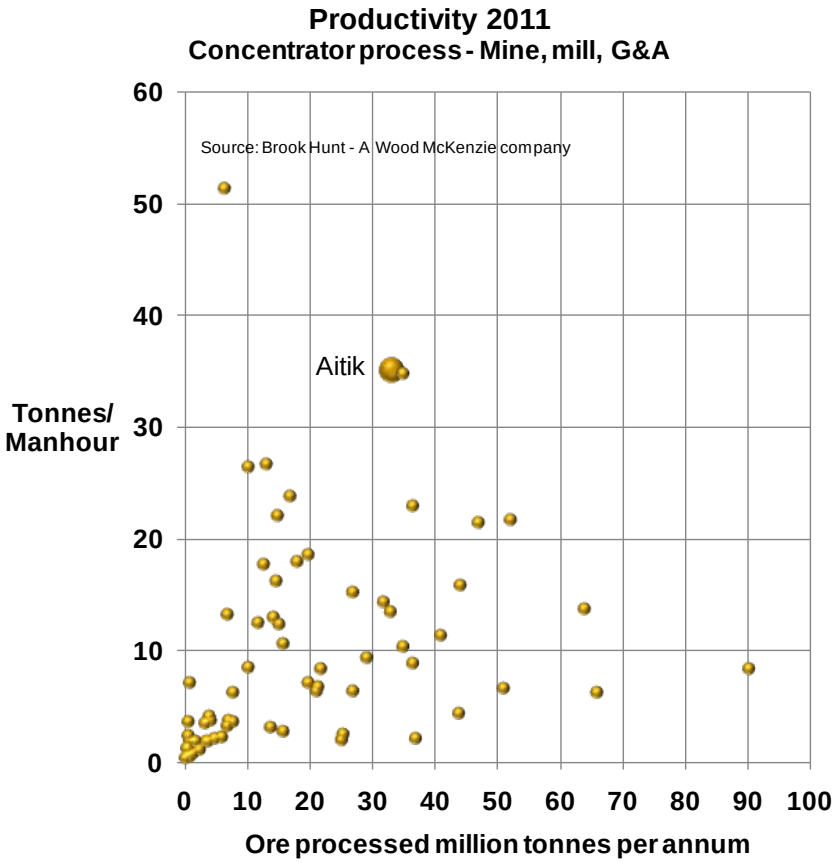
Benchmark Aitik

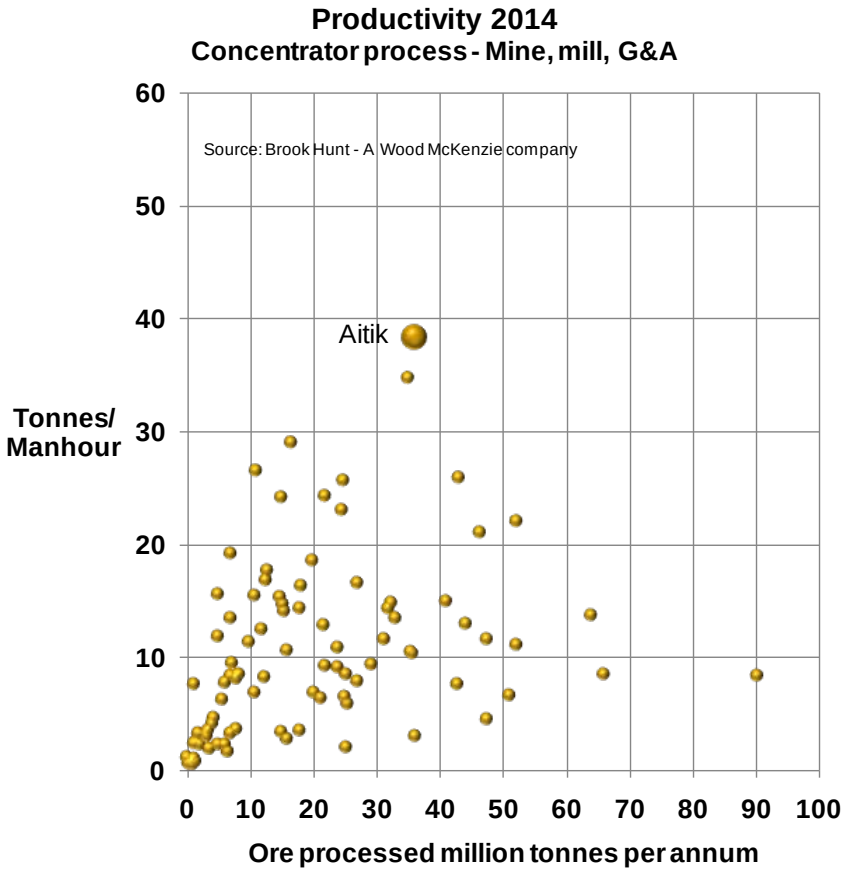
Capital Markets Day 6 September 2011

Jan Moström
President Business Area Mines

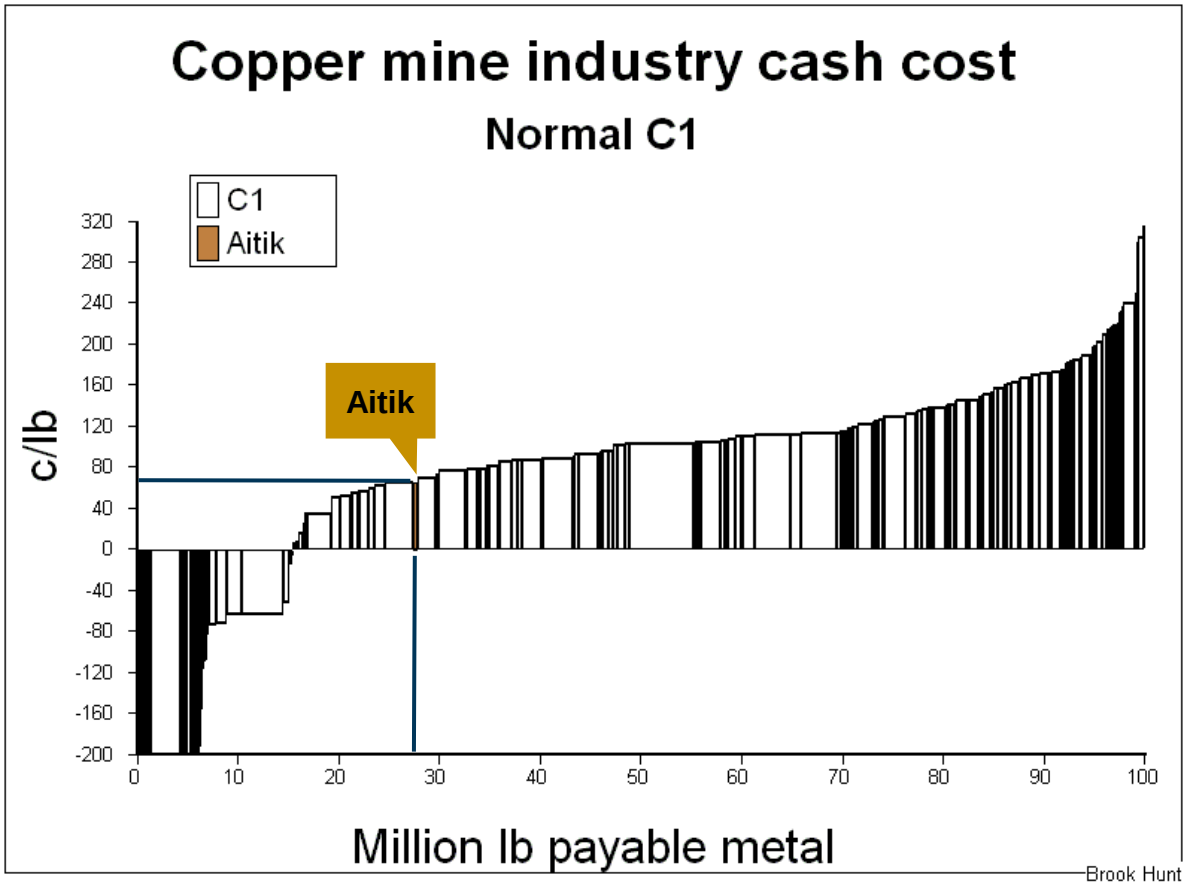
NEW BOLIDEN

Open pit copper mines,
Brook Hunt benchmark





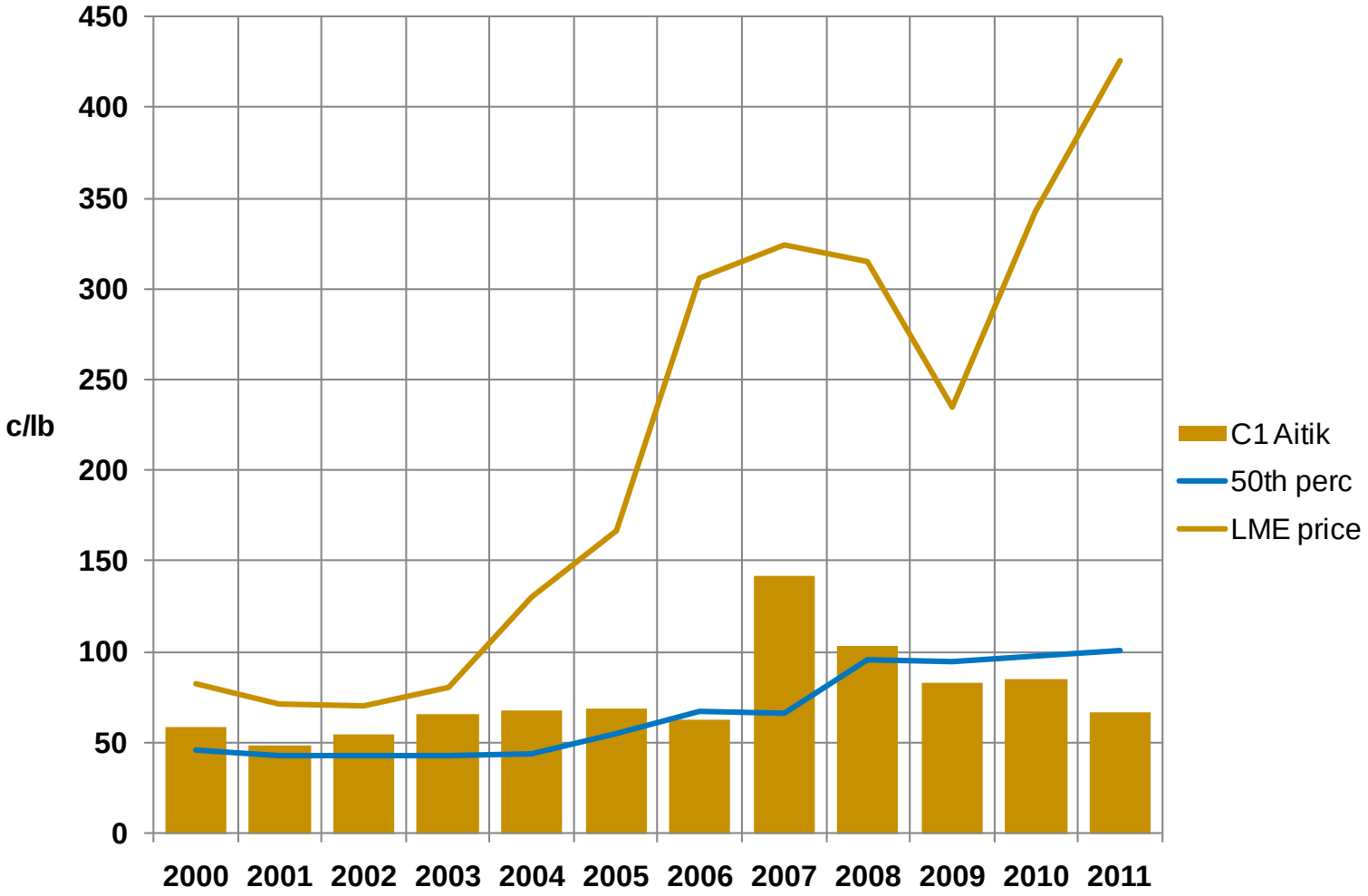
Aitik on the CC1 curve



- Aitik
  - Low grades
  - High productivity
  - By metals gold and silver
  - Favourable stripping ratio

Source: Brook Hunt - A WoodMcKenzie company

CC1 position, Aitik



Source: Brook Hunt - A WoodMcKenzie company, Reuters

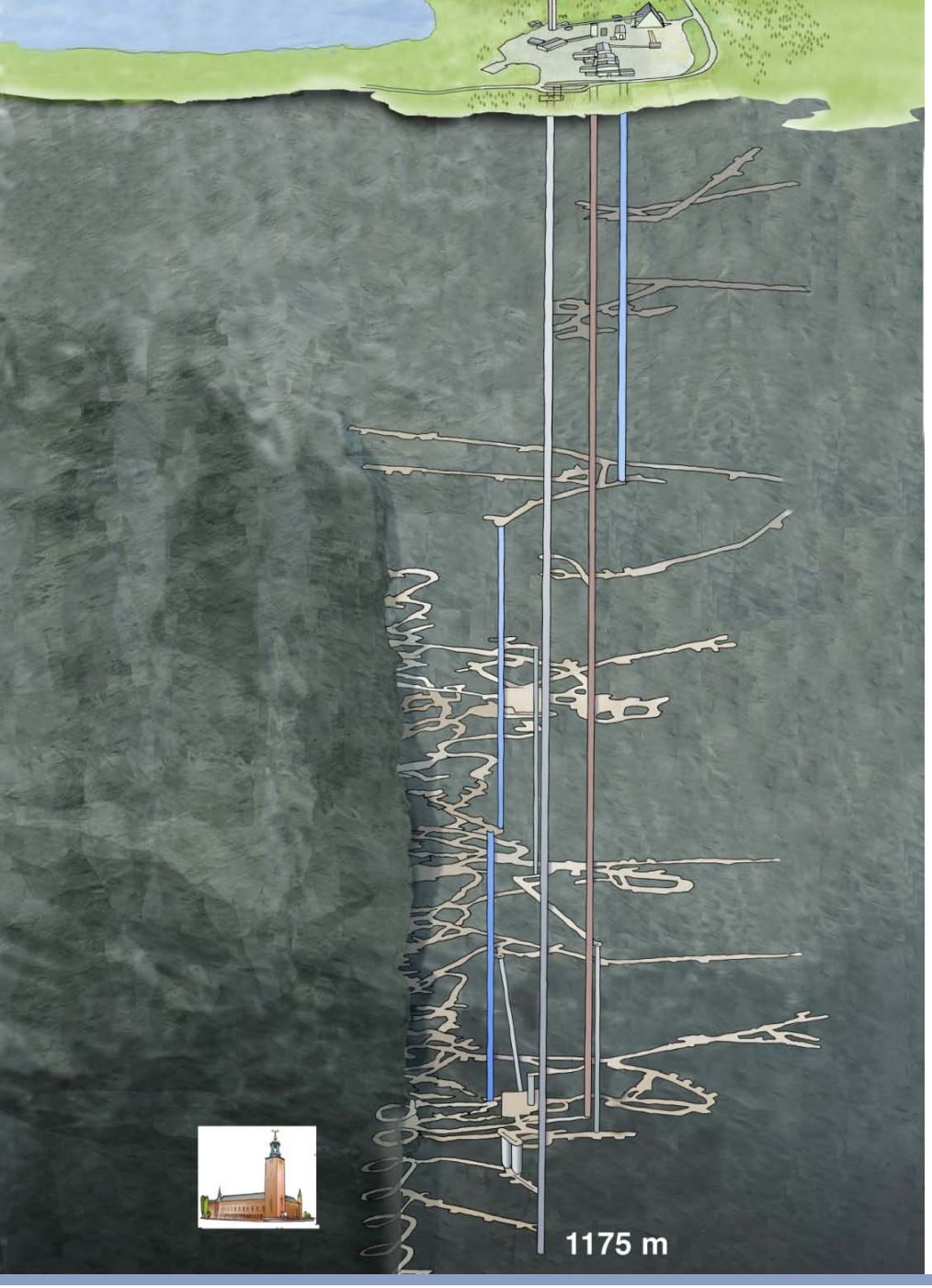
Competitiveness

Aitik

STRENGTHS AND WEAKNESSES - 2011 (BH2011 Q2)

RESOURCE VARIABLES		Population Average	Mine Value	Percentile	1st	2nd	3rd	4th
Head Grade	**% Cu**	1.12	0.28	**96**				•
Yield	%	83.3	88.2	**15**	•			
Yield Grade	**% Cu**	0.94	0.25	**96**				•
Net Revenue	%	80.0	80.1	**35**		•		
Net Yield Grade	**% Cu**	1.33	0.31	**98**				•
OPERATING VARIABLES								
Productivity	t ore/hour							
Mine	t ore/hour	13.5	37.9	**5**	•			
Mill	t ore/hour	26.6	156.4	**0**	•			
G&A	t ore/hour	51.2	550.0	**0**	•			
Overall	t ore/hour	6.3	28.9	**0**	•			
Wage Rate	$/hour	25.54	58.65	**91**				•
Labour Cost	**$/t**	8.59	1.88	**20**	•			
Electricity	c/kWh	7.6	3.7	**10**	•			
	kWh/t	38.8	18.5	**9**	•			
	$/t	2.79	0.68	**0**	•			
Fuel Oil	c/litre	97.8	73.9	**12**	•			
	litres/t	1.9	1.0	**26**		•		
	$/t	1.88	0.77	**19**	•			
Energy Cost	**$/t**	4.67	1.45	**5**	•			
Consumables	$/t	10.60	1.90	**5**	•			
Services	$/t	7.85	2.20	**8**	•			
Other Costs	**$/t**	18.45	4.10	**3**	•			
Cost To Conc	**$/t**	31.71	7.43	**1**	•			

- Grade
  - 4th quartile
- Productivity
  - 1st quartile
- Cost to conc.
  - 1st quartile



Modelling the Garpenberg expansion

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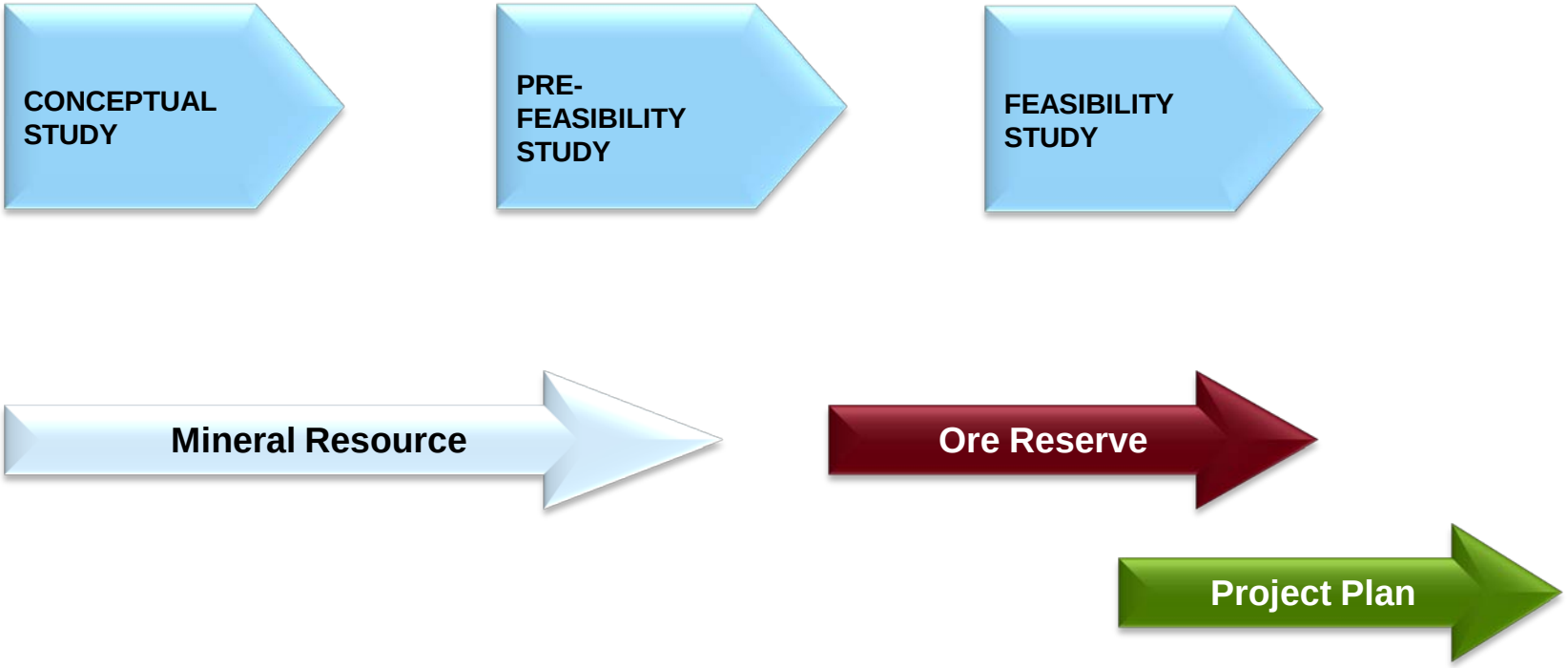
Resource Development – Work Flow Model



Conceptual Study

CONCEPTUAL STUDY

- Early stage in an exploration project
- Based on inferred resource
- Guide for exploration work
- Guide for further studies (pre feasibility and feasibility)
- Evaluation of options regarding mining methods and process design (lab tests)
- Products (full analysis)
- Several studies on parts of the project

Output

- Mine design options
- Process design options
- Preliminary market outlook
- Indicative LOMP
- Economical estimates
- Recommended options
- Drilling program

GO or NO GO

Pre-feasibility Study

PRE-FEASIBILITY STUDY

- Based on indicated resource
- Alternative solutions studied (≤ 3 alternatives)
- Often interactive process
- Permitting process starts
- Accuracy 20-25 %

Output

- Mine design
- Process design
- Plant design
- Prel LOMP (Life Of Mine Plan)
- Economic evaluation
- Ore Reserve

GO or NO GO

Garpenberg alternatives – pre-feasibility study

3 main alternatives were evaluated:

- Base case 1.4 Mtonnes. Continued operation in existing concentrator
  - 1.4 Mtonnes/year until 2044*
- Expansion case 2.0 Mtonnes. Expansion of existing concentrator in combination with new shafts
  - 2.0 Mtonnes/year until 2035*
- Expansion case 2.5 Mtonnes. New concentrator built at new shafts. Existing plants will be closed
  - 2.5 Mtonnes/year until 2030*

**** Based on mining and milling of 47 Mtonnes ore.***

Mine and Process design

Mine design

- Most important
  - Mining method
  - Mining sequence
  - Infrastructure, ventilation, backfilling and dewatering
- Fix plants
  - Ore passes and shutes
  - Crushers and ore bins
  - Ore hoisting system
- Equipment
  - Capacity
  - Mobility

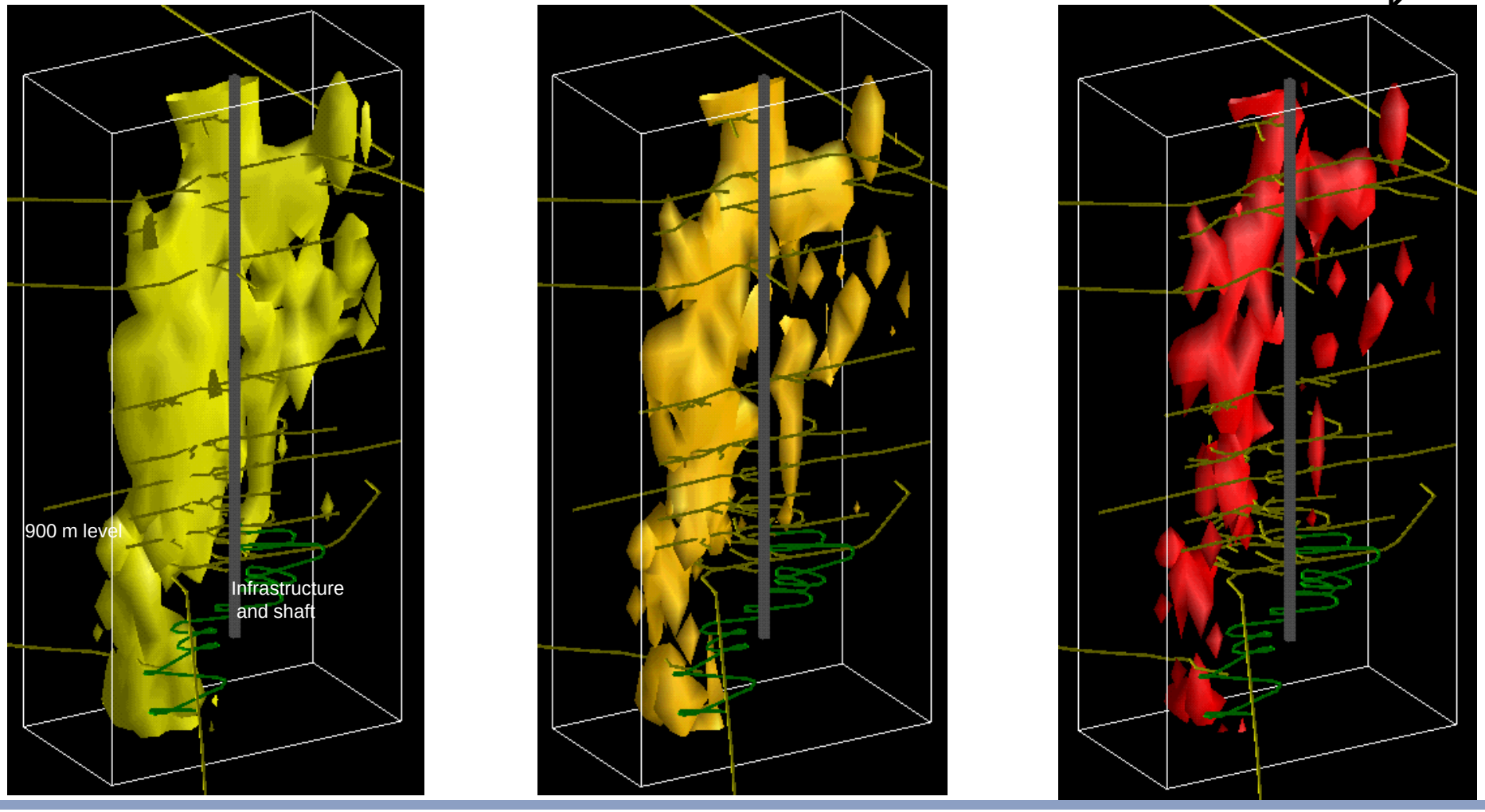
Process design

- Most important
  - Recovery of metals
  - Concentrate quality
  - Penalty elements
- Process route
  - Type of process grinding and separation
  - Energy consumption
  - Chemical consumption
- Equipment
  - Capacity, +-grinding ability
  - Variations in feed grades

Effects of Costs and Metal Prices on Ore Reserve

Increasing metal price/Decreasing production cost

Decreasing metal price/Increasing production cost



EBIT-effects' components

Revenue effect

Recovery/quality
- Optimized flotation capacity

Cost effects

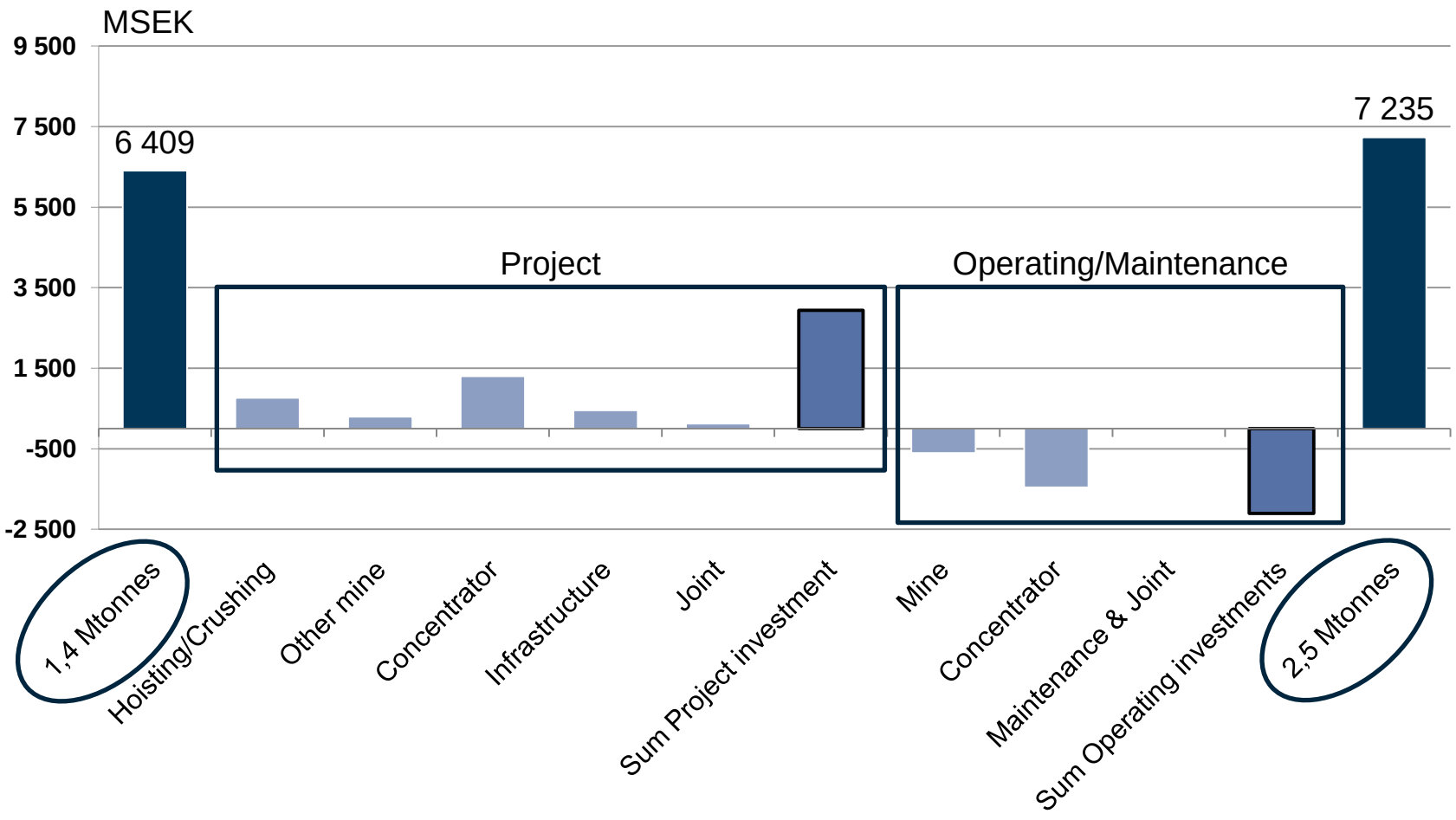
Energy
- Scale adv. Concentrator
- Increased ventilation requirements underground
- Decreased ore and waste transport

Material
- Scale advantages concentrator
- Scale advantages mine

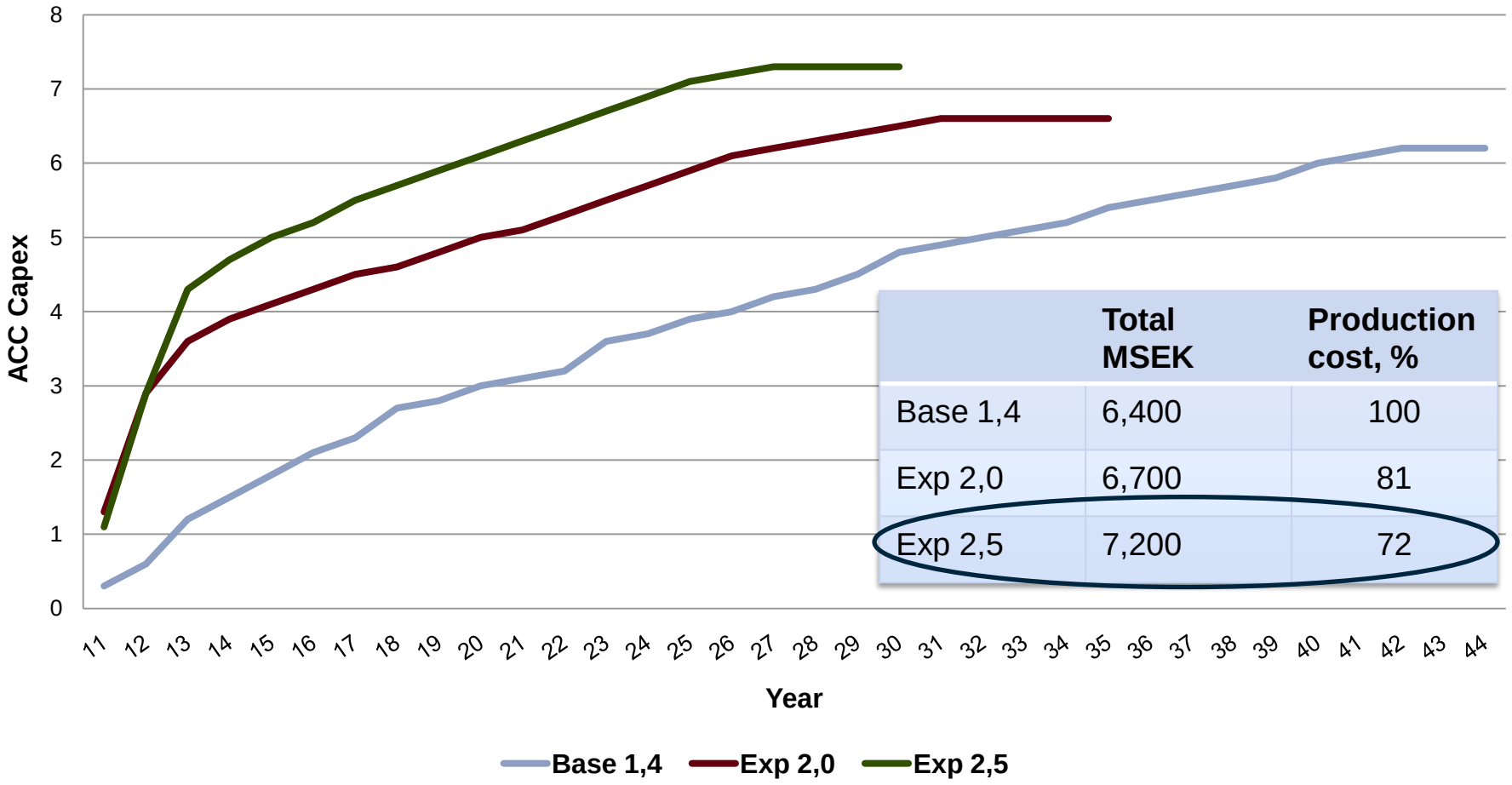
Personnel
- Scale advantages mine and concentrator
- Automation crushing, hoisting

External services
- Ore and waste transports
- Scale advantages concentrator

Difference in Capex – 1,4 vs 2,5



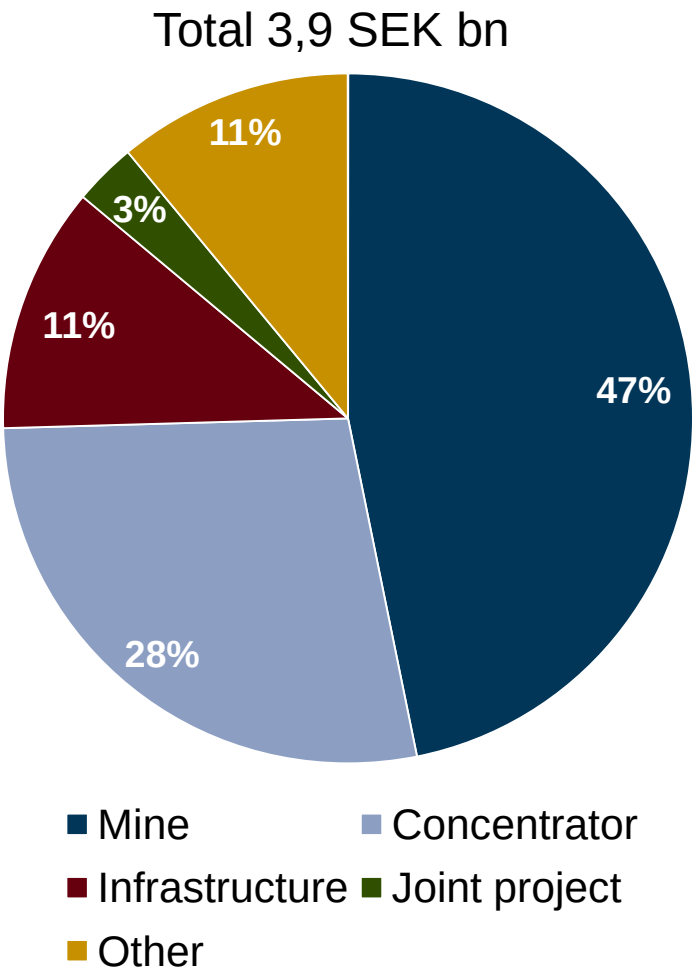
Accumulated capex during life of mine



	Total MSEK	Production cost, %
Base 1,4	6,400	100
Exp 2,0	6,700	81
Exp 2,5	7,200	72

Garpenberg expansion – Capex components

- Mine
  - Excavation
  - Hoisting, crushing and skip station
  - Mine ventilation
  - Media-, paste-, electric system
  - Mobile equipment
  - EPCM (DP-management, engineer work etc)
- Concentrator
  - Ore stock
  - Concentrator
  - EPCM
- Infrastructure
  - Roads, ground work, project area
  - Buildings
  - Electric power - distribution, switch gear
  - EPCM
- Joint, other



Feasibility Study

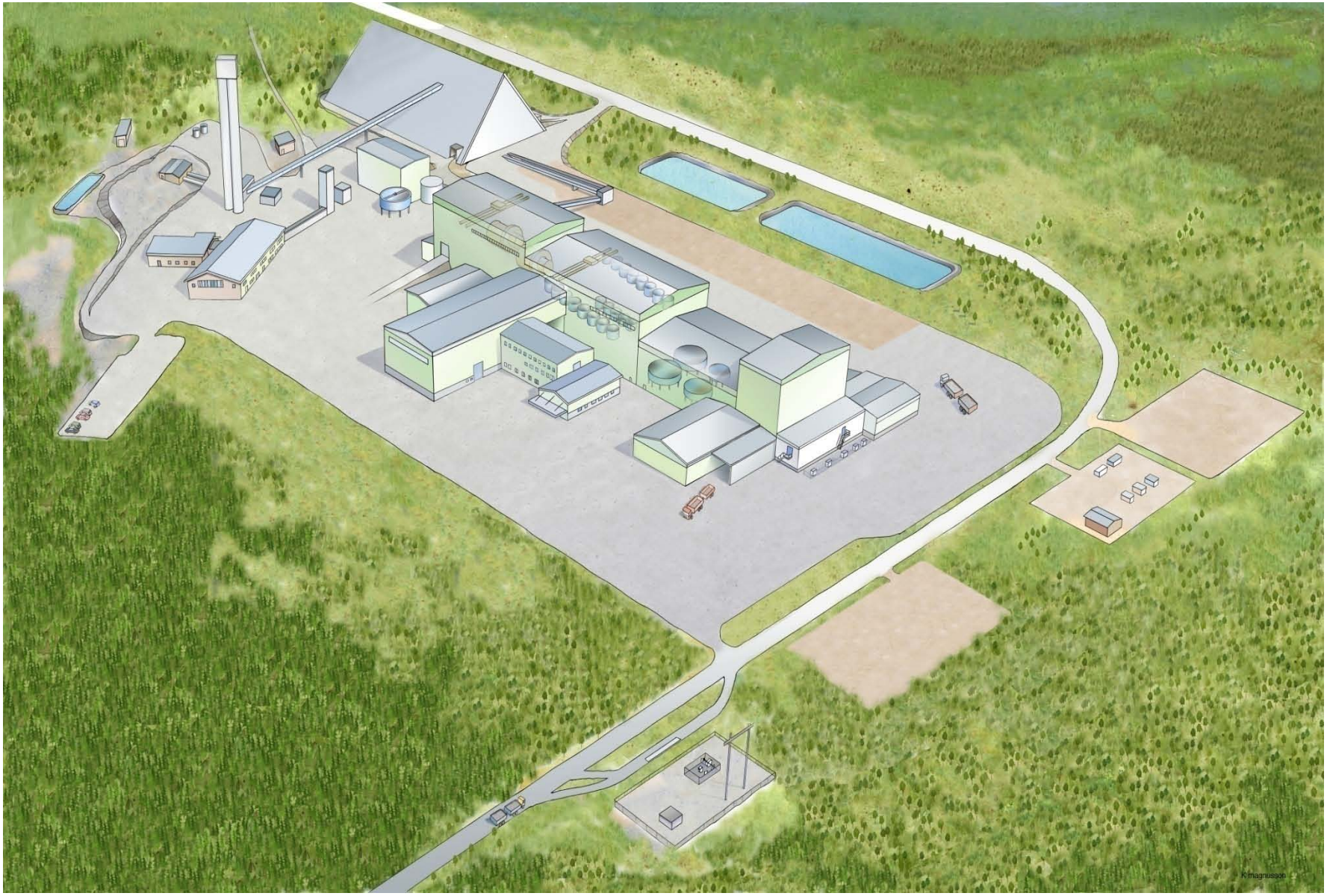
FEASABILITY STUDY

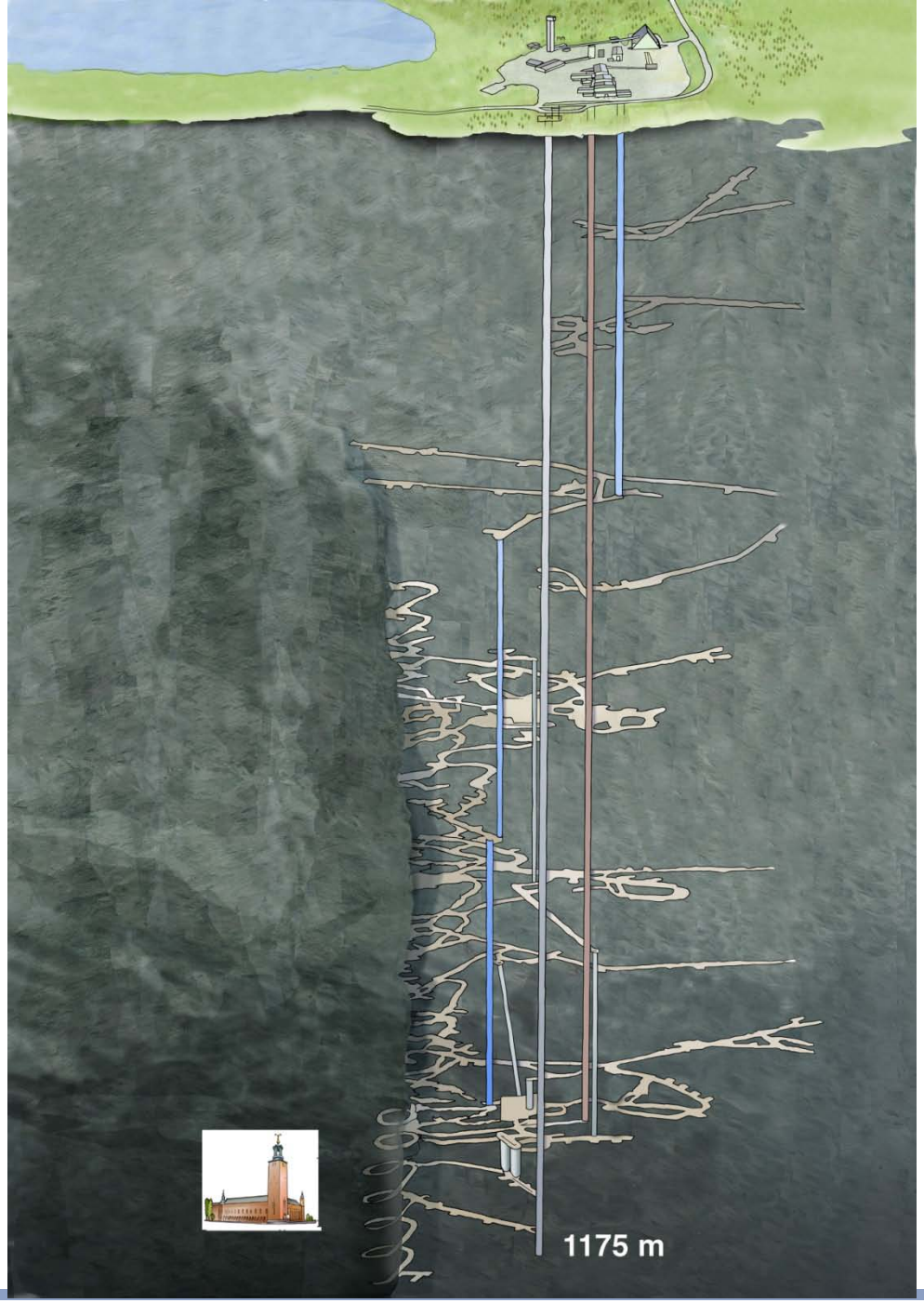
- Final stage before construction
- Based on measured / indicated resource
- One alternative studied
- Final sequencing and Production plan (Life Of Mine Plan)
- Sensitivity and risk analysis
- Implementation plan
- Capex accuracy ☐ 10 - 15 %
- Head grades accuracy ☐5%

Output

- Mine design
- Process design
- Economic evaluation
- Ore Reserve
- Detailed equipment list
- Lay Out Drawings
- Implementation plan
- Sensitivity analysis
- Permits
- Life Of Mine Plan (LOMP)

Decision

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