



CHINA LUCKY STAR MINING COMPANY

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This case was written by Professor Deborah Zinni, Brock University, with advice from Professor Vic Pakalnis, Queen's University Department of Mining Engineering. It is a fictitious situation and is intended as a basis for classroom discussion, not to illustrate either effective or ineffective handling of a management situation.

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The Case Office
Queen's School of Business
Queen's University
Kingston, Ontario, Canada
K7L 3N6

Telephone: (613) 533-2917

This was the first day back in the office for Dave Matheson, the General Manager of MacDonnell Mining Corporation, after a five-week vacation. The discussion he'd just had with Mine Safety Manager, Sandy Henderson, was more disturbing than he could have imagined. For the past ten years the mine had had a fairly satisfactory safety record and had won numerous safety awards, but a lot was changing at the mine, and accidents were increasing at record numbers. The new partnership with a Chinese mining conglomerate, China Lucky Star Mining Corporation (Lucky Star), was proving to be more difficult than he had envisioned. The new Chinese mine management team had a different approach to managing people and operations.

As Matheson sat looking at the recent safety report, he decided that he had better meet with the Canadian and Chinese managers soon – before something more serious took place. His next meeting, a few minutes from now, would be with the Chief Mine Engineer, Stu Lamontagne, who had indicated he needed an urgent meeting with Matheson. The log of events over the past few weeks, which Lamontagne had attached to his memo requesting a meeting, made for very disturbing reading.

THE INDUSTRY

Mining and the Sudbury Basin

Mining is the process of extracting rocks and solid minerals of economic value from the earth. These products include metallic ores (e.g. iron, copper, lead, zinc), industrial minerals (e.g. limestone, rock salt, potash, gypsum), native metals (principally gold and silver), coal, oil from oil sands, uranium, and precious stones. Mining is a primary industry and is an important employer in various parts of

Canada and around the world. Canada is the world's largest producer of zinc and uranium and a world leader in the production of many other mineral commodities, including potash, uranium, cadmium, elemental sulphur and nickel; it ranks third in aluminum (primary metal), titanium concentrates, cobalt, molybdenum, gold, and lead.

In Canada, mining accounts for five per cent of Canada's GDP every year – \$40 billion dollars – and contributes \$4.7 billion in corporate taxes alone. This industry directly employs 370,000 Canadians and is the largest private-sector employer of Aboriginals. Canada remains the leading source of new capital for the global mining industry, accounting for 36 per cent of the \$53 billion raised in 2007.

Sudbury is known as one of the most prolific mining areas in the world. The nickel-copper ore deposits in Sudbury are associated with a large body of igneous rock known as the Sudbury Igneous Complex (SIC) discovered in 1883-85. The community is the richest mining district in North America and among the ten most important globally. Sudbury accounts for about half the mining activity in Ontario, Canada's largest mineral-producing province. The value of Ontario's mining sector in 2007 was about \$10 billion. The total ore mined to date in Sudbury is approximately 1.7 billion tonnes, with 40 billion pounds of nickel, 36 billion pounds of copper, 70 million ounces of platinum, palladium and gold, and 283 million ounces of silver recovered.

The ownership of mines in the Sudbury area has undergone significant change in the past years with an increased presence of foreign ownership. For decades, the area was dominated by two Canadian mining companies, Falconbridge Limited, which was owned by a succession of companies, and the much larger International Nickel Company, known as Inco. Both companies mined a variety of metals in many locations within Canada and around the world. In 2006, Falconbridge was taken over by Switzerland's Xstrata Nickel Mines, and Inco, now known as Vale Inco, was acquired by Companhia Vale do Rio Doce of Brazil, the world's largest producer of iron ore.

China and Mining Interests in Canada

Despite decades of strong interest in Canadian mining, Chinese mining investment in Canada only began in 2005 with a relatively small investment of \$1.95 million in gold and silver mining. Since then investments have been increasing in size. In July 2009 China Investment Corporation (CIC) finalized its purchase of a \$1.7 billion equity stake in Teck Resources, a Vancouver-based firm with mining interests in North and South America. In 2009, Jilin Jien Nickel Industry Company Ltd. invested \$30 billion to acquire a 51 per cent stake in Liberty Mines, which mines nickel and cobalt in Northern Ontario.

More Chinese investments in mining can be expected in the future as China needs increasing amounts of nickel and other minerals for its continuing expansion. With its huge construction projects and export market, China is the world's biggest consumer of stainless steel, of which nickel is an important ingredient – about 60 per cent of nickel production is used to make stainless steel. The country has traditionally imported large amounts of the refined metal, but with the country's

consumption of nickel ore outstripping its own mines' output China needs to import about 23 per cent of its consumption needs.

Small mines everywhere have typically struggled for financing, especially in times when commodity prices are low. It requires an investment of many years and many millions of dollars to build a mine and the mill where the metal-bearing material is separated from the waste rock. Only a handful of companies worldwide are large enough to own their own smelters for further processing of this interim-stage material, called concentrates, so small producers depend on making arrangements to sell their concentrates to such firms or to pay for smelting services. The global financial crisis that began in 2008 took a particular toll on small companies with little or no revenues. But Chinese nickel companies are offering such operations an alternative in the form of stake acquisitions and off-take agreements, whereby Chinese companies have agreed to buy part of the mines' output at a fixed price. Essentially what this means is that the smaller mines have the material and China has the smelters and the financial firepower to enable smaller mines to reduce debt, restart closed projects, and resume mine development, while China is able to secure nickel supplies.

THE MAC MINE AND MILL

Known in the community as the Mac Mine, the mine owns a small share of local mining and a milling operation on the southeast side of the region, currently mining copper-nickel ores. Nickel and copper are the primary metals, but cobalt and precious metals, such as platinum and palladium, are also produced throughout the region by all the mines. Although both Inco and Falconbridge had their starts prior to 1930, Angus MacDonnell, a Scottish immigrant, bought the rights to the land in 1941, and began mining nickel-copper ores on the outskirts of Sudbury just two years later.

Even though several attempts had been made by Inco and Falconbridge to buy the land and mining rights in the earlier days, MacDonnell's desire was never to sell this mine, but rather to pass on his legacy to his children, and their children thereafter. After a time, both mining giants left MacDonnell alone, and all companies learned to co-exist, at times actually drilling side by side, and struck up many joint mining agreements. The Mac Mine has had a longstanding agreement with Falconbridge (now Xstrata) to smelt its nickel-copper concentrate in Falconbridge. Despite the fact that the Mac Mine is a mere shadow of a mine compared to the other two giants, it nevertheless plays an important role in the Sudbury district, running three 8-hour shifts per day, 7 days a week, with 350 non-unionized employees (250 in the mine/mill operation and 100 in the office).

The mill receives ore from the mine and produces two concentrate streams – a nickel-copper concentrate that goes to the Falconbridge smelter for smelting, and a copper concentrate goes to the Xstrata Copper Kidd Metallurgical Division in Timmins for toll smelting and refining. The Falconbridge smelter processes nickel-copper concentrate from the mine and processes custom-feed materials. It is capable of producing 130,000 tonnes of nickel-copper matte annually and is therefore able to handle the Mac Mine's 9,000 tonnes quite easily. The smelter's electric furnace converts the mineral concentrate into a high-grade matte

containing nickel, copper, cobalt and platinum group metals. The smelted and granulated matte is shipped overseas to Xstrata's Nikkelverk refinery in Norway for refining into pure metals.

Nikkelverk ranks among the lowest-cost nickel refineries in the western world and is ISO 9001 quality- and ISO 14001 environment-certified. The refinery uses a chlorine leach and electro-winning process to separate and recover component metals. The refinery processes a granulated matte produced by the Falconbridge smelter operations as well as custom feed from other sources. After refining, metals are cut, packaged, and shipped to Mac Mines customers for a fee. This works well for the Mac Mine because otherwise they would be paying for shipping many times over and it reduces the time it takes to get to the customer. The Nikkelverk refinery has ample capacity to process its own products as well as accommodating other small mines, particularly since doing so is not a threat to their own operations. For such a small operation as MacDonnell's, there was never any question of spending the millions of dollars it would take to build a smelter or refinery, and he had always felt the contract struck with Falconbridge was fair.

Current production levels for the Mine are 9,000 tonnes nickel in concentrate and 8,500 tonnes copper in concentrate that are sent to Falconbridge. The process at the smelter results in 8,265 tonnes nickel in matte and 5,861 tonnes copper in matte. Production levels could increase, but the current levels are adequate for the owners' needs.

Employee Care

Angus MacDonnell had no desire ever to take the company public. In 2005 he passed away, leaving control of the Mac Mine to his children, Craig and Maggie. Their mother, Susie MacDonnell, had died eight years earlier. Sharing the CEO role, Craig is responsible for the operations side, while Maggie is in charge of administration. Both Craig and Maggie have significant educational backgrounds, possessing MBAs from Harvard and Stanford respectively. Both have worked for the Mac Mine for over 15 years in full-time positions and had spent summers working in the mine, both on surface and underground. Dave Matheson, Maggie's husband, has been the General Manager for the past 12 years. A native of Sudbury, Matheson has his master's degree in mining engineering from Queen's University. He and Maggie met at work and have been married for ten years. Nothing was handed to any of them – that was not MacDonnell's way. All three have earned their roles, working their way up the corporate ladder. For this, the employees respect the MacDonnell family, recognizing them as hard workers and sensitive to their needs.

Operating the mine as a family-run business, MacDonnell always felt a sense of duty to his employees. They were always provided with secure positions, and layoffs or short-term closures of the mine occur infrequently. These closures can be attributed to extensive machine and mine maintenance or to a slowdown in demand for product. Employees are always given plenty of notice of planned shutdowns so that they can plan accordingly, so as to minimize the financial burden. They are allowed to bank vacation time and can use it for extended

closures. Wages and benefits are highly competitive, matching the contracts of unionized mines in the area.

Typical of any mine, working conditions are often difficult, with many hazards. There is always a potential for accidents that could result in fatalities. As a result, safety is always a priority and infractions result in reprimands. All new mining employees are required to go through a five-day extensive training program before they even start work underground or on surface. Office workers are provided with one full day of safety training. For all surface and underground miners, Ontario law requires certification by the Ministry of Training, Colleges and Universities through completion of a Common Core program. (To provide an example of the nature of this training, Exhibit 1 shows the content of the Common Core Programs for underground miners and for first-line supervisors.) The Mac Mine has always treated safety very seriously, and its safety record speaks for itself. In fact, employees have been terminated for failure to wear personal protective equipment after repeated warnings and for failure to report unsafe conditions that resulted in co-workers being hurt. Safety awards are made annually in the form of monetary bonuses and recognition in company bulletins and newsletters.

Another advantage for employees is the fact that whenever there is a job opening for entry positions, their family members are given the opportunity to apply first. To ensure fairness, a seniority system is used whereby if an employee already had a family member apply, then the opportunity will go to the next person on the seniority list. MacDonnell believed that education was important and would not hire anyone who had not completed high school. Of course, in the earlier days it was not at all uncommon for many of the workers not to have finished high school, but MacDonnell became stricter about this rule during the late eighties when his own children were in school.

Such an environment has provided little reason for the employees to consider unionizing. In an industry where the unionization rate is 80 per cent, about three times the rate for other sectors in Canada, the Mac Mine is an unusual story in the industry. As a result the Mac Mine is a highly desirable employer in the region, and understandably, turnover is extremely low.

Financial Issues for the Mac Mine

However good an employer MacDonnell was, it came at a price when in 2008 the world price for nickel dropped to levels not seen for some time. Craig and Maggie were proud of the way their father had cared for the employees, and they had vowed to try to do the same. The mineral industry is highly cyclical, and producers have little control over prices, which are set on international commodity markets. Downturns can set in suddenly and have devastating effects on mining revenues. Averaging revenues from the good times and the lean ones, the Mac Mine made enough money to keep everyone comfortable, and so it was agreed to keep the status quo. During 2008, though, Maggie started investigating options as it became evident that they were going to be facing some unprecedented financial difficulties in the very near future.

One problem that emerged was increasing costs to smelt and refine its nickel products. As new owners, Xstrata did not share the same history or allegiance to

the MacDonnells that had existed under the old guard. As a result the only option that seemed viable to the MacDonnells was to cut expenses by laying off employees indefinitely, but that was not “the MacDonnell way” of doing things. Selling the business was certainly not something the family wanted to do. As Maggie and Craig discussed the options and opportunities over the first two quarters of 2008, they started borrowing heavily to keep up with their operating expenses. What they needed was some way to survive this cyclical trough – even better, to figure out how to smooth these booms and busts more satisfactorily. Their father’s old approach of just weathering the storms had worked up to now, but this storm was clearly not going to end soon enough. Then the MacDonnells became aware of growing interest by the Chinese in securing nickel supplies in Canada and started investigating various possibilities.

The employees were becoming increasingly aware that something was going on because a lot of meetings were taking place behind closed doors, which was not the norm at the Mac Mine. Maggie and Craig were also away a lot more, taking trips to Asia. Rumours of possible layoffs because of the extremely low price for nickel started flying. This was alarming to everyone, since no one had ever been laid off for indefinite periods of time. Other rumours had the mine being sold, and if that happened, it would no longer be the same mine. Then the talk was that they might be going bankrupt. Soon the Steelworkers got wind of the problems at the Mac Mine and saw an opportunity. Flyers announcing a meeting at the local union hall started appearing on employees’ cars and at their homes: the union wanted to help the workers protect their jobs, and it was suggested that unionizing might be the answer. Not wanting to worry any of the employees, Maggie, Craig, and Dave remained silent on the issue, leaving the grapevine to run rampant.

CHINA LUCKY STAR MINING COMPANY ENTERS CANADA

During the third quarter of 2008, Maggie and Craig’s inquiries suddenly paid off with a serious inquiry by a Chinese company from Jilin province, the China Lucky Star Mining Company. By now the situation was quite worrisome, with loans coming due, and the prospect of keeping everyone gainfully employed much beyond year-end did not look promising. Craig and Maggie were desperate in their efforts to keep the mine afloat. Negotiations began for Lucky Star to buy into the mine – an option they had not previously considered. After numerous rounds of negotiations, and discussions, Lucky Star bought a 49 per cent stake of the mine for C\$36 million, agreeing to leave the name of the mine as The MacDonnell Mining Corporation. With the strong union presence in the Sudbury area, it was believed that a change of name would only antagonize people and fuel the union’s chances. Once things were settled, a new name would be introduced as the MacDonnell Lucky Star Mining Corporation.

Lucky Star’s smelter and refinery back in Jilin province would save costs because it would no longer be necessary to pay Xstrata to process their metals. As part of the agreement, Lucky Star would bring their own management team at their expense, both to learn more about the mine and to train their managers on how to do a better job back in Jilin province. In addition, they planned to bring some of their mine foremen along so they, too, could be trained and to learn more about the

Sudbury operations. The deal was finalized at the end of the first quarter in 2009, and by June Lucky Star's management team was in place at the mine.

Lucky Star's buy-in to the Mac Mine hit the international, national, and local news. The employees were brought in just prior to the announcement to let them know what was happening and to explain how this business venture would keep them employed for many years to come. The new management layer from Lucky Star was described: Mr. Yang would work in accounting and finance and report directly to Maggie, while reporting back to head office in Jilin province the production levels and earnings. Mr. Li would work co-operatively with Stu Lamontagne, the Chief Mine Engineer, and report directly to Dave Matheson, the General Manager; the Chinese foremen, Mr. Huang, Mr. Wang, and Mr. Xiao would work with Mac's foremen to learn the ropes, reporting directly to Stu Lamontagne. The Chinese foremen would also report indirectly to Mr. Li, who would report indirectly to Mr. Yang so that he could file his report for his superiors (part of the new organizational chart appears in Exhibit 2).

Reaction of the new venture from the employees, unions, and the community was mixed. The employees could not believe that the MacDonnells had done this. Even though they had been told that this deal was made in their best interests so that they could keep their jobs, a number of employees were not sure whose benefit this was really for, and felt betrayed. Another group of employees were happy that this had happened because they had confidence in the assurances with respect to their job security; they trusted the judgement of their owners. Besides, ownership still belonged to the MacDonnells, so it would still be Canadians who controlled their interests. The unions felt a golden nugget had been handed to them, aware that the uncertainty created by such new circumstances often made companies vulnerable. The community had had enough: this was the third major employer in the region to "sell-out" to the "foreigners", and protests were set up in front of the Mac Mine. However, the media frenzy and protests were short-lived, and business soon got back to normal as the Mac miners began their new venture with their new bosses.

Craig MacDonnell

With the new venture under way Craig felt that things would not change too much at the Mac Mine. Sure, there were some extra bodies around, but since they were miners themselves, there shouldn't be a big learning curve. Perhaps the biggest problem might be the language barrier, and for their families, some difficulties settling into the Sudbury region, given that the region is not all that multicultural from an Asian perspective. Nevertheless, Craig thought things would go very smoothly, and should any problems arise, they would just take care of them. He and Maggie had spoken about how well the process had gone, observing that the employees were generally pretty happy with the new deal.

So now that things were settled with the partnership, it was time to get back to normal business. Craig began making plans for a business trip to China in November. He needed to become better acquainted with his new partners, so this trip was important. It was also a great advantage to have Matheson and his managers in charge of the Mine Operations, given their vast experience and their great relations with the miners.

Maggie MacDonnell

Like Craig, Maggie was happy with the new partnership that had been formed. Her sense was that there wouldn't be much change, except that they would have to give up some profits, but that was not a big deal since the employees would still keep their jobs, and they could hang on to their dad's legacy. She couldn't help but feel that her dad would be proud of how savvy at business both she and Craig had become. These had been difficult times, but they had pulled through it.

Her encounters with Mr. Yang had been quite interesting due to the language barrier, but she felt sure that he had understood her position on matters. Her understanding was that Mr. Yang would essentially be ensuring that the foremen and Mr. Li were there to learn about the operations and that he would help them transition into their roles without interfering in the day-to-day operations. He would also be reviewing the accounting and finance practices in Canada and reporting back to China. It was also important to the Chinese that someone be there to oversee their investment. Everyone agreed on this point.

The past year had been exhausting, and Maggie was looking forward to a five-week vacation with her husband, Dave Matheson. Because they were fortunate to have dedicated and hard-working managers who could keep the operations going, she was not concerned about being away from work for an extended time.

THE CHINESE SETTLE IN AT THE MAC MINE

The Chinese Team

The Chinese team were eager to work in Canada since they had heard such positive things about the country. (They had also heard about the harsh weather and were not as excited about that part.) This would be good for their families, and because they were all together, they could help each other settle into their new community. Nevertheless, they were somewhat worried about the fact that they would not be entirely in control and about the possibility that the Canadians would not accept them. The language barrier was a great worry, were such questions as whether they'd be able to buy the food they liked and where their children would go to school. Maggie MacDonnell had promised to have the Human Resources department help them with matters.

Mr. Yang and Mr. Li promised the three mine foremen, Huang, Wang, and Xiao, that whenever they felt there were problems, they should report directly to Mr. Li, who would then report to Mr. Yang. But Mr. Yang also told them that they were representing the interests of the parent company in Jilin province and that they should not let the Canadian workers or management make them do anything that would hurt the interests of the parent company.

On the basis of their own observations, Mr. Yang and Mr. Li believed that the Canadian workers would try to take control of the situation. They would not work as hard as workers in China, and it would take a lot of pressure from the foremen to ensure that production was increased from the current levels. The mine had

much more capacity than was currently being mined, and it was in their best interests to get as much out of the workers as they could, and as much out of the mine as possible. The other significance difference was the health and safety legislation. On this front Mr. Li instructed that if there was a rule that did not make sense to the foremen that would slow down production, then they must make their best judgement to handle the situation. Production was always the top priority for the Chinese managers.

By October the team was in place and ready to work. Already Mr. Yang and Mr. Li found themselves constantly arguing with the Canadian managers to leave them alone. There was something about health and safety training but neither of them could understand the need for this training. All the Chinese were experienced in mining, and this was not necessary. Production was what mattered, and they needed to increase output of nickel concentrate from 9,000 to 11,000 tonnes, and of copper concentrate 8,500 to 10,500 tonnes. This was the main mandate for the mine foremen. Mr. Yang and Mr. Li spent much of their time looking for ways to decrease costs and brought many suggestions to the purchasing office.

Sandy Henderson

Sandy Henderson, the Mine Safety Manager, reports directly to the Vice President of Human Resources, Julia Thompson, but has a dotted-line reporting responsibility to Stu Lamontagne. There are times, though, when he is required to speak directly to Dave Matheson. Reporting relationships in fact are not all that formal, but everyone knows who they are supposed to speak to and ensure that the right people have the right information. That was one problem that had arisen as the Chinese foremen started their training program. Mac's understanding had been that they would be given assignments for duties underground, and so on, but would be taking instructions from the Canadian supervisors. It was clear that things were not working out as expected in this regard.

Stu Lamontagne

Stu Lamontagne, the Chief Mine Engineer at the Mac Mine for over 22 years, is a graduate of mining engineering from McGill University. A native of Sydney, Nova Scotia, Lamontagne got his early experience working in the coal mines and had come to Sudbury in the early 1980s looking for a more stable and safer mining environment, as did many East Coasters. An advocate for safety, he could no longer tolerate the lack of adherence to safety in the Sydney coal mines and migrated to Sudbury. As an Acadian, he thought Sudbury would also serve as an ideal environment as French was the predominant language in many parts of the region. Lamontagne always puts safety first, and the record at the mine shows his efforts. He addresses mine issues in a timely manner, and he is trusted by the miners. He has an open-door policy, and any of the employees can approach him. He is also visible on surface and underground, checking up on how things are going in all areas of the mine and mill.

Lamontagne has always been proud to be associated with the Mac Mine but is now concerned about the influence of the new management layer from China. When Matheson had told him that he would be in charge for five weeks beginning in November, Lamontagne hadn't given it a second thought. This was not the first time Matheson and Maggie had gone away for an extended period and left him in

charge. He knew that he could handle things quite easily, but by December, he was happy that Matheson and the MacDonnells were coming back. Everyone needed to be there to get some order back into the mine. The first few months with the new owners had not been difficult because the Chinese team had been coming and going to China, but since they had settled in during Matheson's absence, problems were becoming more frequent and more troublesome. The Ministry of Labour was upset with the Mac Mine for the first time, accidents were on the rise, and the Steelworkers didn't seem to be going away.

On December 5, he wrote a memo to Dave Matheson (attached as Exhibit 3), expressing his concerns and attaching a copy of the log he had kept of the unfolding events since October. In preparation for his meeting with Dave, Lamontagne reviewed his log (reproduced below) to refresh his memory for discussing the situation with Matheson. There was going to be a lot to digest and to discuss.

October 5

The Chinese team have been going back and forth between China and Sudbury and are now settling in. The mining team are advised that they must take our five-day health and safety training, and Mr. Yang the one-day office safety training but all refuse to take part in the training because they feel they know enough about mine safety and this is not necessary. Matheson advises that we should give them some time to get settled in, and once they become familiar with the way we do things here, they will agree to take part in the training.

October 24

The Chinese foremen are trying to get our guys to work excessive hours of overtime so that we can mine more product. The guys were happy at first about the extra hours, but now they are being asked to work seven days per week and they are feeling this is going too far. Apparently the owners in Jilin province are requesting increased production, but no one has discussed it with us. This needs to be confirmed. There are concerns about ventilation as we go deeper.

October 25

Had a discussion with Mr. Li to inform him that if he keeps trying to mine more product there is going to be a problem with ventilation. These things need to be planned out. Told him that an underground mine environment is a complex ecosystem. The ventilation system must keep up with the demands of the operation of the equipment and the exhaust levels that it is being emitted; virgin-rock temperatures increase with depth. For the sake of H&S [health and safety], this must be stopped.

October 31

Found a flyer left by the Steelworkers indicating that there will be a union meeting at the Steelworkers hall to discuss the infiltration of the Chinese into the Mac Mine. The MacDonnells and Matheson feel this is going to pass once the novelty of the Chinese wears off. There has been a lot of loyalty from the employees and no one feels this is a major issue.

November 2

Canadian foremen reporting that the Chinese foremen are taking liberties, and that it is clear that they do not understand Canadian legislation. Whenever our foremen try to show them the piece of legislation from the OH&S [Occupational Health and

safety] handbook, the Chinese say that they are familiar enough with this and that it is not necessary to keep showing them this and to stop doing this. As major shareholders they can manage this themselves. Spoke to Mr. Li about these issues because Matheson is away on holidays for the next five weeks and Craig MacDonnell is also away on business.

November 8

Mr. Li sends Purchasing a purchase order for 200 hats with lights from China. They are much cheaper than what we have been paying. They are expected to arrive in three weeks.

November 17

Spoke to Li to discuss the issue with his foremen overworking the men again, and the effect that this could have on health and safety, as well as the concern about unionization that appears to be more of a threat these days. The men are starting to feel ill from the fumes and it's getting hotter the deeper they mine. Li says that he will speak to the foremen, but that they are just trying to do a good job for the Canadian and Chinese operations. He says that Mr. Yang has indicated that production must be increased to meet the targets set by the Chinese partner. Again Mr. Yang and Mr. Li are told to stop trying to push production because the ventilation systems need to be considered. With their experience, they say they know how to get the most of the workers. Asked Li about the background of the foremen, and found out that they are new to Lucky Star, with backgrounds in coal mining. Concerned about the abysmal safety records in coal mining in China – read somewhere about 3,000 coal-mining deaths last year alone.

November 19

Contacted Craig MacDonnell in China to let him know that the Chinese foremen do not even have experience in nickel mining and urged him to approach Li about getting the foremen to take part in training. As trainee supervisors, the Chinese are supposed to follow instructions from our supervisors, but more and more they are doing things their own way and, in my view, an unsafe way. Sooner or later, I guarantee that there's going to be a serious safety event. The ventilation systems are a concern as they are not large enough to handle going deeper underground. Also questioned the new orders to increase production – I thought the Canadian operations were the ones who would set production levels, not China? Need confirmation as to who is to set production levels. MacDonnell says he wants to wait until Matheson gets back so that it can be discussed with the senior management team.

November 20

Mr. Li reports that he is not happy that I reported the discussion about his foremen taking training, or about the production levels to MacDonnell. It appears that MacDonnell has spoken directly to Mr. Li. Suggested that Mr. Li should take advice from MacDonnell since he is the owner and CEO.

November 24

Sent an e-mail to the Chinese group indicating that Mr. Li and his foremen will attend H&S training beginning on November 26 for five days, and that Mr. Yang will attend a one-day training program beginning November 26, 2009.

November 26

The Chinese foremen and Mr. Yang did not report to their scheduled H&S training. The miner's hard hats arrive and are sent down to the mine for charging. Turns out that the sizes are too small for most of the men. As well, LED hand chargers are not compatible with the current electrical systems in Canada, so they're useless. The goods are coming from China and should never have been considered. To make

matters worse, the hats are not even CSA-approved and therefore illegal for use in Ontario mines. Purchasing says the shipping costs to return them will exceed the refund price and therefore the Mac Mine has invested in about \$10,000 of useless safety equipment.

November 28

Ministry of Labour [MOL] came in to conduct an inspection of electrical equipment and practices at Mac Mine's underground and saw some infractions they want taken care of immediately. They are also concerned that there may be a problem with the ventilation system, considering the depths being mined. This is part of a safety blitz by the MOL. Mr. Li dealt directly with the inspector because I was away from the office. Mr. Li offers to take the inspector out for a nice evening so that the matter can be concluded. At this point, the inspector interprets this gesture as a bribe, and that Mr. Li is obstructing an inspector in the performance of his duties. The MOL demanded to see me, but I'm not there, and they issue an order for the infractions, giving the Mac Mine three days to fix the problems. They call later that day leaving a message for me, so I call when I get back and find out about what has happened. Leave an urgent message for Matheson to call him on his return and manage to buy some time from the MOL, due to our good relationships over the years.

December 1

A miner refused to perform what he considered to be unsafe work underground. The fumes are really bothering him. The Chinese foremen, Xiao, told him if he didn't get back to work he would be fired. The crew protested and stopped work for three hours until one of the Canadian foremen, Stanoslav, managed to get things under control, getting the guys back to work, the unsafe work situation sorted out, and Xiao to back off. This was not without the two foremen almost getting into a fist fight. If the MOL [Ministry of Labour] finds out about this we could be charged. The fines are \$50k for supervisors and \$500k for the company. We just cannot afford these types of risks and the bad publicity.

December 4

More flyers are found on cars from the Steelworkers. The receptionist says that there have been a lot of telephone calls lately from people asking for a telephone list of the employees.

THE MAC MINE'S SAFETY RECORD

According to the Ontario Mining Association, mining's lost-time injury rate for 2008 was 0.6 per 200,000 hours worked, which is a 25 per cent improvement compared with the lost-time injury rate of 0.8 per 200,000 for 2007. 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 formula for calculating lost-time injury frequency per 200,000 hours is:

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

For the Mac Mine, the numbers had been quite impressive, but of late, they have been creeping upwards, suggesting that something is going on. With 250 miners,

200 of whom work underground, the numbers have been increasing quite significantly in 2009, particularly during the latter part of the year. The employees currently work a 40-hour week and an average of 48 weeks per year.

Lost-time injuries per year
2005 – 2
2006 – 2
2007 – 4
2008 – 4
2009 (January – June 30) – 2
2009 (July to November 30) – 6

Many of the lost-time injuries were serious in nature. For 2009, there were 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. There were many other serious injuries that, while not resulting in lost time from work, resulted in restricted work and medical aid treatments. These serious injuries have quadrupled in 2009 compared to a year ago.

In addition to an increase in accidents, numerous safety infractions are occurring; for example, there had been a failure to wear personal protective equipment (PPE). Unusual as this is at the Mac Mine where a miner who won't wear PPE is reprimanded or fired, it appears that the Chinese were not consistently wearing several pieces of important PPE such as gloves, boots, and safety glasses. On several occasions some of the mine workers have mentioned to them that they need to wear their equipment, but the Chinese have reacted by issuing written warnings for insubordination. Now the miners don't want to say anything, for fear of being reprimanded, and the Chinese are still not wearing their equipment.

Since the decision was made to have Chinese foremen and managers working at the Mine, continual efforts have been made to get them to mine safety and office training, but they just won't co-operate, saying that they have years of experience in mining, and that they don't need any more training. It is a waste of their time. The miners are starting to get angry about the Chinese bosses not consistently wearing their safety apparel. They are concerned that this lack of attention to safety is starting a new culture in the mine and they are not happy about it.

The last concern has to do with the increased pressure to produce more. Doing so means they have to mine deeper, and the heat underground is increasing. They are also using more mechanized equipment as they go deeper into the mine but it needs better ventilation. The miners are complaining that they are feeling ill, and many have been to see the nurse lately. No one has yet taken time off work, but they are complaining that they feel the ventilation system needs to be improved.

MEETING BETWEEN MATHESON AND LAMONTAGNE

As Matheson waited for Lamontagne to arrive in his office for their meeting, the telephone rang. The caller was Lamontagne. Apparently a crew of underground miners had been in some kind of underground accident along with one of the Chinese foremen. Lamontagne said, "at this point the details are sketchy and we

are not sure exactly what is going on. The mine rescue team is already on site, and the ambulances are on their way.” Grabbing his hard hat and cell phone, Matheson ran down the corridor to meet Lamontagne at the site, which was about five minutes away.

As Matheson reached the mine site, word on the fate of the miners had already reached surface. Apparently the crew had been working in an area that Lamontagne had repeatedly instructed the Chinese not to mine because ventilation fans had not yet been installed in the area. The crew had been overcome by the fumes and the heat, and five of the ten men had collapsed, including the foreman, Mr. Xiao. The miners would not be on surface for another 30 minutes but were being treated underground. It was confirmed that everyone was doing fine but would have to be taken to hospital. As the Ministry of Labour inspector pulled up to the mine site, Matheson couldn't help but wonder what had gone wrong with this new venture and what would become of the Mac Mine. This should never have happened to his people – they just didn't deserve this. And what if the MOL exercised its right to shut the mine down for weeks, with instructions to remedy specific defects to their satisfaction?

What should the MacDonnells do, both now and in the long term?

EXHIBIT 1

COMMON CORE TRAINING

Section 11(1) of Ontario's Regulation 854/90, Mining and Mining Plants, states that "Employers in the following types of mines and mining plants shall establish and maintain the following training programs developed jointly by labour and management in the mining industry and the Ministry of Training, Colleges and Universities and approved by the director." The following give a sense of the topics required to be covered for a sample of underground mining jobs.

Underground Hard Rock Miners (Common Core for Basic Underground Hard Rock Mining Skills Program # P770010)

- Follow Surface and Underground Induction
- Perform General Inspections
- Scale Loose Rock
- Set Up Wooden Staging
- Drill Rock
- Rock Bolt Ground
- Blast Rock
- Muck with Load Haul Dump Machine
- Extend Services
- Perform General Lock Out and Tag

First-Line Production Supervisors – Underground Hard Rock Mining (Common Core Program # P770120).

- Follow Safety Program
- Prepare for Emergencies
- Follow Health and Hygiene Procedures/Guidelines
- Practice Effective Communication
- Manage Work Area Activities
- Manage Employees
- Read and Follow Mine Layouts and Specifications
- Identify Geological Features and Supervise Ground Control Installations
- Assess, Control and Apply Ventilation Systems in Workplaces

These programs may be offered by the mining company itself or by a third-party training organization such as the Mines and Aggregates Health and Safety Association and are a combination of classroom and practical training. After completing the course, the employee takes his knowledge and his workbook back to his company, where he is instructed on how the theory applies in his particular workplace, an active mine. Once satisfied that he is capable of working safely, the company's signing authority will sign off on the back page of the workbook; this document becomes proof of training. A certificate will then be issued by the Ministry of Training, Colleges and Universities.

EXHIBIT 2

PARTIAL ORGANIZATIONAL CHART OF MAC MINE WITH LUCKY STAR IN CANADA

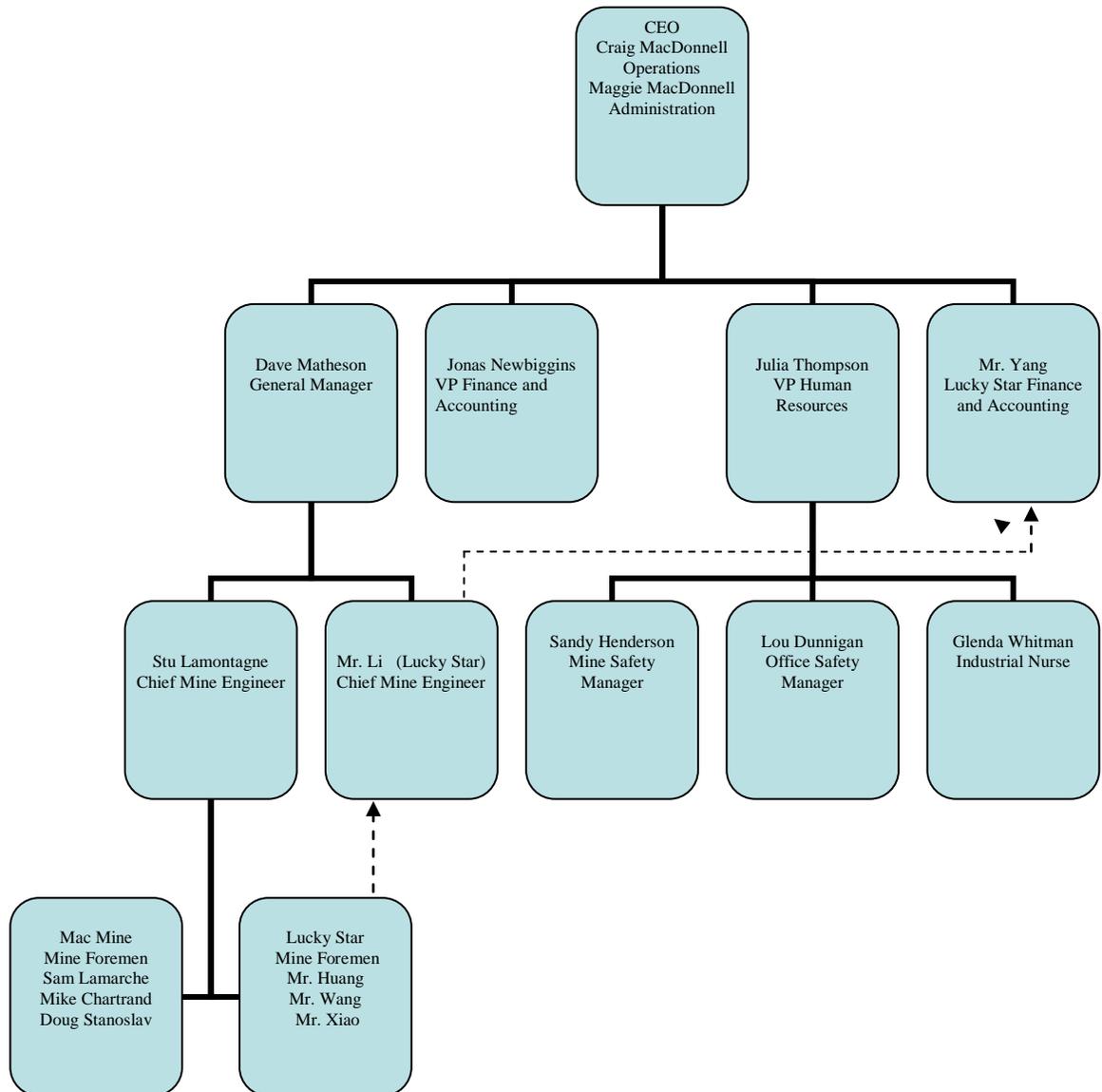


EXHIBIT 3

MEMO TO DAVE MATHESON FROM STU LAMONTAGNE

URGENT

Memo to: Dave Matheson
From: Stu Lamontagne
Date: December 3, 2009
Subject: Issues Pertaining to the New Venture

Dave, it is imperative that we meet on Monday to address a number of issues that have arisen over the past several months since our new partners have arrived. The Ministry of Labour are coming to meet with us this Wednesday morning at 9:00 a.m. about safety infractions that they have noticed, but were not dealt with appropriately. Mr. Li apparently attempted to obstruct the work of the MOL inspector and the MOL are pretty upset about this. They are giving us a chance to explain ourselves before deciding what to do about this.

I am going to list a number of issues in the order in which they have occurred since the permanent arrival of our Chinese partners. Craig MacDonnell has been away for most of the month as well, and he is not aware of many of these issues. I thought we should discuss these first before getting he and Maggie involved. Under normal circumstances this would not have been an issue with everyone being away at the same time, but with our new Chinese partners things are now different.

I know you have a meeting set up with Sandy Henderson first thing Monday morning to discuss health and safety issues. We will review those at our meeting as well. I am appending a report of the mine operations issues for you to review.

Stu

Stu

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