Mines – Growth Projects

President BA Mines Jan Moström

Mines

Smelters

Zinc

Copper

Ore reserves and mineral resources

- **Aitik**
  - **ore reserve >12 years, large mineral resources - potential, possibility of increased production in a 10-year perspective**
- **Boliden Area**
  - **ore reserve 2 years, small mineral resources – potential, maintained production level in a 10-year perspective**
- **Garpenberg**
  - **ore reserve >10 years, large mineral resources – potential, possibility of increased production in a 10-year perspective**
- **Tara**
  - **ore reserve 6 years, large mineral resources – potential, maintained production level in a 10-year perspective**

Strategic direction - Exploration

- **Close to mine exploration**
  - Give priority to close to mine exploration in order to create conditions for a sustainable production including expansion where this is possible.

- **Field exploration**
  - Target areas - mainly Norrbotten, Skelleftefältet, Dorotea and Bergslagen.
  - Exploration efforts will also be done in Ireland.

- **Expansion**
  - Active search for potential projects for new mining operations with focus on copper, including search for cooperation with exploration partners.

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Aitik possible expansion 33 Mtonnes

Aitik - Ore reserves and Mineral resources

	Quantity 000 tonnes
Ore reserves	
Proven	207,000
Probable	12,000
Mineral resources	
Measured	635,000
Indicated	240,000
Inferred	110,000

Aitik possible expansion

- **Expansion of Aitik from 18 Mt to 33 Mt through building of a new concentrator with a considerable increased capacity gives:**
  - **Improved competitive strength (lower unit costs)**
  - **Strengthened earning capacity**
  - **Secures a long term increased concentrate supply (copper)**
  - **New product Molybdenum and increased gold recovery**
  - **Improved environment performance**
  - **Potential for further future expansion/extension**
- **Investment in a new concentrator for production increase to 33 Mt amounts to app. 3 000 MSEK**
- **If the investment decision is made during the later part of 2006 the investment can be started in 2006 and be completed during year 2009 with full production from year 2010.**

All investment costs are preliminary.

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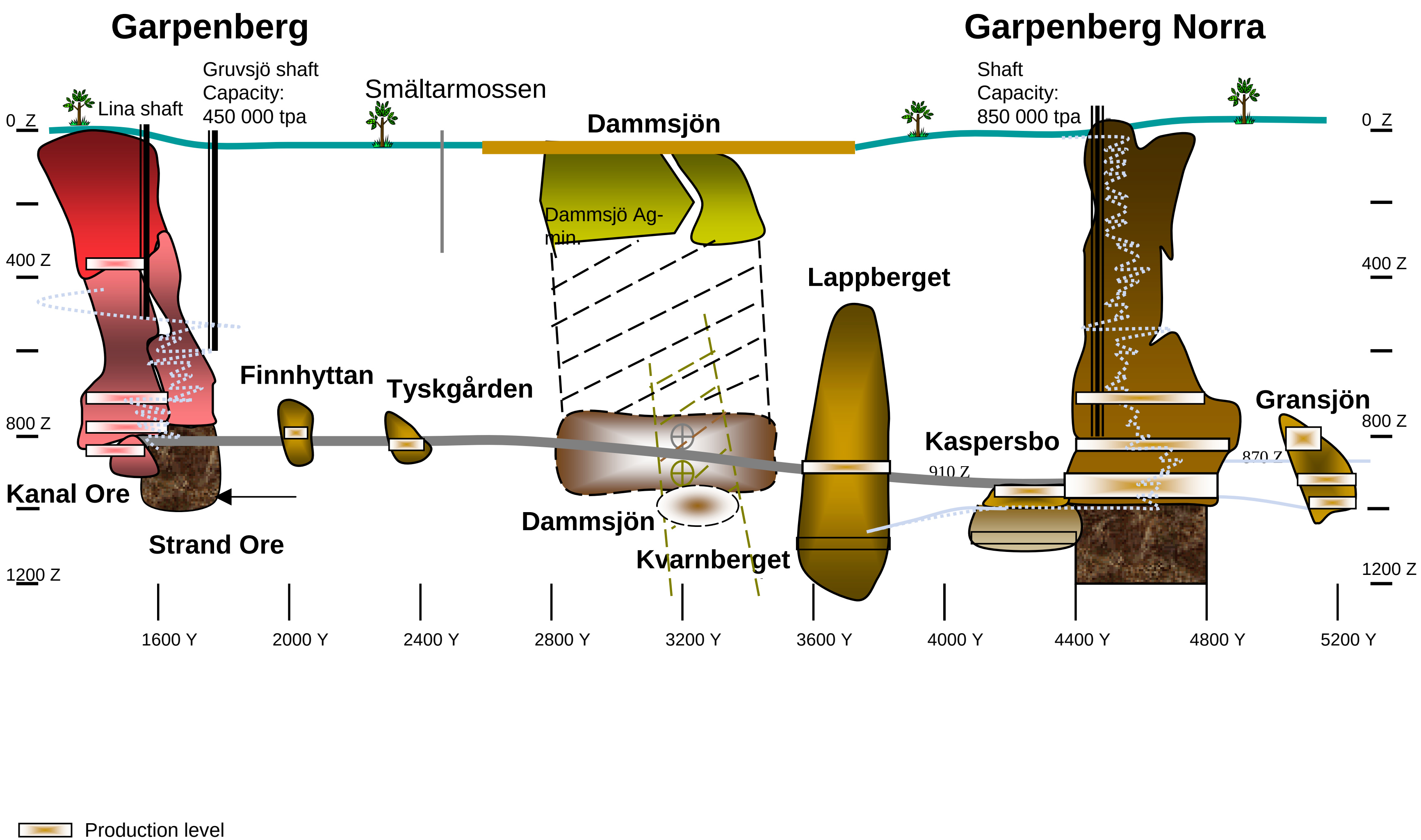
Garpenberg possible expansion 2 Mtonnes



Tara 2.8 Mt

- **Accomplished activities**
- **Identification of efficiency potential**
  - **Organisation**
    - **Numbers**
  - **Management**
    - **Production**
    - **Maintenance**
    - **Quality**
    - **Contractor management**
  - **Narrow sectors**
    - **Dewatering in the concentrator**
    - **Dimensioning of machine equipment**
    - **Quality of drifting**

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Appendix

Mines

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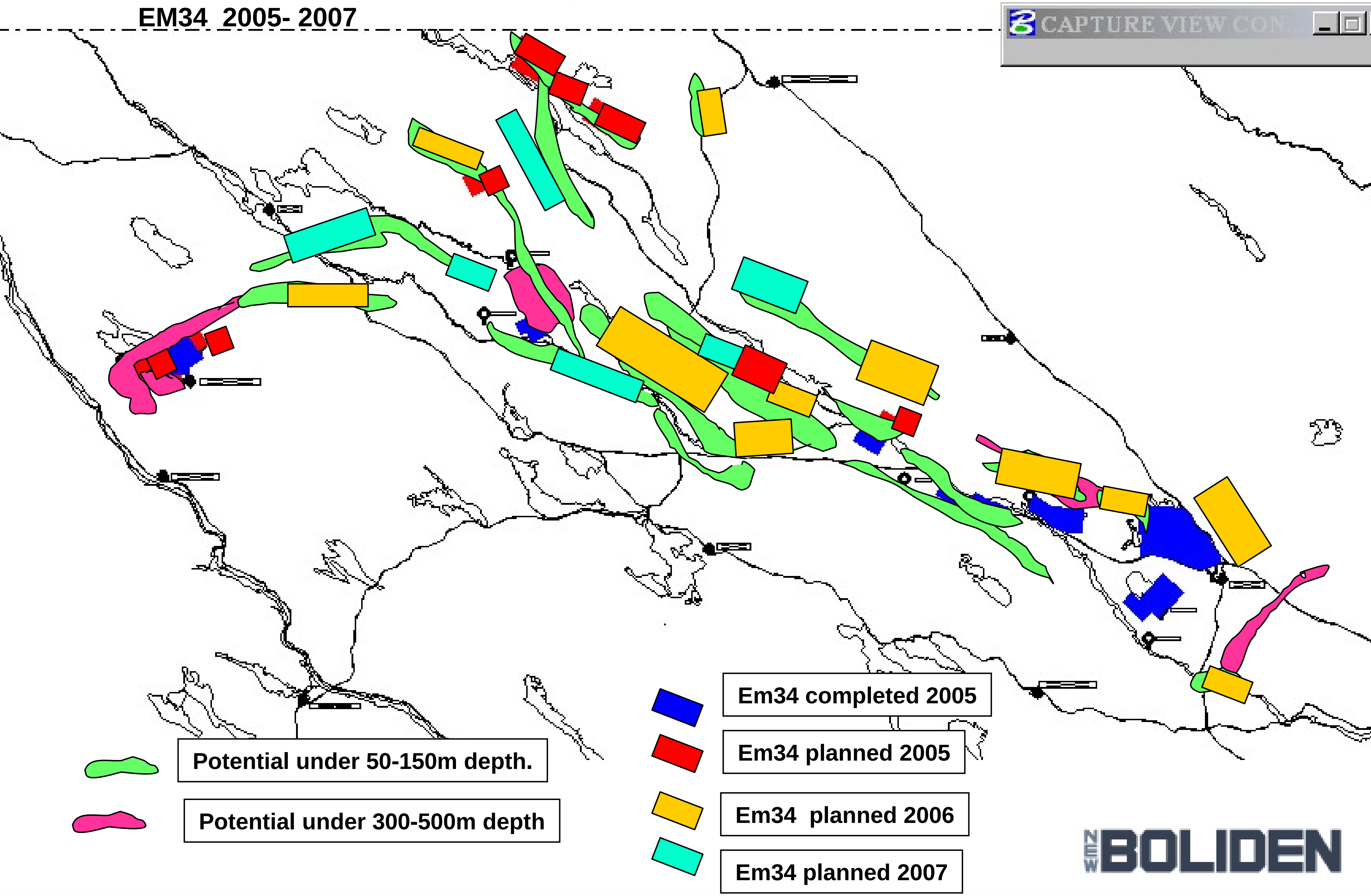
Skellefte Field VMS target areas

EM34 2005- 2007



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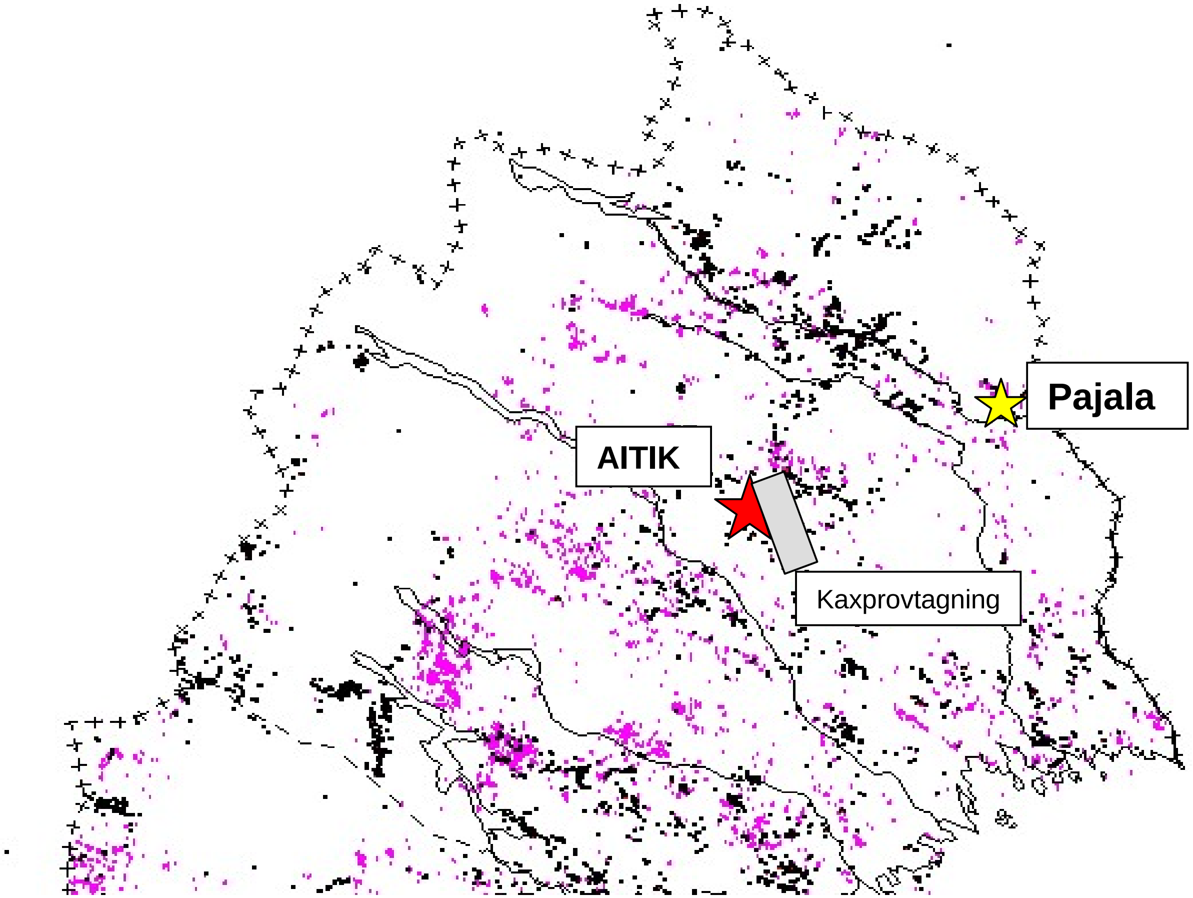
Norrbotten

Mineralized boulders Boliden and SGU

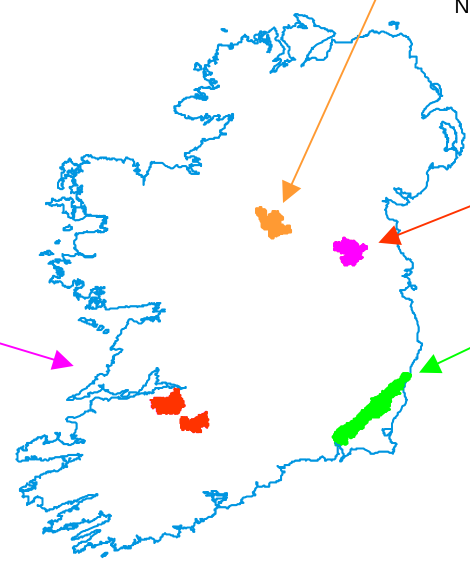


Tara Mines

Target areas 2006

Boliden Tara Mines Limited
Regional Exploration
Plan - 2006

Co. Longford (JV with Aurum Exploration plc)
Budget: € 45,000
Drilling: 200m
Target: Shear-Zone hosted Au.
Plan: Data compilation and initial sampling campaigns only.
Notes: Au anomalies/targets found in license blocks to NE by junior company.

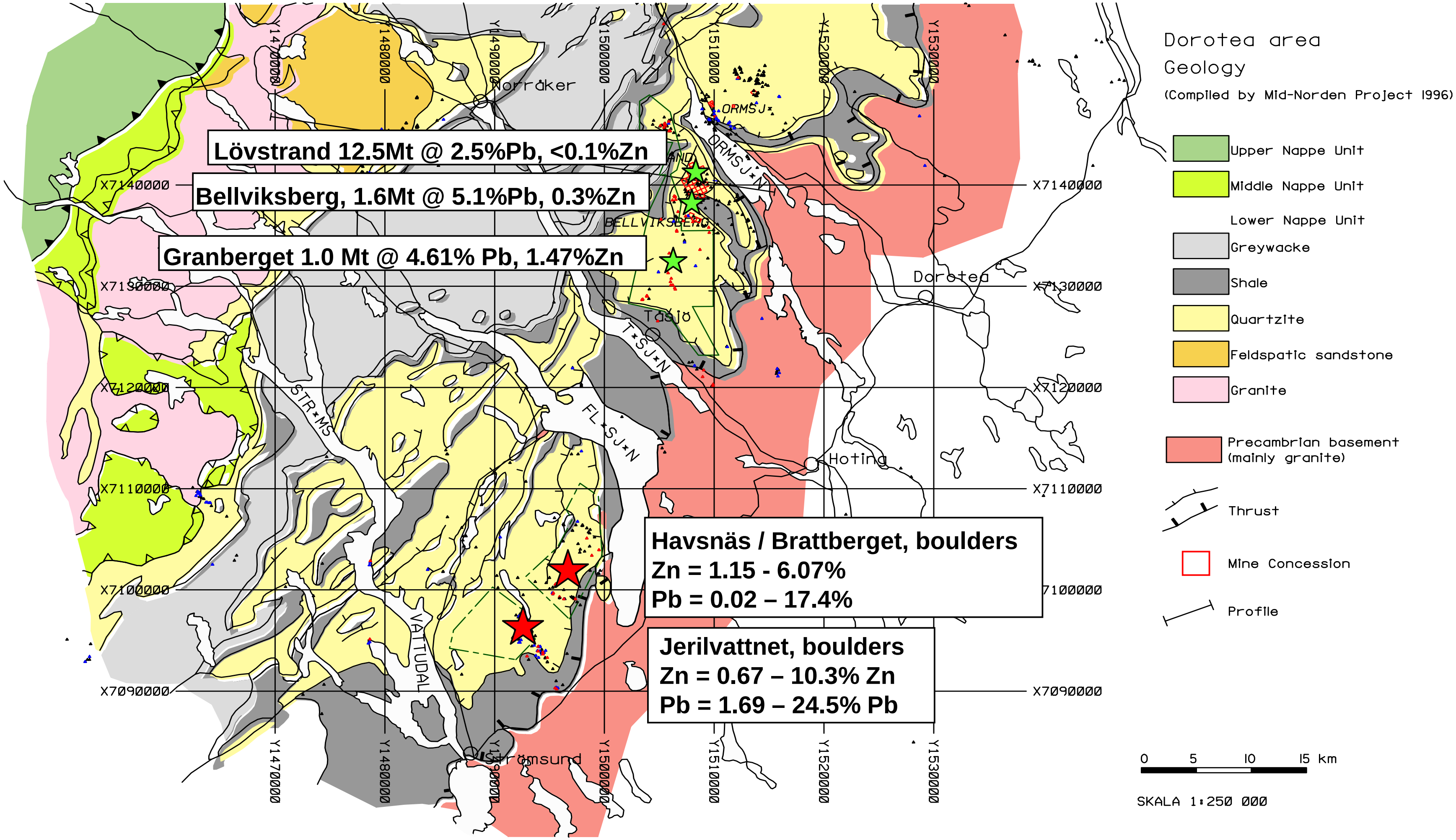


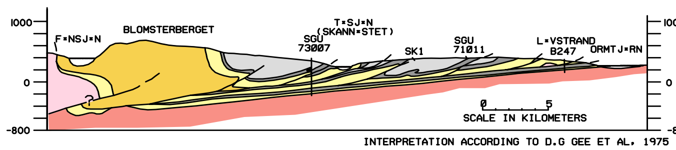
Navan Mine and
Co. Meath Licences

Co. Limerick
Budget: € 452,000
Drilling: 6,800m
Target: Carbonate-Hosted Zn/Pb
10-20Mt, 8-12% Zn, 1-4% Pb (+/- Ag, Ba, Cu)
Plan: Test existing drill-targets, new structural/geological/geochemical studies, focused drilling, examine unexplored areas, reduce commitment costs 2006-2007.
Notes: Major multinational/junior interest.

Co. Wexford
Budget: € 150,000
Drilling: 400m
Target: Polymetallic VMS and shear-zone hosted Au.
Plan: Detailed geological review, secondment of Boliden geologist, continued rock and stream sediment sampling.
Notes: Requires focus on basic geology to allow selection of best targets.

Dorotea area





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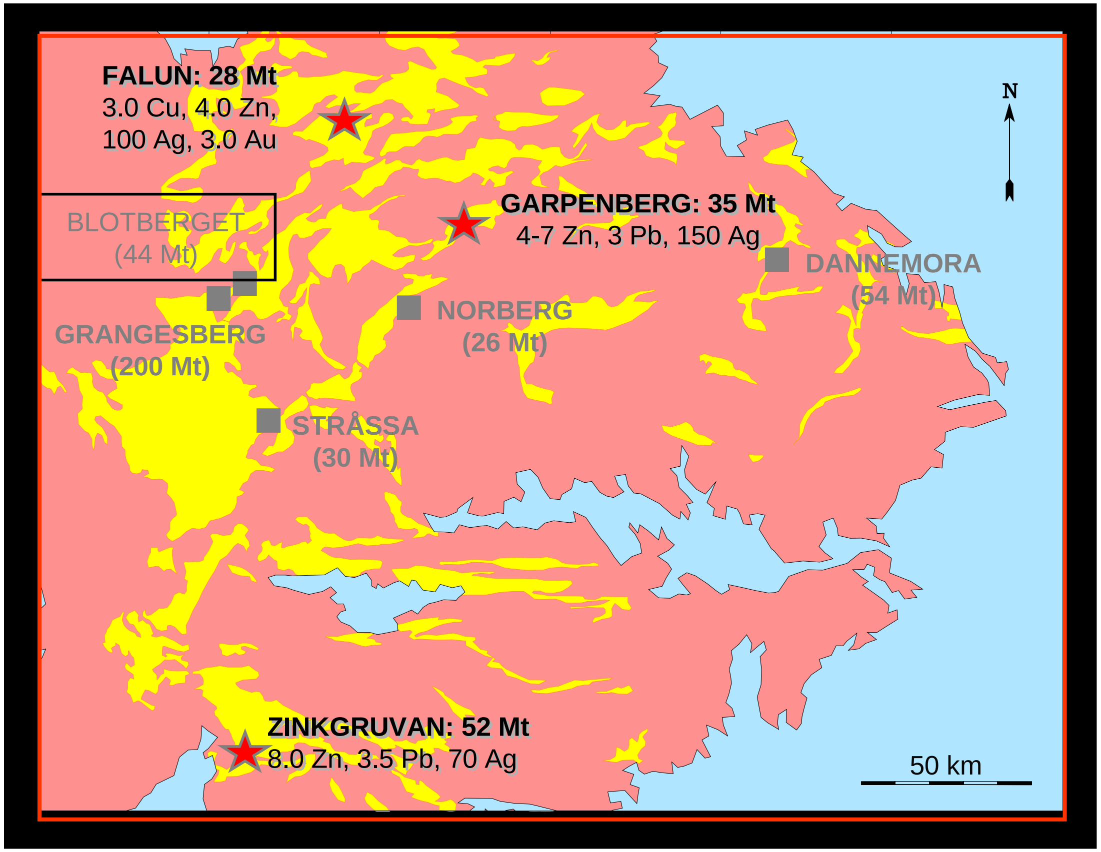
Bergslagen



Bergslagen VMS-Bälte

VMS Deposits

Fe Deposits
>25 Mt

Copper Smelters – Growth Projects

President BA Copper Smelters Jukka Järvinen

Mines

Smelters

Zinc

Copper

NEW BOLIDEN

Copper smelters´growth projects

- **Projects under construction**
  - Harjavalta expansion/modernization
  - Bergsöe lead refinery relocation

- **Potential projects**
  - Rönnskär's refinery expansion from 240 000 tpy to 300 000 tpy
  - Refinery expansion by 16 000 tpy as the first step

Harjavalta Expansion/Modernazation

- **Expansion of Harjavalta’s smelter production from 165 000 tpy to 210 000 tpy**
  - **One new, more efficient concentrate dryer replacing existing two units**
  - **The smallest of four converters will be replaced by a bigger one**
  - **Increase of slag concentrator capacity**

- **Expansion and modernization of Pori refinery from 125 000 tpy to 153 000 tpy**
  - **Replacing the conventional starting sheet technology with a modern permanent cathode technology**
  - **Equal anode dimensions in Pori and Rönnskär**

Harjavalta Expansion/Modernazation (contd.)

- **Capital expenditure 400 MSEK**
- **Reduction of smelting unit costs by 18 % and refinery unit costs by 25 %, for the whole tonnage**
- **The start-up will be in the autumn 2007, full production from the beginning of 2008**
- **Additional concentrates purchased from external market on the long term contracts**
- **Cathode production sold to existing and new customers in Europe**
- **Ca. 60 000 tpy as blister/anode copper, partially to Rönnskär, partially to blister customers in Europe**

Bergsöe's Lead Refinery Relocation

- New lead refinery is under construction close to the smelting furnace
  - No change in production volumes
  - Savings in
    - Personnel costs, reduction by 20 persons
    - Maintenace
    - Internal transportation
- Total capital expenditure is 56 MSEK
- Reduction of the unit costs by 10 %
- The start-up will be this August

Rönnskär's Possible Expansion Alternatives

- Refinery expansion from 240 000 tpy to 300 000 tpy
  - Harjavalta's excess blister/anodes, 60 000 tpy would be refined
  - expansion of existing tankhouse
  - same permanent cathode technology as today
- Capital expenditure is 700 MSEK
- Reduction of refinery unit costs by 6 % for the whole 300 000 tpy production
- Project implementation 18 months
- Additional cathode production would be sold to existing and new customers in Europe

Rönnskär's Possible Expansion Alternatives (contd.)

- Refinery expansion by 16 000 tpy as the first step
  - anodes delivered from Harjavalta for refining
  - additional tanks installed at existing tankhouse building
- Capital expenditure is 55 MSEK
- Would cut unit costs by 4 % for the whole 256 000 tpy production
- Project implementation 12 months from decision

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Zinc Smelters – Growth Projects

President BA Zinc Smelters Svante Nilsson

Mines

Smelters

Zinc

Copper

NEW BOLIDEN

Kokkola possible expansion

- Expansion from 280 000 tpy to 300 tpy
- Additional raw material need is marginal.
- Capital expenditure 120 MSEK
- Would cut cash costs by 3 %
- Project implementation in two steps where step one is decided and will take Kokkola to 290 tpy pace from April 2007.

Investment high lights

- A project with robust good profitability down to prices below 1/3 of today's LME zinc price.

- A project that will reinforce Kokkola’s position being one of the worlds most efficient and modern Zinc-smelters.

Odda possible expansion

- Expansion from 160 000 tpy to 340 000 tpy
- Additional raw material need of approximately 300 000 tpy
  - Commercial contracts.
  - Long term off-take.
  - Own mine expansions.
  - Acquisitions.
- Capital expenditure 2 000 MSEK
- Would cut cash costs by 25 %
- Project implementation 22 months from decision

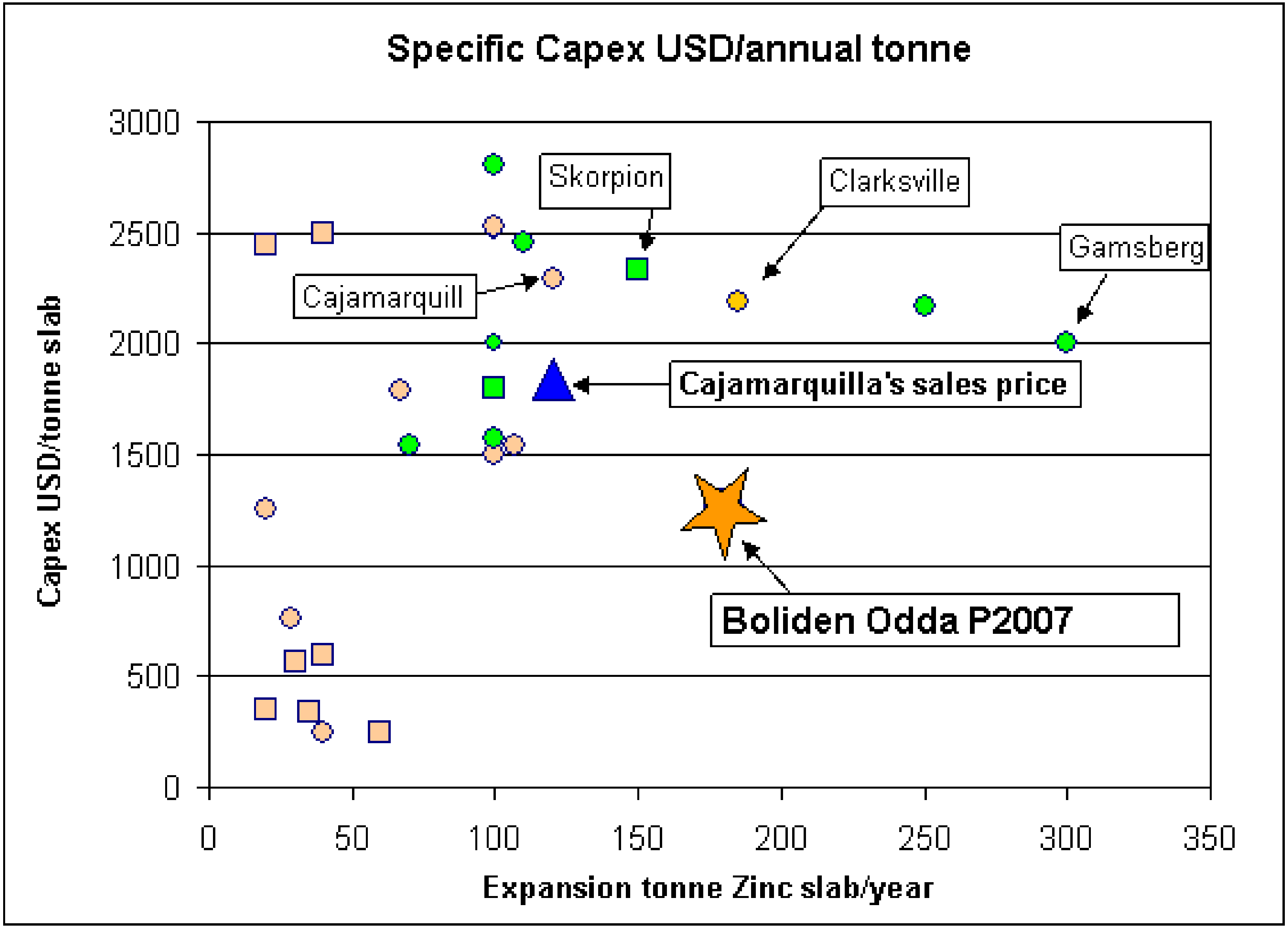
Investment high lights

- **A project with robust good profitability down to prices below 1/3 of today's LME zinc price.**

- **A project with relative investment per ton that is world-class.**

- **A project that places Odda among the 15% lowest cash-cost producers.**

NEW BOLIDEN


Specific Capex USD/annual tonne
3000
2500
2000
1500
1000
500
0
0
50
100
150
200
250
300
350
Capex USD/tonne slab
Expansion tonne Zinc slab/year
Skorpion
Clarksville
Gamsberg
Cajamarquill
Cajamarquilla's sales price
Boliden Odda P2007

Summary

- **Continued good market forecasts for Boliden's metals**
- **Strong European position**
- **Internal growth projects create competitive edge**