

# INFORMATION REPORT INFORMATION REPORT

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REPORT

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[redacted] Trans-Siberian Railroad [redacted]

[redacted] Installations, rolling stock, electrification, block signals, and the movement of engines on the Trans-Siberian Railroad System are discussed.

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THE TRANS-SIBERIAN RAILROAD-



TABLE OF CONTENTS

Foreward

Summary

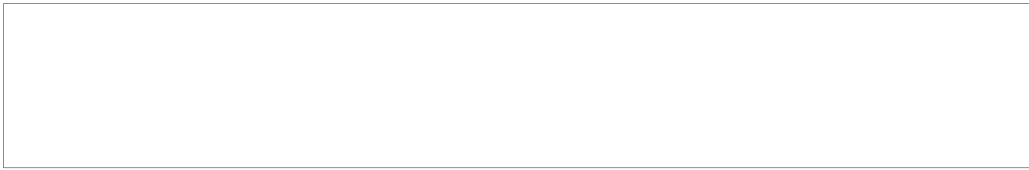
- I. Explanation of the General Conditions of the <sup>Trans</sup>-Siberian Railroad  
[Translation omitted because of detailed information in following chapters]
- II. Railroad Installations
  - A. Railroad Tracks
  - B. Signal Installations, Particularly Automatic Block Signals
  - C. Types of Rails and Road beds
  - D. Station Installations
  - E. Guarding of Railroad Installations
  - F. New Railroad Installations and Additions
  - G. Other Data
- III. ~~Summary of~~ Branch Lines
- IV. Rolling Stock
  - A. Locomotives
  - B. Freight and Passenger Cars
  - C. Freight Car Dwellings
- V. General Information on Transport
  - A. Freight Transport
  - B. Special Transport (Military Transport, etc)



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Sketches

Fig 1. Triple-Track Section in the Vicinity of Kizha<sup>and</sup>Gorkhon

Fig 2. Electrified Sections of the Trans-Siberian Railroad

Fig 3. Sections of the Trans-Siberian Railroad With Automatic  
Block Signals

Fig 4. Guarding of<sup>s</sup> Railway Bridge

Fig 5. Movement of Various Types of Steam Locomotives<sup>Engines</sup> on the  
Trans-Siberian Railroad

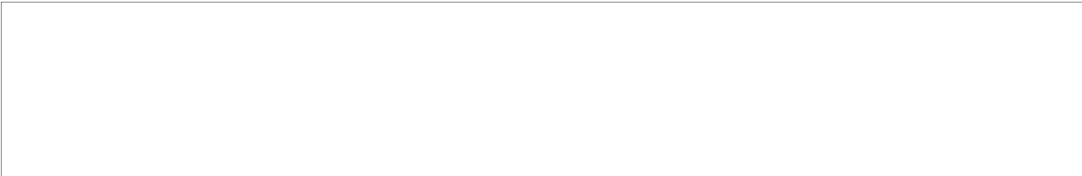
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FOREWARD

This book is a compilation of information concerning railroad on the Trans-Siberian Railroad (between Makhodka and Moscow). The present condition of the Trans-Siberian Railroad is discussed chiefly, and [redacted] from the standpoint of: (1) How is the Sixth Five-Year Plan being fulfilled in the field of railroad?

50X1-HUM

(2) What are the postwar changes? are the important

The following points were ~~scheduled for~~ observation (scheduled):

1. Postwar changes, particularly, increase in the transport and capacity; including automation of signal installations; electrification; double tracking; conditions of road beds and types of rails used; types and number of locomotives used, particularly, heavy, electric, and diesel locomotives.

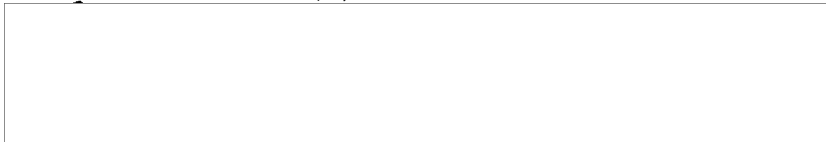
2. The extent of fulfillment of the railroad construction plan in the Sixth Five-Year Plan, particularly, construction of new lines, electrification, and double-tracking projects.

3. Railroad transport, particularly, freight transport; <sup>and</sup> including train traffic in various sections, flow of eastbound and westbound freight, military transport, and mass transport of labor forces.

4. Sino-Soviet Connecting Railroads (Conditions near junction stations).

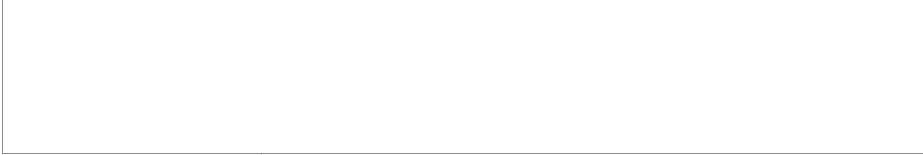
5. Guarding of important installations.

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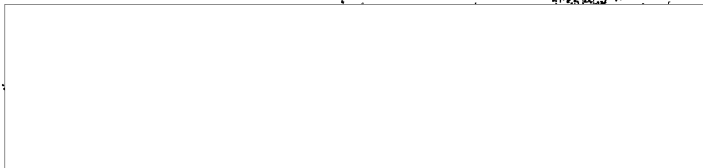
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6. New techniques used on railroads or mechanization of operations.

Area-wise, emphasis is placed on Siberia and the Soviet Far East.



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I. SUMMARY

Postwar domestic and foreign affairs of the USSR, particularly those of recent years, appear to have increased the economic and military value of the Trans-Siberian Railroad. The Railroad extends from Vladivostok to Moscow, a distance of 9,302 kilometers,

and about 8 percent of the total length of the Soviet railroads (about 121,000 kilometers).

Travel information on the Railroad is as follows (figures in parentheses are those for this particular trip):

Time required -- 8 days plus (9.2 days)

Average daily travel -- about 1,160 kilometers (about 1,030 kilometers)

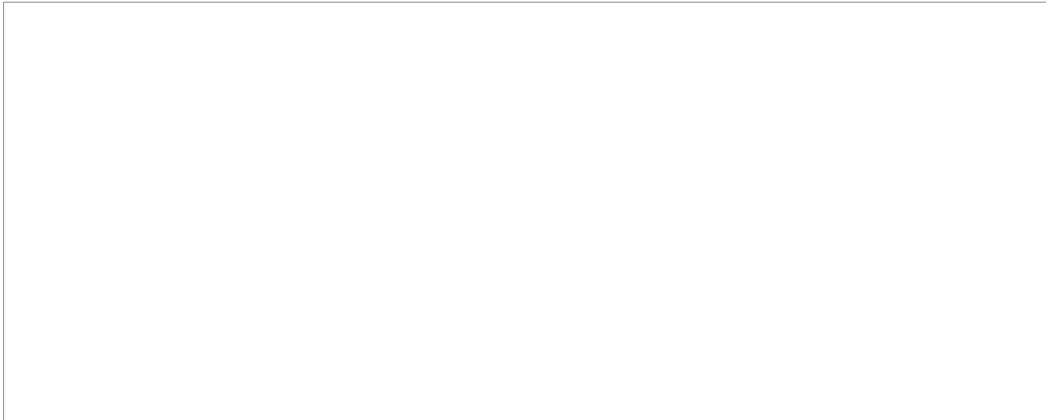
Average speed per hour -- about 48 kilometers (about 43 kilometers)

Number of stops -- 151 stations (96 stations, scheduled)

The Railroad Administrative Bureaus number ten on the Trans-Siberian Railroad as follows: Far Eastern, Amur, Zabaykal, East Siberian, Krasnoyarsk, Omsk, Tomsk, Sverdlovsk, Gorkiy, and Northern. The total number of railroad administrative bureaus in the USSR is 45. The former Maritime Railroad in the Far Eastern Region has been abolished.

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← A. General Characteristics

5) 1. Wartime Status

In addition to railroad employes being under a military *rank* system, guards are stationed in important railway installations, such as tunnels, bridges, and stations. The strength of the guards, however, is less than that of prewar days. In some places, such as the Amur Bridge in Khabarovsk, <sup>even</sup> army units (antiaircraft and radar) are stationed. Station yards are illuminated at night for better protection, and the understanding of air defense is promoted among the railroad employes. Such operations give the impression that ~~unnecessary~~ <sup>excessive</sup> concern is placed on the defense of railroads.

5) 2. Freight-First Policy

The figures on the movement of passenger and freight <sup>trains</sup> cars indicate that passenger traffic is kept at bare minimum, making domestic travel by the Soviets quite difficult. The freight-first policy in railroad transport is closely related to the heavy industry - first policy in the Soviet economy. This policy is necessary under the Soviet system, and has ~~remained~~ <sup>remained</sup> unchanged for years.

50X1-HUM



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← B. Important Postwar Changes

strengthening of  
The greatest postwar change is the increase in the transport capacity. The automation of signal installations up to the vicinity of Chita, is of particular significance.

5] 1. Eastward Advance of Automatic Signal Districts

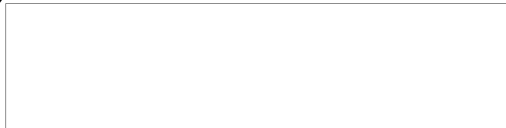
Before the war, automatic signals were in operation only to the vicinity of Novosibirsk, but at present, such installations have been extended to Karyakaya (junction of the Manchuli Line), which is 3,000 miles from Novosibirsk. The installation of automatic signals has increased the transport capacity (track capacity) to several times that of prewar level. Since ~~the~~ <sup>this</sup> region not only embraces areas vital to the development of Siberia, but since two <sup>USSR</sup> ~~Soviet~~-China connecting railroads have been completed in this region, the automation of signal installations ~~must~~ <sup>must</sup> be considered to have great economic and military effect.

5] 2. Evidence of Heavy Rail in the Soviet Far East

~~Восточно-Сибирской~~ In the Soviet Far East, formerly the 38-kilogram rail was mainly used, but at present, 43-kilogram and 50-kilogram rails are in definite use. It has not been ascertained, however, whether or not they are in use throughout the ~~Soviet~~ Far East area.

5] 3. Increase in Electrification and Double-Tracking

The electrification of the Slyudyanka-Irkutsk section near Lake Baykal, following the electrification of the important trunk line



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[REDACTED]

between Novosibirsk and Onsk, must have a special significance. (Note: A new line has been constructed between Slyudyanka and Irkutsk, separately from the former main line of the Trans-Siberian Railroad. A greater part of this ~~xxxx~~ <sup>triple-track,</sup> section is now ~~three-line~~ electrified line.)

5] 4. Other Data

The connecting railroads <sup>#</sup> between the USSR and China have begun their operations.

The decrease in the number of locomotives needing repair seen near engine houses in stations as compared with prewar days indicate the increased repairing capacity (including increase in construction of engine houses.)

Most of the roadbeds do not differ greatly from prewar days, and are of sand mixed with pebbles. The <sup>track-</sup> maintenance work, however, is in evidence everywhere.

The installation of automatic coupling on freight cars has been completed.

C. 2. Fulfillment of Railroad Construction and Strengthening Plans Under the Sixth Five-Year Plan

5] Generally speaking, ~~The xxx~~ electrification and double-tracking of the trunk line and the construction of branch lines can be considered to be progressing according to the schedule of the Sixth Five-Year Plan, but the rate of construction does not appear to be too great.

5] 1. Construction Rate of Railroad Installations

7] Mechanized construction is being done in only in one part. (Example: Construction work near Kirov is mechanized.)

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50X1-HUM


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section  
The ~~suburbanization~~ already electrified amounts to only 10 percent of the entire line, and the complete electrification of the entire Trans-Siberian Railroad appears to be a thing of distant future.

5] 2. Construction of Electric and Diesel Locomotives

9]  the production 50X1-HUM  
of electric and diesel engines, particularly the latter is not progressing according to schedule. ~~Exceeds~~ The Sixth Five-Year Plan calls for 2,000 electric engines and 2,250 diesel engines, but diesel engines are hardly seen on the railroad.

5] 3. Installation of Pipe Lines and Decrease In ~~water~~ Tank cars Traffic

Pipelines are being installed at several places between Irkutsk and Omsk. The completion of these operations is expected to decrease the traffic <sup>of</sup> in tank cars. Already, the tank car traffic appears to have decreased somewhat compared to prewar traffic.

5] 4. Existence of Secret Construction

Unannounced construction (i.e., secret construction) is included among the railroad construction in progress at present.

5] 5. Other Data

Operations to make signal installations automatic are not in evidence.

9] Railroad construction work is in evidence mostly in Siberia, from Irkutsk to Sverdlovsk, followed by European Russia, ~~with~~ then and the ~~Soviet~~ Far East. The ~~Soviet~~ Far East, however, is not completely <sup>(repairs)</sup> ignored. Construction work <sup>(is in progress in Primorskiy Kray,</sup> near Kuybyshevka, and in the Shilka River basin.



50X1-HUM

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← D. Soviet Political Power As Seen From Railroad Management

[redacted] the thoroughness of the 50X1-HUM

Soviet order down to the lowest echelon were seen in the cleaning operations (from painting of walls to cleaning of wash rooms), and in the ~~good~~ <sup>favorable track-</sup> maintenance ~~work~~ work along the entire line; and in

the warm welcome extended to the Group by Soviet officials at every station, even at night. [redacted] the Soviet 50X1-HUM

mass gathered under the orders from the Party. The thoroughness of the orders extending down to the lowest organisations indicate the extent of the Soviet's political strength within the country. To minimise this strength) ~~which would be~~ <sup>should be considered</sup> rather dangerous than erroneous .

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II. RAILROAD INSTALLATIONS

A. Railroad Tracks

A greater part of the trunk line of the Trans-Siberian Railroad is double-track, but single-track sections still exist in parts. There are also triple-track sections. Although electrification of the railroad to increase transport capacity has been reported, sections already electrified are limited to the sections extending from Novosibirsk to west of Omsk, and sections near Irkutsk and Moscow.

1. Single-Track Sections

The Trans-Siberian Railroad still has the following single-track sections, but since there are parallel lines and loop lines in these single-track sections, the single-track sections do not pose serious problems.

a. Omsk-Sverdlovsk (Western Siberia)

Single-track sections are found here and there in this 900-kilometer section which is scheduled for double-tracking during the Sixth Five-Year Plan. Double-tracking operations were in progress

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but operations did not seem too extensive.

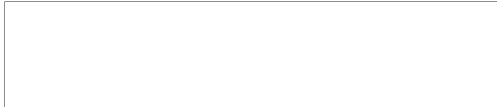
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b. Kachel'nich - Buy (European <sup>Russia</sup> USSR)

this 508-kilometer section <sup>was</sup> is single track, and there <sup>was</sup> is no evidence of double-tracking operations. At several places on the line, however, preparations for double-tracking were seen along the tracks.

50X1-HUM

50X1-HUM



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50X1-HUM



c. Amur Bridge at Khabarovsk (Soviet Far East)

The Amur Bridge is still single track, but since there is an Amur River bed tunnel on the north side, it can be considered to be double track. However, since the river bed tunnel is not normally used, the bridge actually has only the capacity of single-track line.

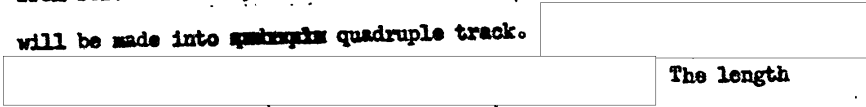
2. Triple-Track Sections

Triple-track sections are found here and there along the Trans-Siberian Railroad. Triple track means there is an additional track along the double track. Its purpose should be considered to be the elimination of transport bottleneck rather than the increase in transport capacity.

a. Gorkhon-Kisha (Zabaykal)

The section between west of Gorkhon and Kisha is triple track. Its primary objective is, of course, the increase in the track capacity, but since the Yablonovyy Mountains criss-cross near Kishinsk here, the area is a transport bottleneck from the standpoint of topography. This triple-track section was in existence from before the war, but at present, there is no indication that it will be made into quadruple track.

50X1-HUM



The length

of the triple-track section is estimated to be about 20 to 25 kilometers.)

Greater Part of)

b. (Slyudyanka-Irkutsk Section)

The section extending 120 kilometers from Irkutsk is electrified triple track. The remaining section to Slyudyanka is being electrified and triple-tracked.

50X1-HUM



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c. Other Triple-Track Sections

Many  
Triple-track sections which are not as long as  
foregoing sections are seen along the line.

3. Quadruple-Track Sections (Slyudyanka-Irkutsk)

Since a new electrified, double track has been constructed, the old Trans-Siberian Railroad along the lake (via Baykal station) and the new double track form quadruple track. The tracks along the lake <sup>are</sup> still in use, but only freight cars seem to be using the tracks. (Note: Since a great part of the section is electrified, triple track, actually it is a five-track section.)

4. Electrified Sections

The following sections have been electrified:

- (a) Slyudyanka - Irkutsk II (135 kilometers)
- (b) Novosibirsk - Omsk - ~~Novosibirsk~~ <sup>skoy</sup> (776 kilometers)
- (c) Near Perm (small area)
- (d) Near Moscow (between Yaroslav Station in Moscow and Aleksandrov) (113 kilometers)

The above sections total about 1,000 kilometers, which amounts to only 10 percent plus of the total length. The electrified section of the Trans-Siberian Railroad, thus, is very short, and total electrification appears to be a thing of distant future.

The type of electric locomotive seen most was the *VL*.



50X1-HUM

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50X1-HUM



a. Electrified Line Between Slyudyanka and Irkutsk II (135 kilometers)

This is a new electrified line, reported to have been completed in the spring of 1956. The old line, which extended to Irkutsk via the shore of Lake Baykal and the Baykal station on the mouth of the Angara River, is no longer used by passenger trains.

The area along this electrified section is being actively developed, which may be one of the reasons why a new <sup>electrified</sup> line was built instead of electrifying the old lake shore line. Since the new line passes through mountains, there are steep curves, and three tunnels. The old lake shore line is still being used because the rails are shining. There are indications that principally, freight trains use the old line. The electric power is presumed to be supplied from the Irkutsk Hydroelectric power station.

b. Novosibirsk-Omsk-Nazyvayevskaya  
Electrified Line Nazyvayevskaya-Omsk (776 kilometers)

Since this area extending from Novosibirsk to Nazyvayevskaya and westward to Sverdlovsk is <sup>very</sup> important economically, heavy stress always has been placed on its railroad installations. The second Trans-Siberian Railroad, which branches out westward from Omsk to Chelyabinsk, and the South-Siberian Railroad, which <sup>runs</sup> east and west south of the Trans-Siberian Railroad, form the <sup>second</sup> trunk lines connecting the Kuzbas and Ural industrial areas.

The double-tracking and electrification of the Omsk-Sverdlovsk section are planned also in the Sixth Five-Year Plan, and the construction work is ~~is~~ presently in progress, but not too actively.

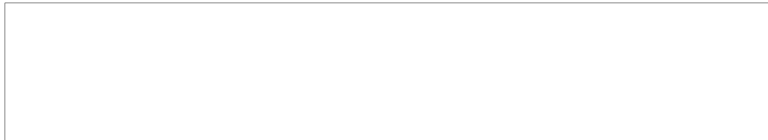


50X1-HUM

- 15 -

POOR ORIGINAL

50X1-HUM



(Note: A new thermal ~~xxxxxx~~ power plant constructed in Omsk around 1956 is supplying electric power to the nearby refinery and to the railroad. )

c. Electrified Line Near Perm

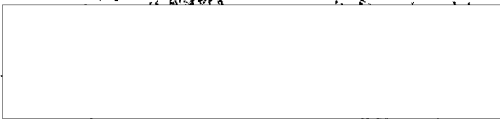
Only a small section extending about 15-minute ride to and from beyond the Perm Station II is electrified.

50X1-HUM



d. Vicinity of Moscow (112 kilometers)

The section <sup>sk-16</sup> ~~now~~ from the Yaroslav Station in Moscow to the next express station, Aleksandrov, is electrified. Work is in progress to extend the electrified line northward.



50X1-HUM

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50X1-HUM



B. Signal Installations, Particularly Automatic Block Signals

50X1-HUM

The extent of the installation of automatic block signals



have established that automatic block signals extend to east of Chita. The existence of automatic block signals plays an important role in the judging of railroad transport capacity (track capacity). In previous days, <sup>there were no</sup> automatic block signals <sup>east of</sup> Novosibirsk.

Signaling equipment within station yards are semi-automatic or automatic. Small stations in sections without automatic devices, particularly in the Far East, have, for the most part, old-fashioned semi-automatic signals.

Between ~~and~~ Tyumen and Sverdlovsk (324 kilometers), which is a single-track section presently being double tracked, old-fashioned tablet system is still in use. Signal installations will probably become automatic with the progress in the electrification and double-tracking work, but at present, there is no indication of operations to install such devices.

- 1. Block Signal
- a. Automatic Installations

Automatic block signals are not installed over the entire Trans-Siberian Railroad. They are found <sup>only</sup> in

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the following sections:

- a. Between Khabarovsk II and Khabarovsk I (short distance)
- b. Vicinity of Chita - Irkutsk - Krasnoyarsk - Novosibirsk - vicinity of Omsk (3,642 kilometers)
- c. Major portion (?) between Sverdlovsk, Moscow (from Ural to European Russia) (1,814 kilometers)



50X1-HUM

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50X1-HUM



3] The total length of the sections with automatic block signals is about 5,500 kilometers, which is about 60 percent of the total length of the Trans-Siberian Railroad.

Special characteristics of the various <sup>regions</sup> ~~sections~~ are given

below.

7] a. <sup>4</sup> Far East Region (From vicinity of Chita <sup>excluding Chita</sup> ~~eastward~~ east to Vladivostok)

12] In the 3,000-mile stretch east from Karymskaya to Vladivostok, automatic block signals are installed only between Khabarovsk I and Khabarovsk II stations.

b. <sup>8</sup> Siberia Region

13] Automatic block signals are installed in the 3,600-kilometer section from near Chita to Lyubinskaya, west of Omsk. Since the prewar easternmost edge of the automatic block signal section was Novosibirsk, this means that <sup>(chiefly during the Fourth and Fifth Five-Year Plans)</sup> in the 10 postwar years, automatic block signals have been installed <sup>along</sup> ~~in~~ about 3,000-kilometer <sup>or</sup> ~~section~~ <sup>section</sup>. (Novosibirsk to vicinity of Chita).

Karymskaya, ~~which is~~ the easternmost station in the automatic block signals section, is the junction station of the Man-chou-li branch line, which connects with Peiping.

47 The two <sup>USSR-China</sup> Soviet-Chinese connecting railroads, ~~which~~ are the Karymskaya-Otpok-Peiping Line (branches out from Tarakiy, east of Karymskaya) and the Ulan Ude - Ulan Bator - Peiping Line. Both appear to be one-track lines with no automatic block signal installations.



50X1-HUM

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50X1-HUM



c. Ural-European Russia Region (Sverdlovsk - Moscow)

Almost a continuous

~~line of~~ automatic block signal installations


are found in the 1,819-kilometer section. The section from Sverdlovsk to Perm to Kirov, however, has more intervals between automatic block signal installations than other sections. The Kotelnich - Buy section (508 kilometers) has automatic block signals although it is only a single-track ~~section~~ <sup>line</sup>.

2. Signal Installations Within Station Yards

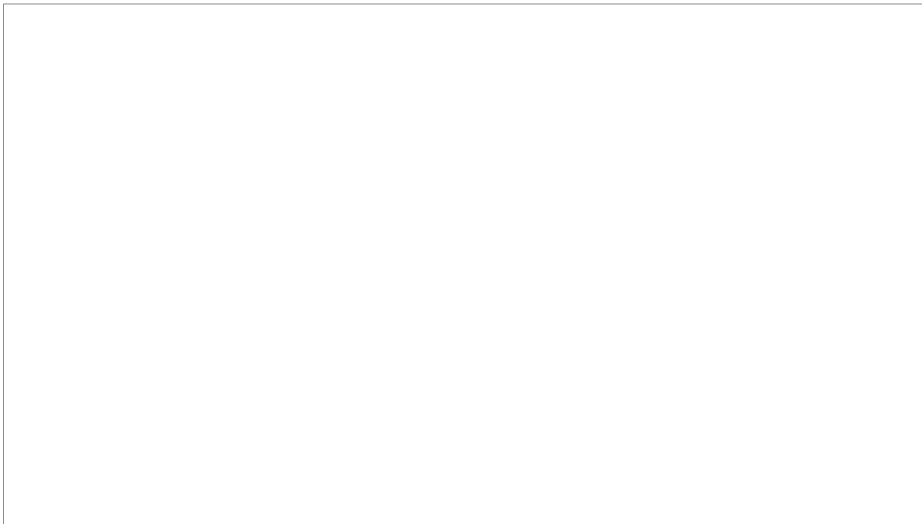
Automatic signal installations are seen in some station yards even in sections where there are no automatic block ~~signal~~ signals, such as the section from the vicinity of Chita to Vladivostok.

3. Other Information

50X1-HUM

The length of signal poles is  due probably to snow, and fog, and nighttime use. This seems natural considering the weather in Siberia.

50X1-HUM



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Types of rails and ties:

1. Rails



Heavy rails, mostly R65, were seen west of vicinity of Novosibirsk. The use of R75 is not known.

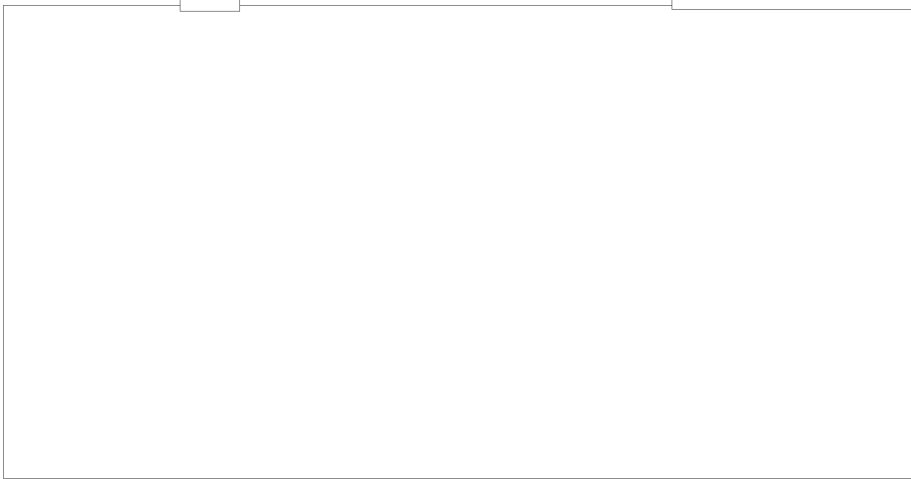
In the Far East region, light rail is still in use, but there are indications that 50-kilogram rails also are in use.

Reserve rails are supplied along the line almost according to regulations. (The regulation is to have a supply of reserve rails every kilometer.) Considering from the standpoint of repairs on roadbeds, reserve rails can be said to be in good supply.

2. Ties

50X1-HUM

Ties are all treated with preservatives. Untreated ties, however, were  <sup>in</sup> ~~sawing~~ new lines under construction. 




50X1-HUM

POOR ORIGINAL

50X1-HUM



tracks  
pile<sup>d</sup> along the ~~main~~ like reserve rails but are assembled in focal  
points, such <sup>as</sup> stations. 

c. Roadbeds (Pebbles and Sand)


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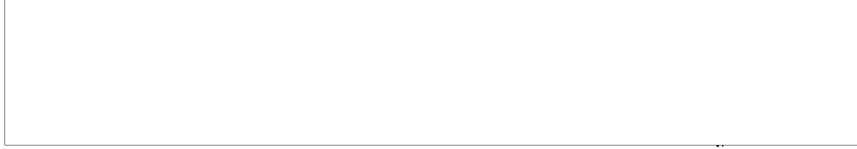
Generally speaking, majority of the roadbeds on the Trans-Siberian Railroad are of sand mixed with pebbles, ~~maximized~~ ~~found~~ with no change from former years. The trains, thus, shake considerably. The conditions worsens as one travels eastward. ~~It is~~ <sup>The roadbeds are</sup> particularly <sup>poor</sup> in the ~~Southeast~~ Far East.

From Novosibirsk to Omsk (627 kilometers), ~~pebbles~~ <sup>broken stones</sup> are used adequately as in the trunk lines of Japan. The branch line from Omsk to Chelyabinsk appears to be in the same condition, which indicates the importance of ~~this~~ the railroad between Novosibirsk and Chelyabinsk. There are other sections in which broken stones and pebbles (round river stones) are used, but these are only very short sections.

d. Maintenance of Tracks

50X1-HUM

The maintenance of the entire Trans-Siberian Railroad can be said to be very good. 



(Note: Since many road beds do not have broken stones, <sup>ball</sup> ballast cleaner probably is not useful.)

Track-maintenance signalers were seen at comparatively short intervals between stations along the entire line. (Signalers held yellow flags and wore, for the most part, wozen.)

50X1-HUM



POOR ORIGINAL

50X1-HUM



Both sides of the railroad are not only kept clean but small rocks painted white with lime are lined along the rails, in equal as almost the same number of the ties. In some places, the small rock are laid out in the form of a star. This condition is found along the entire length of the Trans-Siberian Railroad.

D. Station Installations (Repairing, watering, coaling, etc)

1. Summary

Various installations at of stations are about the same as in other countries, and not much changes [redacted] from prewar 50X1-HUM conditions, except in newly constructed sections or newly constructed stations.

Some of the noticeable points were as follows:

a. Repairing, Watering, and Coaling Facilities

The <sup>151</sup> stations for express passenger trains are nearly all equipped with enginehouses and other installations. Locomotives requiring repairs seen near enginehouses numbered 20 at the most, which is noticeably smaller than <sup>the</sup> (prewar number).

b. Mechanization of Loading Operations

Automobiles with cranes are widely used in the loading and unloading of freight.

c. Expansion of Stations

Large stations like Krasnoyarsk and Novosibirsk have been expanded and renovated. Some of the <sup>other</sup> (stations along the route also are being expanded.

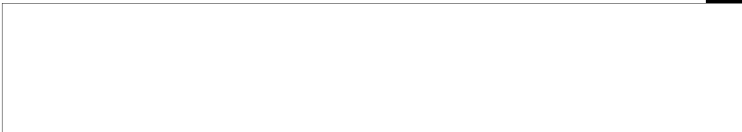


50X1-HUM

- 2 -

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50X1-HUM



d. Sidings

are  
Sidings of principal stations ~~total~~ over 2,000 meters.  
The length of sidings appear to be longer than prewar days, but details are unknown. Stations with many sidings have over 10 sidings. Even rural stations, such as Ksen'yevskaya, have as many as 13 sidings.

e. Cleanliness of Stations

All stations are kept very clean, from the painting of walls of the stations to washrooms (due probably to ~~special Soviet~~ directives and <sup>special</sup> concern of The Soviet Union.)

2. Conditions of Various Installations

a. Main Buildings of Stations

New postwar additions to main buildings of large principal stations are noticeable.

b. Locomotives

Enginouses are found in almost all the 151 stations for express passenger trains. Many of the large stations have more than three enginouses. Locomotives needing repairs found near enginouses number about 20 at the most. This seems smaller than prewar number.

(Note: Some small stations have a number of enginouses. For example, Magdagachi (Soviet Far East) has <sup>three to four</sup> ~~three to four~~ enginouses, has three to four Barabinsk (Siberia), and Kungur (Ural) has four to five enginouses.

c. Watering and Coaling Facilities

The number of watering and coaling facilities correspond to number of enginouses. There has been no change in the type of water towers. Since some of the <sup>water supply</sup> ~~feeding~~ engines have antennas, it is positive that they are directed by radio (mostly in large stations).

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There is nothing special to mention about coal yards.

d. Signal Installations in Station Yards  
in station yards

Signal installations/are as mentioned in the paragraph on signal installations.

e. Number and Length of Sidings

The number of sidings vary with ~~stations~~ location, but large stations generally have over 10 sidings. Some small, rural stations have the same number; for example, Ksen'yevskaya with 13 and Magdagachi with eight <sup>sidings</sup> ~~lines~~. Details on the length of the sidings are unknown, but important stations have over 2,000 meters of sidings.

f. Night Illumination (Illumination of station yards, not interiors of buildings)

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Generally speaking, night illumination <sup>of station yards</sup> ~~is superior~~

Floodlights are installed on top of angle type poles placed in various parts of the station yard. The poles are higher and lights are brighter due probably to the long nights in Siberia, as well as to emphasis <sup>placed</sup> on guarding at night.

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g. Freight Stations and Loading and Unloading Installations

Passenger station and freight station are separated by several kilometers in large stations, such as Khabarovsk, Chita, Irkutsk, Krasnoyarsk, and Novosibirsk. Automobiles with cranes (normal capacity 15 tons) are widely used in the loading and unloading of freight, particularly in the numerous lumber yards along the railroad.

h. <sup>Spur</sup> ~~Shunting~~ Tracks

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57

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Spur  
~~Shunting~~ tracks appear to be laid generously wherever  
needed.

i. Storage Facilities (Warehouses, oil storages depots)

Warehouses belonging to stations are made mostly of wood.



Many of the oil storages near stations have oil pipes leading from  
the stations.  the <sup>50X1-HUM</sup>~~car~~  
storage installation near Ulan Ude was a large-scale one with spur  
tracks.

j. Platforms

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in Soviet stations, the platforms are of the same height as the tracks.

The platform of the Yaroslavl Station in Moscow   
 were platform <sup>made of</sup> of planks. ~~(wood)~~ <sup>50X1-HUM</sup>  
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(Note: On Soviet railroad, doors to outside on passenger  
cars  
doors are locked when the train is in motion. There is <sup>of</sup> step about  
2 feet high at the door, which the passengers use to go in and out of  
the <sup>car</sup> train.)

E. Guarding of Railroad Installations

Guards always are stationed at important station installations,  
tunnels, bridges, etc. throughout the entire Trans-Siberian Railroad  
as in prewar days. Armed guards standing watch day and night at both ends  
of bridges present a sight peculiarly Soviet. Since these guards  
are not <sup>limited</sup> ~~stationed only~~ <sup>to</sup> in border areas, the number of guards required  
is estimated to be considerably larger.



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1. Guarding Situation

a. Guarding of Steel Bridges and Tunnels

Regardless of border area or interior, important bridges and tunnels along the ~~most~~ entire length of the Railroad are guarded. There is, of course, a difference in the strength of guards between border areas and the interior, and also, simple installations are not guarded.


b. Guarding of Stations


Soldiers armed with ~~xxxxxx~~ bayonets were on guard at the Perm<sup>2</sup> Station II. All important installations of stations were guarded in this manner.

(Note: This <sup>situation</sup> was not limited to railroads. Other installations also were guarded.)

2. Strength of Guards

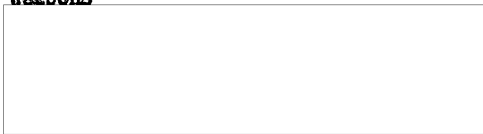
a. Strength of Guards in One Place

Taking ~~steel~~ <sup>to railway</sup> bridge guards as an example, the strength of guards, judging from the barracks for the guards and guards on duty, can be estimated to be from a squad to a maximum of <sup>company</sup> 50X1-HUM ~~Some~~ <sup>Railway</sup> bridges were guarded by single sentry 

 Guarding of the bridge varied, of course, with the <sup>s</sup> 50X1-HUM of the bridge. Some had guards on both ends, while others had a guard on one ~~end~~ <sup>only</sup>.

Antiaircraft and radar units are stationed near the Amur Bridge in Khabarovsk, but this must be an exception.

b. Weapons



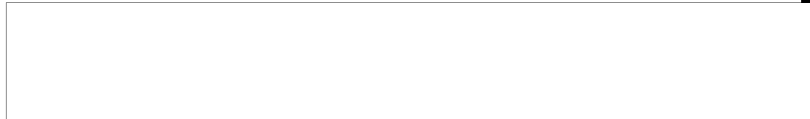
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60

61

50X1-HUM



Guards carry automatic rifles or ordinary rifles. Large bridges are equipped with floodlights for night illumination.

c. Uniforms of the Guards

In addition to railway guards, ordinary persons (in civilian clothes) are assigned to guarding the railroad installations. The hat band of the railway guard (in uniform) was green (same as that of the border guards.) The railway guards, from the nature of their duty, probably belong to the border guards.

d. Decrease in Strength Since War

Judging from the empty guards' barracks scattered here and there in the case of railway guards, the total strength of guards definitely is smaller than prewar strength.

Railroad

F. New and Additional Installations and Additions

(Note: This section concerns construction on the trunk line of the Trans-Siberian Railroad, but excludes <sup>track</sup> maintenance work

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and the branch railroad <sup>presently</sup>

The following construction work is/in progress along the Trans-Siberian Railroad. (In the ~~Soviet~~ Far East region, east of Chita, some sections were passed through during the night both ways.

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Conditions in such sections are unknown.)

1. Double-tracking work (from single track to double track)
2. Electrification work (construction of substations, transmission line, overhead wire, etc)
3. ~~Three-track line and four-track line~~ Triple-tracking and Quadruple-tracking work (in parts)
4. Construction and extension of sidings in stations

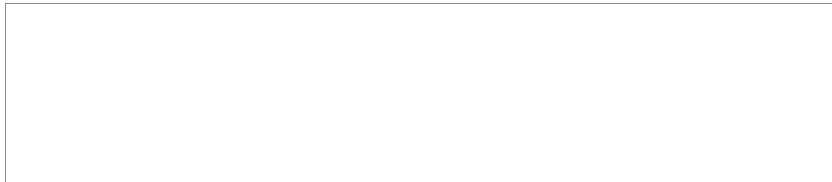
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63

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5. New construction <sup>of</sup> or repair work on bridges

6. New construction of and addition to stations and attached installations

Among these construction work, double tracking and electrification were the largest-scale projects. Work to make signal installations automatic was not seen.

Construction work in the various regions are described below:

1. ~~Soviet~~ Far East and the Zabaykal Regions (East of Lake Bgykal)

No unusual construction work was seen other than bridge repair work in Primorskiy Kray and near <sup>K</sup>Buybyshev in the Soviet Far East and at Ksen'yevskaya in the Zabaykal region.

b. Siberia Region (Vicinity of Irkutsk to Sverdlovsk)

A section between Slyudyanka and Irkutsk -- A section near Slyudyanka is being triple-tracked. The entire section probably will become triple-tracked in the not too distant future.

Vicinity of Tayshet -- Road <sup>bed</sup> work is in progress in one section.

East of Novosibirsk -- Electrification work is in progress eastward from Novosibirsk. This must be a part of the plan to electrify the section from Novosibirsk to Irkutsk.

West of Omsk to Sverdlovsk -- This section is scheduled for strengthening work (double tracking and electrification) during parts the Sixth Five-Year Plan. Single-track ~~sections~~ still remain here and there in the section.



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c. Ural and European Russia Regions

Vicinity of Kirov -- Electrification work is in progress to about 60 kilometers east of Kirov.

North of Moscow -- Vicinity of Moscow is electrified. Work is in progress to extend electrified line north of Moscow.

G. Other Data

1. Number of Tunnels (including river-bed tunnels)

Throughout the entire Trans-Siberian Railroad, the number of tunnels is very small in comparison with the large number of bridges. Along the shore of Lake Baykal (Slyudyanka to Baykal), there were about 30 tunnels, but this route is not used at present [in the travel to Moscow].

Tunnels are comparatively ~~more~~ numerous in the ~~Soviet~~ Far East region, east of Lake Baykal, and are found as follows:

Vicinity of  
(hsiao-hsing-an-ling (Bira to Arkhara) -- 7

Shilka River basin (near Mogocha, Ksen'yevskaya) -- 3

Vicinity of Lake Baykal (Slyudyanka to Irkutsk) -- 3

The only river-bed tunnel of the Trans-Siberian Railroad, located on the northside of the Amur Railway Bridge at Khabarovsk, is not normally in use. It is a known fact that this tunnel was opened before the war.

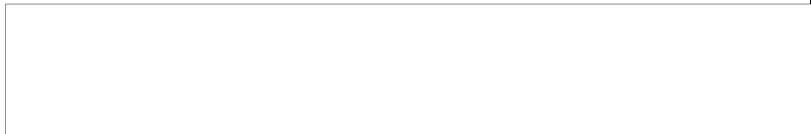
2. Railway Bridges

notable feature

A characteristic of Soviet railway bridges is the distance between the railway bridges for up-trains and down-trains. The distance

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ranges from several ten meters to several hundred meters. The Zeya bridges on the ~~ix~~ eastside of Svobodnyy are nearly ~~100~~ 1,000 meters apart. This situation is found/only in the border areas but also deep in the interior, due, undoubtably, to wartime precautionary measure.

3. Railroad Communications Line

There are several railroad communication lines along both sides of the track (two to three ~~telephone~~ poles on one side). Majority of the poles are of wood, and concrete poles are hardly seen. Lower part of wooden poles are reinforced by cut ends of rails.

(Note: Concrete poles are found among the poles for electrified lines near Moscow.)

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The distance between poles ~~xxx~~ is about 50 meters

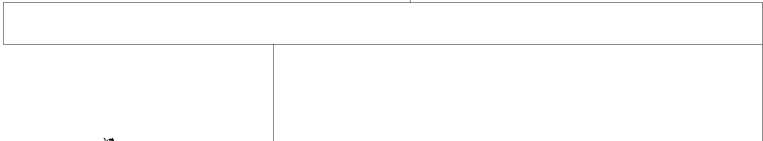


Aluminum wire is used widely as electric wire; majority is bare wire. There is hardly any slack in electric wire, due probably to the short distance between poles.

The number of communication wire <sup>greatly</sup> varies with districts. A noticeable thing in the ~~Soviet~~ Far East region east of Zabaykal is ~~that~~ the great increase in the number of communication wires in the section west of Karynskaya, a junction station for the Manchouli branch line.

4. "Tsuppana" <sup>(phonetic)</sup> ~~Type~~ Classification Yard

As an effective method to make up freight cars, the US has been using for many years the "Tsuppana" type of <sup>classification yard</sup> ~~switchyard~~



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III. ~~SUMMARY OF~~ BRANCH LINES

As already known, the Trans-Siberian Railroad has numerous branch lines. In the region east of Chita alone, the important branch lines number about 20. Well-known branch lines will be excluded and only the important newly constructed branch lines or those under construction will be discussed in this chapter.

1. Nature of Branch Lines

The branch lines discussed here ~~are~~ <sup>are of</sup> the following nature:

- a. Scheduled for construction during the Sixth Five-Year Plan
- b. Branch line forming a part of the ~~Sino-Soviet~~ <sup>USSR-China</sup> connecting railroad
- c. Branch line under secret construction (unannounced)
- d. Branch line, the existence of which was already known, but in which some <sup>of its</sup> (unknown) points were clarified during the trip

2. Conditions of the Various Branch Lines (in order from the ~~Soviet~~ Far East)

- a. Bol'shoy Never - Chulman Line (Projected line)  
special  
No ~~secret~~ activities were seen near the junction point.
- b. Vicinity of Ksen'yevskaya

There is a suspicion that a new branch line (double track) <sup>located</sup> exists on the west side of Ksen'yevskaya in the Shilka Basin in the Zabaykal region.

c. Manchouli Branch Line

The Manchouli Branch Line which branches cut from ~~the~~ <sup>Sino USSR-China</sup> Karymskaya forms a part of the ~~Sino-Soviet~~ connecting railroad

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(via Martino) it is still a single-track line.

d. Naushki Branch Line

The Naushki Branch Line, which branches out from Ulan Ude forms a part of the ~~Sino-Soviet~~ <sup>USSR-China</sup> connecting railroad (via Ulan Bator). It is still definitely a single-track line.

e. BAM Railroad

The BAM Railroad is a single-track line according to observations near Tayshet, the junction station.

f. Achinsk-Abrakovo <sup>Абраков</sup> Line (Scheduled for construction during the Sixth Five-Year Plan)

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near Achinsk, the laying of the single track was already completed. Conditions in the interior, however, is unknown.

g. <sup>Electrified Line</sup> ~~Electrification~~ of Area South of Novosibirsk

An electrified double-track line branches off from the west side of the Novosibirsk Station (right bank of the Ob' River), but ~~its destination~~ <sup>it is</sup> not known whether ~~it is~~ <sup>its destination</sup> Stalinsk (an industrial center in the Kuzbas) or whether it is the Turksib Railroad going toward Alma Ata.

(Note: As already known, the Novosibirsk-Stalinsk sections has been electrified for many years.)

h. Omsk-Barnaul Line (Scheduled for construction during the Sixth Five-Year Plan)

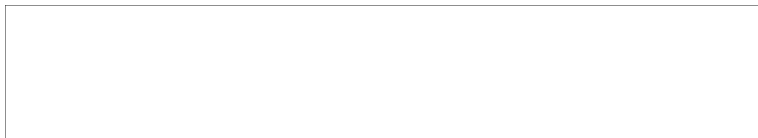
A new electrified, double-track line was seen branching off toward southeast from the east side of the Omsk Station. This



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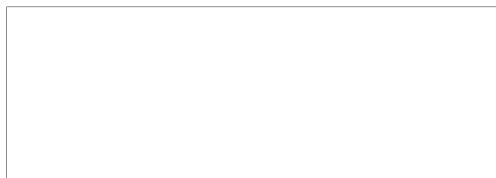


probably is the projected line. A freight train already was in operation of this line.

(Note: This line may be siding for the Omsk Station or a part of a loop line, but ~~the~~ judging from its location, there is a strong possibility that it is the <sup>newly constructed</sup> projected line.)

i. Branch Line Near Perm'

An electrified, double-track line branches off southward from the west side of the Perm' Station II (on the west bank of the Kama River), but its destination is unknown.



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IV. ROLLING STOCK

The present status of the Trans-Siberian Railroad, viewed in terms of rolling stock (locomotives and freight and passenger cars,) is as follows:

1. Priority Handling of Freight on Soviet Railroads

Now, as in the past, there is very little change in the freight-first policy. The ratio of movements in passenger cars and freight trains is probably one to 4-8. Needless to say, the difference in the number of passenger cars and freight cars is great.

2. Locomotives, Especially Electric and Diesel Locomotives.

Of the approximately 30 types of locomotives observed, the majority were steam-powered, including a large number of out-dated models.

Although the Sixth Five-Year Plan calls for an increase in the production of electric and diesel locomotives, no indications of increased production are noted at the present time. For example, although many electric locomotives were observed in the electrified sections, steam locomotives were also being utilized. Diesel locomotives were practically nonexistent.

3. Automatic Couplers for Freight Cars

Practically all the freight cars as well as the passenger cars, were equipped with automatic couplers.

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[REDACTED]

4. **Freight Car Dwellings and Laborers**

Groups of freight cars converted into portable dwellings were observed in various places along the railroad track. Some of the larger groups formed themselves into villages composed of 200-300 freight cars atop railroad sidings. The inhabitants of these villages were laborers with their families or labor units engaged in railroad construction or economic development.

The total number of freight car dwellings that exist along the Trans-Siberian Railroad are undoubtedly large. It is also a natural assumption that a large proportion of these dwellings are located in the Siberian region.

A. Locomotives

Approximately 30 types of locomotives were [REDACTED] along the Trans-Siberian Railroad. [REDACTED] steam locomotives predominate followed by electric locomotives. The number of diesel locomotives in operation are so slight that they can be said to be practically non-existent.

A number of foreign-make locomotives [REDACTED] were borrowed or confiscated from abroad by the Soviets during and after the war [REDACTED]

[REDACTED]

An inspection of the rails suggests the possible Soviet intention of operating the FD Class heavyweight locomotives in the Far East region but they have not been [REDACTED] in that region to date.

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### 1. Types of Locomotives

The majority of locomotives were steam locomotives, including a large number of Model E (various types), Model L, Model O, and Model Su, and Model FD. Practically all of the electric locomotives were Model <sup>VL</sup> ~~VL~~ 22. From the fact that steam locomotives were being operated in one segment of the electrified sections, it can be surmised that manufacture of electric and diesel locomotives is not progressing according to schedule.

Diesel locomotives were practically nonexistent

(Note: The Sixth Five-Year Plan calls for the production of 2,000 electric locomotives and 2,250 diesel locomotives.)

### 2. Sectors Utilizing Steam Locomotives

a. The Model E and Model Su are plentiful in the Far East region east of Ulan Ude (Zabaykal region). The LV, L, and O Models are conspicuous in the Siberia and European Russia regions west of Tayshet. As noted above, the types of locomotives in use differ east and west of the general vicinity of Lake Baikal, but there is no clearly defined demarcation line.

b. The FD Model is used in the region westward from east of Novosibirsk (vicinity of Yurga and Bolotnaya). This model is not seen in the Far East region at the present time.

### 3. Other Reference Notes

a. The water supply engines within the stations are equipped with wireless equipment (radio control of locomotive).

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b. The sound of the warning whistle on electric locomotives are similar to those of [redacted] electric locomotives. Similar sounds are produced by the newer model steam locomotives. [redacted]

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c. The number of locomotives undergoing repairs in the vicinity of the various station enginehouses are less than the amount prior to the war (Explained in the chapter on enginehouses.)

d. Steam locomotive engineers in the Soviet Union are undergoing education (training) on electric locomotives (Source: statement by a Soviet.)

e. The movement of lone locomotives is very scarce.

B. Freight and Passenger Cars

The first general impression that one receives about the freight and passenger cars on the Trans-Siberian Railroad is the overwhelmingly larger number of freight cars over passengers<sup>cars</sup>, and the relative importance of railroad transportation over motor or air transportation.

1. General Information on Freight Cars

a. The types of freight cars seen most frequently were boxcars and gondola cars, followed by tank cars and refrigerated cars. A comparatively large number of damp-proof (drying car) cars were also observed. One train of windowless steel cars was observed but its purpose is unknown




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b. The majority of the freight cars were 40-60 ton heavy duty cars (containing 4 axles). The old 20-ton variety were practically nonexistent.

c. Practically all of the freight and passenger cars were equipped with automatic couplings.

(Note: All of the cars were said to be equipped with automatic couplings 

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2. Passenger and Freight Trains


a. Freight trains consist of 50-60 cars, passenger trains 10-12 or 13 cars. The <sup>weight</sup> traction-lead of one train of freight cars is estimated to be 2,500-3,000 tons.

b. Freight trains being pulled by two locomotives is a common occurrence, especially in the Siberia region.

3. Special Trains

Work trains for railroad construction and track-laying trains can be seen here and there, but are few in number.

C. Freight Car Dwellings

Freight car dwellings represent one of the sights  along the Trans-Siberian Railroad. The information on these dwellings, is as follows:

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1. Types of Freight Cars Used

The freight cars used for dwellings are 18 or 20-ton (old style, two axle) cars. Each car accommodates one to two families.

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## 2. Freight Car Village

The sizes of these freight car groups range from small units composed of several cars to huge freight car villages composed of 200-300 cars. Since these cars rest atop railroad sidings, it is possible to transport them to any site along the railroad by hitching them to a locomotive.

## 3. Residents and Their Occupations

The residents of these freight car dwellings are generally members of the labor force (and their families) engaged in the construction and development of the railroads etc. These laborers are found mostly in the Siberia region.

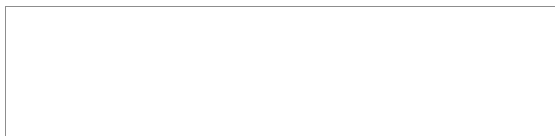
Although these freight car dwellings were in existence before the war, their use seems to have increased tremendously due to the current drive to develop the Siberia region. The mobility and simplicity of these dwellings are, without a doubt, most suitable for construction work in this type of region.

## V. GENERAL INFORMATION ON TRANSPORT

The principal items concerning traffic along the Trans-Siberian Railroad are as follows:

### 1. Minimum and Maximum Movement (daily) of Trains By Sectors

Maximum: Approximately 100 plus trains (Siberian region - between Novosibirsk and Omsk).



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Minimum: Approximately 20-25 (Far East Region).

(Note: The above figures are approximate counts of trains traveling in one direction. Consequently, they should only be handled as reference figures.)

2. Principal Commodities Being Transported (excluding commodities being transported in boxcars)

Coal, lumber, petroleum\* trucks\* and agricultural machinery\*

(Note: The commodities followed by asterisks indicate the east-bound freight. Accordingly, the west-bound freight is primarily coal and lumber.

3. Special Transport

Special transport was generally light.

Military Transport:

Troop transport - Light (eastbound).

Military personnel transport - None observed.

Arms transport - Some (more eastbound traffic in tanks and guns).

Labor Force transport (group movement)

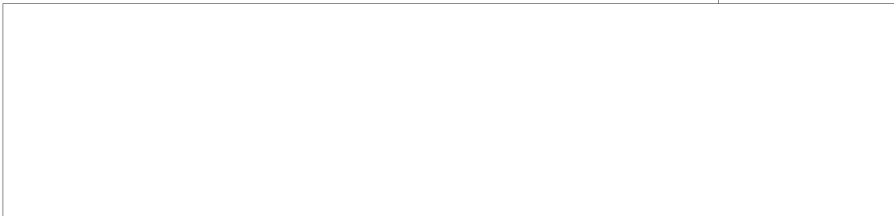
Transport of migratory group - light

Transport of <sup>members of</sup> Komsomol: - Light.

Transport of freight-car dwellings - Light.

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Transport of prisoners or forced migration - None





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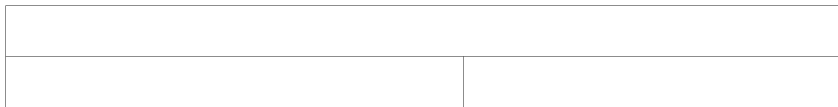
A. Freight Transport

1. General Information on Movement of Freight Cars

A wide variance exists in the frequency of freight car movements in the various regions, but the general situation in the principal sectors of Siberia and the Far East is as follows:

a. Between Novosibirsk and Omsk (Maximum)

This is the most congested sector of the entire Trans-Siberian Railroad in terms of freight car movements (The daily traffic in freight trains is estimated to be over 100 trains).



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b. Novosibirsk - Krasnoyarsk - Irkutsk

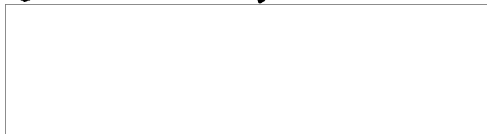
This is the next most congested sector along the Trans-Siberian Railroad. The traffic drops slightly, however, in the sector east of Tayshet (Tayshet - Irkutsk) as compared to the traffic west of Tayshet.

c. The Far East Region East of the Lake Baykal Area

The traffic in this region is extremely light - estimated to be approximately 20 percent of the traffic between Novosibirsk and Omsk.

2. Types of Freight and Transport Conditions

a. The commodities that were openly noticeable along the Trans-Siberian Railroad were coal, lumber (rough timber), petroleum, trucks, and agricultural machinery.



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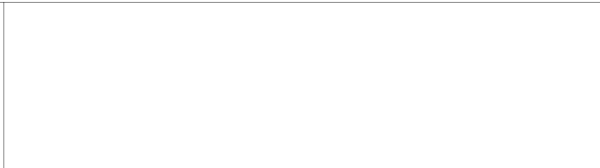
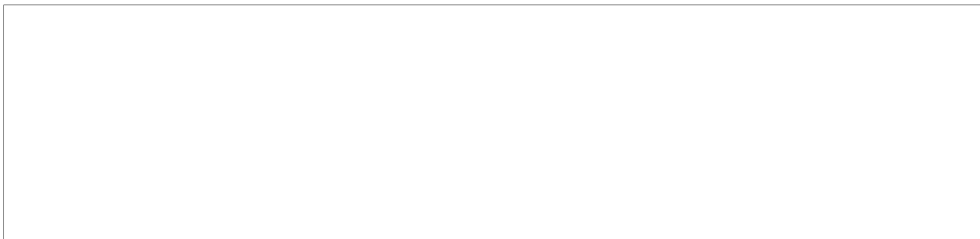


(Notes: The above commodities were identified because they were being transported in gondola and tank cars. The commodities transported in boxcars are not included because they were unidentifiable. A large proportion of the freight cars were boxcars. The movement in refrigerated cars was also quite heavy. Needless to say, the types of freight varied with the sectors.)

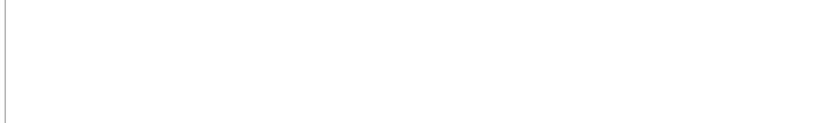
b. Westbound and Eastbound Freight

The principal westbound (toward Moscow) commodities were coal and lumber (mostly logs, small volume of boards). Other commodities observed were metal ingots (unprocessed), trucks, crates, vehicles (transport vehicles), scrap iron, boats, iron pipes, and ores.

The principal eastbound (toward Vladivostok) commodities were petroleum, trucks and agricultural machinery. Other commodities  were boats, machines (motors, machine tools, etc.), industrial <sup>50X1-HUM</sup> and construction materials (sheet iron, other iron materials, variety of pipes, fire bricks, etc.) and motorcycles. <sup>50X1-HUM</sup>



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1. Summary on Military Transport

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number of military trains observed was very few—approximately 20 trains (rate of one per day). These trains contained mainly guns and tanks. Troops movements on these trains were so light that they were practically nonexistent.

2. Group Transport of Labor Forces <sup>Members of</sup> (Komsomols and migratory groups)

A mere several trainloads of <sup>members of</sup> Komsomols and migratory groups were observed along the entire length of the Trans-Siberian Railroad. A small number of trains of freight car dwellings were also observed. No rail transport of forced migratory groups or prisoners was seen.

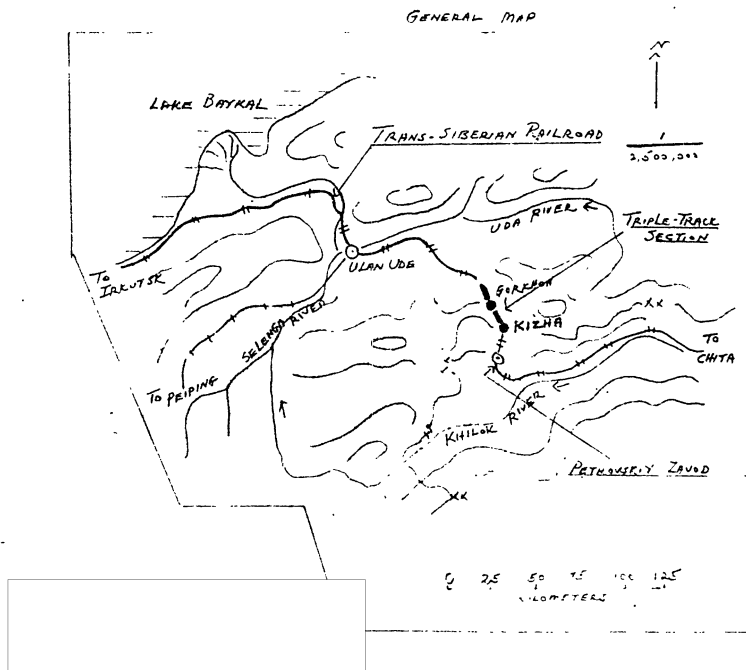


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FIG. 1. TRIPLE TRACK SECTION IN THE VICINITY OF KIZHA-GORKHON  
AS OF SUMMER 1957

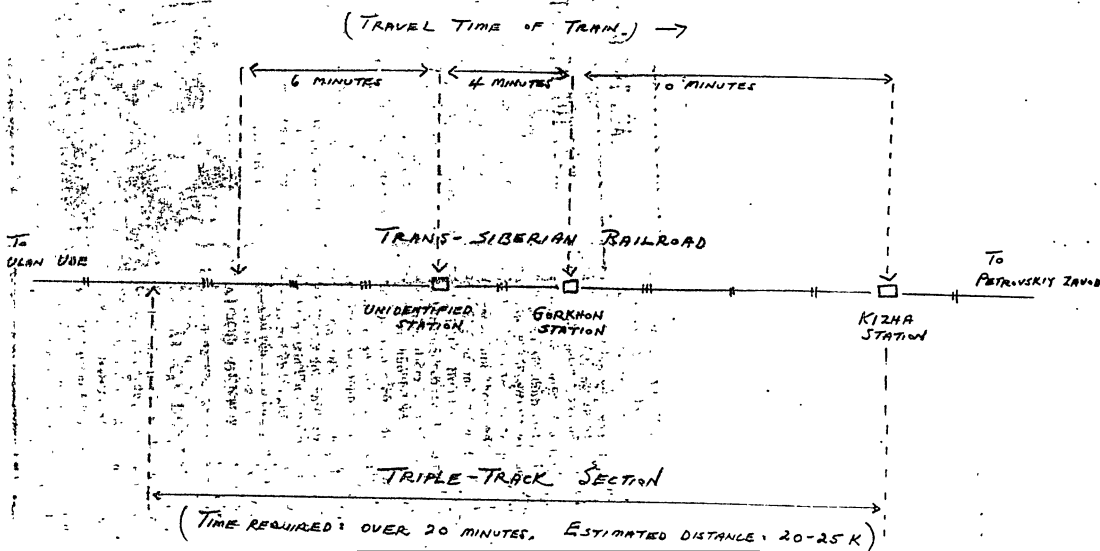


50X1-HUM

POOR ORIGINAL

50X1-HUM

FIG 1. (CONTINUED)

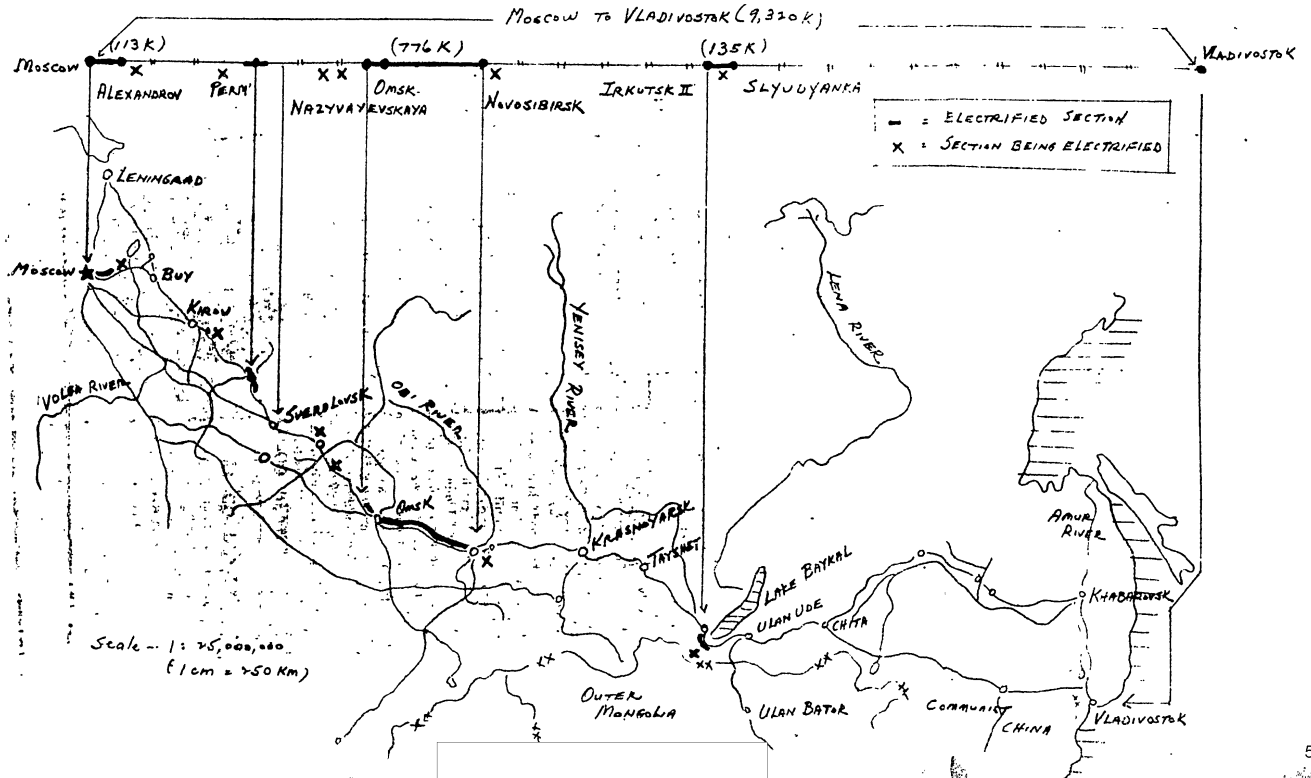


50X1-HUM

POOR ORIGINAL

FIG. 2 ELECTRIFIED SECTIONS ON THE TRANS-SIBIRIAN RAILROAD  
AS OF SUMMER 1957

50X1-HUM

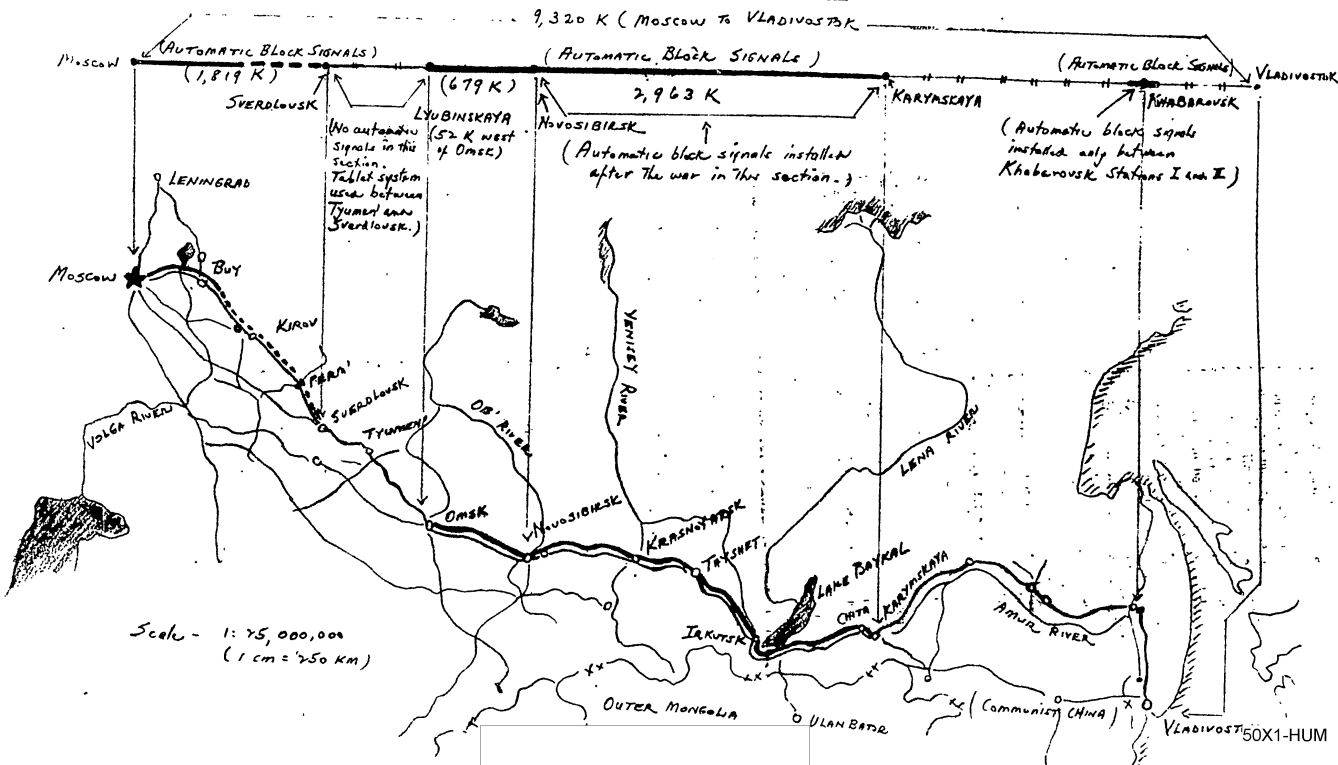


50X1-HUM

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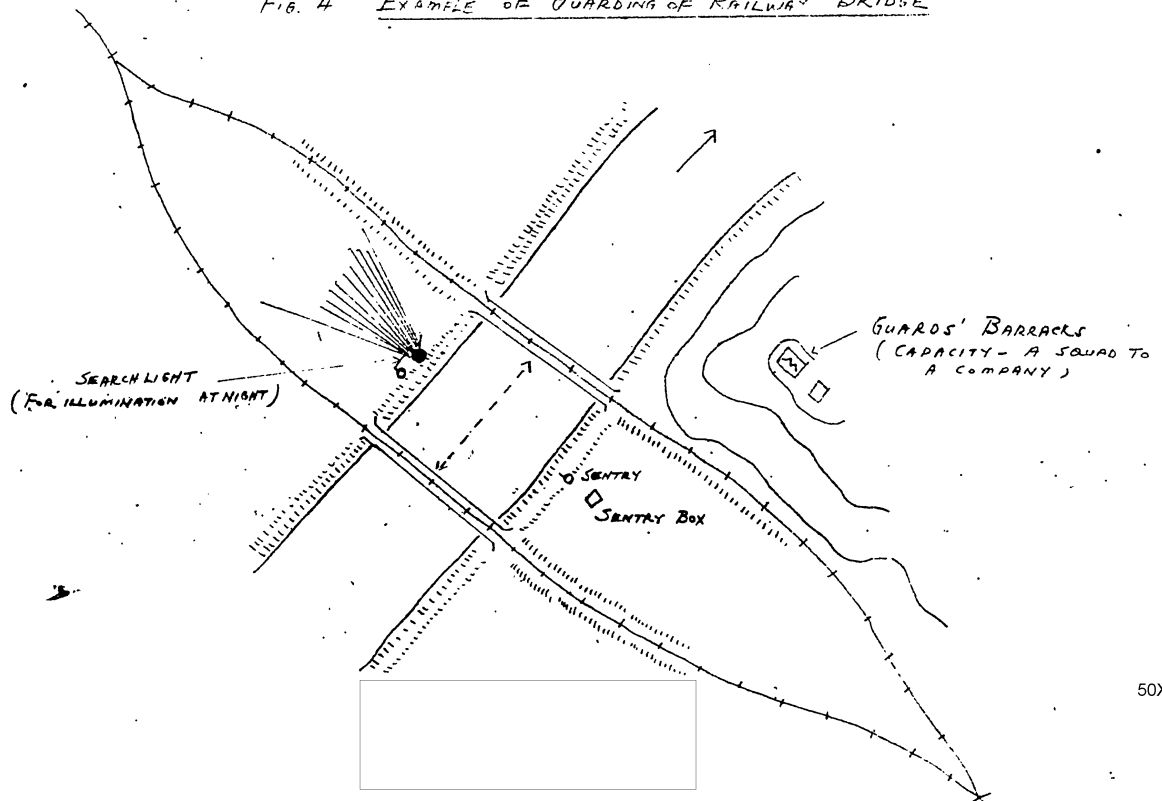
FIG. 3. SECTIONS OF THE TRANS-SIBERIAN RAILROAD WITH AUTOMATIC BLOCK SIGNALS  
AS OF SUMMER 1957



POOR ORIGINAL

50X1-HUM

FIG. 4 EXAMPLE OF GUARDING OF RAILWAY BRIDGE



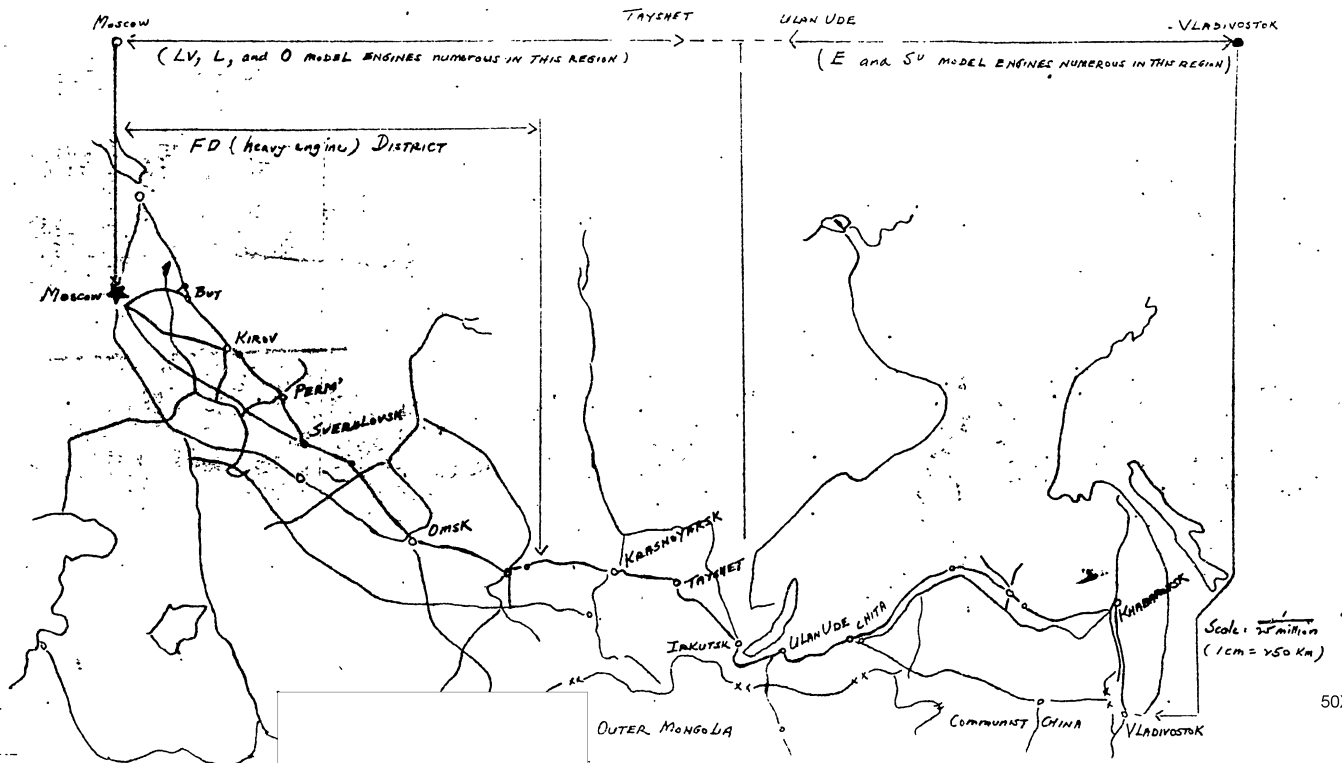
50X1-HUM



POOR ORIGINAL

50X1-HUM  
50X1-HUM

FIG. 5 MOVEMENT OF VARIOUS TYPES OF STEAM ENGINES ON THE TRANS-SIBERIAN RAILROAD  
AS OF SUMMER 1957



50X1-HUM

50X1-HUM

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