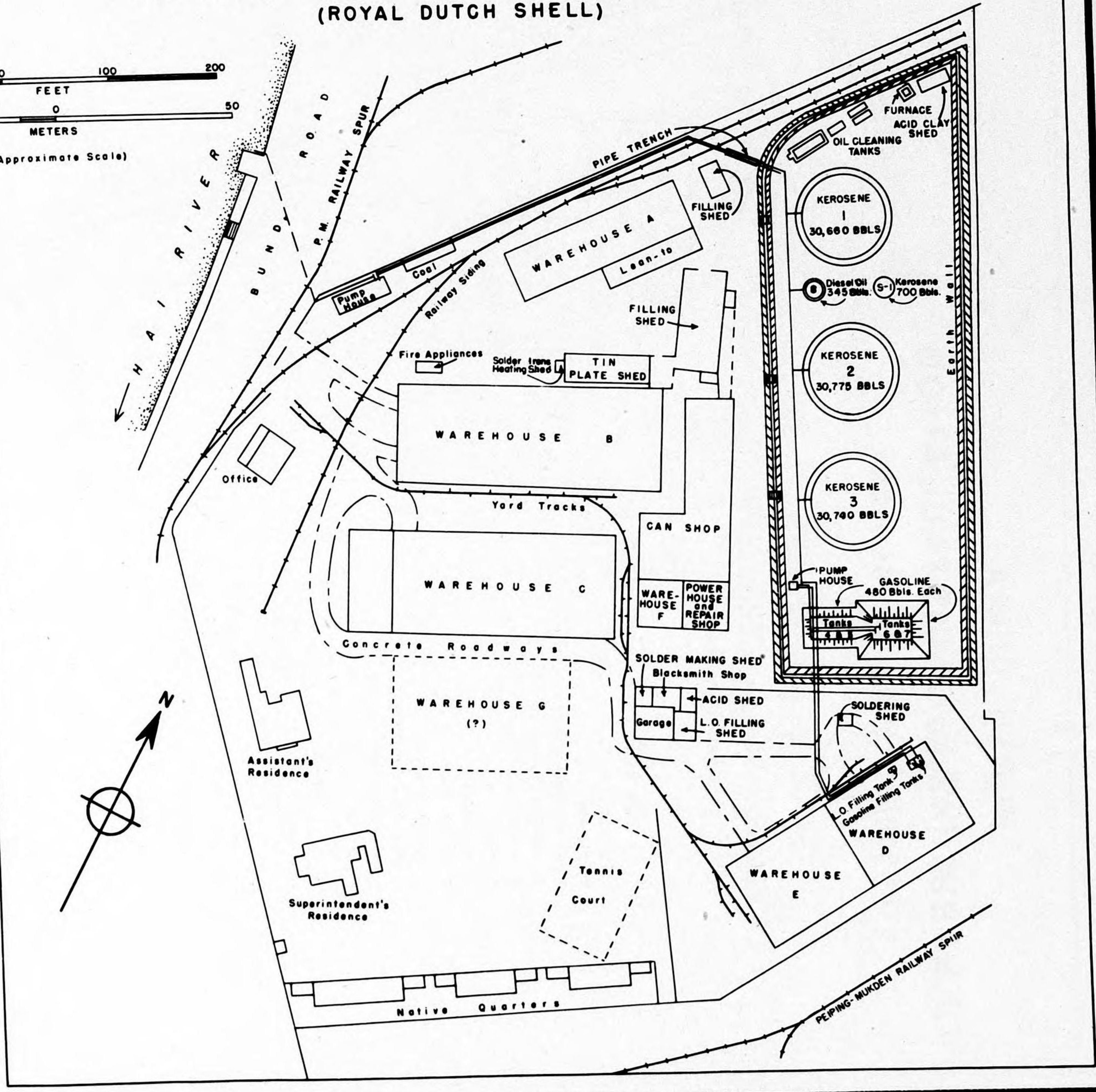
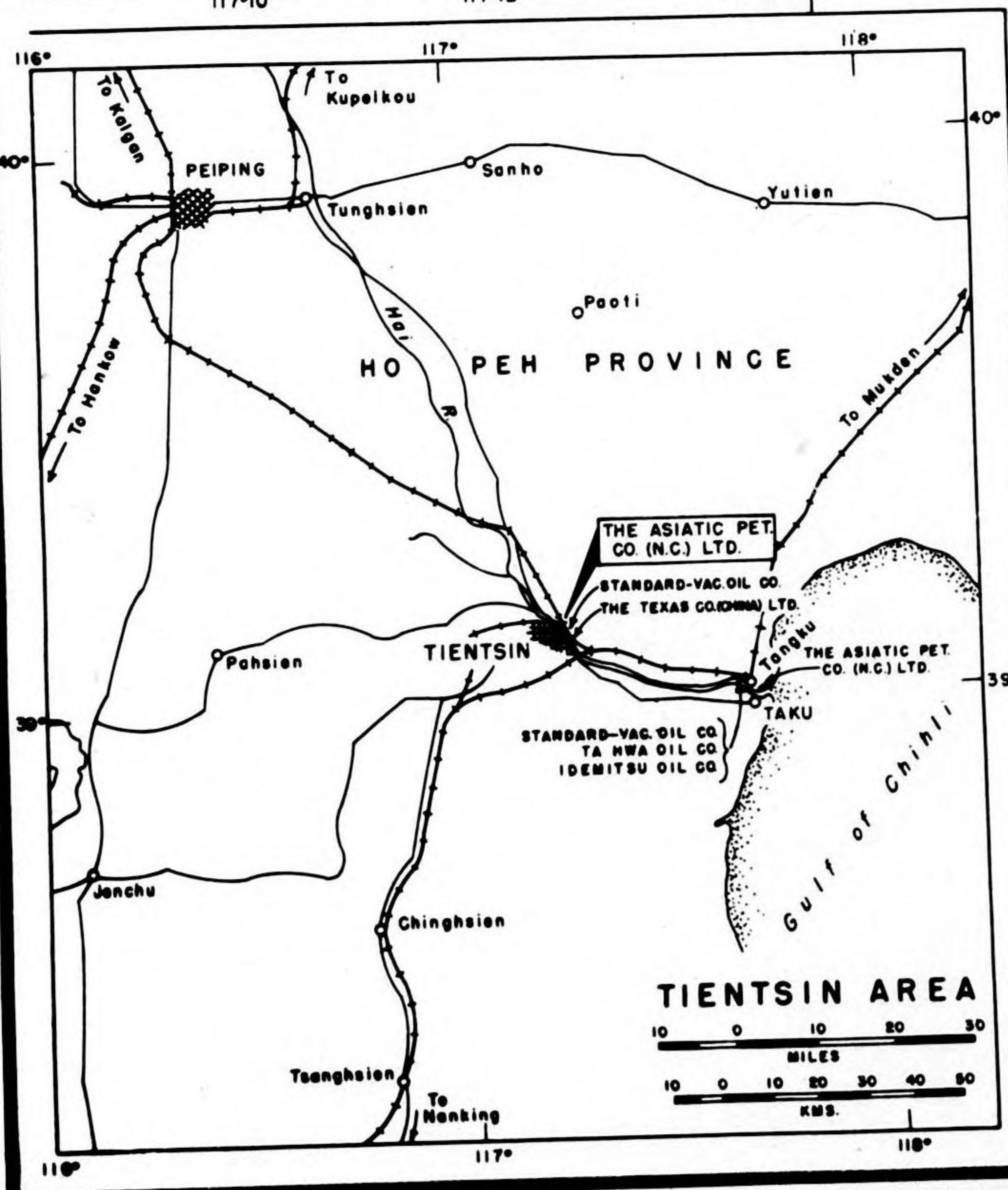
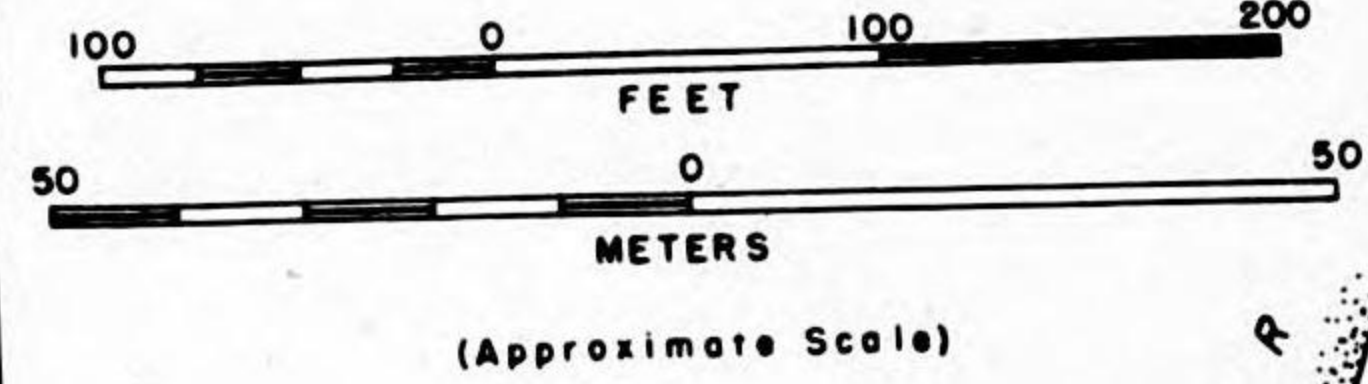
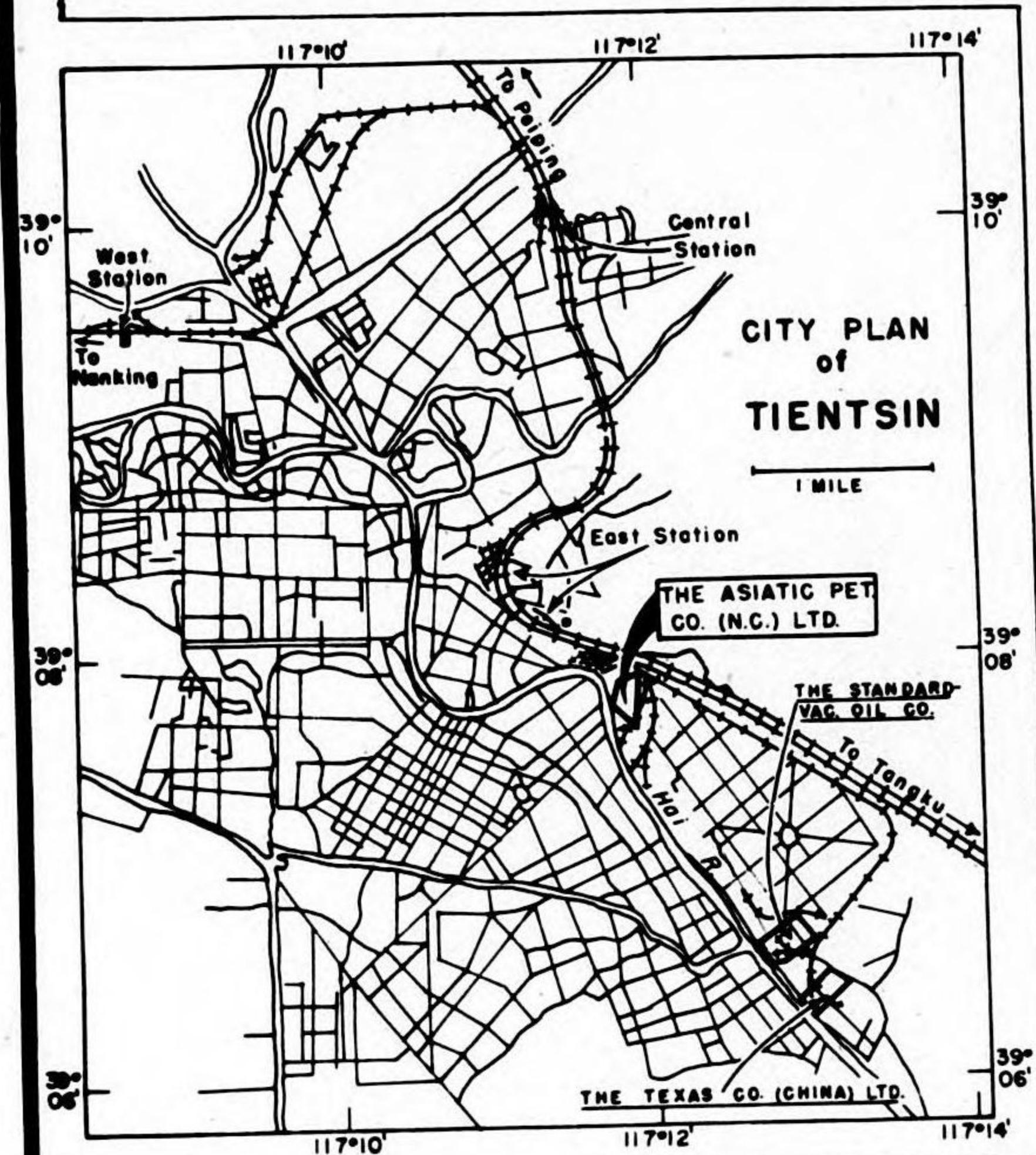
1. Garage
2. Storage
3. Filling Shed (Barrels)
4. Gasoline Warehouse
5. Storehouse
6. Pump
7. Warehouse
8. Filling Room
9. Soldering Shed
10. Fire Hose Cart House
11. Superintendent's Residence
12. Servant's Quarters

TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (BARRELS)
A	80' X 30'	KEROSENE	25,000
B	80' X 30'	"	25,000
D	20' X 20'	"	1,000
E	93' X 30'	"	34,000

NOTE: There is no Tank "C"



NORTH CHINA TIENTSIN (CITY) INSTALLATION THE ASIATIC PETROLEUM COMPANY (N.C.) LTD. (ROYAL DUTCH SHELL)



a wharf and a jetty on the riverfront but ocean vessels discharged at the anchorage into lighters which in turn discharged at the wharf. The terminal served mainly as a relay point in lightering cargo between ocean tankers at Taku Bay and the Tientsin city installations. A railway siding entered the premises. No bunkering was done.

A photograph and a drawing of the plant appear on pages 176 and 177.

The Asiatic Petroleum Company (N.C.) Ltd., Hotung, or City terminal.- This terminal was located in the southeastern part of the city in the Hotung district on the east bank of the Hai River. It had three large tanks for kerosene, four small horizontal tanks for the storage of gasoline and two service tanks, one for kerosene filling and the other for gas oil for installation use. There were filling arrangements for kerosene cans and a can factory with a daily capacity of 15,500 cans. There were also drum filling facilities and arrangements for blending lubricating oils. The main building consisted of seven warehouses, an office and both a superintendent's and an assistant superintendent's residence. Supplies were received by ocean vessels which discharged into lighters at the bar and which were unloaded at the river bund in front of the installation. Deliveries to the city of bulk gasoline and packaged goods were made by truck and deliveries to interior markets were made by rail. There were two railway sidings in the installation. No bunkering was done at this plant.

A drawing of the terminal appears on page 178.

Standard-Vacuum Oil Company, City terminal.- This was a large installation situated in the old Russian concession in the southeastern part of the city on the east bank of the Hai River a short distance downstream from the APC Hotung plant. There were six large and one medium sized tanks for kerosene storage and one medium tank for gasoline. There were six service tanks and filling arrangements and a small tank for diesel oil for installation use. There was a can factory with a daily capacity of 18,000 cans. There were seven large warehouses for packaged products, an office and a superintendent's and assistant's residence. Bulk gasoline and packaged goods were delivered to the city by truck. Interior markets were reached by rail connections from the installation to the main railway lines. Supplies were lightered from ocean vessels at the Taku Bar. No bunkering was done.

A drawing of the installation is reproduced on page 180.

The Texas Company (China) Ltd., City terminal.- This installation was also situated in the southeastern part of the city on the east bank of the Hai River and a short distance downstream from the Standard plant. It had two large tanks for kerosene storage and three smaller tanks for gasoline. There were eight service tanks and filling arrangements for both products. There was a can factory capable of producing 7,500 cans per day and three large warehouses for kerosene, gasoline, lubricating oils and asphalt. There was an office and two residences within the installation. The installation was supplied in the same manner as for APC and SVOC. There were rail connections to the main railway lines from which most deliveries were made except to the city where it was done by truck. No bunkering was done.

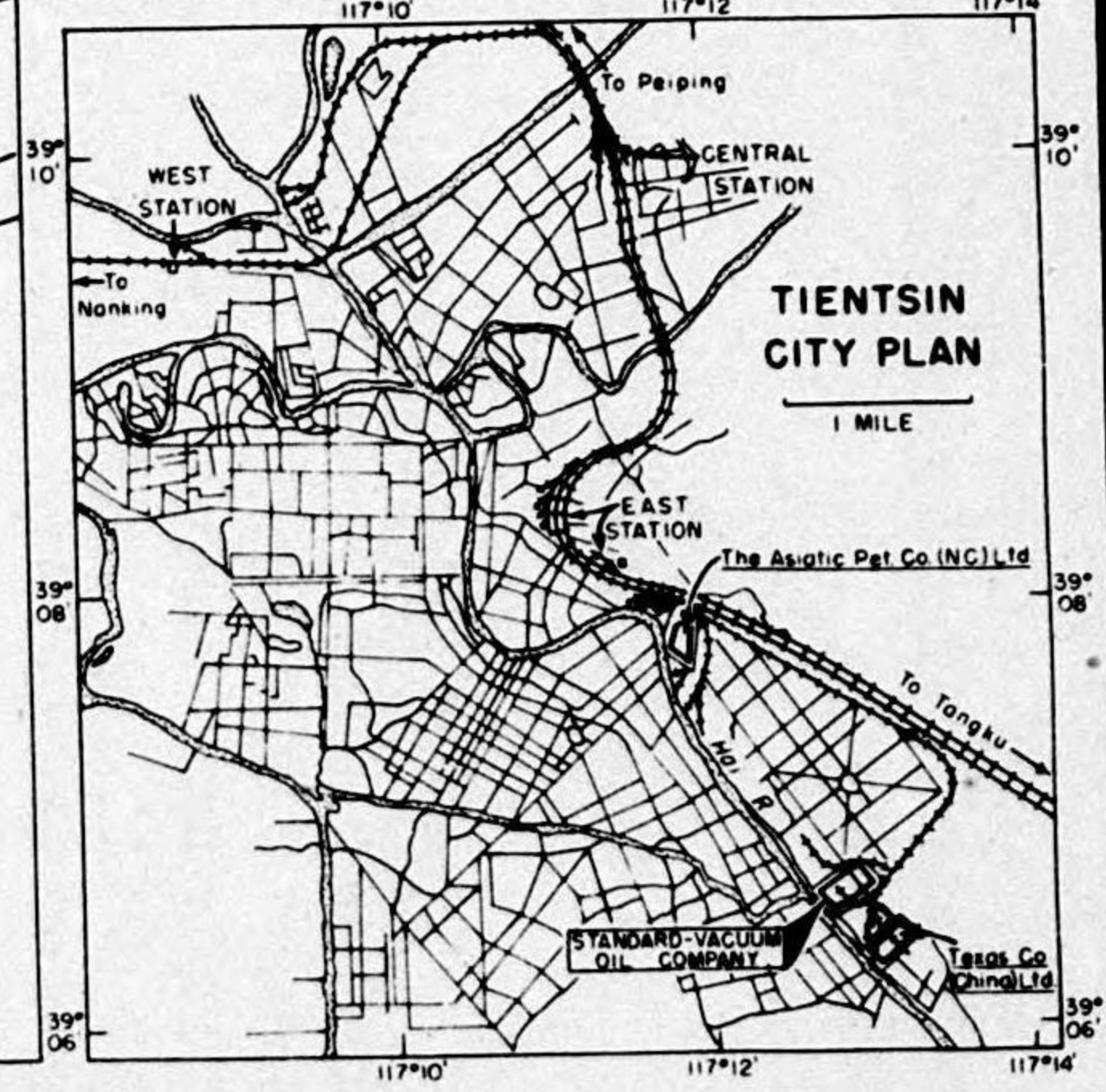
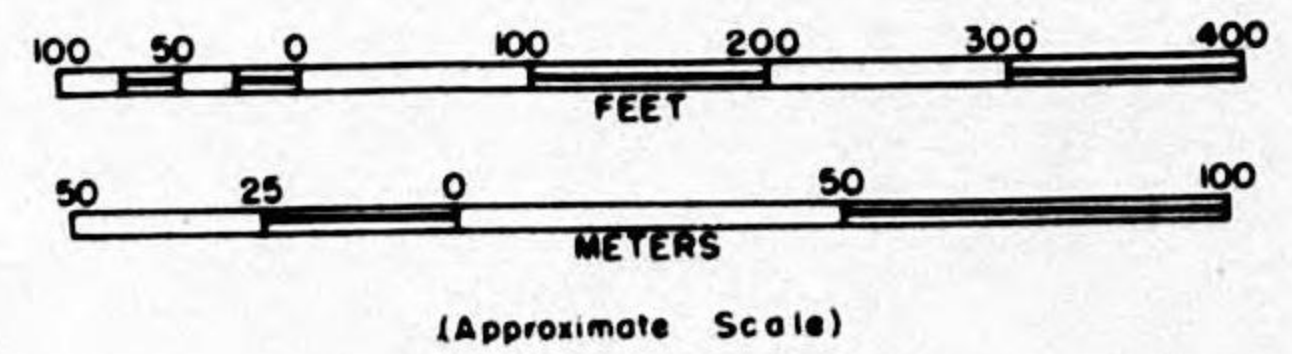
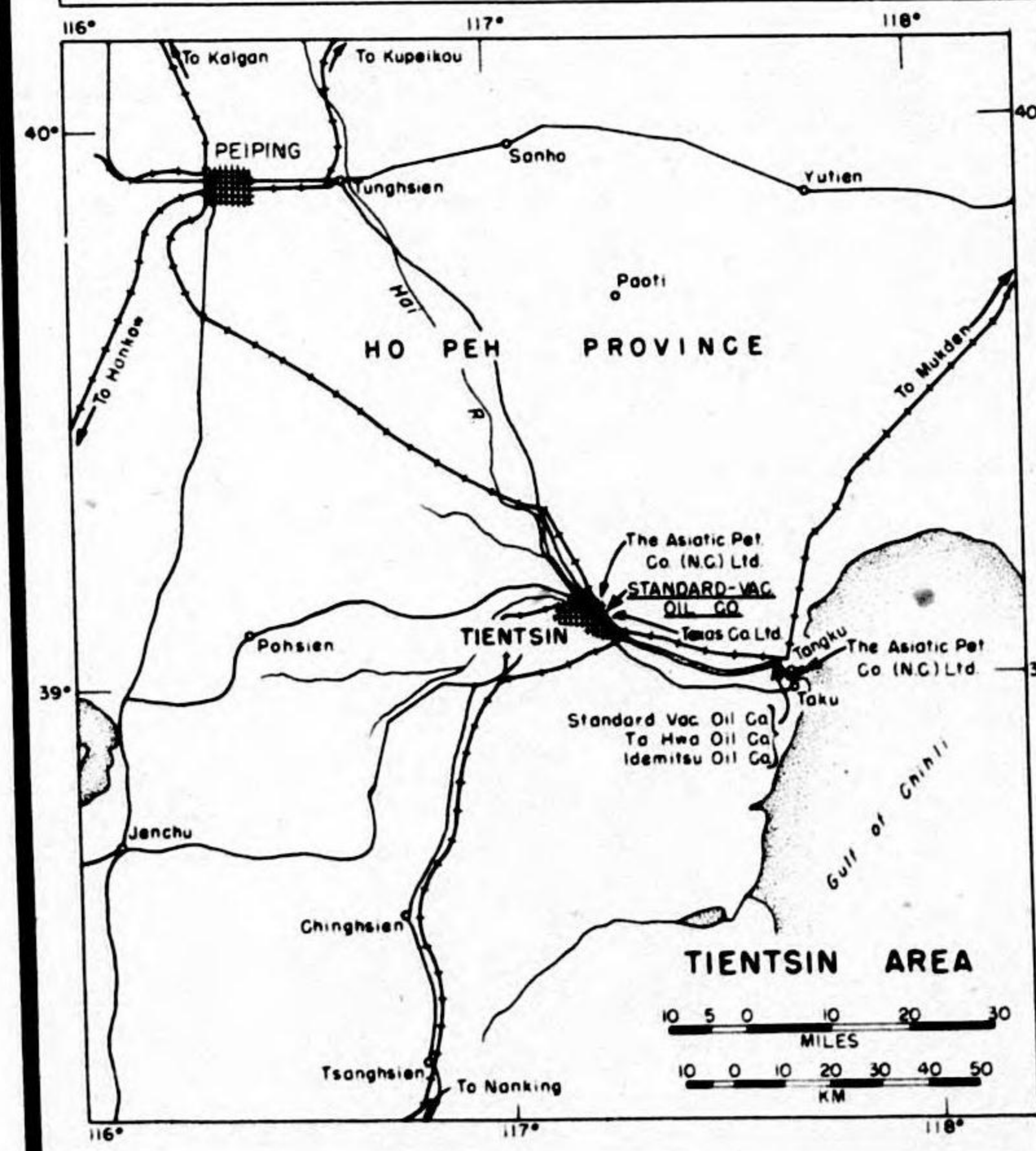
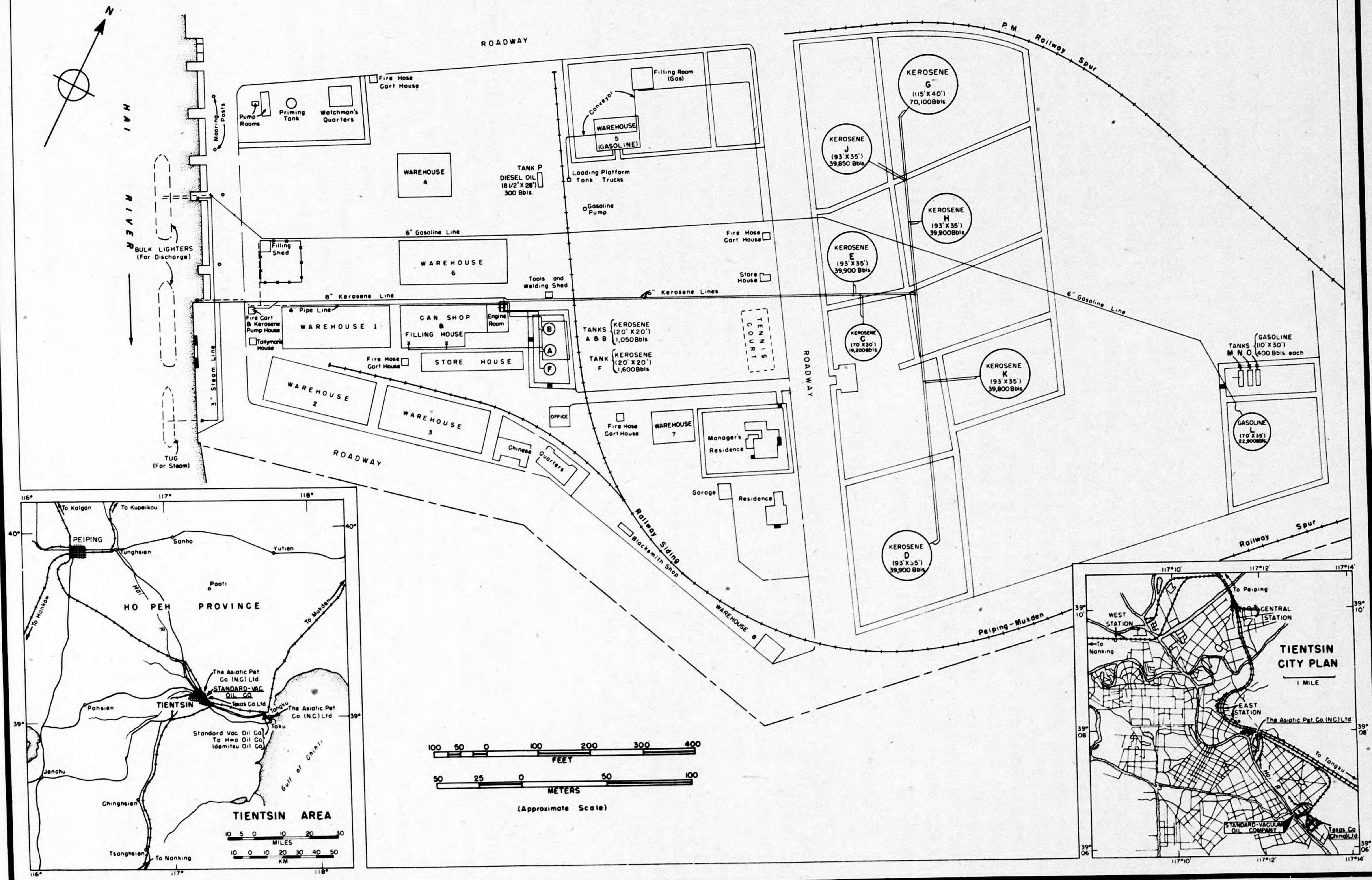
A drawing of the terminal appears on page 181.

Other facilities at Tientsin.- The Ta Wha Oil Company, originally organized by Chinese interests in Shanghai, but later sold to the Japanese, had an installation near Tientsin on the north bank of the river a short distance downstream from the Standard terminal at Hsinho. Details of the plant are not available but it is understood that it was being used for Japanese military supplies after the beginning of the Chinese-Japanese war in 1937 and that supplies were being brought from Japan or Dairen.

The Idemitsu Oil Company, another Japanese concern, also had an installation at Hsinho but no particulars are available.

In addition to their terminals, Standard-Vacuum maintained a small bulk oil depot in the city.

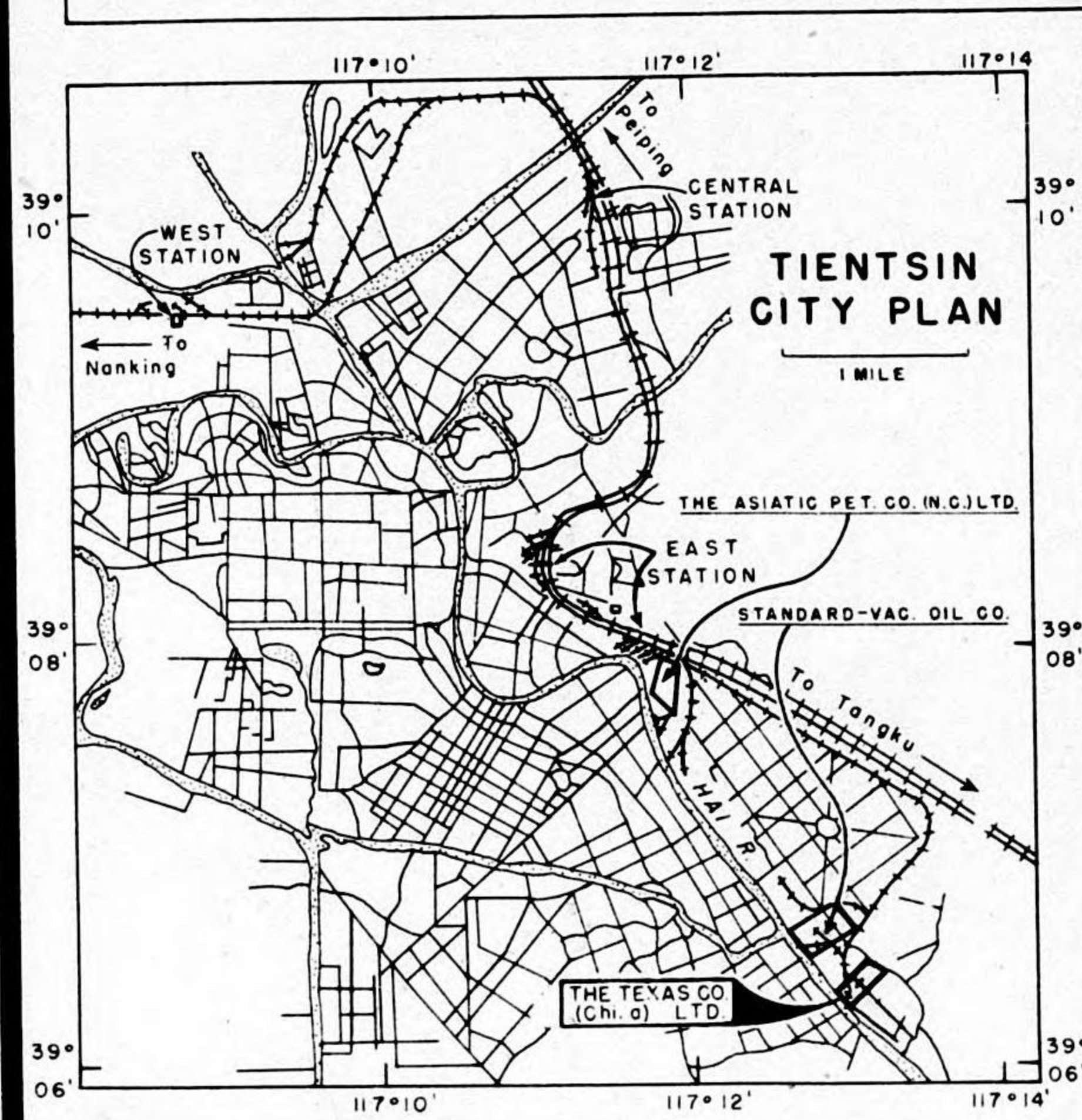
NORTH CHINA TIENTSIN (CITY) INSTALLATION STANDARD-VACUUM OIL COMPANY



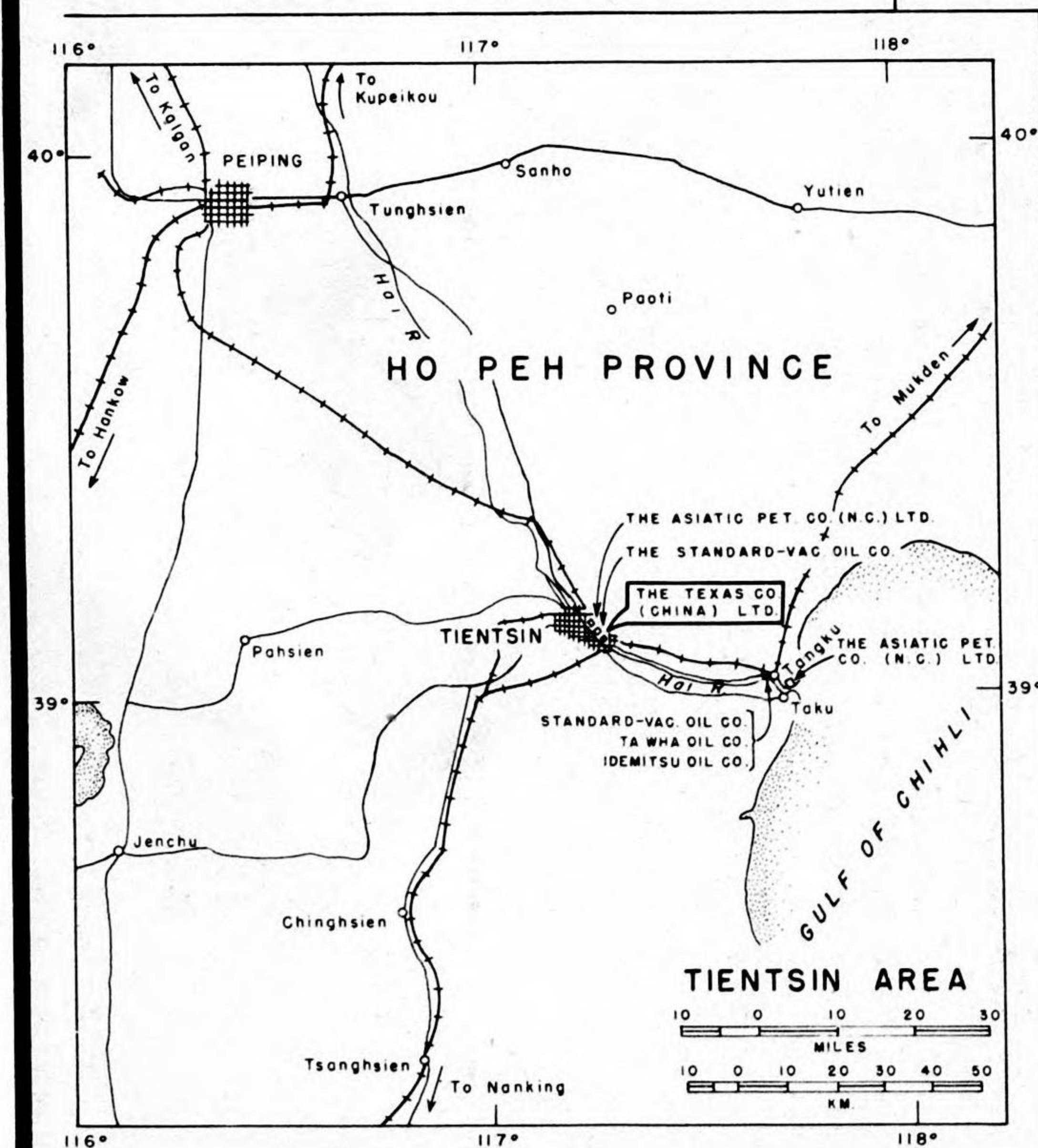
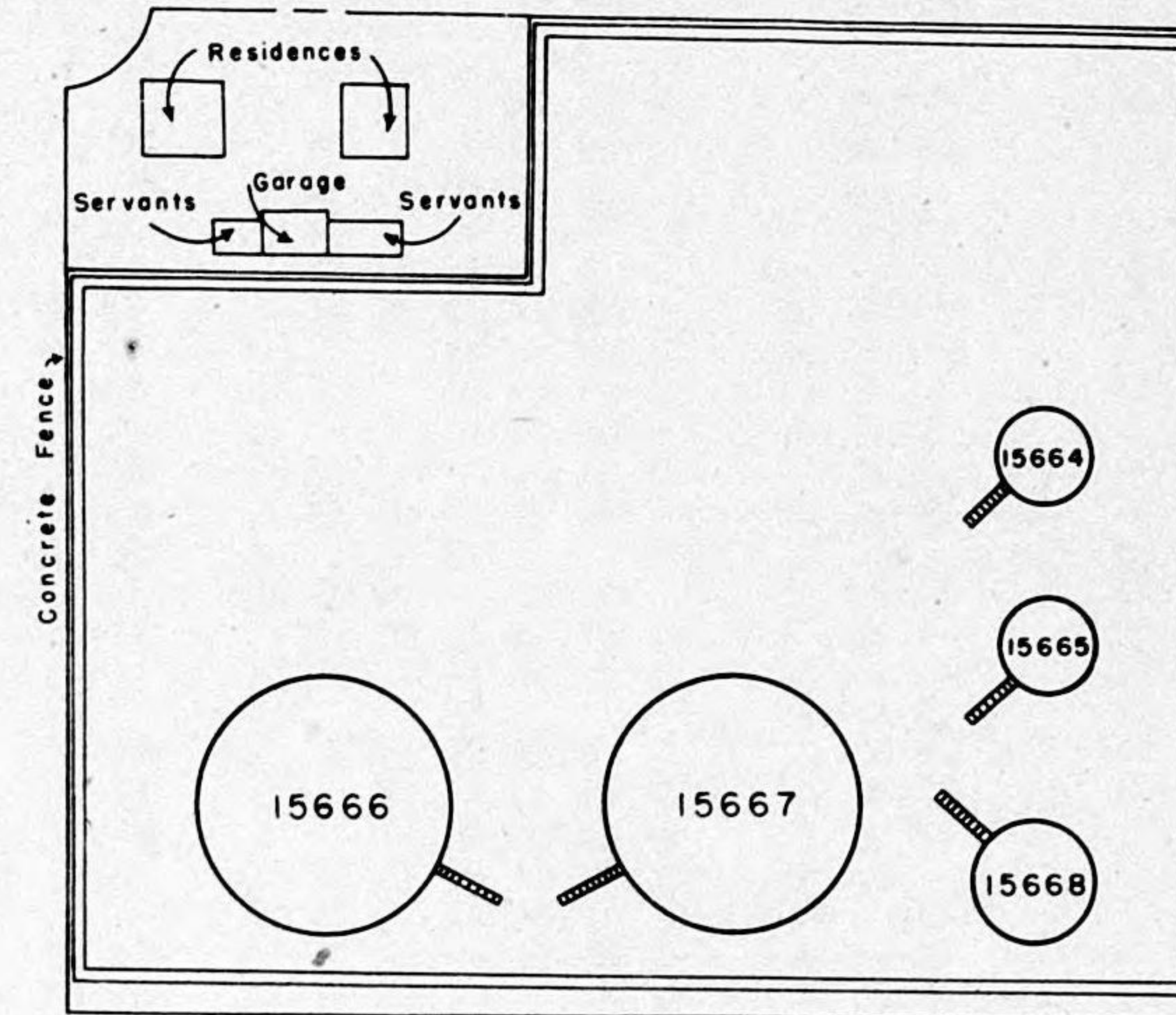
NORTH CHINA

TIENTSIN (CITY) INSTALLATION

THE TEXAS COMPANY (CHINA) LTD.

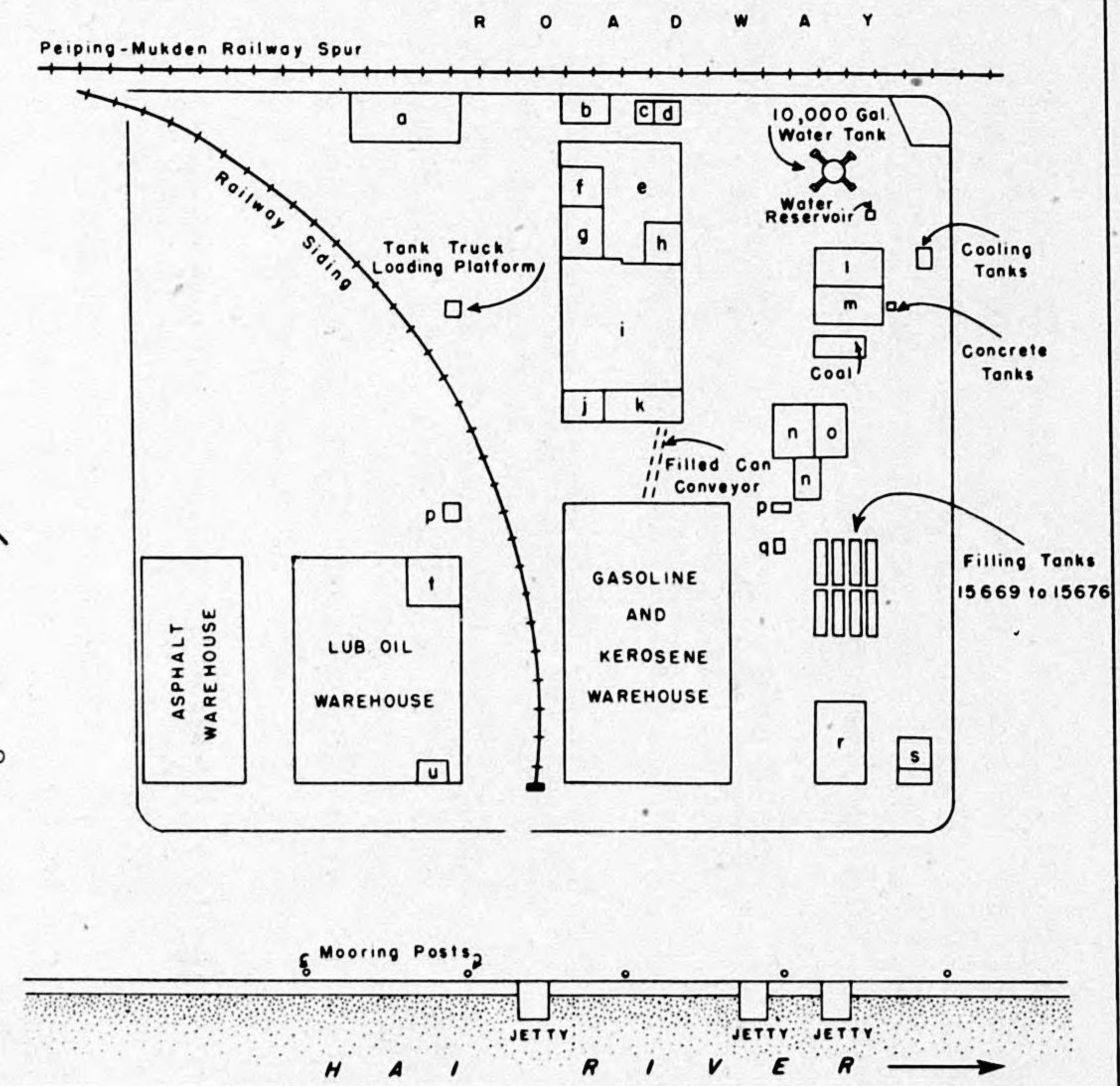
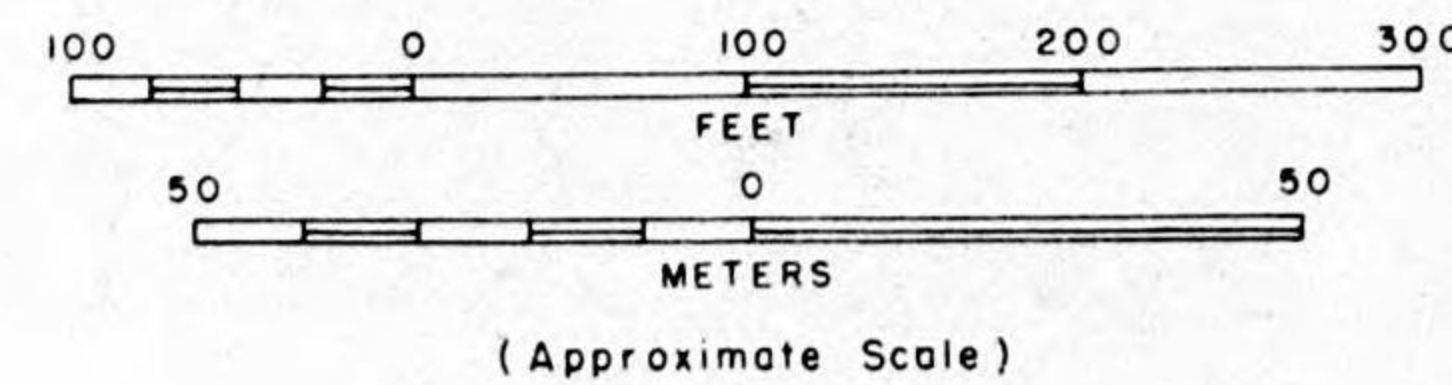


TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (BARRELS)
15664	38' X 40'	GASOLINE	8,200
15665	"	"	8,200
15666	115' X 35'	KEROSENE	64,000
15667	"	"	64,000
15668	52' X 35'	GASOLINE	13,600
15669	8' X 30'	"	285
15670	"	KEROSENE	285
15671	"	"	285
15672	"	"	285
15673	"	GASOLINE	285
15674	"	KEROSENE	285
15675	"	"	285
15676	"	"	285



LEGEND

- a. Garage
- b. Watchman
- c. Laboratory
- d. Gas (For Soldering)
- e. Tin Plate Storage
- f. Storehouse
- g. Machine Shop
- h. Soldering Room
- i. Can Shop
- j. Filling Room
- k. Inspection Room
- l. Power House
- m. Boiler House
- n. Manifolds
- o. Pump House
- p. Hose Storage
- q. Filter
- r. Drum Filling Shed
- s. Foam House
- t. Office
- u. Compounding Plant



Marine equipment.- Marine equipment belonging to Standard, consisted of three sailing junks equipped to carry bulk oil.

Distribution.- The Tientsin installations served essentially the six northern provinces of China; Hopeh, Suiyuan, Chahar, Shansi, Shensi and part of Honan and, in addition, Kansu, where oil went by rail to Sian and Ningsia, by rail to Paotow-chen (Paotou) and thence by the Yellow River. Distribution over this enormous area followed the pattern described below:

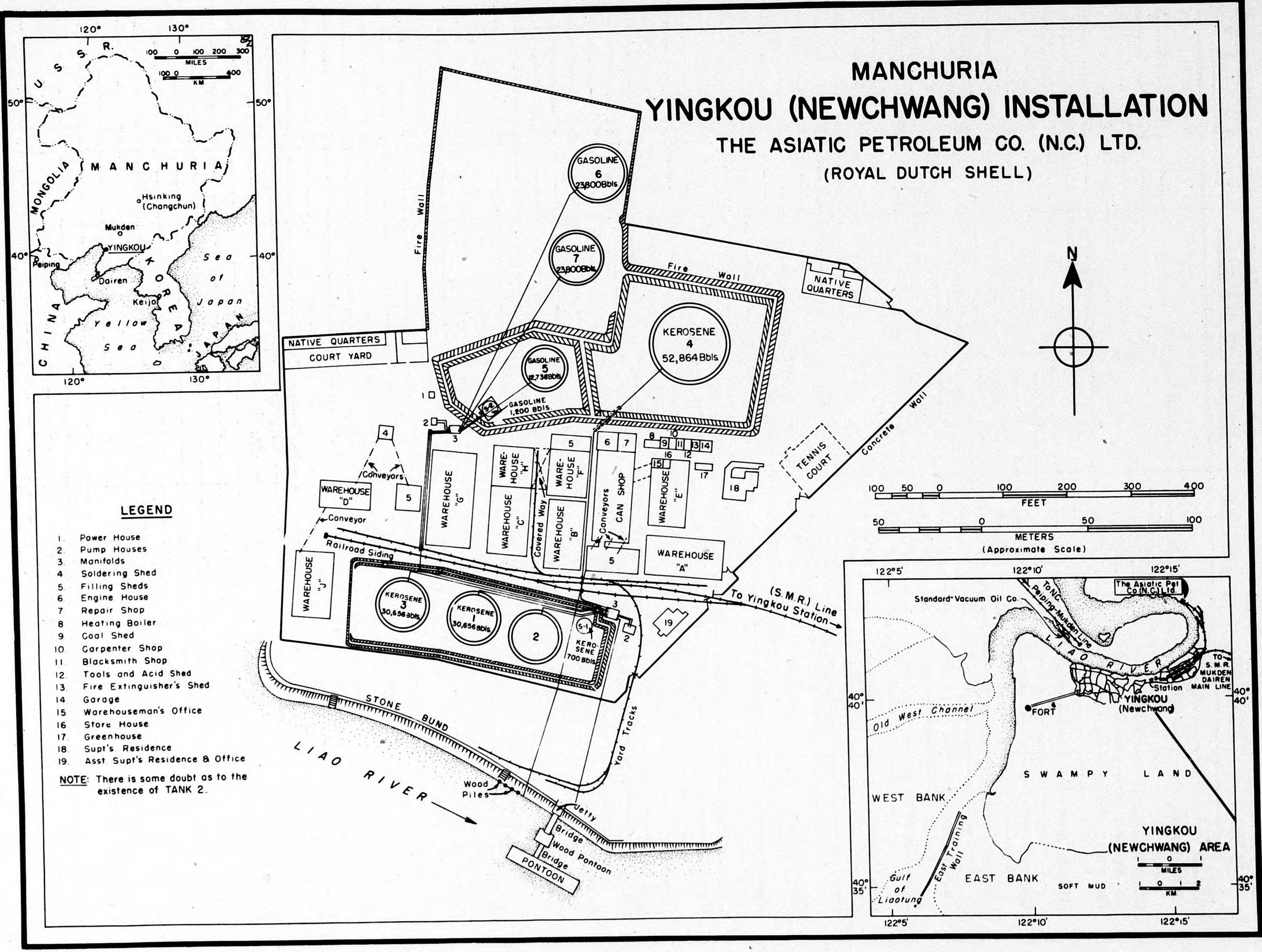
- (1) Northeast coast of Hopeh.- This was chiefly supplied by the Peking-Mukden Railway including some tank car traffic and also by coastal junk. Interior markets were fed via the Luan River.
- (2) Northern Railways area.- This included the cities of Peking and Tientsin and the markets along the Peking-Mukden and Peking-Suiyuan Railway. Supplies went by rail to the two cities and also to the main trading centers along the railway whence they were distributed to the interior markets of Chahar, Suiyuan and northern Shansi. At Peking both Asiatic and Standard had bulk depots at each of the main gates of the city. Two of the depots were on the Peking-Hankow line.
- (3) Tientsin-Pukow Railway area.- This area covers eastern Hopeh and the markets of Tehchow and Pingyuan in Shantung. This is a populous area well provided with communications and, as a general rule, supplies of bulk oil went by rail and packaged oil by junk on the Yun River and Grand Canal parallel to the railway.
- (4) Central Hopeh between the railways.- This great plain between the mountains which form the boundary between Hopeh and Shansi Provinces is traversed by numerous rivers which rise in the western mountains and flow northeastward to join the Hai River and the Grand Canal at Tientsin. Several of these rivers are navigable at times from 500 to 600 miles up from Tientsin.
- (5) Peking-Hankow Railway area.- This area includes western Hopeh, northeastern Honan north of the Yellow River, points on the Taiyuanfu line via Chentow and the markets on the rail line which crosses the Peking-Hankow line at Sinsiang. Supplies were railed from Tientsin via Peking to all major points but in the high water season large quantities were shipped via the Ta Ching River from Tientsin to Paoting and thence by rail as junks which brought produce down the river for export were able to underquote rail freights for the return journey.
- (6) Shansi.- Previous to the war communications were limited and transportation was difficult in this part of the country. Now with the standardization of the gauge and the construction of several new lines supply problems will be eased and oil may be shipped by rail the length and breadth of the province.
- (7) Lunghai Railway area.- This area covers the main towns of northern Honan bordering the Yellow River and extends westward into Shensi Province. Bulk supplies were sent by tank car from Tientsin either via the Tientsin-Pukow line to Suchowfu or via the Peking-Hankow line to Chengchow and thence over the Lunghai Railway to destination. Packaged supplies were sent by junk from Tsingtao installations to Sinpuchen and thence by rail, supplemented at times by rail shipments from Shanghai.
- (8) North coast of the Shantung Promontory.- The markets of Chefoo, Lungkow and Weihaiwei were supplied by junk from Tientsin by the Texas Company. Asiatic also supplied them at times from Tientsin and Tsingtao, but their main source of supply was from Shanghai. Standard supplied them mainly from Dairen.

The table on pages 183 and 185 lists the facilities maintained by the oil companies and the methods of supply.

Points Supplied from Tientsin

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied</u> *
Peking	Hopeh			
Antingmen	"	APC	Bulk depot	(2)
"	"	SVOC	" "	(2)
Chaoyangmen	"	APC	" "	(2)
Chiwamen	"	SVOC	" "	(2)
Hatamen	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Hsichimen	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Kwangamen	"	APC	" "	(5)
"	"	SVOC	" "	(5)
Shunchimen	"	APC	" "	(5)
"	"	SVOC	" "	(5)
Tungpienmen	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Yuntingmen	"	APC	" "	(2)
"	"	SVOC	" "	(2)
Chaikowpu	Chahar	SVOC	" "	(2)
Changteho	Honan	SVOC	" "	(5)
Chefoo	Shantung	APC	Warehouses	(8)
"	"	Texas	"	(8)
Chengchow	Honan	APC	Bulk depot	(7)
"	"	Texas	Warehouses	(7)
Chentow	Hopeh	APC	Bulk depot	(5)
"	"	SVOC	" "	(5)
Chinwantao	"	Texas	Warehouse	(1)
Hantan	"	APC	Bulk depot	(5)
"	"	SVOC	" "	(5)
Honanfu	Honan	APC	" "	(7)
Kaifeng	"	APC	" "	(7)
Kalgan	Chahar	APC	" "	(2)
"	"	SVOC	" "	(2)
Kangchwang	Shantung	APC	" "	(3)
"	Hopeh	SVOC	" "	(2)
Langfang	Hopeh	SVOC	" "	(2)
Paotingfu	"	APC	" "	(5)
"	"	SVOC	" "	(5)
Shahochen	"	APC	" "	(5)
Shengfang	"	SVOC	" "	(3)
Shuntehfu	"	APC	" "	(5)
"	"	SVOC	" "	(5)
Sinpaon	Hopeh	SVOC	" "	(2)
Sinsiang	Honan	APC	" "	(5)
"	"	SVOC	" "	(5)
Suanhwafu	Hopeh	APC	" "	(2)
"	"	SVOC	" "	(2)
Taiyuanfu	Shansi	APC	" "	(5)
"	"	SVOC	" "	(5)
"	"	Texas	Warehouse	(5)
Tangshan	Hopeh	SVOC	Bulk depot	(5)
Tatungfu	Shansi	APC	" "	(2)
"	"	SVOC	" "	(2)
Tehchow	Shantung	APC	" "	(3)
"	"	SVOC	" "	(3)
Tientsin City	Hopeh	SVOC	" "	(2)
Tingchow	"	APC	" "	(5)
"	"	SVOC	" "	(5)
Tsingwachen	Honan	APC	" "	(5)
"	"	SVOC	" "	(5)
Tungchangshow	Hopeh	SVOC	" "	(5)
Tungchow	"	APC	" "	(2)
"	"	SVOC	" "	(2)

*Refer to preceding paragraph on page 182.



Points Supplied from Tientsin (Continued)

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied *</u>
Tzechow	Hopeh	SVOC	Bulk depot	(5)
Wanchuang	Honan	APC	" "	(5)
Yichow	Hopeh	SVOC	" "	(5)
Yutze	Shansi	APC	" "	(5)
"	"	SVOC	" "	(5)

* Refer to preceding paragraph on page 182.

4.5 MINOR BULK OIL INSTALLATIONS AND WAREHOUSES OF CHINA

A table summarizing the data on the minor bulk oil plants and the warehouse facilities in China appears on pages 215 to 222 and the maps on pages 200 to 203 show their locations.

4.6 STORAGE AND DISTRIBUTING FACILITIES OF MANCHURIA

4.6.1 Newchwang (Yingkou)

Latitude 40° 40' N., longitude 122° 15' E.

The Asiatic Petroleum Company (N.C.) Ltd., terminal.- This terminal was situated at Sanchiatze on the bend of the Liao River northeast of the city. There was one large and two medium sized tanks for kerosene and three medium tanks for gasoline with the addition of a service tank for each product. There were filling arrangements and a can factory with a daily capacity of 5,000 cans. There were nine warehouses, an office and two residences, one for the superintendent and the other for the assistant. A narrow-gauge railway connected some of the warehouses with the wharf in the river. There was a jetty and a pontoon wharf at which ocean tankers with a draft up to 20 feet could discharge between mid-April and mid-November, the period during which the river is open. All supplies, including lubricating oil and diesel oil in drums, were brought in by ocean vessels. Deliveries of bulk gasoline were made to the city by truck and packaged products could be sent either by road or by water. A siding from the South Manchuria Railway entered the installation. No bunkering was done here.

A drawing of this plant appears on page 184.

Standard-Vacuum Oil Company, terminal.- This terminal was situated on the north bank of the Liao River, opposite the city and some distance down-river from the Asiatic terminal. Tankage consisted of one large storage tank for kerosene, and one filling tank. There were arrangements for filling kerosene cans and at one time there was a can factory which was later dismantled. There also was one large warehouse for kerosene and a small one for gasoline in packages and a residence for the plant superintendent. The plant had rail connections with the Peking-Mukden Railway but none with the South Manchuria Railway and shipments by that line had to be ferried up-river to the rail head. There were wharves near the installation, which were owned by the railway, to which a pipe line led and tankers berthed there. No bunkering was done.

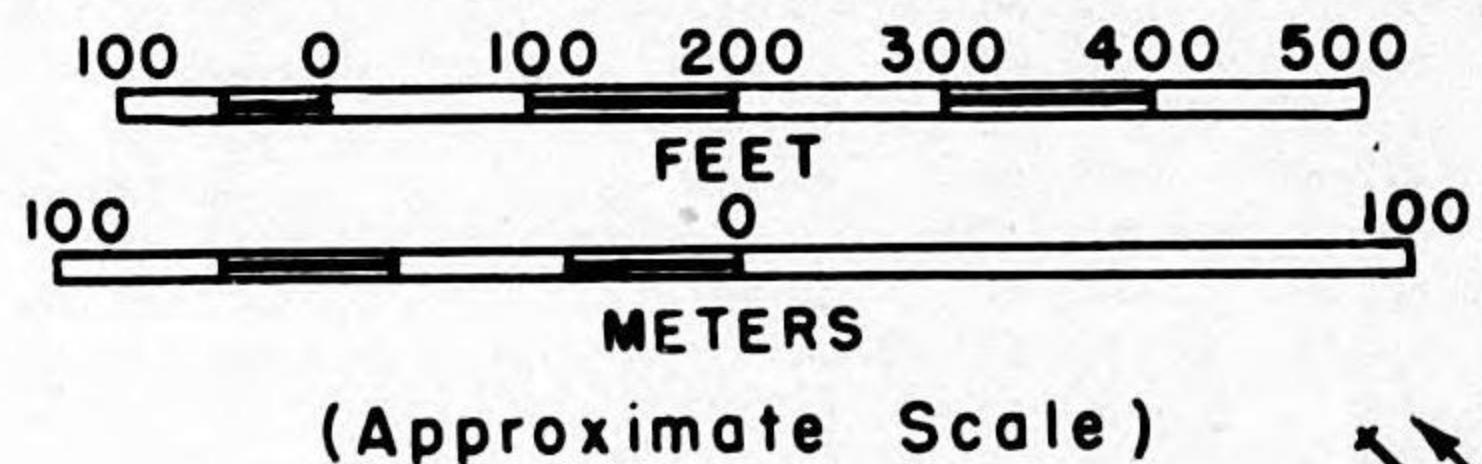
A drawing of the terminal appears on page 186.

Distributing.- Originally Newchwang was the supply point for Manchuria but after the Japanese got control of Dairen and built there a modern port which could be used all year round the importance of Newchwang, which is ice-bound from mid-November to mid-April, declined. In the years immediately preceding the establishment of the oil monopoly in Manchuria both the Newchwang and Dairen terminals were

MANCHURIA

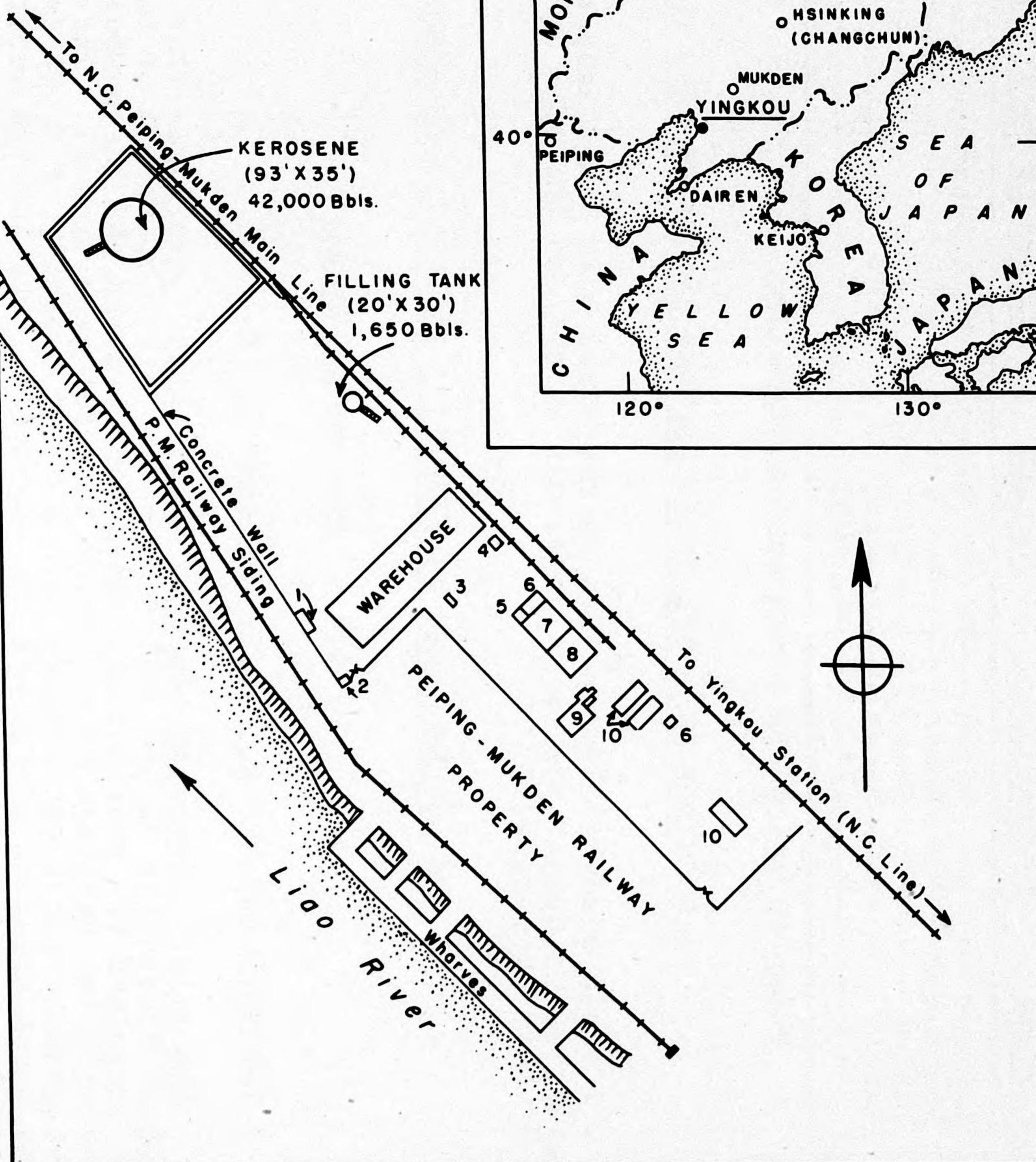
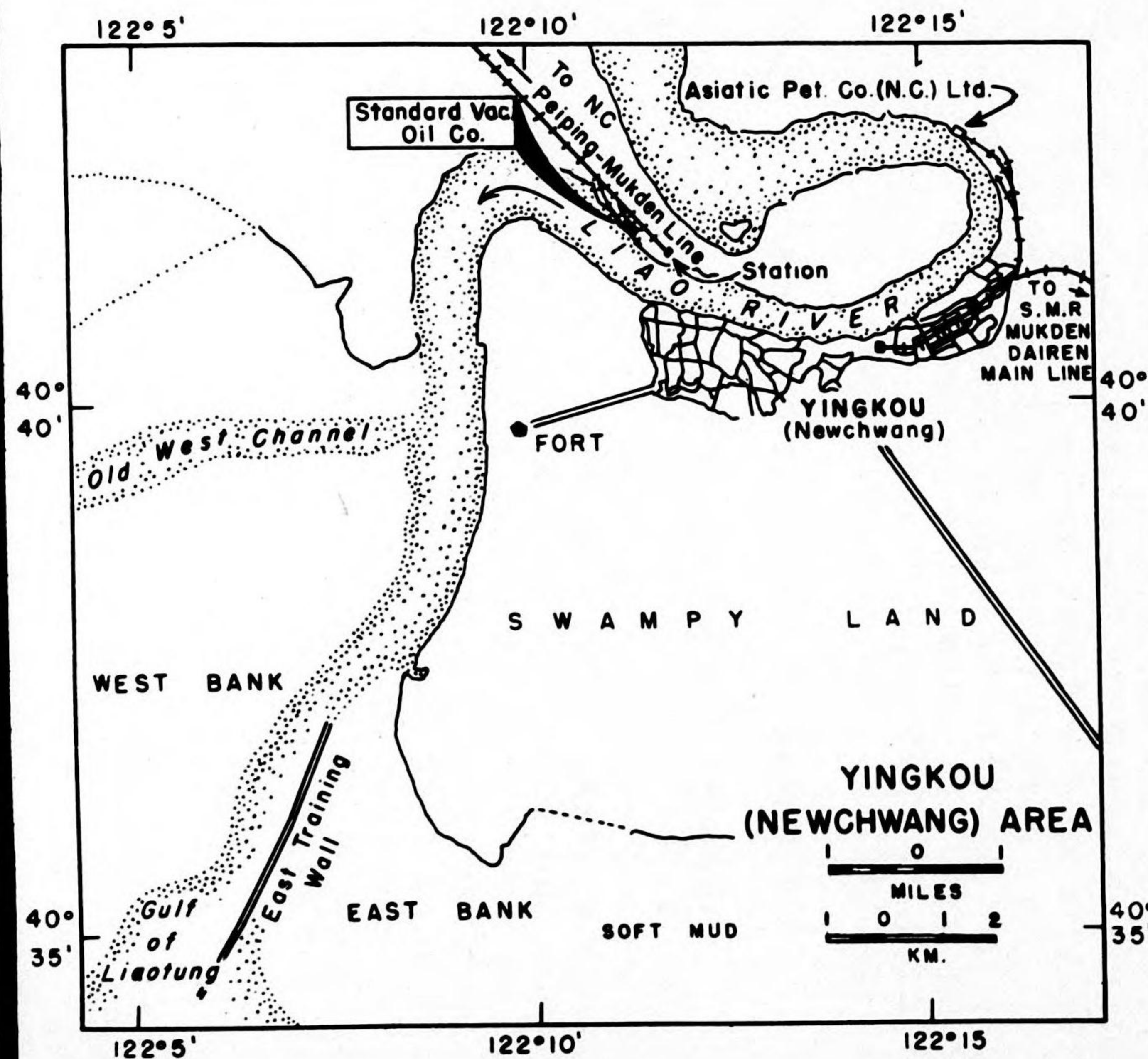
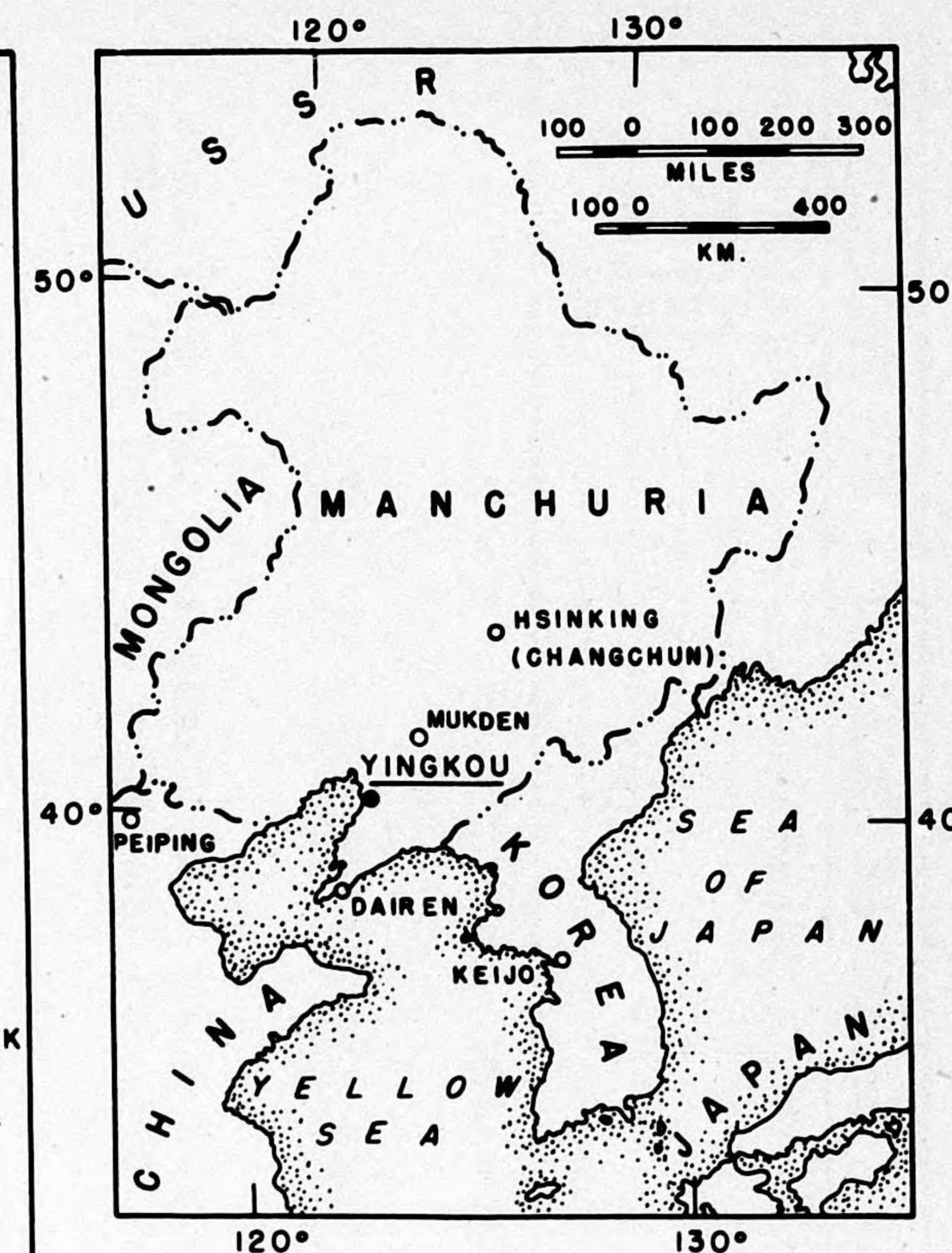
YINGKOU (NEWCHWANG) INSTALLATION

STANDARD-VACUUM OIL COMPANY



LEGEND

- | | |
|---------------------------|-----------------------|
| 1. Gasoline Warehouse | 6. Stores |
| 2. Watchman | 7. Storage (New Tins) |
| 3. Underground Water Tank | 8. Can Shop |
| 4. Fire Hose Cart House | 9. Supt's Residence |
| 5. Carpenter Shop | 10. Native Quarters |



used to supply the interior markets but after 1935 the Newchwang terminals were practically abandoned and the Dairen terminals were used only for the supply of the Kwantung Leased Territory and some north China territory and for the supplying of lubricating products to Manchuria. The Dairen plants also supplied some products to Korea, particularly in the case of the Texas Company.

In the days before the Japanese ascendance in Manchuria, distribution of petroleum products was handled as follows:

- (1) From Newchwang or Dairen by rail to all points on the South Manchuria Railway up to Harbin from which supplies were sent on
 - (i) By rail east and west to points on the Chinese Eastern Railway.
 - (ii) By rail north to Hailung.
 - (iii) By river steamer and junk (in the winter by sledge) to the markets on the Amur and Sungari Rivers.
- (2) By rail from Newchwang or Dairen via Ssupingkai to northwest Manchuria and the borders of Mongolia.
- (3) By rail from Newchwang via Liaoyang and the Antung line to southeast Manchuria or by sea from Dairen to Antung and thence by rail to the markets on the Antung-Mukden line and from Antung by junk to markets on the Yalu River.
- (4) By rail from Newchwang or Dairen via Mukden northeast toward Kirin.
- (5) By rail from Newchwang or Dairen direct to Kirin itself via Changchun.
- (6) By rail northwestward from Newchwang to the Peking-Mukden Railway and thence by that line northeastward to points up to Mukden or southwestward to Chinchow, whence supplies were carried by camel to Jehol.
- (7) By junk from Newchwang up the Liao River and to coastal markets in the Gulf of Liaotung.

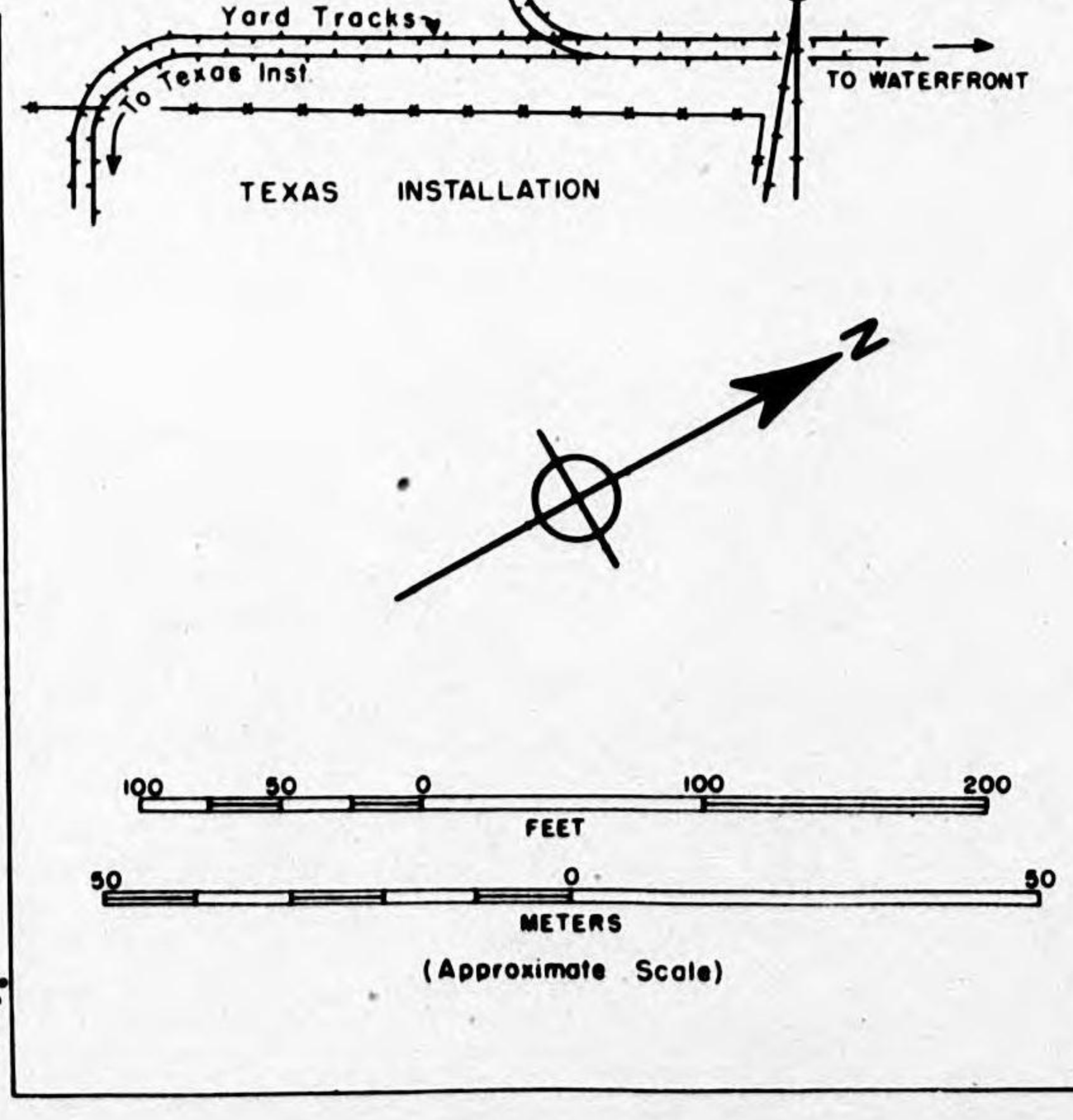
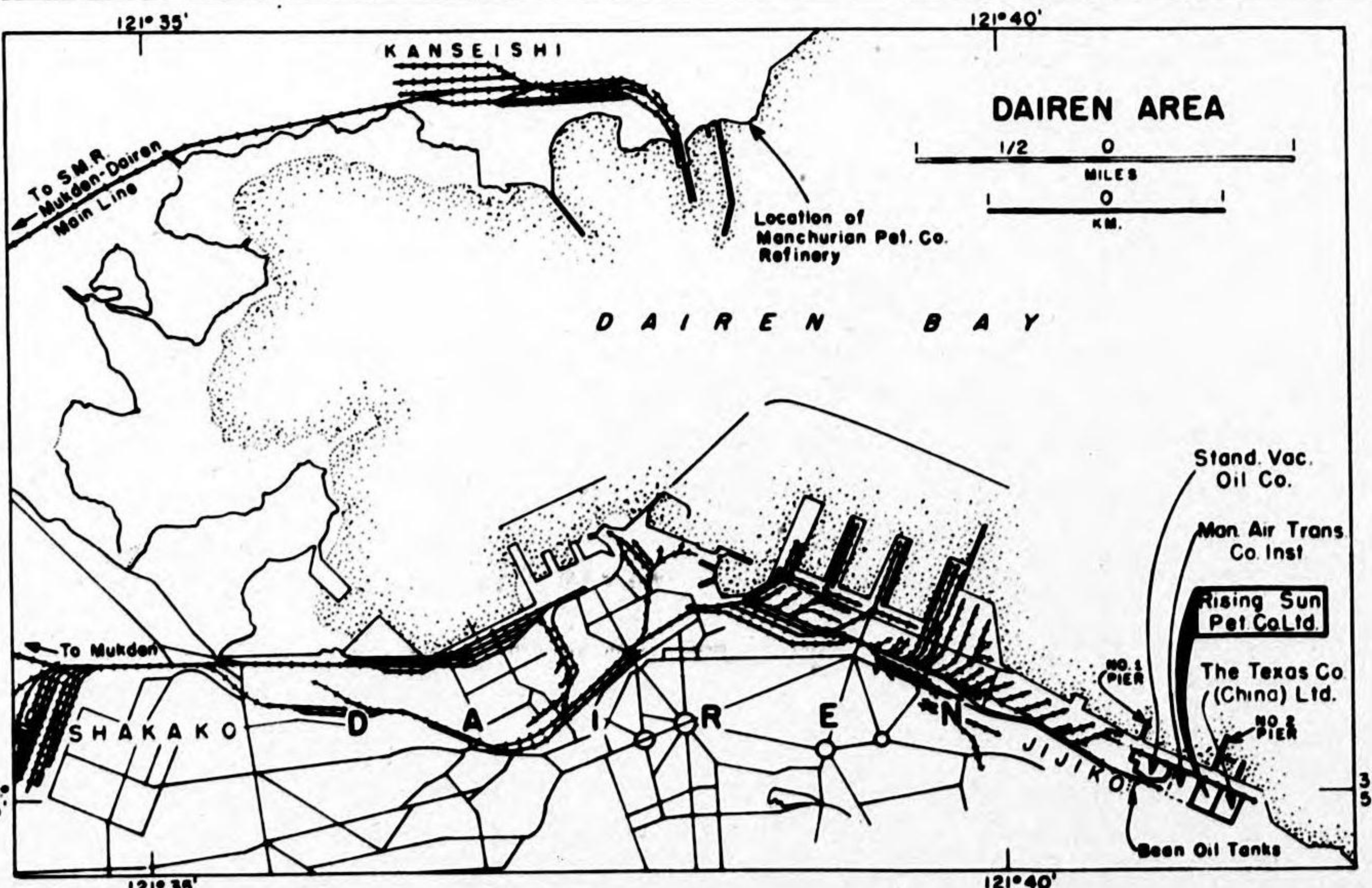
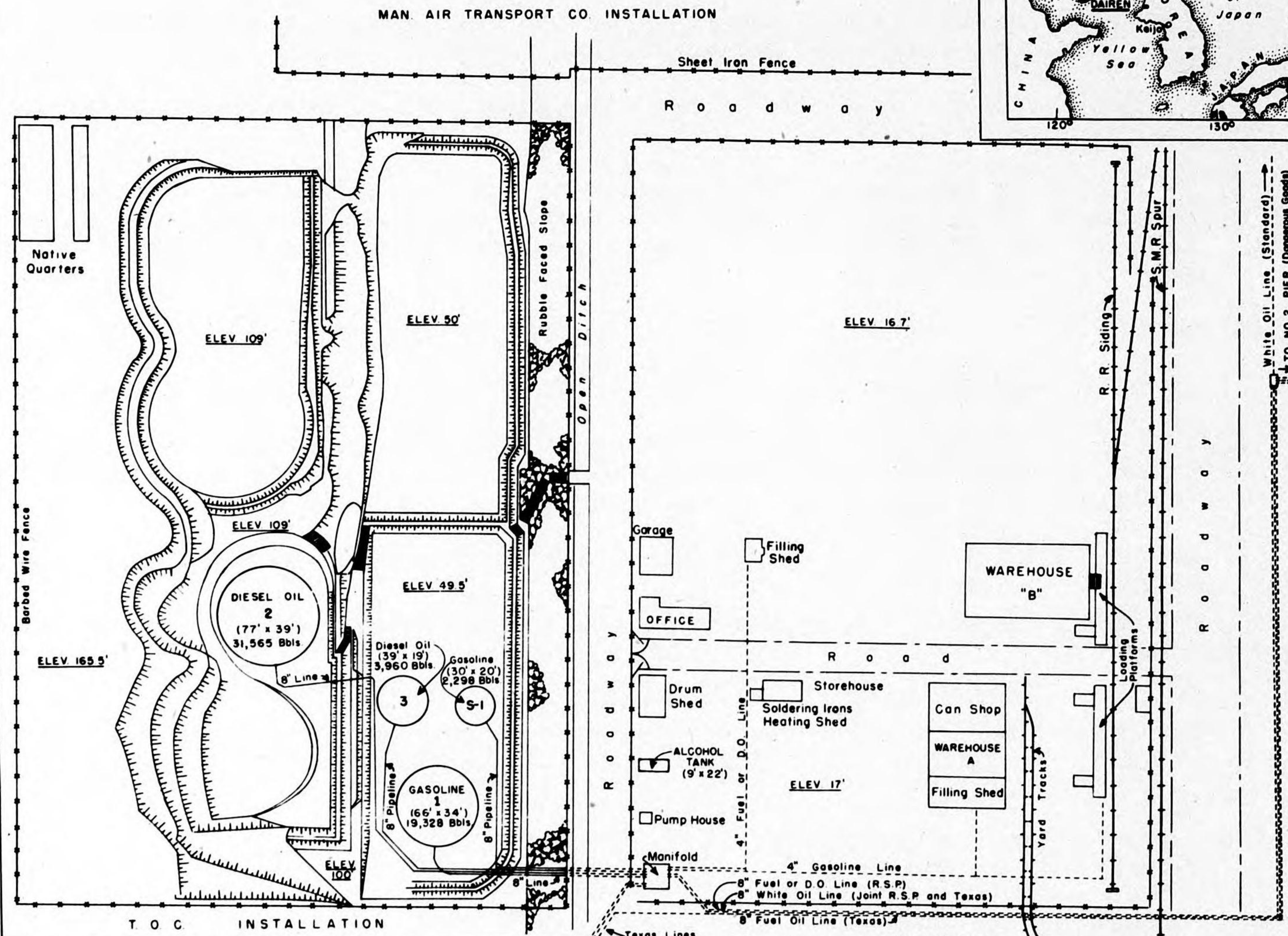
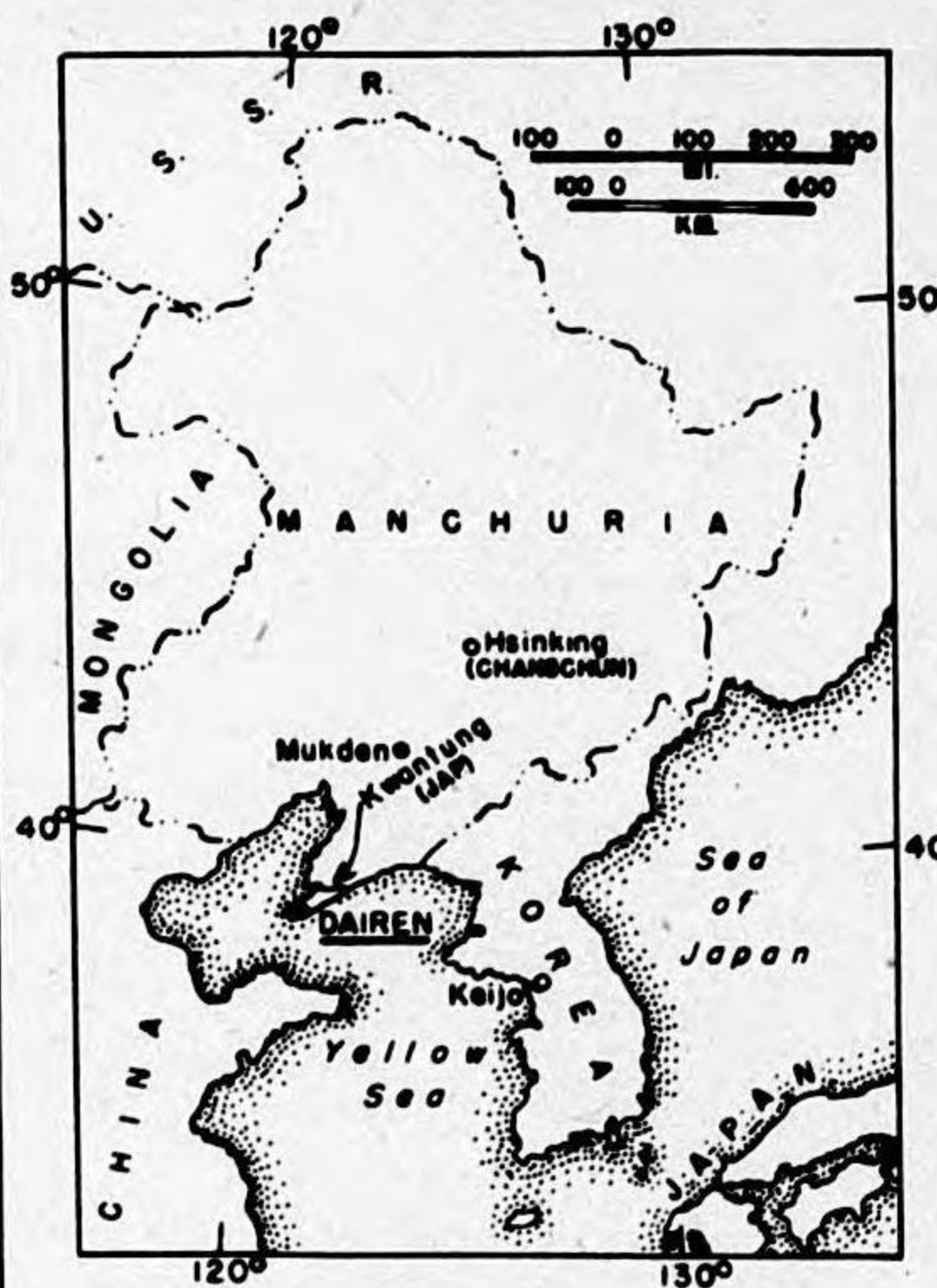
The following facilities owned by the oil companies were supplied from Newchwang and Dairen.

Points Supplied from Newchwang and Dairen

<u>Place</u>	<u>Province</u>	<u>Company</u>	<u>Nature of Facility</u>	<u>How Supplied *</u>
Antung	Antung	APC	Warehouse	(3)
"	"	SVOC	"	(3)
Changchun	Chilin	APC	Bulk depot	(1)
"	"	SVOC	"	(1)
Fushun	Fengtien	SVOC	Warehouse	(4)
Harbin	Pinchiang	SVOC	Bulk depot	(1)
"	"	APC	Warehouse	(1)
Kaiyuan	Fengtien	SVOC	"	(1)
"	"	APC	"	(1)
Kirin	Chilin	SVOC	Bulk depot	(5)
"	"	APC	Warehouse	(5)
Kungchuling	"	SVOC	Warehouse	(1)
"	"	APC	"	(1)
Liaoyang	Fengtien	APC	Bulk depot	(1)
"	"	SVOC	"	(1)
Mukden	"	APC	"	(1)
"	"	SVOC	"	(1)
Penkihsien	"	SVOC	Warehouse	(3)
Pitzewo	K.L.T.	SVOC	"	Dairen by sea or rail
Sinminfu	Fengtien	SVOC	"	(6)
Ssupingkai	"	SVOC	"	(1)
"	"	APC	"	(1)
Tiehling	"	APC	Bulk depot	(1)
"	"	SVOC	"	(1)
Yingchow	"	APC	Warehouse	(1) & (7)

* Refer to preceding paragraph.

JAPANESE EMPIRE
KWANTUNG LEASED TERRITORY
DAIREN (JIJIKO) INSTALLATION
RISING SUN PETROLEUM CO., LTD.
(ROYAL DUTCH SHELL)



4.7 STORAGE AND DISTRIBUTING FACILITIES OF KWANTUNG LEASED TERRITORY4.7.1 Dairen

Latitude 38° 58' N., longitude 121° 39' E.

Rising Sun Petroleum Company, Ltd., terminal.- This terminal was located at Jijiko district of Dairen on the south shore of Dairen Bay in the eastern part of the city. Tankage consisted of three medium sized storage tanks for gasoline and diesel oil only and one service tank for gasoline. There were filling arrangements for gasoline cans and diesel oil drums, a small can factory with a capacity of 1,000 cans per day, two warehouses and a drum shed, and an office but no residence. A siding connected the installation with the main line of the South Manchuria Railway and it was also accessible by road. The installation was a little back from Pier No. 2, where petroleum was discharged by all of the companies from ocean tankers. It was connected to the berths by pipe lines owned jointly by the oil companies and by a narrow gauge industrial railway for the handling of packaged cargo. In later years the installation was used almost entirely for supplying the local market but continued to be of some importance as a bunkering installation.

A plan of this facility appears on page 188.

Standard-Vacuum Oil Company, terminal.- This terminal was located in the vicinity of the Rising Sun plant at Jijiko, a little to the westward. It had two large storage tanks for kerosene, one medium sized tank for gasoline and one medium and two large tanks for diesel oil, together with two small tanks for lubricating oil. There were five filling tanks and arrangements for filling both cans and drums. There was a can and case factory. There were four large warehouses including accommodations for lubricating oil and wax, an office and a superintendent's residence. The company made use of No. 1 and No. 2 piers to which pipe lines led from the plant and they also had a delivery line for supplying diesel oil for bunkers. Vessels with a draft up to 28½ feet could come alongside the piers. There was a siding entering the installation from the South Manchuria Railway. Deliveries of bulk gasoline and packaged products were made to the city and the territory by truck. Packaged oil was shipped to markets on the north Shantung coast and black oil in bulk was supplied to the company's Tientsin installations.

A plan of the installation appears on page 190.

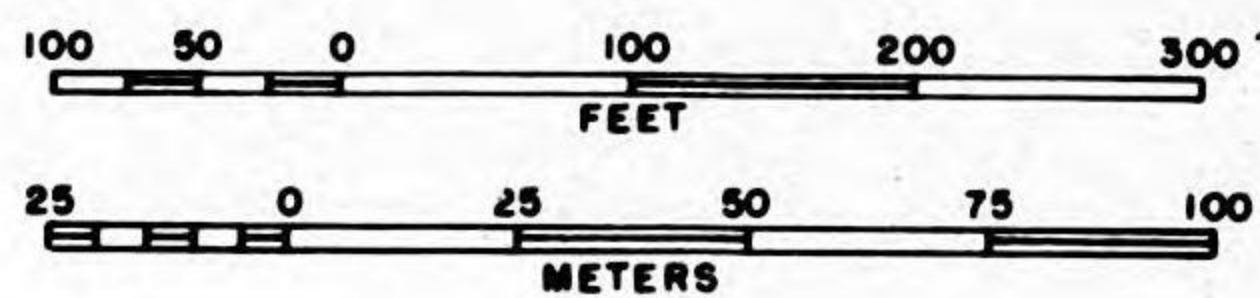
The Texas Company (China) Ltd., terminal.- This terminal was located at Jijiko adjoining, and east of the Rising Sun terminal. It had two large tanks, one for kerosene and the other for gasoline and three medium sized tanks for these same products. There were also eight service tanks and complete filling arrangements for both cans and drums and a can factory the capacity of which is not known. There were three warehouses for packed goods including lubricating oil and asphalt, drum repairing facilities, an office and two residences. The installation was supplied by ocean vessels which discharged at No. 2 pier to which the installation was connected by jointly owned pipe lines and an industrial railway. There was a rail connection and access by road. Deliveries of bulk gasoline and packaged goods were made to the city and surrounding territory by truck. No bunkering was done. This company supplied Korea from their Dairen terminal.

A plan of the plant and a photograph appear on pages 191 and 192.

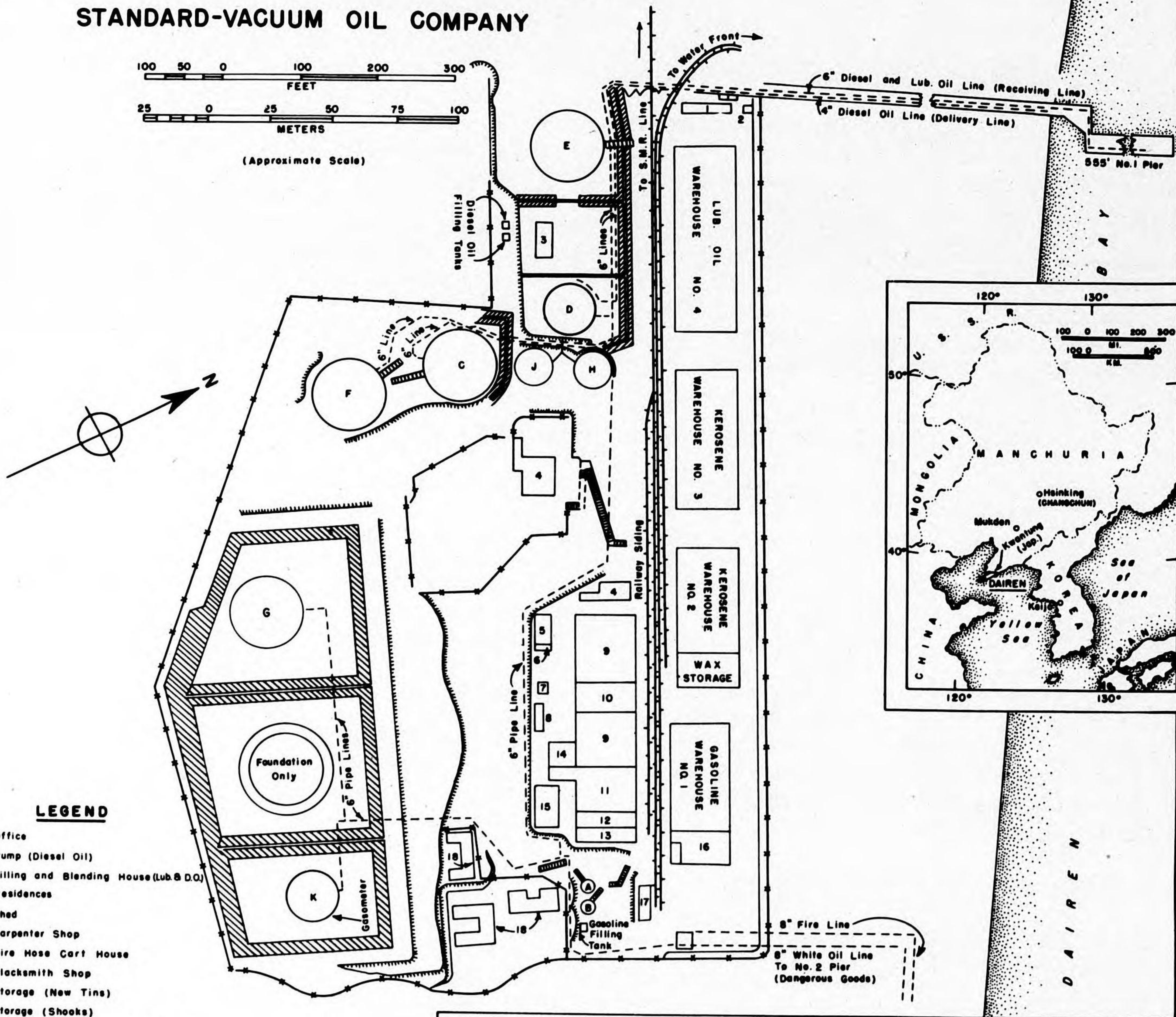
Other facilities at Dairen.- The Manchuria Air Transport Company, a Japanese concern, had an installation which was situated between Rising Sun and Standard at Jijiko. A recent aerial photograph shows five medium and three small tanks at this installation which are probably used for the storage of aviation gasoline for their own use. They did not sell to the public. Their supplies were probably obtained from the Manchuria Petroleum Company refinery across the bay from Dairen.

The Manchuria Petroleum Company had a terminal in connection with their refin-

JAPANESE EMPIRE
KWANTUNG LEASED TERRITORY
DAIREN (JIJIKO) INSTALLATION
STANDARD-VACUUM OIL COMPANY



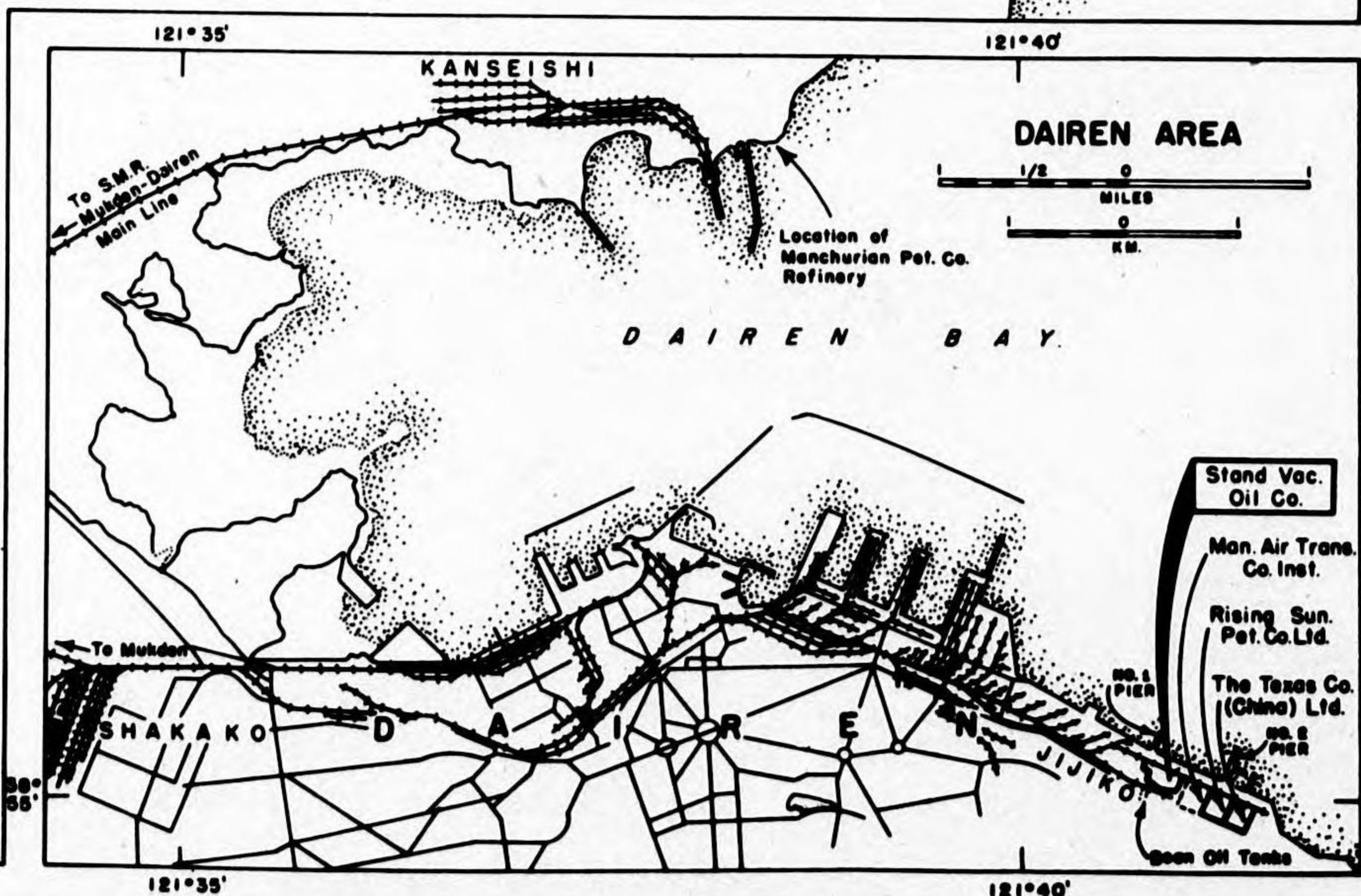
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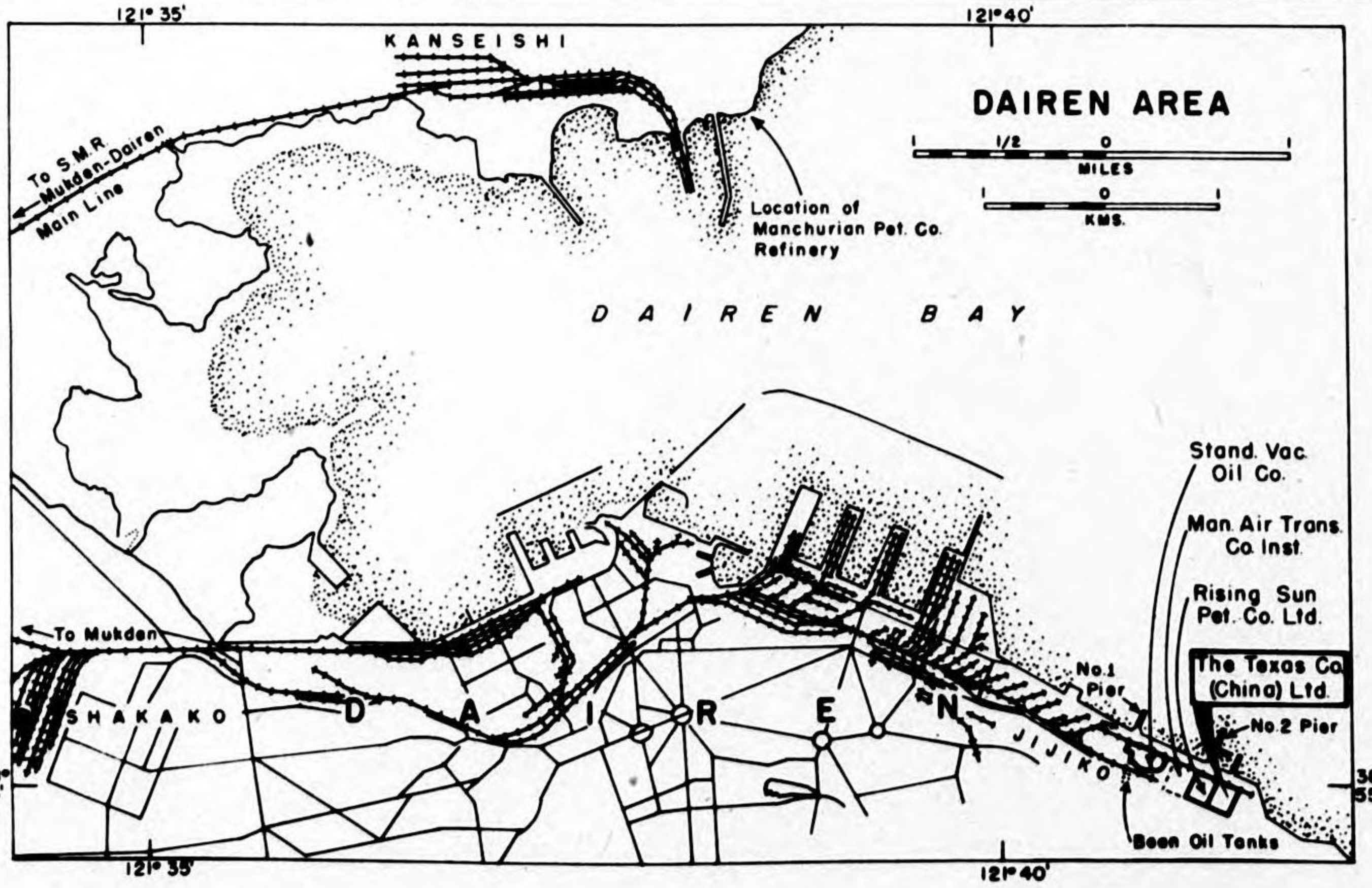
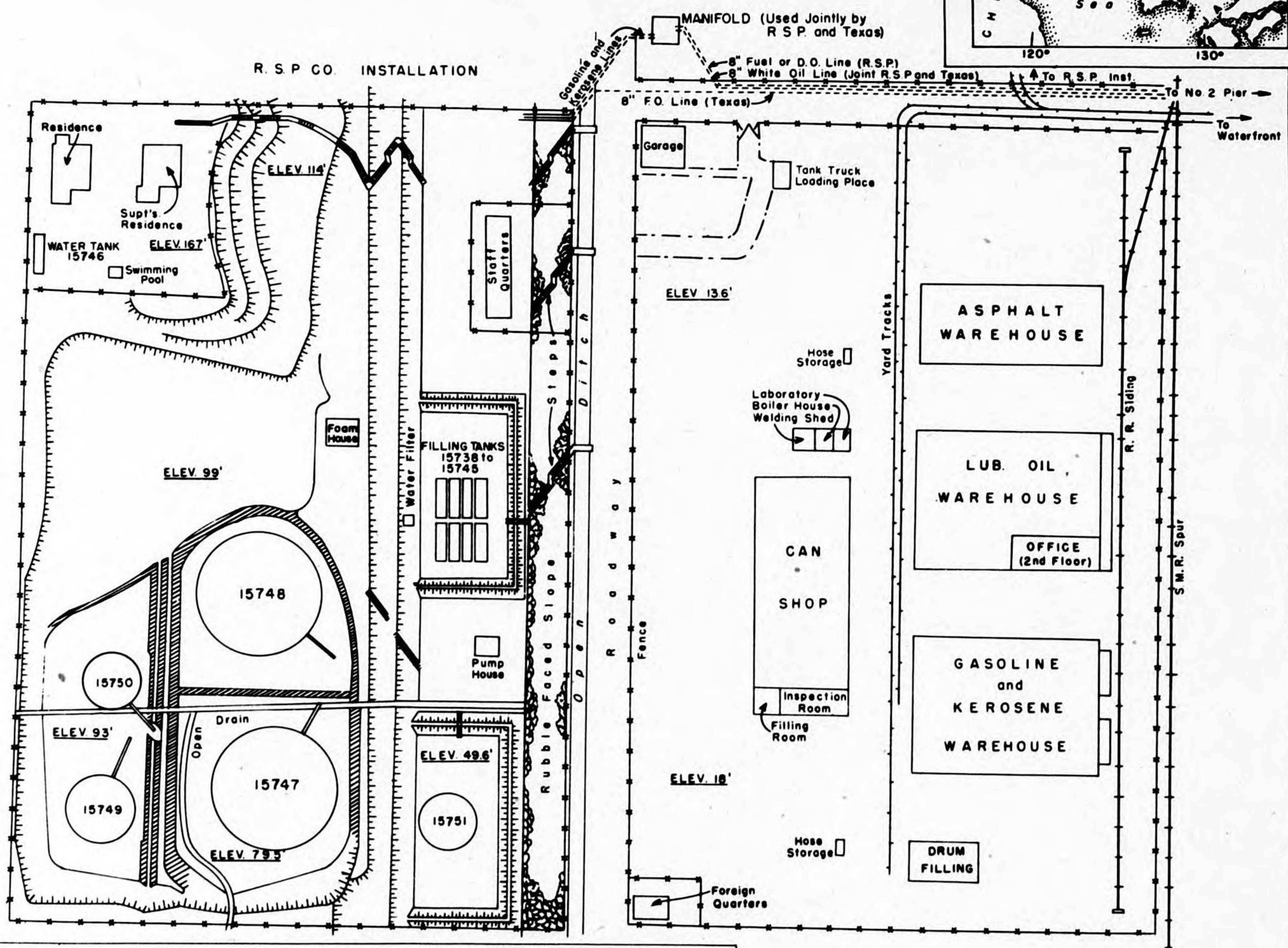
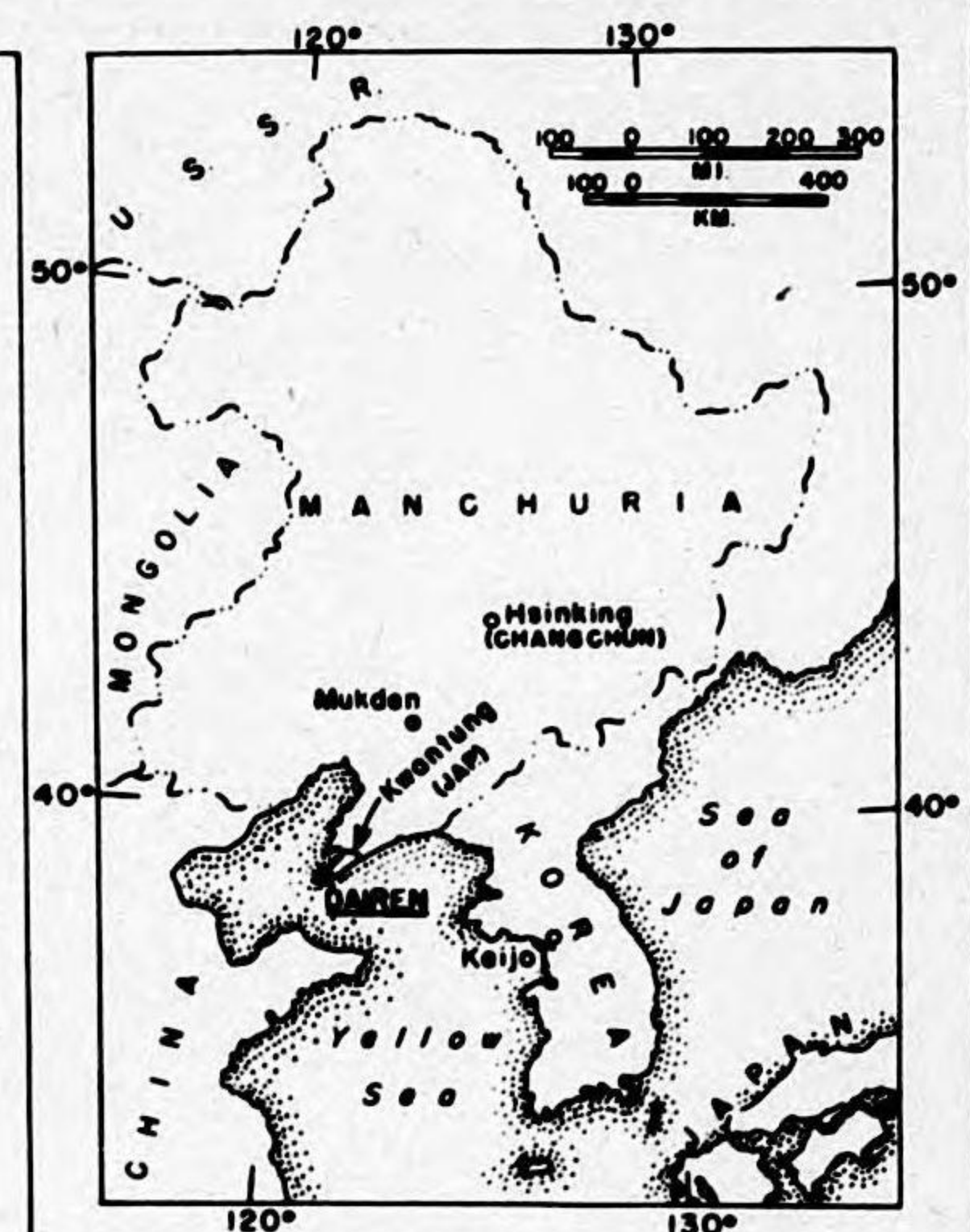
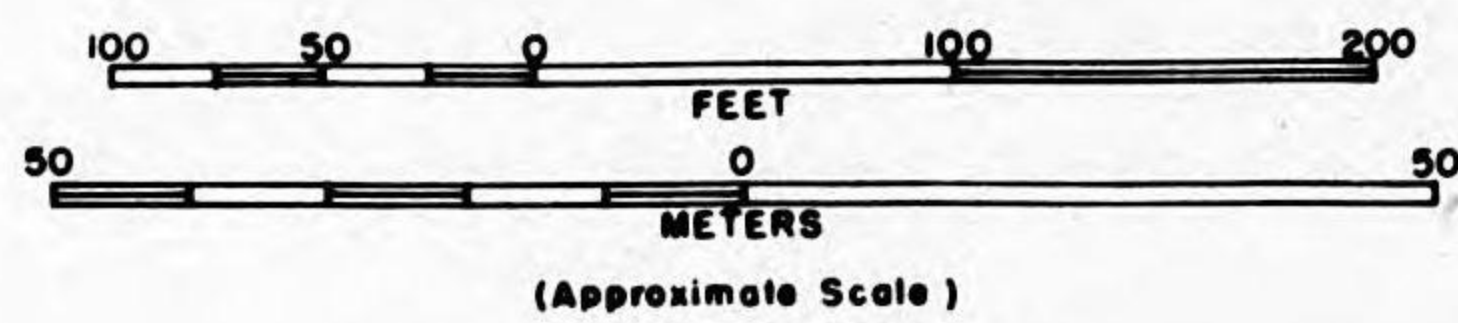
LEGEND

1. Office
2. Pump (Diesel Oil)
3. Filling and Blending House (Lub. & D.O.)
4. Residences
5. Shed
6. Carpenter Shop
7. Fire Hose Cart House
8. Blacksmith Shop
9. Storage (New Tins)
10. Storage (Shooks)
11. Filling House and Box Factory
12. Can Shop
13. Engine and Pump Room
14. Storehouse
15. Storage (Tin Plate)
16. Gasoline Packing House (Drums and Tins)
17. Gasoline Filling Shed
18. Native Quarters

TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Bbls.)
A	20' X 20'	DIESEL OIL	1,050
B	20' X 20'	KEROSENE	1,050
C	93' X 35'	DIESEL OIL	40,950
D	70' X 28'	" "	18,200
E	93' X 35'	" "	40,000
F	93' X 35'	KEROSENE	40,950
G	93' X 35'	" "	40,950
H	50' X 30'	LUB. OIL	10,000
J	50' X 30'	" "	10,000
K	70' X 35'	GASOLINE	23,300

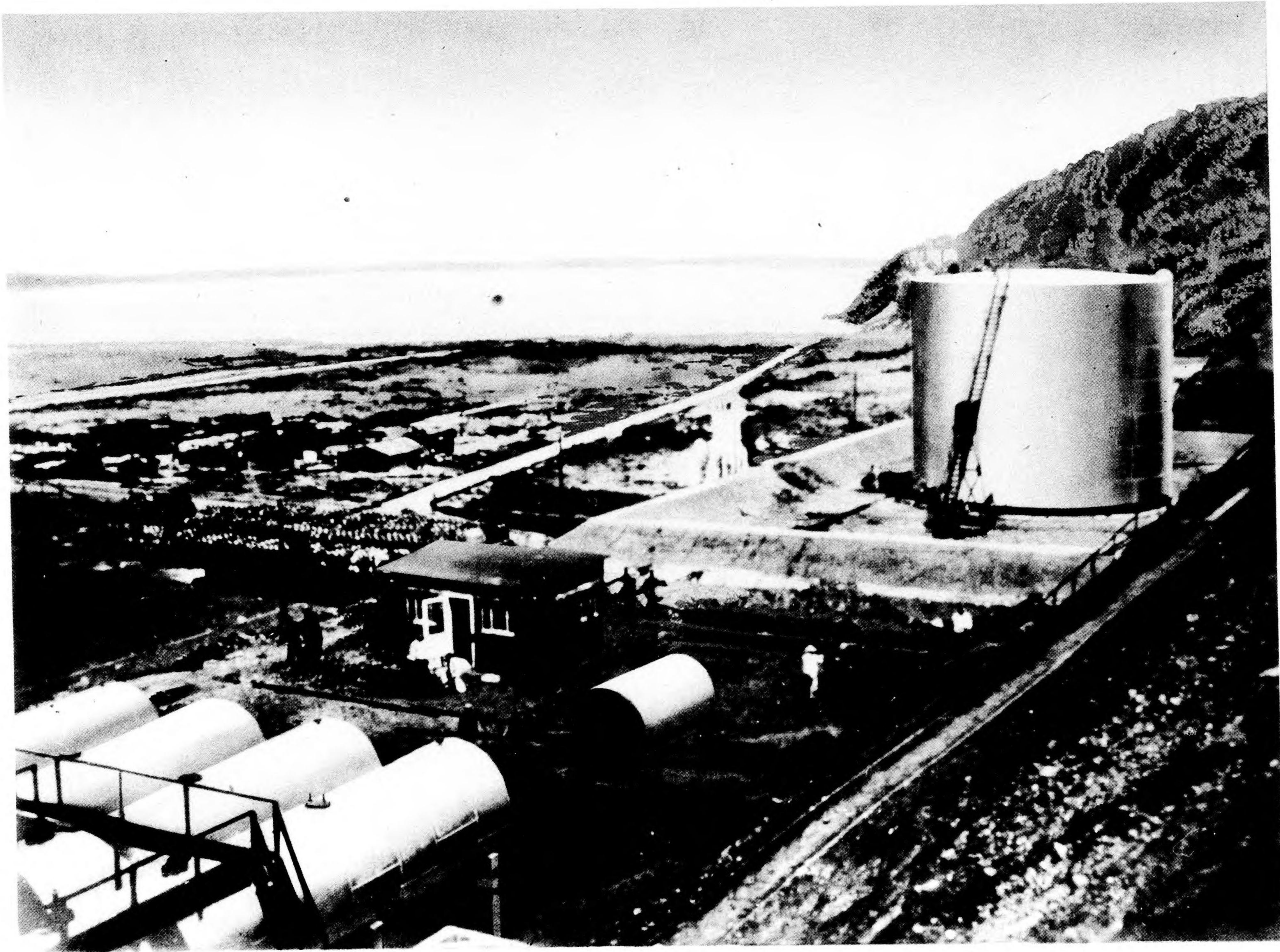


JAPANESE EMPIRE
KWANTUNG LEASED TERRITORY
DAIREN (JIJIKO) INSTALLATION
THE TEXAS CO. (CHINA) LTD.



TANKS

NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
15738	8' X 30'	Gasoline	238
15739	8' X 30'	"	238
15740	8' X 30'	"	238
15741	8' X 30'	"	238
15742	8' X 30'	Kerosene	238
15743	8' X 30'	"	238
15744	8' X 30'	"	238
15745	8' X 30'	Diesel Oil	238
15746	-	Water	-
15747	96' X 30'	Kerosene	37,500
15748	96' X 30'	Gasoline	37,500
15749	53' X 35'	"	13,600
15750	43' X 35'	Kerosene	9,100
15751	43' X 35'	"	9,100



A SECTION OF THE TEXAS CO. DAIREN INSTALLATION SHOWING TANK ELEVATIONS



ery on the north shore of Dairen Bay. No particulars are available.

Marine equipment.- Marine equipment belonging to Standard at Dairen consisted of a combined tank vessel and tow boat and a bulk lighter.

4.8 MINOR BULK OIL INSTALLATIONS AND
WAREHOUSES OF MANCHURIA AND KWANTUNG

A table summarizing the data on these minor facilities appears on page 223 and a map on page 204 shows their locations.

4.9 STORAGE AND DISTRIBUTING FACILITIES OF KOREA

4.9.1 Genzan

Latitude 39° 10' N., longitude 127° 26' E.

Rising Sun Petroleum Company Ltd., terminal.- This terminal was located at Bumpyo, a few miles northwest of Genzan city along the western shore of Eiko Bay. There were five tanks of medium size for the storage of gasoline, kerosene and diesel oil and two small tanks for gasoline and diesel oil together with seven service tanks and complete filling arrangements for all products. There was a can factory with a daily capacity of 10,700 cans, 10 warehouses, an office and a superintendent's residence. There was road access to the city and railway tracks within the installation connected the various warehouses with the railway siding. On the water front there was a jetty where ocean tankers drawing up to 29 feet could berth stern to the jetty and discharge through floating pipe lines. Packaged goods had to be discharged into lighters. The principal method of delivery was by rail and this installation supplied two of the company's bulk depots, at Keijo and Riri, and all of the numerous warehouses for packaged goods throughout Korea. Bunkering with diesel oil was done at this plant.

A plan of the terminal appears on page 194.

Other facilities at Genzan.- Standard-Vacuum had a large warehouse at Genzan which was one of their importing points for packaged oil supplied from Japan. It was located in the southeastern part of the city not far from the Chosen Oil Company refinery. Products were supplied to the city and to the company's warehouses in the interior which were supplied by rail.

The refinery of the Chosen Oil Company, a Japanese concern, had a shipping-off installation connected with it. Particulars are not available. The Nippon Oil Company are believed to have also had a warehouse in this same vicinity.

4.9.2 Fusan

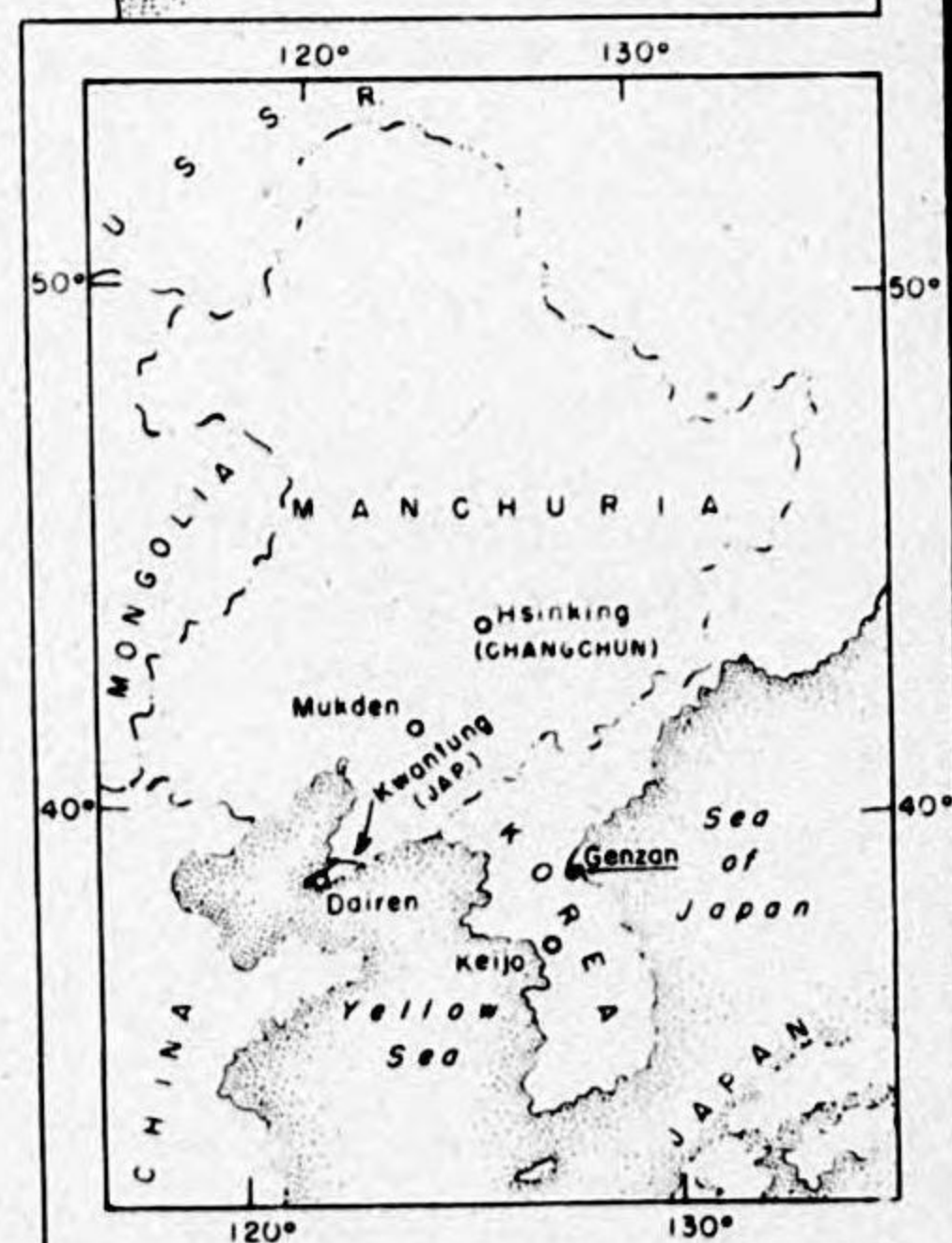
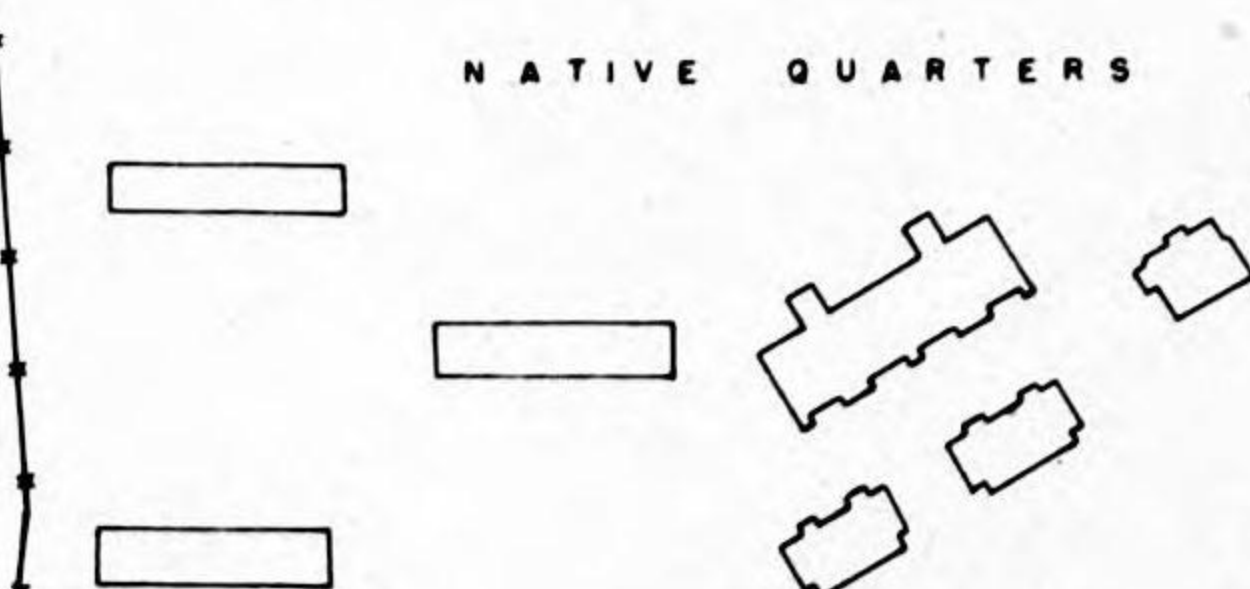
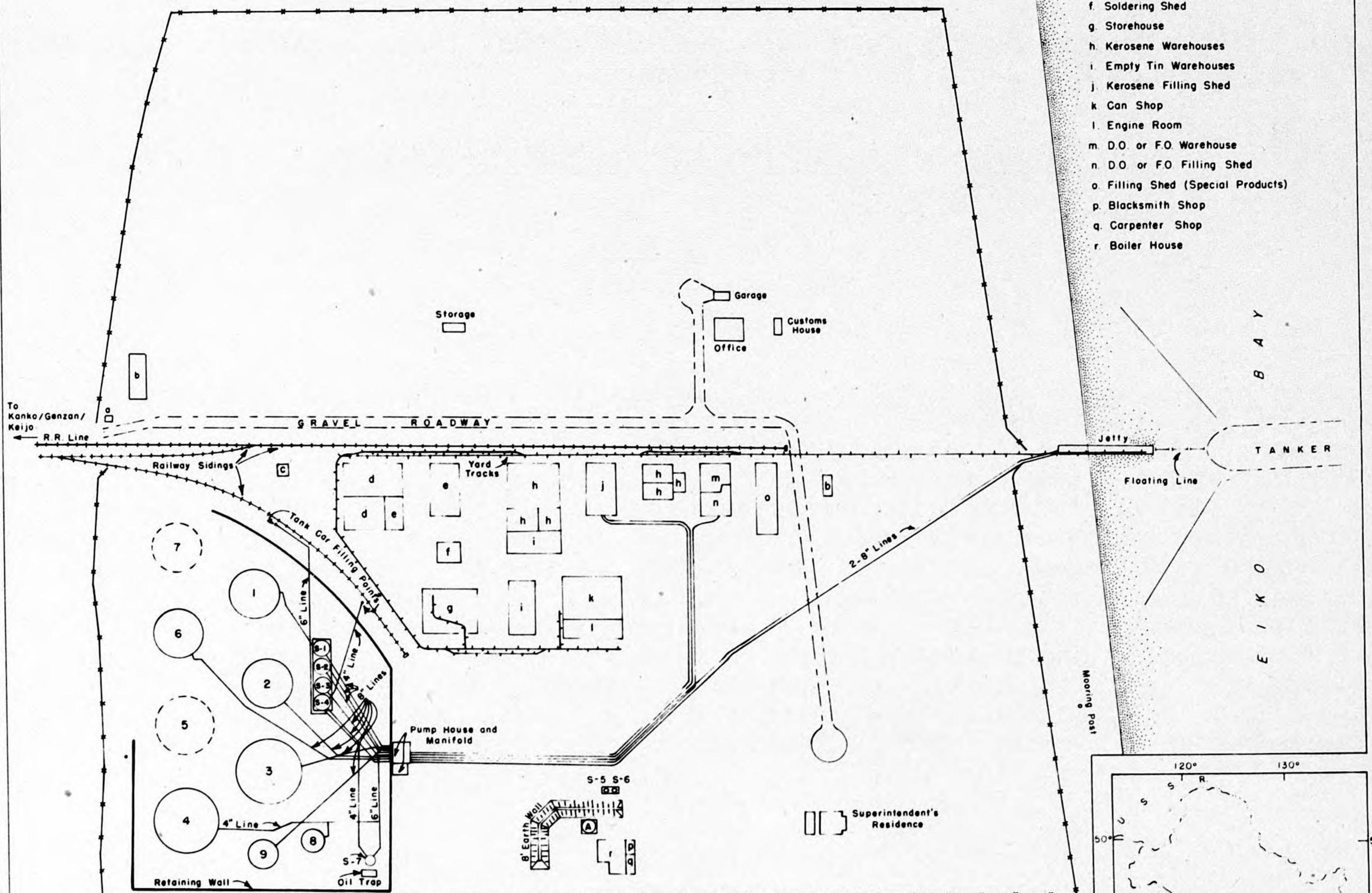
Latitude 35° 6' N., longitude 129° 2' E.

Rising Sun Petroleum Company Ltd., terminal.- This rather small terminal was located on Makino Island, across the harbor and eastward of the city. It handled only black oils in bulk and there were three medium sized storage tanks for diesel and fuel oil and two service tanks. There were filling facilities for drums and three warehouses, two of which were for packaged gasoline. Stocks were supplied by ocean vessels and there was a jetty on the waterfront at which ships could berth stern to the pier and discharge bulk oil through a floating pipe line and packages into lighters. There was an industrial railway connecting the piers with the warehouses to facilitate the handling of packaged cargo. A superintendent's residence

JAPANESE EMPIRE
KOREA
GENZAN (BUMPYO) INSTALLATION
RISING SUN PETROLEUM CO., LTD.
(ROYAL DUTCH SHELL)

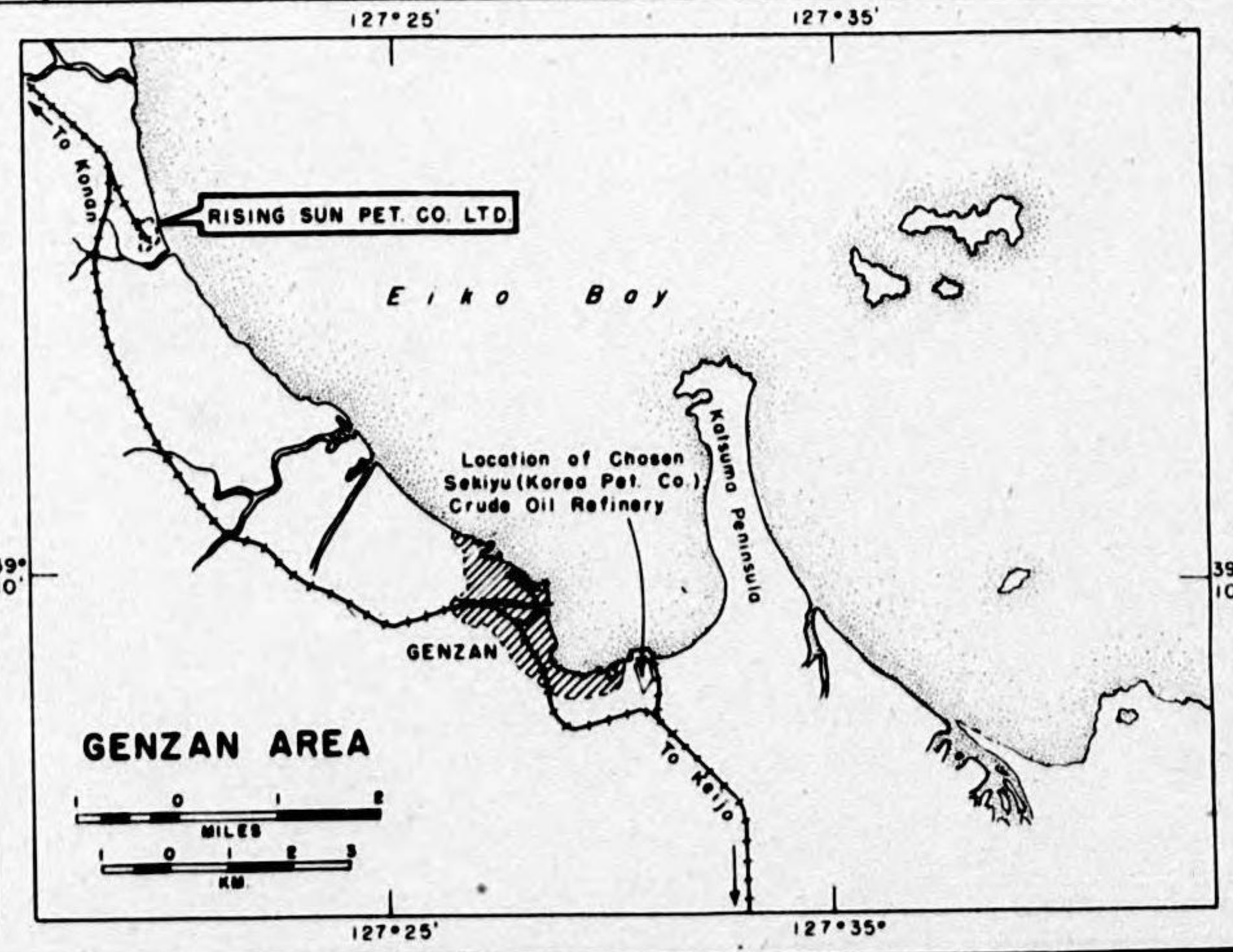
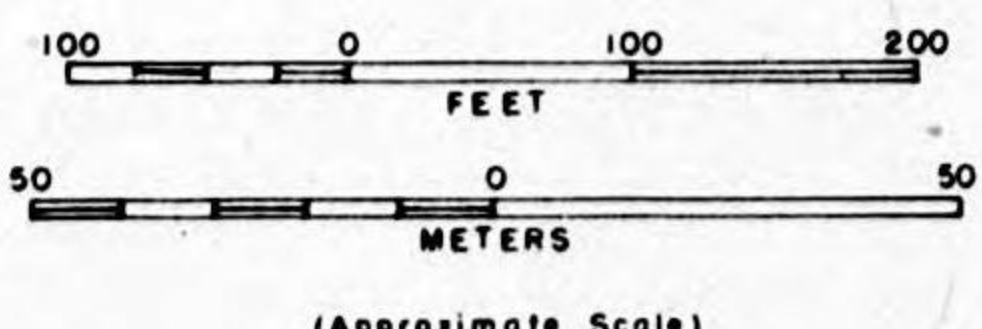
LEGEND

- a. Watchman
- b. Workers' Mess Rooms
- c. Reconditioning Shed
- d. Gasoline Warehouses
- e. Filling Sheds
- f. Soldering Shed
- g. Storehouse
- h. Kerosene Warehouses
- i. Empty Tin Warehouses
- j. Kerosene Filling Shed
- k. Can Shop
- l. Engine Room
- m. D.O. or F.O. Warehouse
- n. D.O. or F.O. Filling Shed
- o. Filling Shed (Special Products)
- p. Blacksmith Shop
- q. Carpenter Shop
- r. Boiler House



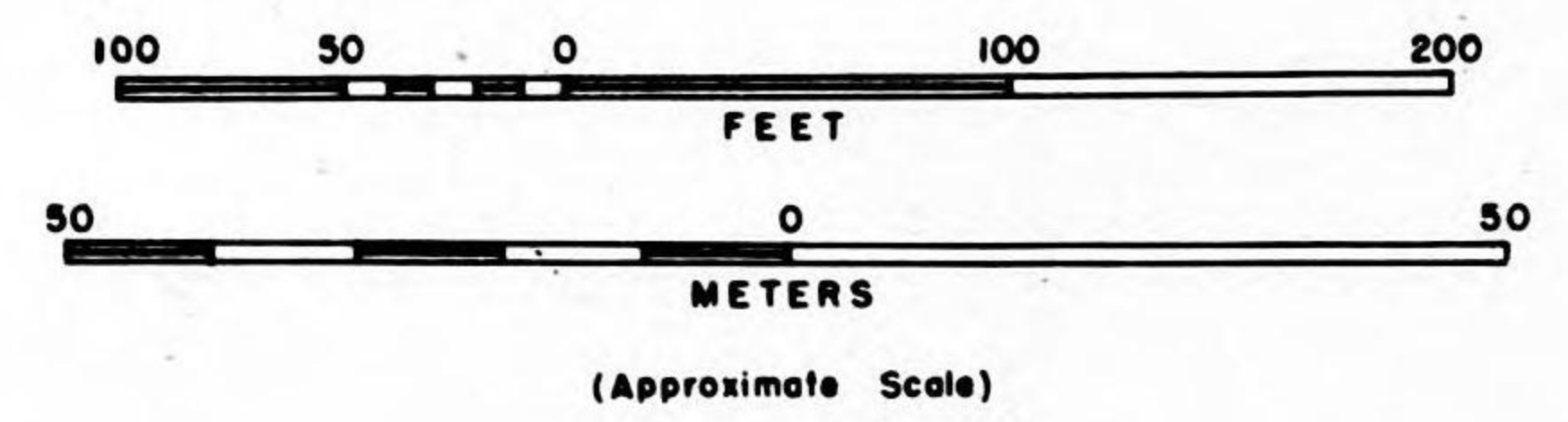
TANKS			
NO.	DIMENSIONS	PRODUCT	CAPACITY (Barrels)
1	64' X 35'	GASOLINE	19,635
2	64' X 35'	KEROSENE	19,565
3	77' X 38'	GASOLINE	31,230
4	77' X 38'	DIESEL OIL	31,230
5	-	-	-
6	65' X 38'	KEROSENE	22,750
7	-	-	-
8	30' X 30'	DIESEL OIL	3,440
9	39' X 39'	GASOLINE	8,250
S-1	22' X 19'	"	1,250
S-2	22' X 19'	KEROSENE	1,250
S-3	22' X 19'	"	1,250
S-4	22' X 19'	DIESEL OIL	1,250
S-5	8' X 8'	F.O. OR D.O.	70
S-6	8' X 8'	"	70
S-7	12' X 15'	DIESEL OIL	300
A	17' X 19'	WATER	760

NOTE: Tanks 5 and 7 believed to be proposed.



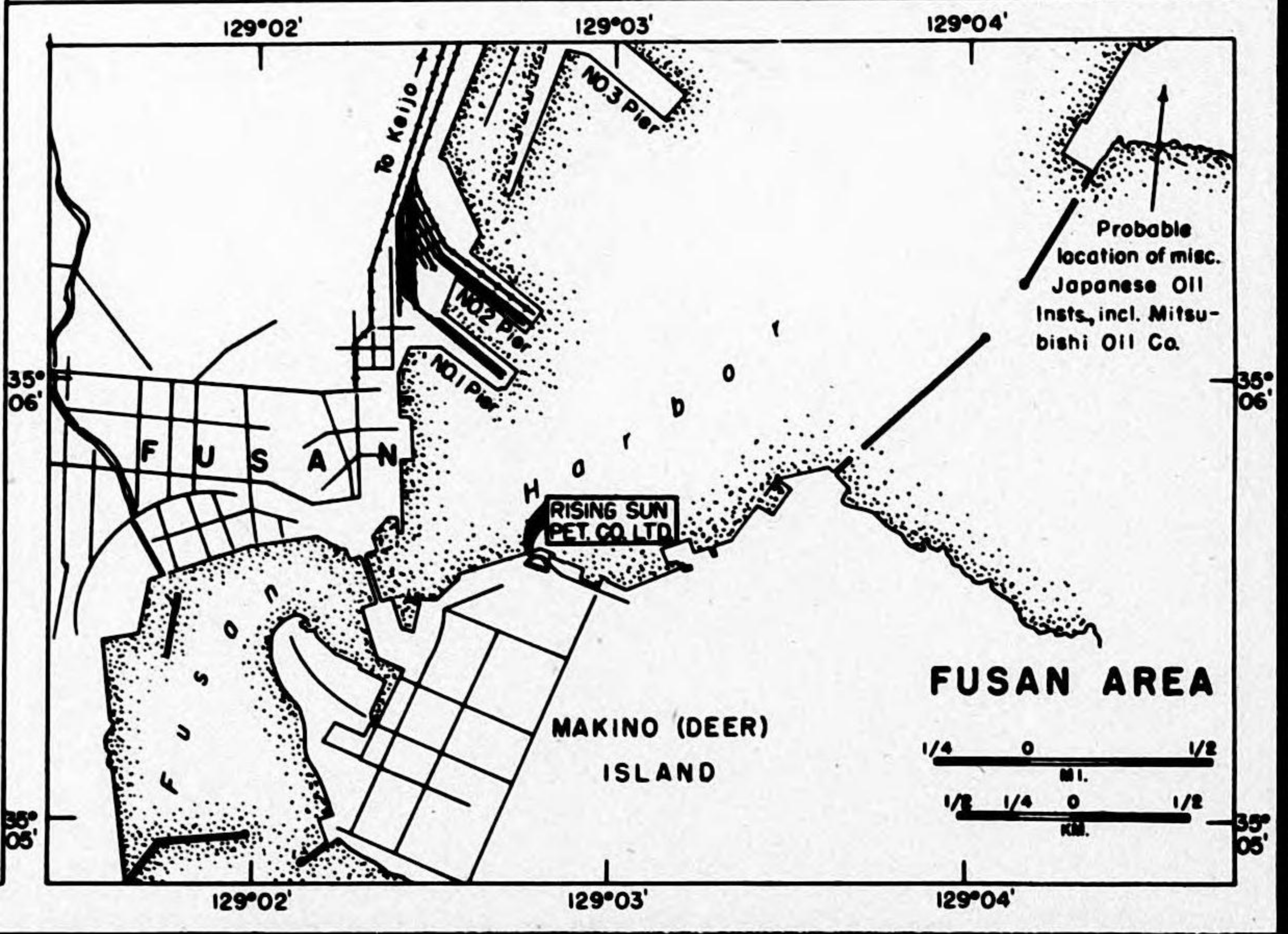
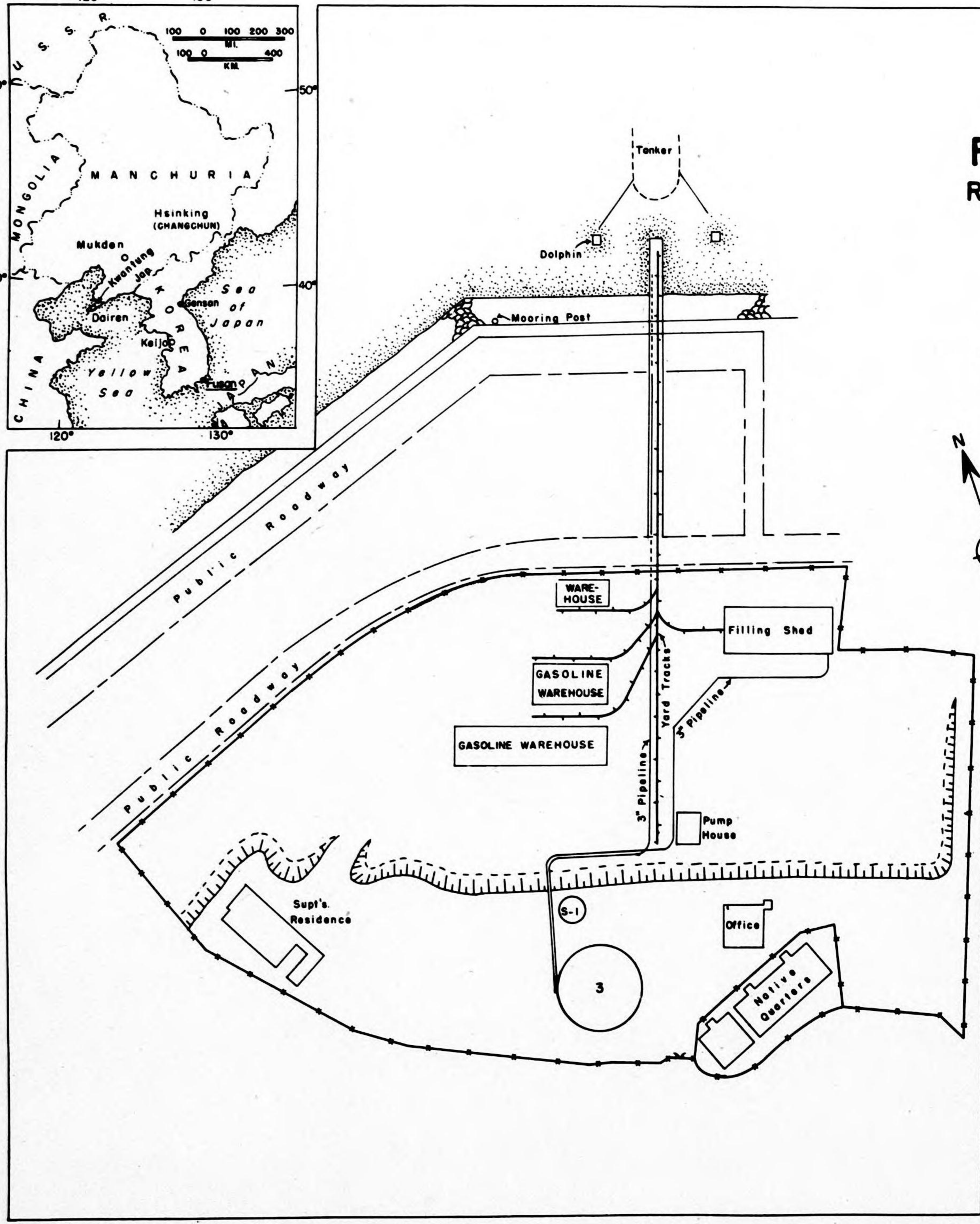
JAPANESE EMPIRE
KOREA

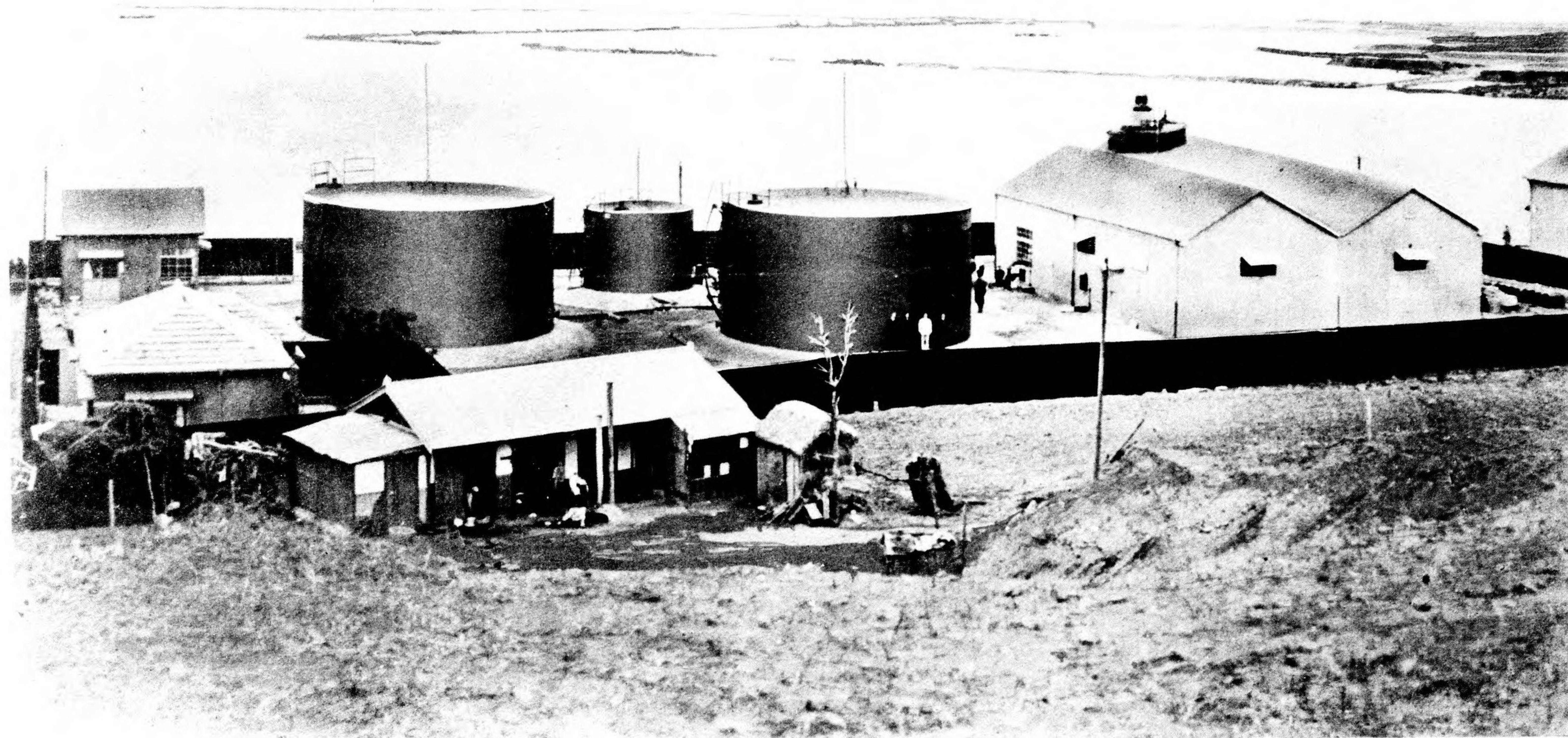
FUSAN INSTALLATION
RISING SUN PETROLEUM CO., LTD.
(ROYAL DUTCH SHELL)



TANKS		
NO.	PRODUCT	CAPACITY (Barrels)
#1	DIESEL OIL	37,040
#2	" "	25,740
3	FUEL OIL OR DIESEL OIL	19,725
S-1	DIESEL OIL	1,020
*S-2	FUEL OIL OR DIESEL OIL	518

*These tanks are not shown on map.





MITSUBISHI OIL CO. INSTALLATION AT FUSAN, KOREA
(LOCATION INDICATED ON FUSAN MAP)

was located in the compound. Deliveries of black oil in bulk were made to the company's bulk depots at Mokpo and Kusan by sea. All other deliveries of black oil were made in drums to the city and to markets in the southern part of Korea but no other products were supplied from here except to the city market. There was road access to this installation but no rail connections. Its principal function was a bunkering point for ships.

A drawing of this plant appears on page 195.

Other facilities at Fusan.- Standard-Vacuum Oil Company had five warehouses which were supplied from Japan and from which distribution was made to the company warehouses in the area, mostly by rail. They were located on Makino Island above the bridge connecting the island with the city and some distance southwest of the R.S.P. terminal. The Texas company also had two warehouses which were located north of the other facilities and across the bay from the city.

Mitsubishi Oil Company had a small bulk installation which is shown in the photograph on page 196. There were two medium sized tanks and a service tank which are believed to have been used for diesel oil. There were also two warehouses. The exact location is not known and details are not available. It is thought that the Nippon Oil Company had a small warehouse near the Texas Company.

Distribution.- Rising Sun Petroleum Company was the only one of the foreign companies to handle petroleum in bulk in Korea, but even in their case it was done to a limited extent as they possessed only four minor bulk depots and supplied the rest of the territory with packaged oils from warehouses located at the principal markets which were fed from their terminal at Genzan. Standard-Vacuum supplied the territory with packaged oils which were imported from Japan by sea at Chinnampo, Fusan, Genzan, Jinsen and Mokpo, and distributed from these points by rail to their warehouses at various markets in the territory. The Texas Company owned warehouses at Chinnampo, Fusan and Jinsen where they imported packaged stocks. They owned no other facilities in Korea. They supplied the territory from Dairen.

4.10 MINOR BULK INSTALLATIONS AND WAREHOUSES OF KOREA

A table showing the facilities owned by foreign companies appears on pages 223, 225 and the map on page 205, shows their locations.

4.11 GASOLINE SERVICE STATIONS AND PUMPS

The table on the following page lists the gasoline service stations and pumps owned by the three principal distributing companies within the area covered by this report. While in the larger cities there were a number of large and completely equipped service stations, the majority were rather simple gasoline dispensing stations. Because of the very limited extent of motor roads in the interior regions most of the gasoline stations and pumps were located in or near the more important cities.

GASOLINE SERVICE STATION AND PUMPS

<u>Place</u>	<u>Service Stations</u>			<u>Pumps</u>		
	<u>AP Co.</u>	<u>SV Co.</u>	<u>Texas</u>	<u>AP Co.</u>	<u>SV Co.</u>	<u>Texas</u>
<u>China</u>						
Hong Kong, Kowloon and New Territories	14	19	17			
Canton	7	9	--	All South China Area		
Hoihow - Hainan Island	-	3	--	80	?	115
Kwangtehchow	-	1	--			
Macao	-	1	--			
Shanghai	25	14	26			
Chinkiang	-	1	--			
Hangchow	-	1	--			
Hushih (vicinity of Hangchow)	-	1	--	All North China Area		
Nanking	3	3	--	332	78	278
Tientsin	3	2	17			
Tsingtao	3	2	5			
Wusih	1	-	--			
	Total 56	57	65	412	?	393
<u>Kwantung Leased Territory</u>						
	Total ?	1(a)	-	?	?	12
<u>Korea</u>						
	Total 3(b)	1(b)	-	147	?	36

- (a) at Lungwangtun
(b) at Keijo

4.12 MOTOR EQUIPMENT

Because of the lack of good roads outside of the cities, motor transport was not extensively used in China. In proportion to the size of the country, the automotive equipment in use was extremely limited. The table below lists the motor equipment that was owned and operated by the three principal distributing companies. All of this equipment was operated in and around the major cities exclusively.

Motor Equipment Owned by Distributing Companies

<u>Place</u>	<u>Company</u>	<u>Tank Trucks</u>		<u>Package Trucks</u>		<u>Combination Trucks</u>	
		<u>No.</u>	<u>Cap. of each (Gallons)</u>	<u>No.</u>	<u>Cap. of each (Tons)</u>	<u>No.</u>	<u>Cap. of each (Tons)</u>
Hong Kong	APC	1	480	6	6 1/2 to 3		
"	SVOC	4	815	2	3		
"	Texas	1	1,000	1	2	1	2 1/2
Canton	APC	1	500				
Shanghai	"	10	900 to 1,500	6	2 to 4		
"	SVOC	8	1,125	9	3		
"	Texas	3	1,500	2	2 1/2 to 4 1/2		

Motor Equipment Owned by Distributing Companies (Continued)

Nanking	APC			2	3		
"	Texas					1	3 1/2
Hankow	APC			1	1 1/2		
"	SVOC			1	3		
"	Texas			1	2		
Tsingtao	APC			1	2		
"	Texas					1	2
Tientsin	APC			3	1 1/2 to 3		
"	SVOC	1	750				
"	Texas	2	750	1	2		

Kwantung Leased Territory

Dairen	APC						
"	SVOC	1	950	1	3		
"	Texas			1	2	1	2

Korea

Keijo	APC				?		
"	SVOC			1	3 tons		

4.13 SUMMARY OF MAJOR AND MINOR STORAGE FACILITIES

The tables on pages 206 to 209 list the principal oil ports of the area covered by this report and summarize pertinent information concerning berthing of vessels and discharging of oil cargoes. The locations of these ports are shown on the maps on pages 66 and 67 and also may be found on the maps on pages 200 to 205.

The summary on pages 210 to 214 summarizes tankage, warehouse, and other data concerning all the ocean terminals and the main and subsidiary bulk oil installations. The points where these installations are to be found are shown on the maps referred to above.

Data concerning the minor bulk oil facilities and warehouses throughout the area covered by this report are summarized in the tables on pages 215 to 225 and locations are shown on the maps on pages 200 to 205.