CLASSIFICATION CONFIDENTIAL 50X1-HUM

AIR INTELLIGENCE INFORMATION REPORT

COUNTRY OR AREA REPORT CONCERNS	DATE OF INFORMATION
USSR	1933-1957

SUMMARY *(Give summary which highlights the salient factors of narrative report. Begin narrative text on AF Form 112a unless report can be fully stated on AF Form 112. List inclosures, including number of copies)*

1. Forwarded herewith is a topographic report based on various 1933-1957 Soviet open sources.
2. This report is subdivided into the following parts:
   - I. Novaya Zemlya Archipelago (approx. 70°26'N to 77°02'N; 51°26'E to 69°12'E)
   - II. Subarctic Ural Mountains Area (approx. 64°N to 65°30'N; 58°30'E to 63°E)
   - III. Eastern Siberia (approx. 55°N to 76°N; 80°E to 150°E)
   - IV. Mountains of the Sea of Okhotsk Basin (approx. 55°16'N to 63°N; 136°08'E to 143°08'E)
3. Reproductions of 10 photos, 4 maps and 1 drawing are attached.

50X1-HUM

DISTRIBUTION BY ORIGINATOR *(Except USAF and file. Indicate Dupl M/oz and copies w/o inclosures, if applicable)*

50X1-HUM

AF FORM 15 SEP 54 112 REPLACES AF FORM 112, 1 OCT 52, WHICH MAY BE USED

U. S. GOVERNMENT PRINTING OFFICE: 1954 O - 315475

CLASSIFICATION CONFIDENTIAL

CLASSIFICATION CONFIDENTIAL

50X1-HUM

AIR INTELLIGENCE INFORMATION REPORT

COUNTRY OR AREA REPORT CONCERNS	DATE OF INFORMATION
USSR	1933-1957

SUMMARY *(Give summary which highlights the salient factors of narrative report. Begin narrative text on AF Form 112a unless report can be fully stated on AF Form 112. List inclosures, including number of copies)*

1. Forwarded herewith is a topographic report based on various 1933-1957 Soviet open sources.
2. This report is subdivided into the following parts:
   - I. Novaya Zemlya Archipelago (approx. 70°26'N to 77°02'N; 51°26'E to 69°12'E)
   - II. Subarctic Ural Mountains Area (approx. 64°N to 65°30'N; 58°30'E to 63°E)
   - III. Eastern Siberia (approx. 55°N to 76°N; 80°E to 150°E)
   - IV. Mountains of the Sea of Okhotsk Basin (approx. 55°16'N to 63°N; 136°08'E to 143°08'E)
3. Reproductions of 10 photos, 4 maps and 1 drawing are attached.

50X1-HUM

DISTRIBUTION BY ORIGINATOR *(Except USAF and file. Indicate Dupl M/oz and copies w/o inclosures, if applicable)*

WARNING: *This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., Section 793 and 794. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.*

50X1-HUM

AF FORM 15 SEP 54 112 REPLACES AF FORM 112, 1 OCT 52, WHICH MAY BE USED

U. S. GOVERNMENT PRINTING OFFICE: 1954 O - 315475

CLASSIFICATION CONFIDENTIAL

LIST OF INCLOSURES

1. Fig. 1 - The precipice in Pospelova Bay, Severnyy Island, Novaya Zemlya (photo).
   Fig. 2 - The valley of Kan'yonskie River, Severnyy Island (photo).
2. Fig. 3 - The Kan'yonskie River (photo).
   Fig. 4 - The Bystraya River (photo).
3. Fig. 5 - The coast near Chayek Island, Severnyy Island (photo).
4. Fig. 6 - Map of the northeastern coast of Severnyy Island.
5. Fig. 7 - Map of the Russkaya Gavan' Bay, Severnyy Island.
6. Fig. 8 - Lithologic map of Beluzh'ya Fiord, Matochkin Shar Strait, Novaya Zemlya.
7. Fig. 9 - View of Lednik (Glacier) Yugra (photo).
   Fig.10 - View of the eastern slope of Gora (Mountain) Mansi-ner and Lednik Mansi with glacier lakes (drawing).
8. Fig.11 - Vegetation Map of the Indigirka River Basin.
9. Fig.12 - Manskoye belogor'ye (White Upland) (photo).
   Fig.13 - Noril'skoye Plateau.
10. Fig.14 - Glaciers of the central part of the Suntar-Khayata Ridge (photo).
    Fig.15 - A.A. Borzov's glacier in the northern portion of the Suntar-Khayata Ridge (photo).

PRIORITY REQUEST FOR INFORMATION NO. 13. XI.

I. NOVAYA ZEMLYA ARCHIPELAGO.
(Approx. 70°26'N to 77°02' N; 51°26'E to 69°12' E).

The surface of Novaya Zemlya, flat at its northern extremity, rises gradually, becoming a hilly plain cut by numerous streams south from Zhelaniya Cap. These streams originate at the icesheet, covering the central part of the Severnyy Island, and they flow towards the northern and northeastern shores. The northern boundary of the glaciation area extends along 76°45'N, in a slightly curving line. Beginning from 76°30' N the central part of the Northern Island rises steeply. Glaciation becomes very intensive, with glaciers filling the valleys. Separate rounded nunataks, reaching the height of 900 to 1,100 m rise above the tablelike elevations. The Alpine-type glaciers descend into the broad fiords both on the western and eastern shores of Severnyy Island. Further to the south, the eastern shoreline is more developed. A winding line of rocks extends from Vlas'yeva Bay to Rusanova Bay. The coastal line between Medvezhiy Bay and Vikulova Bay is cut intensely by bays and inlets. An unexplored large bay, some 20 km long, extending at 74°N in the northwestern direction is cut by numerous fiords. A glacier descends into the upper end of the bay from a 300 m elevation. This glacier originates in the icesheet of the central part of Novaya Zemlya. The area between Matochkin Shar Strait and Bezymyannaya Bay on the Yuzhnyy Island is a high-mountainous plateau, rising 800 to 900 m above sea level. Separate summits here reach the height of 1,000 m. This plateau descends gradually south and reaches an altitude of 500-700 m at Bezymyannaya Valley. This valley forms the southern boundary of the continental glaciation area of Novaya Zemlya. (1, pp. 24-26)

The coastal area from Zhelaniya Cap to Sporyy Navolok Bay in the northeastern part of Severnyy Island is low in its northern and central parts. However, the relief of the area becomes hilly farther to the south. The coastal plain descends to the sea in the form of terraces. Snow agglomerations, in the form of firn spots, appear mostly in the valleys and ravines (2, p. 54), (Fig. 1,2,3,4) and under cliffs. (Fig. 5) In the southern part of the area the cover of continental ice is interrupted by nunataks. In the area of Ledyanaya Bay the edge of the icesheet is some 20 to 25 mi off the shore. (2, p. 55) The bays in the area have mostly the form of an arch. (2, p. 58) The included map shows the coastal line of the area. (Fig. 6)

Only a few elevations on the coastal line from Zhelaniya Cap to Sporyy Navolok Bay exceed 200 m in altitude. They are:

unnamed elevation, 223 m (76°54'N - 68°11' E)

unnamed elevation, 200 m (76°53'N - 68°29' E)

unnamed elevation, 232 m (76°52'N - 68°33' E)

unnamed elevation, 202 m (76°34'N - 68°43' E)

The map shows also several elevations over 200 m on the northwestern coast of Severnyy Island, namely:

Tobisena Mountain, 325 m (76°50'N - 66°35' E)

*Derma Mountain 367 m (76°52'N - 66°43' E)

unnamed elevation 325 m (76°52'N - 66°50' E)

unnamed elevation 257 m (76°53'N - 67°05' E)

unnamed elevation 308 m (76°54'N - 67°09' E). (Fig. 6)

The Yermolayeva Mountain, 245 m high (76°10' N - 62°40'E) together with the elevated Makarova Cap and Bogatyy Island are the best noticeable landmarks on the approaches to Russkaya Gavan' Bay. The Bay, located in the northwestern part of Novaya Zemlya provides the best protected anchorage on the western coast of Severnyy Island. The Veselyye Mountain Range is located east of Yermolayeva Mountain. The highest summits of this Range reach the altitude of 275 m (76°09' N-62°45'E), 283 m (76°09'N - 62°55'E) and 297 m (76°11'N - 62°55'E) respectively. A 230 m mountain is located at Chayeva Glacier (76°11'N - 63°.00'E). (3, p. 105), (Fig. 7)

Beluzh'ya Inlet, with its mouth opening into Matochkin Shar Strait is a typical fiord. This 12 km long and 400 m to 3.5 km wide inlet is encircled by chains of [up to 800 m] high mountains, destroyed by erosion to a high degree. Mountains in the eastern coastal zone of the inlet descend toward Karskoye Sea to become a plateau with rolling hills. (4, pp. 119, 120), (Fig. 8)

II. SUBARCTIC URAL MOUNTAINS AREA
(Approx. 64°00'N to 65°30'N; 58°30'E to 63°00'E)

Yugra Glacier

The Yugra[1] Glacier is located on the eastern slope of the main watershed ridge of the Urals (in Gora Narodnaya area).

The carr, where the glacier is found, presents a deep bowl surrounded by a tight ring of high and steep peaks formed by dark metamorphic schists of the Proterozoic period. The mouth of the carr opens into the Naroda River valley on the level of its bottom (1,000 m above sea level).

The southern and northern walls of the carr are the highest (about 500 m), while the western wall is 200 to 250 m lower, and, overlapping the carr of the opposite slope (where the source of the Lomes'-Vozh Stream is located), forms a narrow and jagged crest.

A small lake, dammed by chaotically agglomerated large boulders lies at the mouth of the carr. (5, p. 163)

The southeastern slope of the carr has steep rocky ledges, separated by cones of rock waste.

The glacier has receded considerably between 1930 and 1947. (5, p. 168)

Mansi Glacier

Mansi Glacier[2] is located in a deep carr on the northeastern slope of Gora Mansi-ner (1,775 m). It occupies the rear, wider part of the carr, over which the characteristic "spire" of Gora Mansi-ner, formed by dark metamorphic schists, rises in a more than 500-m high wall.

Eastward, the carr narrows somewhat and becomes elongated resembling more a short hanging trough, the bottom of which is occupied by two lakes lying approximately on the same level. The lakes are separated by low agglomeration of rocky boulders, about 50 m in width. The upper lake (800 to 850 m long) adjoins directly the Mansi Glacier, and the altitude of its level is 1,200 m (according to aneroid measurements). S.G. Boch (in 1935) states, 50X1-HUM

that the depth of both lakes is from 5 to 8 m, while the author of this source, notes, that according to observations made by him and his party, in 1947, the depth of the upper lake is much greater. (5, p. 168)

Observations made in 1947 have shown that in 1947 the ice-equilibrium of the glacier was again positive, (5, p. 176) while observations of 1945 indicated that the Lednik Mansi was receding. (5, p. 175)

Below the second lake, which is smaller and shallower (8 to 10 m), the slope breaks abruptly into the valley of the right source of the Naroda River. The height of this ledge is about 200 m, the angle of the slope 25 to 30°.

The valley of the right source of the Naroda River is directly above the source of the Ruchey (Stream) Mansi (which flows from the lake), and is barred by a bank rising 80 to 85 m above the bottom of the main valley.

Thus the trough of the Mansi Stream is a hanging trough in relation to the right source of the Naroda River, and the latter is in turn a hanging trough in relation to the main valley of the Naroda River. (5, p. 169)

Small glaciers are found in the Ural mountains hundreds of meters below the climatic snow boundary line, because of meteorological conditions in the area and on account of large accumulation of snow there.

In the post-glaciation period, larger glaciers existed in Pripolyarnyy Ural in the valleys of the Khobe-yu, Naroda, Kobyla-yu, Limbeko-yu and Bolban-yu Rivers.

However, the now existing glaciers are not relics of another period, but are, despite their small size, "active" glaciers of contemporary origin. (5, p. 176-177)

III. EASTERN SIBERIA
(Approx. 55°N to 76°N; 80°E to 150°E)

Byranga Mountains

There are steep slopes up to 500 m - 600 m above sea level on the southern fringes of the Byranga Mountains, called also Byranga Plateau; this plateau drops gently in the north toward the Arctic Ocean. (6, v. I, p. 63)

Novosibirskiye Islands

Kotel'nyy Island, the largest of the Novosibirskiye ostrova (Islands), has an elevation 320 m. (6, v. I, p. 64)

Benneta Island, located north of Novosibirskiye Islands, is 23 km long, and up to 450 m high. The island has a form of a plateau about 300 m high. (6, v. I, p. 64, 65)

Yeniseyskiy Ridge

The Yeniseyskiy kryazh (Ridge) south of the Angara River is 300 m to 450 m above sea level, and the bluffs over the Yenisey River are 75 to 100 m high over that river. This ridge reaches 1,132 m height (Yenashiminskiy Polkan) north of the Angara River, almost under 60° of the northern latitude. The Yenisey River Valley widens to 100 km after receiving the Podkamennaya Tunguska. (6, v. I, p. 114)

Srednesibirskoye Plateau

The Srednesibirskoye Plateau (Ploskogor'ye) extends from the Yeniseyskiy Ridge in the west to the foothills of the Verkhoyanskiy Range in the east; it borders in the north on the Severo-Sibirskaya nizmennost' (which has an average height of 50 m to 70 m above sea level) approximately along a line from the Yenisey River at the Arctic Circle to the lowlands of the Olenek River; in the southeast the plateau approaches the Aldan River where the latter is wide and where the heights do not exceed 300 m; the southern fringe of the plateau in the Olekma River area runs approximately along the 59° of the northern latitude (6, v. I, p. 114)

The height of the watershed between the Lena and the Vilyuy Rivers is about 500 m; the height of the watershed drops down toward the Lena River and east of it, between the Lena and the Aldan Rivers, it is 200 m to 400 m. (6, v. I, p. 115)

Cliff banks on both sides of the Lena River with frequent limestone columnar rocks called "stolby" extend from below the mouth of the Vitim River down to Pokrovskoye village; the river is 3 to 4 km wide in that area. In addition to the meadow terrace there are two terraces above the flood plain all along the middle course of the Lena River; populated settlements are on these terraces. At Pokrovskoye the river valley widens; at Yakutsk it

is about 20 km wide, and the river is about 10 km wide and has many islands. Yakutsk stands on a terrace above the flood plain, 108 m above sea level. There the left bank rises about 100 m above the terrace, and the right bank is somewhat lower (6, v. I, p. 116).

The elevations of the [Srednesibirskoye] plateau, shown on maps as ranges are in fact table mountains. The Tunguskiye mountains form the watershed between the Nizhnyaya Tunguska and the Vilyuy Rivers; the average height of these mountains is 430 m in the south, and 730 m to 800 m in the north; their summits rise to 900 m - 1,050 m. On the upper Kureyka, Kotuy, and Kheta Rivers, there are heights up to 1,500 m.

The Noril'skoye Plateau, located in the upper Pyasina area in the northwestern part of the Srednesibirskoye Plateau, has an average height of 500 m to 600 m above sea level; this plateau breaks steeply in the north over the tundra and over the Yenisey River. A deep valley with steep slopes rising to 700 m of relative height runs toward Lama Lake; the lake is 82 km long, up to 7.5 km wide, and its deepest place is 208 m.

The Vilyuyskiye table mountains are on the watershed between the Vilyuy and the Olenek Rivers; the Lyucha-Ongokton massive constitutes the watershed for the Khatanga, Olenek and the Vilyuy Rivers; east of this [watershed] the height of the Vilyuyskiye mountains does not exceed 600 m. (6, v. I, p. 117)

The area between Yakutsk and the Amba River is cut by very many shallow hollows and gorges in all directions, and has a very large number of small lakes. (6, v. I, p. 119)

Kanskoye and Manskoye White Uplands

A mountain chain forming a watershed between the Kan and Mana Rivers on one side and the Tuba River on the other, extends from the point where the Zapadnyy and Vostochnyy Sayans meet, i.e. in the area of the sources of the Uda, Biryusa and Kazyr' Rivers, and where the height of the mountains is up to 3,000 m, to the west-north-west, and consists of a number of massives: the Kanskoye White Uplands (belogor'ye), 2.162 m high, on the upper Kan River, and the Manskoye White Uplands (Fig. 12), west of the top of the Mana River, at an average height of 1,500 m to 1,550 m, with elevations to 1,800 m. (6, v. II, p. 394)

Stolby [RR] station is at the height of about 700 m, at approximately 56°N, and 93°E in the Vostochnyy Sayan foothills (6, v. II, p. 398)

Vitimskoye Plateau

Vitimskoye Plateau extends northwest of Yablonovyy Range; it is 850 m to 1,450 m above sea level, with heights, of 1,000 to 1,350 predominating. (6, v. II, p. 412)

The Oymyakonskoye Plateau

The Oymyakonskoye Plateau extends between the Verkhoyanskiy and the Tas-Kystabyt Ranges in the basin of the upper Indigirka River. It is dismembered into separate table elevations, most of them 1,500 m high. The lowest part of the plateau, the Oymyakonskaya Depression, located along the Indigirka River, is about 700 to 750 m high. (7, 2 edit., v. 30, 1954, p. 571)

The Cherskogo Range

The Cherskogo Range is 2,000 m to 2,500 m high in the area where it is cut by the Indigirka River; the Chen Mountain rises 2,685 m. The Indigirka River valley is from 1,500 m to 2,000 m below the top of the summits in the highest part of the range. This range is dismembered particularly in its southern end, i.e. in the Kolyma River basin where it is up to 250 km wide, and where it changes into ranges and groups, separated by valleys and highlands (melkogor'ye) 1,000 m to 1,300 m high; here occur the highest groups of mountains - 2,100 m to 2,500 m high.

The Tomus-khaya, or Garmychan, Range, is located in the basins of the Moma River, right tributary of the Indigirka, and of the Yasachnaya River, left tributary of the Kolyma. The Garmychan extends west through the Moma River basin to the left bank of the Indigirka River where it joins the Taskhayatakh Range, located in the watershed area between the Indigirka and the Yana Rivers. (6, v. II, p. 432)

There are four terraces in the Indigirka River valley in the area of Cherskogo Range at 1 m to 4 m, at 30 m to 35 m at 200 m, and at 350 m. (6, v. II, p. 433)

According to new data, the Cherskogo Range does not extend to the Pacific Ocean. It ends with the Verkhne Kolymskoye nagor'ye (Upper Kolyma Upland) in the upper Kolyma River area, of the average height of 1,000 m; gol'tsy of the Verkhne-Kolymskoye Upland are up to 2,500 m high. (6, v. II, p. 433)

The left tributaries of the Indigirka River, and also tributaries of the Okhota and Yudoma Rivers have their sources on the Suntar-khayata (called Suntar) Range in the upper Indigirka River area. The Suntar Range is separated from the Verkhoyanskiy Range by several plateaulike elevations. The highest point of the Suntar Range 3,010 m (earlier its height had been given as 2,500 m), is located in the area of the upper Suntar River. It is also the highest point in northeastern Asia. Five glaciers of a total area of 58.5 sq km slide from this summit. The snow line of the Suntar Range is on the average at 2,350 m to 2,400 m. This range has more than 20 summits with heights up to 2,850 m. (6, v. II, p. 433)

Two known glaciation centers in Cherskogo Range are: the Chen group in the west, and a group of glaciers (the largest 11.2 km long) in the Buordakh massive, located in the Moma River area. The heights of this massive are evidently not less than 2,900 m. An extinguished volcano has been discovered on the bank of the Moma River, about 140 m high.

Patomskoye Upland

Patomskoye Upland is located in the Patom River area between the Vitim River in the west, the Chara River in the east and south, and the Lena River valley in the northwest and the north. The average height of the upland is 850 m to 1,050 m. According to another source it is 1,200 m to 1,300 m high. North, toward the Lena River, the upland drops steeply toward the Srednesibirskoye Plateau with bluffs of 400 m to 500 m of relative height. The borderline of the upland follows the arch of the Lena River between the Vitim and the Patom River. This upland is dismembered by the deep basins of the Vitim and the Chara Rivers into domelike massives of about the same height of 1,000 m to 1,100 m. The highest point, Longdor summit, is 1,956 m high. Another source gives its height at 1,959 m; according to the latest data it is 1,771 m high.(6, v. II, p. 412; 7, 2 edit., v. 32, 1955, p. 232)

The Barguzinskiy Range, located at the northeastern coast of Baykal Lake, is up to 2,500 m high, and has an alpine relief.

The Verkhoyanskiy Range

The Verkhoyanskiy Range extends on the watershed of the Lena, Yana, and partly the Indigirka Rivers to the Suantar River in the basin of the upper Indigirka River, or (according to Bilibin and Obruchev) to the lower Yudoma River, tributary of the Mai River, where the chains of Setta-daban mountains, with separate summits rising to 1,800 m, are located.

The slopes of the Verkhoyanskiy Range in the Aldan and Lena River valleys are steep; the eastern slopes drop gently toward the Yana and the Indigirka River valleys.

The height of the range in the area of the upper Indigirka River is up to 2,500 m, and in the area along the tract from Yakutsk to Verkhoyansk it is 2,000 m; in the north the Verkhoyanskiy Range altitudes diminish. There are terraces in the 300 m to 350 m belt above the floors of the valleys. Many mountain summits in the area between the mouths of the Vilyuy and the Aldan Rivers are flat, which makes them look like table mountains. There are no continuous mountain chains in this area, but many large elevations, forming a level undivided plateau. Vanyushin describes this area of the Verkhoyanskiy Range as follows: "Looking on it from high mountains one sees... separate chaotically distributed sand and shale mountains of the table type, approximately of the same height, with soft outlines in the Yana River basin, and with sharper forms of relief toward the Lena River basin." (6, v. II, p. 431)

The Yukagirskoye Plateau

The Yukagirskoye Plateau, extending between the Kolyma River and its right tributary the Omolon River, is from 300 m to 800 m high. (6, v. II, p. 433)

IV. MOUNTAINS OF THE SEA OF OKHOTSK BASIN
(Approx. 55°16'N to 63°N; 136°08'E to 143°08'E)

The Northwest Coast of the Sea of Okhotsk
(55°16'N to 136°08'E; 59°21'N to 143°08'E)

The Feodora Bay is 2.5 miles west of the Eykan Cape. In the west the bay is confined within the bounds of a narrow, little peninsula; spurs of sizeable mountains of the Eykan Cape descend near in the east; at the distance of 1 mile from the sea these mountains exceed 305 m in height. This considerable elevation can be explained by the general upgrade of the coast in direction of the Eykan Cape. (9, pp. 209-210)

From the Feodora Bay the coast extends E to S for the distance of 2 miles; farther, it makes a sharp turn NE; the Eykan Cape (57°00'N - 138°53'E), jutting out into the sea at an obtuse angle, was formed here. All the coast from the Feodora Bay to the Eykan Cape and farther north is high and rocky; elevations exceeding 457 m are situated near the sea and descend into it in the north as a rocky coast of average height; the eastern slope of these mountains is especially steep and high and drops as a steep and very high rocky seaboard. (9, pp. 211-212)

The Kamker Cape (57°09'N - 139°04'E) juts out south up to 2 miles as a narrow wedge-shaped protuberance, at a distance of 9.5 miles NNE from the Eykan Cape.

The coastline between the Kamker and Odzhan (57°30'N-139°48'E) Capes is very little split for the distance of 31 miles. In all this coastal area the great heights only occasionally extend near the sea; mostly hilly spurs, up to 305 m high, stretch near the coast. These hilly slopes, covered by dense woods, descend steeply into the sea, or form low cliffs.

The Ploskiy Cape (57°19'N - 139°25'E) represents the extremity of a steep slope of a 378 m high hilly terrain, 3 miles N from the tip of the cape. At first, this slope extends towards the shore, however, upon approaching the sea, it runs parallel to the seacoast and extends near the cape from the NE direction. Among the other points on the coast, this cape is distinguished by the flat slope of its hilly terrain, which represents a flat-like platform descending into the sea on all sides as low bluffs.

A solitary mountain, 689 m high, and stretching along the seacoast, is situated south of the Ploskiy Cape and 5 miles from its extreme tip. (9, pp. 213-214)

The seaboard of the peninsula is high and rocky everywhere. Spurs of the mountain ridge, extending from the N in the direction of the mainland, stretch over the middle portion of the peninsula; the mountains at its base reach the height of 826 m. At the close proximity to the Shil'kan Cape, which is the ridge's southern extremity, the altitude decreases; however, even here, its height exceeds 457 m. Owing to the fact that the peninsula is not wide, mountains of considerable height are located near the sea, dropping into it on all sides as a steep, high and rocky coast, which is especially inaccessible on the west and south shores of the peninsula. Its western shore, between the Gereya and Shil'kan Capes runs in the SE direction for 3.5 miles and forms a small depression; a narrow mountain gorge, in the apex of this depression, stretches in the NE direction towards the coast, among the very high mountains.

The Shil'kan Cape (59°17'N - 145°47'E) is high and rocky; at the cape's extremity the coast becomes high and rocky, runs in the ENE direction for a short time and later deviates abruptly towards the meridian, forming the east coast of the Shil'kan Peninsula, which, at the same time, is the west coast of the Yeyrineyskaya Bay.

The Yeyrineyskaya Guba (bay) (59°23'N - 145°52'E), a rather large bay running inland in a NE to N direction for about 6.5 miles, is located between two peninsulas: Imeni Lisyanskogo (59°15'N - 146°00'E), in the E, and Shil'kan - in the W. The western shore of the bay is considerably shorter than the eastern - it runs almost along the meridian for a distance of up to 2.5 miles; the rocky cliffs here are either extending to the sea or are separated from it by the low-lying strip of land, which adjoins steep slopes of the mountains of Shil'kan Peninsula.

The northern shore of the Yeyrineyskaya Bay runs near the parallel; it is formed by two sandy depressions, separated from each other by the rocky Kekurnyy Cape, which juts out into the bay almost in the middle of the coastal region.

A mountain spur, 478 m high, and about 1 mile away from the coast is a part of the Kekurnyy Cape.

Prominent elevations serve to identify the entrance to the Yeyrineyskaya Bay. The Trekhsopochnaya Mountain, 841 m high, and the Ushki Mountain, with two sharp-pointed summits, 1,152 and 1,295 m high, are important markers.

The Lisyanskogo Peninsula (59°15'N - 146°00'E) is high and hilly and its shores are rocky.

North of the Yelagina Cape (59°12'N - 146°24'E) and in the southern portion of the east coast of the Lisyanskogo Peninsula are two small depressions separated from each other by a narrow, rocky peninsula. The northern depression is called Kulku Bay. Mountains adjoining the Kulku Bay in the north are much higher than those in the south; two of them are integral parts of a common ridge, which extends alongside the sea and 1.5 miles north

of the rivulet, and are called the Yuzhnaya Kulku, 481 m high, and the Severnaya Kulku, 539 m high. Their slopes descend steeply towards the sea and the ridge itself stretches a little more than 1/2 mile away from the coast. The Yuzhnaya and Severnaya Kulku Mountains are not especially notable among other elevations of the very high Lisyanskogo Peninsula, despite their proximity to the bay and the seacoast. A much more prominent, and serving as a good identification mark for the incoming ships, is the Lysaya Mountain, 530 m high; it is situated 2 miles WNW from the mouth of the Kulku Rivulet, and among other mountains it is distinguished by its perfectly rounded summit. (9, pp. 248-249)

North of the Kulku Bay the eastern coast of the Lisyanskogo Peninsula stretches along the meridian for a distance of 8.5 miles and becomes the western coast of the spacious Ushki Bay.

The Rzhavyy Cape (59°24'N - 146°41'E) serves as an eastern boundary of the Ushki Bay seaboard.

The general direction in which the coast, from the Rzhavyy to the Izmaylova Cape (59°15'N - 147°34'E) runs, is near the ESE bearing; the coastal region here is very hilly and rocky for a distance of 30 miles; narrow valleys and gorges, through which rapid mountain rivulets flow, only occasionally make gaps in a continuous chain of coastal cliffs. Mountains, up to 1,067 - 1,219 m high, stretch at a 1 - 1.5 miles distance from the sea; their steep slopes facing the sea are bare of vegetation. (9, pp. 250 - 251)

The Izmaylova Cape is high and rocky; it is the SE extremity of a mountainous peninsula, which juts out into the sea for a distance of up to 5.5 miles. At the distance of 6.5 miles to the east is the hilly and rocky Moskvitina Cape (59°15'N - 147°46'E).

The Izmaylova and Moskvitina Capes serve as inlets into the Luzhina Bay.

The Onora Peninsula is the eastern boundary of the Luzhina Bay; the highest point of its terrain near its center, called the Onora Mountain, is 1,097 m above sea level.

The Shel'tinga (59°18'N - 148°10'E) or Onora Bay cuts inland east of the Onora Peninsula.

The seacoast of the Shel'tinga Bay is high and rocky almost everywhere; mountains of considerable height, 610 - 914 m above sea level, are near the coast and drop steeply into the sea. (9, p.252)

The Dal'niy Cape (59°15'N - 148°31'E) is the extreme SW point of the large Khmitevskogo Peninsula (59°18'N - 147°45'E), which separates Shel'tinga Bay from Tauyskaya Bay. The Dal'niy Cape is high and rocky; it terminates in the eastern seacoast of the Shel'tings Bay. (9, p. 253)

The summits of this ridge stretch along it and that is why its profile looks like an even mountain chain with flat summits; in the western part of the Marekanskiy Ridge the Sosok Mountain, with a sharp-pointed peak, represents a solitary elevation stretching in a parallel line to the general direction of the ridge and well outlined from the south.

East of the Marekan Cape, the shore runs in the ENE direction; for the distance of 2 miles spurs of the Marekanskiy Ridge descend to the Marekanka River's mouth towards the narrow, low-lying coastal region.

The Volnistaya Mountain (59°33'N - 143°56'E) in the mainland ridge, and 1,929 m high, stands prominently in the middle of all this region, between the Okhotskiy roadstead and the Zub River's mouth; the mountain is of great height, and is conspicious due to the profile of its undulating surface; it stretches along the NW-SE bearing.

A mountain spur, in the middle part of the coastal region and stretching towards the sea, terminates in two hilly forks; the Vetrennyy Kamushek or Shapka Mountain (59°27'N - 144°15'E), 871 m high, is located in the portion of the western fork nearest the sea and at a distance of 2.7 miles from the littoral. Its summit is bare of trees and resembles a gigantic cap. Two sharp-pointed summits located in the ENE - WSW direction, 1.5 miles apart from each other and 3 miles distant from the sea, are prominent in the eastern fork. These woodless, sharp-pointed mountains are called Zapadnyy [western] Zub, 667 m high, and Vostochnyy [eastern] Zub, 625 m high.

The Derevyannaya or Shishechka Mountain (59°28'N - 144°39'E) is located 5 miles from the seacoast; it reaches the height of 381 m, and on top of its highest point it has a characteristic small eminence, like a little cone.

A great number of mountains located on the mainland in the elevated and intersected area nearest the sea are of no great importance here, as the coastline east of the 145°15'E meridian becomes elevated and intersected and the coast itself has many prominent points.

From the Gadikan Cape (59°24'N - 145°16'E) for a short time the coast runs in a northerly direction, changing its course to the E for the distance of 7.5 miles up to the small Loshadinaya Podkova or Loshadinaya Bay. The coast here is high and rocky; mountains of considerable altitude up to 1,524 m stretch at a distance of 3.5 - 4 miles from the sea. The Shil'ka or Dvukhgorbaya Mountain with peaks, 1,329 and 1,554 m high, and the Verblyud Mountain, up to 1,234 m high, are the most prominent elevations here.

The Loshadinaya Podkova or Loshadinaya Bay (59°25'N - 145°40'E) runs inland for a short distance. In the east it is well protected by the hilly Shil'kan Peninsula, jutting out into the sea SSE for 3.5 miles; the bay is located in the western portion of its base.

The mouth of the Kukhtuy River (59°20'N - 143°08'E), which flows out of the Stanovoy Ridge and runs almost along the meridian, is 3 1/2 miles east of the Okhota River.

Twenty-three km from the river's mouth two large tributaries - Khaybaz and Gusinka flow into the Kukhtuy River. A conical, 299 m high, hill is at the place of their confluence. (9, p. 226)

A mountain ridge encircles the Okhotskaya lowlands on the mainland side. The Ostraya Mountain, up to 826 m high (59°15'N - 142°9.5'E), is almost 8 miles distant from the sea; it is situated somewhat westward of the Urak River (59° 10'N - 142°23'E) valley and can be distinguished by its sharp-pointed, conical summit. The Ploskaya Mountain (59°31.5'N - 142°15.5'E) is one of the tallest elevations of the ridge; it reaches 1,344 m above sea level and is 20 miles away from the coast; it can be recognized by its flat, as if truncated summit. (9, p. 230)

The North Coast of the Sea of Okhotsk
(Approx. 59°00' to 59°10'N; 143°00' to 155°12'E)

The region between the Okhotsk roadstead in the west and the Tolstyy Cape (59°10'N - 155°12'E) in the east can be called the north coast of the Sea of Okhotsk. General direction of this, 370 miles long coast, is close to the 59°N parallel, and at times deviates from it a little to the north, or projects somewhat south.

In most portions of its terrain, the north coast of the Sea of Okhotsk is rising; the spurs of the Stanovoy Ridge, which runs parallel to the coastline, descent to the sea as a predominantly rocky and often precipitous coastal region.

Ridges of considerable elevations and solitary, very high summits, situated in the area of rising coast, descend to the sea, quite close in some parts; these ridges recede into the interior of the mainland in the region where the coast is low-lying.

The low-lying, sandy shore stretches along the parallel for about 4.5 miles; farther it swerves SE quite abruptly; in this direction the shore runs for about 2 miles; it approaches gradually the parallel and begins to swerve N, taking ENE direction at a distance of 9.3 miles from the Kukhtuy River's mouth. These consecutive changes in the coastal configuration have been instrumental in the development of the rounded peninsula protruding into the sea; its southernmost point is called the Marekan Cape (59°19'N - 143°27'E). A mountain ridge, extending near the sea from the N in the meridional direction and of quite considerable altitude, separating the Kukhtuy River valleys west of it and the Marekanka River, east of it, is part of the peninsula.

The slopes of the Marekanskiy Ridge descend very near the sea, in the vicinity of the Marekan Cape; the low-lying shore here is very narrow, and a rise of the terrain begins, which culminates in the highest part of the Marekanskiy Ridge, not exceeding 457 m.

The Suntar Khayata Ridge
(Approx. 62°00' to 63°00'N; 140°00' to 141°00'E)

The Suntar-Khayata Ridge is 150 km long and 40 - 50 km wide. It rises almost 3,000 m above the sea level (the highest point is 2,959 m). This ridge is noted among adjacent mountain chains for its altitude; it has steep slopes and rough and rocky formations, and is crowned by a sharp-pointed peak, from which five glaciers descend in various directions.

In 1939 V.K. Lezhayev, the geologist making surveys in the northern part of this region, discovered the glaciers, 1.5 - 4 km long, their upper portions joined to other glaciers of the opposite mountain slopes.

The presence of 114 glaciers of various forms and sizes, from the small ones, 0.1 sq km, to valley glaciers (15-20 sq km), 9.5 km long, was established with the aid of aerial photography. (8, pp. 107-109) (Fig. 14, 15)

LIST OF REFERENCES

1. M: Trudy Arkticheskogo Instituta, Vo. XII, Geomorfologicheskiye i Glatsiologocheskiye Nablyudeniya vo Vremya Poleta na Vozdushnom Korable "Graf Tseppelin" Letom 1931 Goda, by R.L. Samoylovich, Leningrad, 1933.

2. M: Trudy Arkticheskogo Instituta, Vol. XXXVIII, Geologicheskiy Ocherk Severovostochnogo Poberezh'ya Severnogo Ostrova Novoy Zemli, by B.V. Miloradovich, Leningrad, 1936.

3. M: Trudy Arkticheskogo Instituta, Vol. XVIII, Usloviya Plavaniya v Russkoy Gavani, by A.F. Laktionov, Leningrad, 1935.

4. M: Trudy Arkticheskogo Instituta, Vol. XV, Asbestovoye Mestorozhdeniye Rayona Guby Beluzhey i Svyazannyye s Nim Osnovnyye Porody, by N.N. Mutafi, Leningrad, 1935.

5. P: Voprosy Geografii, No. 15, Moskva, 1949

6. M: Geograficheskiye Zony Sovetskogo Soyuza, by L.S. Berg, Moskva, Vol. I - 1945, Vol. II - 1952

7. M: Bol'shaya Sovetskaya Entsiklopediya, Moskva

8. M: Sorok Let Issledovaniy i Otkrytiy by N.A. Gvozdetskiy, Moskva, 1957

9. M: Lotsiya Okhotskogo Morya, pub. by the Hydrographic Administration of the Red Fleet, Leningrad, 1938

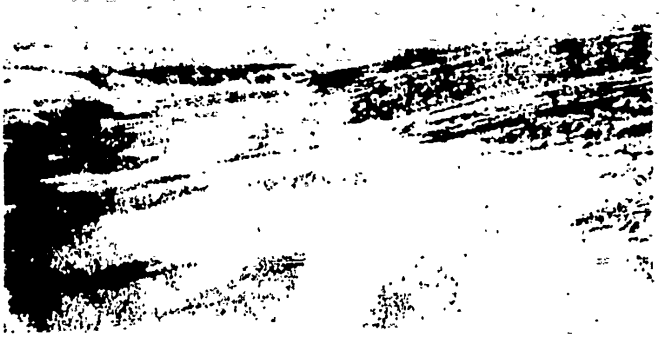


Fig. 1 - The precipice in Pospelova Bay, partly filled with firn snow.

Source: M: Trudy Arkticheskogo Instituta, Vol. XXXVIII, Geologicheskiy Ocherk Severo-Vostochnogo Poberezh'ya Severnogo Ostrova Novoy Zemli, by B.V. Miloradovich, Leningrad, 1936, p.56, top.

Fig. 2 - The lower part of the valley of Kan'yonskie River, partly filled with firn snow.

Source: Ibid., p.56, top.

50X1-HUM

Inclosure #1

50X1-HUM

Fig. 3 - The Kan'yonskiy River. The river valley with steep slopes.

Source: A: Trudy Arkticheskogo Instituta, vol. XXVIII, Geologicheskiy Ocherk Severo-Vostochnogo Poberezh'ya Severnogo Ostrova Novoy Zemli, by B.V. Miloradovich, Leningrad, 1936, p.57, top.

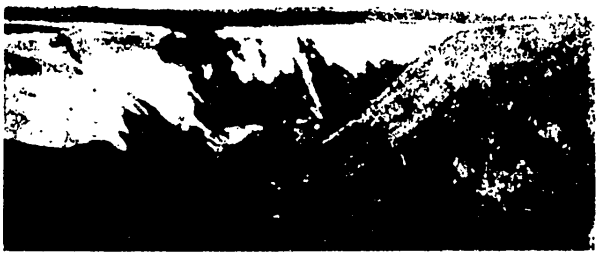


Fig. 4 - The Bystraya River. The river valley with sloping banks.

Source: Ibid., p.57, bottom.

50X1-HUM

Enclosure #2

Fig. 5 - The terrace of the cliff formed by light limestone. The Chayek Island in the rear.

Source: M: Trudy Arkticheskogo Instituta, Vol. XXXVIII, Geologicheskiy Ocherk Severo-Vostochnogo Poberezh'ya Severnogo Ostrova Novoy Zemli, by B.V. Miloradovich, Leningrad, 1936, p.59.

50X1-HUM

Inclosure #3

50X1-HUM

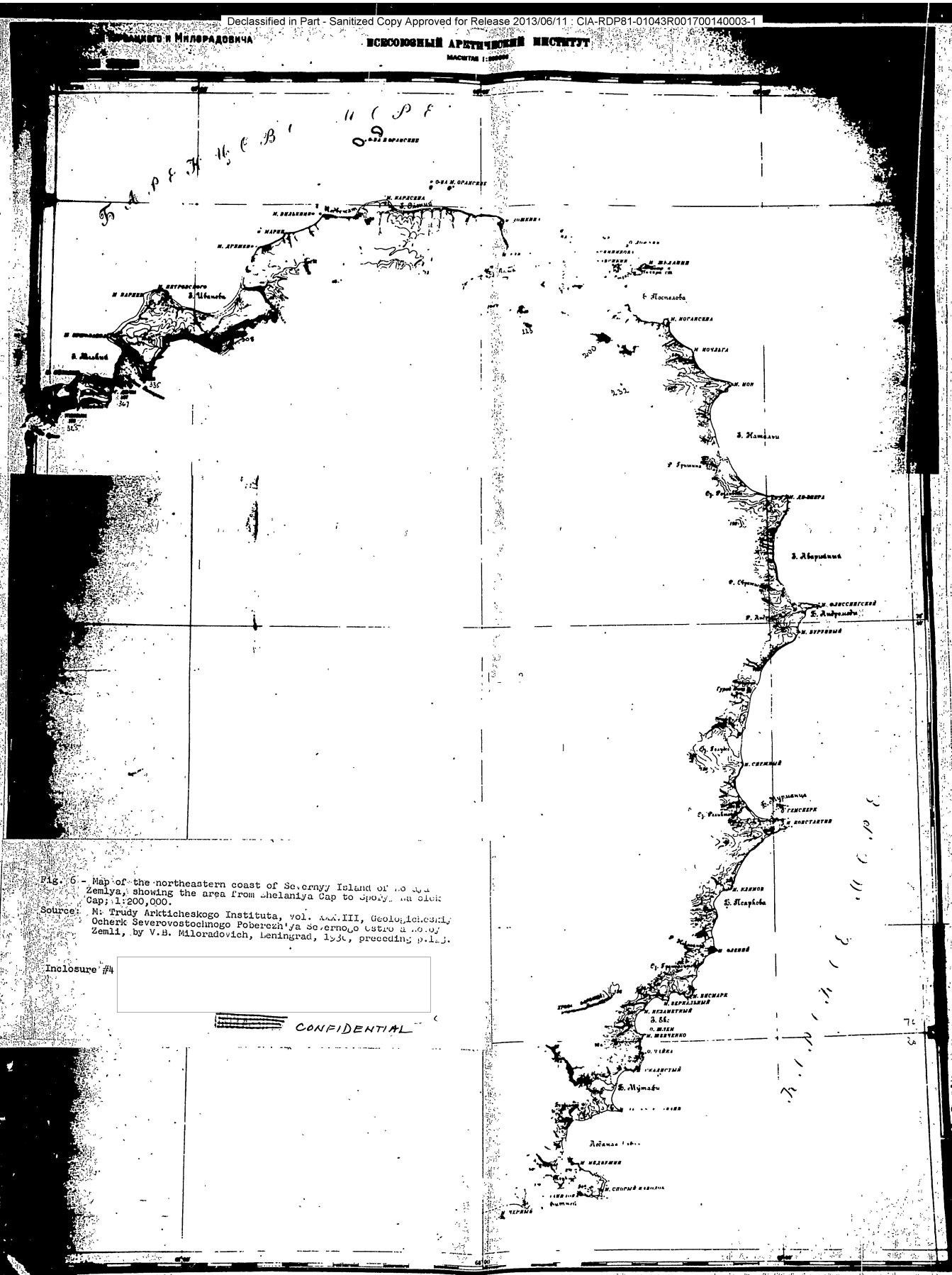


Fig. 6 - Map of the northeastern coast of Severnyy Island of Novaya Zemlya, showing the area from Shelaniya Cap to Sporyy Navolok Cap; 1:200,000.

Source: M. Trudy Arkticheskogo Instituta, vol. XXX.III, Geologicheskiy Ocherk Severovostochnogo Poberezh'ya Severnogo Ostrova Novoy Zemli, by V.B. Miloradovich, Leningrad, 1936, preceding p.1.

Inclosure #4

CONFIDENTIAL

50X1-HUM

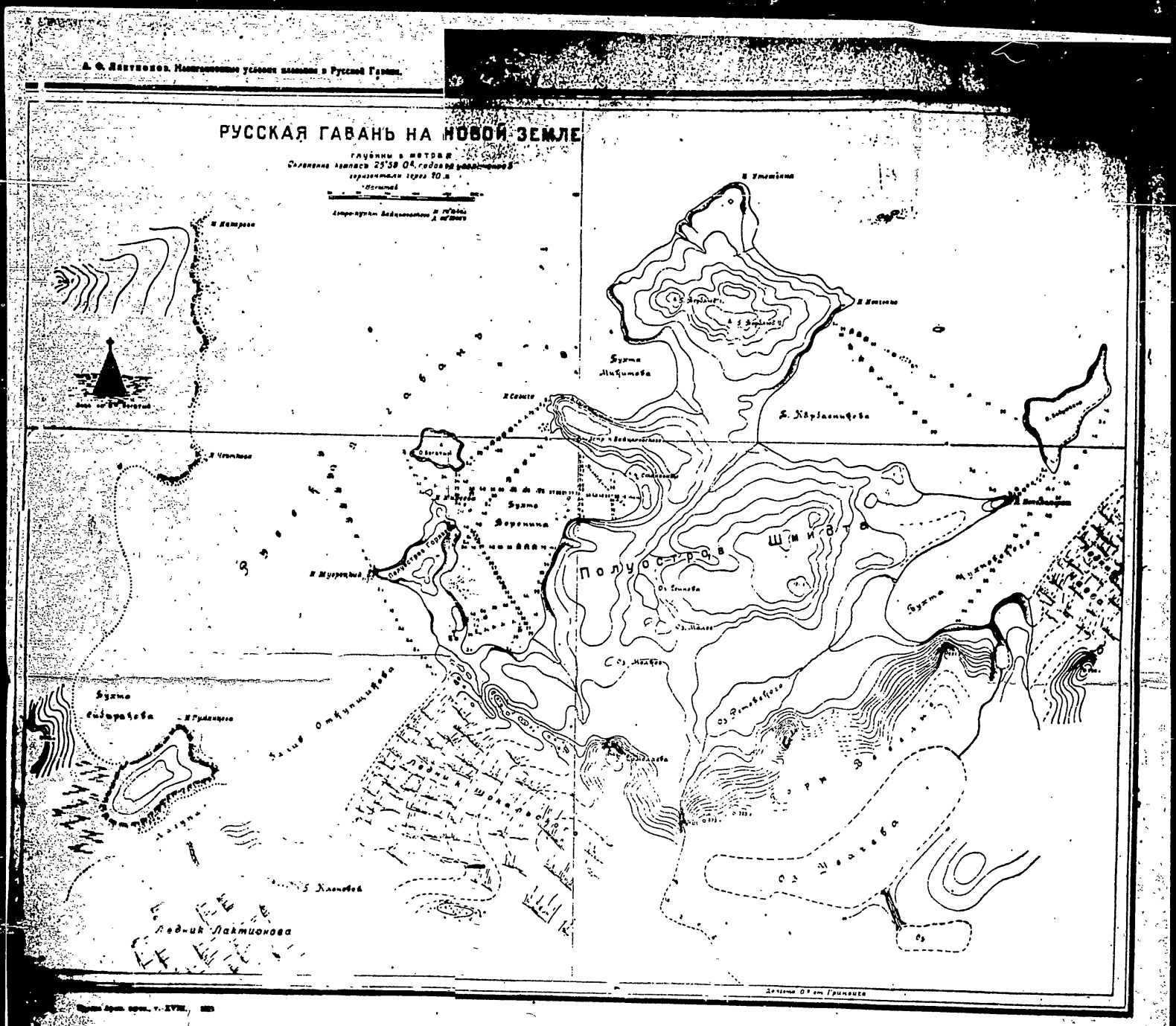


Fig. 7 - Map of the Russkaya Gavan' Bay on Novaya Zemlya.

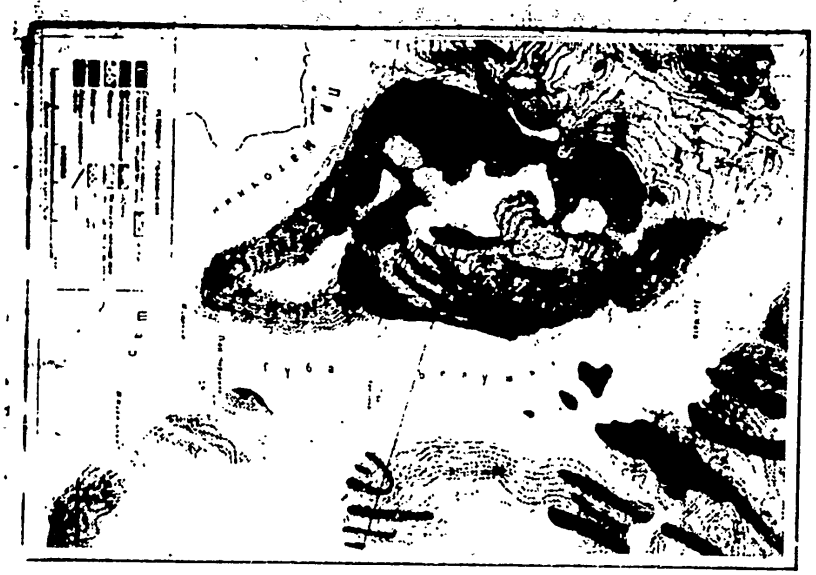
Source: [illegible] Trudy Arkticheskogo Instituta, Uslovi[illegible] Russkoy Gavani, by A.F. Laktionov, Leningrad, 1[illegible], Following p.104.

Inclosure

CONFIDENTIAL

50X1-HUM

CONFIDENTIAL



Поперечный разрез губы Белуш ей по линии А – В

Fig. - The lithologic map of Beluzh'ya Fiord with the cross-cut of the Fiord.

Source: M: Trudy Arkticheskogo Instituta, Vol. IV, Asbestonosnoye Mestorozhdeniye Rayona Guby Beluzhey i Svyazannyye s nim Osnovnyye Porody, by N.N. Mutafi, Leningrad, 1935, p.121.

50X1-HUM

Inclosure No.

CONFIDENTIAL

Fig. 9 - Lednik (Glacier) Ugra.

Source: V: Voprosy Geografii, No.15, 1949, p. 104.

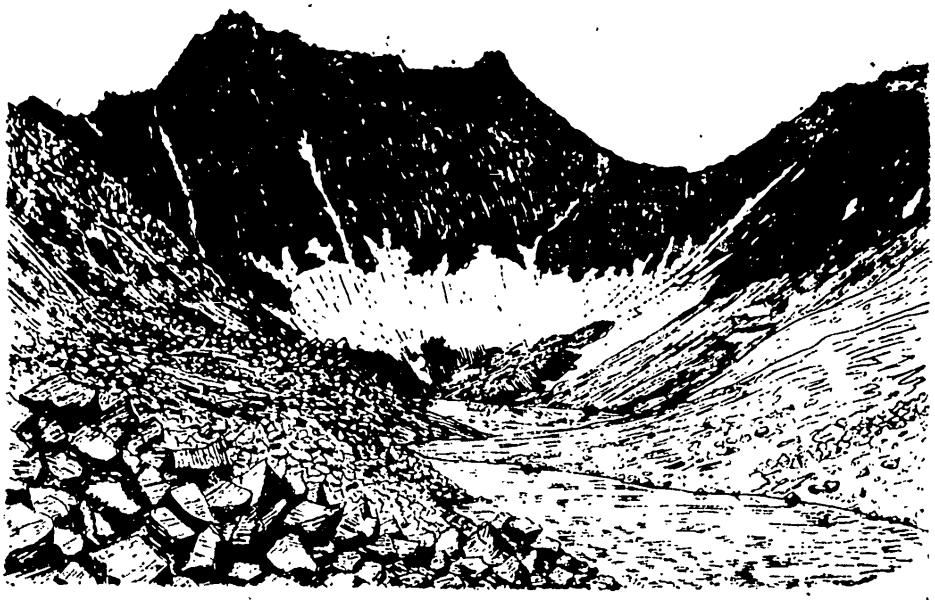


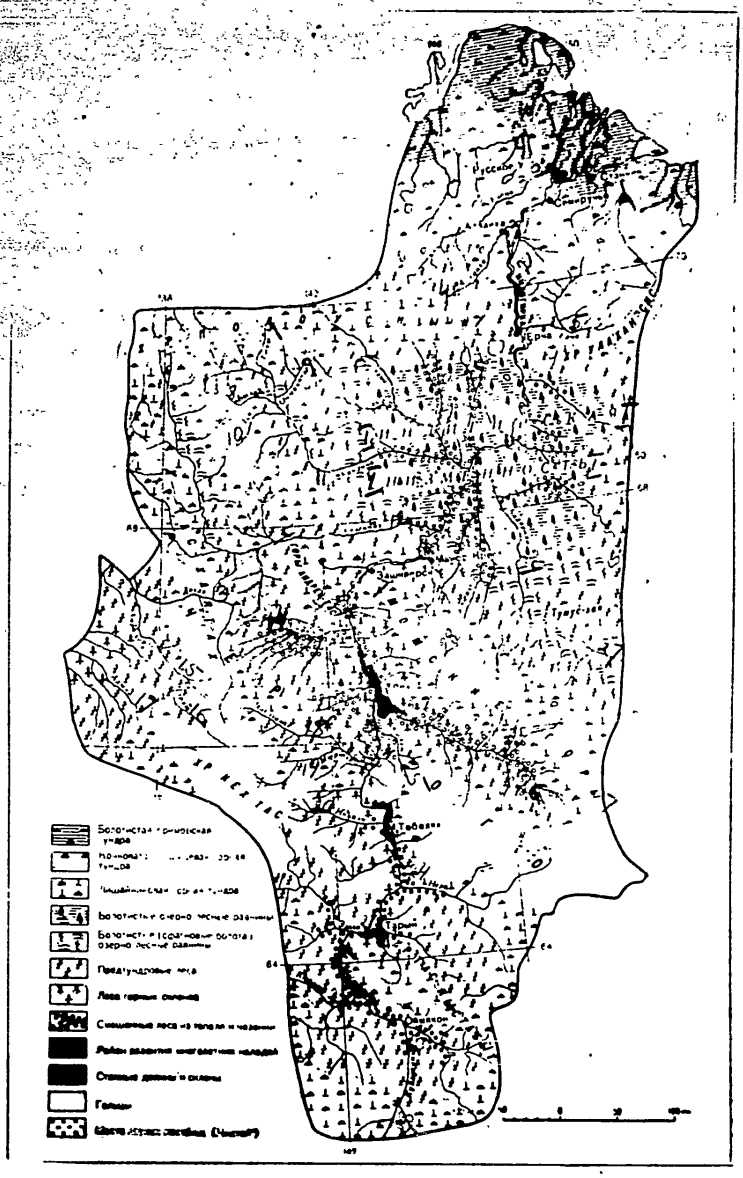
Fig. 10 - Eastern slope of Gora (Mountain) Mansi-ner and Lednik Mansi with glacier lakes.

Source: Ibid., p. 107.

50X1-HUM

Inclosure 17

CONFIDENTIAL



Rivers: Red Pencil

1. Gusinaya
2. Indigirka
3. Yelon'
4. Allaykha
5. Yercha
6. Chona
7. Baky
8. Bylat
9. Oymyakon
10. Chuk
11. Uyandina
12. Selennyakh
13. Dogdo
14. Syuryuktakh
15. Khara-sara
16. Charki
17. Adycha
18. Chibagalakh
19. Myuryule
20. In'yali
21. El'gi
22. Kyuente
23. Kuydusun
24. Nera
25. Timnen
26. Moma
27. Ozhogina
28. Buor-yuryakh
29. Badyarikha

Towns or settlements:

a. Russkoye Ust'ye
b. Stanchi
c. Semiruch'ye
d. Allaykha
e. Yercha
f. Mayor Krest
g. Zashiversk
h. Chonu
i. M. Tebelyakh
j. Turyy
... Oymyakon
I. Indigirskaya Nizmennost' (Depression)

Fig. 11 - "Vegetation Map of the Indigirka River Basin" Scale: 1:5[illegible],000

Source: M: Geograficheskiye zony Sovetskogo Soyuza, by L.S. Berg, v.II, Moskva, 1952, p.[illegible].

Ranges and Mountains: Blue Pencil

1. Khr. (Range) Polousnyy
2. Khr. Chersk.ogo
3. Khr. Tas-Khayatakh
4. Gory (Mountains) Khrei-Tas
5. Khr. Main-Tas
6. Khr. Tas-Kystalyt
7. Morskiye Gory
8. Gora (Mountain) Turus-Khaya
9. Khr. Ulakhan-Sis

50X1-HUM

Inclosure

CONFIDENTIAL

Fig. 12 - "Manskoye belogor'ye ('White Upland')"

Source: M: Geograficheskiye zony Sovetskogo Soyuza, by L.S. Berg, v.II, Moskva, 1952, p. 394.

Fig. 13 - "Noril'skoye Plateau".

Source: Ibid., v.I, Moskva, 1940, p. 116.

50X1-HUM

Inclosure #3

Fig. 14 - Glaciers of the central part of the Suntar - Khayata Ridge.

Source: I.: Sorok Let Issledovaniy i Otkrytiy by A.N. Gvozdetskiy, Moskva, 1957, p. 107.

Fig. 15 - A.A. Borzov's glacier in the northern portion of the Suntar-Khayata Ridge.

50X1-HUM

Source: Ibid., p. 108.