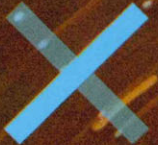


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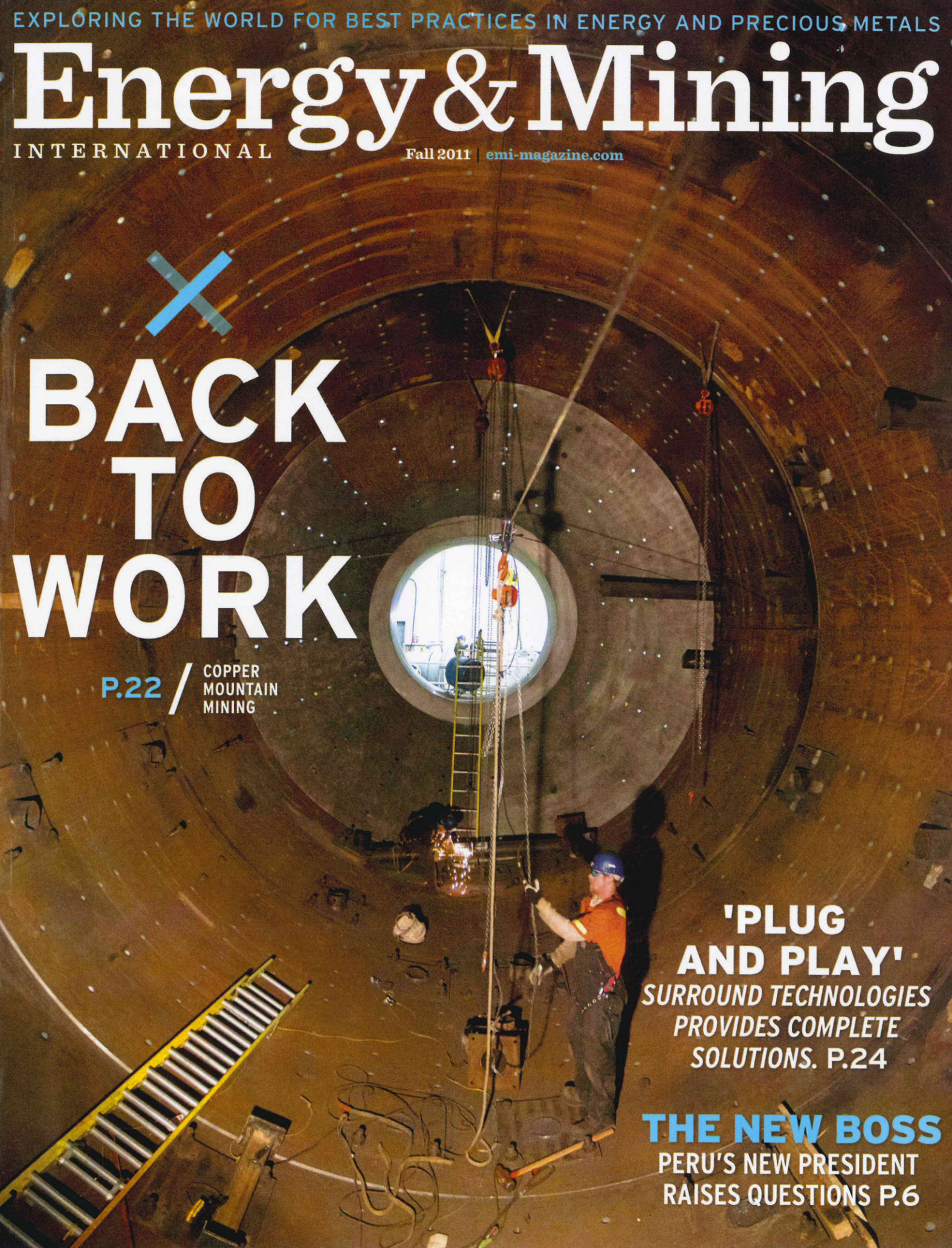


BACK TO WORK

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'PLUG AND PLAY'
SURROUND TECHNOLOGIES PROVIDES COMPLETE SOLUTIONS. P.24

THE NEW BOSS
PERU'S NEW PRESIDENT RAISES QUESTIONS P.6



The Perfect Mine

The conditions in which to develop its namesake mine have been nothing short of ideal for Vancouver's Copper Mountain Mining Corp.

"Really what we're doing is building a new mine on an old deposit."

// JIM O'ROURKE, president and CEO



Copper Mountain Mining Corp. has been working for five years to bring the Copper Mountain Mine into production.

[BY KATHRYN JONES]

In early July, Copper Mountain Mining Corp. announced the first filtered copper concentrate was produced and deposited from its Copper Mountain Mine near Princeton, British Columbia.

PROFILE

Copper Mountain Mining Corp.

www.cumtn.com | Headquarters: Vancouver
Specialty: Copper | Employees: 260

This is a significant milestone not only for the Vancouver-based company, which has worked diligently over the past five years to bring the landmark open-pit mine into production, but also for the province itself as this is the first new major mine project British Columbia has seen in more than a decade.

Then again, "new" might not be the most appropriate word to describe a mine whose history is as rich and extensive as the resources it contains.

Copper Mountain is a large, structurally complex alkalic porphyry copper-gold system that already has produced more than 1.7 billion pounds of copper, 700,000 ounces of gold and 9 million ounces of silver from five separate pits and an underground operation between 1927 and 1996.

Initial exploration dates for Copper Mountain Mine trace back to the late 1800s, but the mine has spent more time sitting idle than producing copper.

VENDOR FOCUS

Maple Ridge, British Columbia-based Surround Technologies Inc. is a world-class designer, manufacturer and integrator of custom modular enclosures, electrical systems and mechanical systems for commercial and industrial applications. Unlike many of its competitors, the company is a turnkey solutions provider for commercial and industrial clients who seek a single point of contact to deliver quality modular enclosures efficiently and cost effectively, Sales Manager Denis L'Abbe says. Surround Technologies offers its customers a consult, plan and design/build process for their projects.

Surround Technologies is enjoying significant growth this year based on the fact that an increasing number of energy and mining companies realize the benefits of modular installation vs. traditional on-site construction. "Customers are able to cut the overall project schedule in half because they can do the foundation work at the same time we're constructing the buildings in house," L'Abbe notes. "Also, since the buildings are being constructed in a controlled environment, it's much easier for us to control quality and regulate safety requirements."

As one of North America's first suppliers of modular pumping stations, Surround Technologies designed, built and installed two modular pumping stations on the Copper Mountain Mine site. "All of the piping manifolds were included in the packages," L'Abbe says. "They were preassembled, and all the pump mounts were engineered into the base of the building. This allowed them to drop the piping manifold building right between their input and their output for a full turnkey system."

The company also produced two modular office structures for the mine site featuring control rooms with refined finishes and expansive windows that provided specifically designed sight lines for the mine. "We worked with Copper Mountain through Hatch Engineering," L'Abbe recalls. "They were extremely helpful throughout the project. We worked through any potential road blocks that we might have had as a team and came up with a final resolution to deliver buildings that met all their requirements."

In April, Surround Technologies joined the AdvanTec Global Innovations group of companies and is proud to be part of a leading group of industrial control systems manufacturers, integrated electrical systems manufacturers, and induction and architectural bending systems providers. "This positions us very well to provide full solutions to the mining and oil and gas industry through the group of companies; providing solutions through innovation," L'Abbe says. "We're looking at expanding our facility in the next 12 months and adding additional training programs to continue to increase the quality of our products and provide our employees with new opportunities to grow professionally."



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The Copper Mountain Mine has already produced more than 1.7 billion pounds of copper since the late 1800s.

The property has seen its fair share of owners eager to unleash its full potential, but oftentimes, poor market conditions or a lack of financial and technological resources disabled them from achieving their goals – until now.

New technologies, matched with the expertise of Copper Mountain Mining's veteran staff, have brought the historic mine back to life. But it wasn't easy, President and CEO Jim O'Rourke says. In fact, the Copper Mountain Mine could be described as O'Rourke's own personal Moby Dick. He played a hand in the mine's operation from 1988 to 1996, but eventually had to shut it down. When given the chance to redevelop the mine 10 years later, O'Rourke – who had retired by this point – could not resist.

Once you become involved in the mining industry, it's hard to give it up, he admits. "I never really completely

got out of it," O'Rourke remarks.

"After I retired, I became involved in a number of investments and worked on various mining projects. When this opportunity came along again, we formed a junior mining company and proceeded [to bring the mine back into production.] At the end of the day, it's a good hobby to have."

COPPER MOUNTAIN'S HISTORY

Initial exploration at the 18,000-acre Copper Mountain Mine began in 1884 by a father-and-son prospecting team. In 1923, Granby Consolidated Mining Smelting and Power Co. acquired the property and built a milling facility in Allenby, British Columbia, adjacent to Princeton. The company successfully extracted 31.5 million tonnes of ore with a grade of 1.08 percent copper, primarily from underground excavations. Mining operations were sus-

longer found it economically feasible to continue production, especially with the amount of capital it took to maintain the conveyor system.

In 1988, Cassiar Mining Corp. – which later became Princeton Mining Corp. – purchased the mine from Newmont. O'Rourke, who was president and CEO of Princeton Mining at the time “was optimistic it could operate longer,” and he was right. Copper Mountain Mine's first 84 drill holes produced a resource totaling 228 million measured and indicated tonnes grading 0.3 percent copper with 197 million inferred tonnes averaging 0.31 percent copper. Within a year, the company had proved the mine still contained at least 3 billion pounds of copper.

Princeton continued production on Copper Mountain Mine from pits 1 and 3 until 1996. “By that time, the equipment was small, and since it had been operating since 1972, it was quite old,” he recalls. “Copper prices were up and down, and we were faced with a significant capital infusion to upgrade the facilities to be able to survive. At the same time, we had the opportunity to develop a new mine, Huckleberry, jointly with Mitsubishi [Materials Corp.], so we closed [Copper Mountain] down and put Huckleberry into production in 1997.”

Huckleberry is an open-pit copper/molybdenum mine near Houston, British Columbia, which processes approximately 15,000 TPD. Princeton Mining later merged with Imperial Metals, which now holds about 50 percent interest in Huckleberry Mines Ltd., the owner of Huckleberry Mine. Huckleberry's mill feed continues to come from the main zone extension pit, but a further expansion of this pit will provide feed for milling operations until January 2014.

pendent in 1957 due to low metal prices and escalating transportation charges on the ore by the owners of the rail line.

Newmont Mining Corp. purchased Granby's entire mining interest in the district, but faced a different problem: the Similkameen River canyon stood between the Copper Mountain mine and Newmont's processing facilities. Initially, Newmont focused on the Ingerbelle deposit on the northwest side of the canyon, where it constructed a mill and commenced mining in 1972. Meanwhile, the company continued its exploration efforts on the Copper

Mountain side of the canyon, and quickly, Newmont identified a much larger area of mineralization.

Newmont had no choice but to build a conveyor that could bring ore from its open pits on one side of the canyon to the other side where its processing facility was located.

After investing in a considerable amount of new infrastructure, production on the Copper Mountain side began on pit 2 in the late 1970s, with additional production from pit 3 in 1983. Mining on pit 2 ceased in 1985. By 1988, copper prices were so low, Newmont no



Low copper prices caused the shutdown of the Copper Mountain Mine on several different occasions.



Mitsubishi offered to develop the Huckleberry mine in a joint venture with Princeton in 1995, saving the mine.

A study to mine resources below the main pit is expected to be completed by late 2011, which is indicative that the Huckleberry mine should continue producing for several years to come, according to Imperial Metals.

PARTNERING WITH MITSUBISHI

After Princeton Mining acquired the Copper Mountain Mine from Newmont in 1988, O'Rourke traveled to Japan to visit Mitsubishi, which had been receiving concentrate from Copper Mountain Mine when Newmont was the owner. Mitsubishi confirmed it would continue to honor all of the same contracts with Princeton as it had with Newmont. "That was the start of a very good relationship," O'Rourke recalls.

"In 1995, when we were looking to shut down [Copper Mountain] mine, Mitsubishi suggested that we jointly develop Huckleberry, and our relationship blossomed," he adds.

During the time Princeton Mining and Mitsubishi were developing Huckleberry Mine, Princeton sold the Copper Mountain property to Compliance Energy. Compliance thought the brownfield site was ideal for a new coal-fired power plant, but in 2006, British Columbia Premier Gordon Campbell banned new coal-fired plants from the province.

O'Rourke retired shortly after production on the Huckleberry Mine began, but he continued to serve on the Compliance Energy Board of Directors and therefore knew when the property was up for sale again.

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Even though Copper Mountain had been forced to cease operations several times throughout the decades, it never shut down due to a lack of resources. With copper prices on the rise in 2006, O'Rourke convinced Compliance Energy to spin the property out into a new company and resume production on Copper Mountain.

"At that time, we did our due diligence and confirmed that [the property] still had the resources to become a new mine," O'Rourke says. "When we announced that we had bought the mine, Mitsubishi immediately contacted us and suggested they would like to do something with us again."

Mitsubishi had been impressed by the quality of ore produced from the Copper Mountain and Huckleberry mines, and was pleased with Princeton's ability to complete the Huckle-

berry project on time and within budget. "We have maintained a very good relationship with Mitsubishi over the years," O'Rourke says. "In 2008, we signed a memorandum of understanding with them on the basis that we would develop the [new Copper Mountain] project subject to a positive feasibility study."

The feasibility study supported the development of a 35,000-tonnes-per-day mine. Copper Mountain Mining continued its exploratory drilling after the first feasibility study was completed, and within 18 months, released a second estimate. The resource increased by a factor of 2.6 percent, rising to 325.2 million meas-

Five Years of Milestones

In 2006, Copper Mountain Mining acquired the project from Compliance.

In 2007, Copper Mountain Mining completed a large drilling program of 44,000 meters, thus confirming continuity of mineralization on its super pit.

In 2008, the company drilled an additional 60,000 meters, expanding the resource by 45 percent to 5 billion pounds of copper.

In 2009, Mitsubishi Materials Corp. purchased a 25 percent interest in the project, and construction on the open-pit mine's facilities began.

In 2010, Copper Mountain Mining secured \$322 million (USD) in financing and began pre-production mining activities.

In 2011, construction was completed, and by June, production on the \$438.5 million mine commenced.



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COPPER MOUNTAIN STACKER CONVEYOR FOR SIMILCO MINES, PRINCETON BC, 2011



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At its peak, the Copper Mountain mine is expected to move more than 153,000 tonnes of material per day.



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ured and indicated tonnes grading 0.37 percent copper, plus 169 million inferred tonnes averaging 0.29 percent copper. The updated resource confirmed 5 billion pounds of copper by combining the three pre-existing pits into a larger and deeper "super pit."

By 2009, the agreement with Mitsubishi was finalized and the company began pouring concrete for its mill foundations. Copper Mountain Mining owns 75 percent interest in the project, and Mitsubishi the remaining 25 percent stake. The Japanese materials giant paid \$29 million (USD) outright and assumed responsibility for arranging \$322 million (USD) in project loans. "There is no question that when we were looking at [redeveloping the mine], we were a junior company with very low market capitalization," O'Rourke says. "[Mitsubishi] added a lot of credibility by joining the project and providing the necessary financial strength to [bring it back into production.]"

As part of the agreement, Mitsubishi will buy all of the copper concentrate produced at Copper Mountain Mine. The concentrate will be trucked daily to the port of Vancouver at a rate of approximately 500 tonnes per day, where it will be stored. Then, the product will be shipped in approximately 12,000-tonne lots across the Pacific Ocean to one of Mitsubishi's smelters in Japan.

"This really shows how the Pacific Gateway is the best transportation route for Asian businesses," Shirley Bond, British Columbia minister of transportation and infrastructure, said in a statement.

"Mitsubishi Materials invests in the Copper Mountain Mine to get the copper concentrate they need, knowing that the best way to ship it is through the port of Vancouver."



AN IDEAL MINING SCENARIO

Copper Mountain Mine will produce 105 million pounds of copper, 26,900 ounces of gold and 330,000 ounces of silver annually. At first, ore will be sourced from pit 3, but as Copper Mountain Mining pushes back the walls of pit 3, operations will extend into pit 1. As pit 1 is expanded, it will eventually merge with pit 2 until all three pits are converged into one super pit. The company's plan is to provide mill feed with the highest possible head grade – roughly 0.45 percent copper – for the first three years. Over the mine's predicted 17-year life, the mill feed will average 0.36 percent copper.

At peak production, the mine will move a staggering 153,000 tonnes of material every day. To achieve this, Copper Mountain Mining Corp. invested in \$85 million worth of equipment from Komatsu, including two

hydraulic excavators. The 55-cubic-yard excavators – the largest presently offered by Komatsu – will be able to move 80 tonnes in each load or up to 68,000 tonnes per day.

In addition, Copper Mountain will be the first mine in North America to use the electric version of Komatsu's largest shovel.

“When the mine was first shut down [by Princeton Mining], we were using 85-ton trucks and 14-cubic-yard

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A Look at the Numbers

- 5 billion is the number of pounds of copper resources Copper Mountain Mine is believed to contain;
- 105 million pounds of copper will be produced from the mine annually;
- 26,900 ounces of gold will be produced from the mine every year;
- 330,000 ounces of silver will be produced annually;
- 18,000 is the number of acreage on the British Columbia property;
- 153,000 tonnes will be the amount of materials produced per day at peak;
- \$438.5 million is the project cost;
- 1884 is when Copper Mountain Mine was first discovered;
- 260 employees will operate the mine; and
- 17 years is the expected life of the mine.

Arrow is honoured to have been selected as Copper Mountain's truck transportation partner for their exciting new British Columbia mining project. From all of us at Arrow we wish you the very best. Congratulations on your 100 years.

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shovels,” O’Rourke notes. “Currently, we’re using 24-ton trucks and shovels with a bucket capacity of 55 cubic yards. We will be mining at a much higher rate of tonnes per day, while utilizing the same amount of people as we did before, so having larger equipment makes a tremendous difference. Similarly, we put in a brand-new con-

centrator that has a 35,000-tonnes-per-day capacity, which is nearly double what was there before. Now, we have much better equipment that can mine and process much more ore more quickly. That makes the project much more feasible.”

Copper Mountain Mining’s redevelopment plan is based on utilizing as

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Copper Mountain's Key Advantages

- Feasibility studies indicate that Copper Mountain Mine contains at least 5 billion pounds of copper resources.
- Copper Mountain Mining Corp. has a strong, long-term partnership with Japanese materials giant Mitsubishi Materials Corp.
- No commodity hedging was required for debt financing, and the Copper Mountain project enjoys low market capitalization relative to its assets.
- The project bears strong institutional and analyst support.
- Copper Mountain Mining has \$53 million cash in its treasury and a strong management team with a proven track record.

much existing infrastructure as possible. The property has a water license ample enough to support production in the 25,000 to 50,000-tonne-per-day range. In addition, there is a 138-kilovolt power line in place to service the existing facilities on site. “Not only does the mine have a good resource and well-developed infrastructure, it also has a 20-kilometer paved road to the town of Princeton, right to the gate of the mine,” O’Rourke says. “Since the mine is so close to the town of Princeton, there is no camp onsite, and all the employees live at home. I don’t think you’d find a better location for a mine.”

The town of Princeton has been extremely supportive of the mine’s redevelopment, he adds. “Because of our history with the mine – and a lot of people in the mining industry were from Princeton and had worked there in previous years – we managed to pull together a fantastic group of people, both in management and operators



Industry Accolades

A number of investors affiliated with Copper Mountain Mine have had nothing but praise for Copper Mountain Mining:

“Despite the fact that exploration was first conducted in the Copper Mountain area in the 1880s and production commenced in the 1920s, we believe exploration potential remains on the property,” said Mark Turner of Scotia Capital in November 2010.

“We expect [Copper Mountain’s] advancement of the project to provide value accretion,” said Adam Low of Raymond James in February 2010. “In our opinion, concluding the project loan and the permitting are the key milestones to removing the remaining uncertainty.”

“[It] has a strong partner in Mitsubishi Materials Corp., arranging financing and providing an off-take agreement at commercial terms,” said John Hayes of BMO Capital Markets in April 2010.

“We contend that Copper Mountain affords investor exposure to one of the few precious large, near-term copper development stories,” said Steve Parsons of Wellington West in May 2010. “[This] clears the way for exploration on what appears to us to be a compelling below-pit target.”

“Unlike many of Copper Mountain’s peers, the company is well positioned to achieve timely producer status with permits and financing in hand, and construction underway at the project, in our opinion, significantly decreases execution risk,” said Stefan Ioannou of Haywood Capital Markets in August 2010.

who are well experienced,” O’Rourke states. “This has been, in some respects, a relatively easy development as compared to a greenfield project. Really what we’re doing is building a new

mine on an old deposit.”

Building a new mine on an old deposit is the most advantageous scenario a mining company could hope for, he points out. As a past producer, Copper Mountain Mine already had the necessary permits to bypass the lengthy environmental assessment process. It simply needed to update

key permits, such as its British Columbia Mines Act permit, which au-

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Copper Mountain Mining Corp. says it has a strong group of people working on the Copper Mountain mine.

thorizes the mine and reclamation plans; its Waste Management Act permit for effluent discharges; and a water license that authorizes the removal of water from the Similkameen River.

Copper Mountain Mining also has an impact benefits agreement in place with the Upper Similkameen Indian Band that acknowledges and accepts the project, thus removing any final legal impediments to production.

COMPLEX COMPOSITION

The area between pits 2 and 3, known as the Saddle Zone, constitutes Copper Mountain Mining's current exploration efforts. There are some areas in and around the super pit outline that will

require infill drilling, and there is a new zone developing south of pit 3, known as Oriole, that the company believes has potential to be a high-grade starter pit. Here, the company drilled 16 short holes, and all but one returned mineralization results above the cut-off grade, with stronger holes revealing 42.3 meters of 0.44 percent copper, 13.6 meters of 1.99 percent copper, 27.6 meters of 0.58 percent copper and 7.5 meters of 1.69 percent copper.

The next phase of Copper Mountain Mining's exploration process will direct a deep drilling program to test for mineralization below the super pit shell based on the results of a Titan 24 survey, which indicated that sulfide miner-

alization continues at greater depths. "The Titan survey results have been interpreted with the aid of 3-D inversion programs and outlined several large areas of high chargeability, both near to surface and at [greater depths]," the company says.

"The currently known mineralization and the interpreted geological model correlate well with the changing anomalies, providing confidence in the survey interpretation. These targets will be drill tested as part of future exploration drilling programs."

Copper Mountain's alkalic porphyry copper-gold camp is part of the northerly trending Mesozoic tectonostratigraphic terrane called Quesnellia,



Copper Mountain Mining Corp. is spending more than \$438 million to rebuild the Copper Mountain mine.

which is composed of volcanic arc with overlying sedimentary sequences, all of which were built on top of a deformed oceanic sedimentary-volcanic complex, the company describes. The principle rock formation of Quesnellia is the Late Triassic Nicola Group, a predominantly subaqueous island-arc composition of volcanic and lesser sedimentary rocks that have been intruded by early Jurassic alkalic, calc-alkalic and zoned mafic plutons and batholiths.

Generally, mineralization at Copper Mountain comes in veins, fracture fillings and disseminations within volcanic rocks of the Nicola Group. The structures that contain the mineraliza-

tion are mostly vertical, with secondary structures running from north to northeast. There is no large zone of consistent, low-grade mineralization based on the structural makeup of the sedimentary sequences. As a result, the property's previous owners, particularly Newmont, overestimated the resource. Copper Mountain Mining is instructing drillers to drill at a 45-degree angle since drilling down would just follow along the structure and results would be disappointing.

Because mineralization is inconsistent, grade control is vital to ensuring strong recoveries. Not paying attention to grade control is another reason why

previous owners like Newmont struggled to make the mine economic. In some areas of the deposit, it carries 15 percent copper in veins, so the ore would have to be blended with rock from a low-grade stockpile before processing. On the plus side, Copper Mountain's ore is relatively simple from a metallurgical perspective in that it responds well to conventional crushing, grinding and flotation methods, the company notes.

COPPER MOUNTAIN'S FUTURE

Copper Mountain Mining is spending \$438.5 million to rebuild its namesake mine. The mining fleet and new processing facility account for more than half of the capital expenses, while another \$25 million is contingency. When Princeton closed down the mine in 1996, copper was barely \$1 per pound, making it difficult to profit. Today, copper is more than \$4 a pound. "If you had told me then that copper would ever be higher than \$4 a pound, in my wildest dreams, I wouldn't have believed you," O'Rourke says. "Unfortunately, we didn't have these prices when we started in 2006, but it has been good fortune and good luck that they have gone up the way they have."

When the company completed its feasibility study in 2008, copper was approximately \$1.80 per pound. "In terms of financing, the banks insisted we use \$1.60 per pound for financial models," he recalls. "In today's price, which is about \$4.30 per pound, this is a tremendous improvement. From what I've read and from what I've heard, we expect this level to hold for a couple more years anyway. That is sufficient time to repay our debts and set the mine up as a strong mid-tier producer."

Using a copper price of \$1.80 (USD) per pound, an exchange ratio of 80 U.S.



The Copper Mountain mine is expected to generate 105 million pounds of copper per year at its peak.

cents per Canadian dollar and a 5 percent discount rate, the project carries an after-tax net value of \$421.4 million. It is expected to generate a 20.8 percent after-tax internal rate of return, enabling capital payback in four years, according to O'Rourke. Furthermore, with an approximately \$3-per-pound price hike for a mine planning to produce more than 100 million pounds per year, Copper Mountain Mining could see a \$300 million increase in cash flow every year if copper prices remain at the present level, which has investors buzzing with excitement.

Still, O'Rourke – who graduated from the University of British Columbia with a degree in mining engineering in 1964

– has seen his fair share of price cycles throughout his 47-year career. Despite being able to pull the \$438 million project together at the deepest point of the 2009 economic crisis and taking a huge leap of faith by ordering equipment before completion of a feasibility study, he ultimately remains cautiously optimistic about the future of Copper Mountain Mine.

“We continue to do exploratory drilling and want to make sure we do more in the future to optimize the resource,” according to O'Rourke. “In terms of long-term planning, it's important to continue to drill to understand what the full potential is. The Titan 24 survey indicated that mineralization

continues at depth. We've drilled some deep holes and they have substantiated that. So, there is plenty of room for expansion within the pits. If copper prices remain high, this will support the cost of those expansions.”

O'Rourke was recognized with the Mining Association of British Columbia's top honor when he was named “Mining Person of the Year” this year. “The real key is to have a plan, an objective, a focus and extremely good people to work with, and then it becomes fun,” he says. “I enjoy working with people, and I enjoy the challenges that come with being in this industry. As long as you work with a team of very good people, then you are going to succeed.” **EMI**