

Pyhäsalmi



Pyhäsalmi 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

2009 performance highlights		2010 target	2009	2008	Change
Safety	Lost-time injury frequency	0.7	0.4	1.8	-78%
	Accident severity	15	10	60	-83%
Environment	Reportable environmental incident intensity	0.20	0.25	0.24	+5%
	Notice of violation, warnings	0	0	0	no change
Community	% of after-tax profits for community support	0.50	0.17	0.10	+70%
Growth	Ore production (000s tonnes)	1,370	1,396	1,406	-1%
	Net income (C\$millions)		47.5	70.7	-33%

Safety

CHALLENGES THIS YEAR

- Traffic issues (near misses)
- Emergency response deficiencies

FOCUS FOR 2010

- SECA standards and HCP implementation
- SLAM (Stop, Look, Assess, Manage) implementation
- Leadership skills training

Pyhäsalmi had a good year for safety, continuing its focus on safety systems and training. With only one lost-time injury, lost-time injury frequency decreased 78 percent to just 0.4, which also contributed to an 83 percent reduction in injury severity. Total injury frequency went down by 74 percent and disabling injury frequency was down 58 percent.

In 2009, Pyhäsalmi implemented a new approach to incident investigation and analysis to identify the root causes of incidents and make recommendations for actions that will reduce risk and prevent future incidents. It also automated the primary crusher, limiting worker exposure to airborne dust and improving occupational health.

Despite these successes, Pyhäsalmi had several near misses that had high risk potential, demonstrating the need to further improve its high consequence protocol systems. HCP implementation began in 2009. Pyhäsalmi's refresher safety license training included an introduction to all of Inmet's HCPs, and HCP champions were assigned.

Pyhäsalmi has already started to implement operational excellence, our new leadership and risk management protocol. This will also help identify and avoid serious hazards in the future.

WHAT YOU SHOULD KNOW

*"We're committed to a zero harm approach."
Kimmo Luukkonen, Managing Director*

2009 SECA results

OBJECTIVES	RESULTS	2010 OBJECTIVES
Improve safety and health training	✓ yes	<ul style="list-style-type: none"> • Implement operational excellence • Continue plan implementation <ul style="list-style-type: none"> – SECA standards and HCPs – water and energy conservation – community development strategies
Act on SECA plans, including <ul style="list-style-type: none"> • hazard identification • high consequence protocols • waste and water management • energy and GHG reduction • community development 	✓ yes	

Environment

CHALLENGES THIS YEAR

- Controlling pH levels and discharge of effluent
- Ensuring that seepage water from the tailings ponds is reduced and not impacting Lake Pyhäjärvi
- Agreeing on an effective joint approach to long-standing lake pollution from multiple industrial, municipal and agricultural sources

FOCUS FOR 2010

- Updating the closure plan
- Adding a wetland-style test installation to help reduce seepage water impacts to Lake Pyhäjärvi
- Creating a biodiversity plan and continuing to implement water and energy plans

Pyhäsalmi’s environmental performance improved in 2009. There were 13 total incidents this year, compared to 15 in 2008. Seven were reportable this year, compared to 15 the year before.

All of the reportable incidents were exceedances of the pH effluent limit. Pyhäsalmi’s historic permit did not contain many numeric effluent limits and the current permit, issued in late 2007, has been challenging because of the new limits that were introduced. The site has now built an automated effluent control system to help ensure pH limit compliance. There were five spills (four petroleum and one reagent) and all were contained before they could enter the environment. There was one dust exceedance (at the mill, and corrected with maintenance) and no exceedances of its water withdrawal limit. Water-related reportable incidents remained at seven. Six of these were in the first half of the year when Pyhäsalmi was working to control high pH effluent.

Improved environmental awareness, incident reporting and follow up led to fewer water-related incidents in the fourth quarter, improved compliance and lower spill frequency.

Pyhäsalmi also made significant structural improvements to its main tailings pond in 2009, and good progress on water recycling and wastewater handling projects. Water and energy conservation efforts reduced absolute water consumption by 12 percent and absolute energy consumption by almost three percent.

WHAT YOU SHOULD KNOW

Pyhäsalmi is an integral part of its community. The mine has been operating for fifty years, and some of its workers are third generation employees.

STEPPING UP ALIGNMENT WITH SECA STANDARDS AND TARGETS

Aligning with corporate sustainability standards and targets is an incremental process, made up of both small and large steps in many different areas over time.

In 2009, Pyhäsalmi made important steps in several key areas that are bringing this operation closer to compliance:

- evolved from providing a simple introduction to Inmet's HCPs as part of its safety certificate training, to assigning HCP champions responsible for each protocol
- conducted an emergency plan test involving town participants and a full mine rescue system assessment by an external consultant
- brought its environmental management systems closer to full SECA compliance
- set a target of establishing a simple biodiversity plan in 2010 – one of our first operations to do so
- expects to make better progress toward reducing its absolute water consumption by eight percent in 2010
- began using SEAT to improve community affairs and develop a community development strategy
- will continue to support the town's bid to become the site for a large astrophysics research facility.



Preparing for chemical emergency response at Pyhäsalmi. Pyhäsalmi will have hired and trained approximately 50 new employees – nearly 25 percent of its workforce – by the time we exhaust our mineral reserves in the next eight years.

Community

CHALLENGES THIS YEAR

- Concerns about lake water quality
- Dust control near the mine
- Planning for socio-economic mine closure impacts

FOCUS FOR 2010

- Complete Socio-economic Assessment Toolbox
- Launch community development strategy, including social planning for closure

Pyhäsalmi is a long-standing operation that has always had good relations with the community, working to mutual benefit by providing employment, protecting and rehabilitating the environment and supporting community projects. Finland's tax structure ensures that a high proportion of the mine taxes are returned to the community, making the town adjacent to the operation one of Finland's wealthier communities on a per capita basis.

Focusing on opportunities after closure is key and is one of the reasons Pyhäsalmi is demonstrating its support for Pyhäjärvi's bid to get a high profile astrophysics research centre built in the area – a potential future employer for skilled local workers. In addition to modest donations to local non-profit activities, Pyhäsalmi is providing financial and technical assistance to a joint project designed to help improve water quality in Lake Pyhäjärvi.

Pyhäsalmi has begun implementing specific engagement strategies and using Socio-economic Assessment Toolbox to its full potential, but progress has been slower than hoped.

WHAT YOU SHOULD KNOW

Pyhäsalmi is scheduled to close in about eight years. In the time remaining, it aims to help its employees, contractors and vendors build transferable skills, and to catalyze economic opportunities that may lead to future employment for the community.