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SECURITY INFORMATION
CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT NO.

CD NO.

COUNTRY	USSR (Caucasus and Transcaspian Areas)	DATE DISTR.	11 March 1952
SUBJECT	Soviet Locomotives	NO. OF PAGES	2
PLACE ACQUIRED	25X1A	NO. OF ENCLS. (LISTED BELOW)	4 (1 map)
DATE OF INFO.		SUPPLEMENT TO REPORT NO.	25X1X

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Oil-burning steam locomotives are being used in the following regions of the Soviet Union:

1. Caucasus region.

a. The railroad lines east of the boundary shown on the attached map (Annex 1) are operated by oil-burning locomotives except the sections marked "electrified," which are operated by electric locomotives.

b. The following types of locomotives are in use:

Freight train locomotives:

FD (Felix Dzerzhinski), 1934 model
SOK (Sergo Ordzhonikidze, Kondensator), 1935 model
E (a US type, also called Dekapod), 1912 model (the 1934 model is a modernized version of this type)
OV (Osnovnaya, an old type), 1900 model;

Passenger train locomotives

SU (Sokorava Usilennaya), 1912 model, modernized in 1934
JS (Josef Stalin), 1934 model

For technical data on the various locomotives, see Annex 2

The oil-burning versions of the types mentioned are fitted with Brandt, Tvardovski or Baldwin type nozzles. The locomotive servicing stations have fuel pump installations.

2. Ashkhabad railroad district.

a. Seventy percent of the steam locomotives in this district burn coal and thirty percent petroleum (Mazut). The Ashkhabad- Krasnovodsk section, which crossed arid country, is operated by Diesel locomotives.

b. These railroad lines are entered on Annex 3.

25X1A c. Types of locomotives in use:

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Freight train locomotives

Types SnCh, SnCh^P, and OV

Passenger train locomotives

Types [illegible] and KV

For technical data on these locomotives, see Annex 4.

d. The central engine repair shop is in Kizyl Arvat.

e. The Ashkhabad, Kagan, Chardzhui, Merv, Kizyl Arvat, Karshi and Krasnovodsk locomotives servicing stations have special fuel pump installations for oil-burning locomotives.

f. The steam locomotives used in this area are gradually being replaced by Diesel locomotives, because they are more economical to operate and need less water.

3. Steam locomotives in the Baltic States and in the Leningrad area also use shale. No details available.

4. In areas having natural gas, locomotives use natural gas with an admixture of 10 to 15 percent coal dust. Details are not available. This type of fuel does not seem to have proven very satisfactory.

4 Annexes: 1 - RR Net of the Caucasus Railroad District

2 - Technical Data on Oil-burning Locomotives Operating in the Caucasus Region

3 - Technical Data on Oil-burning Locomotives Operating in the Ashkhabad Railroad District

4 - RR Net of the Ashkhabad Railway District

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Technical Data on Oil-Burning Locomotives Operating in the Caucasus Region

	Type FD	Type SOK	Type SU	Type JS	Type E
Axle system *	1-5-1	1-5-0	1-3-1	1-4-2	0-5-0
Axle pressure(tons)	20	18-19	16	20	16-17
Service weight (tons)	133	170	86	134	125
Grate area (sq m)	7.04	5	4.73	7.4	4.46
Cylinder bore(mm)	670	650	575	670	650
Speed (km/ph)	85	75	110	130	65
Maximum power output (hp)	3100	1710	1900	3000	1400
Weight of train (grades of up to 5‰) (tons)	2980	2510	650	800	2350
Steam pressure (atmospheres)	15	?	13	15	14

* formula:

1st figure: number of leading running axles
2d figure: number of coupling axles
3d figure: number of trailing running axles

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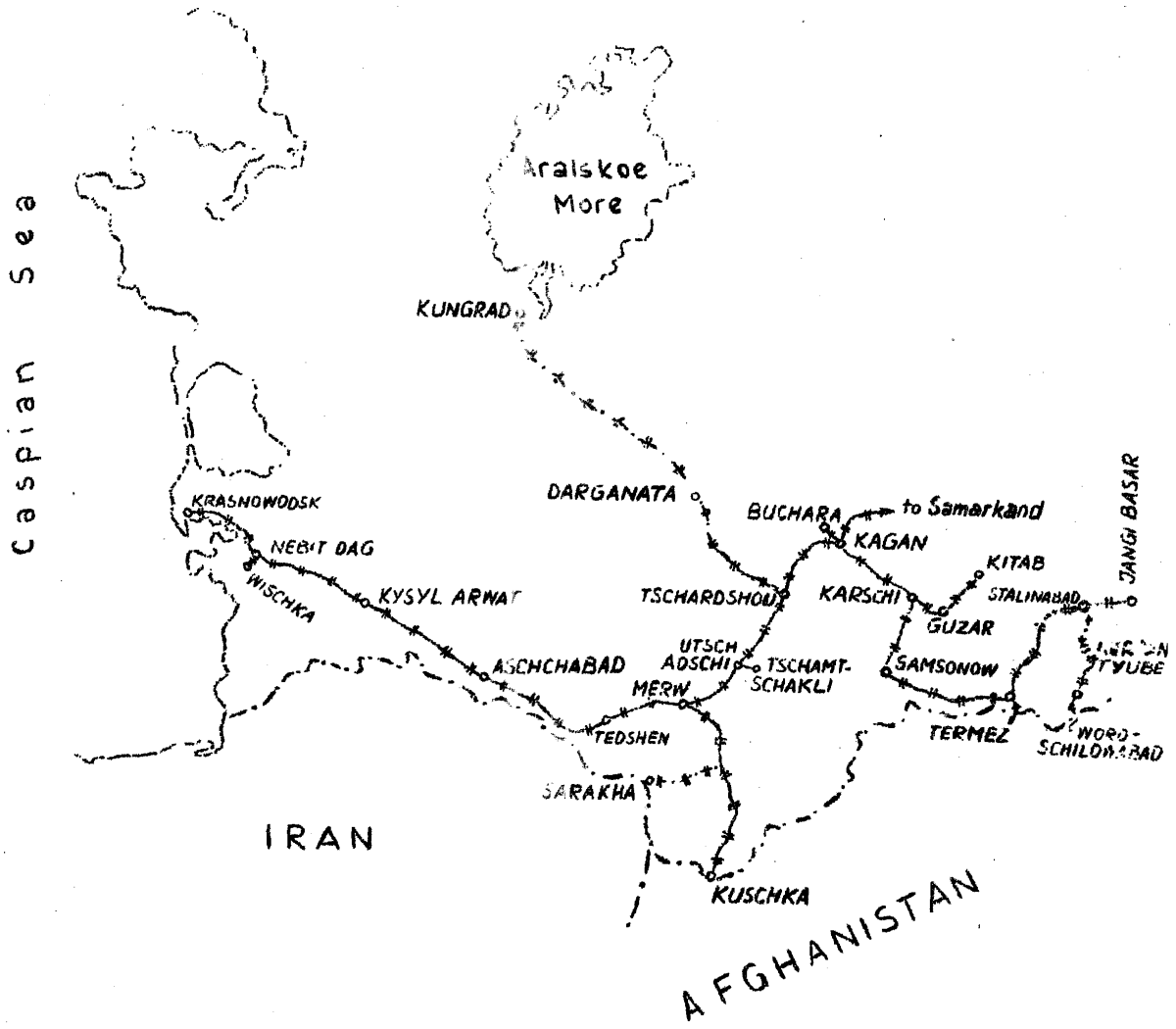
RR Net of the ASCHKHABAD Railway District



Legend:

Soviet gauge - single track

Under construction

Scale about 1: 9,000,000

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1/ Annex 4

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Technical Data on Oil-burning Locomotives Operating in the Ashkhabad Railroad District

1. Freight train locomotives:

Type Shch

Axle system 1-4-0, four-axle tender, axle pressure: 14 tons, steam pressure: 14 atmospheres; a two-cylinder steam locomotive of Compound type, fitted with a Lindnerhahn starting device, Riekur valves, a Syablov moderator, two Friedmann type jet pumps,* Brandt or Ivardovski type jets for oil-burning, 900 tons tractive power for grades of up to 4 per thousand. Maximum speed: 70 km/ph.

Type Shch^{P}

Modernized version of Shch series. Technical properties same as standard Shch type, but with the addition of steam superheater of the Shusov system and a Savod Boreta water warming system. Tractive power and speed same as Shch. Fitted with Brandt, Ivardovski or screw-type jets.

Type OV (Osnovaya)

An obsolescent type developed in 1900. Axle system: 0-4-0, four-axle tender, axle pressure: 12 tons, steam pressure: 14 atmospheres; two-cylinder steam locomotive of Compound system, equipped with the Lindnerhahn starting device; 650 tons tractive power for grades of 4 per thousand. Ivardovski jets.

2. Passenger train locomotives:

Type B (manufactured in the Bryansk Locomotive Plant)

Axle system: 2-3-0, four-axle tender, axle pressure: 14 tons, steam pressure: 14 atmospheres; two-cylinder steam locomotive of Compound type. Type Dultz or Emelyanov starting device. Speed 110 km/ph, fitted with type Brandt or Ivardovski jets.

Type MV (used in the October Railroad District)

Axle system: 1-3-0, four-axle tender, axle pressure: 12 tons, steam pressure: 14 atmospheres; two-cylinder steam engine of Compound type. Fitted with Riekur-type valves or Trofimov slide valves, Duitz and Emelyanov type, or a similar starting device manufactured in Kolomna. Speed: 110 km/ph. Fitted with Ivardovski-type jets.

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RR Net of the Caucasus RR District

Annex I

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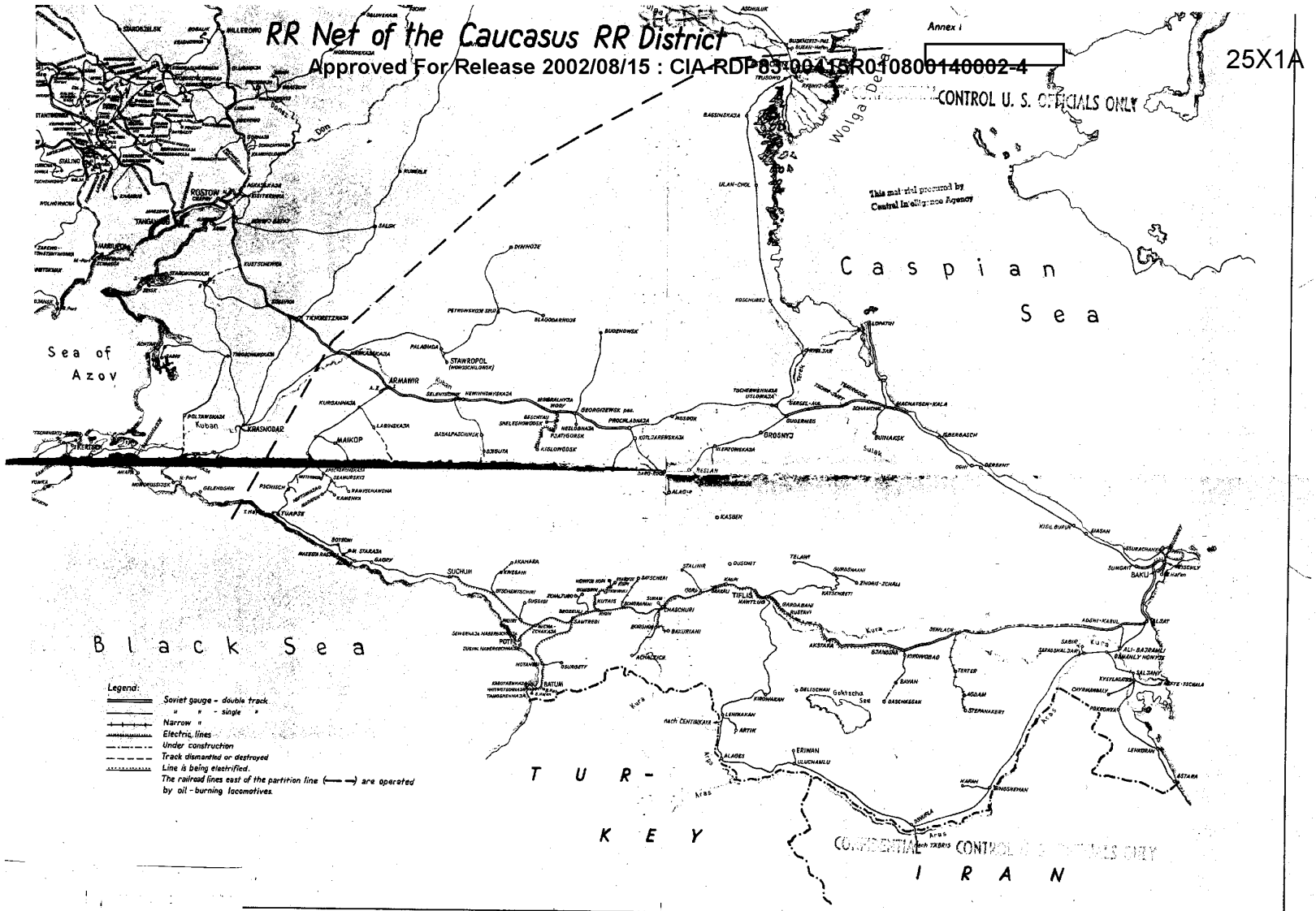

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