



Aitik presentation at CMD 2019

Hans Jönsson, General Manager

Welcome to Aitik – Agenda March 14, 2019

- 08.15 Hans Jönsson, General Manager Boliden Aitik
- 09.00 Pause and change of clothes
- 09.30 Guided tour (2 groups)
- 11.30 Pause and change of clothes
- 12.00 Lunch including final Q& A session with Group Management
- 13.15 Departure Aitik mine
- 14.30 Departure Gällivare Airport
- 16.00 Arrival Arlanda Airport

Safety



**Production is important, but
your health and your life are
more important!**



Brief history of Aitik

1932 The Aitik deposit discovered

1968 Production starts, 2 Mtonnes throughput

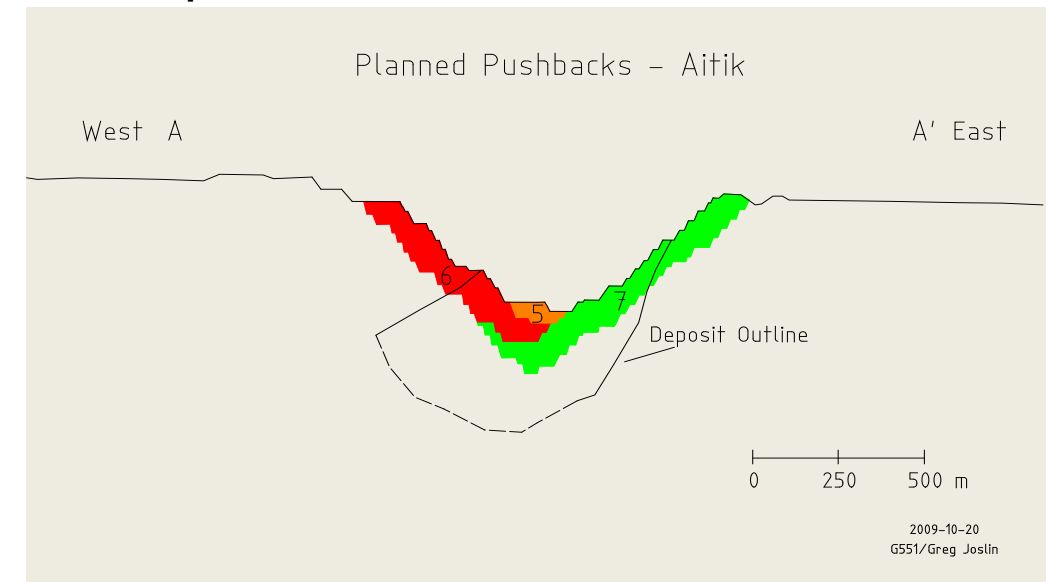
1973 6 Mtonnes, **1983**: 11 Mtonnes, **1992**: 18 Mtonnes

2010 ~6 BSEK investment, 36 Mtonnes

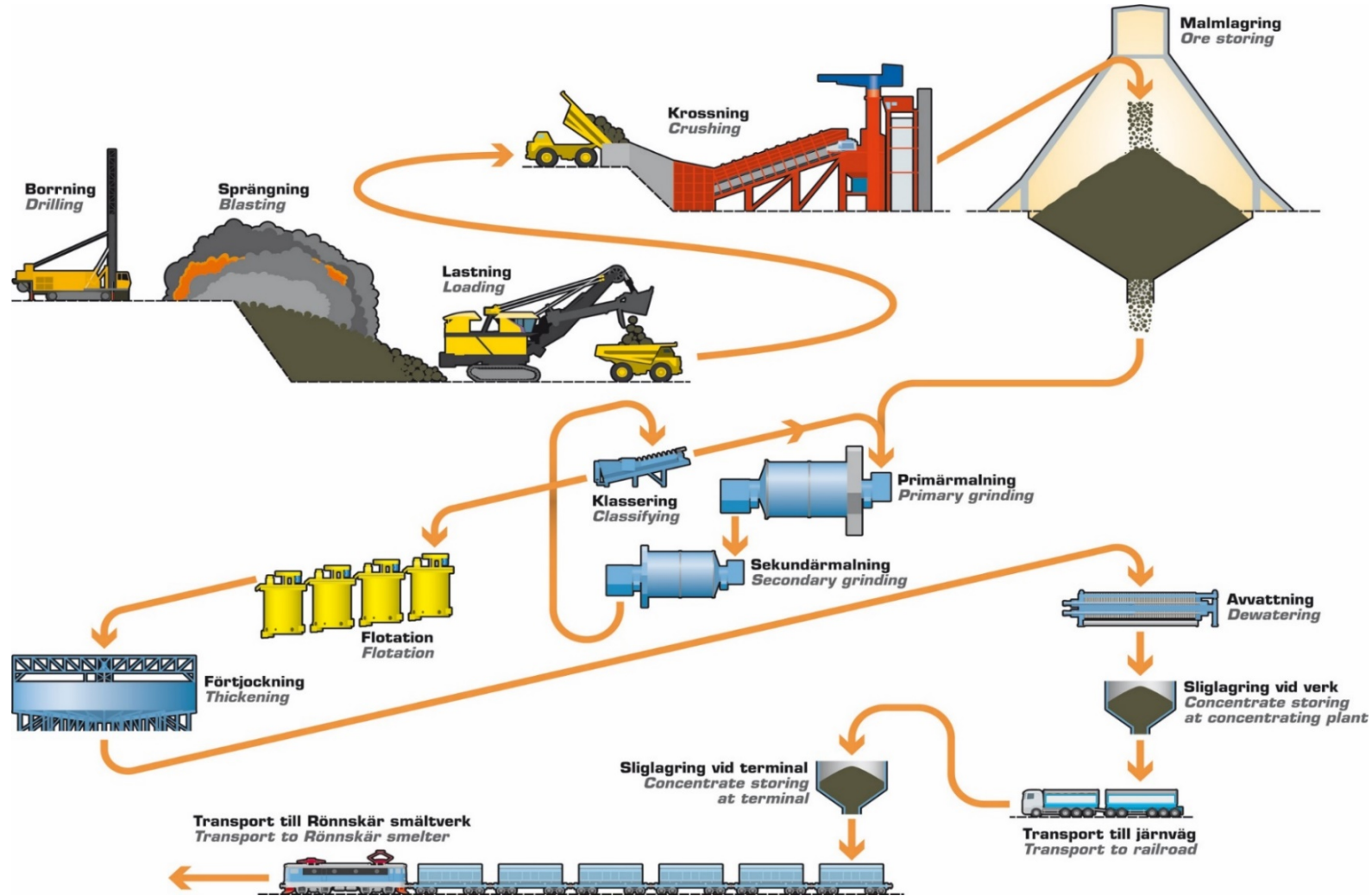
2018 860 MSEK, new surface crusher

2020 45 Mtonnes

Aitik ore profile



Production overview at Aitik



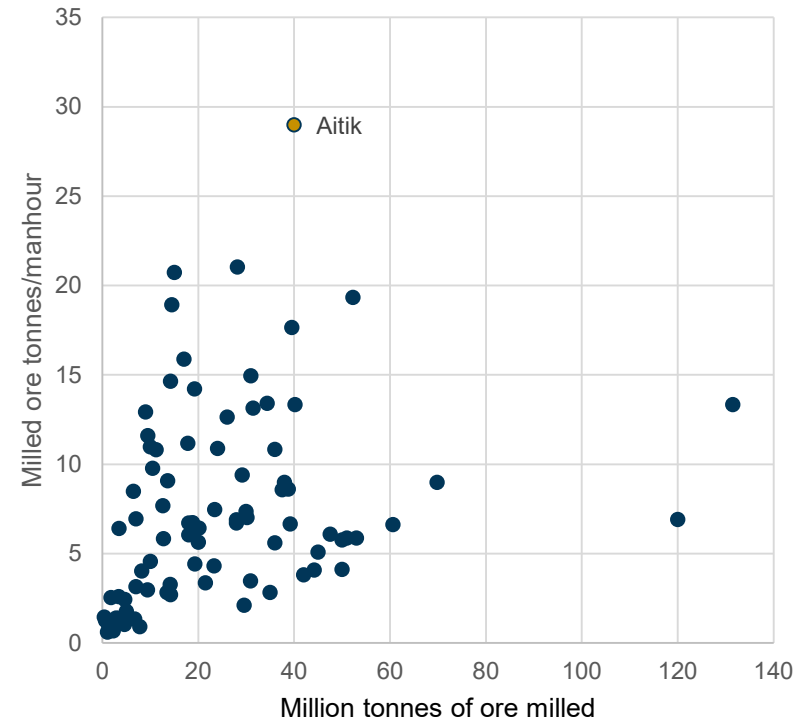
Aitik from above



Europe's largest and the world's most productive open pit copper mine

- Easily accessible ore
- Favourable stripping ratio 1:1
- Large scale operations
- Efficient logistics
- Committed and competent employees
- High level of automation, advanced technology

Copper mine productivity 2018
Open pit mines with concentrator



Source: Wood Mackenzie

Aitik – Increased productivity

Truck trolley



New Aitik electric trolley

New Haul trucks



New Komatsu 830E-5 intended for Kevitsa and Komatsu 930E-5 intended for Aitik

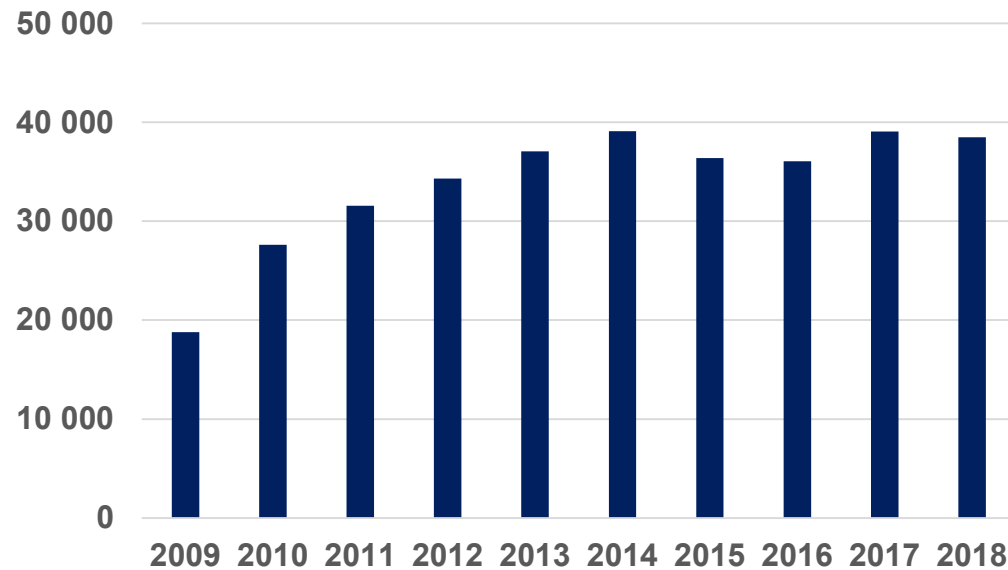
Remote controlled/autonomous drill rigs



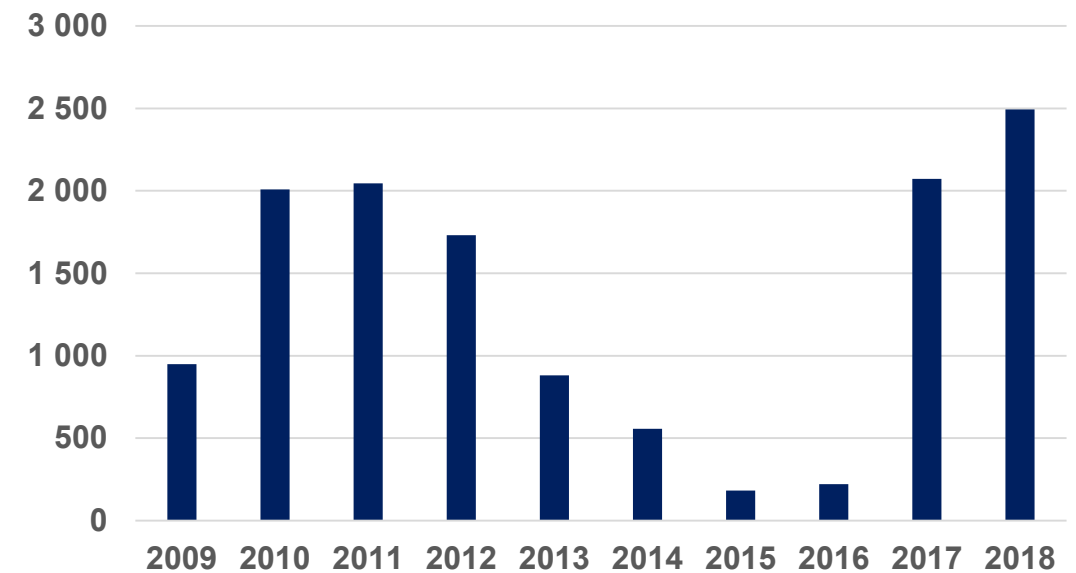
- Mineral reserves have increased 80% since 2008 despite the fact that yearly throughput has increased 100%.
- Electric test lane ~700 meters and is expected to save 830 m3 diesel per year.
- New trucks enable automation and cost reductions.

Aitik – EBIT and throughput since 2009

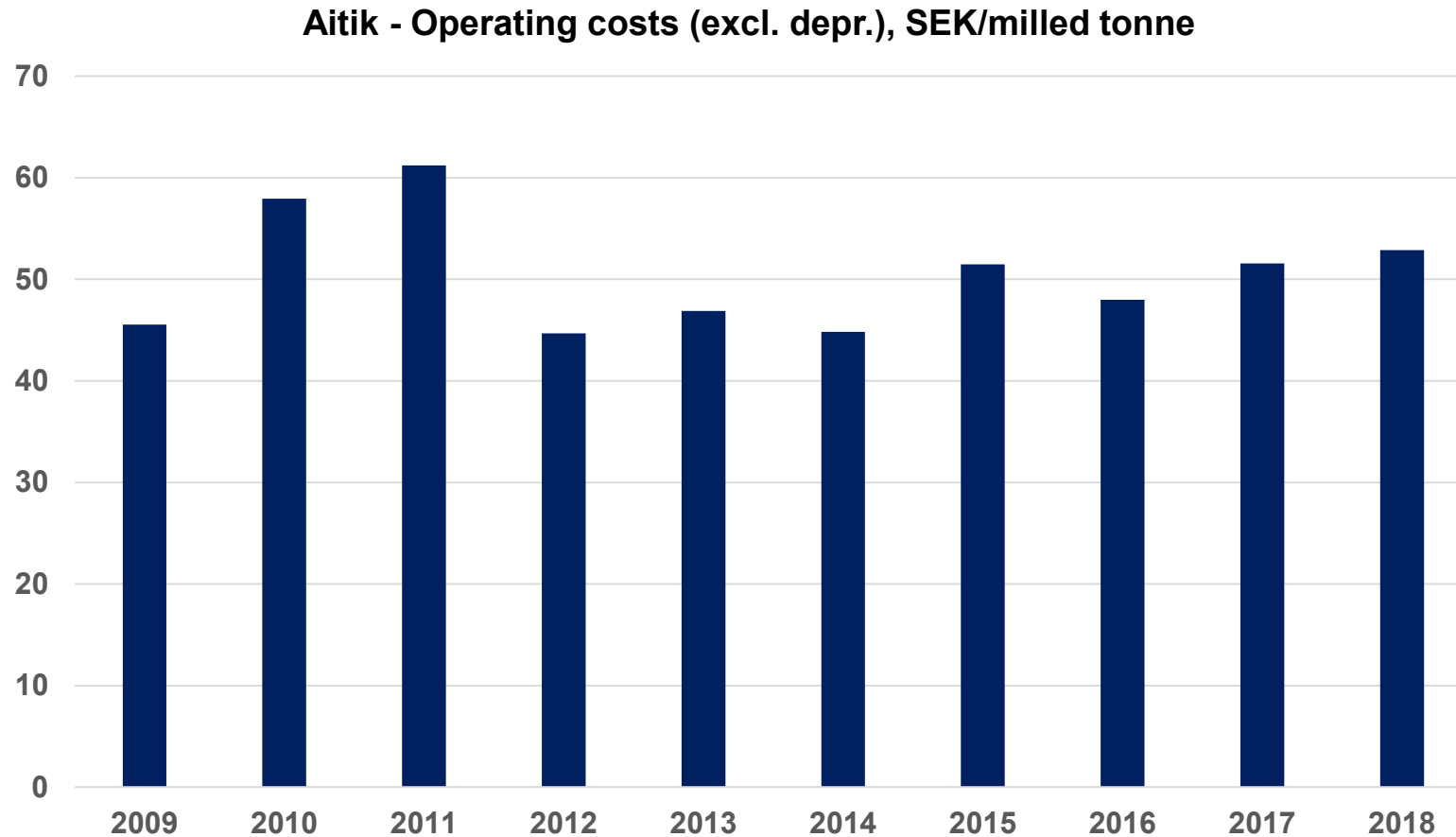
Aitik - Milled production (Ktonnes)



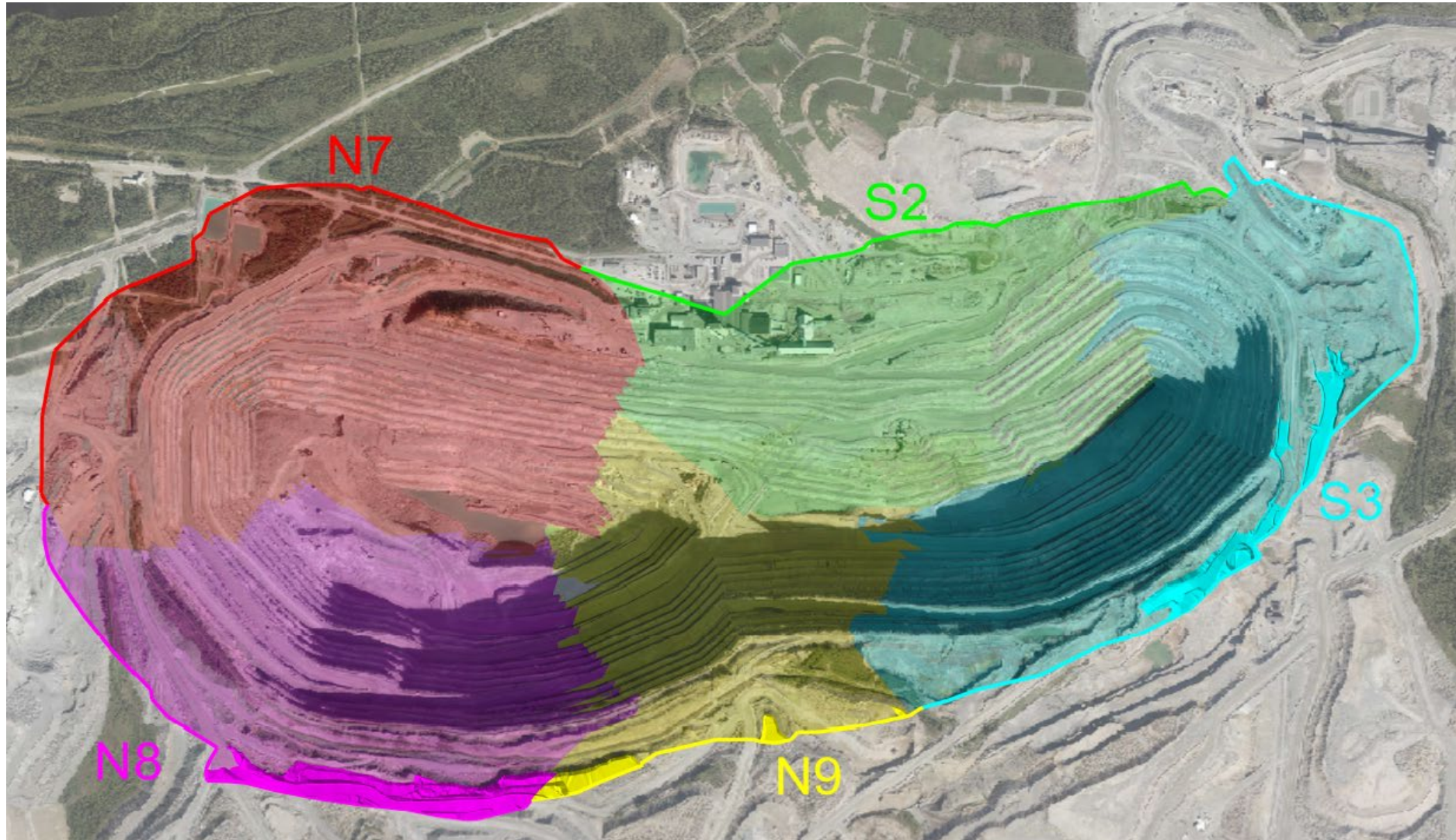
Aitik- EBIT (MSEK)



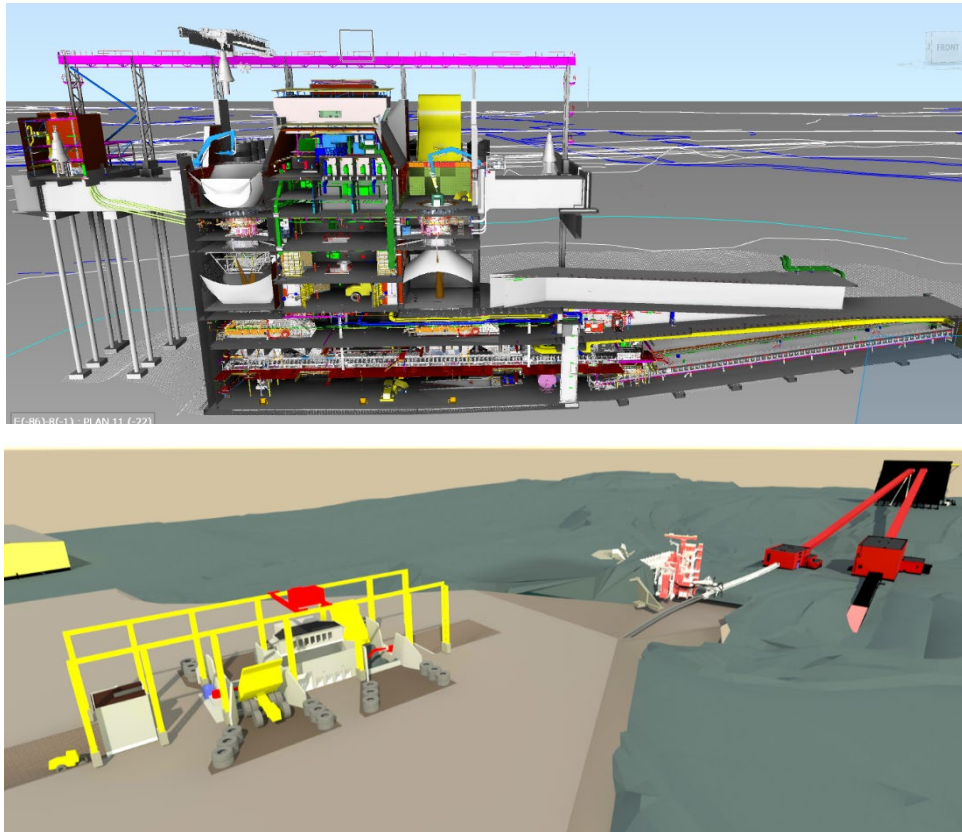
Aitik Opex/ tonne since 2009



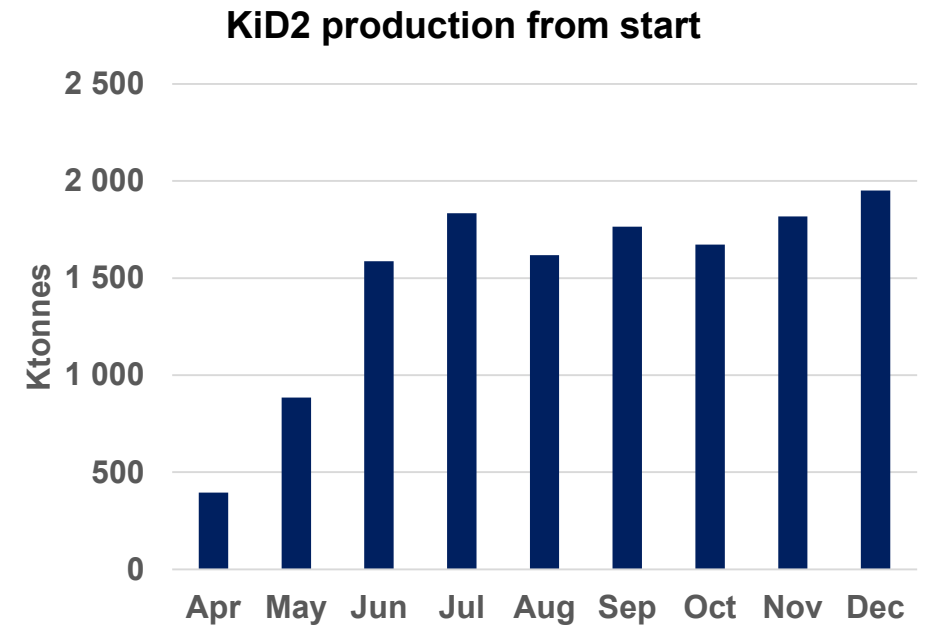
Aitik – Pushback scenarios



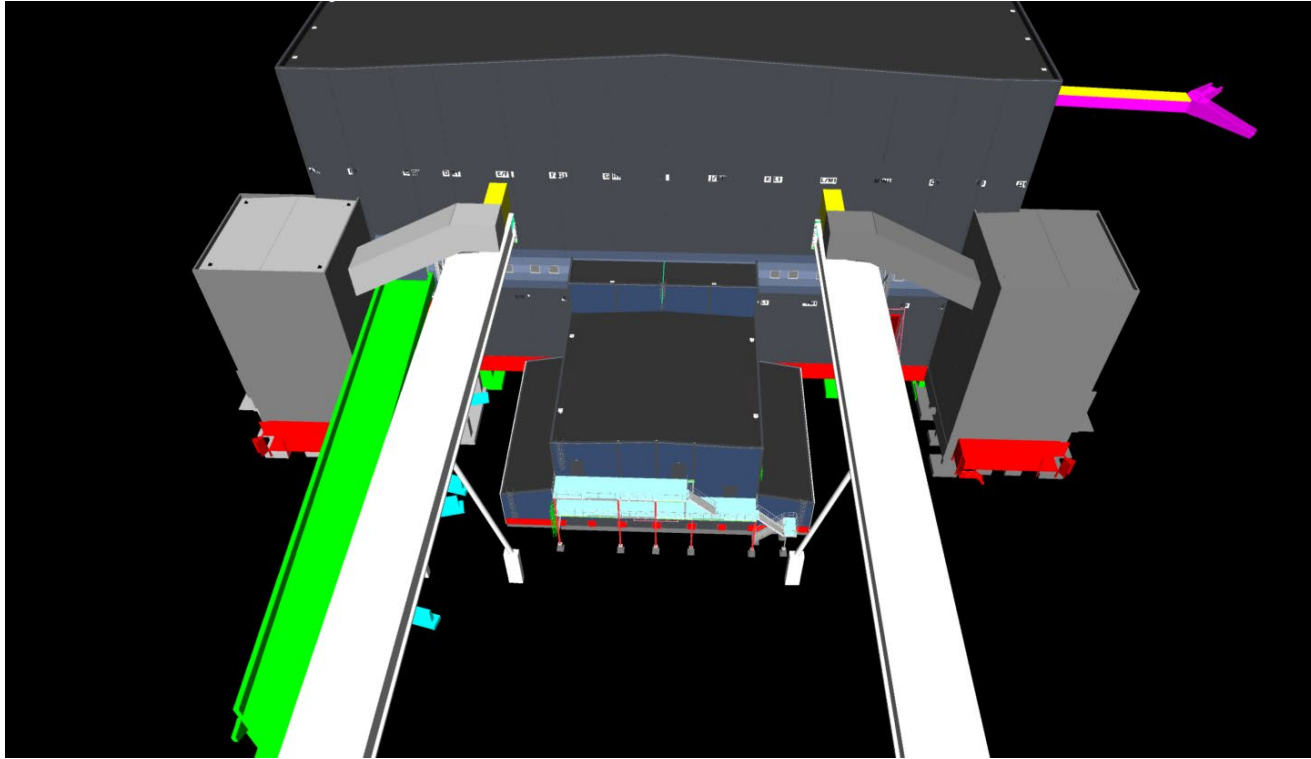
Aitik - New crusher station (KiD2)*



*KiD2 = Surface crusher 2

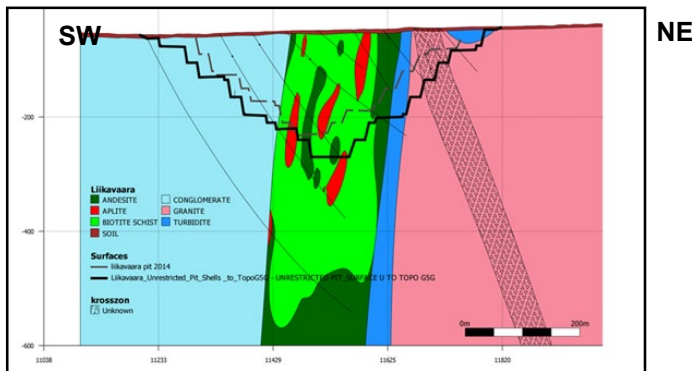
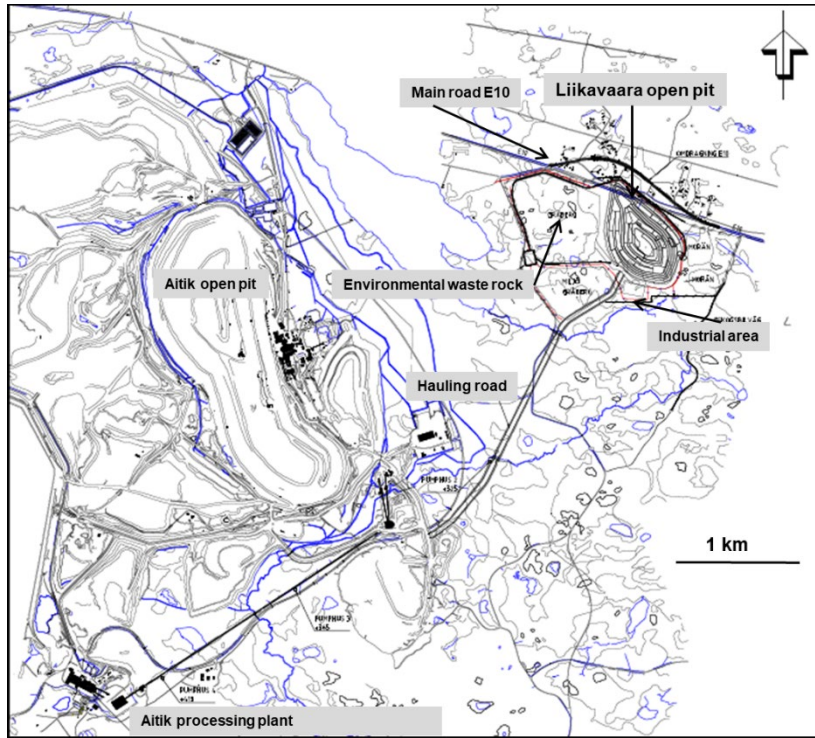


Aitik - Pebbles crushing



- Pebbles crushing will be installed in connection to the two autogenous mills
- Will increase capacity when low grindability
- Commissioning during Q2 2019

Liikavaara



Short facts

- “Low-grade” Cu-Au mineralisation, approx. 3 km east of Aitik
- Discovered by Boliden in 1930’s
- Conceptual study in 2009-10, approx. 40 Mtonnes at 0.28% Cu
- Included in Aitik LoMP, 2023-30

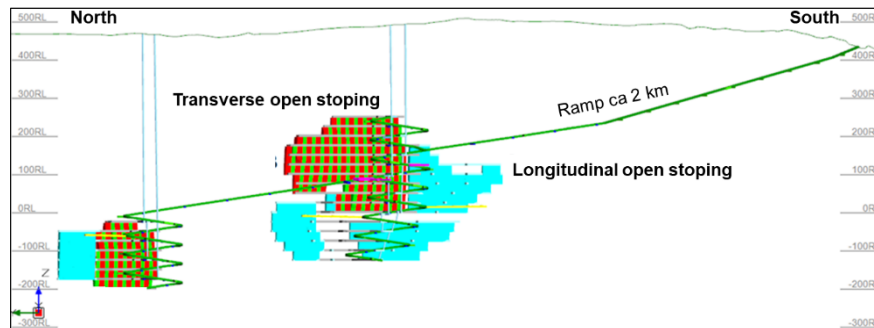
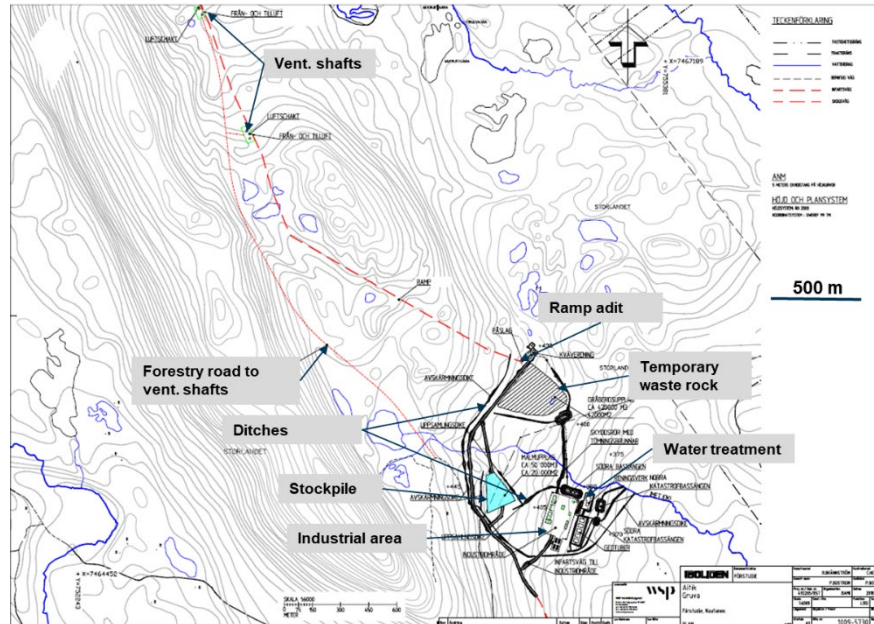
Status

- Feasibility 2018 indicate 58 Mtonnes at 0.26% Cu
 - Satellite to Aitik pit
 - Hauling ore and acid forming waste rock to Aitik
 - Processing in Aitik
- Application for mining concession filed at mining inspectorate
- Application for environmental permit filed at environmental court

Risks

- Permits

Nautanen



Short facts

- Cu-Au mineralisation, approx. 15 km NW of Aitik
- Discovered by Boliden in 2011
- "High grade" (1.5% Cu) known from ca 200 m to 600 m below surface, still open
- Mineral Resource
 - Indicated: 8.2 Mtonnes at 1.7% Cu, 0.9 g/tonnes Au, 5 g/tonnes Ag
 - Inferred: 7.5 Mtonnes at 1.5% Cu, 0.6 g/tonnes Au, 7 g/tonnes Ag
- Conceptual study in 2014

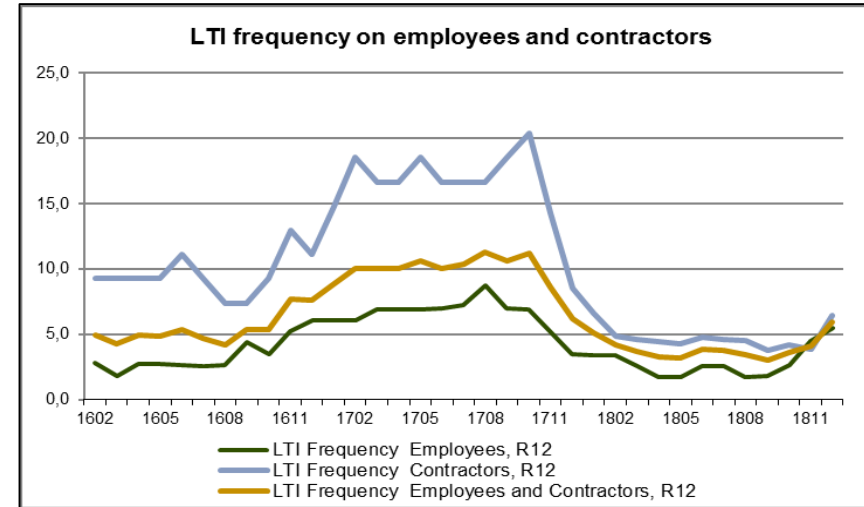
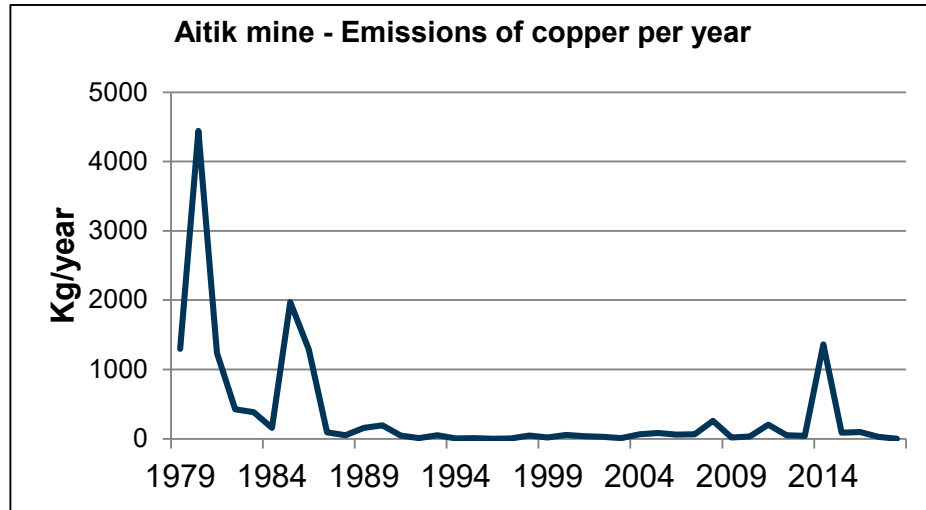
Status

- Pre-feasibility 2015-2019 on-going
 - Underground mine, open stoping
 - Transport to Aitik and processing in Aitik
 - Application for mining concession
 - Water treatment
 - More drilling

Risks

- Permits

Aitik from an EHS perspective



Prioritised areas of work

- Safety culture
- Water management and dam safety
- Reducing emissions to water and air
- Energy savings
- Decommissioning and reclamation of land
- Reducing waste and spillage

At Boliden, safety is number one

- Keep your phone/camera in your pocket or bag until photo opportunity is announced
- Ongoing production, pay attention
- Heavy traffic
- Listen to and follow the instructions given to you
- We are all equally responsible for the safety of ourselves and each other

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