

## **2025-2026 Minerva Case Study Competition**

### **Mac Mines**

This case study and the company are fictitious. It focuses on managing health and safety and change in ownership in small to medium sized businesses. This scenario was written for use by Minerva Canada, in partnership with the Chemistry Industry Association of Canada (CIAC), Service Hospitality and Signal49 Research (previously The Conference Board of Canada) as part of the 2025-2026 Minerva Canada Case Study Competition. Thanks go out to Jan Chappel and Dr. Deborah Zinni for their contributions.

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## Introduction

The General Manager of the MacDonnell Mining Corporation, Dave Matheson, sat at his desk, perplexed. After an extended vacation with his wife (Maggie MacDonnell, the mine's co-owner), Dave returned to reports from Mine Safety Manager Sandy Henderson requesting an urgent meeting to discuss changes in management priorities and increases in incident numbers.

## Background

MacDonnell Mining Corporation, commonly referred to as Mac Mines, is based near Sudbury, Ontario. The region is known as one of the most prolific mining areas in the world. Mac Mines was established by Angus MacDonnell, a Scottish immigrant, who bought rights to the land in 1941 and began to mine the nickel-copper ore two years later. After resisting buyouts by the larger local mines, Angus left control of the company to his children, Craig and Maggie, when he died 5 years ago. Craig and Maggie both have significant educational backgrounds, each earning a Master's of Business Administration. Both have worked in the mine for 15 years in full-time positions, and worked as summer students both on the surface and underground. Dave Matheson met Maggie when he came to work at Mac Mines 12 years ago, and they have been married for 10 years. Dave has a PhD in mining engineering.

Until recently, Mac Mines was a small family-owned operation mining about five percent of the region's nickel and copper. Mac Mine does not process the ore it gathers; rather, it has made arrangements in the past with other mining companies, both locally and abroad.

The mine employs approximately 350 people, with 250 working on the surface or underground (three shifts running 24/7), and 100 in administrative roles. The workplace has traditionally had good labour-management relations and is not unionized.

As a family-run business, each member of the senior management has always had a sense of duty to their workers. The workers have been provided with secure positions, and layoffs or short-term closures have been infrequent despite the cyclic nature of the mining industry. Angus MacDonnell prioritized the safety of the workers, machine and mine maintenance, ventilation requirements, and training. All mining employees are required to complete a five-day extensive training program before they begin work on the surface or underground. Administrative staff in the office has to complete a full day of safety training. While some workers complained about the length of the training, Mac Mines has a very good safety record. All staff knew the importance of following safe operating procedures (SOPs), including wearing all required personal protective equipment (PPE). Failure to follow the SOP or wear the correct PPE could, and had, resulted in worker termination after repeated warnings. Safety was rewarded annually in the form of bonuses and recognition.

The lost-time injury rates for the past five years reflect this focus on safety. Mac Mine's lost-time injury rate for the past year was 0.6 per 200,000 hours worked. Lost-time injuries/illnesses occur when a worker loses time from work after the day of injury/illness and/or loses wages as a result of temporary or permanent work-related impairment.

The calculation for lost time injury frequency rate per 200,000 hours is:

$$\frac{\text{Number of lost time injuries} \times 200,000}{\text{Total hours worked in accounting period}}$$

## Financial Issues

As a small mine, Mac Mine has been struggling with recent market changes that have seen the value of nickel drop to very low levels. Craig and Maggie were proud of their family mine's legacy, but could see that maintaining the current level of operations and profitability was not viable. They have had to borrow heavily to maintain operating expenses and safe guard worker jobs. As a result, they were looking for new opportunities to grow the customer base or explore other options. With the threat of layoffs being rumoured, Craig and Maggie began discussions with a foreign mining corporation, known as the Lucky Star Mining Corporation. After numerous negotiations, Lucky Star purchased 49 percent of the mine.

## The New Co-Management

The announcement of Lucky Star's buy-in to the Mac Mine hit the international, national, and local news. The current staff were not told in advance and were only informed just before the public announcement. They were told that this business venture would keep them employed for many years to come. A new layer of management from Lucky Star was announced. Charlie Yang would work in the accounting and finance area, reporting to the Lucky Star head office and to Maggie as Chief Financial Officer. Mark Luang would work with the chief mine engineer and report to Dave as the general manager. Other members from Lucky Star would become mine crew foremen.

Reaction to the sale and new management was very mixed. Craig and Maggie hoped it would be just a matter of time before the change became accepted. Even though the workers had been told that this deal was made in their best interests so that they could keep their jobs, a number of workers were not sure whose benefit this deal was really for and felt betrayed. These workers took pride in being a Canadian-owned local company. There were also a group of workers who were happy that this had happened because they wanted to ensure they had their jobs. They trusted their owners' judgments. Also, ownership still belonged to the MacDonnell's so Canadians would still control their interests.

After the negotiations, both Craig and Maggie were very exhausted. Since they traditionally had a dedicated and hard-working team, Maggie planned a five-week vacation with her husband, Dave. Craig planned a business trip to become better acquainted with the new upper management business partners at Lucky Star.

## Concerns

Since joining the management staff at Mac Mines, the new leadership team has been eager to increase the amount of ore mined. Their research showed that the mine could produce much more ore, and that the workers could be encouraged to reach the new production targets. Mark Luang stated that it did not make sense to spend so much time on health and safety training, and did not make it a requirement for the new members. It was felt that the new team were experienced in mines, making training unnecessary. They stated that they reviewed the Ontario *Occupational Health and Safety Act* and did not see any requirements for training at a mine. Workers previously trained by Mac Mines were concerned, as while their training covered the requirements of Ontario's *Occupational Health and Safety Act*, it also covered the Mines and Mining Plants Regulations, the *Mining Act*, and other corresponding regulations. New crew workers brought in by the foreign owners were not trained in Canada, and while they also had concerns, they were more concerned about losing their position if they spoke up.

During Craig, Maggie, and Dave’s absence, the mine safety manager (Sandy Henderson) noted that the number of reports regarding wearing appropriate PPE and other safety incidents was on the rise. Sandy began to document a log of these events. Just before Dave returned from vacation, the Ministry of Labour, Immigration, Training and Skills Development inspector made an in-person visit, citing concerns over recent injury reports. Several of the recent lost time injuries were considered to be critical injuries, which are reportable by law, including two broken arms and a fall from a ladder that resulted in a concussion.

For the Mac Mine, the numbers have been quite impressive, but as of late, those numbers are creeping upwards, suggesting that something is going on. Comparably, with 250 underground miners, the numbers are increasing quite significantly in the past year, particularly during the most recent part of the year. Lost time injuries per year:

- 2021 – 2
- 2022 – 2
- 2023 – 4
- 2024 – 4
- 2025 (January – June 30) – 2
- 2025 (July to current) – 6

Many of the lost time injuries are serious in nature. For 2025, there are three back strains, two trips and falls resulting in broken bones, two falls from ladders, and one concussion as a result of a falling piece of rock. Also, there were many other serious injuries which, although they did not result in lost time from work, resulted in restricted work and medical aid treatments. These serious injuries have quadrupled in 2025 compared to a year ago.

Internal reports gathered by Sandy indicated that the new Lucky Star team members were not consistently wearing appropriate PPE, including hard hats and boots. Workers trained by Mac Mines tried to mention the company rules, but the new team leaders reacted by issuing written warnings for insubordination. New team leaders also said they had many years of mining experience and there was no need for added safety training. Workers also reported that with increased mining activity, the mine shafts became deeper, and the heat had increased. Older diesel-powered pieces of equipment were reinstated to help with increased production. Workers (both from Mac Mines and the foreign owners) were complaining that they felt ill, and in some cases, received medical treatment. They thought the ventilation was not able to keep up with the increased activity and size of the area being mined.

## The Incident

While Dave Matheson and Sandy Henderson were meeting, they got notice that a mine crew and one of the new foremen were involved in an incident. The mine rescue team was on site, and local ambulances were on their way. When Dave and Sandy reached the incident location, they were informed that the crew had been overcome by fumes and heat, and that five of the ten crew members had collapsed, including the new foreman. Due to their location underground, it would take thirty minutes to bring them to the surface, but the affected crew members were being treated underground by first-aid

attendants of that crew who were not affected. The Ministry of Labour, Immigration, Training and Skills Development inspector arrived at the same time as the ambulances.

## Case Study Questions

As the investigator of this incident, prepare a report describing what measures should have been taken to keep the workers of this business safe. Describe the hazards and health and safety risk management issues that are present in this scenario, and how to address them. Include in your submission:

- The legislation that applies
- The responsibilities of the owners, manager, foremen (as supervisors), and workers in addressing safety hazards
- Rights of foreign workers in Canada / Risks to new workers
- The role of change management principles and communication
- The role of cultural differences
- Engagement of staff and labour relations