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SECURITY INFORMATION

Approved For Release 2000/05/15 : CIA-RDP79T01049A000400020003-2

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Note: The classification of this memorandum must be raised to conform to the classification of the draft it covers.

Date 15 November 1951

MEMORANDUM FOR CHIEF, REPORTS DIVISION

SUBJECT: Transmission of Draft Report

ENCLOSURE: Project No. IP-230 Geography of Three Soviet Urban Regions -  
Part III -- Nizhnaya Tura (XXXXXX)

1. Enclosure is forwarded herewith for review and publication.
2. This draft report has been coordinated informally with the organizations checked below:

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D/I	<input type="checkbox"/>			Air (OIN)	<input checked="" type="checkbox"/>
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3. Maps and/or Graphics to be included in this report and arrangements completed for their production by the Geographic Division are as follows:  
The map accompanies the report.

4. The following distribution of the completed report is recommended:

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Other (specify) 1 copy to D/R

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5. Responsibility for consultation with D/R, while the project is under review, is assigned to [redacted] date 560

6. Comments: Two copies of this report should be sent to the requestor, [redacted] OSI.

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**SECURITY INFORMATION**

**GEOGRAPHY OF THREE SOVIET URBAN REGIONS**

**PART III -- NIZHNYAYA TURA**

CIA/RR-IP-230

**Published November 1951**

**CENTRAL INTELLIGENCE AGENCY**

Approved For Release 2000/05/15 : CIA-RDP79T01049A000400020003-2

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SECURITY INFORMATION

GEOGRAPHY OF THREE SOVIET URBAN REGIONS

PART III — NIZHNYAYA TURA

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GEOGRAPHY OF THREE SOVIET URBAN REGIONSPART III - NIZHNYAYA TURAI. Location

The city of Nizhnyaya Tura ( $58^{\circ}37'N-59^{\circ}50'E$ ) is located on the northern shore of the Nizhne-Turinskiy Pond (Prud) and lies within the Sverdlovsk Oblast, approximately 202 kilometers (125 miles) northwest of the oblast seat. It is situated on the sloping piedmont between the eastern foot of the Urals and the West Siberian Plain and lies with the Central Ural Mining and Industrial Area.

Principal settlements in the area with their approximate locations are: Petrovskiy ( $58^{\circ}38'N-59^{\circ}33'E$ ), 8 kilometers (5 miles) west; Malomal'sk ( $58^{\circ}45'N-59^{\circ}53'E$ ), 14 kilometers (9 miles) north-northeast; Talisman ( $58^{\circ}44'N-59^{\circ}55'E$ ), 14 kilometers (9 miles) north-northeast; Yelkino ( $58^{\circ}43'N-59^{\circ}50'E$ ), 8 kilometers (5 miles) north; Krasnyy Gorodok<sup>1</sup> ( $58^{\circ}37'N-59^{\circ}51'E$ ), 2 kilometers (1 mile) southeast; Kosaya ( $58^{\circ}37'N-59^{\circ}53'E$ ), 4 kilometers (2.5 miles) east; Aleksandrovka ( $58^{\circ}36'N-59^{\circ}53'E$ ), 4 kilometers (2.5 miles) east-southeast; Novoturniskoye ( $58^{\circ}39'N-60^{\circ}07'E$ ), 16 kilometers (10 miles) east-northeast; Malaya Vyva ( $58^{\circ}35'N-59^{\circ}07'E$ ), 10 kilometers (6 miles) southeast; Vyva ( $58^{\circ}35'N-59^{\circ}07'E$ ), 10 kilometers (6 miles) south-east; Zhelezenka ( $58^{\circ}35'N-59^{\circ}51'E$ ), 6 kilometers (4 miles) southeast; Mostovaya ( $58^{\circ}27'N-59^{\circ}50'E$ ), 19 kilometers (12 miles) south; Talitsa ( $58^{\circ}31'N-59^{\circ}46'E$ ), 12 kilometers (7 miles) south-southwest; Malaya Imennaya ( $58^{\circ}32'N-59^{\circ}53'E$ ), 9 kilometers (5.5 miles) south-southeast, located at the junction of the Malaya Imennaya and Tura rivers; Bol'shaya Imennaya ( $58^{\circ}33'N-59^{\circ}53'E$ ), 8 kilometers (5 miles) south-southeast; Ostinovka ( $58^{\circ}35'N-59^{\circ}53'E$ ), 4 kilometers (2.5 miles) southeast; and Chernorechenskiy ( $58^{\circ}37'N-59^{\circ}40'E$ ), 14 kilometers (9 miles) southwest. Thirty-eight kilometers (24 miles) south of Nizhnyaya Tura is the city of Kushva ( $58^{\circ}17'N-59^{\circ}45'E$ ), the terminus of the northernmost east-west railroad crossing of the Urals.

1. Gorodok means "small town".

Prominent physical features in the area are: Nizhne-Turinskiy Pond (or Reservoir), a narrow, elongated body of water that extends in a generally northwest - southeast direction; the Tura River (Reka) which flows from south to north; and the eastern slopes of the Urals.

## II. Description of the Area

### A. Physical Setting

The piedmont, on which the town of Nizhnyaya Tura is located, is a narrow longitudinal zone that lies between the foothills of the Urals on the west and the West Siberian Plain on the east. In relief, the piedmont is a transitional zone with a general eastward slope cut by numerous east-west valleys that divide it into a succession of flat-topped swells and valleys. Many of these valleys are narrow, with gradients that vary markedly within short distances. At the edge of the West Siberian Plain, approximately 23 kilometers (14 miles) east of the town of Nizhnyaya Tura, is a low but distinct escarpment. Beyond this escarpment a nearly featureless plain continues east for approximately 2,400 kilometers (1,491 miles) to the Yenisey River. To the west are the low foothills and hill-like mountains of the Central Urals, which extend westward for a distance of about 125 kilometers (78 miles). The mountain ridges within this area, which have been worn down from level or slightly undulating surfaces, are interrupted by individual hills of generally rounded forms, many of which are flat-topped. The elevation of the Urals in this sector is between 300 and 500 meters (984 to 1,640 feet), with individual peaks rising as high as 960 meters (3,149 feet). The most outstanding physical features in the immediate foothill area are: (1) Mount (Gora) Zhukov Kamen', 14 kilometers (9 miles) west-northwest, (2) Mount Kolpakov Kamen', 11 kilometers (7 miles) west-southwest, and (3) Mount Shaytan, 2 kilometers (1.2 miles) east of Nizhnyaya Tura.

The Nizhnyaya Tura region is only moderately suitable for underground installations because the predominant granite and granite-like rocks are

difficult to excavate. This type of rock, however, is strong enough to support underground installations, and steep slopes that facilitate excavation are abundant. There are also a few mines in the area, which might offer limited underground facilities. In the Nizhne-Turinskiy Reservoir area, there is a massif of karstic limestone that is surrounded on all sides by igneous rock. Experience has shown (according to a 1945 Soviet source) that the igneous rocks serve as a protection against large-scale seepage through the limestone and prevent cave formation.

The soil of the Nizhnyaya Tura region is largely podsollic with an intermixture of rock fragments and varies in depth from deep to shallow.

#### B. Hydrography

The city of Nizhnyaya Tura lies within the Siberian drainage system. The rivers of the region flow, through a tributary system, into the Ob River and eventually into the Kara Sea.

The most prominent hydrographic feature in the Nizhnyaya Tura area is the Nizhne-Turinskiy Pond. This long, narrow reservoir, whose water level is reported to be 179 meters (587 feet) above sea level, was formed by damming the Tura River and extends in a generally northwest - southeast direction. It is approximately 12 kilometers (7.5 miles) long, varies from 0.3 to 1.5 kilometers (984 to 4,922 feet) in width, and has a surface area of 12 to 15 square kilometers (5 to 6 square miles). No data are available on the depth of the pond. The total volume is reported in a Soviet source as 173 million cubic meters (6,108.6 million cubic feet), with a useful volume of 115.5 million cubic meters (4,078.3 million cubic feet).<sup>1</sup> Though the reservoir is used to some extent to regulate the seasonal flow of the Tura River, it is of value chiefly for the production of hydroelectric power. Controlled discharge amounts to 6.7 cubic meters (236.6 cubic feet) per second, with an average annual discharge of 11.2 cubic meters (395.5 cubic feet) per second.

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1. It is presumed that the word "useful" refers to the volume of water that may be utilized for power.

The dam is of earth with a wooden outlet of pile and cribwork construction, a reinforced-concrete intake, and three delivery conduits 2.5 meters (8.2 feet) in diameter. A hydroelectric station is located at the dam.<sup>1</sup>

The second most prominent hydrographic feature in this region is the Tura River. From its source in the Urals west of Kushva, it flows east through a narrow valley with steep, stony, forested slopes. Just north of Kushva the river enters the Verkhnyaya Tura Pond, which is approximately 30 kilometers (19 miles) south of Nizhnyaya Tura. From here the river flows north to the Nizhne-Turinskiy Pond. Just south of Nizhne-Turinskiy Pond the Malaya Imennaya River joins the Tura River. The Bol'shaya Imennaya River flows into the pond just west of the town of Nizhnyaya Tura. The drainage area of the Tura River above the Nizhne-Turinsk GES (Gidroelektrostantsiya -- hydroelectric power station) comprises 1,740 square kilometers (672 square miles). The average annual flow of the river is reported as 353 million cubic meters (1,246.4 cubic feet), with a drainage rate of 6.4 liters (1.7 gallons) per second per square kilometer (0.39 square miles). From the Nizhne-Turinskiy Pond the Tura River continues northward to the town of Malomal'sk (58°45'N-59°53'E), 14 kilometers (9 miles) north-northeast of Nizhnyaya Tura. The drainage area of the Tura River above the planned Malomal'sk GES comprises 3,140 square kilometers (1,212 square miles), with an average annual flow of 560 million cubic meters (19,774 million cubic feet) and a drainage rate of 6.4 liters (1.7 gallons) per second per square kilometer. From Malomal'sk, the Tura River flows generally southeast for 992 kilometers (616 miles) to its junction with the Tobol River.

The Nizhnyaya Tura region also includes a number of small lakes, ponds, rivers, streams, and areas of swamp, but they are of only minor importance. The largest swamp area in the region is the Talitsa Boloto, just north of the settlement of Talitsa (58°31'N-59°46'E).

1. See section under "Power."

### C. Vegetation and Agriculture

The vegetation of the Nizhnyaya Tura region is predominately dense coniferous forest. Close growth of fir and spruce is most common, with occasional stands of pine. Larch is also found, particularly where the under-lying rocks are granite and peridotite. Towards the south larch and birch become common, and towards the east the coniferous forest is interspersed with a few stunted linden trees. Throughout the forest is a dense underbrush of shrubs and berry plants, and tall grasses border the streams. The many burned-over patches within the region contain tangled growths that are man-high or taller. The vegetation in the region provides good concealment and cover, as observation is restricted to a few yards. Cross-country movement, however, is difficult. Wood for fuel and construction is abundant, and the forest abounds in deer.

The quagmires and swamps found in low places within the area have typical swamp vegetation. Towards the east, the large flat tops of swells are covered with peat bogs, and peat reserves in the Nizhnyaya Tura area are large.

The agriculture of Sverdlovsk Oblast is of local importance only. It occupies a comparatively small part of the area, since approximately 60 percent of the oblast is covered with woods and bushes and more than 9 percent with meadows and grazing grounds. A considerable part of the agricultural requirements of the area must be imported from other parts of the USSR. An effort is being made to increase vegetable growing, dairy farming, and hog raising within the mining and industrial districts of the oblast, but specific information on progress is lacking. Though the main grain-growing areas of the oblast are in the south, some summer wheat, oats, and rye are grown within the Nizhnyaya Tura region. Potatoes are probably the chief vegetable crop. A few bee farms (Paseka) are located in the area, apparently utilizing the blossoms of the linden trees.



#### D. Minerals

##### 1. Exploited

a. Metallic -- Though many important metallic minerals are found on the eastern slopes of the Urals, available information indicates that only iron is currently being exploited in the Nizhnyaya Tura area. Other metallic minerals that are mined in the Sverdlovsk Oblast are: copper, lead, zinc, manganese, chrome, nickel, tungsten, titanium, gold, platinum, aluminum (bauxite), molybdenum, and cobalt.

b. Non-metallic -- Important non-metallic minerals that are currently being exploited in the Sverdlovsk Oblast are asbestos, potash, and coal. Information is not available, however, as to whether any of these minerals is being exploited in the immediate Nizhnyaya Tura area.

2. Not Exploited -- The type and extent of unexploited metallic and non-metallic minerals of the area is not known.

##### E. Climate

Continental air masses are the dominant factor in the climate of the Nizhnyaya Tura area, with only occasional intrusions of maritime air. The prevailing winds are from the north and northeast in the summer and from the west in the winter. For this reason, the eastern slopes of the Urals generally have less snow than the western slopes. The winter storms from the east are characterized by penetrating cold. Maximum cloudiness occurs in autumn and winter and minimum cloudiness in early summer. Precipitation is highest during the summer months, with the high probably in July. Maximum temperatures probably occur during July also.

Although climatic data for Nizhnyaya Tura are not available, records are available for Nizhny Tagil, located approximately 80 kilometers (49 miles) farther south. General climatic conditions are approximately the same for the two areas.

CLIMATIC DATA FOR NIZHNY TAGIL

① Elevation, 233 meters (764 feet), 57°54'N-60°00'E

1. Monthly and Annual Mean Temperatures (°C)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly	Annual Var.
-16.6	-13.3	-7.2	2.5	9.8	15.0	17.6	14.9	9.1	0.9	-8.0	-14.4	0.9	34.2

2. Average Precipitation (mm)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly
19	18	17	20	48	79	74	71	41	25	30	24	466

Source: Meteorology of the Moscow-Irkutsk Air Route, FDD Summary No. 19, 7 February 1950.

### III. Administration

In 1929, Nizhnyaya Tura was designated as a rabochiy poselok (workers' settlement), with its council of deputies directly subordinate to the council of deputies of Isovskiy Rayon. According to Soviet usage this designation meant that Nizhnyaya Tura must have had a minimum population of 400 adults, of whom no less than 65 percent were wage earners. Nizhnyaya Tura remained a workers' settlement through 1 January 1949. Between 1 January 1949 and 1 May 1949, the settlement was suddenly elevated to the rank of oblast city without first becoming a city subordinate to its local rayon.<sup>1</sup> This by-passing of the normal progression implies that some specific and important characteristic of the city requires that it be directly subordinate to the oblast administration.<sup>2</sup> Nizhnyaya Tura is still an oblast city within the Sverdlovsk Oblast, RSFSR.

### IV. Population

No postwar data are available, but a German source gives the population of Nizhnyaya Tura as 4,900 in 1932, and a Soviet source gives it as 6,000 in 1935.

### V. Public Utilities and Transportation

#### A. Power

Nizhnyaya Tura is located with the "Central Urals" power network, but data on power requirements for the area are not available. The Nizhne-Turinsk GES is the farthest upstream hydroelectric plant in a series of

1. The primary criterion for differentiating between a city and a workers' settlement is the presence or absence of urban functions (developed transportation, communications, sewage and water facilities, public buildings, institutions, etc.). When a workers' settlement attains a minimum adult population of 1,000, of whom no more than 25 percent are engaged in agricultural pursuits, the settlement becomes a city if and when designated by the Union republic.

2. The oblast is in actual fact the most important administrative unit in the USSR since it is the basic unit for all economic planning.

six planned hydroelectric stations along the Tura River. According to a 1945 Soviet source, the water level of the reservoir is to be increased from 179 meters (587 feet) above sea level to 182 meters (597 feet) above sea level. In the projected plan for reconstruction of the hydroelectric installations, the following measures are proposed: (1) raising the height of the present earth dam by 4 [sic] meters (13 feet), (2) reconstructing the cribwork outlet, (3) expanding and strengthening the intake, (4) constructing a hydroelectric station, and (5) building an embankment around the settlement of Nizhnaya Tura.<sup>1</sup> In 1945, the hydroelectric station, located at the dam site, had five horizontal Francis turbines with a total capacity of about 500 kilowatts. The planned water-power index for the Nizhne-Turinsk GES is as follows: (1) installed capacity, 2,200 kw, (2) guaranteed capacity, 270 kw, (3) average annual power output, 5.9 million kw-hr, (4) maximum head, 14 meters (46 feet), (5) calculated discharge of GES, 22 cubic meters (777 cubic feet) per second, and (6) the annual flow of the river, 354 [sic] million cubic meters (12,500 million cubic feet).

A 1946 Soviet source also indicates that construction was begun on a thermal power plant at Nizhnaya Tura, which is to be one of the largest within the Soviet Union. It is to be operated on local Karpinsk (59°45'N-60°04'E) coal and is to supply power to the Northern Ural industrial complex and to the stretch of electrified railroad from Kushva to Karpinsk.

It is believed that some local industrial plants have their own power facilities, but detailed information is lacking.

#### B. Water

There is no information as to the source of the water supply for Nizhnaya Tura, but industrial requirements are probably met by drawing water from the Nizhne-Turinskiy Pond or the Tura River. City water may be obtained in the same manner or from wells, since the area is known to contain suitable ground water.

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1. An analysis of the terrain of the area indicates that raising the level of the reservoir to 182 meters above sea level would also necessitate the  
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the reservoir area.

C. Transportation

1. Local -- There is no information as to the existence of a public transportation system with Nizhnyaya Tura.

2. Railroads -- Nizhnyaya Tura is within the Sverdlovsk Railroad system and is the terminus of a line with standard 5'-gauge that branches off the Kuzhva-Serov section at Vyva. This section of the Sverdlovsk system is being electrified, but the stage of completion is not known. From Vyva a narrow-gauge track runs generally northwest to Is, where it divides -- one section running north and terminating at Staraya Lyolya and the other running west to Kryuchkovka.

3. Roads -- Primary roads radiate from Nizhnyaya Tura to the surrounding settlements of Verkhnyaya Tura, Novoturinskoye, Yelkino, and Vyva. There is also a fairly dense pattern of secondary roads and trails. It is not known which roads in the area, if any, are metalled. During periods of heavy precipitation or spring thaws, the dirt roads become quagmires.

D. Communications

There is no information as to the existence of a telephone system, post office, telegraph office, or radio station in Nizhnyaya Tura.

VI. Industrial Installations

Though the economic structure of Nizhnyaya Tura is based on minor industry, specific locational and functional information on industrial installations is not available. All known information on the location of plants and their products is listed below. This report is not concerned with the amount of production or number of people employed.

A. Ammunition Plant

A Soviet source indicates that this plant contains metal-working machinery and produces ammunition. The location is unknown.

B. Iron and Steel Plant

Various sources indicate that Nizhnyaya Tura is the location of an iron and steel plant containing five blast furnaces and rolling equipment.

The end products are pig iron, sheet iron, and armor plate. Though early sources indicate that charcoal was used in the production of pig iron, it is believed that coke is now being used. Unconfirmed information gives the location of this plant as near the Mzhnyaya Tura railroad station.

C. Shipyards

This industrial installation is reported to contain an equipment dock, fitter's shop, forge, foundry, lathe shop, and assembly shop. According to a 1943 source, the end product was pontoons. The location of the plant is unknown.

D. Other Industries

Though the following installations are not in Mzhnyaya Tura, various sources indicate that they are located in its immediate vicinity.

1. Brick Kilns -- Several brick kilns are reported as located in the area between the settlements of Zhelezenka and Vyva, but the exact location is not known.

2. Tar Ovens and Gas Plants -- A few installations in the vicinity of Mzhnyaya Tura are classified in German sources as "tar ovens and gas plants." It is believed that these installations are coke ovens that utilize local coal and produce coal tar and gas as by-products. These installations are located to the south and west of the city, but exact locational information is lacking.

VII. Non-Industrial Installations

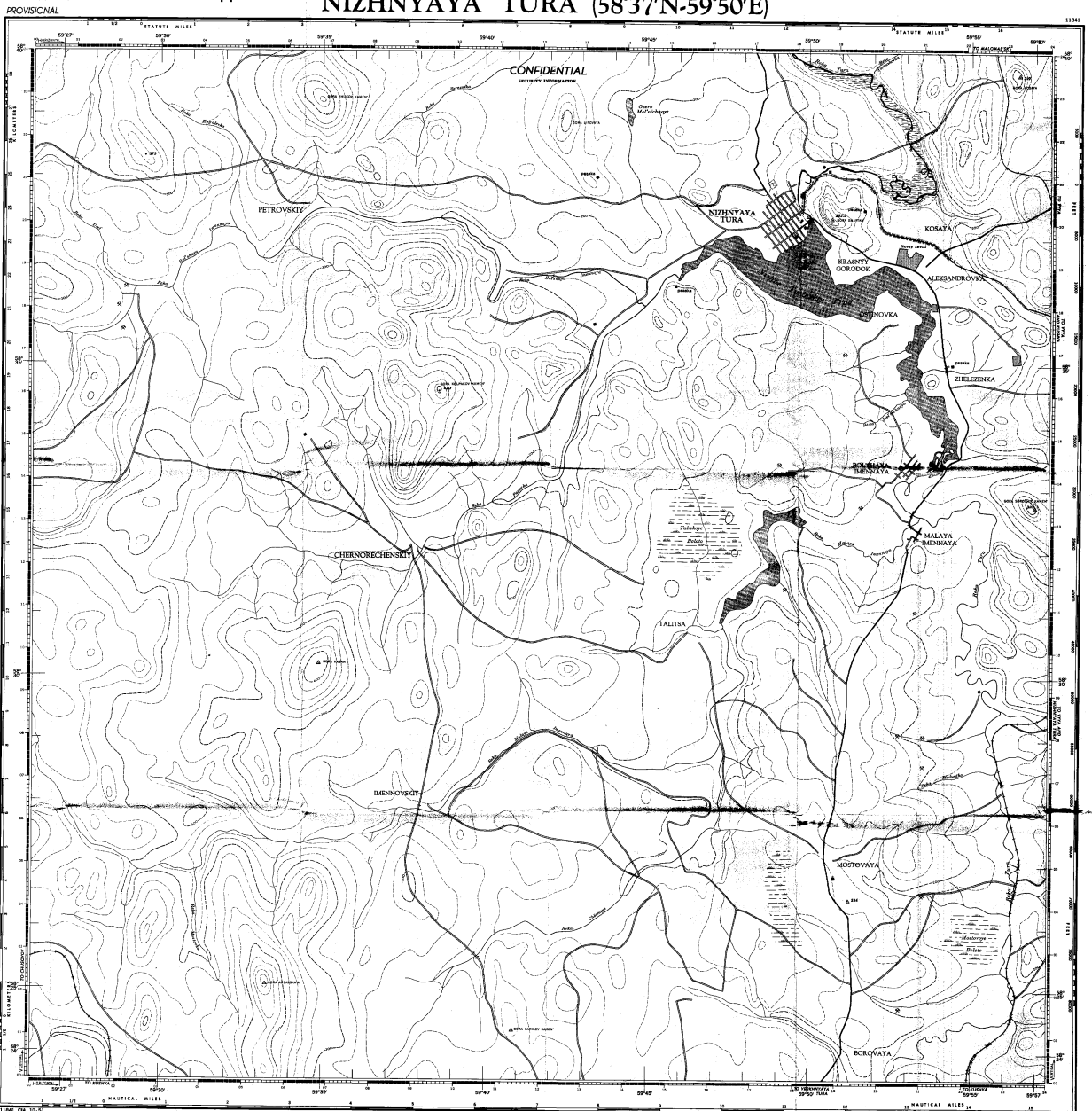
The settlement of Mzhnyaya Tura is believed to contain various non-industrial installations such as a church, school, and store. Specific data on their location is not available. A cemetery is located on the northern outskirts of the settlement.

APPENDIX A

Because sufficient intelligence data for this are lacking, the following request is made:

1. All maps of the Nishnyaya Tura region at scales of 1:500,000 or larger that come to the attention of analysts and other intelligence personnel should be forwarded to the Central Intelligence Agency, attention Analysis Branch, Geographic Division.
2. All corrections or additions to this report or to the map compiled for the report (CIA 11841) should be forwarded as indicated above, along with full information concerning their sources.
3. All information that can be mapped should be plotted on CIA 11841 unless the information extends beyond its areal limits. In this case the provisional (and less accurate) USAF Collection Chart, Nishnyaya Tura, 0156-9941-100 ICC, at 1:100,000, should be used for plotting.

# NIZHNYAYA TURA (58°37'N-59°50'E)



Setback	Single dash - 10 meters
Setback	Double dash - 20 meters
Setback	Triple dash - 30 meters
Setback	Four dash - 40 meters
Setback	Five dash - 50 meters
Setback	Six dash - 60 meters
Setback	Seven dash - 70 meters
Setback	Eight dash - 80 meters
Setback	Nine dash - 90 meters
Setback	Ten dash - 100 meters
Setback	Eleven dash - 110 meters
Setback	Twelve dash - 120 meters
Setback	Thirteen dash - 130 meters
Setback	Fourteen dash - 140 meters
Setback	Fifteen dash - 150 meters
Setback	Sixteen dash - 160 meters
Setback	Seventeen dash - 170 meters
Setback	Eighteen dash - 180 meters
Setback	Nineteen dash - 190 meters
Setback	Twenty dash - 200 meters
Setback	Twenty-one dash - 210 meters
Setback	Twenty-two dash - 220 meters
Setback	Twenty-three dash - 230 meters
Setback	Twenty-four dash - 240 meters
Setback	Twenty-five dash - 250 meters
Setback	Twenty-six dash - 260 meters
Setback	Twenty-seven dash - 270 meters
Setback	Twenty-eight dash - 280 meters
Setback	Twenty-nine dash - 290 meters
Setback	Thirty dash - 300 meters
Setback	Thirty-one dash - 310 meters
Setback	Thirty-two dash - 320 meters
Setback	Thirty-three dash - 330 meters
Setback	Thirty-four dash - 340 meters
Setback	Thirty-five dash - 350 meters
Setback	Thirty-six dash - 360 meters
Setback	Thirty-seven dash - 370 meters
Setback	Thirty-eight dash - 380 meters
Setback	Thirty-nine dash - 390 meters
Setback	Forty dash - 400 meters
Setback	Forty-one dash - 410 meters
Setback	Forty-two dash - 420 meters
Setback	Forty-three dash - 430 meters
Setback	Forty-four dash - 440 meters
Setback	Forty-five dash - 450 meters
Setback	Forty-six dash - 460 meters
Setback	Forty-seven dash - 470 meters
Setback	Forty-eight dash - 480 meters
Setback	Forty-nine dash - 490 meters
Setback	Fifty dash - 500 meters
Setback	Fifty-one dash - 510 meters
Setback	Fifty-two dash - 520 meters
Setback	Fifty-three dash - 530 meters
Setback	Fifty-four dash - 540 meters
Setback	Fifty-five dash - 550 meters
Setback	Fifty-six dash - 560 meters
Setback	Fifty-seven dash - 570 meters
Setback	Fifty-eight dash - 580 meters
Setback	Fifty-nine dash - 590 meters
Setback	Sixty dash - 600 meters
Setback	Sixty-one dash - 610 meters
Setback	Sixty-two dash - 620 meters
Setback	Sixty-three dash - 630 meters
Setback	Sixty-four dash - 640 meters
Setback	Sixty-five dash - 650 meters
Setback	Sixty-six dash - 660 meters
Setback	Sixty-seven dash - 670 meters
Setback	Sixty-eight dash - 680 meters
Setback	Sixty-nine dash - 690 meters
Setback	Seventy dash - 700 meters
Setback	Seventy-one dash - 710 meters
Setback	Seventy-two dash - 720 meters
Setback	Seventy-three dash - 730 meters
Setback	Seventy-four dash - 740 meters
Setback	Seventy-five dash - 750 meters
Setback	Seventy-six dash - 760 meters
Setback	Seventy-seven dash - 770 meters
Setback	Seventy-eight dash - 780 meters
Setback	Seventy-nine dash - 790 meters
Setback	Eighty dash - 800 meters
Setback	Eighty-one dash - 810 meters
Setback	Eighty-two dash - 820 meters
Setback	Eighty-three dash - 830 meters
Setback	Eighty-four dash - 840 meters
Setback	Eighty-five dash - 850 meters
Setback	Eighty-six dash - 860 meters
Setback	Eighty-seven dash - 870 meters
Setback	Eighty-eight dash - 880 meters
Setback	Eighty-nine dash - 890 meters
Setback	Ninety dash - 900 meters
Setback	Ninety-one dash - 910 meters
Setback	Ninety-two dash - 920 meters
Setback	Ninety-three dash - 930 meters
Setback	Ninety-four dash - 940 meters
Setback	Ninety-five dash - 950 meters
Setback	Ninety-six dash - 960 meters
Setback	Ninety-seven dash - 970 meters
Setback	Ninety-eight dash - 980 meters
Setback	Ninety-nine dash - 990 meters
Setback	One hundred dash - 1000 meters

ELEVATIONS IN METERS  
Contour interval 20 meters  
Scale 1:50,000

Source: 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 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2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 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3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 3483, 3484, 3485, 3486, 3487, 3488, 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497, 3498, 3499, 3500, 3501, 3502, 3503, 3504, 3505, 3506, 3507, 3508, 3509, 3510, 3511, 3512, 3513, 3514, 3515, 3516, 3517, 3518, 3519, 35