

Information- and Consultation Meeting
regarding Test Mining at the Kallak Deposit,
Jokkmokk, Sweden
26 April 2012



Agenda

Jokkmokk Iron Mines
and the Kallak project

Fred Boman, Jokkmokk Iron Mines AB

Permitting process

Per G Broman, Jokkmokk Iron Mines AB

BREAK

Consultation regarding test mining

Permit application and EIA

Klara Eriksson, Hifab AB

Nature value inventory

Torbjörn Ros, Pelagia

Heritage conservation survey

Frida Palmbo, Norrbottens museum

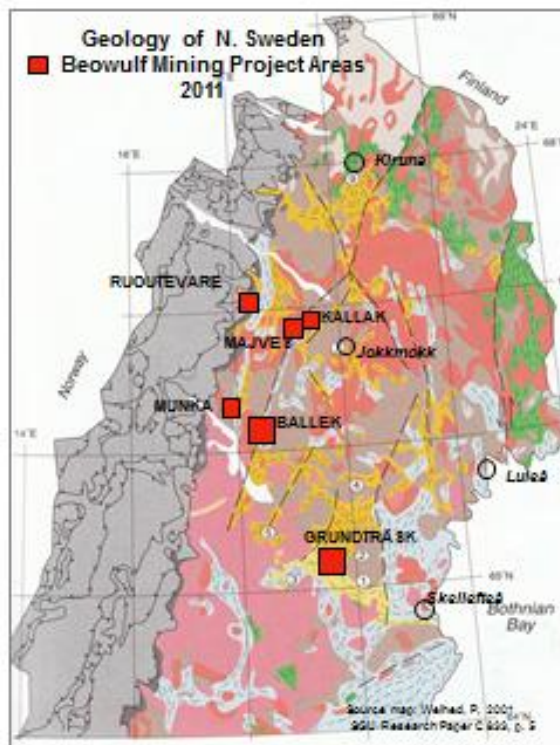


Jokkmokk Iron Mines AB

a wholly owned subsidiary of
Beowulf Mining PLC



Exploration permits held by Jokkmokk Iron Mines AB and Beowulf Mining plc.



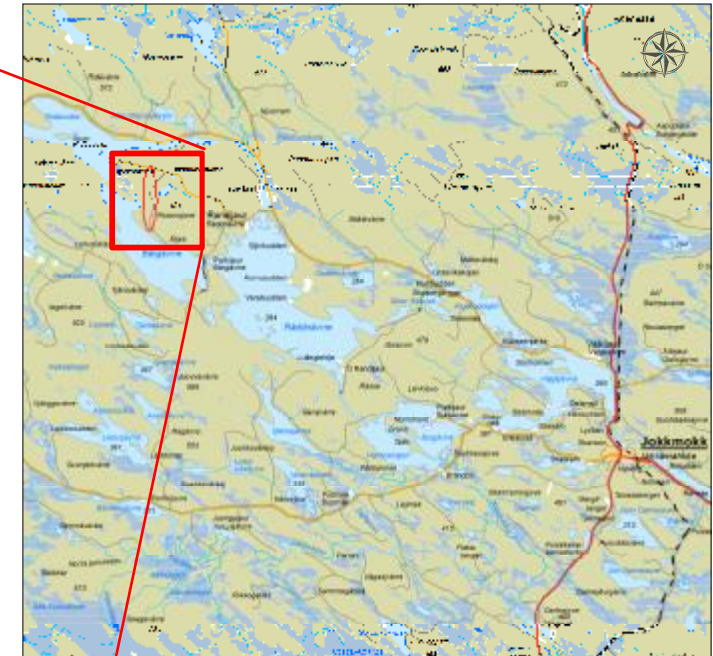
KALLAK	Järn
RUOUTEVARE	Järn, titan
MAJVES	Koppar
BALLEK	Koppar
MUNKKA	Molybden
GRUNDTRÄSK	Guld

Focus is on the Kallak project



Location maps

JOKKMOKK IRON MINES AB



Kallak - history

1940's

- Discovered and surveyed by SGU

1960- och 1970-talen

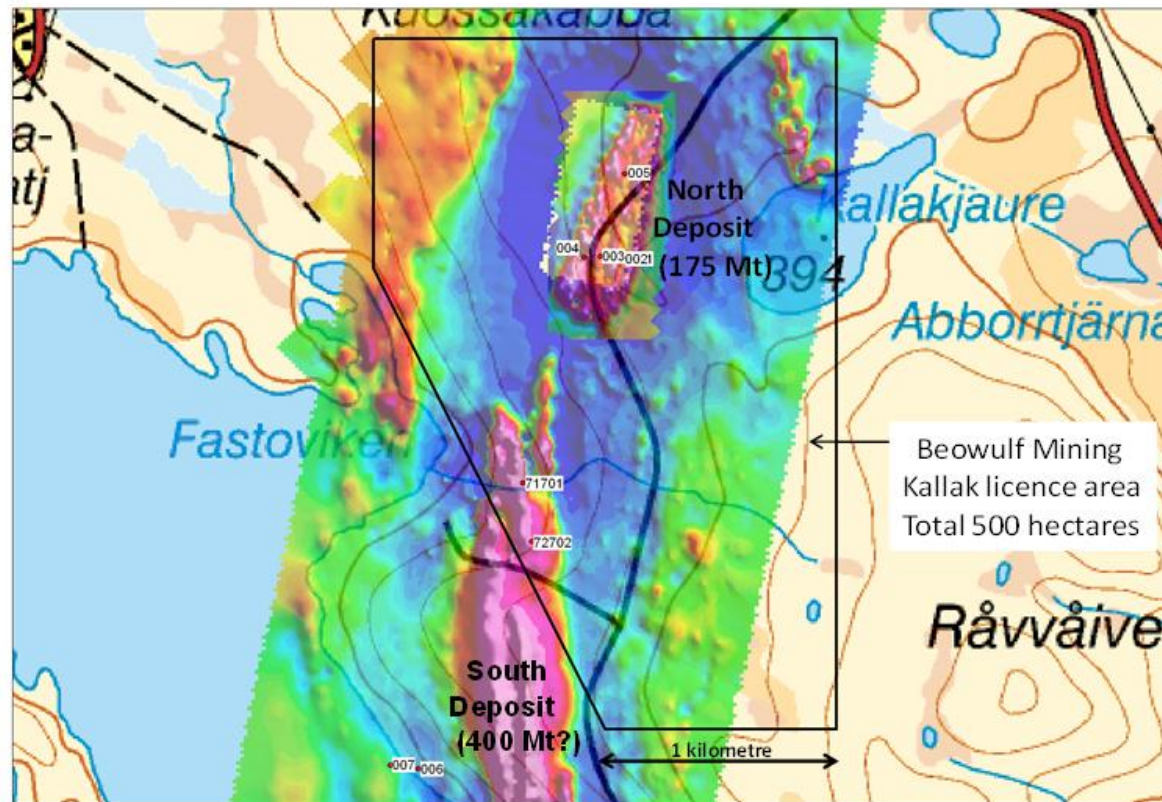
- Continued surveys by SGU

2000-talet

- Surveying continued by Beowulf Mining



Ground Magnetic survey results (SGU)



Drillings

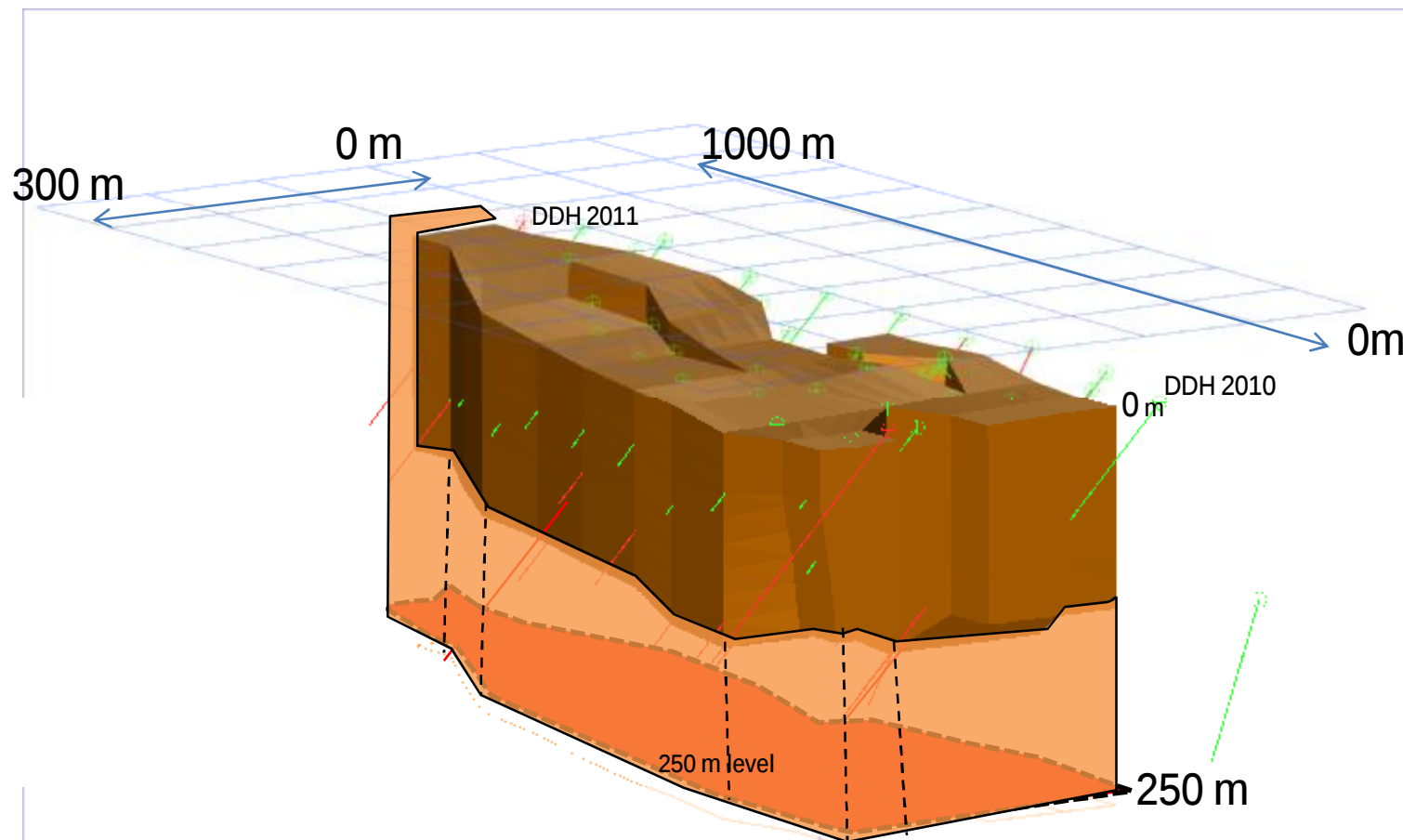


1948
600 m (SGU)

2010-2011
8450 m (Beowulf)



Kallak North so far most well explored



View to NE



Results so far

- § Mineralized zone appr 3,600 m long och 100-300 m wide
- § Mineralized zone open to the North and deeper than 250 m
- § Iron grades high, 25-45%
- § Mineralization of high quality



Iron ore mining

- § Appr. 2, 000 million tonnes mined in 2011
- § Appr. 25 million tonnes mined annually in Sweden (LKAB)
- § Run of mine ore typically grades between 25 and 55 % iron
- § Ores normally concentrated at mine sites
- § Iron concentrates typically grade 62-70% iron
- § Open pit mines the dominating source of iron ore production

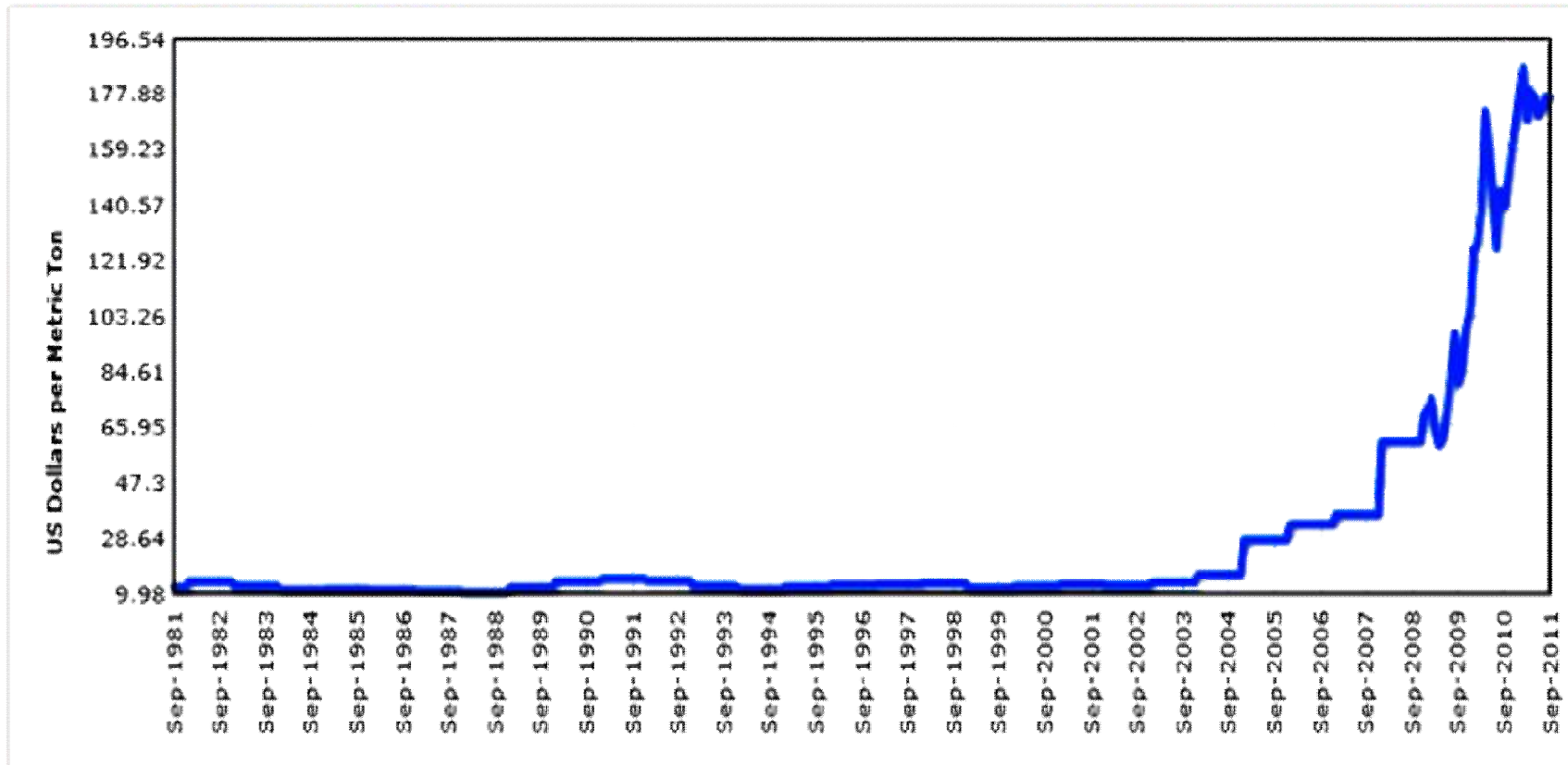


STRONG PRICE INCREASE SINCE 2004

Järnmalmspriset sedan 30 år

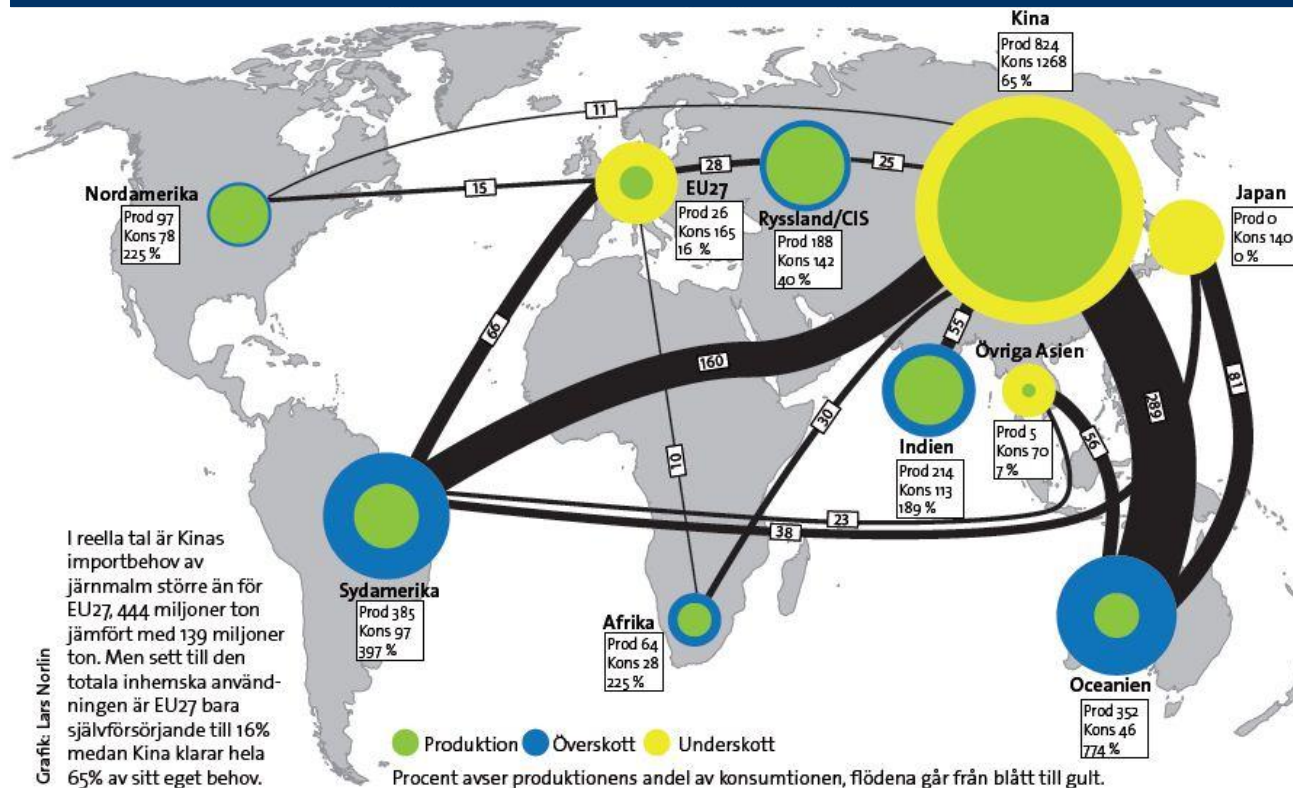
Range [6m](#) [1y](#) [5y](#) [10y](#) [15y](#) [20y](#) [25y](#) [30y](#)

Sep 1981 - Sep 2011: 165.080 (1,358.68 %)



UNBALANCED SUPPLY AND DEMAND

Järnmalm: användning, produktion och handel (Mt)



- China: 50 % of global consumption, big importer
- India: Balanced, demand expected to increase
- Europe: Big deficit, LKAB largest producer



Preliminary assessment

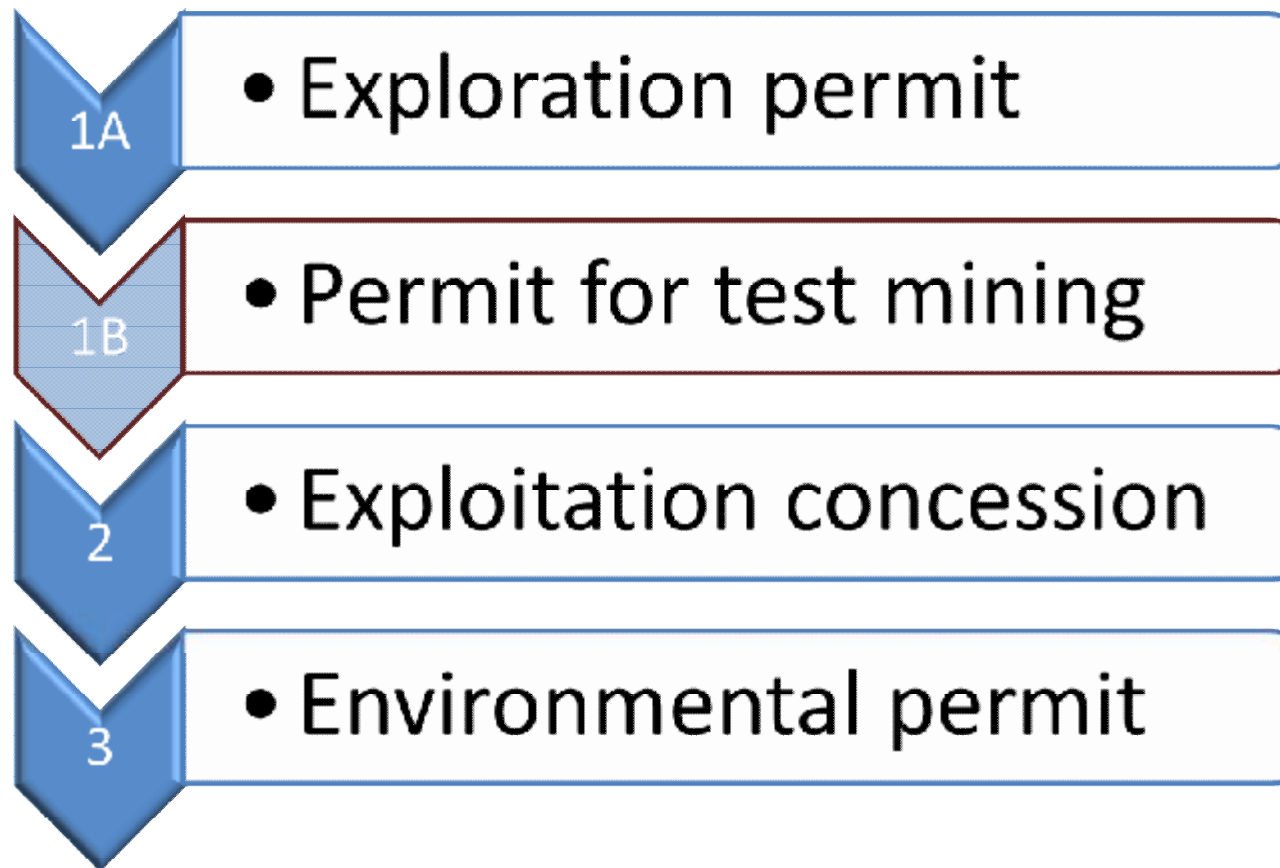
§ The Kallak deposit is of a size allowing large scale, efficient mining in a 10 million tonnes/a scale



THE LICENSING CHAIN FOR MINING IN SWEDEN



Main permits required for mining



Scope

Exploration Permit

- Exclusive right to explore a defined area (including test mining)
- Qualifies for priority for exploitation concession
- Issued for 3 years, maximum extension up to 15 years

Exploitation Concession

- Exclusive right for 25 years to exploit a deposit. Can be extended.

Environmental Permit

- Permit to build, operate and decommission a deposit under defined conditions



The Process

Exploration license

- Issued by the Swedish Mining Inspectorate
- Workplan must be communicated to landowners/stakeholders

Permit for test mining

- Issued by the County Administrative Board
- Requires an EIA*. Includes a formal stakeholder consultation process.

Exploitation Concession

- Issued by the Swedish Mining Inspectorate
- Requires an approved EIA focusing on land use. No formal consultation process including stakeholders.

Environmental Permit

- Issued by the Land- and Environmental court
- Requires an approved EIA. Includes a formal stakeholder consultation process.

* EIA = Environmental Impact Assessment



Additional legal frameworks

Plan and Building Act

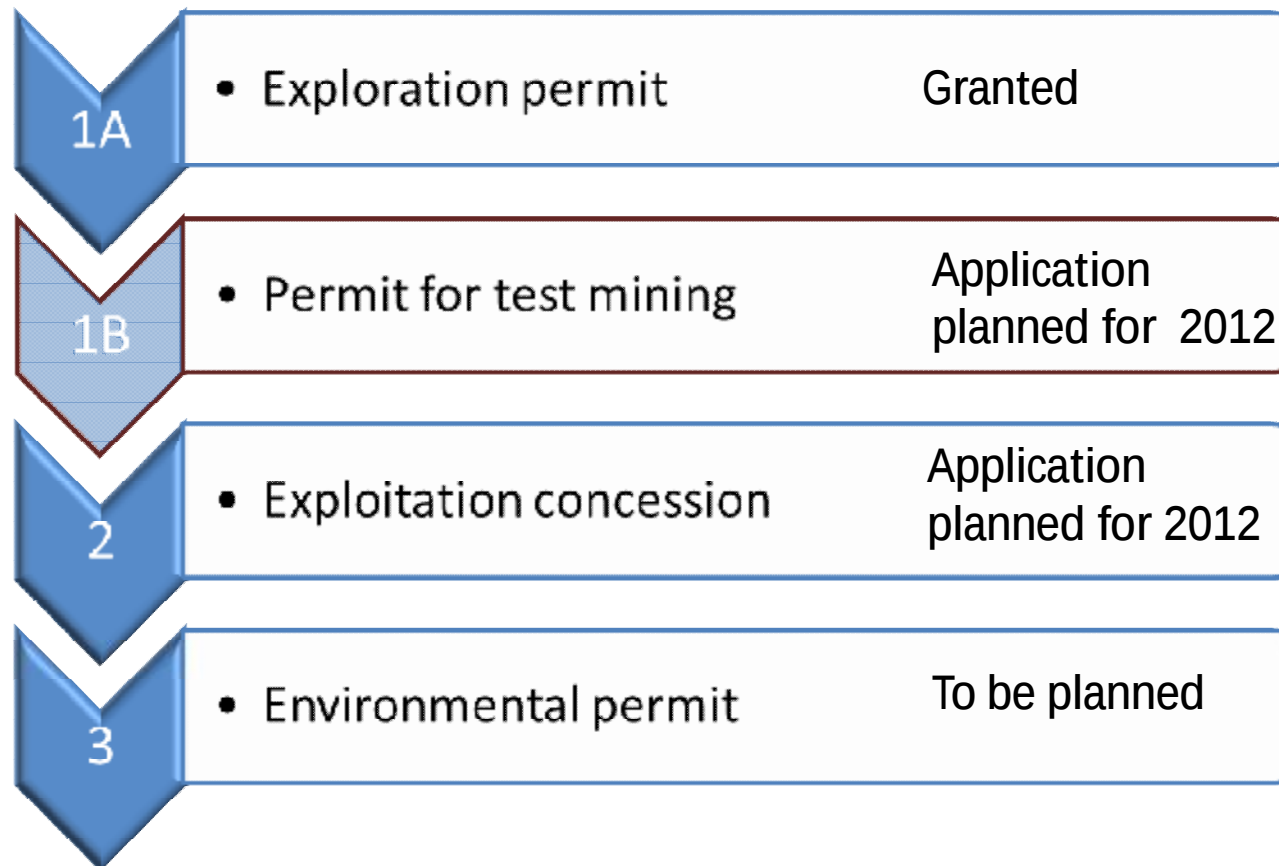
Heritage Conservation Act

Ordinances, e.g.

- ...on waste from recovery operations
- ..on environmental quality standards
- ... waste
- ...on operator self monitoring



Kallak project – precent licensing status

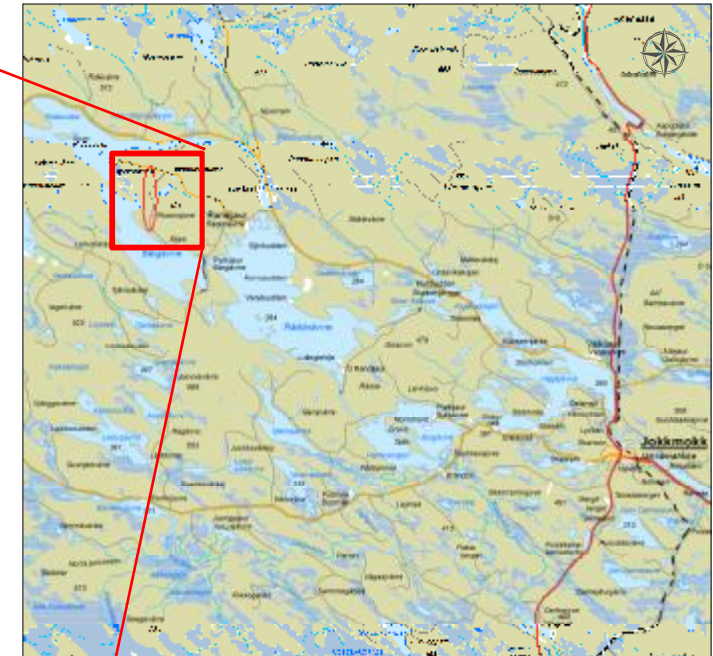


Consultation regarding test mining at Kallak deposit, Jokkmokk 2012-04-26

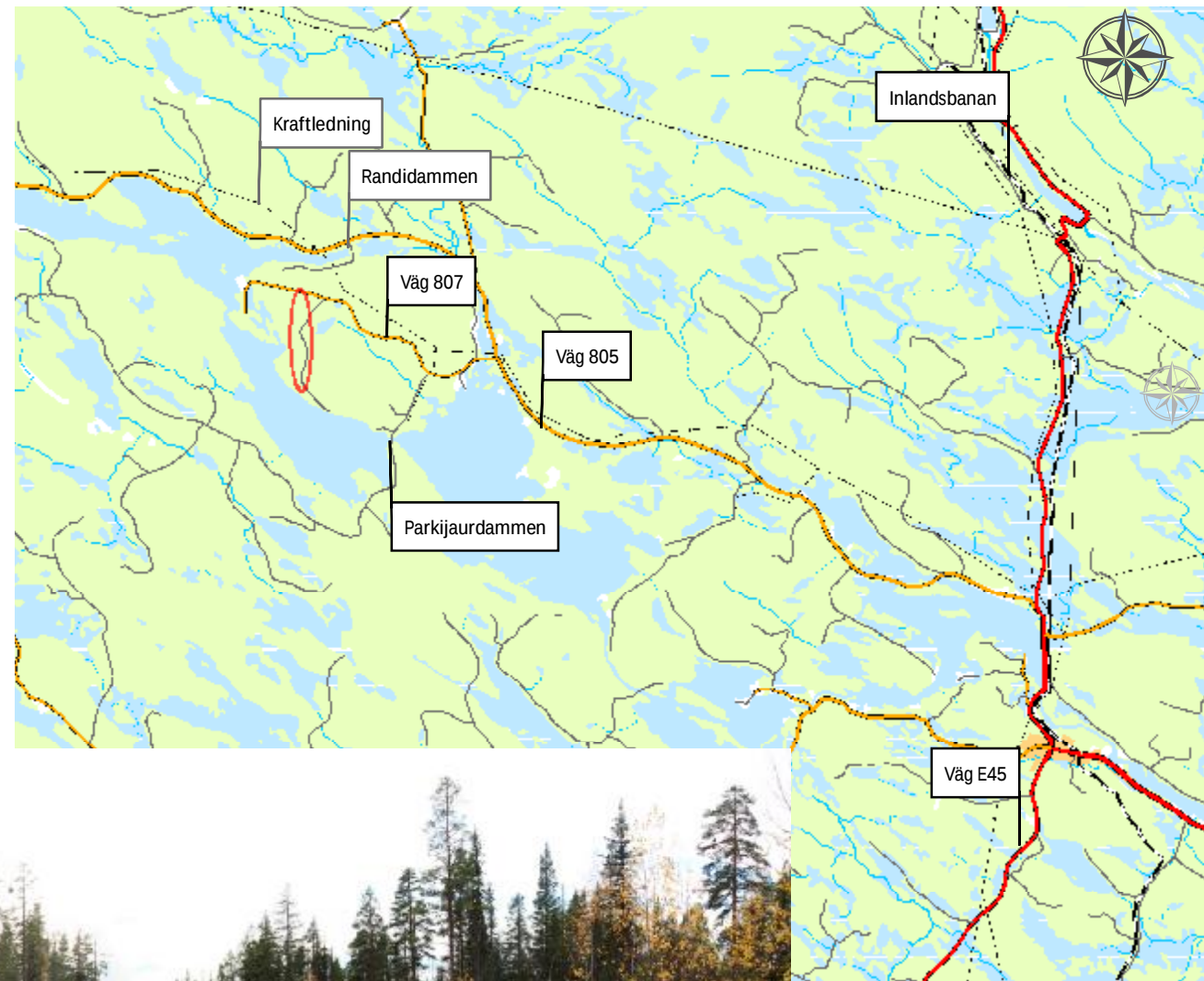


Location

JOKKMOKK IRON MINES AB



Infrastructure



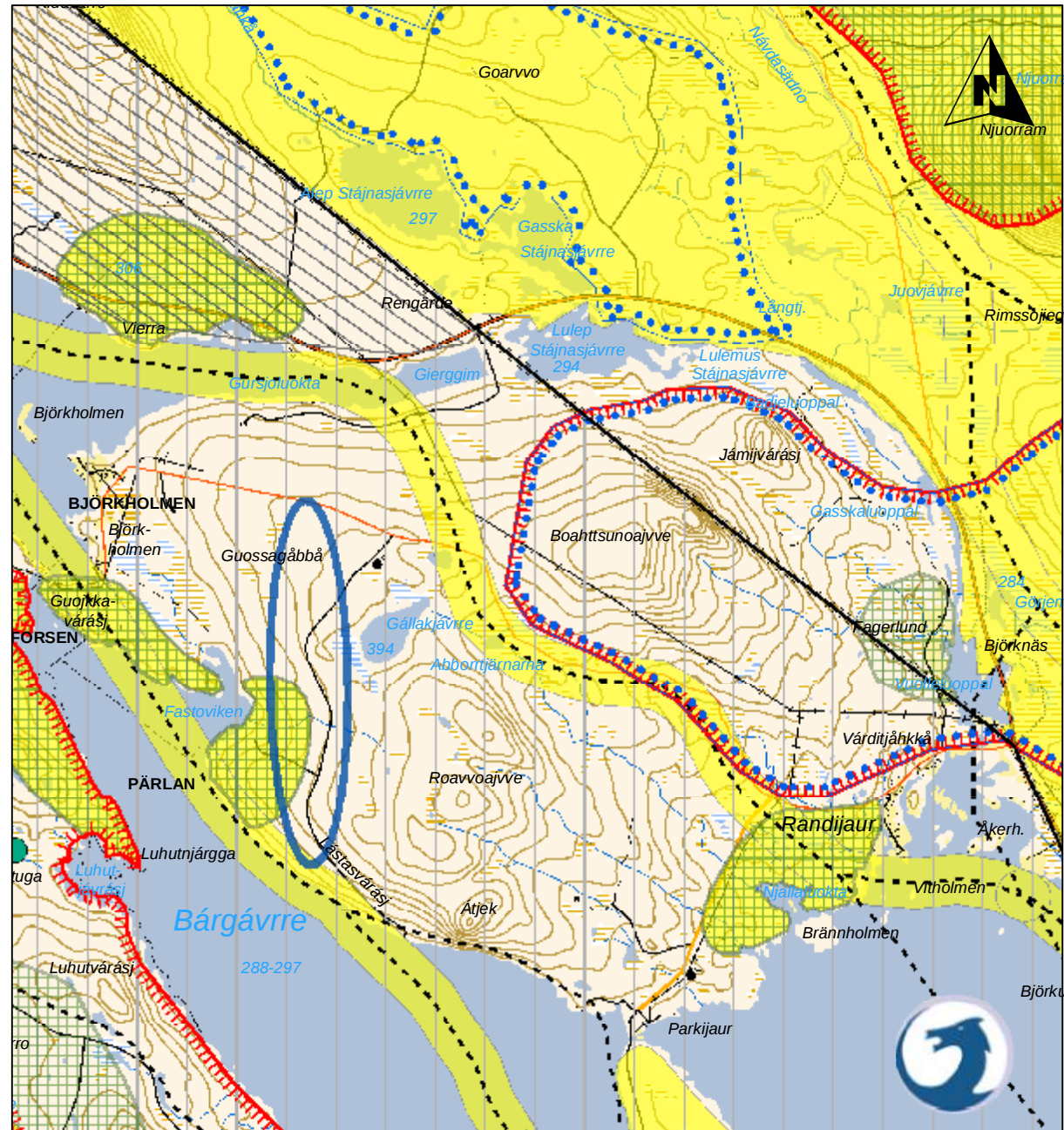
Land use

Forestry and Farming

Hunting and Fishing

Reindeer herding

Tourism



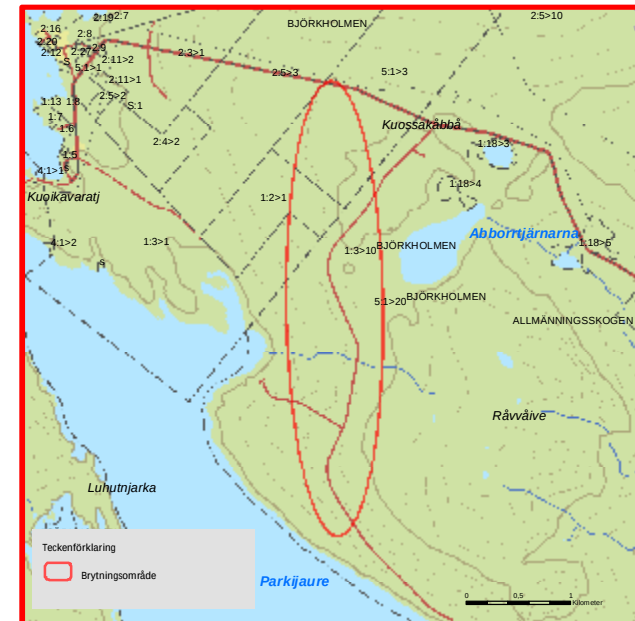
Planned test mining

Preparation works

Clearing the bed rock from soil, which will be temporarily stock piled.

The exposed bedrock surface will be flushed to allow inspection.

Prepare areas for temporary stock piling etc.



Planned test mining

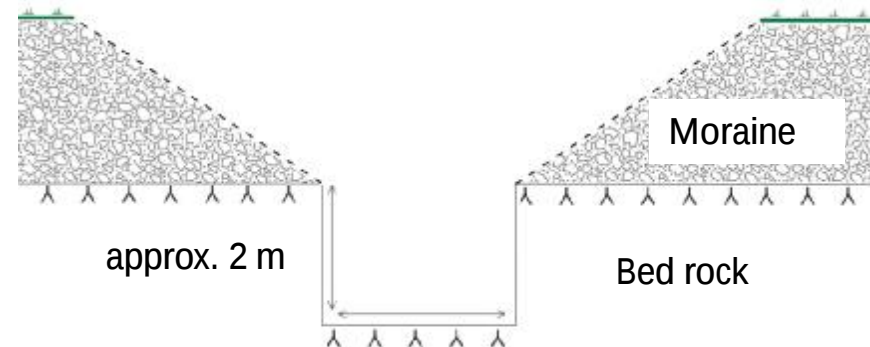
Test mining

Blasting at daytime, after firm alarm signal.

Mining up to 2 000 m³ rock material in approx. 2 m deep ditches.

Transport with dumper to temporary stock piles where crushing might take place.

Approximately 100 single lorry transports to move the rock material out of the area.



Planned test mining

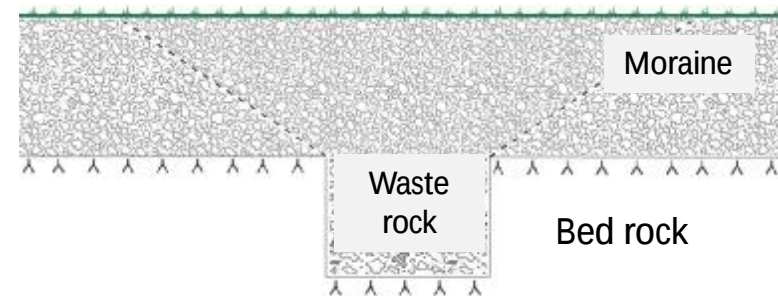
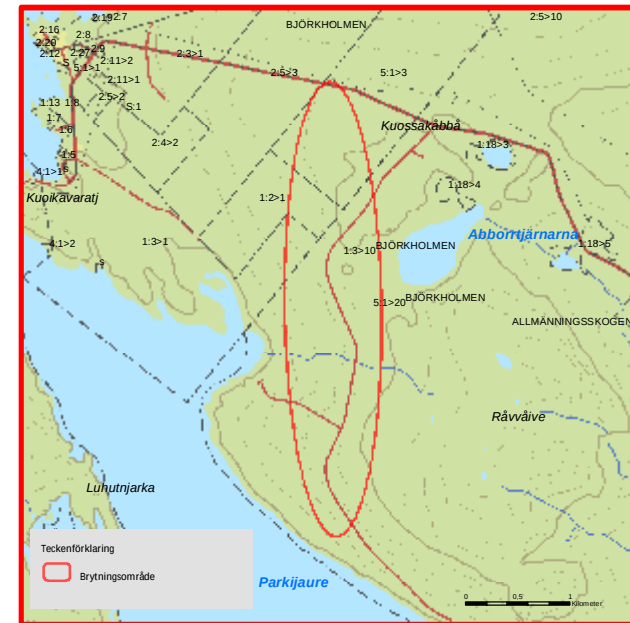
Water management

Pumping water out of test mining trenches might take place. The water will be pumped to a pond for settlement of particles and quality control.

Water disposal will go through natural earth layers and/or wetland.

Rehabilitation

If test mining is not followed by operational mining, the ditches will be refilled with crushed rock and moraine from the temporary stock pile.



Environmental Impact Assessment, EIA

Accomplished base line studies

Study	Status
ü Geology	Interpretation of drill cores
ü Hydrological and och geohydrological studies	Field study and compilation of maps
ü Natur value	Field survey
ü Fish studies	Sampling in a number of locations
ü Bentic fauna, algeas and water chemistry	Sampling in a number of locations
ü Heritage site study	Field survey

... and additional planned surveys

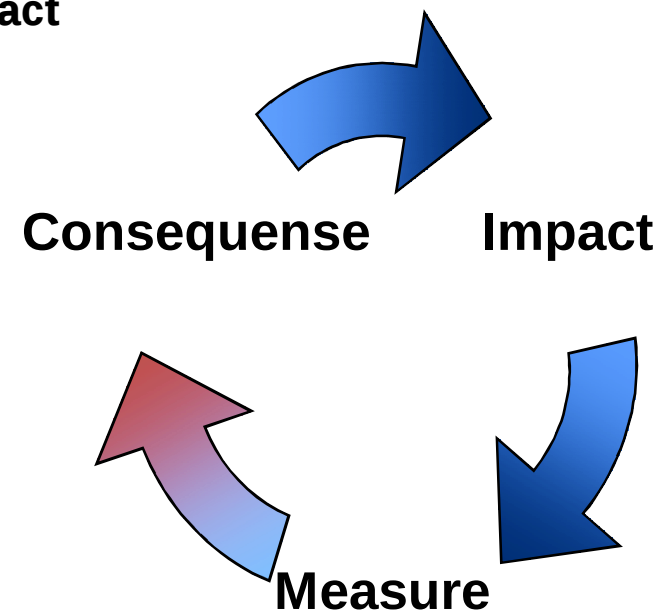
- Ø Noise investigation
- Ø Characterization of rock material
- Ø Impact on rein deer herding



Environmental impact assessment

- impact and planned measures

- **Landscape and impact on scenery**
- **Watercourses – flow and physical impact**
- **Watercourses – chemistry**
- **Groundwater**
- **Air**
- **Noise and vibration etc.**
- **Nature environment**
- **Culture environment**
- **National interests**
- **Opposing interests**
- **Nature resources conservation**
- **Transport and roads**
- **Waste management**
- **Incidents and accidents**
- **Socioeconomy**



Standpoints regarding test mining
can be submitted until
the 11th of May 2012

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Information can be downloaded from the company
website

www.jokkmokkironmines.se





Samråd provbrytning, Jokkmokk
2012-04-26

