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# MAP INTELLIGENCE REVIEW

CIA/RR MR-33S

January 1953



## CENTRAL INTELLIGENCE AGENCY

### OFFICE OF RESEARCH AND REPORTS

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## I. THE TSIMLYANSK RESERVOIR

The Tsimlyansk Reservoir is the largest feature of the newly opened Volga-Don waterway system. The reservoir is significant not only because of the large area it covers but also for its economic and strategic value as a part of the "V.I. Lenin Volga-Don Navigation Canal." Although authoritative maps are not available and there is little documentary data to establish its precise location and areal extent, the reservoir is sufficiently important to merit an analysis at this time to determine its influence upon the local and regional cultural and physical situation and the changes that might result on future maps (see map CIA 12478).

Attempts to create a waterway system such as the Volga-Don date back to the second half of the sixteenth century. In the spring of 1568 a large Turkish force under Sultan Selim II landed in the Crimea and, reinforced by several thousand Crimean Tatars, set out to dig a waterway to the Volga. The Sultan envisioned Astrakhan transformed into a major military base from which he could threaten Russia, Iran, and Afghanistan. Physical adversity and the armies of Ivan the Terrible doomed this scheme.

At the close of the seventeenth century the Volga-Don waterway again loomed as an important national issue. Peter I, seeking to expand trade with the Mediterranean countries, decided to build a shipping canal that would serve as another "window into Europe."

This scheme also failed. Between Peter's time and 1911, many projects for linking the Volga and the Don were planned and investigated.

More recent investigations and surveys of the area between the Don and the Volga resulted in the compilation, between 1925 and 1929, of many detailed plans for a future canal. None of these plans, however, included a dam at Tsimlyansk that would retain sufficient water for so large a reservoir.

The Soviets first showed serious interest in developing the waterway in 1934, and some preliminary preparations were made before World War II. Actual digging did not begin until about 1948, and little information was released until 1950, when the system in its present form began to take shape.

The new reservoir was formed by damming the waters of the Don River at a point near the settlement of Kumshatskaya (47°38'N-42°07'E). (See Figure 1.) Its western end, which abuts against the steep, rocky banks of the Don, can be located within a few hundred meters (about 650 feet) on the Soviet 1:100,000 series (L-38-13). From this point the dam extends in a southeasterly direction for about 13.5 kilometers (8.4 miles) to its eastern terminus. Because of the complexity of the dam structure and the surface configuration, the exact location of the eastern end is difficult to determine.

The prominent concrete overflow dam near the western terminus, adjacent to Kumshatskaya Hill, is about 500 meters (1,640 feet) long

and contains 10 spillway openings (see Figure 2). A hydroelectric power plant is located at the eastern edge of the spillway (see Figure 3). The 12,800 meters (42,000 feet or nearly 8 miles) of the dam that extend beyond the power plant are earth-filled (see Figure 4). At the extreme eastern end is the head installation of the "Main Don Irrigation Canal" (Don Trunk Canal). This installation, the hydroelectric power plant, and the fish ladders that permit movement of fish between the reservoir and the lower Don, cover 200 meters (660 feet). The top of the dam is constructed to accommodate a railroad and highway.

Soviet descriptions of the dam give several more dimensions. The width of the foundation is reported to exceed 300 meters (1,000 feet) in some places. Although figures conflict, it is believed that the dam is 41 meters (135 feet) high. According to other sources, the sides of the dam at the water level are reinforced with concrete 50 centimeters (19.7 inches) thick. At the dam site the sandy bottom was covered with a substantial base of stone into which metal tenons were driven to a depth of 16 to 19 meters (52 to 62 feet) to serve as anchors.

The reservoir extends northeastward from the dam site for approximately 250 kilometers (155 miles). The maximum width is about 30 kilometers (19 miles). The total inundated area is reported by the Soviets to be 2,600 square kilometers (1,000 square miles). The critical factor affecting the present shoreline is the

depth of the water at the dam. Although data on the depth are both meager and conflicting, the shoreline apparently corresponds roughly to the 38-meter (125-foot) contour or, at a maximum, possibly the 40-meter (131-foot) contour. Accurate establishment of the shoreline is further complicated by the fact that the largest-scale maps available are those of the Soviet 1:100,000 series, which have the broad contour interval of 20 meters (65.6 feet). As of last August, the planned water level and the capacity (12,600,000,000 cubic meters or 3,330,000,000,000 gallons) had not been attained. Figures on the depth of water at the dam range from 17 to 26 meters (56 to 85 feet). The minimum depth necessary for operation of the hydroelectric power station is reported to be 9 meters (30 feet) below the maximum water level at the dam.

The Soviets anticipate that the presence of so large a body of water will have an ameliorative effect on the temperature and will increase the humidity enough to produce some changes in the local vegetation. Because of rough water in the reservoir during one-fifth of the navigation season, special craft have been designed, protected ports have been constructed, and over 1,500 special navigation aids are reportedly strung along the length of the reservoir.

To the northeast of the Tsimlyansk Reservoir and separated from it by a small dam is the Karpovka Reservoir, which forms the western extremity of the Volga-Don Canal. This very small reservoir receives water from the Don, the Karpovka River, and some small

tributary streams. The southern navigational exit from the Tsimlyansk Reservoir is a short canal located approximately 2 kilometers (1.2 miles) east of the former bed of the Don River. The canal is reported to be 5.4 kilometers (3.4 miles) long and contains two locks (locks 14 and 15 of the Volga-Don inland waterways system), which permit passage into the lower Don system. (See Figure 5.)

In the northwestern part, the Chir Canal (see inset map) with its water intake from the Tsimlyansk Reservoir extends from the village of Nizhne-Chirskaya to the village of Krasno Bogdanov.

Aside from its prominent role as a part of the Volga-Don waterway and its appearance as a new physical feature of significant areal extent, the Tsimlyansk Reservoir has affected the location of a large number of settlements and several important arteries of transportation. One Soviet source reports that 127 settlements located in Rostov and Stalingrad oblasts had been resettled by March of 1952.

Since the precise shoreline of the reservoir is not yet known, the exact number of settlements formerly within its area cannot be determined. By using the 40-meter contour as the maximum limit of the reservoir, however, the Soviet 1:100,000 map series indicates that about 165 settlements lay within the area. If this figure is accurate, approximately 17,000 households or a total of 73,000 inhabitants have been affected.* (See Appendix I, List of Settlements

* Approximate data as of 1942.

Affected by the Tsimlyansk and Karpovka Reservoirs.) A number of individual structures were moved in toto. A Soviet source reports that over 9,000 detached houses, over 2,000 public collective farm buildings, and 1,200 state buildings had been transferred to new locations by January 1952.

Positive intelligence is available on the location of some of the displaced towns and villages. Verkhne-Kurmoyarskaya (47°52'N-43°00'E) was moved approximately 50 kilometers (31 miles) eastward and merged with the village of Kruglyakov (47°58'N-43°37'E), the new rayon center of Voroshilov Rayon in Stalingrad Oblast. The village of Nizhne-Chirskaya (48°22'N-43°07'E) was relocated at a new site in the same general area but beyond the new water line. The village of Il'yevka (48°39'N-43°37'E) was moved to a new site on the banks of the Karpovka Reservoir and renamed Novaya Il'yevka. The former village of Kumshatskaya, located at the dam site, is now occupied by the new Tsimlyansk Rayon center. Although Kalach (48°42'N-43°30'E) is situated near the critical water mark, it was not moved. Instead, a dike was built to protect it from the waters of the reservoir. The towns of Kalach, Tsimlyansk, and Nizhne-Chirskaya are being developed as main ports on the Tsimlyansk Reservoir. A number of smaller ports are also scheduled for development.

Railroads are the most significant feature in the transportation pattern of the area. To a greater degree than is true of roads, disruption or alteration of the railroads exerts an influence far beyond the immediate area or even the immediate region.

The Sovetskiy (48°39'N-43°45'E)-Surovikino (48°36'N-42°51'E) section of the Stalingrad-Rostov trunk line and its branch line to Kalach, both of which are administered by the Stalingrad Railroad System (System No. 22), passed through now-submerged parts of the Tsimlyansk and Karpovka reservoir areas. These lines ran from Krivomuzginskaya station (near Sovetskiy) to Kalach, and from Sovetskiy to Surovikino via Gorin, Rychkovskiy, Novo-Maksimovskiy, and Bol'shaya Osinovka. No information on the relocation of these lines is available, but sources indicate that the Krivomuzginskaya station, formerly located east of the junction of the Kalach branch line and the trunk line to Rostov, has been moved northward to Marinovka (48°41'N-43°48'E). The new Marinovka station, located between locks 11 and 12 of the Volga-Don Canal, has become an important freight station in the Stalingrad Railroad System.

The Kalach branch line has also been moved. From its present junction with the Rostov trunk line south of the Karpovka Reservoir, it crosses the reservoir northward to Marinovka and then extends along the northern perimeter of the Karpovka Reservoir to Kalach. A rail line of unknown status is reported to run northward from the Kalach-Marinovka sector.

The Rostov trunk line crosses the Volga-Don Canal and extends southwestward along the southern shore of the Karpovka Reservoir. The line then proceeds to Gorin (48°31'N-43°31'E) on the Tsimlyansk Reservoir. At this point the railroad crosses an inlet of the

reservoir by either a bridge or a causeway. Farther to the southwest, in the vicinity of Krasnoarmeyskiy, the line crosses the main body of the Tsimlyansk Reservoir. No information is available as to the type of crossing, but it is believed that the former bridge across the Don River has been sufficiently extended and perhaps elevated to meet the new conditions created by the construction of the reservoir.

The remaining section of the railroad to Surovikino lies within the bounds of the new Tsimlyansk Reservoir and will undoubtedly be affected, particularly in the vicinity of the Liska River, when the reservoir is eventually filled to capacity. No intelligence is available to indicate that the railroad has been moved. Since during spring thaws the original railroad bed was often flooded and sections of the track were washed out owing to insufficient ditching and draining, it is assumed that this section of the line will have to be elevated or relocated.

A narrow-gauge branch extends northward for about 68 miles to Novaya Grigor'yevskaya (49°23'N-43°26'E) from the main line leading to Surovikino. Short spurs from this line extend eastward to Rodionov (49°08'N-43°43'E), westward to Vralev (49°12'N-43°05'E), and northwestward to Ventsy (49°10'N-43°20'E). These spurs were built by the German military forces in September 1942, during the siege of Stalingrad. Although there is evidence that the Russians worked on this line in 1946, its present status is unknown.

Since the Tsimlyansk Reservoir was developed, at least one new branch railroad (also a part of System 22) is known to have been built. The branch extends from Morozovsk (48°22'N-41°50'E) on the Stalingrad-Rostov line to Kuberle (47°00'N-42°12'E) on the Stalingrad-Salsk line, crossing the Don via the Tsimlyansk Dam. Near the eastern terminus of the dam, the Novo-Solenovskaya railroad station of the Morozovsk-Kuberle line has developed into a significant supply depot for the area.

Two new paved roads have been built in proximity to the Tsimlyansk Reservoir and the Volga-Don Canal. One of these crosses the Tsimlyansk Dam, connects with the network of dirt roads east of the reservoir, and extends to the town of Tsimlyansk on the western side of the reservoir; the other, roughly paralleling the Volga-Don Canal, extends from Stalingrad to Kalach.

An extensive irrigation scheme is being planned in conjunction with the development of the waterway system. According to Russian sources, 750,000 hectares (1,843,520 acres) will be irrigated by the Tsimlyansk Reservoir, and an additional 2,000,000 hectares (4,942,000 acres) will receive some water. In Rostov Oblast alone, 600,000 hectares (1,482,600 acres) are scheduled for irrigation, and water will be supplied to an additional 1,000,000 hectares (2,471,000 acres) in the 13 southeastern and eastern rayons, including Semikarakorskiy, Romanovskiy, and Martynovskiy rayons. Prior to irrigation these 13 rayons had only 400,000 hectares (988,400 acres)

of arable land. According to the new scheme, 30,000 hectares (74,130 acres) of kolkhoz land in Romanovskiy Rayon alone will be irrigated.

In Stalingrad Oblast, plans have been made for supplying water to 1,000,000 hectares (2,471,000 acres) of land subject to drought in the southern part of the oblast where wheat and cotton could be grown. The plan further provides for the utilization of several dried-up river beds to supply water, by reversed flow from the Tsimlyansk Reservoir, to smaller reservoirs built at their sources. The Aksay, Myshkova, and other left-bank tributaries of the Don will be similarly used. The water will be pumped by power supplied by the Tsimlyansk Hydroelectric Plant, which will also be used for industrial purposes.

In addition to the irrigation schemes, attempts have been made to increase the number of fish in the rivers and reservoirs. In April 1952, a fish spawning and breeding center was reportedly under construction in Kotel'nikovskiy Rayon of Stalingrad Oblast. The fish hatchery is to include 140 fishponds occupying about 2,000 hectares (4,942 acres). Its primary function will be to stock the Tsimlyansk Reservoir.

The Volga-Don system is strategically significant primarily because it provides through waterway connection from the Baltic and White seas in the north to the Black and Caspian seas in the south, allowing the interchange of smaller types of naval vessels,

particularly submarines, between the Baltic, North, and Black Sea fleets. At present some narrow or shallow parts of the waterway, such as the Mariynsk Canal, limit the size of ships to minesweepers, patrol craft, and small submarines.

There is some speculation to the effect that Soviet interest in building the Tsimlyansk Reservoir and Volga-Don Canal has also taken into account the improvement of land-defense capabilities of the area against any army attempting to repeat the German breakthrough across the Don in the directions of Stalingrad and the North Caucasus. The presence of reservoirs would make possible the flooding of a large area in case of military necessity.

APPENDIX I

List of Settlements Affected by the Tsimlyansk and Karpovka Reservoirs

(Approximate Date of Information, 1942)

| Name of Settlement[1] | Number of Households | Name of Settlement | Number of Households |
|---|---|---|---|
| Aginov* | 60 | Buratskiy | 56 |
| Al'dabul'skiy* | 240 | Bystryanovskiy | 19 |
| Baklanovskaya | 171 | Chausovskiy* | 32 |
| Baklanovskaya* | 73 | Chelbin* | 409 |
| Balabanovskiy* | 410 | Chepurin* | 272 |
| Baski* | 28 | Cherepashiy* | 42 |
| Belyayevskiy | 33 | Cherkasov | - |
| Berestyanka* | 107 | Chervlannyy | 5 |
| Biryuchiy* | 26 | Dal'niye-Chigonaki* | 8 |
| Blizhne-Mel'nichniy | 93 | Demkin* | 173 |
| Blizhnepodgorskiy | 110 | Dobrovol'skiy | 32 |
| Blizhniye-Chigonaki* | 180 | Fevralev* | 29 |
| Blizhniye Sady* | 34 | Filippovskaya* | 38 |
| Boguchary* | 96 | Generalovskiy* | 48 |
| Bol'shaya Osinovka | 78 | Generalovskiy | 178 |
| Bugatovskiy | 16 | Golovskiy | 44 |

1. Settlements that have been eliminated are indicated by one asterisk; settlements that reportedly have been moved are indicated by two asterisks.

| Name of Settlement | Number of Households | Name of Settlement | Number of Households |
|---|---|---|---|
| Golubinskiy | 357 | Kolotovka | 196 |
| Gorodskoy* | 69 | Kolpachki | 120 |
| Il'men'-Chirskiy | 94 | Komarov* | 33 |
| Il'men'-Suvorovskiy | 65 | Kovalev | 25 |
| Il'yevka** | 152 | Kovylevskiy | 160 |
| Kalach[1] | 1,754 | Krasnoarmeyskiy | 22 |
| Kalachevskiy | 55 | Krasnoyarskaya* | 188 |
| Kalachkin | 24 | Krasnyy* | 28 |
| Kalinin | 23 | Krasnyy Don | 31 |
| Kamyshanovskiy | 13 | Krasnyy Yar* | 287 |
| Kandaurov | 62 | Krivskoy | 110 |
| Karnaukhovskaya* | 211 | Krutoy | 120 |
| Kashirkin | 53 | Kulaly* | 138 |
| Kharseyev* | 67 | Kul'pinskiy | 35 |
| Khlebinskiy | 33 | Kumovka | 77 |
| Khoroshevskaya | 195 | Kumshatskaya | 195 |
| Kibirevskiy | 75 | Kustovskiy | - |
| Kireyevskiy* | 81 | Kustovskiy | 40 |
| Kirylnov* | 17 | Kustovskiy | 82 |
| Knyazev | 19 | Lipovskiy | 73 |
| Kolodezny* | 5 | Lisinskiy | 27 |

1. A dike has been constructed around the section of Kalach affected by the Tsimlyansk Reservoir.

| Name of Settlement | Number of Households | Name of Settlement | Number of Households |
|---|---|---|---|
| Log* | 78 | Pchelinskiy | 24 |
| Logovskiy | 216 | Plesovskiy | 15 |
| Luchenskiy | 15 | Podgorenskaya* | 120 |
| Lyapichev | 149 | Podol'khovskiy* | 89 |
| Malaya Luchka | 29 | Podstepnoyy* | 68 |
| Malo-Luchnaya* | 16 | Podtikhov | 37 |
| Markinskaya* | 254 | Popov* | - |
| Molokanov* | 31 | Popov | 122 |
| Nemkovskiy | 81 | Potaynovskiy | 38 |
| Nizhne-Chirskaya** | 2,231 | Potemkinskaya* | 368 |
| Nizhne Ginlovskiy | 43 | Pozdnyakov | 32 |
| Nizhne-Gnutov | - | Pronin | 35 |
| Nizhne-Rubezhnyy* | 80 | Protopopovskiy | 43 |
| Nizhne-Yablochnyy* | 105 | Pyatiizbyanskiy | 111 |
| Nizhniy-Kurman* | 421 | Remizov | 124 |
| Novoaksayskiy | 131 | Romashkinskiy | 117 |
| Novo-Maksimovskiy | 360 | Rubezhnyy | 40 |
| Novo-Tsimlyanskaya | 209 | Ryazankin | - |
| Ol'khovskiy* | 41 | Rychkov | 18 |
| Ostrovskiy | 58 | Rychkovskiy | 150 |
| Ostrovskoy* | 53 | Rynok Solenovskiy | 99 |
| Otshibnoy* | 30 | Sady* | 23 |
| Ovchinnikov | 32 | Safronov* | 49 |

| Name of Settlement | Number of Households | Name of Settlement | Number of Households |
|---|---|---|---|
| Samodurovka | 34 | Tsimlyanskaya | 492 |
| Savinskiy | 21 | Tsygan | 27 |
| Shabalin | 238 | Vatazhnyy* | 38 |
| Smetankin* | 7 | Verbovskiy | 61 |
| Solenovskaya | 240 | Verkhne-Chirskiy* | 147 |
| Sotskov* | 10 | Verkhne Kurmoyarskaya[1] | 665 |
| Sovetskiy** | 308 | Verkhne Rubezhnyy | 143 |
| Sredne-Sadovskiy | 67 | Vertyachiy | 263 |
| Sredniy* | 21 | Veselyy | 44 |
| Stalindorf | 75 | Vodyanovskiy | 19 |
| Staro-Maksimovskiy | 70 | Yepifanov | 94 |
| Staro-Nagavskaya* | 126 | Yeritskiy | - |
| Stepano-Razinskiy* | 120 | Yermokhinskiy | 127 |
| Sulatskiy | 33 | Zapadnovskiy* | 66 |
| Suvorovskiy | 59 | Zatsimlovskiy* | 78 |
| Sviridovskiy | 75 | Zeleny* | 34 |
| Tarasinskiy | 19 | Zhirnyy* | 28 |
| Terekhin | 7 | Zhukovskaya | 153 |
| Ternovskaya* | 295 | Zimovskiy* | 27 |
| Timokhin | 41 | | |

1. Verkhne Kurmoyarskaya has been merged with Kruglyakov (47°58'N-43°37'E).

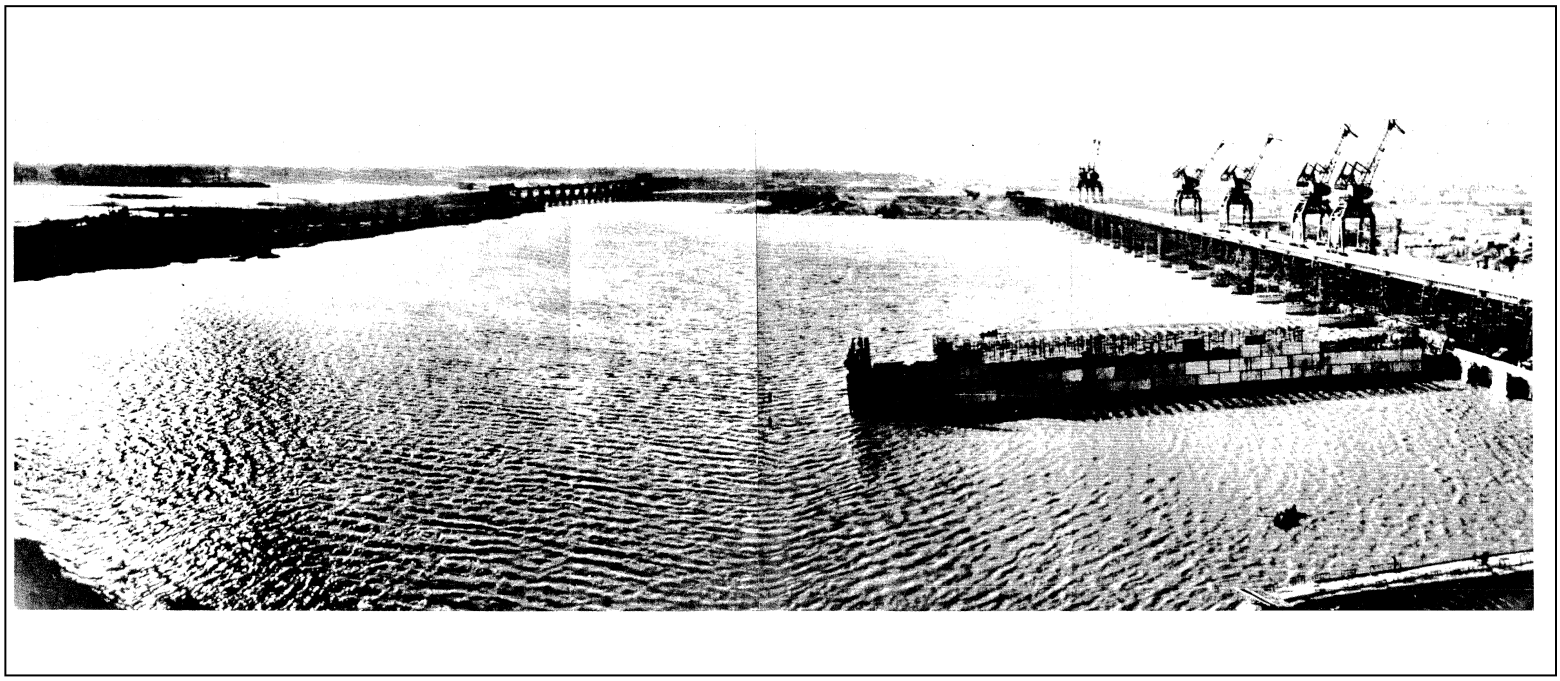

Figure 1. Panoramic view of the Tsimlyansk Dam under construction. 1951.

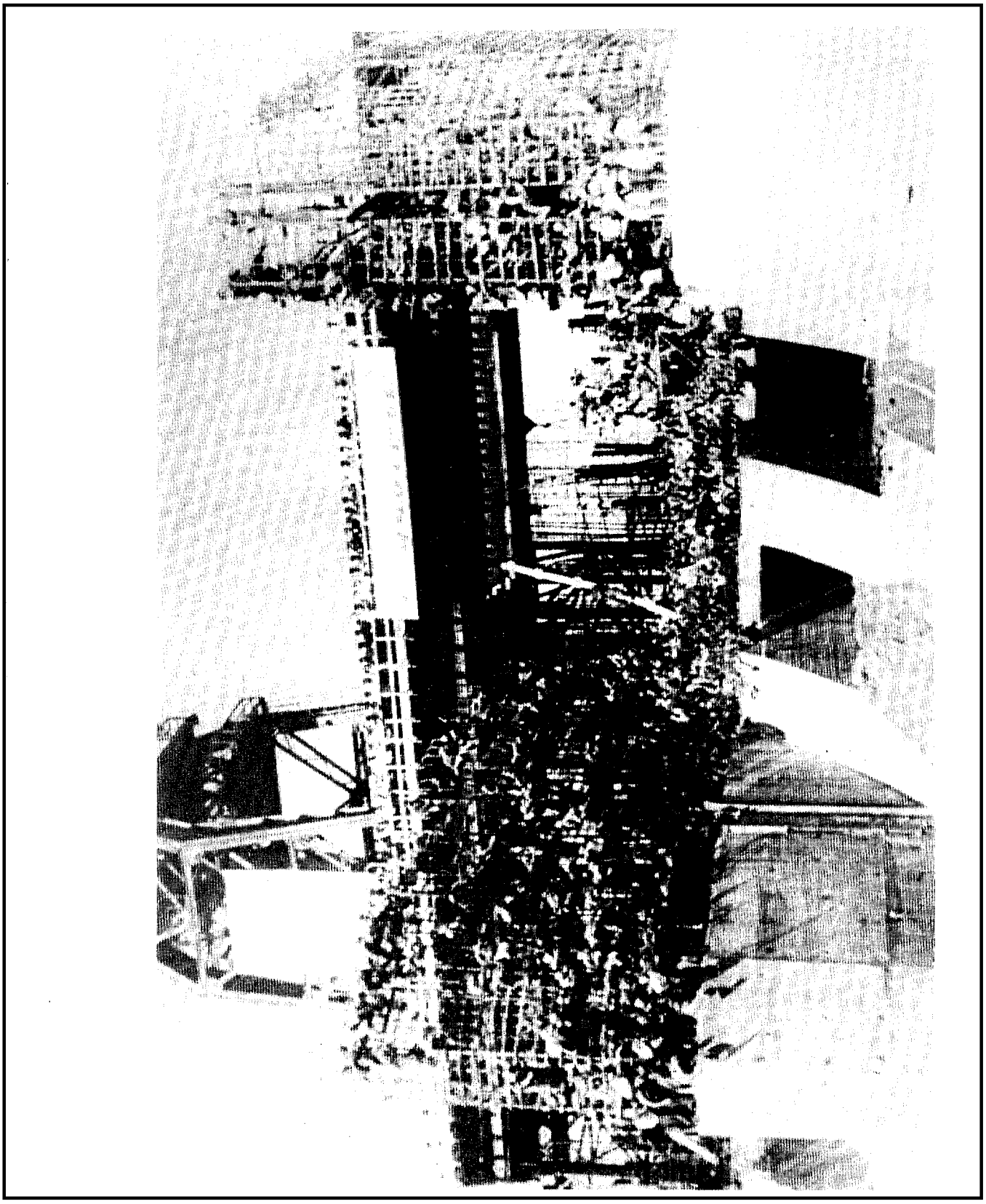

Figure 2. The opening of the waste weir on the Tsimlyansk Dam.

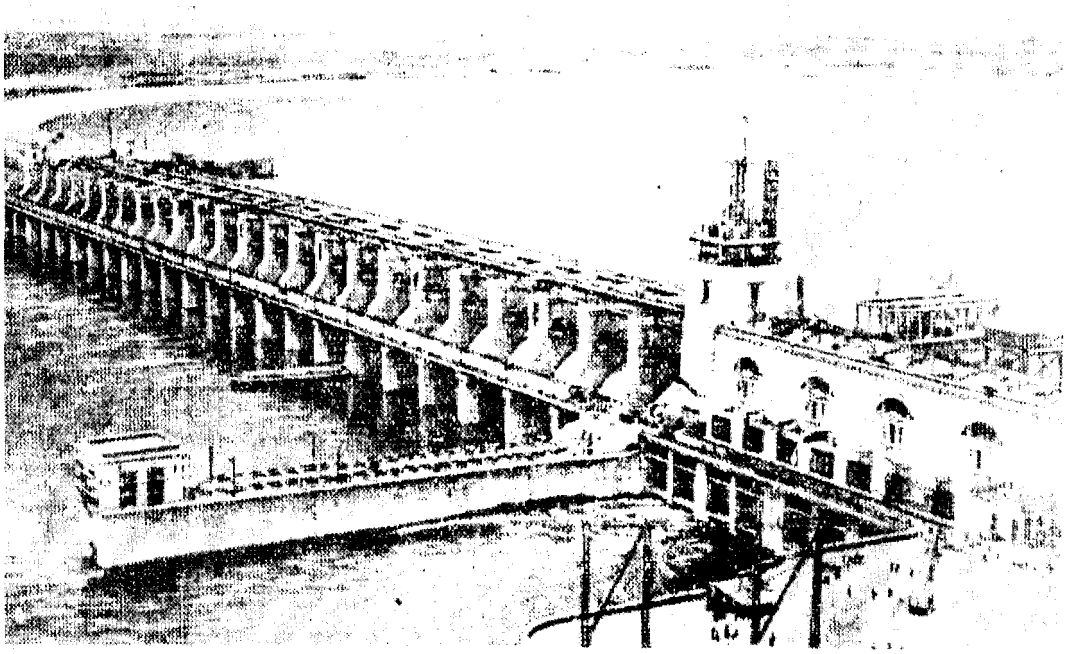

Figure 3. A view of the spillway and hydroelectric station.

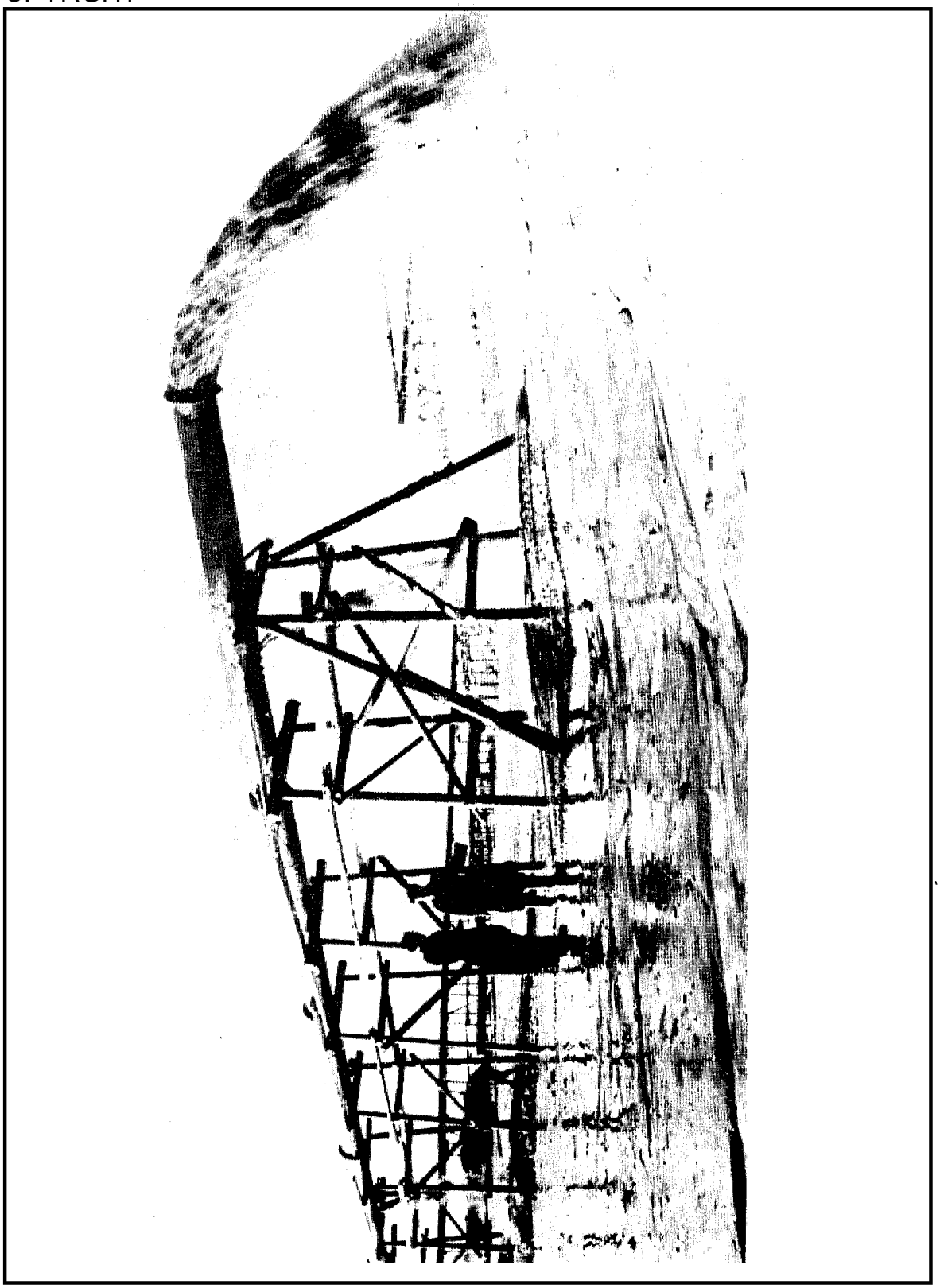

Figure 4. Mud and silt, loosened by suction, is piped from barges to provide the fill for the dam site. April 1951.

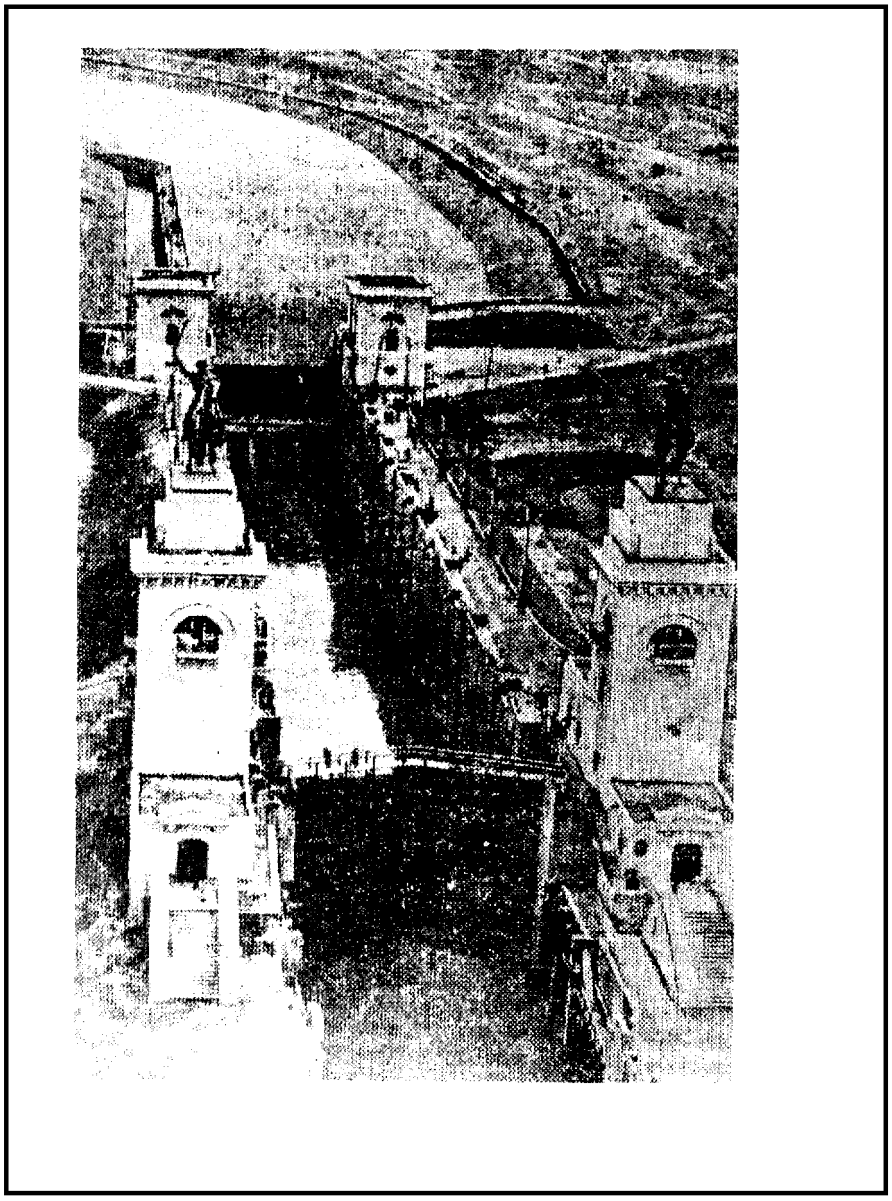

Figure 5. Lock 15 of the southern navigational exit from the reservoir.





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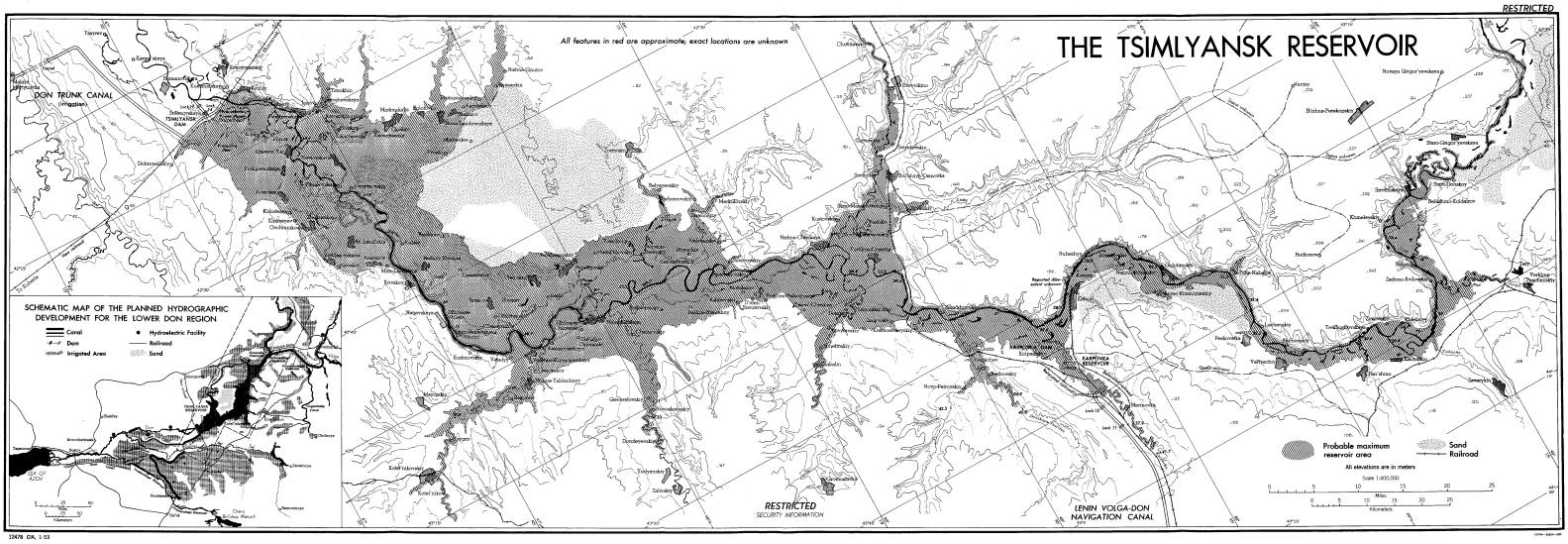


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## II. NEW CITIES AND URBAN-TYPE SETTLEMENTS ESTABLISHED IN THE USSR DURING THE PERIOD 15 MAY 1949 - 1 JANUARY 1951

A number of new cities and urban-type settlements were created in the USSR during the period 15 May 1949 - 1 January 1951. For practical purposes, these communities may be included under the term "urban settlements" (gorodskiye poselenii) and defined as populated places that are designated by legislative acts of republics as cities (goroda) and urban-type settlements (poselki gorodskogo tipa). The latter are often small in area and population, but most of the population must be engaged in nonagricultural pursuits. Included in urban-type settlements are workers' settlements (rabochiye poselki), factory settlements (zavodskiye poselki), settlements at railroad stations (zheleznо-dorozhniye stantsii), health resorts (kurortniye poselki), and a number of other types of nonagricultural communities. Each of these urban settlements is administered by its own Soviet.

A number of urban-type settlements were elevated to city status during the period. This is significant because it reflects a change in the character of the settlements -- not only in their administrative status, but also in the assumption of a wider range of urban functions, services, and responsibilities.

Categories of cities are determined on the basis of administrative relationship. Cities may be subordinate to (a) Rayon Executive Committees, as in the case of gorod rayonnogo podchineniya;

(b) Oblast Executive Committees, as in the case of gorod oblastnogo podchineniya; or (c) the Council of Ministers of a Republic, as in the case of gorod respublikanskogo podchineniya. Categories (b) and (c) are designated as independent administrative-economic units.

The factors determining the category within which a city belongs are:

(a) The number and composition of the population according to occupation or profession, and the percentage of the population so engaged.

(b) The presence of Republic, Regional, and District institutions, organizations, and establishments (industrial, commercial, etc.).

(c) The amount of built-up land and the extent of claims to surrounding land.

In order to change from one category to another, a city must obtain a resolution from the Supreme Soviet, which will decide the case on the basis of changes in the status of the city according to the factors listed above. Cities classified as gorod respublikanskogo podchineniya and gorod oblastnogo podchineniya have the following rights:

(a) To receive a part of the income tax paid to the republic or the oblast (extra local taxes), as well as local taxes and income from loans.

(b) To own local industry not in excess of 25,000 rubles for each project.

(c) To assign a definite number of personnel to the City Soviet and its Executive Committee, including public-health doctors, a city engineer, and a city architect. (This also applies to health resorts.)

(d) To inspect all building projects, regardless of what agency is building them.

(e) To have certain advantages in the distribution of the capital investment in the communal economy. The extent of participation, however, is so restricted as to make this right theoretical only.

A gorod rayonnogo podchineniya has the rights in (a) and (b) above but to a lesser degree.

Cities are administered by city or urban Soviets. The main function of the urban Soviet is the administration and exploitation of (1) all municipally-owned buildings and, to a certain extent, private residential buildings; (2) all the communally-owned services and installations (including waterworks, canals, electricity, industry, city property, parks, kindergartens, schools, and hospitals), provided they are not under the Regional or Republic jurisdiction.

All cities have their own budgets, based on the income from the communal enterprises, land rent, city collections, and finally allotments from income taxes. The incomes of the cities, however, are under rigid control. A city cannot raise the electrical rate

or the price of bus tickets without approval from the Republic administration. For building or expanding communal enterprises, the cities may receive long-term credits through the Central Communal Bank, provided the projects are included in an approved plan. Such credits are covered by the incomes of the cities.

Settlements having an adult population of 1,000 or more may be designated as cities by a legislative act of the Soviet Government, provided no more than 25 percent of the adult population is engaged in agriculture. In other words, the most characteristic indicator of of a Soviet city is the concentration in the settlement of a substantial number of persons engaged predominantly in nonagricultural pursuits.

A table listing the new cities that are known to have been created during the period from 15 May 1949 to 1 January 1951, along with their locations and administrative categories, is appended to this report, and the distribution of the cities is shown on the accompanying map (CIA 12493).

A total of 39 new cities was established in the USSR during the period, of which 16 are in Lithuania alone. The increase in the number of new cities in Lithuania, however, may be attributed to a change in the administrative designation of some of the larger settlements and does not necessarily represent an increase in the number of cities per se.

The Lithuanian and other new cities in the USSR are set apart by territory and designated as cities by a legislative act of the government, while boundaries of cities are determined by the Republic and Regional administrations.

Workers' settlements show a surprising increase during the period 15 May 1949 - 1 January 1951. When the increase (absolute) in urban-type settlements is plotted on bar graphs for each economic region (see map CIA 12493), it becomes apparent that the increase is not uniform for all regions. In Economic Regions I, II, VI, VII, XI, and XII, workers' settlements represent practically all of the increase in urban-type settlement.

A workers' settlement (rabochiye poselki) may be defined as a populated place with an adult population of no less than 400, of which 65 percent derive their income from wages.

The administration and financing of workers' settlements follow the same general pattern as in cities, but on a smaller scale. The settlement Soviets are "elected," as in cities, but it is customary to elect to the Soviet the chief officers of the settlement or, in some cases, even workers and employees that live in the settlement. The conversion of a village into workers' settlement is approved by a decree of the Presidium of Supreme Soviets of Union Republics. In most instances, workers' settlements are subordinate to Rayon Soviets, but some are directly subordinate to Oblast' Soviets.

The conversion of a workers' settlement into a city is based on the extent of the increase in industrialization, the development of commercial services, and the nature of urban improvement. Statistically, the populations of workers' settlements are considered as urban.

Other categories of urban-type growth -- factory settlements, settlements at railroad stations, and resorts -- have occurred in some regions. In Economic Region V the total increase in new urban-type settlement is in the form of factory settlements, settlements at railroad stations, and resorts; in other regions the increase in these categories is smaller or even nonexistent.

NEW CITIES ESTABLISHED IN THE USSR DURING THE PERIOD 15 MAY 1949 - 1 JANUARY 1951*

| New Cities in the RSFSR | Republic, Kray, Okrug | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 1. Khadyzhensk | Krasnodar Kray | | Neftegorskiy | Rayon | 4 |
| 2. Nakhodka | Primorskiy Kray | | | Kray | 12 |
| 3. Shimanovsk | | Amurskaya | Shimanovskiy | Rayon | 12 |
| 4. Komsomol'sk | | Ivanovskaya | Komsomol'skiy | Rayon | 7 |
| 5. Svirsk | | Irkutskaya | Cheremkhovskiy | Rayon | 11 |
| 6. Bogsitogorsk | | Leningradskaya | Tikhvinskiy | Rayon | 7 |
| 7. Borovsk | | Molotovskaya | | Oblast' | 8 |
| 8. Gremyachinsk | | Molotovskaya | | Oblast' | 8 |
| 9. Kospash | | Molotovskaya | | Oblast' | 8 |
| 10. Ocher | | Molotovskaya | Ocherskiy | Rayon | 8 |
| 11. Severno-Zadonsk | | Moskovskaya | Donskoy | Rayon | 7 |
| 12. Khot'kovo | | Moskovskaya | Zagorskiy | Rayon | 7 |
| 13. Shchekino | | Tul'skaya | Shchekinskiy | Oblast' | 7 |

* Source: 1951 Administrative-Territorial Handbook (SSSR Administrativno-Territorial'noye Deleniye Soyuznykh Respublik 1951).

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(Con't)

| New Cities in the RSFSR | Republic, Kray, Okrug | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 14. Khanty-Mansiysk | Khanty Mansi National Okrug | (Tyumenskaya) | Samarovskiy | Okrug | 9 |
| 15. Borzya | | Chitinskaya | Borzinskiy | Rayon | 11 |
| 16. Mogocha | | Chitinskaya | | Rayon | 11 |

| New Cities in Autonomous Republics | Republic | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 1. Izberbash | Dagestan | | | Republic (ASSR) | 4 |
| 2. Beslan | Severo-Osetin | | Pravoberezhnyy | Rayon | 4 |

| New Cities in Republics | Republic | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 1. Gayvoron | Ukrainskaya | Odesskaya | Gayvoronskiy | Rayon | 3 |
| 2. Sumgait | Azerbaydzhan | | | Republic | 5 |
| 3. Mir-Bashir | Azerbaydzhan | | Mir-Bashirskiy | Rayon | 5 |
| 4. Khudat | Azerbaydzhan | | Khudatskiy | Rayon | 5 |

(Con't)

| New Cities in Republics | Republic | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 5. Vevis | Lithuanian | Vil'nyusskaya | Vevisskiy | Rayon | 2 |
| 6. Vil'kiya | Lithuanian | Kaunasskaya | Vil'kiyskiy | Rayon | 2 |
| 7. Vabal'ninkas | Lithuanian | Shyaulyayskaya | Yabal'ninskiy | Rayon | 2 |
| 8. Ionishkelis | Lithuanian | Shyaulyayskaya | Ionishkel'skiy | Rayon | 2 |
| 9. Dusetos | Lithuanian | Vil'nyusskaya | Dusetskiy | Rayon | 2 |
| 10. Varnayay | Lithuanian | Klaypedskaya | Varnyayskiy | Rayon | 2 |
| 11. Retavas | Lithuanian | Klaypedskaya | Retavskiy | Rayon | 2 |
| 12. Kazlu-Ruda | Lithuanian | Kaunasskaya | Kazlu-Rudskiy | Rayon | 2 |
| 13. Ignalina | Lithuanian | Vil'nyusskaya | Ignalinskiy | Rayon | 2 |
| 14. Novo-Vil'nya | Lithuanian | Vil'nyusskaya | Novo-Vil'nyaskiy | Rayon | 2 |
| 15. Shirvintos | Lithuanian | Vil'nyusskaya | Shirvintskiy | Rayon | 2 |
| 16. Linkuva | Lithuanian | Shyaulyayskaya | Linkuvskiy | Rayon | 2 |
| 17. Pakruois | Lithuanian | Shyaulyayskaya | Pakruoyskiy | Rayon | 2 |
| 18. Salantay | Lithuanian | Klaypedskaya | Salantayskiy | Rayon | 2 |
| 19. Seda | Lithuanian | Klaypedskaya | Sedaskiy | Rayon | 2 |



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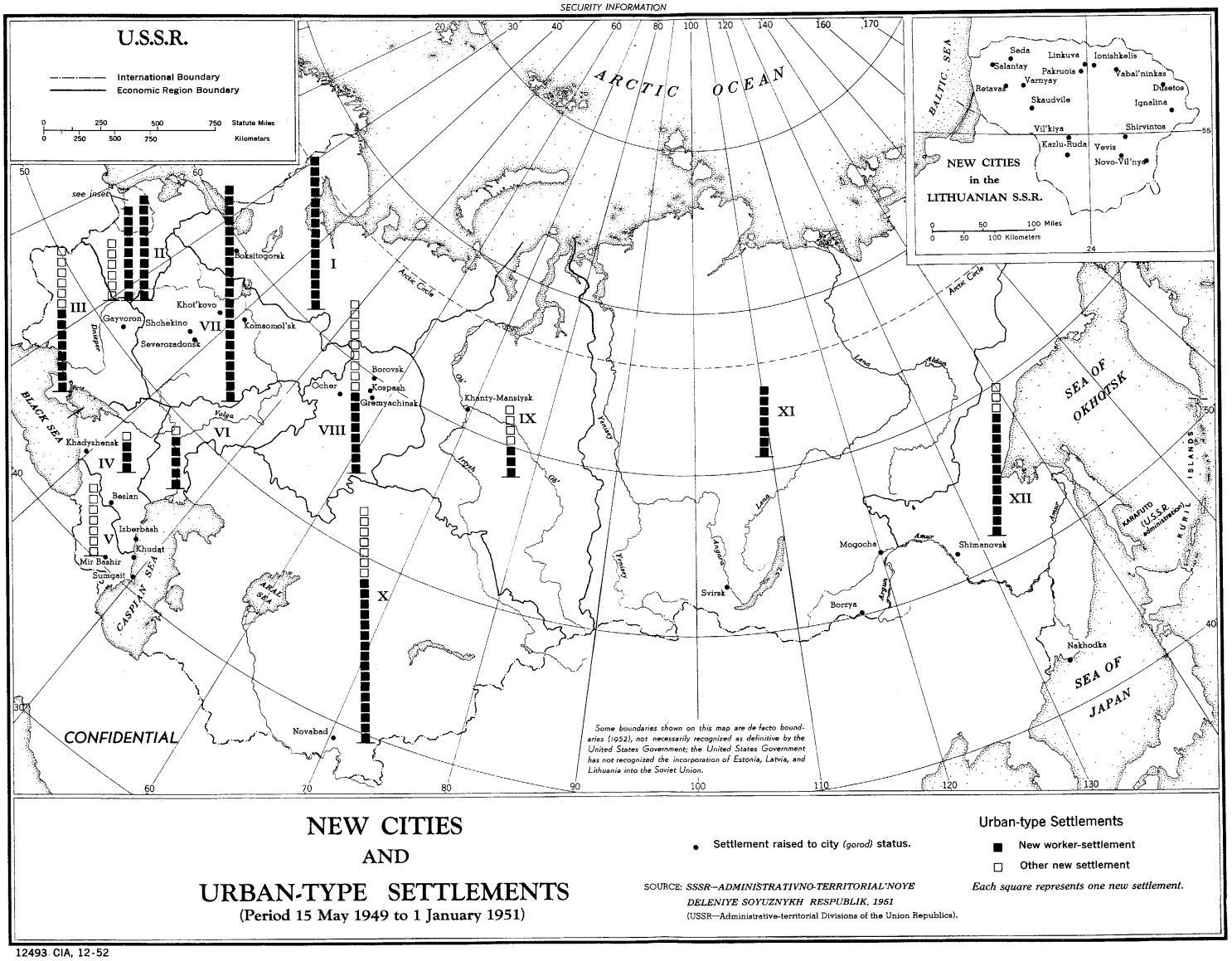
(Con't)

| New Cities in Republics | Republic | Oblast | Rayon | Subordination | Economic Region |
|---|---|---|---|---|---|
| 20. Skaudvile | Lithuanian | Klaypedskaya | Skaudvil'skiy | Rayon | 2 |
| 21. Novabad | Tadzhik | Garmskaya | | Oblast' | 10 |




# NEW CITIES
# AND
# URBAN-TYPE SETTLEMENTS
(Period 15 May 1949 to 1 January 1951)

• Settlement raised to city (*gorod*) status.

SOURCE: *SSSR—ADMINISTRATIVNO-TERRITORIAL'NOYE DELENIYE SOYUZNYKH RESPUBLIK, 1951*
(USSR—Administrative-territorial Divisions of the Union Republics).

Urban-type Settlements
■ New worker-settlement
□ Other new settlement

*Each square represents one new settlement.*

12493 CIA, 12-52

## III. CONSTRUCTION OF THE MAIN TURKMEN CANAL ACCELERATED BY NEW RAILROAD LINE TO TAKHIA TASH

On 11 September 1950 a decree was published by the Council of Ministers of the USSR initiating the construction of the Main Turkmen Canal. The project calls for the completion by 1957 of a navigable canal 1,100 kilometers (700 miles) long and 100 meters (300 feet) wide, which will connect the Amu-Dar'ya River with the Caspian Sea at Krasnovodsk (see map CIA 12470). The exploration of the proposed canal site was launched in 1951 and began simultaneously from the northeastern and southwestern ends of the route -- Cape Takhia Tash (approximately 42°17'N-59°45'E) and the vicinity of Yashkan Lake (39°42'N-55°35'E), north of Kazandzhik. Construction work on the canal has been most intensive in the vicinity of Takhia Tash, the main installation on the future canal. From the initiation of the project until 1952, progress of construction was relatively slow, owing to problems of supply and shipping, which taxed to the limit the available river and air transport routes. A possible solution was the construction of some supplementary means of transport.

Attention was brought to focus on the railroad line already under construction between Chardzhou (36°06'N-63°34'E), the trans-shipping center for freight to the Main Turkmen Canal, and Kungrad (43°05'N-58°55'E), the northern terminal in the Amu-Dar'ya Delta. Prior to 1952 this line had been completed to Urgench (41°33'N-60°38'E), some 120 kilometers (75 miles) southwest to Takhia Tash.

The additional incentive for building the railroad speeded up construction, and the railroad line was extended to Takhia Tash by 27 February 1952. According to Soviet sources, the first freight train arrived at Takhia Tash on February 29. This achievement assured an uninterrupted flow of supplies and material to the main construction site of the Turkmen Canal. Since that date, equipment required for the construction project has been shipped on a 24-hour basis. The shipments consist largely of dump trucks, concrete mixers, mechanical loading machines, gasoline engines, and precision instruments of various types. The railroad, whose construction apparently was stimulated by the construction of the canal, has itself become a significant artery of transport for the economic development of the area.

Takhia Tash is located 7 kilometers (4 miles) southwest from Nukus, the capital of the Kara-Kalpak ASSR, Uzbek SSR, and is situated at the outlet of the Main Turkmen Canal to the Amu-Dar'ya. Although a rocky promontory unknown until recently, Takhia Tash is being developed into the most important power and hydrotechnical installation along the course of the canal. The installations will consist of an earthen dam across the channel and flood basin of the Amu-Dar'ya, a concrete spillway, a power house, concrete structures for the entrances to the two existing irrigation canals (Lenin and Kyz-Ketken) opposite Cape Takhia Tash, embankments, aqueducts, a navigation lock, settling reservoirs, and the first section of the Main Turkmen Canal.

The dam across the Amu-Dar'ya will raise the water level by 6 meters (20 feet), thus ensuring water for the canal and for the whole system of irrigation canals on both sides of the river. The settling reservoirs will prevent silt from the Amu-Dar'ya from entering the canal. The reservoir, in addition to providing a constant and even inflow of water into the canal, will also provide water to irrigate the entire area of the Khorezm Oasis, located nearby. The dam and dikes of the reservoir will also prevent floods of the Amu-Dar'ya, which have often caused serious damage to the settlements, fields, and gardens of the Khorezm population of the area.

An aerial tramway is being built across the Amu-Dar'ya to carry workers and supplies to the construction site at the other end of the dam. Its 800-meter (2,600-foot) cables will be anchored to ferroconcrete towers and will serve as a temporary river crossing until the dam has been completed.

From Takhia Tash, the Main Turkmen Canal will flow in a west-southwestward direction, passing to the south of the Sarakamysh Depression, and will proceed across the Kara-Kum Desert along the ancient bed of the Amu-Dar'ya (the Uzboy) to the arid regions of the Caspian Plain. In the vicinity of Kazandzhik, two parallel trunk canals will branch off southward toward the Atrek River.

The method of constructing the canal is of a pioneer type in which a narrow channel is cut for several kilometers, filled

with water, and then widened and deepened to the required dimensions by suction dredges. The volume of water pumped from the Amu-Dar'ya is initially fixed at 350-400 cubic meters (12,360-14,125 cubic feet) per second. It is planned to increase the volume to 600 cubic meters (21,000 cubic feet) per second in an effort to maintain a navigable water level to the Caspian Sea.

In addition to the main dam and electric power plant at Takhia Tash, two other dams along the canal, both with impounding reservoirs, and electric power plants have been planned. One installation, the Burgun Dam and Reservoir, will be built in the region of the Igdy Wells at approximately 40°N. The second will be located at Yashkan Lake. The combined rated capacity of the three hydroelectric plants is estimated at 100,000 kilowatts.

The Main Turkmen Canal project will be of great significance to the economic development of vast areas of Soviet Central Asia. It is claimed that irrigation will be extended to 1,300,000 hectares (3,000,000 acres) of new farm land located in the southern Caspian Plains of western Turkmenia, on the delta of the Amu-Dar'ya in the Kara-Kalpak ASSR, and in the northern part of Turkmenia. In addition, the project is to supply water to 7,000,000 hectares (17,290,000 acres) of pasture land in the Kara-Kum Desert, to 500,000 hectares (1,235,000 acres) of productive forest plantings along the canal, and to areas surrounding industrial centers and populated places. The size of the areas to be irrigated by the Turkmen Canal is based solely on published



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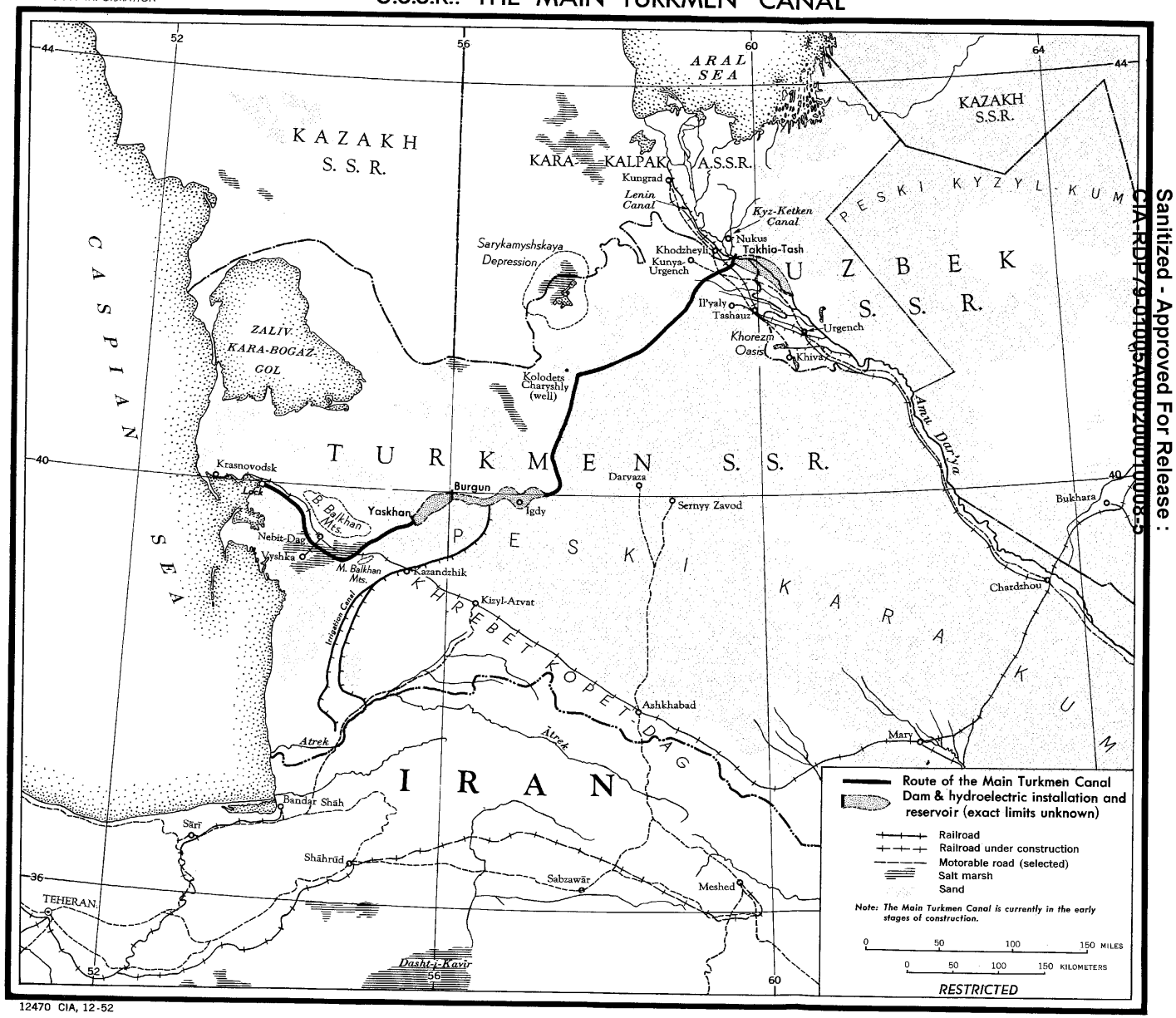
Soviet figures, which have been quoted without verification in various publications both in Great Britain and the United States.

Finally, the Main Turkmen Canal will be an important transportation artery, carrying cotton, grain, mineral fertilizers, and farm machinery, as well as passengers, from the Caspian Sea to the lower reaches of the Amu-Dar'ya and the Aral Sea.

# U.S.S.R.: THE MAIN TURKMEN CANAL




12470 CIA, 12-52



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## IV. USSR INTERNAL ADMINISTRATIVE BOUNDARY CHANGES

Economic and political planning in the Soviet State has always involved, as an integral part of the process, the changing of administrative boundaries. The dearth of other reliable, current data on the Soviet Union has led geographers, economists, and political scientists in the intelligence field to use boundary changes as the basis for estimating economic trends and developments in the USSR.

After a series of basic administrative boundary changes early in the history of the Soviet regime, there were few additional changes until 1930. Because of economic developments that took place after 1930, a large number of the oblasts and krays and their rayon subdivisions, both old or newly created, were found to be too large either for integration into functional economic regions or for effective administration (the two being theoretically indivisible in Soviet planning). Apparently this situation was the reason for a series of changes that followed and the shifting of the economic emphasis to the rayon level. The size of rayons was reduced and their number increased, and this in turn necessitated a corresponding reduction in the size of oblasts and an increase in their number.

Since the optimum rayon size was theoretically construed as the area served by a single machine tractor station, the reduction

in size of rayons and the increase in their number reflected progress in collectivizing agriculture, with a corresponding tightening of controls at lower levels.

The trend in administrative-boundary changes continued from 1930 until it was interrupted by World War II. It was not revived in the immediate postwar period, but the numerous changes in administrative boundaries that have taken place in various parts of the Soviet Union since 1950 indicates that the trend has been reactivated. The reduction in the size of administrative units and administrative transfers, which correspond to a redefinition of economic-unit boundaries at levels from the oblasts down to the smallest administrative units, has been resumed. The areal distribution of these changes is widespread, affecting not only the European USSR and Central Asia, but even the less densely populated Soviet Far East. Together, the changes reflect a noticeable concentration on economic regional development, as well as a tightening of political controls.

A few changes have been selected to illustrate the scope of the current trend. Within the RSFSR, the chief Soviet Socialist Republic, two new oblasts each were created in the Bashkir ASSR and the Tatar ASSR. The Bashkir ASSR now includes the new oblasts of Ufa and Sterlitamak and the Tatar ASSR, the oblasts of Kazan' and Chistopol'.

In the Moldavian SSR, four new okrugs were created, and other changes at lower levels were effected. In the Ukrainian SSR, numerous

changes were made at the rayon level, and a number of settlements were shifted from one rayon to another in accord with boundary changes. The administrative structure of the Caucasus region also underwent many changes. The two new oblasts of Tbilisi and Kutaisi were created in a part of the Georgian SSR that formerly had contained rayons only. In the Azerbaydzhan SSR, also, two new oblasts were created. Three new okrugs of the administrative type (as opposed to national okrugs) were set up in the Armenian SSR. Many changes at lower levels have also been taking place within the Caucasus republics.

In the Baltic area, three new oblasts each were created in Latvia and Estonia, and changes are also being made at lower levels.

The series of changes taking place at the rayon level include the transfer of some rayons from one oblast to another, the abolishment of others; and the creation of new ones through subdivision correlated with boundary changes. Populated places such as workers' settlements and towns have been transferred to adjacent rayons or other administrative units, and in some cases their administrative designations have been altered; for example, settlements have been raised to town level and workers' settlements to the rank of towns of oblast subordination.

The number and frequency of changes occurring throughout the Soviet Union since 1950 appears to represent a trend that probably will continue for some time.

## V. SOVIET AREA FIGURES FOR THE USSR

Repeated inquiries about the current areal extent of the USSR and the areas of the territories acquired since the beginning of the Soviet territorial expansion in 1939 prompt the publication of some area figures computed by the Russians by cartometric means. Both de facto and de jure annexations are included.

According to Soviet figures, the total area under the immediate jurisdiction of the USSR as of 1 January 1947 was 22,363,250 square kilometers (8,632,210 square miles). Of this total, islands comprise 309,131 square kilometers (119,325 square miles) and areas of bounding seas 227,141 square kilometers (87,676 square miles), leaving 21,826,978 square kilometers (8,425,214 square miles) within the continental limits. These figures can still be considered valid. The few territorial changes that have taken place since 1947 involved areas of such small magnitude that they alter the above proportions only slightly. Soviet cartometric calculations for the major territories acquired since 1939 are as follows:

Areas of Territories Added to the Soviet Union Since 1939

| Annexed Territory | Area | |
|---|---|---|
| | Sq. Km. | Sq. Mi. |
| Bessarabia | 45,100 | 17,400 |
| Estonia | 46,560 | 18,000 |
| Kaliningrad Oblast (northern East Prussia) | 15,070 | 6,000 |

| Annexed Territory | Area | |
|---|---|---|
| | Sq. Km. | Sq. Mi. |
| Karelia-Kola Front (Viipuri-Lake Ladoga-Sala Regions) | 43,690 | 17,000 |
| Klaipeda Region (Memelland) | 2,280 | 900 |
| Kuril Islands | 10,010 | 4,000 |
| Latvia | 65,690 | 25,000 |
| Lithuania | 59,570 | 23,000 |
| Northern Bukovina | 5,810 | 2,000 |
| Pechenga Region (Petsamo) | 10,600 | 4,000 |
| Southern Sakhalin (Karafuto) | 33,380 | 13,000 |
| Tannu Tuva | 168,940 | 65,000 |
| Western Ukraine (Eastern Poland) | 93,040[a] | 36,000 |
| Western White Russia (Eastern Poland, including Vilna Region) | 101,070[a] | 39,000 |
| Zakarpatskaya Ukraina (Ruthenia) | 12,780 | 5,000 |

a. Figures apply to the territory taken from Poland by the Soviet decree of 2 November 1939, which incorporated former eastern Poland into the USSR. The Polish-Soviet treaty of 16 August 1945, which formally defined the Poland-USSR boundary, returned to Poland 21,240 square kilometers (7,268 square miles) of territory originally taken away by the 1939 decree.

## VI. NEW POPULATION DENSITY MAP OF THE USSR

The recently published Soviet map showing the population density of the USSR has, on the whole, proved disappointing. Although it is dated 1951, a comparison with plates 11 and 12 in Volume II of the Bol'shoy Sovetskiy Atlas Mira (Great Soviet Atlas of the World), which gives the distribution of population according to the 1939 census, indicates that the new map also is based on the prewar census.

The new map, which is at the scale of 1:5,000,000, was produced by the Glavnoye Upravleniye Geodezii i Kartografii (Chief Administration for Geodesy and Cartography -- GUGK) as a wall map for high school use. Rural population densities are shown by color tints, ranging from "almost or completely uninhabited areas" to "more than 100 persons per square kilometer." The size of cities is indicated separately by circles of proportionate diameters.

While the pattern of rural population density categories is almost identical to that on the atlas maps, it is apparent that the compilers of the new map took greater liberties in their representation of Soviet cities. Although the population categories of the urban centers generally remain unchanged, numerous settlements with populations of less than 10,000 have been deleted from the 1951 map. In Asiatic Russia, many cities with populations as large as 10,000 to 50,000 have also been removed. Furthermore, in the European part of the Soviet Union, a majority of such cities have been omitted.

In contrast to the dominant trend for deleting cities, 13 urban centers with populations of between 10,000 and 50,000 have been added. Two are in the European North -- Segezha, a paper-milling center in the Karelo-Finnish SSR, and Molotovsk, the shipbuilding and sawmilling center west of Arkhangel'sk, which was developed after 1938. Two other new cities in this population category appear in the Urals, in the Bashkir ASSR near Ufa. One of these, Chernikovsk, was organized in 1944 from the eastern industrial rayon of the city of Ufa. The other is Krasnousol'skiy (northeast of Sterlitamak), whose growth also was accelerated by World War II.

Two of the new cities are in the Caucasus -- Chiatura, the large manganese mining center in Georgia, and Alagir, the resort and metallurgical town at the northern end of the Osetian Military Road. Fort Shevchenko, the fishing center on the eastern shore of the Caspian, has also been elevated to the 10,000-to-50,000 population category.

In Soviet Central Asia there are four newly elevated cities. Taldy-Kurgan is the administrative center of an oblast that was created in southeastern Kazakhstan in 1944. The increasing importance of another Kazakh city, Chu, has a twofold basis: (1) it lies at the junction of the Turk-Sib Railroad and the new railroad from Mointy around the western end of Lake Balkhash, and (2) it is located in the Chu irrigation-canal project area. The new city of Kant is an eastern suburb of Frunze and a major beet-sugar refining

center in the Chu Valley of the Kirgiz SSR. The fourth new city in Central Asia is Nukus, an industrial city and the administrative center of the Kara-Kalpak ASSR. .

The two remaining new cities are in the Far East. Tetyukhe, in Primorskiy Kray, is known to be a non-ferrous mining center. Little is known about Nel'kan except that it is a river landing at the head of navigation on the Maya River (in Nizhne-Amurskaya Oblast) and is linked by a trail to the city of Ayan on the coast.

In only one instance was a city down-graded. Shimanovsk, on the Trans-Siberian Railroad in Amurskaya Oblast, appeared on the 1939 map as a settlement with a population between 10,000 and 50,000. On the new map it is classed as having less than 10,000. This change may reflect a movement of population from the relatively highly developed agricultural areas near Shimanovsk to the coal-mining areas near Raychikhinsk to the southeast and to the gold-mining and lumbering regions farther north along the Nyukzha, Zeya, and Selemdzha rivers.

Possibly the greatest advantage of the new map is the inclusion of the recent Soviet territorial accessions along the western border, in Tannu Tuva, and in the Far East. The compilers have also attempted to bring the base up to date by showing new railroads and canals, and the changes in the Caspian shoreline. Where place names have been changed, the new names are given. The locations of the cities of Nebit Dag and Nordvik, which were incorrectly plotted on the 1939 map, have been corrected.

The value of these minor refinements and additions is far more than outweighed by the policy of wholesale deletions of urban settlements. The new map is not considered a satisfactory representation of either the prewar or postwar population distribution of the Soviet Union. A more accurate representation of the 1939 census data will be found in the Bol'shoy Sovetskiy Atlas Mira, an English version of which is available in the League of Nations study on The Population of the Soviet Union by Frank Lorimer. The CIA map prepared for Chapter IV, Section 41, NIS 26, also provides information for the recently annexed areas, and, with the exception of data on the Tannu Tuva area, it is far more reliable than the GUGK revision.

## VII. ENGLISH LANGUAGE MAP OF THE GEOLOGY OF THE USSR

A color separation copy of a 1951 Soviet map, with translated title and legend, is now being prepared by CIA and will provide a long-needed, current, single-sheet, geologic map of the USSR in English (map CIA 9243). The map also gives transliterations for numerous place names for purposes of orientation, but Russian forms are used for hydrographic features. Retention copies will be available. At present comprehensive maps showing the general geology of the Soviet Union can be obtained only on loan.

The new map is a reproduction at 1:10,000,000 of a two-sheet Russian original at 1:7,500,000, which was published first in 1950 and reissued in 1951. In Soviet reviews the original map has received wide acclaim for the excellency of its geologic coverage. Areal geology is differentiated on the basis of geologic age and lithologic types. Sedimentary rocks are differentiated almost exclusively by geologic age and igneous rocks by both age and lithology.

Data collected for the Russian 32-sheet geologic series at 1:2,500,000, published in 1940, served as the basis for the compilation of the 1:7,500,000 map. These data were supplemented by information gathered since 1939 by various geological organizations throughout the USSR. Significant additional geologic information is presented for the extreme northeastern part of Siberia, east of 135°E longitude, where broad expanses were indicated as geologically

unmapped on previous maps of the entire nation. Despite the additional coverage, a considerable area in northeastern Siberia is still shown as geologically uninvestigated.

The 1:7,500,000 Russian map that is being reproduced was prepared under the editorship of D.V. Nalivkin, who has also served as editor of other good geologic maps of the USSR. Among these are the 1:5,000,000 map published in 1937 and the excellent 1:2,500,000 series previously mentioned.

## VIII. POLITICAL-ADMINISTRATIVE MAP OF THE UKRAINIAN SSR AND THE MOLDAVIAN SSR

One of the most serious deficiencies plaguing regional analysts working on the USSR is the lack of current political-administrative maps. An occasional fortunate acquisition, such as the receipt during 1952 of Politiko-Administrativnaya Karta Ukrainskoy SSR i Moldavskoy SSR, helps to alleviate this situation. Maps of this type not only show boundary changes but are the only accurate means by which the areal location and extent of administrative divisions can be determined.

The new map of the Ukrainian and Moldavian SSR's (CIA Call No. 75972) was compiled in 1949 and was issued in 1950 by the Soviet Chief Administration of Geodesy and Cartography (Glavnoye Upravleniye Geodezii i Kartografii -- GUGK). It is at the scale of 1:750,000, which is large enough for locating and plotting general data. The map is in color and consists of four sheets (totaling approximately 4 feet by 6 feet in size). It delineates the boundaries of the complete hierarchy of political-administrative units within the Ukrainian and Moldavian SSR's down to the level of the rayon, which is the basic mappable administrative unit in the Soviet system. The legend includes a list of the cities in the two SSR's that are directly subordinate to the oblast and a list of rayon centers and of rayons whose names differ from those of their centers.

The map shows four categories of populated places, with distinguishing symbols for capitals and for okrug and rayon centers. Being the most recent map available, it shows the new settlement of Severodonetsk on the left bank of the Donets River about 5 kilometers east of the coal-mining town of Lisichansk. The existence of this settlement may be attributed to the erection of a large chemical plant, which has recently begun operations. Prior to early 1950 the site was identified merely as "Lisskhimstroi" (Lisichansk Chemical Plant). Since then, the name Severodonetsk has been attached to the town. The map also shows routes of communication, hydrography, and other selected physical features.

## IX. SOILS MAPS OF THE UKRAINE

The most recent soil map of the Ukraine appeared in the Annals of the Ukrainian Academy of Arts and Sciences in the United States, Vol. I, No. 1, 1951. The map was produced by the reputable Ukrainian soil scientist, Gregory Makhov, who has been associated with soil science in the Ukraine since 1922. He has worked with materials and maps of earlier soil scientists dating back to 1888, including those of Prof. V. Dokuchayev, the founder of Russian soil science. The map (a copy of which follows p. 59) is necessarily generalized, since it is at the scale of 1:5,000,000. Although it contains only about half the soils categories shown on the largest-scale available soils map of the Ukraine, the new map has the advantages of including postwar area acquisitions in the west, of being in English, and of being easy to reproduce in quantity. Accompanying the new map is an article that gives an account of the main soil types of the Ukraine according to their scientific classifications.

The new map, which is in color, was compiled from the largest-scale soils map available for the Ukraine (mentioned above), a four-sheet map 5 feet by 8 feet in size that includes 60 categories of soils. The source map is exceptionally accurate and precise for the scale because it is based on sketch maps at 1:126,000 that were later reduced to 1:420,000, and finally to 1:750,000. This map was produced during the period 1940-49, but the exact date of

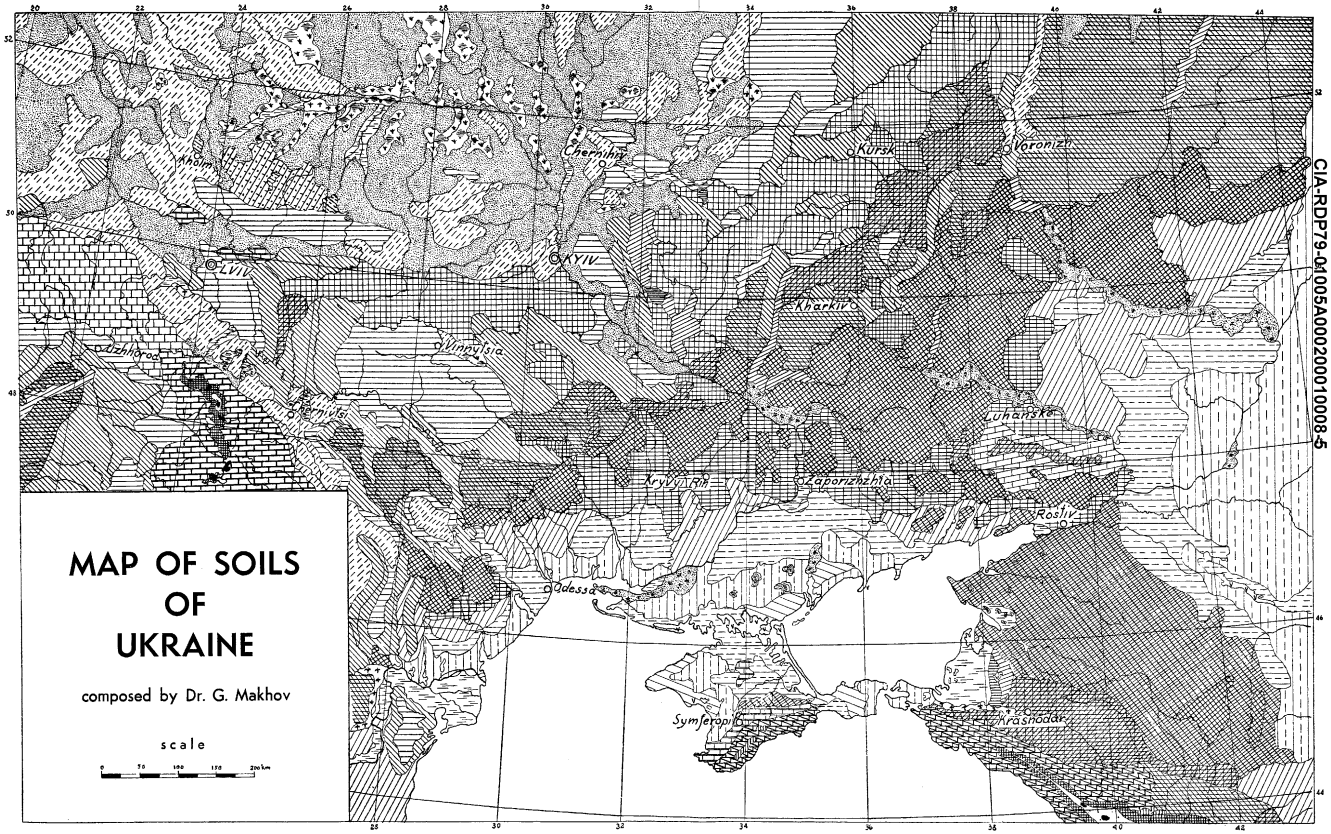
publication is not known. Although it is the best soils map of the Ukraine available, it has several disadvantages. Among these are: (1) the legend is in Ukrainian and German only; (2) newly acquired land in the west is not covered; and (3) at present the only copy available is a black-and-white photocopy (CIA Call No. 76581R), which is more difficult to work with than the original.

Makhov stated that the earliest soils map of the Ukraine, of which he was editor, was initially prepared in 1922-23 and presented to the First Congress of Ukrainian Soil Scientists, held at Kiev in May 1923. The map itself was not published until 1926, when 5,000 copies were printed. For various reasons, circulation was extremely limited. The map was in color, with the legend in Ukrainian, Russian, and English. Although Makhov did not mention the scale, evidence indicates that his soils map is the same as one held in the Heringen Collection, Military Geology Branch, U.S. Geological Survey, and in the Department of Agriculture Library (Call No. 56.26 UK7). A colored photocopy is on file in the CIA Map Library (Call No. 79248). The scale, 1:1,050,000, is considerably smaller than that of the 1:750,000 map and there are fewer soils categories in the legend. Nevertheless, the colored photocopy is easy to read, and the inclusion of an English legend is a definite advantage. The Department of Agriculture describes it as the best soils map of the Ukraine available in this country.

The history of the 1:1,050,000 soils map of the Ukraine and its source materials lead to the belief that this map is undoubtedly the forerunner of the 1:750,000 Soil Map of the Ukraine, from which the most recent Soil Map of the Ukraine at 1:5,000,000 was derived.

- Podzolic sandy soils
- Podzolic sandy loam soils
- Podzolic soils and rendzinas undifferentiated
- Mountain podzolic soils
- Meadow gley soils
- Rendzina-like chalk soils
- Degraded chernozems
- Deep loessial chernozems
- Lean (eroded) chernozems
- Deep chernozems, rich in humus
- Deep leached chernozems
- Chernozems on loess
- Mountain meadow soils and mountain moss peat soils
- Meadow soil and meadow alkali soils of flood plains
- Sedge peat soils
- Sedge peat and green moss peat
- Highmoors, white moss peat
- Chernozems of river terraces
- Lean chernozems
- Deep calcareous chernozems
- Southern chernozems on loess
- Lean southern chernozems
- Chernozems on coal-measures
- Chernozems on chalk
- Solonized chernozems of river terraces
- Mountain chernozems
- Mountain brown earth and podzolized brown earth
- Podzolized brown earth and mountain podzolic soils, undifferentiated
- Base saturated brown soils and red soils of moist subtropics
- Light grey loessial prairie-forest soils
- Sandy chernozems
- Dark chestnut soils, slightly solonized
- Chestnut soils, strongly solonized
- Light chestnut soils and solonetz soils
- Solodized gley soils of prairie depressions
- Solonchak soils and solonetz soils undifferentiated

9251




# MAP OF SOILS OF UKRAINE

composed by Dr. G. Makhov

scale

## X. RAILROAD INFORMATION FROM SOVIET NEWSPAPERS

Soviet newspapers have on several occasions published detailed accounts of the completion of significant railroad lines in the USSR. The first official reference, for example, to the fact that the Chardzhou-Takhia Tash sector of the Turkmen railroad along the Amu-Dar'ya River is now in operation and serving as a supply route for the Main Turkmen Canal appeared recently in the Moscow newspaper Trud. Other newspapers such as Pravda and Izvestiya have repeatedly published articles referring to the opening of new lines to through traffic.

In the past two or three years, several newspapers have adopted the practice of including with the text, fairly detailed sketch maps of newly completed lines, on which they show alignment, trackage, stations, and stops along the route. Kazakhstanskaya Pravda, printed in Alma-Ata, has been outstanding in the publication of railroad information of this type. Articles and sketch maps published in this newspaper concerning the recent completion of the Mointy-Chu and Akmolinsk-Pavlodar lines aided materially in resolving the differences between the railroad alignments shown on the postwar Soviet political-administrative maps at 1:4,000,000 (1947) and 1:8,000,000 (1951).

The recent contributions of Soviet newspapers to current information on railroads, have already been of considerable intelligence value. It is hoped that forthcoming articles and sketch maps

may soon provide much-needed information concerning other new railroad lines, such as the Kulunda-Barnaul-Artyshta sector of the South Siberian Railroad and the Baikal-Amur-Magistral line.

## XI. RUSSIAN TRANSLITERATION

The increasing use of Russian language materials and maps in current research has given rise to a number of problems inherent in the differences between the English and Russian alphabets. To insure accuracy in research, it is important to retain the original spellings of sources quoted, bibliographies, words that have been incorporated into English, place names, and institutions and organizations. Since the Cyrillic characters of the Russian* alphabet in general differ in physical form and phonetics from the Latin characters used in English, it is necessary to select characters or combinations of characters from the latter to approximate the Russian either phonetically or orthographically.

Transliteration has proved extremely useful to both researchers familiar and unfamiliar with the Russian language. The large number of transliteration (transcription) systems in existence, however, has often led to confusion. As a result of different objectives, three important transliteration systems have been produced in the United States. These, together with two additional systems used in British and German source materials, are the systems most likely to be encountered in research (see accompanying table).

The American systems -- produced by the United States Board on Geographic Names, the American Council of Learned Societies,

* Russian, i.e., Great Russian, the language of Muscovy, the official language of the Union of Soviet Socialist Republics is one of 11 living, literary languages which stem from Old Slavonic.

and the Library of Congress -- resemble each other. The first two, however, are based more closely on phonetic transcription and are more difficult to reconvert into Russian than the third. The use of diacritical marks, however, makes the third cumbersome to use.

The official guide for United States Government agencies is the "transliteration" system produced by the United States Board on Geographic Names. The Board has also attempted to standardize the spelling of geographical names through the publication of gazetteers and supplementary lists and by rendering decisions on controversial issues, such as the spelling to be accepted for places with several Russian spellings.

It is advisable that analysts and cartographers who utilize transliterations familiarize themselves with the Russian alphabet to avoid unnecessary errors. The characters A, B, E, K, M, H, O, P, C, T, У, and X are forms that appear in both the Russian and English alphabets, but only A, K, M, O, and T are similar phonetically in the two languages. Complications may also arise when ornamental forms, lower case, or script are used in the Russian since here, also, forms used are similar to the English (e.g., а, *а*, б, в, *g*, е, *ʒ*, *и*, і, к, *м*, н, о, *п*, р, с, *т*, у, *х*, *ч*, *ш*, ь), of which only a few phonetically approximate their English counterparts.

Similarity between some characters within the Russian alphabet itself may also confuse the novice (З, Э, Л, П, У, Ч, Ш, Щ), and poor printing, such as appears on a large number of maps, may destroy

the distinction between ornamental forms, lower case, and script. Of the several styles of letter used on Russian maps, only the cursive, which is used mainly for hydrographic features, is more difficult to read than common print.

The following table gives the several transliteration systems and a number of styles and varieties of Russian lettering that are most often encountered in geographical and map research.

# RUSSIAN ALPHABET

## VARIETIES OF LETTERING

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| А | а | А | а | 𝒜 | 𝒶 | А | а | | | | |
| Б | б | Б | б | 𝔅 | 𝔟 | Б | б | | | | |
| В | в | В | в | 𝓑 | 𝓫 | В | в | | | | |
| Г | г | Г | г | 𝒢 | 𝓰 | Г | г | | | | |
| Д | д | Д | д | 𝒟 | 𝒹 | Д | д | | | | |
| Е | е | Е | е | 𝓔 | 𝓮 | Е | е | | | | |
| Ё | ё | Ё | ё | Ё | ё | Ё | ё[1] | | | | |
| Ж | ж | Ж | ж | 𝒥 | 𝓳 | Ж | ж | | | | |
| З | з | З | з | 𝒵 | 𝓏 | З | з | | | | |
| И | и | И | и | 𝒰 | 𝓊 | И | и | | | | |
| І | і | І | і | 𝐼 | 𝒾 | І | і[2] | | | | |
| Й | й | Й | й | — | 𝒿 | Й | й[3] | | | | |
| К | к | К | к | 𝒦 | 𝓀 | К | к | | | | |
| Л | л | Л | л | 𝓛 | 𝓁 | Л | л | | | | |
| М | м | М | м | 𝑀 | 𝓂 | М | м | | | | |
| Н | н | Н | н | 𝒩 | 𝓃 | Н | н | | | | |
| О | о | О | о | 𝒪 | 𝑜 | О | о | | | | |
| П | п | П | п | 𝒫 | 𝓅 | П | п | | | | |
| Р | р | Р | р | 𝒫 | 𝓅 | Р | р | | | | |
| С | с | С | с | 𝒞 | 𝒸 | С | с | | | | |
| Т | т | Т | т | 𝒯 | 𝓉 | Т | т | | | | |
| У | у | У | у | 𝒴 | 𝓎 | У | у | | | | |
| Ф | ф | Ф | ф | 𝔉 | 𝔣 | Ф | ф | | | | |
| Х | х | Х | х | 𝒳 | 𝓍 | Х | х | | | | |
| Ц | ц | Ц | ц | 𝒰 | 𝓊 | Ц | ц | | | | |
| Ч | ч | Ч | ч | 𝒸 | 𝒸 | Ч | ч | | | | |
| Ш | ш | Ш | ш | 𝒲 | 𝓌 | Ш | ш | | | | |
| Щ | щ | Щ | щ | 𝒲 | 𝓌 | Щ | щ | | | | |
| Ъ | ъ | Ъ | ъ | — | ъ | Ъ | ъ[4] | | | | |
| Ы | ы | Ы | ы | — | ы | Ы | ы[4] | | | | |
| Ь | ь | Ь | ь | — | ь | Ь | ь[4] | | | | |
| Ѣ | ѣ | Ѣ | ѣ | 𝔜 | 𝔱 | Ѣ | ѣ[5] | | | | |
| Э | э | Э | э | Э | э | Э | э | | | | |
| Ю | ю | Ю | ю | 𝒰 | ю | Ю | ю | | | | |
| Я | я | Я | я | 𝒜 | я | Я | я | | | | |
| Ѳ | ѳ | Ѳ | ѳ | Ѳ | ѳ | Ѳ | ѳ[6] | | | | |
| Ѵ | ѵ | Ѵ | ѵ | 𝒱 | 𝓋 | Ѵ | ѵ[7] | | | | |

| | | | |
|---|---|---|---|
| singular | ый | yy | yĭ |
| | ий | iy | iĭ |
| plural | ые | yye | ye |
| | ие | iye | ie |

## TRANSLITERATION SYSTEMS

| B.G.N. | L.C. | A.C.L.S. | P.C.G.N. | German |
|---|---|---|---|---|
| a | a | a | a | a |
| b | b | b | b | b |
| v | v | v | v | w[18] (v)[19] |
| g | g | g (v)[10] | g | g (owo)[20] |
| d | d | d | d | d |
| e (ye)[8] | e | e (ye)[11] | e (ye)[15] | e (je)[21] |
| ë (yë)[9] | ë | yo (o)[12] | ë (yë)[16] | jo |
| zh | zh | zh | zh[17] | sh (ž)[22] |
| z | z | z | z | s |
| i | i | i (yi)[13] | i | i |
| — | ĭ | — | i | i |
| y | i | y (i)[14] | y | j (i)[23] |
| k | k | k | k | k |
| l | l | l | l | l |
| m | m | m | m | m |
| n | n | n | n | n |
| o | o | o | o | o |
| p | p | p | p | p |
| r | r | r | r | r |
| s | s | s | s | ss (s)[24] |
| t | t | t | t | t |
| u | u | u | u | u |
| f | f | f | f | f |
| kh | kh | kh | kh | ch |
| ts | ts | ts | ts | z (c)[25] |
| ch | ch | ch | ch | tsch (č)[26] |
| sh | sh | sh | sh | sch (š)[27] |
| shch | shch | shch | shch | schtsch (šč)[28] |
| ” | ” | *omitted* | ‘ | *omitted* (–)[29] |
| y | y | y | y | y |
| ’ | ’ | *omitted* | ’ | *omitted*[30] |
| — | ê | — | e | e (je)[21] |
| e | é | e | e | e (è)[31] |
| yu | û | yu | yu | ju |
| ya | â | ya | ya | ja |
| — | f | — | f | f |
| — | ŷ | — | i or v | — |

### Adjectival Endings

| | | | | |
|---|---|---|---|---|
| yy | yĭ | y | y | — |
| iy | iĭ | y | i | — |
| yye | ye | ie | ye | — |
| iye | ie | ie | ie | — |

## EXPLANATORY NOTES

(“ ” denotes transliterated form)

[1] The dots are often omitted in Russian.

[2] Abolished in 1918; replaced by И in the new orthography.

[3] Seldom initial except in words of non-Russian origin.

[4] Never initial.

[5] Abolished in 1918; replaced by Е in the new orthography.

[6] Abolished in 1918; replaced by Ф in the new orthography.

[7] Prior to 1918, was used in only a few ecclesiastical words of Greek origin and its place even in these was often taken by И; replaced by И in the new orthography.

[8] “ye” used initially, after vowels (а, е, ё, и, о, у, ы, э, ю, я), and after ъ and ь; elsewhere “e”.

[9] “yë” used initially, after vowels (а, е, ё, и, о, у, ы, э, ю, я), and after ъ and ь; elsewhere “ë”.

[10] “v” used in genitive endings (“evo” and “ovo”).

[11] “ye” used initially, after ъ and ь, and after the vowels а, е, ё, о, у, э, ю, and я.

[12] “o” used after Ж and Ш.

[13] “yi” used after ь.

[14] “y” used if terminal, if medial “i”.

[15] “ye” used initially and after а, е, о, у, ъ, and ь.

[16] “yë” used initially and after а, е, о, у, ъ, and ь.

[17] When representing a single consonant sound, usually non-Russian, the combination дж is transliterated as “j”.

[18] In words ending in ов, “off” is sometimes used instead of “ow”.

[19] “v” used in scientific transliteration.

[20] “owo” is often used for ого at the end of a word.

[21] “je” used initially, after vowels (а, е, ё, и, о, у, ы, э, ю, я), and after ъ and ь; elsewhere “e”.

[22] “ž” used in scientific transliteration.

[23] “j” used in some German systems, if not terminal.

[24] “s” used at the end of a word or before “k”, “p”, or “t”.

[25] “c” used in scientific transliteration.

[26] “č” used in scientific transliteration.

[27] “š” used in scientific transliteration.

[28] “šč” used in scientific transliteration.

[29] “ – ” used in scientific transliteration.

[30] Sometimes indicated by “j”.

[31] “è” used in scientific transliteration.

B.G.N.....United States Board on Geographic Names.

L.C.....Library of Congress.

A.C.L.S..... American Council of Learned Societies.

P.C.G.N.... Permanent Committee on Geographical Names for British Official Use. (P.C.G.N. has now adopted the B.G.N. transliteration system.)

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