

**POLSKIE TOWARZYSTWO
GEOLOGICZNE**

Sekcja Historii Nauk Geologicznych
ul. Rakowiecka 4
00-975 Warszawa
tel. (22) 4592 584

**POLISH GEOLOGICAL
SOCIETY**

Polish Commission on the History of
Geological Sciences
4 Rakowiecka str.
PI 00-975 Warsaw
tel. (48 22) 4592 584

Contribution of the Polish Geologists in Recognition of the Geology in Siberia and Far East Asia



Marek Graniczny, Halina Urban
Krystyna Wołkowicz, Stanisław Wołkowicz

**III Meeting of Polish Comm. on the History of
Geological Sciences, Polish Geological Society
18 September 2015, Warsaw**

Systematic researches of Siberia began in the **early nineteenth century**, including also the sea and neighbouring islands. The second half of the nineteenth century is a period of very high growth of knowledge about the endless areas of Siberia and the Far East Asia - Kamchatka, Sakhalin, Chukotka Peninsula and Manchuria.

Many of them were **Poles**, mostly exiles, but often also researchers who according to its own will, sometimes for profit, penetrated the far areas of Asia.



Aleksander Piotr Czekanowski

(1833-1876)



Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

www.pgi.gov.pl

- In connection with His activity before and during the January Uprising and he was arrested and sentenced to exile in Siberia.
- He made contact with the Russian Geographical Society, which enabled him to pursue independent geological researches. He began works **in 1868 by examining coastal areas and mountains of the Lake Baikal and Irkutsk province**, putting new light on the entire geological structure of this region, and especially the Angara valley and Chamar - Daban Mts.
- During the three subsequent trips Czekanowski traveled over **25000 km** which, can be considered a remarkable achievement taking under consideration present transport conditions. Results expeditions were also very prospectful. Czekanowski found several deposits of minerals - coal, lapis lazuli and gold. **In 1875 His map of Eastern Siberia was awarded the Gold Medal in the International Geographical Congress in Paris.**

Jan Czerski

(1845 – 1892)



Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

www.pgi.gov.pl

- A friend and to some extent the student of Czekanowski. Convicted at the age of eighteen years for taking part in the January Uprising was sent to Omsk and incorporated into the local military garrison.
- A study done in the area of Lake Baikal allowed Him to develop a geological map, which in opinion of the famous Russian scientist Obruczew **“was a huge job.”** For this achievement He received in St. Petersburg **gold medal of the Russian Geographical Society.**
- Describing the geological structure of **Baikal Mountains and Lake Baikal** Czerski gave information about the gold occurrences to the north-west of Lake Baikal. In 1878 He found in the vicinity of Irkutsk, important construction materials, clays for the production of building ceramics, and described mineral springs.

Antoni Giedroyć

(1848 – 1909)

- Giedroyć conducted detailed geological research in the **Valley and the Delta of the Amu - Darya and around the Aral Sea.**
- He contributed also for the development of the Quaternary researchers in Lithuania, in the area of Augustow and Kaunas. In the years 1879-1881 He was responsible for geological researches in the so-called **Amudar expedition.**



Leon Barszczewski (1849-1910)

- He was an ardent Polish patriot, although He stepped on the service in the Tsarist army.
- He undertook a number of expeditions to Central Asia, which had both a scientific and military character. Areas of His researches covered: **Zerawszan Basin, Amu-Darya, Fan-Darya, Iskander-Daria, Hissar Range, Zerawszan Mountains, Tien Shan, Pamir glaciers and Mazar-i-Sharif region in Afghanistan.**
- During these expedition He discovered several deposits, ore metals (among them gold and silver), precious stones, deposits of coal, oil and mineral water springs



Generał Bronisław Grąbczewski (1855 - 1926)



GEN. BRONISŁAW GRĄBCZEWSKI
(w r. 1885)



Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

www.pgi.gov.pl

- After giving up his military service, He took place in three great expeditions: to **Kaszgaria (1885)**, in **Pamir and Hindu Kush to the sources of the Indus (1888)** and to **Tibet (1889-1891)**, which at the end of life described in three excellent books under the general title "***Travels Gen. Br. Grąbczewski***".
- During his expeditions he discovered, among others, gold-bearing sands and hot springs in the southern part of the **Taklamakan Desert**. He described also the different deposits occurring in the **Kaszgaria** (gold, copper, lead, silver and precious stones). He has managed to find the deposits of jade on the banks of the **Pil River (eastern Pamir)**, which was used to build of Tamerlane tomb in Samarkanda.

Generał Bronisław Grabczewski



GEN. BRONISŁAW GRABCZEWSKI
1861 - 1900

KASZGARJA

WRAZ I LUDZIE

PODRÓŻ DO AZJI ŚRODKOWEJ

Z WYKŁADKĄ O POKRĘTACH I KRAJACH

PODRÓŻ GEN. BRONISŁAWA GRABCZEWSKIEGO

W 1894 ROKU



KARŁO KRECHOWSKI I WOLFF
WARSZAWA - KRAKÓW - LÓDŹ - WILNO
TORUŃ - WIEJĄC - ZAKOPANE

PODRÓŻ GEN. GRABCZEWSKIEGO T. II



PRZEZ
PAMIRY I HINDUKUSZ
DO ŹRÓDEŁ RZĘKI INDUS

PODRÓŻ GEN. GRABCZEWSKIEGO T. III



W PUSTYNIACH
RASKEMU I TYBETU



Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

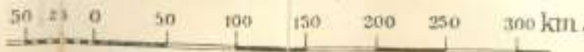
www.pgi.gov.pl

General sketch of Middle Asia showing routes of General Bronisław Grąbczewski's travels in the years 1885, 1888 and 1889-91

The map shows a network of red lines representing travel routes across Central Asia. Key regions labeled include KASHGAR, KARAKUM, DARWAZ, ROSZKA, SZUGNAN, WACHAN, ELIM-LAJE, and KATIRISTAN. Major cities and towns marked include KASHGAR, KARAKUL, JARKIEND, KARAGAYK, CHOTAN, and NIJA. The map also shows the Tien Shan mountains, the Karakum Desert, and the Amu Darya river. The routes are marked with red lines and some are labeled with numbers like 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Przebyte drogi oznaczone są czerwoną linią.

50 23 0 50 100 150 200 250 300 km.

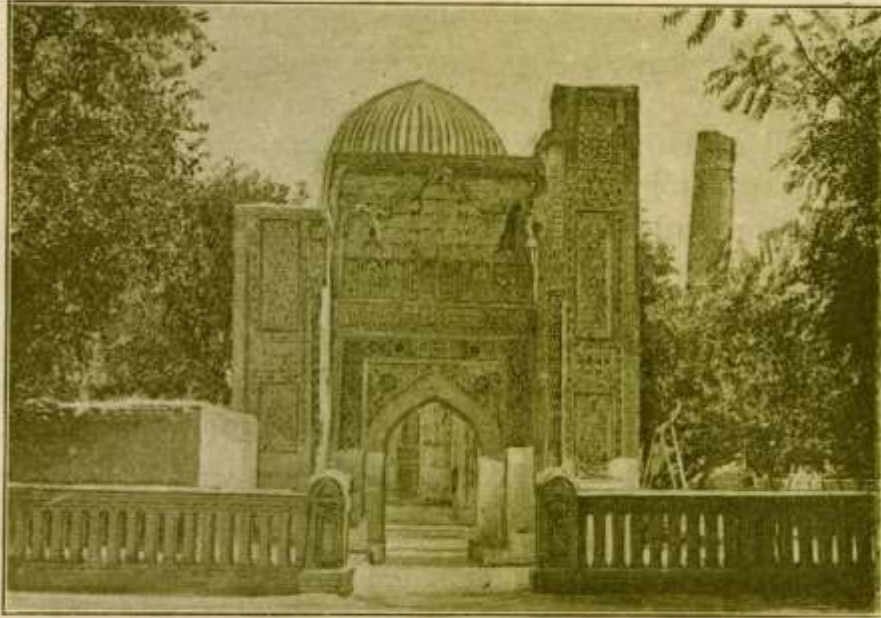


The meeting of expeditions of General Bronisław Grąbczewski and Colonel Sir Francis Edward Younghusband in the Raskem Desert (Hunza Valley, Gilgit-Baltistan region of Pakistan) in November 1889. Members of the Russian and British expeditions represented 21 different nationalities and tribes



Spotkanie ekspedycji B. Grąbczewskiego z angielską ekspedycją kapitana Younghusband'a w pustyni Raskemu, w listopadzie 1889 roku, gdzie znaleźli się razem przedstawiciele 21 narodów.

1. Kap. B. Grąbczewski, Polak, 2. kap. Younghusband, Anglik, 3. preparator Konradt, Niemiec, 4. 6 kozaków—Rosjanie, 5. kozak Matwiejew, Mordwin, znający język mongolski, 6. Tadzycy, 7. Sartowie, 8. Kirgizi, 9. Kandżuci, 10. Wachańczycy, 11. Żołnierze armii angielskiej, indyjskiego plemienia Gurków, 12. Kaszmirczycy, 13. Baltistańczycy, 14. Tybetańczycy, 15. Hindusi, 16. Mongołowie, 17. Kirgizi z Sarykji, 18. Kirgizi tybetańscy, 19. Kaszgarczycy, 20. Toglicy Pachpu i 21 Sarykoltowie (s. 190).



Grób Tamerlana w Samarkandzie.
Na mogile wewnątrz monolit z nefrytu (s. 167).

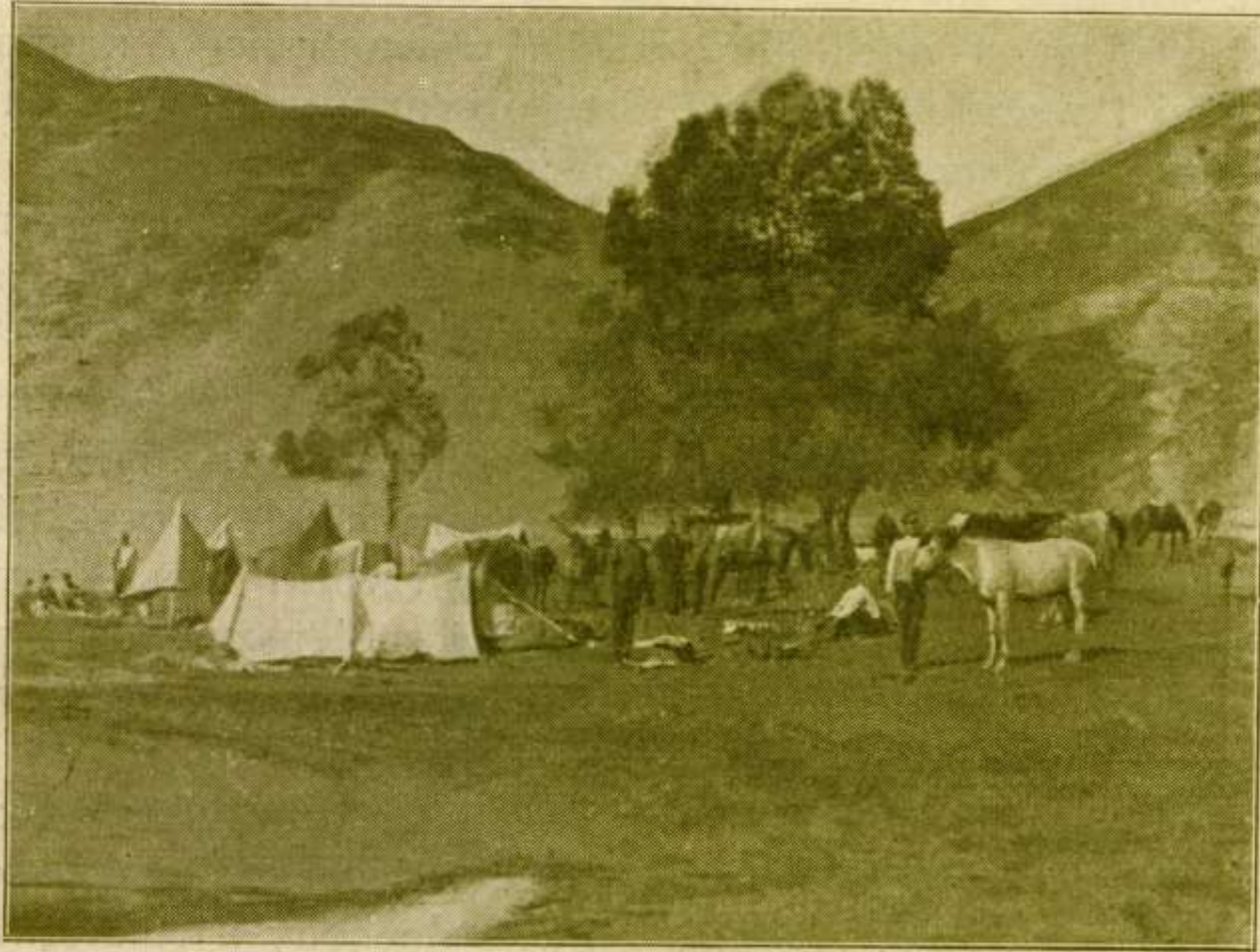
Tomb of Tamerlane (Gur-e Amir Mausoleum) in Samarkand. A nephrite block used as Tamerlane's gravestone in the tomb (mausoleum)

Outcrops of nephrite rocks used in construction of the Tamerlane's tomb.
Pil River Valley



'Skaly nefrytu nad rzeką Pil, z którego wykonany został grobowiec Tamerlana (s. 165).

Tjuja- Tugdy near the Raskem Daria River, a place of stopover of nephrite-prospecting expedition



Tiuja-Tugdy niedaleko rzeki Raskem Darji,
gdzie stała ekspedycja w czasie poszukiwania nefrytu (s. 163).

Leonard Feliks Stefan Jaczewski

(1858 – 1916)

28. Leonard Jaczewski.
Zdjęcie z ostatnich
lat życia, wykonane
prawdopodobnie na
Syberii.



- After graduating from the Mining Institute in St. Petersburg He was sent in the region of **Eastern Siberia**, where he investigated volcanoes. He also took part in the expedition to examine the **Sajan Mts.** and establish the way to Mongolia.
- In the years 1888-1890, on request of mining department He conducted a studies of coal deposits in **Western Siberia** and the gold deposits in the **Urals**. At the same time He made interest in geothermal researches and, in particular issues of permafrost.
- Appointed in 1913. as a member of the Committee of Geology in St. Petersburg contributed in the preparation and edition of two **great geological maps of Siberia**. He also made the map of the river network in Central Siberia.

Karol Bohdanowicz

(1864 – 1947)



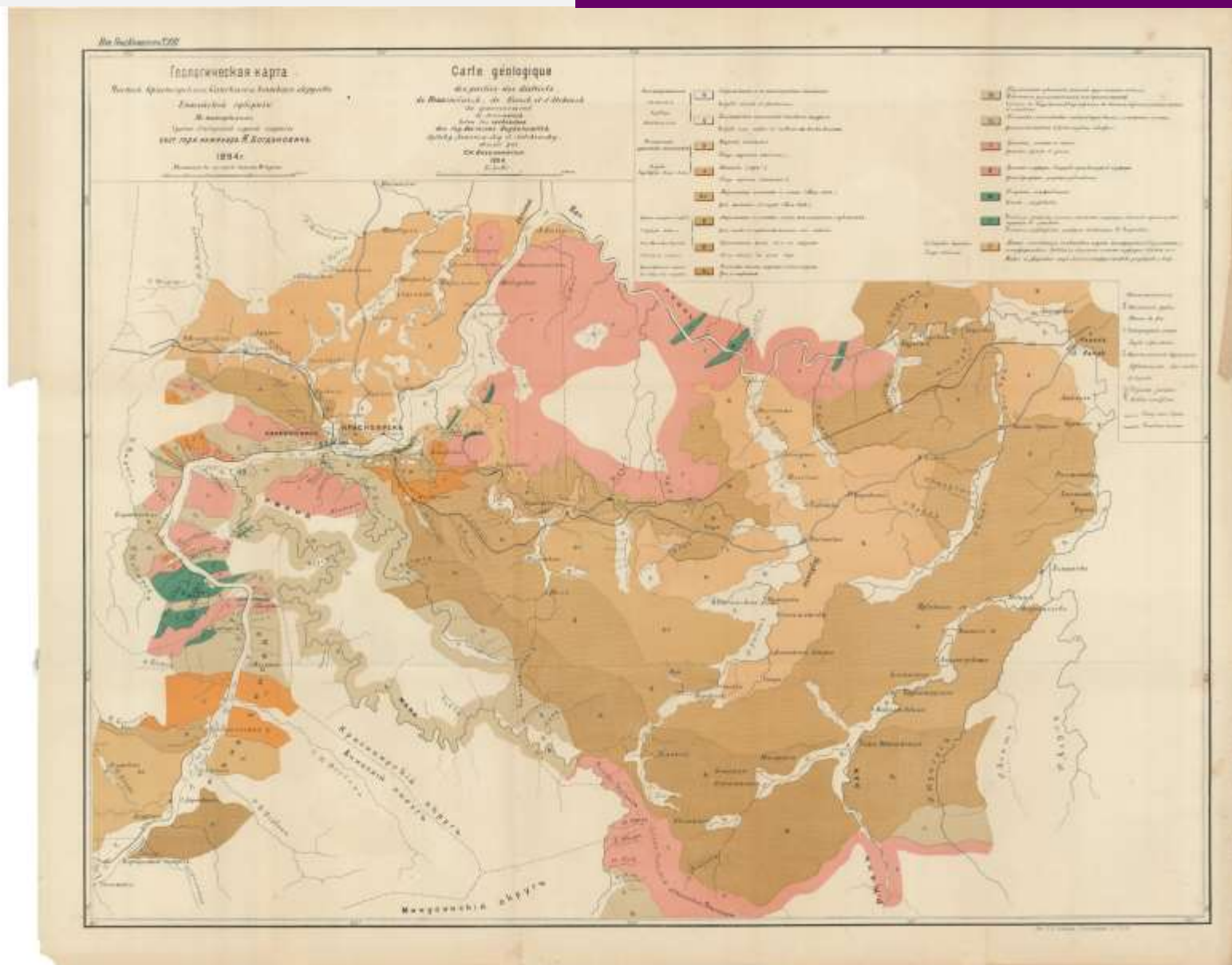
Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

www.pgi.gov.pl

- He began studies at the Mining Institute in St. Petersburg in 1881. Already as a student he took part **in 1885, in the expedition of F.N, Chernyshev to the Ural Mts.**
- **In 1889. M. W. Piewcow offered him a leading part in the expedition into Tibetan - Asia.** The aim of the expedition, was to investigate the Kunlun Mts. chain named Kulon. The outcome of this expedition was the development of schematic geological map and the orography of Kunlunu and eastern Tien Shan. He mapped also the occurrences of jade, gold, copper, zinc, lead, iron ore and other raw materials.
- He conducted another study between Irtysh and Ishim, and then between the Kuznetsk Alatau and Yenisei. **He developed the geological map of part of the Yenisei province (1894).** In the area of Kuznetsk Alatau, he found several gold occurrences, then reached the region of Western Sajan.
- **Very fruitful was the next expedition to the areas west of Lake Baikal.** On the route from Irkutsk to Kanska, traveling 700 km, Bohdanowicz discovered many useful minerals, including coal seams near Czeremchow, where today there is a huge Czeremchow Coal Basin.
- **In the years 1895 – 1898, he discovered gold-bearing areas in Khabarovsk Krai,** and began studying volcanic phenomena and glaciers in Kamchatka. He also discovered a number of hot springs and compiled geological and topographic maps of Peninsula.
- **In 1898, the subject of His researches became a Southern Manchuria (near Port Arthur),** where he was looking for gold. Two years later, still in search of gold He went to the north - eastern edge of Asia, on the Chukchi Peninsula. This trip has brought positive results, too.
- Intensive activity of exploration Bohdanowicz exploration ended upon His appointment as Professor of Mining Institute in St. Petersburg in 1901, staying at this post until 1919. During this period, he devoted himself primarily to the activities of scientific and educational. He was also involved in works related to the organization of the oil industry in Russia. In the years 1914 - 1919 **He was director of the Geological Committee - the main office of the geological Russia.**







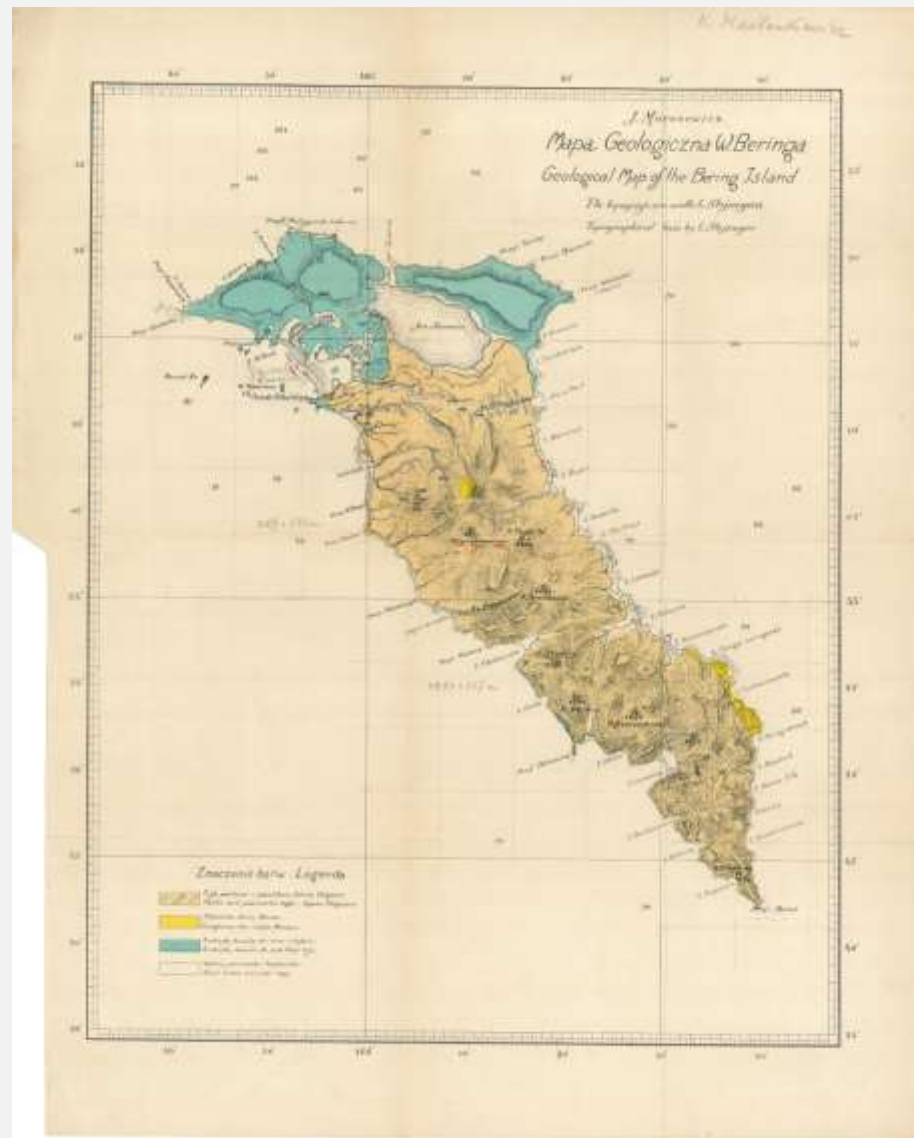
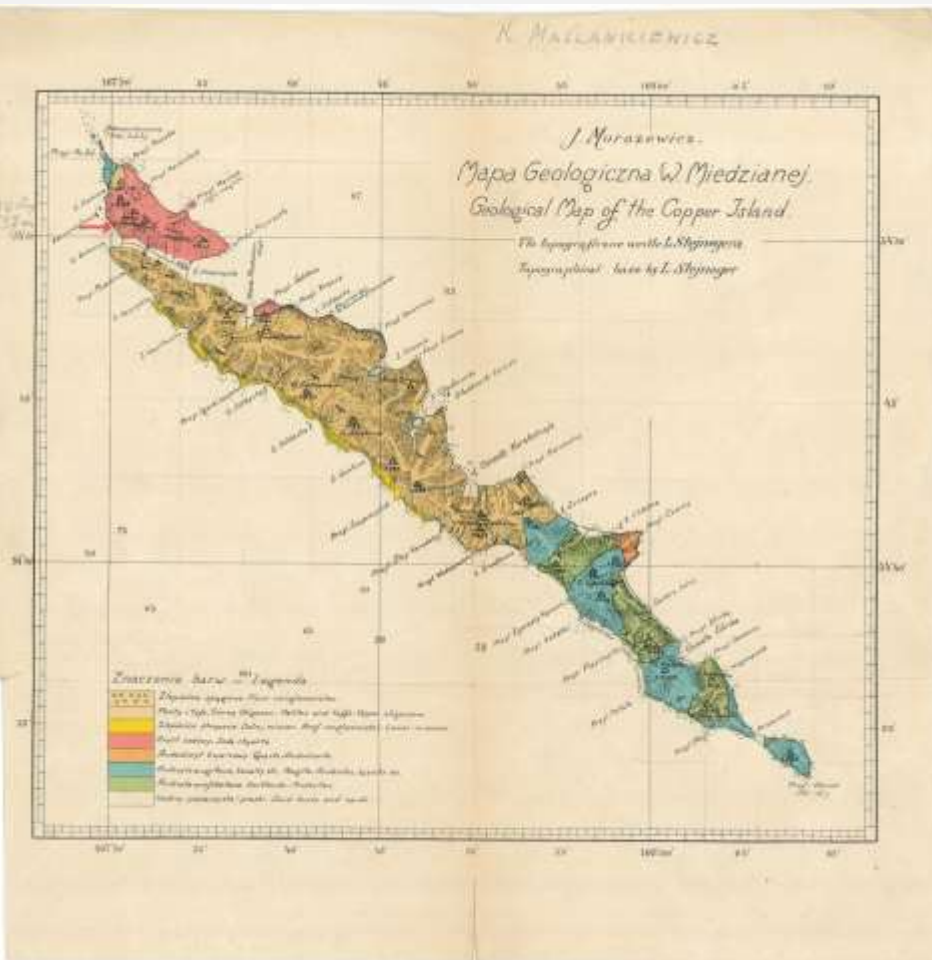
Józef Morozewicz (1865 – 1941)



Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

www.pgi.gov.pl

- He graduated from the Faculty of Natural Sciences of the University of Warsaw in 1885.
- **In 1895 He participated in the expedition eminent geologist F.N. Chernyshev to the New Earth.** He walked across the South Island to the Karsk Sea. The result of this expedition were numerous geological maps and petrographic, palaeontological and mineralogical collections.
- In 1897 Morozewicz was appointed member of the Committee of Geology in St. Petersburg. During his most important expedition entrusted to him as the autonomous geologist of the Department of Mines in St. Petersburg was sent to **Kommandory Islands in 1903**. The aim of the expedition was to identify the geological structure of the islands, especially their minerals - copper ores and the gold-bearing sands. The results of their research were published in independent Poland, in **valuable monography, published in Warsaw in 1925**, which were accompanied by geological maps of both islands.



Steller Ark on Bering Island (Commander Islands). Stratified pellite tuffs with vertical breccia veins (photo from J. Morozewicz paper, 1925)



WYSPA BERINGA:
ARKA STELLERA. UWARSTWIONE TUFY PELITOWE Z PIONOWEMI ŻYŁAMI BREKCJOWEMI.

Korablovyy Cape of Medny Island, sometimes called Copper Island in English (Commander Islands). Tuff conglomerates



WYSPA MIEDZIANA:
PRZYL. KORABLOWY: ZLEPIENIE TUFOWE.

Czorny Cape of Medny Island (Commander Islands).

Quartz ando-diorite costal escarpments (cliffs)



WYSPA MIEDZIANA:
PRZYL. CZARNY: SZKARPY PRZYBRZEŻNE ANDO-DIORYTU KWARCOWEGO.

Portowa Bay, Medny Island (Commander Islands). Finely bedded rhyolite tuffs. Piaskowa Bay and Bobrovaya Valley in the background



WYSPA MIEDZIANA:
ZATOKA PORTOWA. DROBNOWARSTWOWE TUFY RIOLITOWE. W GŁĘBI ZATOKA PIASKOWA I DOLINA BOBROWA.

**Gladkovskaya Bay, Bering Island (Commander Islands).
Psammite tuffs: terrace 1-Y and initial part of terrace 2. In front –
tents and boat of the scientific expedition from the year 1903**



WYSPA BERINGA:

**ZAT. GŁADKOWSKA. TUFY PSAMITOWE: TARAS 1-Y I ZACZĄTEK 2-GO; POD NIM NAMIOTY I ŁÓDŻ EKSPEDYCJI
NAUKOWEJ R. 1903.**

Kazimierz Grochowski

(1873 – 1937)

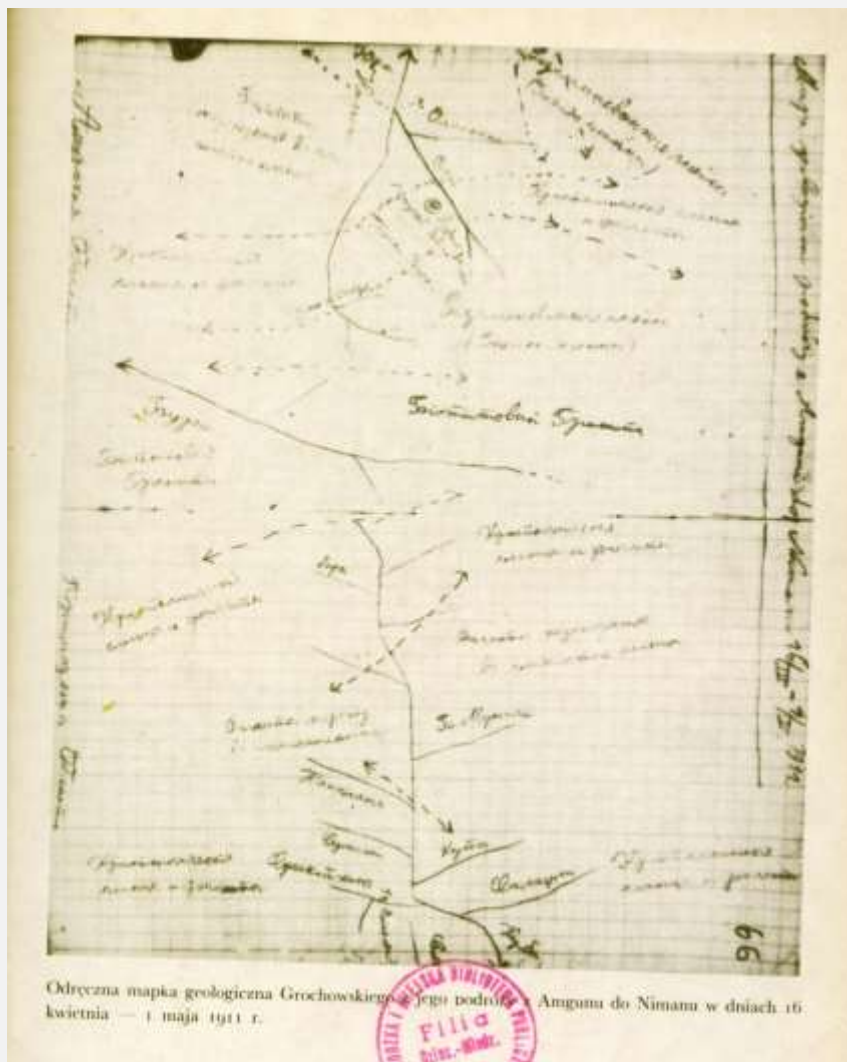


Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy

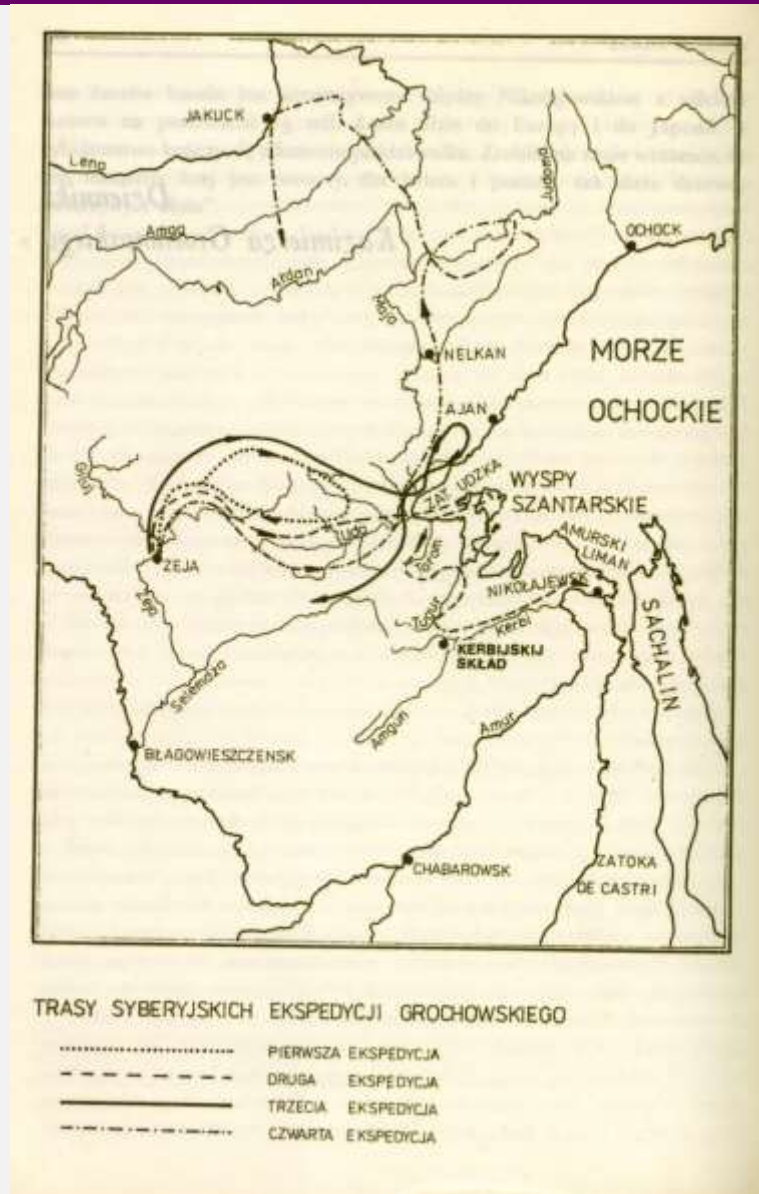
www.pgi.gov.pl

- He took place higher education successively in Vienna and mining academies in Loeben, Příbram and Saxon Freiberg Saxon obtaining in 1901 a mining engineer degree. After graduating and completing annual military service in Budapest, until **1906 he was an engineer in a coal mine in the Donetsk Basin.**
- In the same year Grochowski made a very big challenge and at the invitation of Okhotsk Gold Mining Company, engaged in the exploration and production of gold. **He traveled through India and Japan to Vladivostok.** During a few months, He made six geological reconnaissance in the Ussurian region, discovering the occurrences of graphite, iron ore, copper and gold.
- **In autumn 1908 He conducted expedition to Sakhalin** which leads to find a coal deposits.
- Over the next three years **Grochowski will cross the entire eastern Siberia.** His works beguns with a trip to Yakutia, looking for gold deposits.
- In early 1917 he accepted a proposal to participate in the expedition of the Sederholm, professor at the University of Helsinki, whose aim was to examine the **Urianchaj country and Western Mongolia.** The geological group led by Grochowski found of the gold deposits and coal in the upper Yenisei, copper ore on the Tersyk River, and three copper deposits in the basin of the Little Yenisei.

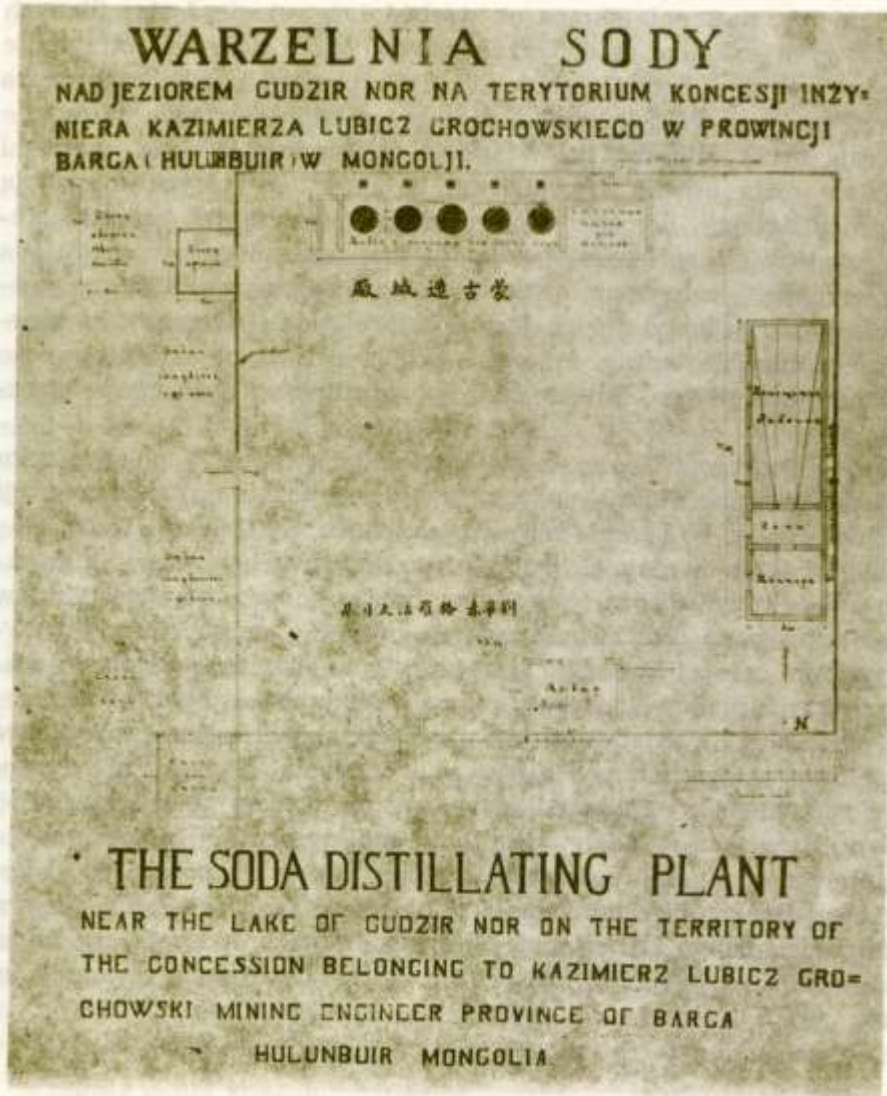
Sketch geological map drawn by K. Grochowski



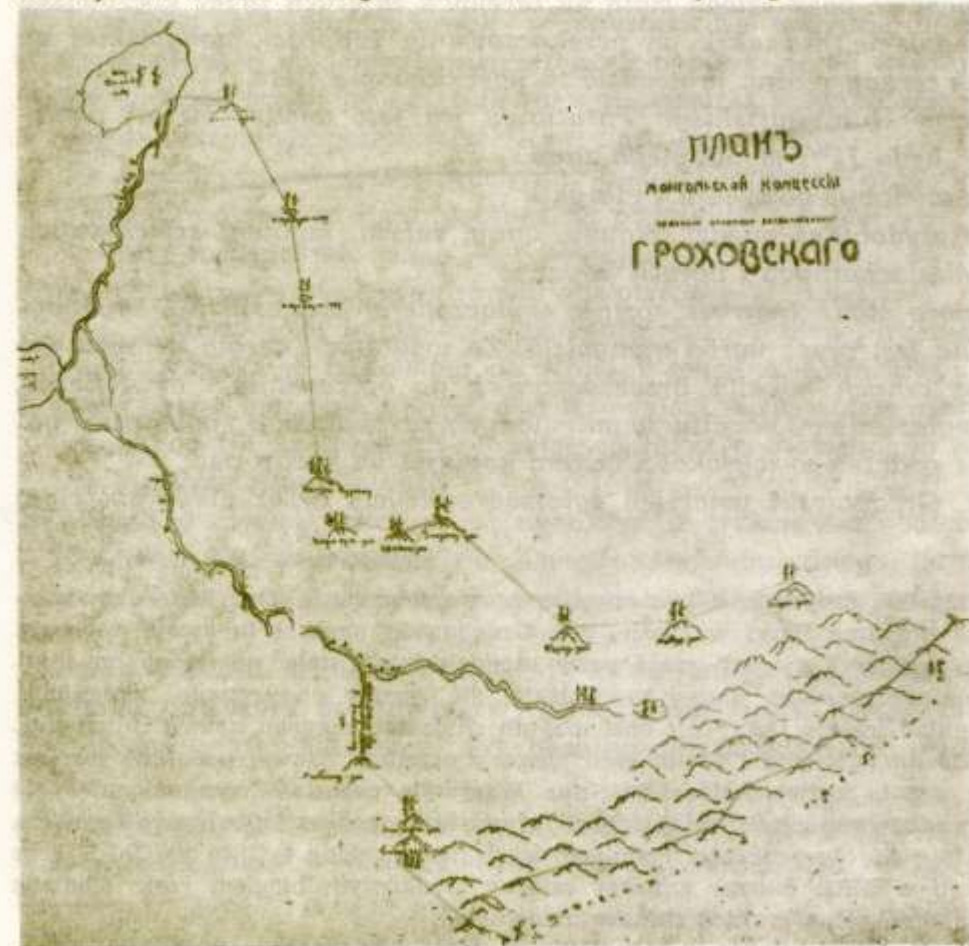
Kazimierz Grochowski



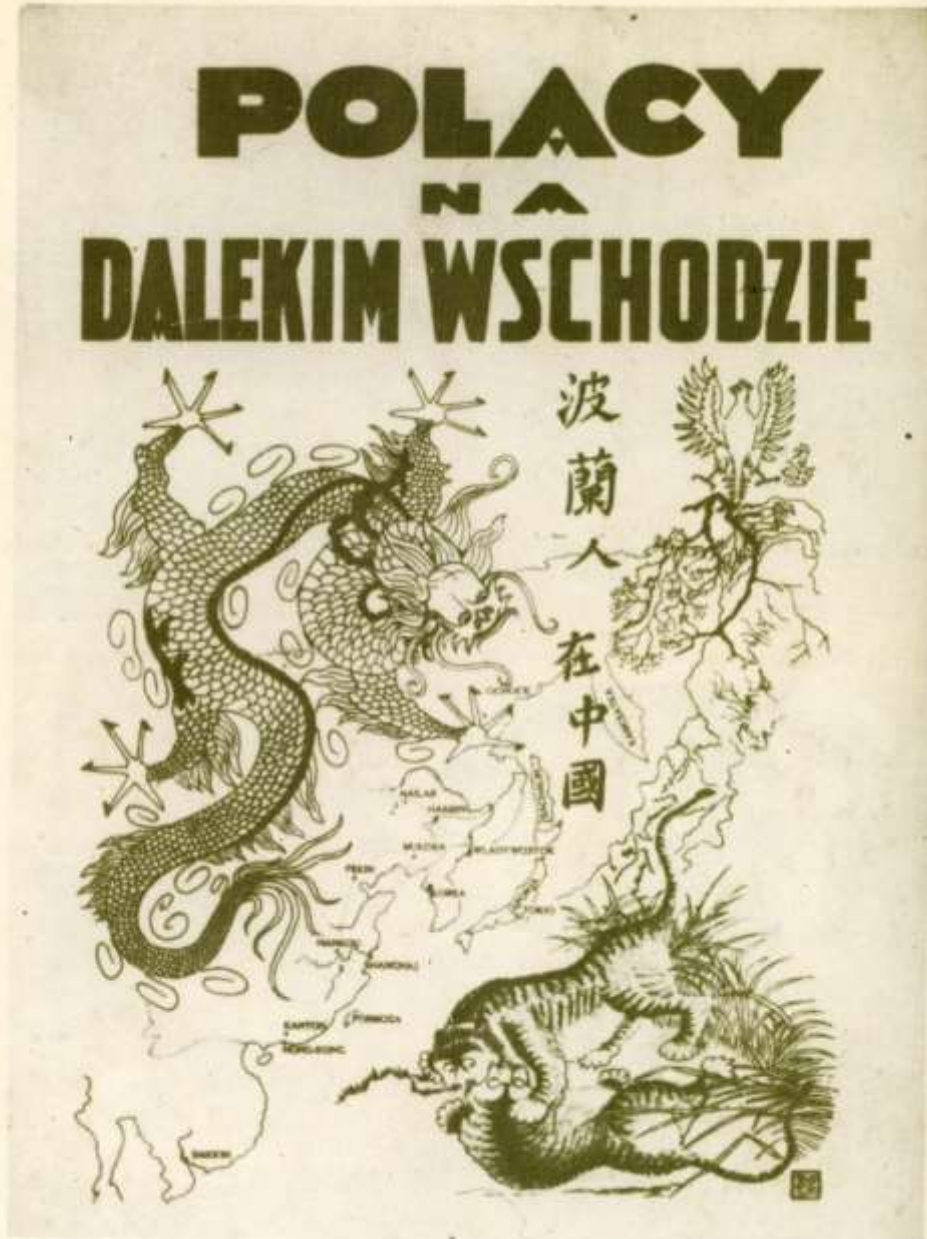
Plan warzelni sody nad jeziorem Gudzir-nur w osiedlu „Fort Grochowski”.



Koncesja inż. K. Grochowskiego w Bardze, we Wschodniej Mongolii.



Prospecting Licence awarded to K. Grochowski for Barga area in eastern Mongolia



Front page of K. Grochowski's book entitled Poles in Far East (Polacy na Dalekim Wschodzie), published in Harbin (China) in 1928

Stanisław Doktorowicz – Hrebnicki (1888 – 1974)



- Graduated in the Mining Institute in St. Petersburg. During studies (1906 – 1912) had the opportunity to learn in practice field with a number of various mineral deposits.
- Almost immediately after completion of the diploma was accepted for national service in the Committee Geological Survey in St. Petersburg. **Over the next 10 years, He conducted studies and geological researches on the boundless, almost wild and unknown geological areas of contemporary Russia and after then the Soviet Union, reaching the Eastern Siberia.**
- **In the years 1913/1914 performed a geological mapping in south - western part of the Zabajkale District in the Chamar – Daban and Monostojski Mts. on the southern shores of Lake Baikal.** The following year he joined the work and researches related to the exploration for fluorspar deposits.
- In the same year. He conducted also geological surveys in the vicinity of a gold mine, **south of Nierczyńsk. He was also involved in researches of tungsten ore deposits at the top Bukuka Mts. and on the border of Siberia, Mongolia and Manchuria.**
- He also studied deposits of smoky quartz (tridymite), topaz and aquamarine, occurring in the **Adun – Czilon Mts. and tin ore deposit near the station Ołowiannaja.**
- In 1917, He conducted investigations of the molybdenum ore deposits, occurring in quartz veins and granitic intrusions in the crystalline schists close to the **Czykoj River in the middle of Transbaikal.**
- In the years **1918 – 1920, He performed cartographic works on the south - west Zabajkale** in the Valley of the Chilok River, forming tributary of the Selenga and on the southern coast of Lake Baikal.
- During the last period of work in the Geological Committee, in 1921. He studied the iron ore deposits near **Bracki Spur on the Angara River** and deposits of Jurassic coals in Czeremchow.



Drawings by Stanisław Doktorowicz – Hrebnicki

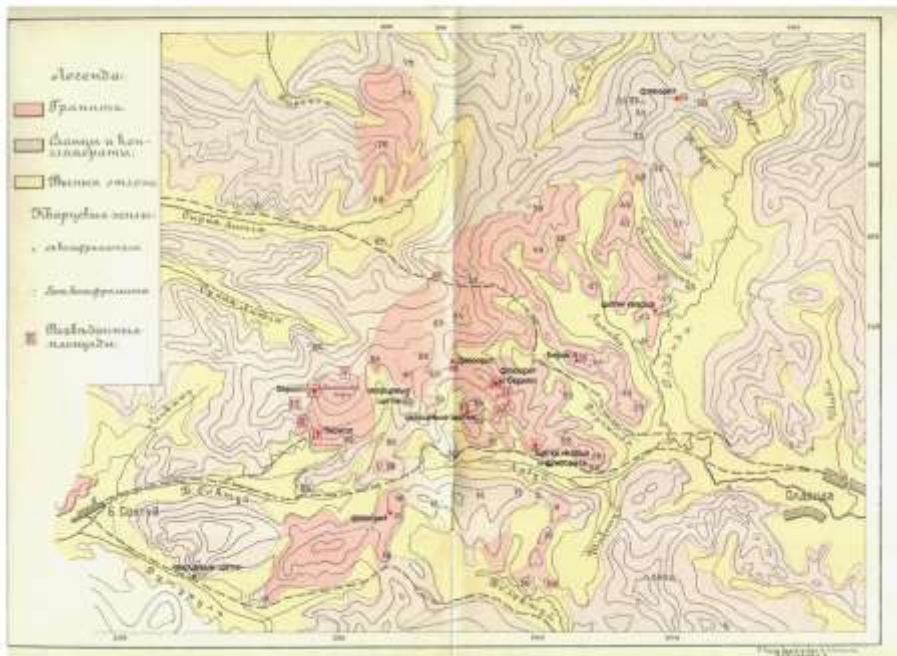


Taiga forest in the Orengoj area

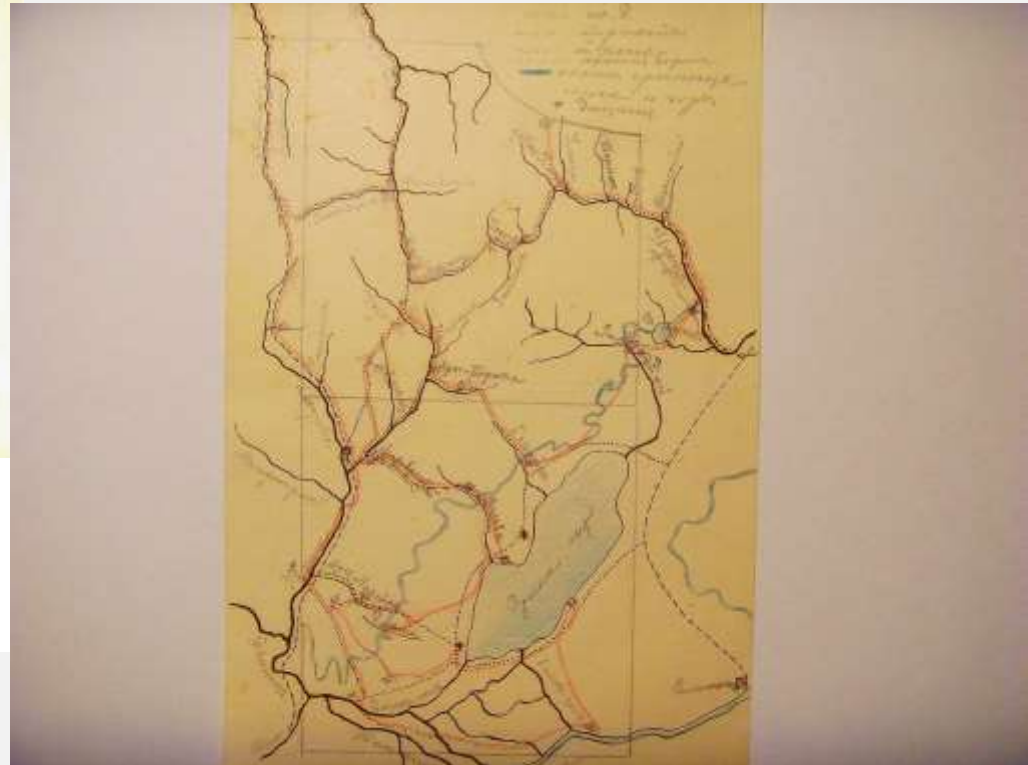


Selenga River valley landscape in the vicinities of Orengoj

Геологическая карта северо-восточной части хр. Хукульбей.
Составил С.А. Докторович-Гребинский.
масштаб: 2 версты в 1 дюйме



**Map drawn in the course of
geological reconnaissance surveys
in 1915**



**Route of geological reconnaissance
surveys in 1913**

Official confirmation of crossing the Polish-Russian border on July 15 1922,
issued for S. Doktorowicz – Hrebnicki by the Head of the Brasławski District

*Arucyjne stury jako
bratowy dowód ostateczny
Wznie do ku. 31 paź. 1922.*

Data . . . *1 sierpnia* . . . 1922 r.

Mr. Radecki-Mohler Z A S W I A D C Z E N I E

Starostwo w Brasławiu.

Zaświadczam, że p. *Doktorowicz – Hrebnicki Stanisław* ur. w r. *1888*
przynależny do państwa *polskiego* narodowości *polskiej*
zgłosił się w dniu dzisiejszym w Starostwie, gdzie ustalono,
że przekroczył granicę polsko-*rosyjską* w dniu *15 lipca* 1922
P. . . *Doktorowicz – Hrebnicki Stanisław*
został wciągnięty na listę ewidencyjną Nr. *1* poz. *385*

Mr. Radecki-Mohler
Starosta Brasławski




SUMMARY

In this presentation only the most well-known geologists operating in **East Asia** were mentioned. In reality there were many more. In many cases, their work and research have not been properly documented. Some of them were lucky to return to an independent homeland and use their experience gained abroad for the development of geology in **Poland**. Others, have made an important contribution to the subsequent exploration and use of the endless resources of Siberia by the Russian state. **They both deserve great respect and appreciation.**

**THANK YOU FOR YOUR
ATTENTION**

