



## CASE STUDY

# Xstrata Zinc

## Brunswick Mine wins John T. Ryan Award

### Situation

Xstrata Zinc's Brunswick Mine is one of the largest underground lead-zinc mines in the world. The mine employs 900 people who cover two shifts, seven days a week, producing zinc, lead, copper, and bulk concentrates. In operation since 1964, the mine has produced nearly 133 million tons of ore.

Since the 1980s, the mine has made significant strides in safety performance, for instance reducing recordable injuries from 450 per year to 90 per year in 1997. By the mid to late 2000s, however, these gains had begun to plateau just as new challenges to safety performance were beginning to emerge. In addition to near-constant changes in exposures and the ever-present need to maintain employee engagement, the mine was now seeing high levels of employee turnover. An increasing gap developed between the experienced but aging workforce and the new employees coming up behind them who lacked experience in mining and its exposures.

Many organizations would have been satisfied with the dramatic safety improvements that the mine had experienced over the past decade. However, the management team was unwilling to stand on these laurels. They knew that additional improvements in safety were possible. Mine leadership committed to re-energizing efforts to break through the injury plateau and at the same time, proactively address the challenges Brunswick Mine was facing.

### Solution

In 2009, Brunswick Mine leadership began a partnership with BST (now DEKRA) to develop the mine's strategy for safety excellence that met its standards. As a first step, the mine undertook BST's culture diagnostic that would identify the mine's unique strengths and weaknesses. Results showed a strong culture overall, with especially strong organizational scores; mine employees tended to have high levels of trust in management and a good relationship with their coworkers. At the same time, managers and hourly workers were reluctant to approach each other about safety issues – a significant vulnerability in an operating environment experiencing such big changes.

The spring of 2012 then brought an entirely new challenge: Xstrata Zinc Canada gave a one-year notice of the mine's closure. With less than 3 million tons of ore remaining, the mine would cease operations by March 2013.

Armed with the results from BST's safety climate and culture diagnostic tool, they committed to creating a culture of safety excellence that would last the life of the mine. The goal, as the general manager put it, was that "Everyone would leave the site with their heads held high, with pride for a job well done, with their health, and without serious injuries."

Mine leaders determined that the safety transformation would have to begin with them. Safety leadership development,

including individual action plans, would form the core of the effort. It would start at the top and cascade down through every layer of leadership—from general manager and superintendents down through 2nd line supervisors and all front-line supervisors. Great safety leadership, they believed, would benefit the mine not just in safety, but also in communications, employee relations, and productivity.

Once a strong foundation of safety leadership was established, a customized version of BST’s Behavior Accident Prevention Process (BAPP), which the site branded as TAD+ (Task Assignment Discussion +) was implemented in the mine, the mill, and the overall site maintenance and support groups. TAD+ is a supervisor-led process that focuses on high potential exposures and employee engagement.

As mine leaders worked on supporting safety, communicating more effectively, and building a better culture, TAD+ engaged miners in identifying and addressing exposures as they occurred. TAD+ resulted in such dramatic improvement to safety that the process was expanded to include staff functions such as administration, finance, and procurement.

### Results

Mine leaders credit the efforts with helping the operation navigate safely through the uncertainties and noise of the upcoming closure. Since introducing these changes in

### At a Glance:

- Underground mine of zinc, lead, copper, and bulk concentrates.
- 900 employees represented by the United Steel Workers.
- Safety challenges included exposures changes, turnover, engagement, and demographic shifts
- In May 2012 awarded the prestigious John T. Ryan award for outstanding safety performance.
- 67% reduction in recordable injuries in less than three years

2009, the mine has achieved a 67% reduction in recordable injuries in less than three years. And the mine’s exceptional performance has not gone unnoticed; in May 2012, Xstrata’s Brunswick Mine was recognized with the prestigious National John T. Ryan Award for outstanding safety performance in the mining community in Canada. Says general manager Greg Ashe, “We’re very proud of our employees for their hard work and dedication in building a world-class mining operation with world-class safety practices.”

Recordable injuries by type 2006-2012.

