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WELCOME



A 125th anniversary

doesn't happen by accident.

That's especially true in the mining industry, which has seen vast technological and social change

over the past century and a quarter.

Hecla Mining Company has survived and grown over that period because it possesses a special mixture of qualities: Determination, the discipline to manage both the peaks and troughs of commodity price cycles, a desire for continuous improvement, and a long-term vision for creating value.

As it has evolved into the largest primary silver miner in the U.S. and a leader in mining safety, innovation and environmental protection, Hecla has demonstrated these qualities time and again.

With a stable of long-life, low-cost precious metals operations and a promising pipeline of assets in North America, Hecla is stronger than ever at 125.

For this special anniversary year, Hecla has identified "Persistence, Perspective, and Position" as themes that have coloured the company's history and will shape its future as well.

Read on to discover how the company truly embodies these themes, and please join *The Northern Miner* in congratulating Hecla on this incredible milestone.

*Note: All figures are in US dollars.

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CEO Phillips Baker DISCUSSES HECLA'S recipe FOR success

Much of what makes Hecla stand out from its peers can be traced to its long-term philosophy, which impacts all aspects of the company – from the projects it pursues and the way it develops them, all the way up to its leadership.

Phillips S. Baker Jr. has been president and CEO of Hecla Mining for 13 years and with the company for 15 years – half of his 30-year career in the mining industry. Baker recently spoke with *The Northern Miner* to explain how Hecla has managed to prosper for more than a century to reach the impressive milestone it's celebrating this year – 125 years in business.

Q | And you would say the same about Greens Creek, Hecla's biggest mine?



Yes, we became the operator in 2008 (we had a minority interest before that). It took three years to get the mine to the consistency

that we expected and we spent a lot of capital to do that. We think Greens Creek will have a mine life of another 10 years and probably longer. But if we had listened to the prevailing winds, instead of investing in Greens Creek, we would have bought an asset that was highly

Q | Hecla is celebrating its 125th anniversary this year with the highest proven and probable silver reserves in its history and a stable of long-lived assets in safe jurisdictions. What is the company's recipe for its success and incredible longevity?



I think our success is a reflection of our unfailing focus on assets that have longevity and a cost structure that can survive through the cycles.

You can't run a mining company with a short-term focus and expect to be successful over the long term. You need to be prepared to invest in projects that have extended mine lives to take advantage of the higher metals prices that you see during the inevitable price cycles: this is how value is created over the long term. And that can come at a cost today.

For example, we've spent almost a decade on our Lucky Friday #4 Shaft project and spent capital in times when investors were against capital investment. We know that you have to spend capital if you want to have a long-lived asset and a long-lived company. And we've been very disciplined about our capital allocations – spending the capital when we need to spend it, and on the flipside, when prices were at their highs, from 2010 to 2012, we didn't go out and buy marginal assets at inflated prices.

So that's, I think, the recipe for success: to have large land packages, long-lived assets with the potential to add mine life, low cash costs or the potential to lower costs, and the opportunity to improve operations to maximize returns for our shareholders. In 2015, we had the highest silver production in our history, as well as record silver reserves. We could not achieve this without the high-quality, long-lived assets we own, and we wouldn't own them if we didn't have a long-term focus to investing.

geared to the metal price and therefore expensive, and we probably would have had to take a writedown on it. How many companies other than Hecla do you know of that made an acquisition in the gold space over the past four years, such as our Casa Berardi mine in 2013, that has not had to write it down? I think this shows that we paid a fair price for the asset. In fact, in the last six years, we haven't had to take any impairments. In comparison, we looked at 10 major gold and silver companies – they took a cumulative \$35 billion in write-offs in the last three years. Hecla took zero. So you need assets that will perform in both the upside and when the cycle turns and you're in a lower-price environment.

Q | As you mentioned, Hecla is nearing the end of a 10-year project, sinking the #4 Shaft at the Lucky Friday mine. What are you expecting from that asset in the future, and how did you decide to go ahead with such a large investment?



Lucky Friday is an interesting orebody because as you go deeper, its grade and width increases. At the 6300 level of the mine, which is where we're currently operating, we hit about 50 ft. of this high-grade mineralization, this pure galena. What happens in this orebody is the length of that high-grade zone grows over the course of the next 10 plus years of mining to about 500-600 ft. long. So it's a huge amount of value that sits in the rock, and that's what justified putting that shaft in.

In addition, we know the mineralization continues below our current resource. To the west of us, there's a big fault that we know occurred after the mineralization, so you have the potential for this



Underground at the Lucky Friday mine, in Idaho.

orebody to be displaced on the other side of the fault. And about a mile away you have the Star mine, which operated for 70 years and bottomed in ore. It's a hugely mineralized district, with over a billion ounces of silver having been produced there over the past 100 years. We justified the shaft based on the economics of what's in the orebody, but we decided to make it about 1,000 ft. deeper than we needed to give us the flexibility to go after resources at depth, or to potentially go after other orebodies.

There's three shafts now at the Lucky Friday. The #2 Shaft was built in 1960 – it's still operating and generating a return. The Silver Shaft went into production in 1982, and with its recent rehabilitation, will operate for many years to come. So here we are, we're now putting in another shaft – we have a mine plan that's

going to be 25 years. We think we'll be using that shaft probably decades beyond that.

Q | In an industry that's very focused on the short term, Hecla stands out for its long-term planning. What are companies missing out on when they focus too much on the short term?



It's not so much the companies, it's the industry and investors. Frankly, this is a place that you invest with the understanding that if you're looking at it quarter to quarter, that's a risky proposition.

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We're not focused on investors who are thinking one quarter ahead. When people ask me about catalysts for the stock, I explain that we build the business by having mines that will allow us to capture the resource, the production, the price upside – not for a quarterly bump in the share price. We have 73,000 shareholders and we are a core holding for the majority of them, so we focus on that longer-term view.

A lot of the analysis in the industry is done on the discounted net asset value (NAV) metric. The problem with that is that you provide no value to an asset past a certain length of time – call it 10 years. Maybe more importantly, if you've got a mine life that's less than 10 years, it's very hard to learn enough in that short period to be able to improve the operation and find more reserves. Even if you do figure it out, if you don't have a long enough mine life, you can't afford to make the investment because you don't have enough time to get the return you need. So we think the metrics the industry uses are flawed. From my perspective, long-term optionality on finding resources, growing production and price, improving margins, is what it's all about.

Q | When times are tough in the industry, people talk about innovation more. How does Hecla fit into that picture – is the company a new convert to the power of innovation or has it always been a part of your approach?



There's an element of innovation that's been part of Hecla for a long time. Hecla was the first company in the Western Hemisphere to mine under paste-fill. In addition, we've used dry-stack tailings at Greens Creek. What I will say is that during times of financial difficulty, companies find it hard to dedicate resources to innovation – they're just trying to survive. We have seen this over the past few years, and survival is not a good recipe for being able to innovate. For us, this downturn did not stop us from focusing on ways to innovate and improve productivity – and that's what it really comes down to: you've got to increase productivity.

If you look at a mine a hundred years ago, labor was 50% of the cost of running the mine. Today, for many mines, labor is still half the cost. I think fundamentally the reason is, back a hundred or so years ago, you had a guy holding a piece of steel and you had another guy with a big hammer – the double jack – and they would drill a hole and blast out the hole. Today, you've got a guy who's on a machine – maybe he's on a jackleg, maybe he's in a jumbo, but he's physically attached to that steel, so until you can disconnect the two, the ability to make huge productivity improvements is limited. And I think we're at the cusp of being able to do that.

We're testing some automation of our jumbo and our blast-hole drills at Casa Berardi and the results have been very positive. What we're doing at this point is operating those machines during the shift

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change so that you get an extra hour or two of drilling per day. We've installed WiFi at Greens Creek, we're in the process of doing it at Casa Berardi, and we're evaluating how to do it at Lucky Friday.

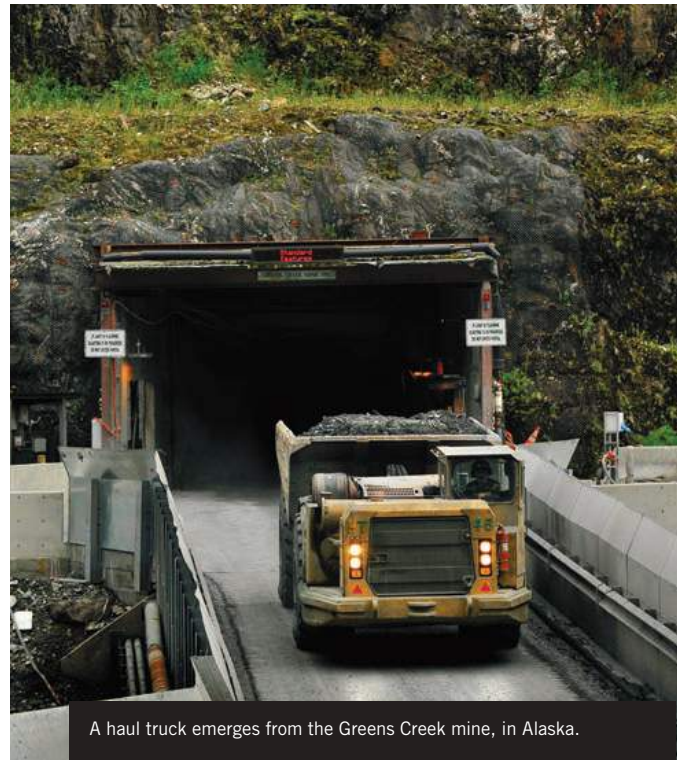
Q | What innovations are you seeing out there now that you're most excited about applying to Hecla's operations?

a Being able to communicate with WiFi, is a huge and underappreciated benefit – to have information in real time. Once you have this ability, you can automate the machinery and operate it more efficiently, but that first step is really low cost compared to the benefit.

Another exciting development is battery-powered equipment. Lucky Friday is very deep, and gets very hot: at the bottom it's about 140° F. Using battery-powered equipment reduces the heat and emissions relative to diesel, and that's going to help you go deeper.

Finally, we are looking at how we can get away completely from drill and blast. We are investigating using a mechanical mining machine that will break the rock and extract it without having to blast it. There are existing technologies that we think could work at Lucky Friday. So we're planning to partner with a major equipment manufacturer to build a machine that will work in our stopes and that's probably about a three-year process before we get to test it.

We've found that the equipment manufacturers are more interested in working with us today than they used to be because one of their large customers, the coal industry, is on such hard times. So there's really an opportunity to make a step change in how the mines operate, change that productivity per man. That's the key – to change that overall cost of operating, reduce the labor as a percentage of the costs, and increase safety by moving the miners away from the active face.



A haul truck emerges from the Greens Creek mine, in Alaska.

Q | Over Hecla's history, there have been huge advancements in the mining industry in terms of worker safety. How has the company worked to increase employee safety?

a I've been here for 15 years and in the first 10 years, we never had any sort of major incident. So Hecla had a strong safety culture to begin with. But then, we had two unrelated fatalities and we said, "OK, we've got to figure out how to operate better." At the same time, the National Mining Association in the U.S. created a program called CORESafety, using advanced safety programs from inside and outside the industry. They give it away – it's millions of dollars worth of value and it deals with all aspects of operating your business, the culture, training, leadership – it is completely comprehensive.

So we adopted that program, which takes five years to implement. Participation in this program has meant everyone has internalized the goals, and, after three years, we've seen a reduction in our injury frequency rate by about 30%.

Q | Hecla has always had long-serving leaders. That's unusual in the mining industry for a major producer – what's the company's philosophy there?

a In our 125-year history, we have only had 11 CEOs. Philosophically, I think it's again this view of looking at things in the long term. If you have leaders that turn over rapidly, their ability to focus on things that are five or ten years out is limited. If I was only going to be the CEO for five years, we would not have done the #4 Shaft –

“ There’s really an opportunity to make a step change in how mines operate. ”

– PRESIDENT AND CEO PHILLIPS BAKER

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certainly not as deep as we did – because we won't see the benefit of it for decades to come. So when the board selects a CEO, that's one of the things they consider: does this person have the inclination and the ability to do the job for that length of time? And they need to have flexibility to adapt because the one guarantee in this business is that times will change. That's more important than having someone that's an expert in a particular field.



Refining gold before a gold pour at the Casa Berardi mine, in Quebec.

Q Hecla is the United States' biggest primary silver producer, but your most recent acquisitions gave you a lot of copper and silver (the Rock Creek project in 2015) and a producing underground gold mine (Casa Berardi in 2013). What do these projects have in common with your other assets?

a We've been a silver company for 125 years; we've been a gold company for 35-40 years. Around '99-2008, we were the largest gold producer in Venezuela. We sold that asset in 2008, not because we didn't want the gold exposure, we just didn't want the Venezuelan exposure anymore. Our preference is silver, but our overriding preference is quality assets. And because there hasn't been very much exploration for silver, there isn't a big inventory of quality

silver assets in the world that we would want to acquire. My view is to grow on the gold side of the business by acquiring high-quality assets, get ourselves bigger and stronger and better able to acquire silver assets that will become available sometime in the future.

In terms of what these assets have in common with our other operations, Casa Berardi has a big land position, with lots of reserves and exploration potential both horizontally and at depth. It's relatively low cost, and we think we can get costs lower. Rock Creek is a 20-30 year asset without finding any more ounces – it's just big. So they all have that potential to provide that to the shareholder where you can increase reserves, you can increase production, you can capture the higher prices that come with metals price cycles.



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Deep roots, deep value

125 years of growth



by Alisha Hiyate

From modest beginnings 125 years ago, Hecla Mining Company has grown into the top primary silver miner in the United States.

While it's taken time to achieve that status, the traits that have come to define Hecla became apparent very early on in its history.

Delivering value to shareholders, an openness to innovation, a concern for the communities in which it's based, and a long-term perspective: these characteristics all define Hecla.

Moreover, they are the thread throughout its history that help explain the company's impressive longevity.

Left to right: Hecla's management team, circa 1901; Underground at the Hecla mine; Building the Silver Shaft at Lucky Friday in the early 1980s; The processing plant at Greens Creek



An example of working conditions and tools used at underground mines in Alaska at the turn of the 20th Century. Shown here: the Ready Bullion mine.

Courtesy: Juliane Nick Dexter Collection

1891
—TO—
1923

Early history:
Establishing a foundation

In the 1880s, mineral discoveries drew fortune-seekers to the Coeur d’Alene area, in northern Idaho. Among them were the founders of Hecla Mining: Amasa Campbell, Patsy Clark and John Finch. The three men staked the company’s first claim – the “Hecla,” a lead prospect in Burke, Idaho, in 1885, and the company was incorporated in Idaho six years later, on Oct. 14, 1891.

It wasn’t apparent yet that the Silver Valley would become a major mining

district and go on to produce 1.2 billion oz. silver, or that Hecla would enjoy such a long and fruitful history in the same district where it got its start.

But it didn’t take long before the quality of Hecla’s Silver Valley asset became apparent.

In 1898, the company was incorporated in Washington state and capitalized for 1 million shares with a par value of 25¢. Within just three months, the shares rose to 45¢ and the company began to consolidate land around Hecla. At the time, Campbell, the company’s president declared: “The Hecla is developing into a wonderful mine.”

Only two years later, in 1900, Hecla paid its first dividend of 2¢ per share, just as Amasa had predicted years earlier. By the end of that year, the company paid out \$100,000 in dividends on \$229,550 worth of ore sold.

Hecla’s first mine – which produced 9 million tons of ore before



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Workers at the Hecla mine, in Burke, Idaho.

it closed in 1944 – provided a strong foundation for the company in its early days.

As the company started to get established, Hecla began trading on a predecessor to the American Stock Exchange – the New York Curb Exchange, in September 1915. The move prompted the growing company to start printing an annual report – replacing the previous typewritten statement drawn up from a handwritten draft by the company’s president, James McCarthy.

In the background to Hecla’s early success were major advancements in mining technology that helped make mining safer and more productive starting in the late 19th century and into the early decades of the 20th.

In the late 1800s, safety was vastly improved as the use of black powder or nitroglycerin in blasting was replaced with dynamite, which is more stable. Stoper drills replaced the labor-intensive two-man double jack and hand steel that were used to drill blasting holes for explosives. The drills, which created emphysema-causing fine dust, were later modified to allow water instead of air to flush the drill cuttings.

Shortly after production began at the Hecla mine at the turn of the 20th century, the Hecla mine gained access to electrical

power – another revolutionary advancement. Installed by Washington Water Power, a 100-mile-long, high-voltage power line brought electricity to the Silver Valley mines in 1903, allowing Hecla to upgrade from running on steam power.

Electrification paved the way for the company to finally retire the last dozen of a large team of mules that had once been used underground to haul ore cars and supplies. It also allowed the mine to operate year round.

Other advances in the industry at large made mining more productive and less labor intensive. In 1923, compressed air began to be used in Jackleg drilling – greatly increasing mine production. Work that took 17 miners to complete could now be accomplished by three.

Contrasting with the sweeping changes in technology taking place in Hecla’s early years was an early – and enduring – tendency toward long-serving leadership within the company. Hecla President James McCarthy took over the company’s daily operations in 1903, guiding the company for the next 38 years.

1923 —TO— 1939

Collapse and Rebuilding


The 1920s and '30s were decades that tested Hecla’s resolve.

In July 1923, Hecla suffered a major setback when a fire swept through the town of Burke. The raging fire destroyed the Hecla mine buildings and damaged the hoist, but miraculously, no one was injured. Men working as far underground as the 1600 level were hoisted out of the mine before the flames cut off the electricity. The rest climbed hand-over-hand 2,000 ft. to the surface.

Hecla was forced to close the mine for five months and 18 days. On the upside, Hecla used the rebuilding opportunity to upgrade its plant – making the new facility fireproof and twice as large as the old one so it could process ore from both the Hecla

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Idaho Governor H. Clarence Baldrige with Hecla mine workers in 1927.

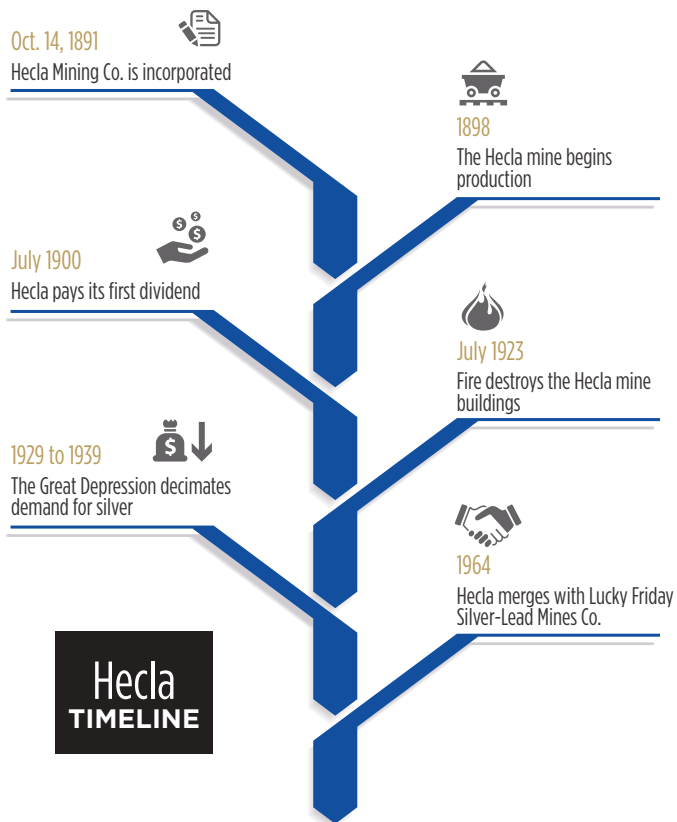
and Star mines. After 32 months of round-the-clock digging at a pace of 300 ft. per month, the company completed an 8,203-ft. crosscut from the bottom of the Hecla shaft to the 4000 level of the Star mine. The longest tunnel in the world at the time, the crosscut cost \$531,887.

Ore was again hoisted at Hecla in January 1924, but a different sort of crisis was soon to follow. Starting in 1929, the Great Depression nearly eliminated silver demand, with prices for silver and lead collapsing to multi-decade lows.

By 1932, operating profits in the Coeur d'Alene District Mines had plunged to nearly one-tenth the \$4.2 million reported only two years earlier. Hecla closed the Star mine temporarily, until reviving metals markets allowed the mine to reopen in October 1935. But turbulent metals prices continued into the late '30s, causing investors to unload their shares and lead and zinc production to go unsold.

While the Depression caused pain for miners, Hecla used the weak market to seek new mines and develop its own properties. In 1930, it acquired the Polaris, which was one of the oldest claims in the district and had been staked in 1884. Hecla's first real silver venture had its skeptics. That is, until Polaris returned an intercept of 24% lead and 125 oz. silver per ton in 1944. The mine paid Hecla's dividends through the rest of the 1940s.

With the outbreak of World War II in 1939, metals demand recovered and prices jumped, setting the stage for an era of growth for the miner.



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1940
—TO—
1999

Expansion and Diversification

Over the next few decades, Hecla entered a new growth phase, making more acquisitions farther afield, as well as investing in its existing projects.

In the 1950s Hecla acquired a stake in a Silver Valley mine that would long outlast the Hecla claim for which it was named.

In December 1958, the company acquired a stake in Lucky Friday Silver-Lead Mines Co., becoming

the largest shareholder in the Lucky Friday silver-lead mine in Mullan, Idaho, shortly thereafter. The mine, which started production in 1942, is still in production today. “None of us ever dreamed that it would become the great mine it is,” Hecla President in the 1950s, Les Randall, later reflected.

Hecla acquired Lucky Friday Silver-Lead Mines Co. outright in 1964, and soon after, the company was listed on the prestigious New York Stock Exchange after 49 years on the American Stock Exchange.



Concentrate hauling at Greens Creek, on Admiralty Island, Alaska.

The company further expanded its holdings with the \$750,000 acquisition of ASARCO’s Morning mine, adjacent to Hecla’s Star mine in Burke, in 1966. The purchase allowed it to access deeper regions of Star, and Hecla immediately began to sink a shaft to access it. When it was finally closed in 1982, Star was the deepest mine in North America, reaching 8,100 ft.

Not all of Hecla’s investments were able to weather the ups and downs of commodity price cycles. In 1967, Hecla made what became the most costly move in its history: an agreement to develop the Lakeshore copper mine in Arizona. By 1977, falling copper prices forced Hecla to let 1,500 employees go and close the mine. Lakeshore cost Hecla \$96 million.

Luckily for the company, silver was driven up to record prices of over \$50 per oz. from \$6 in 1979, when the Hunt brothers cornered the silver market. The price surge allowed Hecla to pay off debt associated with the Lakeshore mine in only 18 months.

Through the late ’70s and into the ’80s Hecla continued to expand, and diversify outside of silver and base metals.

In its home base, at Lucky Friday, Hecla began work in 1979 on the first concrete-lined circular shaft in the Coeur d’Alene Mining District. Development of the 6,200-ft.-deep Lucky Friday Silver shaft, which boasted a hoisting speed of 2,250 ft. per minute, took four years.

Hecla had previously made its first major investment outside of silver and base metals in the 1950s with a deal to acquire a stake in the rich Radon and Hot Rock uranium deposits in Utah. The acquisition turned out to be an excellent investment, with the two mines yielding a net income of \$9.3 million over a nine-year life.

Several decades later, a 1981 merger with Day Mines gave Hecla its first gold operation, the 100%-owned Republic mine in northeast Washington.

The company also ventured into the industrial minerals space in 1984 through another merger, this one with Ranchers Exploration and Development Corp., which owned ball clay and volcanic scoria operations. Five years later, Hecla added to the business by buying the kaolin division of Cyprus Minerals, followed by a feldspar processing plant and two mines in 1990.

But the company’s most important purchase of the 1980s was a 29.73% interest in Rio Tinto’s Greens Creek silver-gold-zinc-lead mine in Alaska. Hecla bought the stake in the massive mine as it began development in 1987. By 1989, the underground operation was in production. Like Lucky Friday, Greens Creek is a rich, long-life mine that is expected to provide low-cost production for many more years.



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In its centennial year, 1991, Hecla bought CoCa Mines Inc., which owned the Grouse Creek gold development project in central Idaho. A year later, the company made its first foray into Mexico, buying the La Choya gold project in Sonora state. At the same time, its Yellow Pine unit in Idaho was shut down, after producing 100,000 oz. gold over four years.

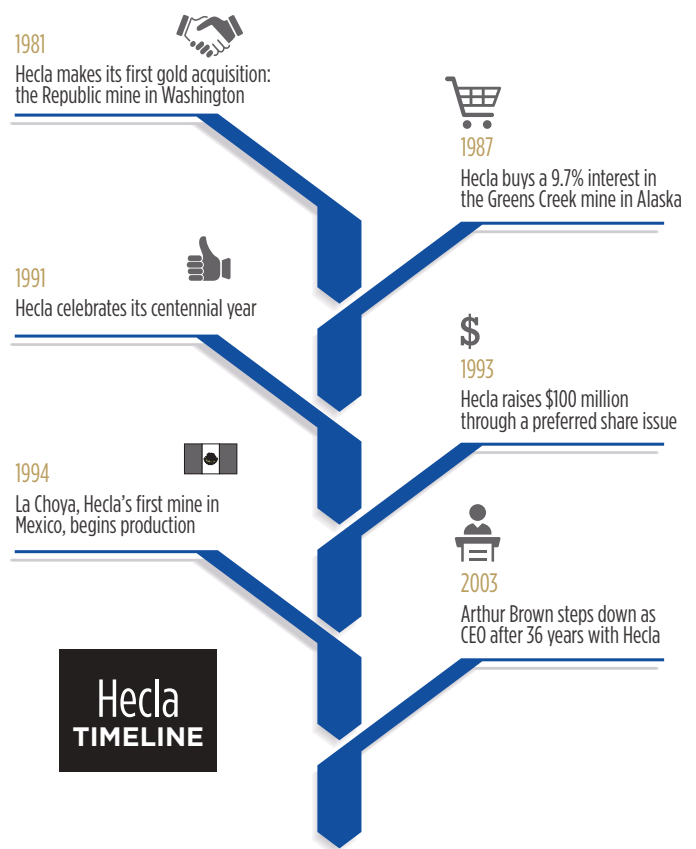
To bring its two recently acquired gold projects into production, Hecla raised \$100 million in 1993 with the issue of 2.3 million shares of convertible preferred stock.

La Choya, an open-pit, heap-leach mine and the biggest gold mine in Mexico at the time (by daily tonnage) and Grouse Creek both began production in 1994.

Along with a 50% interest in the Rosebud gold project in Nevada, which Hecla purchased in 1994, La Choya and Grouse Creek were short-lived operations.

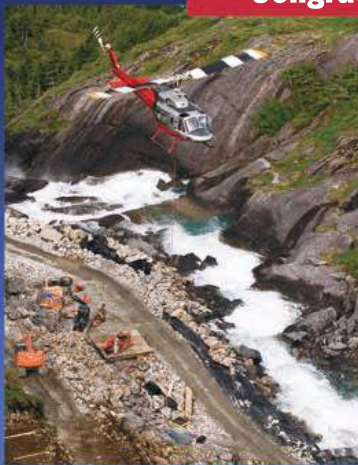
Rosebud, a joint venture with Santa Fe Pacific Gold, produced 375,000 oz. gold over four years before being depleted in 1997. La Choya was mined out after five years of profitable production in late 1998. And disappointing grades forced the company to close Grouse Creek in 1997.

While the shorter-term assets generated some faster cash for Hecla, the company never neglected its long-life assets. As the 100 millionth ounce of silver was mined at Lucky Friday in 1994, Hecla approved underground development of the Gold Hunter expansion area, a mile northwest of the existing workings. By



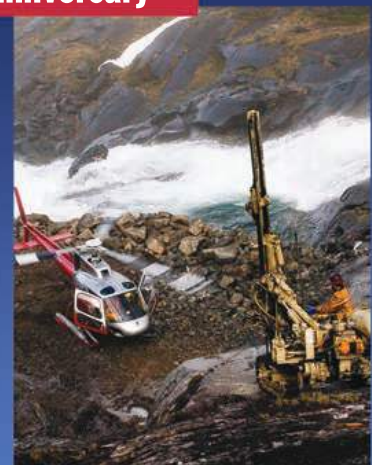
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1998, the expansion was paying off: the development doubled annual production to 4.1 million oz. silver.

With its last acquisition before the new millennium, Hecla strengthened its international presence by buying Monarch Resources in 1999. The purchase gave Hecla a high-grade, low-tonnage producing gold mine in Venezuela (La Camorra), as well as the Saladillo silver-gold exploration project in Mexico.

2000
—TO—
2016

Today's Hecla Mining

By the early 2000s, Hecla was reaping the rewards of its carefully executed expansion plans. The company set a new production record totaling 240,000 oz. gold and 8.7 million oz. silver in 2002. And for the second time in its history, it was the best percentage performer on the New York Stock Exchange.

It was also going through some big changes. In 2001, Hecla sold its industrial minerals division K-T Group, to help pay off debt it had

taken on in the '90s. Although the group had been a strong cash generator for the company, the sale brought in much-needed cash and allowed Hecla to narrow its focus on precious metals.

The Financial Crisis of 2007-08 brought more opportunity for transformation. In 2008, the company bought Rio Tinto's majority 70.27% stake in the Greens Creek silver mine in Alaska, giving it 100% of one of the world's largest and lowest-cost primary silver mines in the world. Greens Creek, which has had a 10-year mine life for the past 28 years and counting, produced 8.5 million oz. silver in 2015 at a cash cost of \$3.91 per oz. Now the cash-generating engine of the company, the mine has strengthened Hecla's foundation in the volatile years since it was purchased.

At the same time it acquired Greens Creek, Hecla decided to exit Venezuela, which had become less friendly to the mining sector. As the largest gold producer in the country, however, the company still found a buyer for the assets, which reduced the amount of financing required to buy Greens Creek.

In recent years, Hecla has become stronger than ever, thanks to its base of high-quality, long-life assets. The company increased reserves in 2006 – and has continued to do so every year since. In its most recent annual results for 2015, it did so even though it used one of the lowest prices in the industry to calculate them – \$14.50 an oz. silver, down from \$17.25 per oz. the previous year and \$1,100 per oz. gold, down from \$1,225 per oz. Current reserves stand at a record 175 million oz. silver.



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Ready for work at the Lucky Friday mine, in Idaho.

Financially, Hecla has outperformed its peers, even as commodities prices have fallen. In 2014, the miner reported record annual revenue of \$501 million – the highest in its history. Moreover, the company's long-term perspective and asset quality has allowed it to remain focused on growth, productivity and cost containment.

Its strong financial position allowed Hecla to acquire the Casa Berardi gold mine in Quebec, Canada, in 2013 at a cost of \$796 million. The 100%-owned mine produced 127,891 oz. of gold in 2015 at cash costs of \$772 per oz.

It has also enabled Hecla to invest \$225 million in a new mine shaft at Lucky Friday. Once the #4 Shaft is completed later this year, it will open up decades of new production at the historic mine. The shaft will be the deepest in the United States when it is developed to the 8244 level (10,000 ft.), and will open up access to higher-grade zones by 2018.

Part of Hecla's success has been in its ability to adapt to the investing environment. The company began mining once again in late 2015 at its 100%-owned San Sebastian property in Mexico, a project that produced 11.2 million oz. silver and 155,937 oz. of gold in four years of underground production ending in 2005.

Based on PEA expectations, by targeting high-grade, near-surface production and keeping the capital investment to a rock-bottom \$5.8 million, Hecla has ensured that San Sebastian will work in an uncertain environment. The open-pit mine is expected to produce more than 8 million silver-equivalent oz. at cash costs of \$5.49 per oz., after by-product credits, over the next two years.

With strong producing assets, excellent organic growth potential, and a healthy pipeline in the form of its San Juan silver project in Colorado and its recently acquired Rock Creek silver-copper project in Montana, Hecla is in an enviable position in the mining sector.

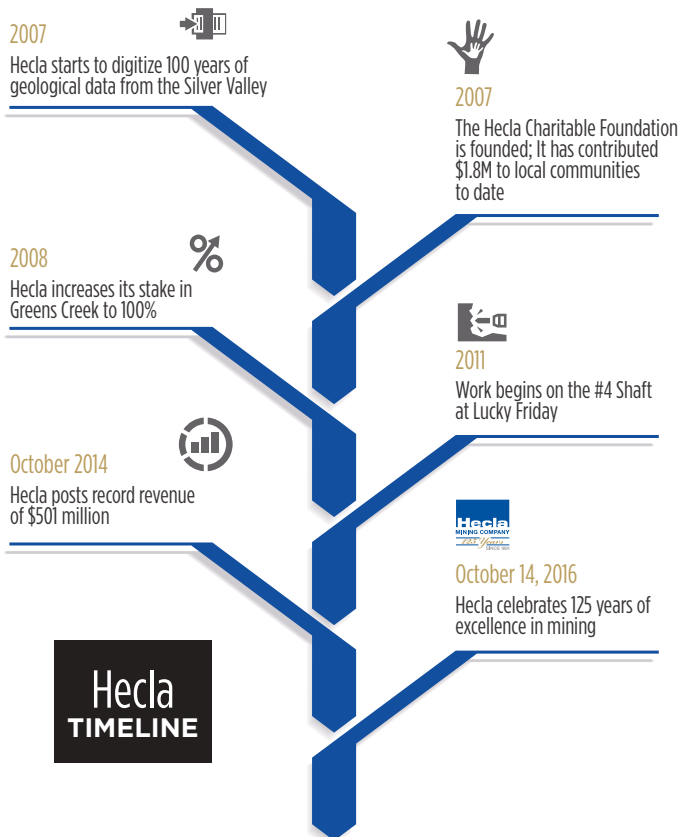
At a time when most companies are struggling with high costs and ever-declining reserves, Hecla CEO Phillips S. Baker Jr. notes that Hecla is unique in the mining business.

“This is the first company I’ve worked for that does not have a short-term production cliff in front of it. We have decades before you’ll see our existing assets reach the end of their mine lives,” says Baker, who has 30 years of experience in the mining industry.

Recognizing the magnitude of the company’s 125th anniversary milestone, he adds:

“It really is quite an achievement. This year, we’re trying to let people know about that accomplishment, but more importantly, we’re trying to start a conversation with people about where the company is going.”

– With files from Hecla Mining Company



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Amalgamated Mining Group is proud to have provided mining equipment to Hecla at their Casa Berardi location in Quebec and Lucky Friday’s in Idaho.

We heartedly congratulate your 125 year achievement. We wish you continued success and look forward to working together on future projects.



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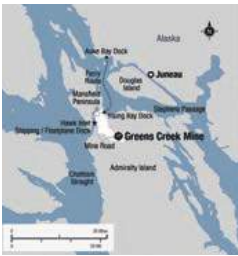
HECLA'S OPERATIONS

Hecla Mining Company has a strong portfolio of long-lived, low-cost operations in North America. Together, the company's four mines hold 175 million oz. silver – the highest reserves in the company's history.



GREENS CREEK

- + Admiralty Island, Alaska
- + **2015 Production:** 8.5 M oz. silver and 60,566 oz. gold
- + **2016E Production:** 7.5 M oz. silver and 52,000 oz. gold
- + **In production since:** 1989
- + **Mine Life:** 10+ years
- + **Proven and Probable Reserves:** 88.7 M oz. silver at 12.3 oz. silver per ton
- + **2016E Capital:** \$48 M, including \$14 M for tailings expansion
- + **Total Revenue to date:** \$4.6 B



Greens Creek is one of the world's largest and lowest-cost primary silver mines and continues to drive Hecla's strong, consistent production performance.

The mine has been in production since 1989, except for a temporary care and maintenance period from April 1993 through July 1996. It has produced

roughly 200 million oz. of silver and 1.5 million oz. of gold so far.

Located on Admiralty Island, the operation is accessed by boat, float plane, or helicopter. On the island, 13 miles of all-weather gravel roads provide access to the mine site and surface facilities.

The Greens Creek orebody contains silver, zinc, gold and lead, and lies within the Admiralty Island National Monument, an environmentally sensitive area. The project consists of the mine, an ore concentrating mill, a tailings impoundment area, a ship-loading facility, camp facilities, a ferry dock, and other infrastructure. The underground mine is accessed by a ramp from surface, with up to 2,300 tons of ore per day producing lead, zinc and bulk concentrates. The primary mining methods are cut and fill and longhole stoping.



LUCKY FRIDAY

- + Mullan, Idaho
- + **2015 Production:** 3 M oz. silver
- + **2016E Production:** 3 M oz. silver
- + **In production since:** 1942
- + **Mine Life:** 20+ years
- + **Reserves:** 78.7 M oz. silver at 15.5 oz. per ton
- + **2016E Capital:** \$37 M, including \$20 M for #4 Shaft
- + **Total Revenue to date:** \$1.2 B



Located 1 mile east of Mullan, Idaho, in the Coeur d'Alene Mining District, Lucky Friday began operating in 1942 and has produced more than 155 million oz. silver to date. Hecla has owned and operated the deep underground silver, lead and zinc mine since 1958. The company now controls 100% of the Gold Hunter deposit, also known as the Lucky Friday Expansion Area.

The principal mining method at the Lucky Friday unit is ramp access, cut and fill. This method utilizes rubber-tired equipment to access the veins through ramps developed outside of the ore body. Once a cut is taken along the strike of the vein, it is backfilled with cemented tailings and the next cut is accessed, either above or below, from the ramp system. The plant has a full surface facility complete with a 1,000-ton-per-day mill, which produces lead and zinc concentrates.

Hecla is taking Lucky Friday to 10,000 ft. below the surface with the \$225-million #4 Shaft. The shaft, which is expected to be finished in 2016, will open up more than 20 years' worth of additional resources. Once associated development is concluded, it will allow access to higher-grade zones in the coming years.

Left to right:
 Rock bolting at Greens
 Creek; Constructing the
 #4 Shaft at Lucky Friday;
 A gold pour at Casa
 Berardi; Surface drilling
 at San Sebastian.



CASA BERARDI

- + Val d'Or, Quebec
- + **2015 Production:** 127,891 oz. gold
- + **2016E Production:** 135,000 oz. gold
- + **In production since:** 2006 (past producer from 1988-1997)
- + **Mine Life:** 10 years
- + **Proven and Probable Reserves:** 1.3 M oz. gold at 0.13 oz. gold per ton
- + **2016E Capital:** \$61 M, including \$19 M for EMCP pit
- + **Total Revenue to date:** \$1.7 B



Hecla acquired Casa Berardi in 2013 with the purchase of Aurizon Mines. Located in the Abitibi Region of northwestern Quebec, Canada, the mine can be reached via a 38-km all-season gravel road that connects with provincial and national roads. The project consists of two shafts; the West Mine shaft reaching a vertical depth of 1096 meters, and the unused East Mine shaft, reaching to 379 meters depth. A system of declines and galleries connecting both shafts provide access and underground services to ore zones.

Casa Berardi produces around 2,260 tons of ore per day via two principal mining methods: longhole transversal stoping in 10 meters or more mineralization width, and longitudinal retreat stoping in narrower ore bodies. Gold doré bars are produced onsite. Hecla is moving ahead with the East Mine Crown Pillar (EMCP) pit. Development of the shallow pit is expected to cost \$39 million over 5.5 years, with a projected IRR of 90%. Hecla expects the project to contribute 5,000 oz. gold in 2016 and about 30,000 oz. of gold annually from 2017 to the end of the project.

SAN SEBASTIAN

- + Durango, Mexico
- + **2015 Production:** 81,677 oz. silver and 870 oz. gold
- + **2016E Production:** 3 M oz. silver and 20,000 oz. gold
- + **In production since:** December 2015
- + **Mine Life:** 2 years
- + **Reserves:** 8 M oz. silver at 27.7 oz. per ton
- + **2016E Capital:** \$2 M



Hecla began mining ore at the San Sebastian open-pit mine in December 2015. Previously an underground mine operated by Hecla from 2001 to 2005, historic production at the project totaled 11.2 million oz. silver and 155,937 oz. gold from the Francine and Don Sergio veins. Exploration success in 2014 on

the Middle, North, and East Francine veins and completion of a Preliminary Economic Assessment (PEA) led to the decision in the third quarter of 2015 to develop shallow open-pit mines on those veins. Both the drilling and PEA returned strong results, including a projected IRR of 400%. The project's low capital costs are due to the use of a third-party mill and contract miners.

Hecla's concessions at San Sebastian cover roughly 42,000 hectares in the prolific Mexican Silver Belt. The mine is located 60 miles northeast of the city of Durango and is accessible by highway and paved rural road. Mineralization at the project occurs as low and intermediate sulfidation epithermal veins within the Saladillo valley area. Production is achieved through excavating and drilling and blasting the shallow-dipping, high-grade silver veins which carry significant gold credits.



HOW HECLA'S **relentless drive** FOR **improvement** IS PAYING OFF

Hecla Mining's Senior Vice President of Operations, Lawrence Radford, has been involved in the precious metal mining business for over 30 years, and spent time at mines across the globe, including the prolific Coeur d'Alene Silver District and the Cowal mine in Australia. That experience has proven valuable for across all four of Hecla's operations.

Radford recently sat down with *The Northern Miner* to discuss the engineering and innovation practices that have allowed the company to remain competitive in terms of production costs and revenue diversification.

Q | Hecla tends to apply some of the lowest metal price assumptions among silver miners. What has allowed the company to be so conservative?



This speaks to the quality of our assets, that we can use a conservative silver price and still add reserves and resources. The strategy also allows us to avoid writedowns in a falling price environment and allows us to add resources/ reserves in a rising price environment.

Q | Despite being in production for over 70 years, the Lucky Friday mine is producing some of the most economic ore in its history. How has the deposit evolved and what does the

#4 Shaft, bring to the operation after multiple years of development?



Lucky Friday, in a historic sense, is really two deposits – the Lucky Friday Vein and the vein that we are currently mining, known as the 30 vein, which began full operation in the '90s. The 30 Vein is one of the few deposits that I've been associated with that actually gets better with depth – wider and higher grade. We are only entering the best part of the vein now. We have seen a few stope rounds in this area with silver over 3,000 grams per tonne and 48% lead. The #4 Shaft and associated development are key to exploiting the best part of this vein and for for the next 25 years of mining.

Q | Lucky Friday is known to be seismically active. How does that affect your mining approach?



It drives our approach. We mine almost exclusively underhand to avoid seismicity. We avoid the

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Taking a sample at the Greens Creek mill.

creation of pillars. We have a seismic array throughout the mine, and at times we have to slow down or suspend operations.

Q | What is the science behind the recent processing improvements at Lucky Friday that have led to increased recoveries in the flotation and grind components of the mill?

a There are two keys to the outstanding recoveries we are seeing at Lucky Friday. One, improved grade has an associated improved recovery. Second, the mill has been upgraded over the course of years. Between 2005 and 2009, for example, silver recovery increased 6%. During the 2012 shutdown, we made many improvements to the mill, including automated reagent addition. Improvement initiatives such as better reagent control have allowed us to continue improving recovery.

Q | The company uses hybrid cut-and-fill and longhole methods at Greens Creek. How has mechanized mining assisted this process at the mine, and what elements go into maximizing ore extraction?

a The mining method is 85% drift-and-fill. We have been able to keep some longhole mining in the plan, helping productivity. But productivity at Greens Creek is really measured by face advance, regardless of whether we are talking about development or ore production. Bolting is one of the more evident bottlenecks to improving face advance. To improve our mechanized bolting efficiency, we have done two things. First, we have had continuous improvement workshops with the supervisors and miners to capture the depth of experience that we have at Greens Creek and to improve the Overall Equipment Efficiency (OEE) of the fleet. Second, we are focusing on doing the job only once. That is to say, the argillite at Greens Creek can be corrosive, even in the absence of water. We have

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adopted not only plastic-coated, inflatable bolts, but also plastic-coated welded wire to combat corrosion.

Q | Hecla has also been quite active in incorporating new ideas at the Greens Creek mill. How have you improved concentrate recoveries and grades there?

a Innovation at the Greens Creek mill has really been exciting. The first initiative that improved recovery was “catch-and-release” flotation. This involved scalping concentrate-grade lead concentrate before the lead roughers, allowing the lead circuit to work harder on the remaining ore. CO₂ to combat the pH swings caused by occasional mine backfill entering the ore stream and allowing for better lead/zinc separation. We are also working on gravity circuit improvements, studies of staged flotation reactors, and studies of flotation methodologies to reduce energy use.

Q | Hecla recently announced a decision to proceed with Casa Berardi’s East Mine Crown Pillar (EMCP) pit. What type of synergies and flexibility does that provide at the operation? What geologic or sequencing variables account for the EMCP’s strong rate of return (90% IRR)?

a The mine planning on EMCP historically had a very back-ended ore delivery. By reworking the phasing of the pit, we were able to create a mine plan in which ore delivery begins in the first year of operation – matching costs and revenue. The EMCP pit has always

been integral to the long-range plan, we just made the upfront capital palatable by getting ore earlier.

We have three main producing zones in the underground West Mine. The open pit will essentially be the fourth producing zone. Although the open pit will produce lower-grade ore, this lower-grade ore will “fill the mill.” In 2015, the mill averaged about 2,100 tonnes per day. With the addition of the open pit, we should exceed 2,800 tonnes per day. The open-pit/underground model is one that has worked well at a number of Canadian mines. The incremental open-pit justification involves only the variable costs in the mill, as the fixed costs are born by the existing ore feed.

Q | Are there other upside opportunities on the horizon at Casa Berardi?

a Our definition drilling program has been intense and successful. You might have noticed a big jump in the head grade in the last quarter of 2015. Definition drilling identified some very high-grade material in the 123 Zone, ore that we extracted in the last quarter. History suggests we will find more of these “jewel boxes.”

Q | Hecla hit full operations at San Sebastian late last year. What sort of ore mixing/sequencing is involved between the three open pits? How has the mill processed higher-grade ore?

a Of the three pits, the highest-grade pit – East Francine – is also the shallowest. So we began operation with some of the highest-grade ore that the mill will see. In January we processed 9,477 tonnes grading 8 grams gold per tonne and 1,009 grams silver. The corresponding recoveries were 91.8% and 93.8%. We have purposely kept throughput down to keep recoveries high. As the North Vein pit and Middle Vein pit begin delivering lower-grade ore, we will blend that with East Francine ore and raise throughput to the 500 tonne-per-day range.

Q | What opportunities are there to extend San Sebastian’s life via additional pits or underground operations?

a You could say that the current operation is due to innovation in exploration. We were looking to add to the underground resource that Hecla previously mined, but without the success we were looking for. So we adopted the use of Rotary-air-blast drilling (RAB) as an inexpensive and fast method to explore for open-pit feed. This was successful. We are still drilling and trenching on surface.

Going forward, the mine plan is fixed for almost two years. We are starting to focus on extending mine life, either from additional open-pit feed or underground feed: We have homework to do.

“History suggests we will find more ‘jewel boxes.’”

– LAWRENCE RADFORD, SR VP OF OPERATIONS, HECLA MINING COMPANY



– Matthew Keevil is the Western Editor of The Northern Miner.

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Safety AND productivity AT THE HEART OF HECLA'S innovation EFFORTS

Mark Board became Hecla Mining's Vice-President of Technology and Innovation in June 2014, after spending two years as corporate director of geotechnical engineering. Board has 25 years as experience as a mining consultant and over 35 years of geotechnical engineering experience which he draws on to identify new technologies that could improve safety or productivity at Hecla's operations.

The Northern Miner recently spoke with Board to find out how Hecla is using new ideas and technology to increase efficiency and safety at its mines.

Q | As the Vice-President of Technology and Innovation at Hecla, what is your mandate?

a My mandate is to identify existing and new technological developments that could improve safety, productivity or economics for our mines. Once identified, it is my job to demonstrate to our management how these technologies could be of benefit and to champion their implementation with mine production and engineering. I also act as corporate director of geotechnical engineering, where I work with the engineers at each operation in areas of ground control and mine planning.

Q | How do you stay at the forefront of new technologies in mining?

a I try to keep up on the application of new technologies in mines worldwide as well as new developments from equipment manufacturers and research organizations. I worked for many years as a mining consultant to underground and open-pit mines and mining companies worldwide. Through this work, I have made many acquaintances that are always willing to share ideas and information on what they are doing that might be applicable to Hecla. Also, the identification of new

technologies certainly does not come only from me – Hecla is blessed with great managers and engineers who are always on the lookout for better ways to do things.

Hecla is also a member of the Canadian Mining Innovation Council (CMIC) along with many of the major Canadian miners. This organization is an excellent means for companies to pool resources on innovations of common interest. For the small to medium-sized mining companies, like Hecla, it affords us the opportunity to see and learn from our friends in the industry.

Since 1891 Hecla Mining Company has exemplified the strength and passion of the mineral and mining industry. On behalf of our 8,000 members around the world, we at the PDAC salute and congratulate you on your 125th anniversary.

Q | Innovation is a popular topic in the industry right now given the tougher market. How has Hecla innovated in the past to improve its productivity?

a Hecla has operated some geologically challenging mines over the years that required continuous innovation to operate safely and economically. For example, the Lucky Friday mine in Idaho is one of the deepest and oldest mines in the Western Hemisphere. We are currently near completion of constructing a new winze to a depth of nearly 3,000 metres (close to 10,000 ft.) to provide access to the deep extensions of the near-vertical silver veins. Mining safely and economically at these depths, which are characterized by high in-situ stresses, high rock temperatures and relatively weak ground, is a challenge.

In the late 1970s and early 1980s, the

mine experienced significant seismicity related to pillar creation as a result of conventional multi-level overhand cut-and-fill mining with sandfill. Hecla made a radical change in its mining method to use a cemented paste backfill with mechanized underhand longwall mining. I believe this was the first development of paste backfill in the Western Hemisphere and, although underhand cut-and-fill had been used in several mines, our application was significantly different.

The changeover to this mining approach had almost an immediate impact on reducing seismicity as well as increasing productivity from each mining face. It was a great success story and is largely responsible for allowing the Lucky Friday mine to operate for the past 30 years.

Q | Out of your four low-cost mines, which one has benefited the most from the company thinking outside of the box or adopting a new technology?

a I would say all have benefited – the Lucky Friday as I discussed earlier. Greens Creek, for many things, but particularly in its use of in-mine data collection and monitoring, dry-stack tailings storage and continued efficiencies in the mill that drive increases in silver recovery. Casa Berardi, which has recently implemented automated hoisting and tele-remote rock breakers, is currently implementing automated face and production drilling, and is now examining the use of autonomous truck haulage on the new deep-haulage level.

Q | What exciting technologies and innovations are out there right now that Hecla could potentially apply to its operations to improve productivity?

a There are several areas that we are pursuing now. One of the major efforts is improvement in our data collection and real-time analysis and control activities at all of the operations using wireless technology. This is not new – many companies pioneered this work some years ago, but we see the potential benefits. The data collection we are currently performing includes vehicle and personnel tracking, monitoring the performance of our equipment, monitoring of mine gasses, and remote control of equipment such as fans, pumps, etc.

At the same time, we are improving our ability to communicate both underground and to surface personnel using wireless networking. This includes not only voice – but transmission of instructions, information, plans, etc. We plan to eventually use this data to improve our real-time control including monitoring, dispatching and updated scheduling, particularly in our task-based operations.

“At Lucky Friday, we are working to develop a narrow-vein, hard rock mechanical miner that will eventually operate in a continuous, tele-remote mode. This will, hopefully, allow us to distance miners from the active working face – improving safety and productivity.”

– MARK BOARD, VP TECHNOLOGY AND INNOVATION, HECLA MINING COMPANY

Casa Berardi and Greens Creek are highly dependent on the rate of advance of our development headings. To address this, we first have an active continuous improvement program at each operation to improve efficiencies. We are also testing the use of new equipment technologies such as jumbos for development drilling with automated control of the drill for more accurate patterns and straighter holes with less bit and equipment wear and tear. This will allow us to drill longer rounds with reduced overbreak as well as continued drilling without an operator over shift change. We are also looking at tele-remote mucking and autonomous haulage at Casa Berardi as we initiate our new haulage level.

Finally, we are currently designing another potential step-change in mining method at Lucky Friday to ensure that we can safely and efficiently mine the deep extensions of the vein system. We are working with an equipment supplier to develop a narrow-vein, hard rock mechanical miner (like a small continuous mining machine) that will eventually operate in a continuous, tele-remote mode driving an underhand longwall. This will, hopefully, allow us to distance miners from the active working face – improving safety and productivity with mining on a 24-hour per day basis.

Q | What are some of the challenges in terms of innovation and introducing new ways of doing things in the mining industry right now?

a The biggest current challenge in the industry in general is simply commodities prices and their impact on available capital for exploring new technologies. However, even in this environment, Hecla has been far-sighted in allocating funds for new developments such as mechanical mining technology, where the prize is a few years out.

Q | Prior to joining Hecla, you worked as a mining and rock mechanics consultant for 25 years. Based on your personal experience, how does Hecla's culture differ from other mining companies?

a I find Hecla's corporate culture to be a lot like family. The company is small enough where you pretty much know most of the people by face (if not name) from the president to the miner. There is an open door policy to express ideas or concerns at all levels of the company and a willingness to listen to new ideas. There is an absolute minimum of bureaucracy. The freedom this culture provides to do your job with a minimum of oversight is refreshing.

Q | What has been your most memorable experience working at Hecla?



The first mining company and engineering job I had in 1974 was with Hecla. I did not come from a family mining background and grew up in a large urban area in the Midwest. I arrived in Wallace, Idaho, with everything I owned in the trunk of my car and immediately went to work at the Star mine – a mine that was over 70 years old. The whole experience – working at a historic underground mine, a beautiful setting in the Bitterroot Mountains, and working for a mining company with great people – was very memorable. Coming back to work for Hecla 35 years later has been very special.



– Salma Tarikh is a staff writer with *The Northern Miner*.

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HECLA EMPLOYEES USHER IN A NEW ERA OF mine safety

Hecla Mining has always had some of the best safety practices in the industry. But its safety record has improved significantly since the company adopted a rigorous system designed to assess risk and prevent accidents.

The new safety and health system, based on the National Mining Association's (NMA) CORESafety program, has led to a 25% decrease in injuries and zero fatalities at Hecla's operations since 2012. The NMA's goal is to reduce mining injuries by 50% and eliminate fatalities nationwide over a five-year period.

In 2011, Hecla had one of the worst years in the company's long history. Two miners died in separate incidents at the Lucky Friday silver-lead-zinc mine in Idaho, the first deaths at the underground mine in 25 years. Later that year, a rock burst forced Lucky Friday to close temporarily.

Hecla responded by hiring safety professional Michael Wegleitner to oversee safety and health at the company's operations, including Lucky Friday, the Greens Creek silver mine in Alaska and, more recently, the Casa Berardi gold mine in Quebec and San Sebastian gold-silver mine in Mexico.

Wegleitner began his mining career in the coal mines of North Dakota and Montana, where he gravitated towards safety management. After a couple of decades working in mine safety, including a stint at Rio Tinto's Resolution copper mine in Arizona, he obtained a master's degree in occupational health and safety and secured a certified safety professional designation. Along the way, he developed a reputation for reducing and mitigating risk which lowered incident rates.

"We're moving away from safety programs, the norm in the U.S. mining industry, to systems," says Wegleitner, who is responsible for implementing Hecla's integrated safety and health management system. "The NMA is pushing systems into the U.S. mining sector,

which is way behind other jurisdictions including the U.K. and Australia."

During Wegleitner's tenure as director of safety and health, citations for safety violations have dropped by about 45% at Lucky Friday. The injury frequency rate for contractors at all of Hecla's U.S. operations has fallen below the Mine Safety and Health Administration's (MSHA) national average. And the Lucky Friday and Greens Creek mine rescue teams finished second and fourth place respectively in the team technician and first aid sections of the 2014 national mine rescue competition against 41 groups from 18 states – the best placement either team has ever achieved.

Hecla's system incorporates industry best practices, focusing on four main areas: leadership through communicating and enhancing a culture of safety; management of tasks such as risk assessment, training, and investigating incidents; assurance that the systems work using both internal and third-party assessments; and employee involvement in forming committees, setting team goals and writing policy.

"There has been a great deal of training in risk management," Wegleitner says. "Being able to recognize a hazard and have the skills to assess the risk and mitigate it is a key part of the system."

For example, employees at Greens Creek recognized they could reduce the risks associated with noise by designing an enclosed cab for the underground jumbo drill. The cab reduced operator noise exposure by 9% to well below MSHA allowable levels. On surface, they implemented a collision avoidance system that won a national award for innovation.

At Casa Berardi, an operating gold mine acquired by Hecla in 2013, miners designed and developed a cover for circuit interrupters and a tester for power cables that were recognized by the Quebec safety commission.



Opposite: Workers at Hecla's Lucky Friday mine.
Left to right: Mine rescue training at Lucky Friday; The new #4 Shaft hoist control room at Lucky Friday; Workers at Lucky Friday.

Wegleitner says implementing the safety and health system requires installing new equipment and materials such as automated bolters operated from enclosed cabs that replace handheld jacklegs, a monitoring system that predicts seismic events in time to move personnel to safety, and shotcrete on the walls to keep rock from crumbling and breaking off.

"We're also looking at moving to electric operated equipment to eliminate the heat and diesel particulate matter generated by our diesel equipment," Wegleitner adds. "And we are using more cabs with existing equipment so that the miners can be in a controlled atmosphere, protected from noise, heat and dust."

The new system will be put to the test when the company starts mining at nearly 10,000 ft. below surface from the #4 Shaft, a \$225-million project expected to be completed in late 2016. The heat and pressure at these depths is enormous, so solutions must be in place to mitigate the resulting risks.

To this end, Lucky Friday engineers have investigated best practices at other deep mines, including Resolution in Arizona, which extends to a depth of about 7,000 ft. They have installed a water chiller to cool air before it enters the mining area and will implement a heat stress management program to monitor temperatures and signal miners to move to a rest area to avoid heat exhaustion. Seismic monitoring will help predict a seismic event to prevent the potential risk consequences of increased seismic activity at depth.

Ultimately, automated equipment will improve safety exponentially no matter what the depth, because humans will no longer be exposed to heat, dust, noise and rock bursts, Wegleitner notes. Instead, they will be perched comfortably at a monitor above ground, breathing easy and savoring the quiet as they control four or five pieces of equipment remotely.

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MEETING TOMORROW'S standards today

The longevity of Hecla's mines means the company's environmental managers operate as if the future, when requirements for clean mining will be more rigorous than today, has already arrived.

Shaft sinking at the 74-year-old Lucky Friday will extend the mine's life by another 20 years or more, while Greens Creek is expected to last at least another decade. Hecla's most recent acquisition, the Rock Creek silver-copper project in Montana, has the potential to operate for 30-40 years.

Adopting higher standards before they are imposed, from using alternative energy to enhancing local habitats, has become part of Hecla's business.

"From our history, we know environmental expectations and requirements will continue to become more stringent and so our philosophy is built on a continuous improvement model," says Luke Russell, Vice-President of External Affairs.

"One of the challenges we face is designing technological controls – like

water treatment or air quality control systems – that meet the needs of today, yet are flexible enough to accommodate future but unknown requirements."

Greens Creek is perhaps the best example of this practice. A portion of the mine is situated within the Admiralty Island National Monument, which has the highest density of brown bears in the world and is a popular tourist destination. In 2012, *Canadian Consulting Engineer* magazine recognized the mine for its dry-stack tailings storage, which allows bears and other wildlife to roam safely and facilitates continuous reclamation of the land. At the same time, Greens Creek takes advantage of as much hydropower as the local power company can allocate in order to cut down on diesel use.

"Greens Creek is a very sensitive environment and Hecla has demonstrated that mining and the environment can co-exist," says Russell, who joined Hecla in 2014 from Coeur Mining, where he acted as senior vice-president of environment and community.

Hecla is also incorporating alternative energy into its Casa Berardi gold operations in Quebec. A \$3-million pilot project completed at the underground mine in 2015 determined that the company could replace some of its fossil fuel with residual biomass from forestry. Burning 6,000 tonnes of biomass provides about 4.2 MW of power from seven heat exchangers.

At Lucky Friday in north Idaho's Coeur d'Alene Mining District, where the watershed is still recovering from decades of legacy mining activity by hundreds of operating mines, Hecla is striving to reduce water intake and recycle water as much as possible. The company is aiming for zero, or at least minimal, water discharge to the environment, says Russell, who once served



as Idaho's Coeur d'Alene basin project manager.

As one of the last surviving companies in the district, Hecla settled all its environmental liability obligations there in 2011. The company agreed to pay \$263.4 million as its contribution to restoration and remediation in the area and made its final payment in 2014.

Land reclamation is one of the company's areas of expertise, says Russell, who completed a master's degree in the subject after training as a landscape architect. He is particularly proud of the company's restorative work at Grouse Creek, a former gold mine that closed in 1997 and was released from financial assurance by the

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Top: Environmental monitoring at the Lucky Friday mine, in Idaho.
Left to right: Environmental enhancement at Casa Berardi, in Quebec; Dry-stack tailings at Greens Creek, in Alaska.



U.S. Forest Service (USFS) and the State of Idaho in 2015. Now Hecla is reclaiming the Troy mine acquired along with the purchase of the Rock Creek project.

Although closure is years away for most of the company's other operations, Hecla has set aside financial assurances for each of its mines that are reviewed annually to ensure they remain adequate. At Greens Creek, the company reclaims land on an ongoing basis and when the mine eventually closes, will continue to treat the water and monitor the site for several decades to ensure reclamation success. At Rock Creek, Hecla is establishing a trust to maintain the grizzly bear habitat even before mining commences.

Hecla is moving forward with permitting at Rock Creek, which has a potential resource of 200 million oz. of silver and 2 billion lbs. of copper. In early 2016, the USFS issued a draft supplemental environmental impact statement for the project, and Russell is hopeful the agency will release a record of decision in the new year. Meanwhile, the company is acquiring land to help the recovery of the grizzly bears in the region and supporting education about the bears.

Russell knows advances in the ability to detect elements at lower and lower levels of concentration will make environmental obligations even more stringent in the future. But he is confident that better technology, including the ability to analyze trends before they become an issue, will help the industry respond to these challenges.

"Technology is really helping us out with improved and easier to use data-management systems, advances in automated samplers, wireless communication, real-time data logging, and other initiatives such as drones to assist in aerial surveillance. We are spending less time collecting data and more time analyzing and influencing our decision-making process."

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MANAGEMENT I

Phillips S. Baker, Jr., President, CEO and Director

Mr. Baker has been Chief Executive Officer since May 2003 and President since November 2001. Mr. Baker has also been a director since 2001. He has 30 years of experience in the mining industry and was previously VP and CFO of Battle Mountain Gold and CFO at Pegasus Gold.

James A. Sabala, Senior VP – CFO

Mr. Sabala has been Senior Vice President since March 2008 and Chief Financial Officer since May 2008. He has 30+ years of mining experience.

Lawrence P. Radford, Senior VP – Operations

Mr. Radford has been Senior Vice President since July 2013 and was Vice President from October 2011 to June 2013. Mr. Radford has 30+ years of mining experience.

Dr. Dean W. A. McDonald, Senior VP – Exploration

Dr. McDonald has been Senior Vice President since July 2013 and was Vice President from August 2006 to June 2013. Dr. McDonald is a geologist with 30+ years of experience.

David C. Sienko, VP – General Counsel

Mr. Sienko has 10+ years of experience representing Hecla and was appointed VP – General Counsel in 2010. Previously, he was a partner at K&L Gates LLP, where he specialized in securities compliance, M&A, and corporate governance.

Luke Russell, VP – External Affairs

Mr. Russell has been Vice President – External Affairs since January 2014 and has 30 years of experience in environmental and government affairs.

Robert Brown, VP – Corporate Development

Mr. Brown was appointed Vice President – Corporate Development in January 2016 and prior to that was a consultant for Hecla. Mr. Brown has 15+ years of experience in the mining industry.

Mike Westerlund, VP – Investor Relations

Mr. Westerlund has been Vice President – Investor Relations since February 2013. Mr. Westerlund was Vice President, Investor Relations and Corporate Communications for Peregrine Diamonds and has 10+ years of experience in the mining industry.

Clayr Alexander, VP – General Manager, Lucky Friday mine

Mr. Alexander was appointed Vice President – General Manager of the Lucky Friday mine in June 2014. Mr. Alexander has also consulted for various mining and engineering companies during his 38 years of mine management experience.

Scott Hartman, VP – General Manager, Greens Creek mine

Mr. Hartman has been General Manager of the Greens Creek mine since April 2008. Before that, he was Vice President General Manager – Technical Services of Hecla Limited. Mr. Hartman has over 30 years of experience in engineering and management in the mining industry.

Alain Grenier, VP – General Manager, Casa Berardi mine

Mr. Grenier has been Vice President – General Manager of the company's Casa Berardi mine since January 2015, and was General Superintendent Operation from June to December 2014. Mr. Grenier, an engineer, began his career in 1985 as a miner and has had many operations and engineering roles during his 30 years in the mining industry.

George A. Sturgis, VP – Project Development

Mr. Sturgis has been Vice President for Project Development since July 2008. Mr. Sturgis has 30+ years of experience in the mining industry.

John Jordan, VP – Technical Services

Mr. Jordan has been Vice President – Technical Services since April 2012. Mr. Jordan was previously Vice President – General Manager of the Lucky Friday mine. He has held various positions with the company since 2006, and has over 40 years of mine-building and operating experience.

Mark Board, VP – Technology & Innovation

Mr. Board has been Vice President – Technology & Innovation since June 2014. Mr. Board was Corporate Director, Geotechnical Engineering from June 2012 to May 2014. Mr. Board is a member of the National Academy of Engineering (NAE) and has over 35 years of geotechnical engineering experience.

BOARD OF DIRECTORS

Ted Crumley, Chairman

Mr. Crumley has served as a director since 1995 and became Chairman of the Board in May 2006.

George R. Johnson

Mr. Johnson has been a director since March 2016.

George R. Nethercutt, Jr.

Mr. Nethercutt has been a director since February 2005.

Stephen F. Ralbovsky

Mr. Ralbovsky was appointed to Hecla's Board of Directors in March 2016.

Terry V. Rogers

Mr. Rogers was elected to Hecla's Board of Directors in May 2007.

Charles B. Stanley

Mr. Stanley was elected to Hecla's board of directors in May 2007.

Dr. Anthony P. Taylor

Dr. Taylor has served as a director since May 2002.

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