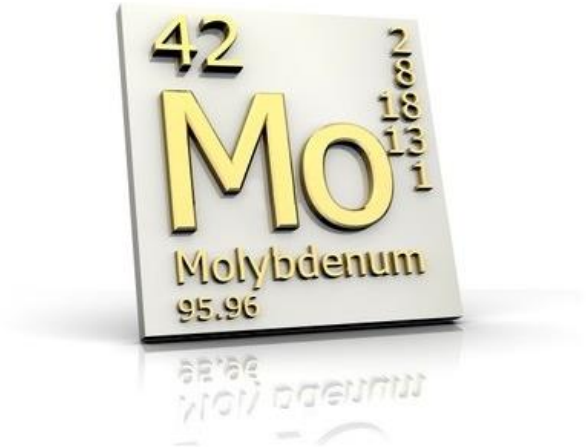
LOBASH MOLYBDENUM DEPOSIT



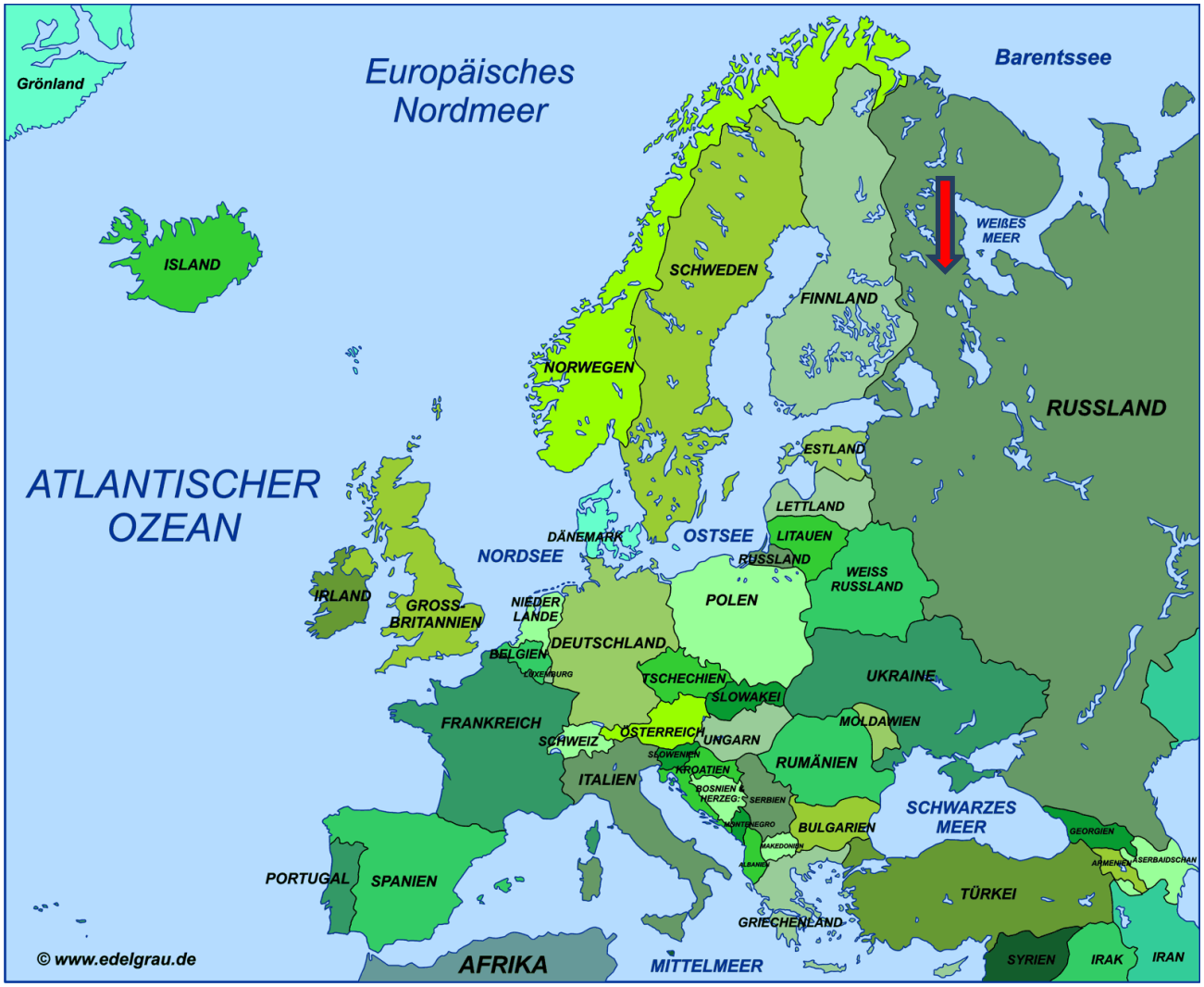
INVESTMENT PROJECT PRESENTATION

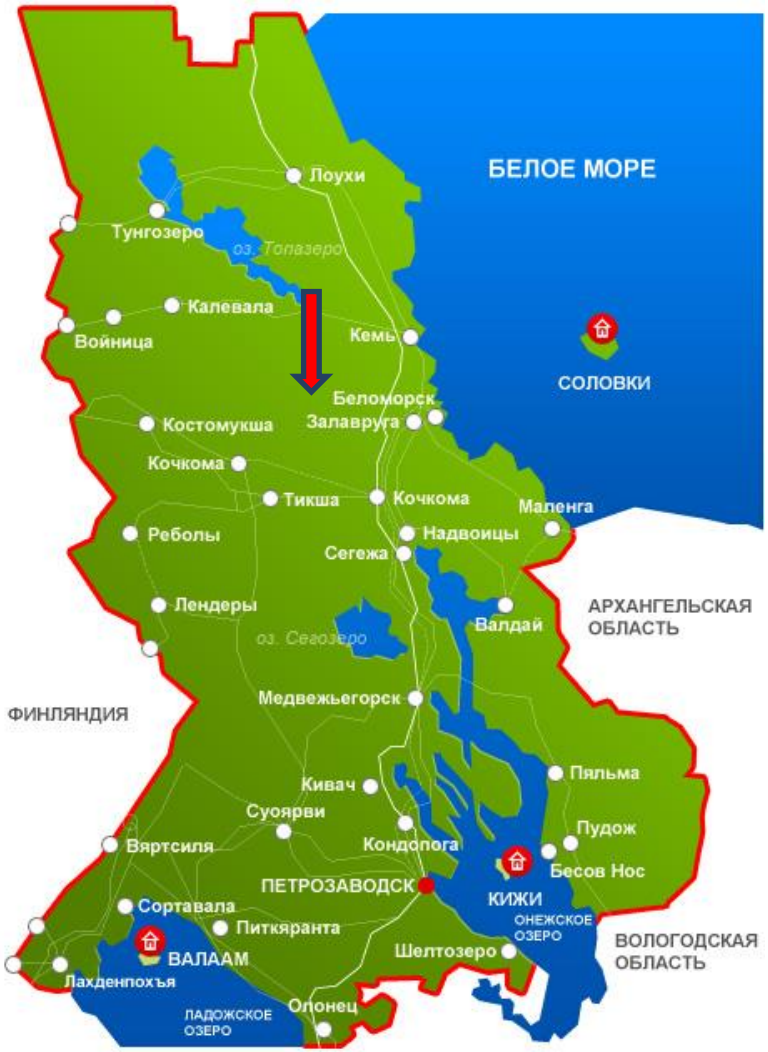
CONSTRUCTION OF INTEGRATED MOLYBDENUM MINING-AND-METALLURGICAL COMPLEX

Petrozavodsk, December 12, 2013

КАНОНЪ
КОНСАЛТИНГ

Project site (Lake Lobash)





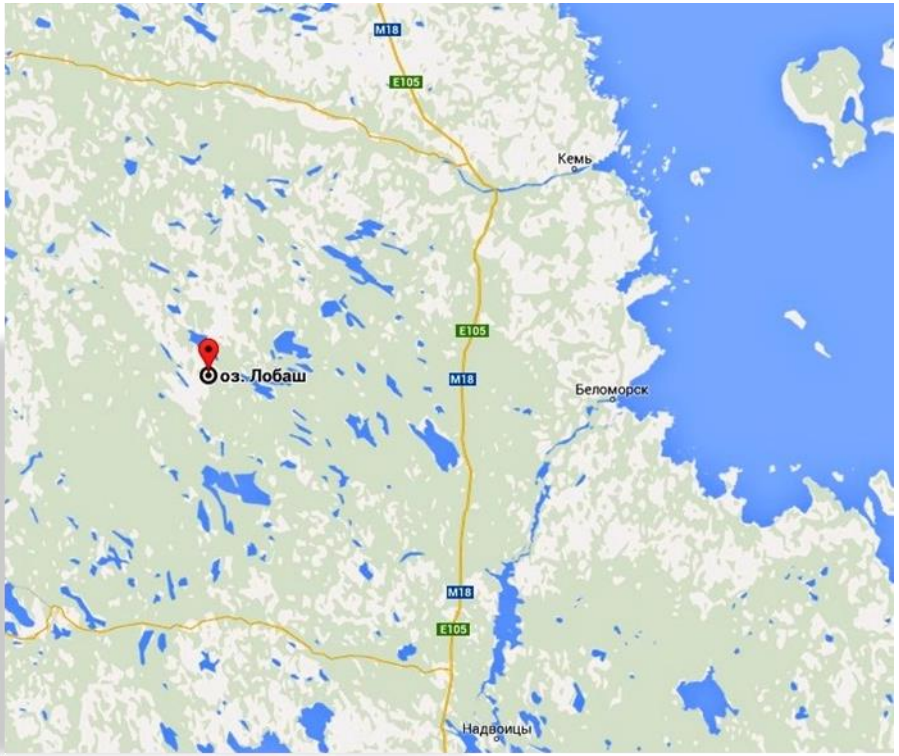
Project site (Lake Lobash)

Geographical coordinates: 64° 35' 00" 33° 03’ 00”

Information about the project area:

- -40 km east of the r/w station Borovaya (461 km from the city of Petrozavodsk)
- 80 km west of the junction r/w station, sea and river port Belomorsk (380 km from the city of Petrozavodsk)
- 45 km south-east of the Yushkozerskaya hydropower station of the Kemj cascade

Absolute elevations, m: from 135 to 150.



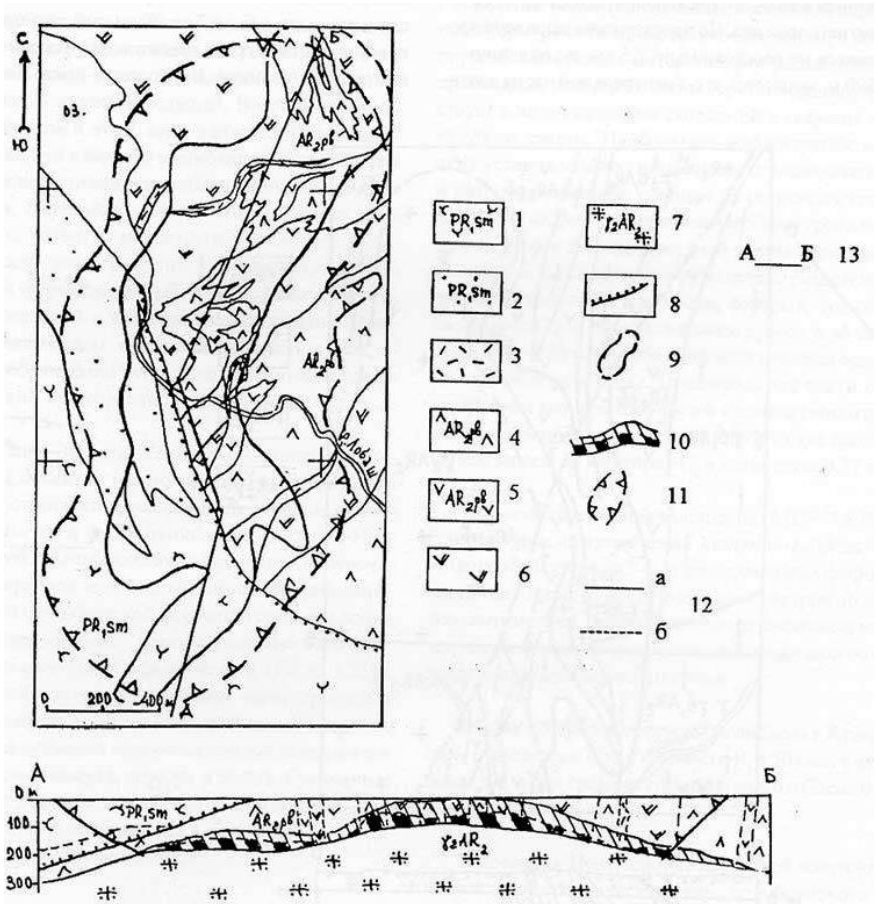


Схема геологического строения Лобашского рудного поля /Тытык, 1991ф/

Project site (Lake Lobash)

Lobash molybdenum deposit is associated with the Lopian formation complex and is located above the apical outshot of granite massif. It is represented by large linear molybdenum stockwork formed in the zone of granites exocontact. Reserves under categories C1 and C2 are estimated and approved as 308,875,000 tons or 159,447 tons of molybdenum.

Extension of the of the productive ore body:

- bearing 2 km,
- width from 500 to 750 m,
- thickness in the axial region up to 200m with gradual thinning towards the flanks.
- deposit reserves (according to InzhGeo LLC estimate) – 120 thou t of Mo.

Planned complex capacity:

- mining of mineral rock mass 3 mln tpy
  - 10 thou tpd (4 thou m3/day)
- mill capacity 15 thou tons of beneficiated ore with Mo content not lower than 50%
  - 6.8 tpd of Mo
- estimated life time 50-60 years.

Main goals

- **Stage 1. Preparatory**
  - Establish the location of the open pit and mining-and-metallurgical complex within the exact battery limits of the industrial site complying with the requirements of the efficient production arrangement.
  - Determine the expected cost of development of industrial infrastructure within the required scope:
    - development of the open pit, required investment;
    - natural gas – connection point, distance, executor, required investment;
    - access r/w tracks – station, requirements presented by the Russian Railways, required investment;
    - power supply – estimation of investment required for technological connection;
    - water supply / water discharge – potential source / discharge basin, required investment;
- **Stage 2. Business plan**
  - Development of the business plan based on the justified feasibility data.
  - Attraction of strategic partners
  - Attraction of required investment.
- **Stage 3. Project implementation**

Background

Lobash deposit is the only significant commercial molybdenum project in Karelia. It belongs to endogenetic hydrothermal stockwork deposits of molybdenum formation.

Based on the results of the economic-geological evaluation performed in 1990-91 a conclusion was made that Lobash deposit belonged to the category of large projects. According to its reserves, ore quality, mining-and-geological, geographic-and-economic condition, as well as the main feasibility parameters the deposit is rated at or even exceeds the level of similar deposits being mined or explored in detail. The expected payback period does not exceed 10 years, and the deposit undoubtedly presents a commercial interest and deserves further exploration.

Based on the results of preliminary exploration it was recommended to perform detailed exploration aimed at the further appraisal of the reserves in the area of primary mining under category B, additionally explore deposit flanks in order to transfer the reserves to the category C1, conduct semi-industrial technological tests of the ore, etc. We fully support this approach.

Taking into account that Russian requirements in molybdenum concentrate are practically 100% satisfied by import, the development of Lobash deposit is very urgent.

V.S. Rogov, PhD, Geology-Mineralogy

Expected effect

Direct effect:

- ▶ **Establishment of production with the annual turnover exceeding 3 bln rubles.**
- ▶ **Projected tax revenues exceed 250 mln rubles.**
- ▶ **Creation of 1500 new jobs**

“Domino” effect:

- ▶ **Construction of worker’s township for 4-6 thousand residents.**
- ▶ **Utilization of infrastructure sectors (transport, communication, commerce).**
- ▶ **Indirect turnover – more than 2 bln rubles.**
- ▶ **Proportional increase of tax payments.**

Project participants

Kanon Consulting LLC - business planning, coordination

InzhGeo LLC - geology

Projects & Technologies – Management & Development LLC - engineering and design

SPV Molybdenum-Karelia LLC - project management

Government of the Republic of Karelia - state support

Thank you for your attention!

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