

Pyhäsalmi



Panorama of the Pyhäsalmi mine site.

Pyhäsalmi is an underground copper and zinc mine in central Finland. It produces three types of concentrates: copper, zinc and pyrite.

Quick facts:

Type of mine	Underground	Donations to the local community	C\$48,000
Ownership	100%	Contributions to the local economy¹	C\$57,100,000
Inmet's gross sales	25%	Methods of waste disposal	Tailings disposal in one of three impoundments, all waste rock and 10 percent of tailings used underground for backfill.
Opened	1962		
Expected closure	2016	Emergency Preparedness and Response Plan (EPRP)	Yes (not consistent with MAC ² guidelines).
Land owned	442 hectares		
Land disturbed	275 hectares	Tailings management system	No (progress is expected in 2007).
Distance from nearest town	0.5 kilometres from Ruotanen, Finland. 4 kilometres from Pyhäsalmi, Finland.		
Main activities in surrounding area	Agriculture, small industry, residential and recreational.	Tailings Operations, Maintenance and Surveillance (OMS) manual	No (progress is expected in 2007).
Employees	210		
Unionized employees	94 percent of employees, 57 percent of managers.		
National employees	210		
Female employees	26		

¹ Contributions to the local economy include the local purchase of goods and services, and total payroll (GRI Indicators EC3 and EC5).

² MAC is The Mining Association of Canada.

Pyhäsalmi

Pyhäsalmi continued to make progress in refreshing their safety management systems, resulting in dramatic increases in their leading indicators.

Safety and health



Environmental sampling.

On the basis of outcome-based statistical measures, Pyhäsalmi's 2006 safety performance was mixed. Lost time injury frequency decreased four percent and disabling injury frequency decreased 36 percent, but severity increased to 71 workdays lost per 200,000 work hours. Employee lost time injury frequency was unchanged from 2005 but the severity of employee injuries increased more than 500 percent, mainly due to a fall suffered by an employee. Contractor lost time injury

frequency and severity improved 14 and 51 percent, respectively. Pyhäsalmi has put considerable emphasis on improving contractor safety by strengthening contractor training, supervision and contracting requirements this year.

Pyhäsalmi's leading safety indicators continued to improve in 2006, with more safety meetings (plus 33 percent), training sessions (plus 68 percent), workplace inspections (plus 75 percent) and job safety analyses (plus 6 percent). In November, an external audit team noted a significant improvement in the overall level of safety performance at this operation since their last corporate safety and health audit in 2004. This year's audit showed the key areas still to improve are: fire prevention and control, documenting mine support rules and their implementation, and documenting fall protection, confined space entry and hot work procedures. Pyhäsalmi continues to use ELMERI, a workplace safety inspection system developed by the Finnish Institute of Occupational Health, as their primary workplace inspection tool.

As part of Pyhäsalmi's efforts to seek certification under the Occupational Health and Safety Assessment System (OSHAS) 18001 standard, an external consultant audited their safety and health management system in August. The audit identified several gaps from the OSHAS 18001 standard, including internal auditing and completion of risk assessments. They are in the process of addressing these shortcomings and their goal is to complete the certification process by early 2007.

Finnish and European Union law requires employers to assess the safety and health risks of certain workplaces. Pyhäsalmi made good progress on this assessment work in 2006. It will be an on-going process that will also help the operation train employees and contractors about how to do their jobs safely.

Location and characteristics



Pyhäsalmi is an underground copper and zinc mine located on Lake Pyhäjärvi in central Finland, immediately adjacent to the village of Ruotanen and 4 kilometres south of the town of Pyhäsalmi. It has a footprint of 275 hectares. The mine has operated continuously since 1962 and employs over 200 people, all of them nationals of Finland. The area surrounding the mine is mostly mixed residential, agricultural and recreational, with several small businesses and industries.



Successful re-vegetation of the A-pond tailing facility.

Environment

Pyhäsalmi reported six environmental incidents in 2006, an increase from the single spill reported in 2005. This increase is due to increased awareness and better reporting of incidents, not a decline in performance or maintenance practices. Three of the incidents were petroleum spills from hose breaks on heavy equipment. The other three were spills of process reagents – copper chloride, nitric acid and sulphuric acid. The sulphuric acid spill was the most serious, involving a spill of 41,000 litres that happened when a storage tank failed. The acid was directed to a sump in the mill building and neutralized with lime before being released to the tailings storage area. No one was injured and no acid was released to the environment.

In early 2006 Pyhäsalmi evaluated water management around their tailings facility as part of their continuous improvement program. Pyhäsalmi is located 100 metres from Lake Pyhäjärvi, so water management is a high priority. As a result of the assessment, we have learned that Pyhäsalmi needs to do a better job of collecting seepage from the tailings area to prevent possible impacts to the lake. They are preparing an action plan to address how they will accomplish that objective.

Pyhäsalmi is still waiting to receive its environmental permit from the regional environmental authorities. The authorities have indicated that Pyhäsalmi should expect to receive this permit sometime in 2007. Pyhäsalmi will evaluate the permit and any further steps needed to comply with its requirements when it is received.

Pyhäsalmi is currently seeking ISO 14001 certification of their environmental management system. An external consultant completed an audit of the operation's system in August to evaluate gaps. The audit identified six gaps, primarily involving how Pyhäsalmi is documenting different processes. Pyhäsalmi is addressing these gaps and expects to complete the certification process in early 2007.

Community affairs

Pyhäsalmi completed their community engagement and dialogue plan in 2006 and will begin full implementation in 2007. In 2006, the operation hosted more than 900 visitors, including community members, colleagues from other mines and various school groups. A representative of the Committee for Education and Culture of the Finnish Parliament toured the operation, as did a Mozambiquean Minister and the Commander-in-Chief of the Northern Finland defence area.

Pyhäsalmi continued to update their emergency preparedness and response plan in 2006 and incorporated some components of the corporate plan to ensure they are coordinated. They also tested their plan in a simulation involving a fire on the main ore conveyor. The crisis scenario included simulated injuries to employees. The simulation showed that Pyhäsalmi needs to better define the responsibilities of the operation's rescue team and improve emergency preparedness training and communication protocols during an emergency. An action plan has been developed and is being implemented.



Meeting with the local fishermen's union.

Pyhäsalmi (cont'd)



The Pyhäsalmi concentrator.

2006 Objective

2006 Results

2007 Target

<ul style="list-style-type: none"> • Zero lost time injuries. 	<ul style="list-style-type: none"> ✗ Pyhäsalmi did not achieve this objective. There were six lost time injuries in 2006. 	<ul style="list-style-type: none"> • Zero lost time injuries.
<ul style="list-style-type: none"> • Improve contractor safety management. 	<ul style="list-style-type: none"> ✓ Pyhäsalmi met this objective. Its contractor lost time injury frequency and severity rates decreased 14 and 51 percent, respectively. It also improved contractor supervision and training. 	<ul style="list-style-type: none"> • Continue to focus on contractor safety through improved training and supervision. • Perform joint risk assessments with contractors.
<ul style="list-style-type: none"> • Improve safety training, inspection formality and follow-up. Develop and implement safety standards. 	<ul style="list-style-type: none"> ✓ This objective was met through improvement in the number of workplace inspections, safety meetings and training sessions. 	<ul style="list-style-type: none"> • Implement safety standards where needed based on risk assessments and the safety and health audit findings.
<ul style="list-style-type: none"> • Obtain our environmental permit and successfully implement its requirements. 	<ul style="list-style-type: none"> 📄 Pyhäsalmi is still waiting to receive its environmental permit from the regulatory authorities. All required information was submitted to the authorities within the required timelines. 	<ul style="list-style-type: none"> • Obtain our environmental permit and successfully implement its requirements.
<ul style="list-style-type: none"> • Continue our work to achieve ISO 14001 certification, including implementing a tailings operations, maintenance and surveillance manual and a formal community dialogue plan. 	<ul style="list-style-type: none"> ✓ Pyhäsalmi partially met this objective. It performed its gap audit against the ISO 14001 standard and completed a formal community engagement and dialogue plan. ✗ It did not progress in developing a tailings operations, maintenance and surveillance manual. 	<ul style="list-style-type: none"> • Incorporate the operations, maintenance and surveillance manual as a part of our ISO 14001 system.