Pyhäsalmi

Pyhasälmi is an underground mine located in central Finland.

Location	Finland
Ownership	100%
Type of mine	underground
Primary metal	copper
Secondary metal	zinc
End product	copper and zinc concentrate
Expected mine life	2018
Average reserve	copper – 1.1% zinc – 2.2%
Infrastructure	close to roads and rail connection at property
Employees	218
Contractors	53

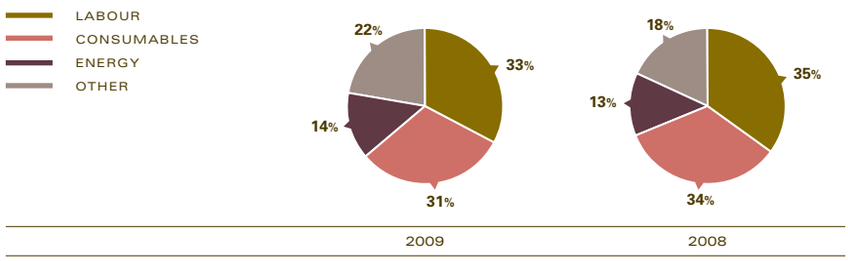
Key data

Production		2010 objective	2009 results	2009 target	2008 results	Change (target to 2009)	Change (2008 to 2009)
Tonnes of ore milled (thousands)		1,370	1,396	1,370	1,406	+2%	-1%
Tonnes of ore milled per day		3,750	3,820	3,750	3,850	+2%	-1%
Grades (percent)	copper	1.0	1.1	1.0	1.0	+10%	+10%
	zinc	2.5	2.2	1.9	2.2	+16%	–
	sulphur	42	41	42	42	-2%	-2%
Mill recoveries (percent)	copper	94	96	94	95	+2%	+1%
	zinc	90	90	87	91	+3%	-1%
Metal production (tonnes)	copper	13,400	14,600	13,000	13,300	+12%	+10%
	zinc	31,300	27,100	22,600	27,800	+20%	-3%
	pyrite	420,000	383,900	510,000	565,000	-25%	-32%
Cost per tonne of ore milled (C$)		$ 43	$ 44	$ 41	$ 42	+7%	+5%
Capital expenditures (C$)		$ 9	$ 8	$ 11	$ 10	-27%	-20%

Direct production costs

The following charts show the breakdown of 2009 production costs compared to 2008.

DISTRIBUTION OF DIRECT PRODUCTION COSTS
2009 vs. 2008



Operating earnings and cash flow

(millions of Canadian dollars unless otherwise stated)	2009	2008	Objective 2010
SALES ANALYSIS			
Copper sales (tonnes)	14,200	13,700	13,400
Zinc sales (tonnes)	27,000	27,400	31,300
Pyrite sales (tonnes)	413,000	558,000	420,000
Gross copper sales	$ 89	$ 94	$ 93
Gross zinc sales	58	51	72
Other metal sales	38	76	26
Gross sales	185	221	191
Smelter processing charges and freight	(51)	(57)	(48)
Net sales	$ 134	$ 164	$ 143
COST ANALYSIS			
Tonnes of ore milled (thousands)	1,396	1,406	1,370
Direct production costs (per tonne)	$ 44	$ 42	$ 43
Direct costs of production	$ 62	$ 60	$ 59
Change in inventory	(1)	–	–
Depreciation and other non-cash costs	10	11	11
Operating costs	$ 71	$ 71	$ 70
Operating earnings	$ 63	$ 93	$ 73
Operating cash flows	$ 61	$ 100	$ 64

Operating earnings and cash flow

The table below shows what contributed to the change in operating earnings and operating cash flow between 2009 and 2008.

(millions)	Change
Lower metal prices, denominated in Canadian dollars	$ (2)
Lower pyrite sales, net of costs to sell	(26)
Higher sales volumes	3
Higher smelter processing charges	(5)
Lower operating earnings, compared to 2008	(30)
Lower tax expense because of lower earnings	9
Change in working capital	(15)
Other	(3)
Lower operating cash flow, compared to 2008	$ (39)

Pyhäsalmi

Financial and operations review

FINANCIAL REVIEW

The decrease in operating earnings between years is mainly due to less sales of pyrite at lower prices. Operating cash flows are further reduced because of timing of payments from higher valued accounts receivable.

OPERATIONS REVIEW

Throughput continued to be high this year – Pyhäsalmi processed 1.4 million tonnes of ore through the mill, and had a near record 96 percent availability and record copper recovery of 96 percent. It also completed an accelerated backfill program to reduce the amount of open void and improve geotechnical stability. We also improved the reliability of backfill supply by keeping the fill raise system full, increasing stability and minimizing raise failures and blockages.

Copper production in 2009 was higher than target and higher than 2008 because grades and recoveries were both higher. Zinc production was higher than target and in line with 2008 because we moved some higher grade stopes up in the plan. We produced less pyrite this year than planned, choosing instead to reduce our stockpiles because of depressed market conditions.

We spent $8 million in sustaining capital this year: we purchased a new underground loader and mobile rock breaker, upgraded the process water supply pump station, automated the treated water discharge valve, and buttressed part of the tailings pond to improve stability. To improve mill efficiency, we replaced the zinc rougher and scavenger flotation cells, which had become corroded. In 2008, we spent $10 million to replace mine and mill equipment.

Outlook for 2010

Pyhäsalmi expects to mine 1.4 million tonnes of 1 percent copper and 2.5 percent zinc in 2010, and produce 13,400 tonnes of copper and 31,300 tonnes of zinc. The budgeted zinc grade will increase because we plan to mine several zinc rich stopes on the periphery of the ore body. We plan to mine 25 stopes in 2010 (8 primary and 17 secondary) and expect 60 percent of the ore to come from the secondary stopes.

The operating earnings and cash flows table provides an estimate for 2010 earnings and cash flows for Pyhäsalmi based on our production objectives and the market factor assumptions found on page 27.

We expect operating earnings and cash flows to increase in line with higher expected metal prices. Copper smelter processing charges and freight should go up while zinc charges are likely to remain similar. We sell all of our copper and zinc concentrates under long-term contracts.

Pyrite sales enhance Pyhäsalmi's financial performance, so we will continue our efforts to sign long-term agreements within Finland, and to enter new markets in Europe and Asia.

Capital spending in 2010 is mainly to replace equipment.

Planning for the future

Pyhäsalmi has expanded its micro seismic monitoring system in anticipation of more challenging ground conditions as the mine matures, and will continue an accelerated ground support rehabilitation program in critical areas of the mine. In 2010, we will carry out stress modelling and geotechnical reviews to optimize the mining sequence and manage rock stress, which is an increasing concern. As a low grade operation, Pyhäsalmi sees new technology as an excellent way to stay ahead of the competition. In 2010 and beyond the mine will look at fully automated long hole drilling and electronic detonators for blasting. The electronic detonators should help achieve better fragmentation and reduce dilution from adjacent backfilled stopes.

We expect to spend $2 million on exploration activities at Pyhäsalmi in 2010. The money will be spent mostly on drilling and geophysical work to follow up on three large and deep anomalies we identified late in 2009. We also expect to spend another $1 million on greenfield exploration in Finland.