

JANUARY 2021 ~ Issue #4

Golden Shovel

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Golden Shovel

ISSUE #4 ~ JANUARY 2021

The *Golden Shovel* is published quarterly by the Omineca Mining Association, Box 948, Mackenzie BC, V0J 2C0.

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The *Golden Shovel* is provided to our members, to our Federal and Provincial Governments, including various Ministries and their representatives, and is available to the public online and at selected locations.

SUBMISSIONS

Send your related articles, stories, photographs, and letters to OminecaMiningAssociation@gmail.com. Text should be unformatted and images should be in high-resolution .jpg format.

MISSION

- Provide awareness and increase knowledge of mining, including various types of mines and mining practices.
- Promote the OMA objective of facilitating a balance where industry and the environment can prosper, where a governing practice of scientific fact is the law of the land, and development is tempered with reclamation.
- Feature stories about those who sought their fortune in mining— some made their fortune in gold, others found adventure, and the lucky ones found both.

DISCLAIMER

Opinions presented in the *Golden Shovel* are not necessarily those of the *Golden Nugget* or the OMA. We take no responsibility for errors or omissions in content.



STATE OF THE ASSOCIATION

Have a golden new year!

Mitch Mortenson

The expression, “*hindsight is always 2020*,” came true January 1, and will take on a whole new meaning in the coming years.

Moving into 2021, we’re happy to report the good news that the OMA treasury is cash-positive.

We’re working on a new *Golden Shovel* format and production changes including professional printing and binding, so please bear with us while we sort out the few glitches we hope to resolve by next issue. Special thanks to Myrtle.

Non-members who enjoy the *Golden Shovel* can now order professionally printed and bound copies.

It looks like our pockets will get pinched even more processing a Notice of Work. Word is that the Pay Fees button on the Front Counter Notice of Work, will be activated soon.

The clock is ticking to get your permits in and, because the Ministry is short-handed due to Covid-19, don’t be surprised at delays.

Happy retirement congratulations to Victor Koyanagi and Heather Cullens.

Hello to Brian Oke and Bambi Spyker, who are holding the fort in Prince George.

If you haven’t yet joined the OMA, remember, we’re here for you.

The OMA lets us work together to better the industry for all of us. Collectively, we have the ability to make a difference, and we all know that many hands make light work.

The OMA strives to correct and push back against public ignorance about our industry.

Through the OMA, you can consult and get professional advice on meeting the challenges of your project.

We invite you to voice your concerns about the industry, and to share your stories, letters, and pictures of glitter and gold.

We’re happy to announce two new levels of membership: Platinum members are given a free ½-page display ad plus all the perks of Gold membership, and Nugget members are given an introductory listing in our Business Directory.

In closing, from all of us here at the OMA... stay warm, stay safe, and have a golden new year!

PRESIDENT’S MESSAGE



Mark Oldenburg

Research, research, research.

This often-repeated mantra to successful prospecting and ultimately mining is the hallmark of many a successful prospector.

With winter in full swing, and so many of us in lockdown, underemployed, and with extra time on our hands, what better time to concentrate on researching new targets for the upcoming season.

With the vast amounts of data online, never has there been easier access to both modern and historical information.

Even the amateur prospector can peruse vast amounts of data free right from home.

Amongst my favorites are the BC Ministry of Mines’ annual reports, which cover the entire province dating back

to 1874 and are available free to everyone here:

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/publications/annual-report-to-the-minister>

Another favorite is Minfile, a huge database of on-the-ground reports covering everything from small showings to detailed geological data, historical production and more.

A good starting place and a site everyone should know is Map Place BC, where you can turn on many layers of information directly related to mining:

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/mapplace>

These are just two of my favorites, but there are many more out there, and what better time to further our knowledge or generate new ideas for the upcoming season.

With that, I wish everyone a better, and a prosperous, 2021.

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- ⇨ EDUCATE the public, government, and miners in the importance of mining;
- ⇨ RAISE AWARENESS about problems and solutions in the mining industry and government in the Omineca; and
- ⇨ PROMOTE responsible, environmentally sustainable, mining practices, and innovative mining methods and solutions.
- ⇨ ASSIST, SUPPORT, AND ADVOCATE for our members.

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What does "reset" mean?



Mitch Mortensen

In the early days of Democracy, Athens had become a growing economy of trade by the sea. Democracy opened opportunity for everyone to pursue. In this time and for the first time a non-aristocratic man would rise to the rank

of General and be elected to the archon. His name was Themistocles.

Through equal education and training in the military, he learned the art of manipulation and political strategy. By using his intelligence and guile he positioned himself to be highly influential. He was also one of the Generals who was at Marathon. Following that battle He realized that you cannot have just troops on the ground, but you need naval support as well. He was certain that their decisive victory at Marathon would lead to another Persian invasion, one of revenge. An invasion that would be by army and navy. However, the only way that Persia could support a massive army would be by sea. The 100 war ships that Athens currently had would be no match. Themistocles could not convince his fellow Generals or the Athenian populace to increase their naval fleet to combat another Persian invasion. They were emersed in their own "over confidence" in their army from the victory at Marathon.

Then a large Silver mine was discovered in South East Athens. It is known today as the Laurion mines. Several tons of silver were being mined. Themistocles saw an opportunity to fund his navy. His political strategy was to invent a crisis. He misleads the Athenian people into believing that a small island to the west called Aegina was a threat to Athenian merchant ships. The ploy worked and he was able to raise the funds he needed to build his fleet

He was able to commission anadditional one hundred ships beforeXerces invaded Greece. Those Trireme's were outnumbered 6 to 1 and they fought in the bay of the Samos. The Greek navy prevented Xerces from sailing around the army while the 300 Spartans (and additional Greek troops) held the pass in Thermopylae.

For the first time in a developing Democracy, we see

- (1) Manipulation - In this case inventing a crisis such as a threat to Athenian trade from a rival city on the island of Aegina
- (2) Distraction - In this case getting people figuratively and literally looking in the opposite direction of Persia

and instead looking west at the island Aegina. An Island that is only 45km (27 miles) away.

- (3) Patriotism - "In the best interests of the country" - In all cases this is a variable measured by the individual. In this case, history records him as a patriot.

In this age of Democracy, the same basic principals described above continue to apply. We have been immersed and raised in a society of manipulation and political strategy. There is always a crisis somewhere and somehow our money or restricting our freedom will somehow solve the problem? We may ask ourselves "To what end" but is it what our government is not telling us that we should be seeking answers to?

For example, a Zoom call where our Prime Minister is telling a United Nations conference that the pandemic has provided an opportunity for a "Reset".

What does a "Reset" mean and what does it mean for him to be committing Canada to the 2030 Agenda for sustainable development and the SDG's?

The Sustainable Development Goals are described as 17 goals for people, for planet on the un.org website but there is nothing there as to HOW these goals are specifically achieved and supposed to play out?.

On their website, I would have expected to read something about ending industrial agriculture. During the SARS outbreak, it was shown that Industrial Agriculture played a large part in creating the conditions for an outbreak. However, there was nothing there about industrial agriculture.

Will these 17 goals infringe on our democracy and our right to earn a living?

For example, Will these goals negatively impact small-scale mining and stagnate the expression of our entrepreneurs and pioneers in all resource industries?

Is it possible this 2030 agenda willdrastically alter our economy with a flood of unsustainable socialism? Or is socialism the eventuality from the bankrupting of our country and creating the conditions for a coup d'état on democracy?

China may be further east than Persia and we may be separated by sea, but the dragons influence is at our doorstep. As reported by Business Insider.

two million Chinese Communist Party (CCP) members who got secretly embedded in some of the world's biggest

companies, banks, media groups, universities and government agencies, have been exposed

Covid as well as SARS came out of China and it has brought great concern to the world.

The vaccines for this Covid virus are also cause for concern.

There is no legal recourse for accountability with companies such as Pfizer and Moderna over a vaccine that has caused harm through side effects.

As reported by CNBC If you experience severe side effects after getting a Covid vaccine, lawyers tell CNBC there is basically no one to blame in a U.S. court of law.

The federal government has granted companies like Pfizer and Moderna immunity from liability if something unintentionally goes wrong with their vaccines.

As reported by CTV, Our federal government has introduced a "No-fault program" intended to compensate people who have an adverse reaction to these vaccines.

However, there is nothing there but a promise of "fair access to support". There is no amount of money that could compensate anyone for losses to their quality of life.

The last promise of fair access to support was the CERB benefit and that has evolved into the qualifying criteria catastrophically altered.

Simply by the government defining the 2019 \$5000 income as "net income" instead of "gross income" has created a huge problem.

Already people are popping up in the news with the CRA wanting their money back. These same people who were undoubtedly affected by this pandemic have been lumped in with the government terms as "fraudsters". Millions of people may be dragged through their "Integrity department" and forced to disclose their entire financial lives with the demand of banking information under threat of charges for fraud. Not a lot of money, just enough to set a hook and make peoples lives a living hell while the government goes through their personal information line by line. There is no check or balance in the form of an appeal process either.

Will the Federal government continue to pursue, at great expense the unreasonable definition of income for Canadians to qualify for benefits during a pandemic? Would it be more reasonable to define the \$5000 income for 2019 as Gross income? If you really want to get serious about a

reset, then how about starting there Mr. Prime Minister? Is the compensation program genuine or is it there only to placate an uncertain public?

The only "Reset" is in our minerals as currency. Our precious metals will always retain value while our fiat money only has value so long as we have confidence in it. The only resource on earth (besides minerals) that can be imagined into a currency is the life of a human being. There are formulas that assigns value to a human life. A simple X amount days worked in a year, times Y number of years equals, that life's monetary value over a lifetime. Increase education and medical care and you increase the value of that monetary value. Yes, our lives are already a number and not exclusive to just a Social Insurance Number!

If this great reset is supposed to end poverty and feed the mass, there is going to be a price to be paid somewhere, somehow. What is that price? Hundreds of millions of dollars have already been committed to a cause without the benefit of "Charity begins at home" being honored right here in Canada.

In our democracy we see

- (1) Manipulation – In this case, taking advantage of a crisis – such as the Covid Pandemic,
- (2) Distraction - In this case offering money to the populace and then demanding it back. A compensation program to placate concern over vaccine side effects
- (3) Patriotism - "In the best interests of the country" - In all cases this is a variable measured by the individual. Will history record Prime Minister Trudeau as a champion of democracy or will history record Prime Minister Trudeau as seduced by Socialism?

"Mr Speaker, as a common citizen, I humbly request and await an answer."

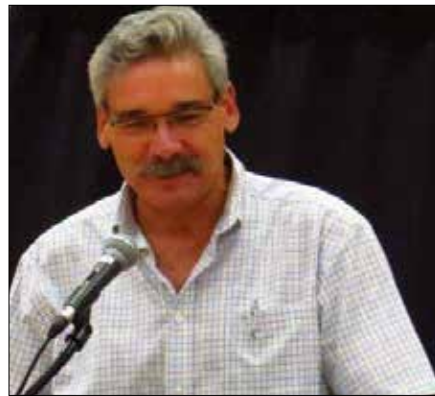
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Is it time to reactivate the Railway to Nowhere and upgrade it



Mike Morris, MLA

The “Dease Lake Extension” railway project, started in 1970 in northwestern British Columbia, was abandoned in 1977 after costs soared five times the original estimate to \$360

million (over \$1.5 billion today), inciting strong opposition from British Columbia Railway.

By then, the rail grade had reached Dease Lake with only the first 84 km on the southern end operational and, with the end of the project, it became known as the “Railway to Nowhere.”

Is it time perhaps to look at reactivating the Railway to Nowhere project and upgrade the railway to today’s national standards as far as Watson Lake, Yukon?

This would immediately trigger the development and construction of the railway link through the Yukon and into Alaska to join up with the existing Alaska railway system.

There is interest in this link at the federal level in both countries as well as the territorial level in the Yukon and Alaska.



to today’s national standards as far as Watson Lake, Yukon?

In 1973, Canada had agreed to share 50% of the costs of the three-section Dease Lake Extension with BC, but BC Rail management rejected the proposal.

The first section of 117 kilometers from Odell, 30 km north of Prince George, to Fort St. James was completed in 1968 at a cost of \$18.5 million.

The next 130 km from Fort St. James to Leo Creek (south end of Takla Lake) was completed in 1973 after \$23million was spent on construction.

Construction on the third section, 540 km from Leo Creek to Dease Lake, began in 1970 and, by 1975, the railway was operational to Bulkley House (north end of Takla Lake), a distance of 84 kilometers.

Track had been laid as far as Chipmunk Creek, 170 km north of Bulkley House, and the subgrade was completed on the remaining 286 kilometers to Dease Lake.

Total capital expended on the last section was \$160 million and required an additional \$160 million to complete.

The final leg of 240 km from Dease Lake to Lower Post (Watson Lake) was surveyed but no construction had commenced.

Total dollars spent during construction was \$360 million, or, in today’s equivalent, \$2.5 billion. The railway is currently used to transport logs to mills in the Prince George area.

A recent study, “Alaska-Canada Rail Link Economic Benefits,” published by the University of Alaska, indicates that, once constructed, BC alone could see an additional 29,000 to 34,000 direct, indirect, and induced full-time employees earning wages and salaries estimated between \$2 billion and \$2.5 billion, and generating income tax revenues estimated at about \$200 million.

New rail-tourism opportunities that encourage overnight stays, First Nations culture, and scenic side tours would be enormous.

The entire resource sector would experience significant benefits with greater access to minerals, oil and gas and

GOLD NUGGET

Gold is the only thing on earth man will dig up only to bury somewhere else. Greg McKee

forest resources, more economical shipping options, and better options to energy sources.

Using 2017 railroad engineering and construction cost benchmarks from Compass International, the estimated costs for upgrading the existing line from Odell to Dease Lake would be approximately \$500 million and to complete construction from Dease Lake to Watson Lake Yukon would be an additional \$300 million.

Before being elected to the Legislative Assembly of BC, Mike spent 32 years in the RCMP, mainly in northern communities before retiring as the Superintendent for the North District. He was an adjudicator and mediator for the Health Professions Review Board, served on the Drug Benefit Council for BC, is Past President of the BC Trappers' Association, was Minister of Public Safety, Solicitor General, Parliamentary Secretary to the Minister of Forests, Lands, and Natural Resource Operations, and now is a critic of Public Safety and Solicitor General. Mike enjoys spending time with his family and raising honey bees, and always looks forward to heading out to his trap-line cabin.

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Covid 19 and the placer miner: how does it apply in the field?



Dale Colledge

Most of you have an interest in placer mining, either as a hobby, an income supplement, or as your primary source of income.

No matter how you look at the Covid-19 situation, we have all been impacted by this virus.

Whether it impacts your personal life and interactions with others, a friend or family member becomes ill, or it's affected your business and how you operate, these are all significant impacts.

Those who have been in industry for some time have all experienced a bad flu bug that spread through a jobsite and impacted operations.

If you are running a show with a small crew and a significant illness sets in among workers, your productivity and bottom line will be impacted.

Covid-19 further impacts business operations because government regulations require employers to take certain precautions to prevent spread of the virus.

These precautions require planning, implementation and documentation.

This article provides some brief information and resources the current governmental regulations regarding Covid-19 and how those regulations apply to the mining industry in British Columbia at this time.

This is not intended as a legal advisement; consult an attorney to determine specifics of how the law applies directly to your business situation.

However, getting familiar with the current Covid-19 regulations as they apply to placer operations seems appropriate before the next season begins.

This is a fluid situation, and one would be well served to regularly check for updates to relevant Covid-19 guidelines as the season approaches and during operations.

Figuring out what regulatory agencies are in charge, or are players, of placer mining in the Covid-19 situation is somewhat convoluted.

On a good day, without Covid-19, you're dealing with just two agencies passing the buck back and forth.

Now you have three agencies involved... and guess who's going to end up with the hot potato if you don't plan ahead (I hope you brought oven mitts).

Proper planning, documentation, and consistent implementation are key to minimizing the potential for an outbreak onsite, and to reducing liability risks.

In BC, at least three regulatory groups provide Covid-19 regulations that could affect placer operations:

1. The Ministry of Energy, Mines, and Low Carbon Innovation (MEMLCI) provides direct guidance and regulations for mining, including Covid-19 issues.
2. WorksafeBC (BC OH&S) provides worker coverage for work-related injuries including mining injuries, but the regulatory requirements are based on Ministry of Energy regulations.
3. The Provincial Health Officer gives direction regarding Provincial health initiatives in general.

There are "Coles Notes" Covid-19 regulations to be aware of and, if you plan to run a camp, you are under a whole different set of guidelines (links at the end of this article).

MINISTRY OF ENERGY, MINES, AND LOW CARBON INNOVATION

On Dec. 27, 2020, the MEMLCI set out these Covid-19 mining operations guidelines:

- a. No gatherings of over 50 people, includes toolbox/safety meetings.
- b. Maintain 2 m distancing where possible.
- c. Display signage of four-person maximum in elevator (probably not relevant for most placer ops).
- d. Reduce frequency of in-person gatherings/meetings.
- e. If possible, hold meetings in open spaces or outside.
- f. Increase hand-washing stations and post signs of their locations.

- g. Maintain and keep daily lists of crew members and their locations.
- h. Clean common areas regularly and at shift end.
- i. Anyone with Covid-19 symptoms must quarantine for ten days.
- j. Anyone who was in close contact with Covid-19 must complete 14 days of self-isolation.
- k. Allow only essential visitors to site.

WORKSAFE BC

Worksafe BC requirements are far more stringent than Mines regulations (jurisdiction is an interesting question, better referred to an attorney if one wanted to dispute a requirement).

Economic and legal prudence would be to review the WorksafeBC requirements before and during operations to try to ensure one is in compliance with regulations to protect workers, limit liability, and ensure no unnecessary stoppage of operations occurs.

Consider a program that at least includes documented, daily, worker health-checks, e.g. a daily temperature check before the morning toolbox.

PROVINCIAL HEALTH OFFICER

These directives may change rapidly over the coming months, but if we meet the requirements of relevant ministries, we should have no issues:

- a. Local outbreaks may impact operations in areas due to community access.
- b. Work activities may be restricted due to outbreak issues.
- c. Workers going offsite are required to follow the government regulations, e.g. masks in stores/public places.

SUMMARY

I realize that we all suffer from Covid information overload, but I hope this article is helpful to those who will hit their claims this coming season.

However you feel about Covid-19, because of it, the industry faces regulatory realities that need to be prepared for and implemented in the field.

Take a bit of time now to develop a plan that could save time, expense, and perhaps a life.

Here's to a better and brighter New Year!

RELEVANT COVID-19 REFERENCE LINKS

Ministry of Energy, Mines, and Low Carbon Innovation

<https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/health-safety/covid-19>

Provincial Health Office

https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/covid-19-provincial-support/restrictions?utm_campaign=20201118_gcpe_am_covid_1_notification_bcgov_bcgov_en_bc_notification

Work Camps Guidelines

http://www.bccdc.ca/Health-Info-Site/documents/covid_public_guidance/all-sector-work-camps-guidance.pdf

http://www.bccdc.ca/Health-Info-Site/Documents/COVID_public_guidance/All-sector-work-camps-guidance.pdf

WorksafeBC

<https://www.worksafebc.com/en/about-us/covid-19-updates>

Rossland Miners Hall becomes a National Historic Site



Wendy Tilden Quick

On March 6, 2020, the Rossland Miner's Union Hall became a Federal Historic site, recognized as one of BC's earliest surviving union halls, and one of the few wooden buildings of its era still in existence.

Of most historical significance, it was a hub for the creation of mining and labour rights.

THE BEGINNING

In the 1890s, the discovery of gold-rich veins in Rossland's Red Mountain inspired thousands of miners and prospectors from all over the world to flock to its south slope, which made it a bustling mining camp and resulted in American companies buying up many small, independent BC mines.

In 1895, Rossland was granted their charter by the Western Federation of Miners (WFM) from Butte, Montana, a notoriously militant union that was established in the Coeur d'Alene district of Idaho in 1893.

Local 38 branch was the first BC union for metaliferous mines, and the first international branch of the WMF.

THE UNION HALL

The Rossland Miners' Union Hall opened July 16, 1898, with much fanfare that included miners and merchants closing up shop to join the fun of a parade, rock drilling contest, tug-of-war, horse-racing on Columbia Avenue, and a dance in the hall.

Each union member contributed a day's wage to finance construction of the hall, to be a permanent residence for the WMF Local 38.

EJ Weston designed the the Miners' Hall, a three-story building of high Victorian architecture that was lauded by the local paper as, "*the most substantial building of its character in the Kootenays.*"

The unusual structure of the hall includes heavy timber support beams reminiscent of those used in mine tunnels.

The sturdy building withstood heavy annual snowfalls, a 16-man patrol team conducting drill practices in the attic until 1904, and a cyclone in 1913.

THE STRIKE OF 1901

During the early stages of Local 38, many unions including theirs had no legal protection and terrible working conditions.

Miners, working underground 10-12 hours a day, struggled for improvements to safety conditions on the job. They had little control over conditions as mostly the mines were managed by absentee owners and remote investors.

The WFM made history and had an impact on the entire mining industry as they strongly supported the eight-hour work day legislation, which had succeeded in the United States.

The WFM worked towards seeing the same in Canada, and they did on Feb. 27, 1899, when eight-hour legislation was passed by BC Attorney General, Joseph Martin.

But, at a number of mines, the new legislation resulted in the cut wages, closures, and strikes by disgruntled workers.

In 1901, the smelter in Northport, Washington shut down its operation due to union formation on-site.

When they re-opened, non-union workers were hired at the smelter and, in the Kootenays, beliefs of a "secret warfare" against unions motivated a strike.

The Rossland miners knew that, if they sent ore to the Northport smelter, they were lending support to the non-union smelter bosses, so about 1,000 Rossland miners went on strike to support Northport smelter workers.

Crucial issues included raising the muckers' wage from \$2.50 to \$3 a day, ending discrimination against union members, and solidarity for the Northport smelter workers.

Faced with a united, unyielding front, mine owners reacted strongly and swiftly, importing strikebreakers to Rossland



and Northport, launching a civil suit against the union, and patrolling with armed deputy marshals.

Meant to intimidate the striking miners, the strategy instead escalated tensions, making a bad situation even worse.

The Rossland miners' union reached out to the Federal Government for mediation due to mine closures and collapsing production.

Deputy Minister of Labour, Mackenzie Lyon King, was sent in October, 1901, but he was convinced Local 38 had violent tendencies and was controlled by American extremists.

King offered little help, with no improvements offered to union members, so they refused to meet with him at the Rossland Miners' Union Hall. Convinced the situation with the strike was hopeless, King left after a week.

When some Rossland mines re-opened, workmen alleged that men were being imported from the United States by persons with whom the company had entered into a contract to mine its ore.

In Oct. 1901, the union brought two actions against a contractor for violation of the Alien Labour Law, with conviction sought in each case (a \$500 fine was imposed in one case).

Strike pay ran out in December and, completely defeated, union members returned to work at the end of January, 1902, ending the strike that had shut down mines for nine months.

The strike was a complete disaster for the union and, although a resolution was reached in 1902, there was no increase in mucker wages.

Mine owners sued Local 38, who were on the outs with the WFM executive in Denver, Colorado because of the strike.

The trial ended in favour of the mine owners, and the union was fined.

This eventually caused the union to go into receivership, and one of its biggest assets, the Miner's Hall, was handed over to the mine owners.

And that was the end of the miners' union in Rossland.

A SILVER LINING: LABOUR LAW REFORMS

Although the strike failed, it resulted in landmark labour legislation in British Columbia, including the Trade Union Act of 1902, which protects unions from liability for employers' financial losses incurred during a strike.

Smith Curtiss, Rossland MLA, introduced the Workmen's Compensation Act of 1900, a forerunner to the 1917 Workmen's Compensation Act, to the BC Legislature.

In 1907, Deputy Minister Mackenzie Lyon King formulated the Industrial Disputes Act which, with its principle of compulsory investigation, became the basis of the Canadian collective bargaining system.

The Western Federation of Miners' voice continued to reach Victoria and Ottawa, demanding of other statutes and regulations.

Many of these rulings evolved into Canadian laws on labour, employment, safety and compensation.

The Western Federation of Miners remains one of the most influential and successful labour unions in British Columbia's history.

RESTORATION EFFORTS

The mines retained ownership of the Miners' Hall in Rossland until 1952, but eventually the city took over ownership.

When the population eventually declined in Rossland, the Miner's Hall fell into disrepair, as did many other buildings in the community.

In 1978, the Rossland Heritage Society undertook restoration of the Miners' Hall and, in 1983, a beautifully restored Rossland Miners' Union Hall re-opened to host meetings, concerts, art shows, plays, private events, and to offer classes, courses, workshops, and other community activities.

The most recent renovations were completed in 2017, and the Rossland Miners Union Hall remains a testament to collective action and vision,



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NUGGETS OF HISTORY

Omineca Miner

MINING NEWS OF THE WEEK, SEPT 23, 1911

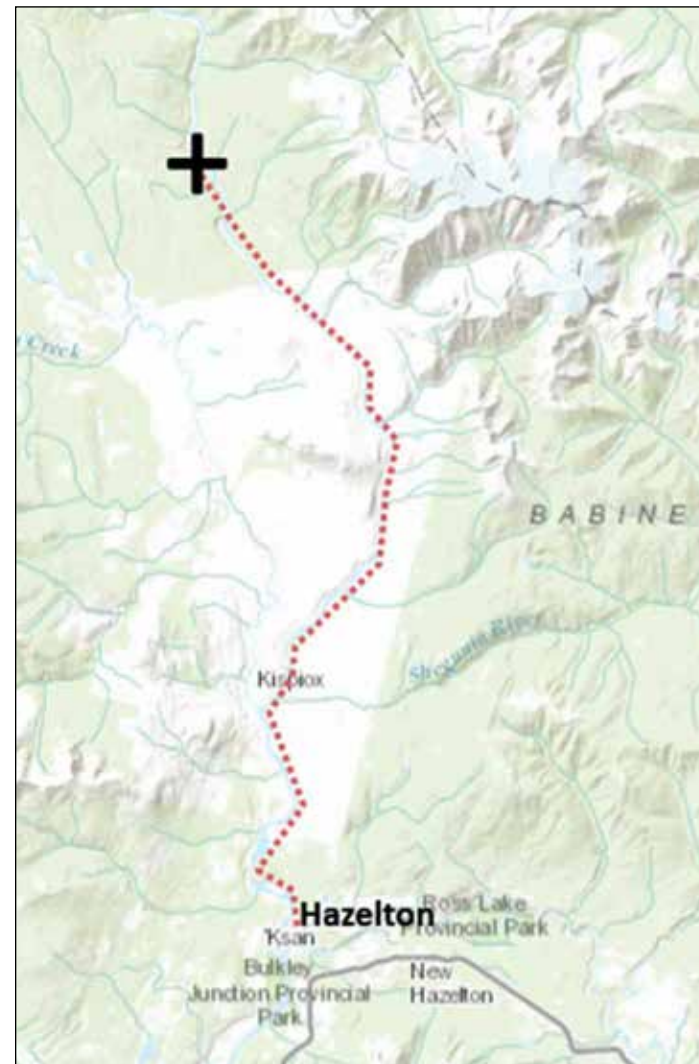
Gold-Copper Ore Near Hazelton

What may prove to be an important discovery of gold-copper ore was made a few days ago on glacier creek, a tributary of the Skeena, about twenty-five miles above Hazelton.

W.J. Carr was the locator a group of claims in which a number of local mining men are associated with him. Specimens of the ore, which is a lively quartz, showing yellow copper, were assayed, returning gold values up to \$86.

Eight claims were staked, adjoining the group owned by J.S. Hicks and A.R. Macdonald, located earlier in the season.

There has been no time for work, and it is too early to say what will develop, but there is every reason to believe that the new find will prove to be valuable.



BC's permeable border

Published March 2, 2019 in *TheOrca.ca*



Daniel Marshall

The blinding influence of a political divide sometimes keeps us from seeing our full history.

Whenever I travel up the No. 1 Highway through the Fraser and Thompson corridor, I continue to be amazed about the impact the gold

rush had on Indigenous communities, and how so much has been forgotten about Washington State's involvement in the early development of the province.

Traveling by such lesser-known places as the Chapman's Bar, Boothroyd, and Cook's Ferry Indian reserves has often led me to wonder who were the namesakes of these Indigenous lands and why do we know so little about them? I decided to find out.

The historical exploration of trans-boundary regions, such as the Pacific Northwest (or dare I say, Canada's Southwest!), have been largely undermined by preoccupations with nation-building history in two

separate countries that has encouraged the blinding influence of a political divide.

Cross-border migrations across the 49th parallel were nothing new for Indigenous peoples, fur traders, gold seekers, or indeed my own grandfather who, during the late 1920s, drove from BC to Mexico on two occasions – once in a 1928 McLaughlin-Buick motorcar!

BC was part of a natural North-South world – the Pacific Slope – where the Spanish, Russians, British, and Indigenous nations once moved quite freely west of the Rockies, until the United States and Canada commenced their new nation-building narratives to encompass their recently-claimed portions of the Pacific Coast.

These East-West reconfigurations had little interest in telling stories of the previously natural North-South flow, and the transcontinental nationalism of the US and Canada effectively severed Pacific Slope communities from a shared history now largely forgotten.



The Old Spences Bridge -
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Captain George Wesley Beam.

Canadian historians often fail to recognize the Pacific province does not fit any simple Laurentian thesis, whereby Canada's gradual westward expansion was based upon the commercial fur trade and economic system of the St. Lawrence region.

One of the goals of Confederation was to reorient these connections into an East-West alignment, but it was not always so.

In 1858, Britain countered Governor James Douglas that it was not the policy of Her Majesty's government "to exclude Americans and other foreigners from the goldfields."

"On the contrary," cautioned the Colonial Secretary, Sir Edward Bulwer-Lytton, "you are distinctly instructed to oppose no obstacle whatever."

Soon tens of thousands of American miners moved north across the still-unmarked international divide; many believed the new goldfields were actually in American territory.

Gold seekers from Washington Territory were some of the very first to arrive.

One such person was Captain George Wesley Beam, later a member of the Washington Territorial Legislature, who wrote in his diary (just south of Yale, BC) that, "the [Fraser] river bears south much more than you have an idea." Other residents from south of the border, such as William Chapman, George Washington Boothroyd, and Mortimer Cook, would have agreed.

During the transformative year of 1858, there was literally no parallel marked out on the ground to separate British Columbia from Washington. The 49th parallel was of little consequence; many Americans hoped or assumed the US Boundary Commission would establish the goldfields south of the international divide.



Members of the old logging community in Old Sedro, Washington.

Until the boundary was located and confirmed, many American gold seekers left their mark in the form of place names in the goldfields.

John Chapman, for instance, the founder of Steilacoom City in Washington Territory in the early 1850s, was the undoubted namesake of Chapman's Bar, near Alexandra Lodge in the Fraser Canyon, the name later used by colonial surveyors in defining the Chapman's Bar Indian Reserve.

Likewise, George Washington Boothroyd, a member of Major Mortimer Robertson's 1858 "Yakima Expedition" to the Fraser Mines, traveled through the American and Canadian Okanagan region as part of a large-scale militia determined to fight Indigenous peoples in their bid for gold, later building his roadhouse at what became known as Boothroyd's, near today's Boothroyd Indian Reserve.

But it was American Mortimer Cook who perhaps provides the best example of this forgotten history between BC and Washington State.

Like many other gold seekers to BC, Cook had previously fought in the American war with Mexico before traveling to the California Gold Rush in 1849, where he partnered with John Warner. These two subsequently heeded the call of the Fraser River gold excitement.

By 1861, Cook and Warner built one of the first crossings of the Thompson River at today's Spences Bridge, named after Thomas Spence, also a veteran of a filibustering raid into Mexico.

During the time of the "Cook's Ferry" community, Warner apparently married Ellen Thompson, a member of the Cook's Ferry band of the Nlaka'pamux nation, and as the online Skagit Valley Journal notes, "she was rumored to be the daughter or sister of the chief of the tribe."

On this side of the 49th parallel, the name of Mortimer Cook is known for one particular achievement, but it was news to me to discover more from sources south of the border.

Ten years after Cook's Ferry was established, he constructed another ferry and then toll bridge near Topeka, Kansas. This was apparently the first iron bridge erected in the region.

Cook then established one of the first gold banks in Santa Barbara, California, becoming mayor on two separate occasions in the 1870s. Cook had amassed significant wealth, but quickly lost his banking fortune about 1878, which compelled him to return to Washington State, where he founded the old town and logging community of Sedro, today's Sedro-Woolley.

How do we in British Columbia not know about Cook's later accomplishments and the fact he was responsible for



Mortimer Cook.

founding two different communities on either side of the border?

In all the years I have listened to American public radio based out of Sedro-Woolley, neither did I imagine that there was such a link to this side of the border, nor to today's Cook's Ferry Indian Band.

During those early years, the 49th parallel wasn't much of a dividing line, but national myths on both sides ignore these early linkages. Put simply, these North-South connections didn't fit the new Canadian national narrative.

We can't just blame Ottawa. More often than not, BC historians denied the American presence as having effectively shaped our social, political, and economic life.

It seems to me that the North-South orientation of BC was part of a larger Pacific Slope puzzle, a piece that has never properly fit the stories we tell ourselves.

In the meantime, I suspect there's more historical evidence waiting to be found south of the border to explain these seemingly anomalous BC place names.

Must be time for another road trip.

A fifth-generation British Columbian, Daniel Marshall is an author, professor, curator, documentarian, and researcher focusing on BC's relatively untold, rich history. He is a leader and award-winning researcher on historic Native-Newcomer relations, and their evolution and implications on Aboriginal rights today.

His award-winning documentary, "Canyon War: The Untold Story," aired on Knowledge Network, APTN, and PBS. His latest book, "Claiming the Land: British Columbia and the Making of a New El Dorado," is available in BC bookstores.

HISTORY OF GEOLOGY

Placer gold mining in Pleistocene glacial sediments of the

N.Eyles and S.P. Kocsis

The Cariboo placer mining district of central British Columbia, based on the communities of Wells and Barkerville, is a classic gold-rush area of the late 1850s where gold mining still continues.

Production started in 1858 and, today the area accounts for almost 30% of the province's annual placer gold output, valued at about \$9 million.

Gold, apparently concentrated in near surface positions by deep tertiary weathering and supergene enrichment of Mississippian-Permian metasediments, has been incorporated into unconsolidated sediments by Pleistocene glacial erosion.

Anecdotal information is available regarding past mining operations but geological data is rare.

Ongoing glacial sedimentological work in the area is trying to model the distribution of placers and to develop exploration strategies. This work is revealing much new data regarding the geology of historic and current placer mines.

INTRODUCTION

The enormous impact of successive gold rushes from Sutlers Creek, California in 1849 north to Fairbanks, Alaska in 1903, on the social and political development of western North America is well known.

In California, "*The Miners came in 49, the whores in '51, and when they got together they produced the native son.*" Words like *motherlode*, *pan out*, *lucky strike*, *bonanza*, and *paydirt* became part of everyday speech.

In late 1850s Canada, the influx of miners along the Fraser River resulted in the creation of the Province of British Columbia.

By 1861, Barkerville, in central British Columbia, was the largest city west of Chicago and north of San Francisco; the political geography of western North America had essentially been fixed by placer gold miners.

Much has been written of the miners in the Cariboo mining district and a rich anecdotal history exists, yet little is known of the geology of the placer deposits.

This article examines the results of sedimentological investigations in the Barkerville area which have shed new light on the geological setting of the rich placer deposits and the evolution of mining methods since 1858.

Placer mining in Barkerville has gone through several phases between 1858 and today. Initially, prospectors

worked the surface of lucrative post-glacial fluvial gravels and modern river bars.

This was succeeded by a second phase characterized by the construction of deep shafts to penetrate lodgement till, long regarded as bedrock, in order to reach buried interstadial gravels.

Subsequent large-scale hydraulic operations involved the working of substantial volumes of low-paying sediment; this phase was terminated by World War II.

Today's prospector is highly selective, seeking small-volume, high-paying deposits.

The placers described here occur in Late Pleistocene glacial facies deposited at, or under, the margins of a regional ice sheet, together with associated interstadial and post glacial sediments.

The area is unusual in that lucrative placers are contained within sub glacially deposited lodgement tills and associated sediments.

Similar stratigraphic settings are present in Queensland, Australia, where several hard-rock gold mines work paleo-placers in Lower Permian glacial sediments.

REGIONAL SETTING AND BEDROCK GEOLOGY

Placer mining historically took place in the Wells-Barkerville area (Fig. 1), and modern activity is still centered there, likely on the western flanks of the Cariboo Mountains.

Much economic potential remains in this classic Gold Rush area of the late 1850s.

However, despite a wealth of anecdotal information, systematic study of the geology exposed by placer operations has never been conducted, and records of the locations and characters of profitable horizons are almost non-existent.

The Cariboo Mountains, part of the Omineca Crystalline Belt, are one of five divisions of the Canadian Cordillera comprising a collage of allochthonous terranes accreted to western North America by convergent and transform plate motions.

The mountains are underlain by a broad anticlinorium, the Purcell-Selkirk-Premier Cariboo anticlinorium, that lies west of the Rocky Mountain Trench and defines the eastern boundary of the Cariboo District.

The Fraser River Valley, about 80 km west of the study area (Fig. 1), follows a major right lateral slip fault, part

Cariboo District of British Columbia, 1858-1988

of an intra-continental transform fault system defining the western limit of the Omineca Crystalline Belt.

Detailed geologic mapping was carried out only in the Wells/Barkerville area (Fig. 2).

The Downey Creek Succession is the most significant rock assemblage in the study area because there is a good geographic correlation between rocks of this succession and the location of placer mines.

These rocks comprise variably metamorphosed slates, phyllites, quartzites, met tuffs, carbonates and daslics and are in part of Mississippian age.

The rocks form a belt varying in width from 1-3 km trending northwest/southeast through the Cariboo mining district (Fig. 2).

Outside this area, because of poorly understood geology, the bedrock source for gold found in placers to the south is unknown.

In the Barkerville area, "lode" gold occurs in two types of deposits associated with the Downey Creek Succession.

1. Native gold and tellurides occur in hydrothermal quartz veins usually associated with iron sulphides but which are not chemically combined, e.g. Cariboo Gold Quartz Mine in Wells.
2. Very fine-grained native gold is associated with disseminated pyrite and arsenopyrite occurring as replacement sulphides in limestone beds where gold is not chemically combined with sulphides, e.g. Mosquito Creek Gold Mine in Wells.

Major lode gold mining in the Cariboo Gold Quartz mine began in 1927 at Wells, on the northern ridge of Cow Mountain near Jack of Clubs Lake (Fig. 2).

Boulders of gold-bearing quartz were found on the adjacent Lowhee Creek convinced prospectors that Cow Mountain contained the motherlode.

In 32 years, the Cariboo Gold Quartz mine produced 627,300 ounces of gold, yielded from 1.5 million tons of ore, valued then at \$22 million.

Rising costs and unfavorable prices forced the closure of the mine in 1961, although a sizeable reserve remains. Large vein systems host native gold which occurs in association with pyrite and arsenopyrite.

These steeply dipping veins strike northeast, occasionally reach 100 m in length, and are up to 2 m wide.

The Island Mountain Gold Mine, less than 2 km northwest on the opposite side of the Jack of Clubs Lake (Fig. 2), was operated by Newmont and later by Cariboo Gold Quartz Mining.

Between 1934 and 1961, it produced 450,000 ounces of gold valued at \$17 million. Gold currently mined by Mosquito Creek Mining occurs within massive fine-grained pyrite/arsenopyrite and has assayed up to 2 oz./ton, but values generally fall between 0.5-1.0 oz./ton. Mosquito Creek Gold Mining operates at the fork of Mosquito Creek and Red Gulch.

ORIGIN OF PLACER GOLD

The 1926 Johnston and Uglow study of quartz veins conducted in the Barkerville area, along Williams Creek, concluded that veins do not appear to host the quantity needed to supply the \$19,000,000 (at \$20/oz.) gold price in placer gold that was found along the 4 km mined section.

Placer gold is coarse whereas in situ vein gold is disseminated. Present vein exposures may be remnants of a much larger system now eroded.

However, weathering of auriferous sulphides may provide an alternate source of placer gold.

Pyrite and arsenopyrite provide sulphuric acid whereas manganese siderite generates manganese dioxide, an important agent in gold solution.

Deep weathering and reprecipitation of gold probably occurred during a lengthy episode of tertiary weathering prior to Quaternary glaciation and erosion by ice sheets.

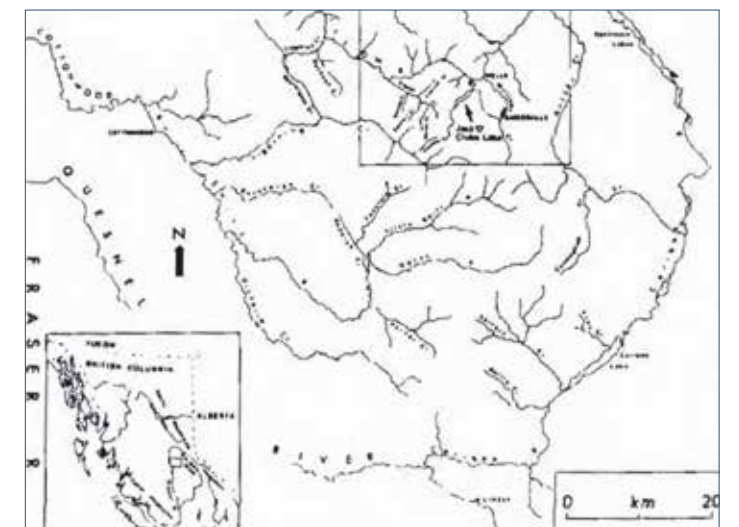


Fig. 1 ~ The Wells-Barkerville area mining district and placer pit sites. See Fig. 2 for a detailed bedrock map.

Regardless of the origin of placer gold, the close association of placer operations with the Downey Creek Succession in the Barkerville area (Fig. 2) indicates that the placer gold is of local derivation.

The general absence of glacial deposits predating the last (Wisconsin) glaciation suggests that valley fills and associated placers were largely reworked during the Wisconsin, being either transported from the area or disseminated or recycled into later placer deposits.

PLEISTOCENE GEOLOGY

Most placer mining occurs north of Horsefly Lake extending north to the vicinity of Cariboo Lake (Fig. 1). Clague and Fulton identified glacial deposits from 125,000-60,000 years BP and 30,000-10,000 years BP

These phases are separated by a long, non-glacial interval (the Olympia interstadial) that began prior to 59,000 years BP and was characterized by a climate resembling present cool-temperate conditions.

This non-glacial episode is recorded stratigraphically by a widespread erosion surface. This is veneered by a boulder lag horizon recording fluvial downcutting into older valley hill sediments.

The Cariboo Mountains (max. elevation 3,600 m asl) was an important source of ice during Pleistocene glaciations (Fig. 3).

During the latest stages of the Wisconsin glaciation, starting about 30,000 years BP, a complex of piedmont and alpine glaciers coalesced in BC to form the Cordilleran Ice Sheet.

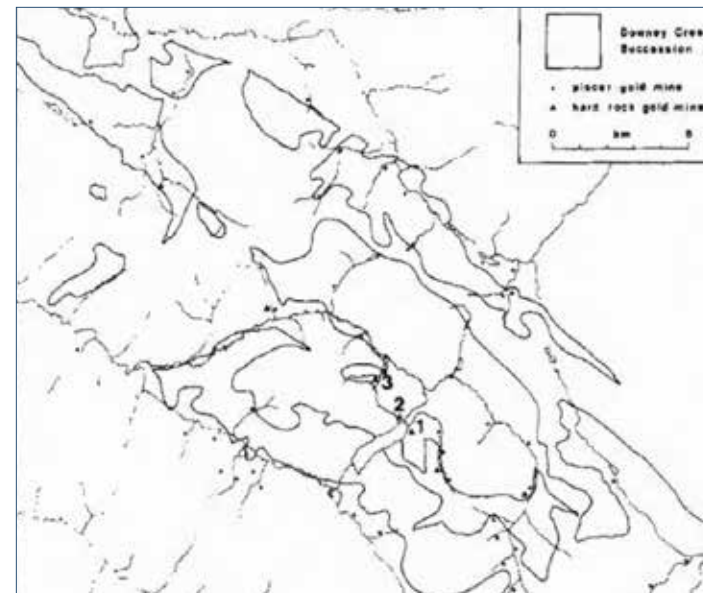


Fig. 2. Cow Mountain (1), Island Mountain (2), Mosquito Creek (3). Bedrock geology showing the Downey Creek Succession (dots), distribution of hard rock mines, and placer operations. See Fig. 1 for location.

Drumlins suggest a northeastward flow of ice across central BC from the Coast Mountains toward the Rocky Mountains.

The Wells/Barkerville area was covered by ice flowing west from the Cariboo Mountains and deflected to the northwest near Cottonwood by ice flowing from the Coast Mountains (Fig. 3).

River valleys are filled with many tens of metres or more of glacial sediments.

Orin reports disclose thicknesses of over 30 m of sediments filling the Willow River near Mosquito Creek, while more than 80 m of sediments fill Slough Creek adjacent to Mount Nelson (Fig. 1).

Many pre-glacial valleys are completely plugged with glacial sediments.

There is no known documentation of sediments older than the Wisconsin glaciation, although they may be preserved in deepened bedrock lows.

Valleys generally contain a tripartite infill of:

1. Interstadial and older braided river gravels that began to accumulate before 59,000 years BP;
2. Sub-glacial lodgement tills and lee-side deposits deposited after 30,000 years BP; and
3. Late-glacial and post-glacial gravels.

Bedrock terraces are common, appearing as a series of benches; elevations greater than 1,500 m are generally devoid of Pleistocene sediments.

1858-1863: POOR MAN'S DIGGINGS

"Poor man's diggings" refers to the minimum equipment needed to work the gravels. A simple rocker-box usually sufficed.

In 1858, nearly 25,000 mostly Californian prospectors moved to the lower Fraser River Valley after the discovery of gold-bearing gravel bars.

The paystreaks were mostly surficial, not extending more than 1 m deep, but their richness was reflected by examples such as Hill's Bar, south of Yale, where less than one sq. km yielded nearly 5% of the value of gold mined in BC from 1858 to 1875, about \$40 million at 1860 prices.

Discoveries further north prompted exploration of tributary streams.

Prospector Peter Dunlevey is credited for finding the first gold in the Cariboo. He believed the flour/flakey gold of the Fraser would lead to coarse gold upstream in sill/motherlode deposits.

Dunlevey and party, near the mouth of the Chilcotin (Fig. 3), were told by Tomah, a Shuswap Indian, that a cousin

named Long Bacheese or Baptiste would bring them to a location of pea-sized nuggets.

In the spring of 1859, they were taken to the Horsefly River and saw these nuggets.

More than 15,000 oz. of gold had been mined along the Horsefly by 1945. This figure is a considerable underestimate because recording only began after 1874, long after the bulk of extraction more than 10 years earlier.

In June 1859, with news of the Dunlevey and MacDonald strikes on the Quesnel River, an influx of miners arrived and, by 1860, the town of Quesnel Forks was built at the confluence of the Quesnel and Cariboo Rivers.

This was the beginning of the Cariboo Gold Rush. Most gold was mined upstream from Quesnel Forks along the Quesnel River and its tributaries toward the present town of Likely, about 10km southeast.

As prospectors moved further north and east, Doc Keithly and his partner, J.D. Diller, discovered rich ground to the southwest corner of Cariboo Lake on later-named Keithley Creek.

Within a year, the area became heavily staked and the town of Keithly sprung up.

More than 48,000 ounces of gold were recovered from Keithly Creek and its tributary, Snowshoe Creek, between 1874 and 1945.

Doc Keithly, Benjamin MacDonald, John Rose and George Weaver headed north across the Snowshoe Plateau to find northerly flowing streams.

In one canyon, they discovered gold, readily picked up and described as "sunburn gold" because of oxidization of iron coatings by prolonged exposure. Pans of several ounces of gold were extracted from this newly-discovered creek, later named Antler.

By spring, 1861, over 1,200 miners were working there. More than 33,600 oz. of gold was mined on Antler Creek between 1874-1945, but much more was mined prior to 1874, for which no records are available.

During winter, 1861, Dutch Bill Dietz and several companions travelled to the headwaters of Antler Creek and across the alpine plateau, Bald Mountain, where they came upon a north-flowing stream later called Williams Creek. Dietz tested the gravels and recovered gold worth about \$1.25 per pan.

Word quickly spread of the Dietz strike and over 1,000 miners began working in the narrow valley.

The paystreak consisted of shallow surface gravels above an uneconomic hard layer called "blue clay" (lodgement till). Miners initially mistook the blue clay for bedrock and didn't penetrate below the layer.

1863-1870: SHAFT AND TUNNEL

The second phase of mining in the area was opened in late 1862 when miners on Abbott's and Jourdan's claim penetrated below the blue clay to recover 50 oz. of gold. The town of Richfield developed along Williams Creek.

In August 1862, Cornishman Billy Barker and seven partners staked 800 ft. of ground and began to dig a deep shaft.

A Cornish pump, a water wheel-powered piston-type water pump, was used to drain the shaft as the miners worked beneath the water table.

Barker, in a dream, had a vision that pay would be found at 12 m, and paying gravels were found at 15 m. He took 62 oz. of gold, then worth \$1,000, in 48 hours.

Other shafts were sunk into the buried bedrock channel (gutter) of Williams Creek, some paying and others not.

The town of Barkerville was erected and at one time housed over 2,000 residents.

About two km further downstream, Camerontown merged with Barkerville.

Between 1861 and 1896, 111 claims scattered across the rich grounds of Williams Creek adjacent to Barkerville produced \$19,320,000 (values at about \$16/ounce).

The Aurora Claim, located at the northerly part of Barkerville town, produced \$800,000 in gold, while other claims averaging \$50,000 to \$200,000 were common.

The realization that good prospects lay below "false bedrock" prompted further exploration and shaft digging. Good prospects were discovered on Stouts Gulch, Lowhee Creek, Lightning Creek and its many tributaries.

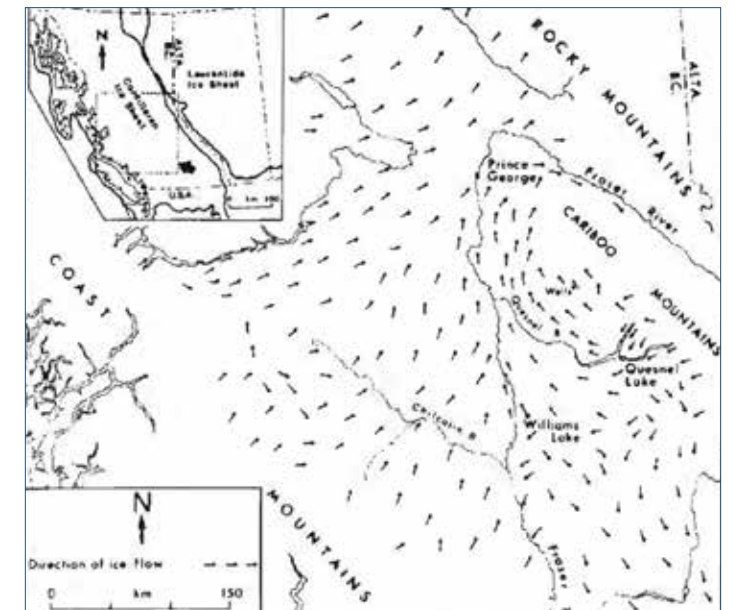


Fig. 3.

By 1865, a more sophisticated approach, using shafts and tunnelling to reach interstadial gravels deep below later glacial deposits, was employed.

This was made possible by the completion of the Cariboo Wagon Road from Vancouver via present-day Quesnel.

The road provided all-weather access to the goldfields, allowing the introduction of better technology and equipment such as steam-operated pumps.

Shaft and tunnel construction was slow, dangerous, and only able to work limited volumes of sediment hauled at great effort to the surface.

A particular problem was the presence of the saturated glaciolacustrine sediments at depth. These defeated many attempts to penetrate deeper, the oozing mud being known as “slum.”

Fred Laird’s experience along the portion of the Willow River Valley near Mosquito Creek was typical.

He secured nearly 7 sq. km of mining leases around the turn of the century and sank seven holes to bedrock; the bedrock gutter was found at 30 m. He tried to sink a shaft from directly above the gutter, but severe flooding occurred.

About 100 m west of the original shaft, Laird drifted south into the hillside where, at a total length of 100 m, bedrock was encountered.

A shaft 2 m x 4 m was raised 30 m to the surface and another drift was run north 160 m, where Laird broke through into well-consolidated, good-paying gravels.

The consolidation and permeability of the “lower gravels” in mining was always a major safety concern because of the high cost of pumping water, timbering the sides of the shafts and adits, and securing firewood for the boilers. Air compressors and air locks were installed in many drifts.

By 1897, the basic stratigraphy of the placer deposits in the Barkerville area had been established.



4b. An active hydraulic monitor along the face of the Ketch Mine on the south side of Slough Creek.

Lower gravels were identified below boulder clay (thought by many to be a volcanic deposit), which was overlain by top gravels.

The lower gravels are equivalent to interstadial gravels recognized today; boulder clay is identified as Late Wisconsin lodgement tills, which are in turn overlain by late- and post-glacial gravels (top gravels). (Fig. 4d and 6b).

Current mining operations expose interstadial auriferous gravels around Tregillus Lake (Fig. 1) that have been worked since the 1930s. Examination of these lower gravels provides much information on the sedimentology of the deposits worked by Barker, Laird, and others.

High gold values are found in nests or clusters of boulders within massive to crudely bedded gravels. Cross-bedded facies are uncommon. Those gravels are typical of the deposits of braided (multi-channelled) rivers formed by aggradation of longitudinal bars.

Massive gravels predominate because of shallow water depths, the low relief of bars and the restricted depths of channels. The boulder clusters are similar to those described by Morison and Hein from the Klondike placer mining district in the Yukon and are interpreted as recording Hood transport of large boulders.

Many old reports refer to favoured runs of gold near the inner curves of gravel-filled channels. The fluvial regime during deposition was probably similar to that found across central BC today.

1880-1939: WHERE THERE’S MUCK...

During the later part of the 1870s, emphasis was directed toward hydraulic mining and the industry entered its third phase, which was to last until World War II.

This costly and large-scale technique employed hundreds of Chinese labourers in the construction of long ditches high on the mountain sides to collect water from streams diverted many kilometres distant.

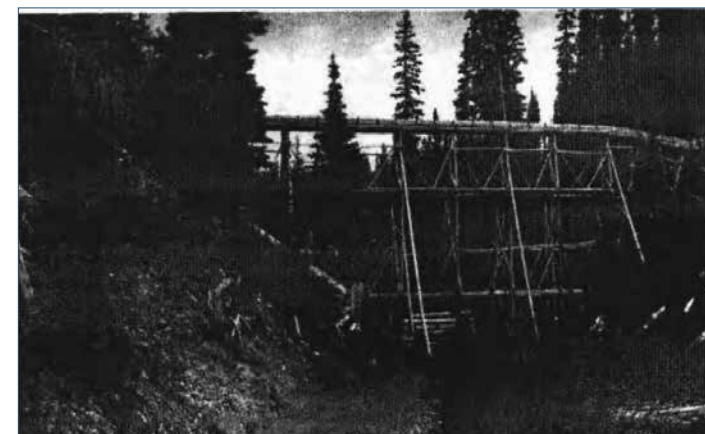


Fig. 4c. Flume crossing Devil’s Canyon east of Wells to supply water for hydraulic operations at the Ketch Mine.

The construction phase could last several years.

In a typical operation at Slough Creek along Mount Nelson, 200 gal./sec. of water dropped down 60 m of pipe that tapered to a 7-in. nozzle or monitor.

The jet of water produced by the monitor was directed at the unconsolidated sediments, washing them through a lengthy sluice box where the gold was collected within riffle-lined boxes (Fig. 5 and 6).

Good snowfalls and resulting high spring runoff were critical to the success of the operation. Steel pipe was scarce and expensive because of freight charges, so hand-sewn canvas pipe was often used.

However, because of low water pressures, it was necessary for the operator to be near the working face, so the risk of slope collapse and fatalities was ever-present.

Hydraulic mining provided a method of high volume production and did not require either the high gold concentrations found in the early days or a very sophisticated approach to prospecting.

The overriding consideration was the presence of large volumes of sediment or muck, and buried channel fills were ideal targets. An additional need was to sustain a fair slope, at least 5°, in the working area to allow removal of washed sediments through a system of flumes. In some areas where the ground could not be worked to bedrock, good-paying sediments remain. It is believed that much fine gold was lost through the system.

It wasn’t usually possible to work the lowest grade gravels because of insufficient rainfall during the summer; the area lies in the rain shadow of the Coast Ranges (Fig. 1). Hydraulicking usually commenced in April, when advantage was taken of the spring run-off and slumping of newly thawed pit slopes.

A 24-hour supply of water could be maintained until early August when the monitors were restricted to 4-8 hours a day until freeze-up in early November.



Fig. 4d. Contact of lodgement till with underlying interstadial gravels at Upper Ketch mine pit.

The lack of water was especially problematic in breaking up lodgement till; adits and explosives often had to be used, which greatly increased costs (Fig. 6b).

The general scarcity of water often resulted in highly inefficient sluicing, with the result that spoil heaps were, and still are, reworked at profit. The Chinese were particularly adept at reworking old operations.

Large-scale hydraulic operations were effectively ended by World War II, when men and materials were needed elsewhere, and by low gold prices.

TODAY: THERE’S GOLD IN THEM THAR HILLS!

Given environmental pressures, large-scale hydraulic operations are no longer feasible.

Considerable attention is now being focussed on small but lucrative, placers contained within Late Wisconsin lodgement tills which have incorporated gold from the erosion of bedrock and auriferous interstadial gravels.

The Devils Lake Canyon area was a large gold producer from auriferous lodgement tills between 1880 to 1946, over 30,000 ounces being recovered from two hydraulic operations at the Ketch Bench near Borne Creek and the Point Benches near Nelson Creek (Fig 1 and 4).

Over 40 Crown Grant mineral claims cover the area, which is highly regarded for its potential.

Study of active pits and test holes shows that gold is dispersed throughout the lodgement tills, but especially high values are found within intraformational boulder pavements. These pavements consist of large boulders, lying end to end, up to several tens of metres long.

Their origin can be likened to sub-glacial “traffic jams” where one boulder lodged on the underlying bed, forms an obstacle to other boulders being transported at the ice base.

The lodged boulders act as nuclei around which other boulders and associated coarse gold are accumulated. These pavements are favorable exploration targets, but



Fig. 4e. Washing lodgement till with a 3” monitor at the Ketch Mine.

unfortunately are difficult to discriminate in drilling programs from the bedrock surface. In unconsolidated Pleistocene deposits, gold placers most commonly occur in glaciofluvial and flu vial gravels.

The high gold values in Cariboo lodgement tills sufficient to allow working of the till itself is very unusual.

Mineralized float in till more commonly occurs in sub economic concentrations and is used as an indicator to identify in situ bedrock sources in the up-ice direction.



Fig. 5b. Hydraulicking lodgement till and underlying gravels on the upper part of Lowhee Creek, 1930's.



Fig. 6a. Hydraulic operations on the upper end of Stouts Gulch. Note the flume carrying away the tailings.



Fig. 6b. A face being hydraulicked at Stouts Gulch. Note large blocks of lodgement till fallen from face.

In contrast, the presence of rich gold-bearing sub-glacial deposits in the Cariboo district is the product of glacial incorporation of auriferous interstadial gravels.

Working these deposits is not without problems. Because of the extremely large size range of boulders and highly over-consolidated nature of the tills, these deposits often require either blasting or exposure to deep frost before they can be disaggregated.

Clumps and balls of lodgement till are observed to pass completely through channels cut by subglacial meltwaters are also favorable sites for gold accumulation.

Over 600 oz. of gold were removed from a 10 m length of crevice no more than 1.5 m deep. The crevice forms part of a subglacial drainage network cut by meltwaters on the bedrock surface under high hydrostatic pressures. These "notches" or "gutters" are especially favourable exploration targets.

FUTURE PROSPECTS

Much economic potential exists in the Cariboo mining district. Realization of this will depend on highly selective exploration of the bedrock surface and overlying subglacial deposits using ground-based geophysics (e.g., shallow imaging radar), drilling, and seismic work.

It would be instructive, in developing exploration strategies, to compare the sedimentological setting of the Cariboo placers with the geological setting of the northern Australia glacial placers. The auriferous lodgement tills of the Cariboo are strikingly similar to those of the Clermont gold field in central Queensland.

That field, about 350 sq. km, works gold from early Permian glacial sequences, the bulk of production being



Fig. 7b. Bedrock crevice of gutter cut by subglacial meltwaters along Cunningham Creek.

from a basal till found below Blair Athol Coal Measure, a thick series of cold-climate coals. Large boulders within the till are associated with gold values of up to 1 oz./ton.

The gold originates from super gene enrichment under tropical conditions during the Silurian and Devonian and concentrated into placers by Permian glaciers. In addition to diamonds, cassiterite and gem-quality corundum. Large striated nuggets are common. A detailed comparison of the Cariboo and Clermont placer mining districts would be an interesting, and valuable, exercise.

Current mining in the Cariboo area is typified by small-scale operations of a speculative, usually short-lived, duration.

Strict environmental safeguards restrict amount of suspended sediment allowed in rivers, and the western North American placer mining industry faces strong pressures from environmental groups.

In Alaska, pressures against placer mining are far more advanced, as witnessed by the injunctions against placer miners obtained by the Sierra Club, which shut down 80% of all mining on federal lands managed by the Bureau of Land Management.



Fig. 7a. The bullion pit near Quesnel Forks, following an infill of a buried river valley. Since the 1920s, it's yielded more than 120,000 oz. of gold.

Mining may not commence until completion of extensive and costly environmental reviews that would bankrupt most miners.

All mining on state lands is threatened by water quality regulations, and a recent court decision ruled that the state lease system collects insufficient rents or royalties.

Within this case emerged the common law doctrine of the "public trust," which states that all natural resources are held in public trust.

Mining in Alaska is further threatened by a unique requirement that, before any "dredge or HI" occurs in wetlands, a permit must be obtained from the Army Corps of Engineers.

Any mining activity includes such work; moreover, the Sierra Club is threatening a lawsuit against the Corps of Engineers since they are unhappy at the way the program is being administered.

The situation in western and northern Canada is not so restrictive, but the ongoing battle in the Yukon between placer miners and the Department of Indian and Northern Affairs over implementation of the Northam Inland Water Act may cause problems to the industry.

Jay A. Czizek, in everything, a thorough Western man

Wendy Tilden Quick

THE CZIZEK FAMILY

Jacob “Jay” August Czizek was born Oct. 8, 1864, in Mt. Clemens, Michigan, to August and Gertrude nee Roskob, both born in Eastern Europe (conflicting documentation makes it impossible to determine which countries).

August Czizek came to Michigan as a boy. He served as a Lieutenant in the 22nd Regiment of the Michigan Volunteer Infantry from his enlistment in 1861.

He died at 34, on April 4, 1868, and Gertrude worked as a housekeeper to support her children (1870 US Census)

Jay had four siblings, all born in Mt. Clemens:

Annie, born in 1858, married Bruno Vanlandeghem II in 1895 in Mount Clemens. They had four children and resided Michigan throughout their lives.

Anthony, born Nov. 13, 1861, married Anna F. Lodewyck in 1891. Their first child, Anthony J. Czizek, died in infancy March 3, 1892, but they had two more children.

John was born in 1863.

Caspar, born in 1866, married Emma Elizabeth Dudac. They had four children and resided in Michigan.

EARLY YEARS

Jay moved to Detroit before 1880 and worked as a confectioner.

He married Mamie Florence Dowd of Bingham NY, daughter of Theron and Jeanette Dowd, in Boise, Idaho, May 29, 1900 (Idaho Marriage Records). The couple lived with Mamie’s parents in Boise (1900 US Census). Their first child, Jay Anthony Czizek Jr., born June 16, 1901 in Ada, Idaho, died shortly after birth.

At 36, Jay is a Mining Engineer. Jay and Mamie had another son, also named Jay, born 1902 in Idaho.

CAREER BEGINNINGS

At 18, with a public school education, Jay A. Czizek was managing the commissary and materials departments for the Denver & Rio Grande Railroad Company in Colorado.

With prominent railroad locating engineer, Thomas H. Wigglesworth, he prospected for and settled the route for the Colorado Midland Railway. Subsequently, he worked in mining in Colorado, Montana, Oregon, and Idaho.

Developing a mastery of mining details, he became known as one of the most scientific miners in the country.

He managed two prominent mining companies in Idaho, but gave up the position in 1898 when elected Idaho’s Inspector of Mines. A lifelong Democrat and delegate to the convention which nominated him, Jay was elected with a large majority that spoke to his popularity. Jay, warmly regarded

personally, was a public affairs leader in Idaho, a prominent member of the Elks and the Order of St. John.

“He was in everything a thorough, western man, alive to the interests of the western country, and with clear-cut views as to how they may be best promoted” (Illustrated History of the State of Idaho).

SUCCESSFUL MINE BUILDER

Jay A. Czizek was a large stock holder in the Mount Clemens & Idaho Company of Mines near Warren.

In his 1900 report, Czizek wrote one page on mine safety and 19 on Idaho’s mineral riches; this approach became a precedent for Idaho mine inspectors.

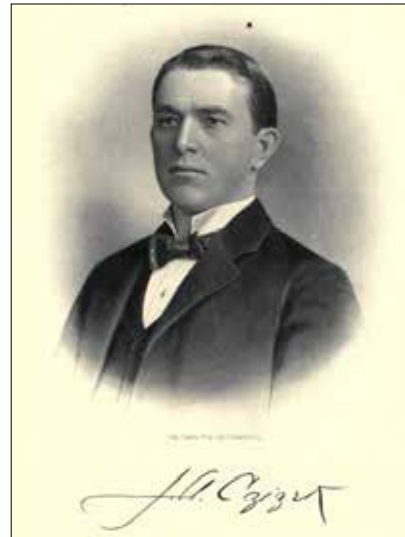
In 1897, managing the Idaho Consolidated Company of Warren (Salt Lake Herald), Jay set a record in mill building, unequaled in any camp so far from a railroad.

He broke ground for his mill in July, his plant was ready to operate in six weeks and, in a month, the mill paid for itself and met the other mine expenses.

The company owned the Goodenough group of five claims, the principal property where the work was done and the ore taken. The mill had five stamps with the power for ten. The additional stamps were planned for the following spring.

he five stamps crushed ten tons a day, the ore taken by four men. This ore was free-milling.

Company President, George E. Leighton, was pleased with the progress.



1899 MINING REPORT

One of the reports of the inspector of mines for the state of Idaho for the year of 1899, written by Jay A. Czizek, states he has the honor to transmit herewith the first report of the office of the Inspector of Mines for the State of Idaho.

It was a brief but detailed general review of mining matters in this state, dated Dec. 31, 1899. While the mining industry itself was old, the office which he had comparatively new. This was the first report of the mineral resources of the state that was issued.

Idaho had its first discovery of precious metals in the 1860s. Colorado and Montana forged ahead more rapidly and seemed to obtain enough capital to develop mines there. Idaho was rich in resources especially gold, silver, copper and lead, but did not attract as much attention.

Her properties eventually became known in world commerce. The lead mines produced nearly half of the lead produced in the US. When Idaho became a state in 1890, she had produced \$74,744,575 in gold and silver. Idaho had large mountains bearing quartz and her placers were valuable. The Snake River bars were rich in flour gold.

Jay A Czizek estimated the wealth of Idaho would double due to increased transportation facilities and improved methods of treating minerals.

Owyhee County, Idaho had some of the best Opal fields in the US. It attracted the attention of Boston capitalists that secured the best properties and expended money in the development of mines. It was pronounced that Idaho Opal as being of great power and brilliancy. Idaho marble also attracted attention after Cassia County was found to have large bodies of marble in several localities, and most of it was excellent quality. Latah County had ruby prospects that showed well. Those stones were of excellent quality.

In 1920, Jay and Mamie Czizek resided in Alameda, California. Mamie’s mother, Jeanette, and their son, Jay Jr. lived with them (1920 US Census). Mamie would have died shortly after 1920 because, in 1924, Jay married Elizabeth M. Hebsacker aka Elizabeth M. Becker (1880-1975) in Philadelphia.

Jay A. Czizek, aged 73/74 and suffering from senility, died July 7, 1938, in Burgdorf, Idaho of a coronary occlusion (artery obstruction). He is buried in the Morris Hill Cemetery, Boise. His death certificate states he was a mine owner.

CZIZEK, A SOUTHERN IDAHO GHOST TOWN

The Marshall Lake district had many scattered mines, no single developments served an entire area.

The Golden Anchor Mine, with its many buildings and a schoolhouse, served as the local headquarters.

The Kimberly Mine and its small beautiful lake is uppermost, then the Sherman Howe and still lowest is the Golden Anchor, which was discovered in 1915.

Jay A. Czizek once owned the Golden Anchor properties.

Czizek became a town when the post office was established at the Golden Anchor Mine in 1940.

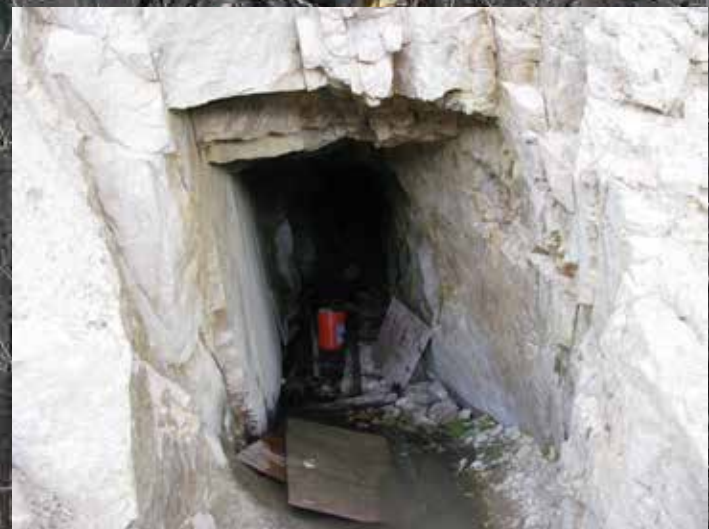
The post office was discontinued in 1942, and the Golden Anchor Mine closed when the United States became involved in World War II (during that time, the government forced all non-essential mines to close).

The mine was discontinued once before, around 1902, by John Fox and Phoenix Briggs, but was later operated by Leif Holte and Jay Czizek. The United Verde Extension Mining Company of Jerome, Arizona invested in the mine in the 1930s.

Today, the town of Czizek, Idaho has no known residents, but some of the old mine and mill buildings remain standing.



Building at the Golden Anchor Mine. Photo from History of the Golden Anchor Mine Idaho County Idaho - Idaho Geological Survey



Reopening the Lucky Ben Mine in Warren, Idaho

Mitch Mortensen

According to an unknown document describing individual records, Jay A. Czizek was born Oct. 8, 1864 at Mount Clemens, Michigan.

His father, August Czizek, was a German immigrant who served as a lieutenant in the Union Army during the Civil War.

With only a common education, Jay A. Czizek went into Colorado and worked for the Denver and Rio Grande Railroad company.

He went on to become engaged in mining in Colorado, Montana, Oregon, and finally Idaho, and in the 1890s he was manager of the Unity Mine (Little Giant).

While working as a mining engineer with the Unity Group, J.A Czizek Sr. projected the extension of the Little Giant and Rescue Veins to the west.

He purchased the Lucky Ben group circa 1895.

In 1889 He was appointed Inspector of Mines for the State of Idaho. The 1889 report is significant, a remarkable insight into Idaho's mineral wealth and Jay A. Czizek.

The *Warren Times* has several references to Jay A. Czizek Sr. All documentation shows that Jay A. Czizek was a man of great integrity, was warmly regarded wherever he went.

In an interview with Jay A. Czizek Jr. it was disclosed that a sample of gold from the Lucky Ben was on display at the Ferry building in San Francisco.

The gold is described as, "...and out it is springing just like a fern of gold." My efforts so far to locate and photograph this sample have been unsuccessful.

The odds of reopening a mine are 10,000 to 1.

"I'm not going to touch this. I am going to will it to you, Jay, and when we work it again, we'll work it together."
J.A. Czizek



Letter of Transmissal.

OFFICE OF THE INSPECTOR OF MINES,
STATE OF IDAHO.

To His Excellency, Frank Steunenberg,
Governor of Idaho.

SIR:—

I have the honor to transmit herewith the first report of the office of Inspector of Mines for the State of Idaho, together with a brief general review of mining matters in this State. Owing to the difficulty of securing statistics and the proper reports and the slowness with which they come into this office, this report is not as complete and satisfactory as I could wish. It will, however, form the basis for a more extended report in the future.

Very respectfully,

JAY A. CZIZEK,
Inspector of Mines

BOISE, IDAHO, Dec. 31, 1899.

Warren Times: Newspaper clippings

1913 - NOV. 6 (FP)

Jay Czizek, the big mining man of Boise, has been in Warren where he has a force of men at work developing some of his properties.

He is expecting good times in the Warren-Big Creek districts next year.

1920

The Jay A. Czizeks, senior and junior, have come to work on the Unity mine, they brought a Pittsburger with them.

Plans now being completed by the Unity Mines Co., Jay Czizek, Manager, call for an extensive summer campaign.

The entire equipment of the company is being prepared for use.

1922 - MAY 25

The company owns practically all of the water in vicinity of the town of Warren and it is put to use generating electricity with which the mill is run.

The mine is lighted and the electric locomotives moved, besides running the compressors and lighting the town.

1924 - AUG. 21 (FP)

Warren on verge of another boom. Central Idaho section has the greatest possibilities for the mining section in the United States to be the richest free

gold area in the state according to Jay A. Czizek, Warren big man and operator of the Little Giant.

The Unity Gold Mines, which Mr. Czizek is manager, are going full blast and [no] pay day has been missed in ten years.

The building of highways gives men hopes of the development of this mineral area.

I have 42 years experience mining and can see the dawn of a wonderful day for Idaho mines.

At Warren we built a new two-hp plant on

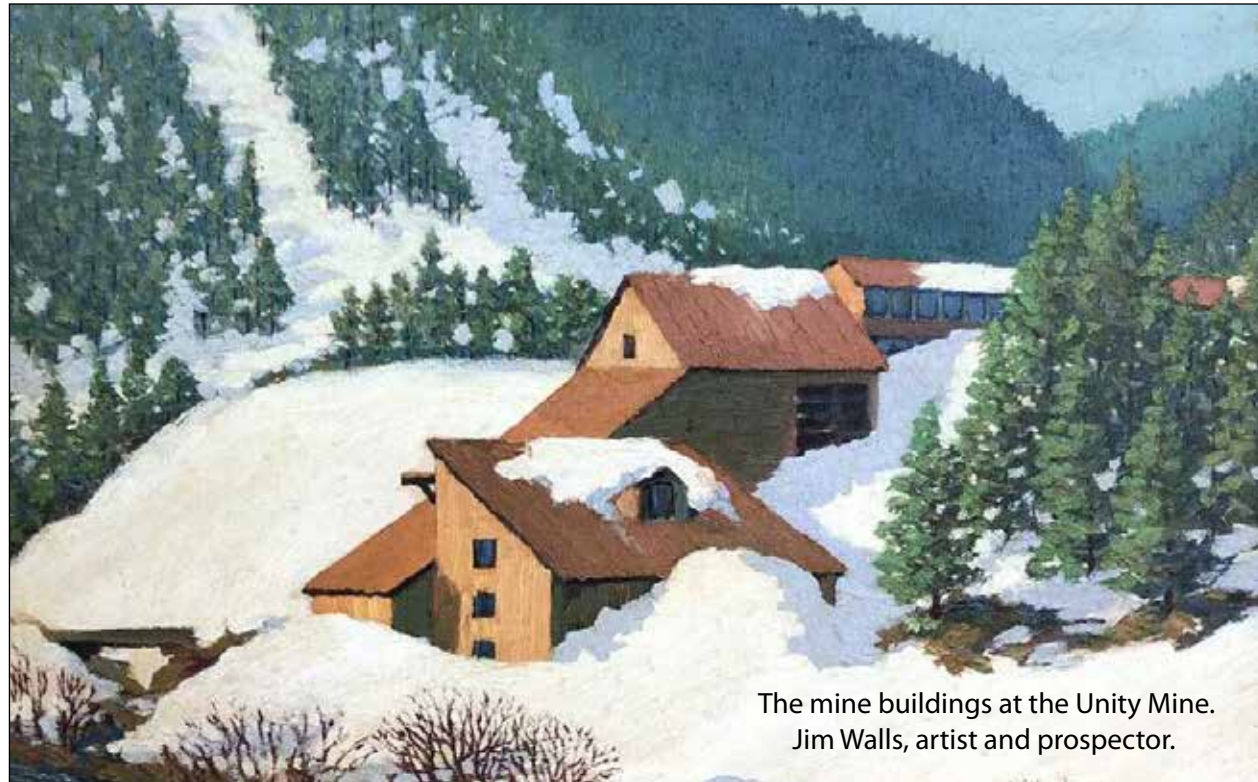
the south fork of the Salmon to supply the mine with power. It was constructed last winter and cost \$1,000.

The gold is reduced to bullion at the mill. There is enough material in sight to ... mine for many years to come.

One tunnel is a mile long, during the course of driving it, we cut six veins.

The maximum depth reached is 1,400 feet, ventilated upraise shaft 500 feet to the surface.

\$500,000 has been expended for improvements from which we now have good returns.



The mine buildings at the Unity Mine.
Jim Walls, artist and prospector.

While the mining industry of the State is old, the office to which I have the honor of having been elected is comparatively new, and this is the first report of the mineral resources of the State that has ever been issued by my office. Like all first efforts it is in the nature of the case imperfect, and comparatively brief, but it will serve as a basis for future and more elaborate reports.

From the date of the first discovery of the precious metals in Idaho in the early sixties to the present this State has taken and holds an enviable position among the mining States of the west. It may be said without boasting and preserving restrictive limits that Idaho has a greater wealth of mineral resources than either Colorado or Montana.

Her placers have been the wonder of the nation and are still pouring their millions into the lap of commerce. Her lead mines now produce nearly half of all the lead produced in the United States.

Her gold Quartz mines have been touched only in places and her mountains of silver, when justice has been done to the white metal and bi-metallism triumphs, will reveal a wealth as marvelous as that of the Indies.

The quartz and placer district of Warrens is making good yields from year to year. The quartz camp of Warrens produces the richest gold quartz ever found in the state. (Inspector of Mines, 1899)

The Little Giant is one of the most celebrated mines in Idaho. The Altitude of its main workings is 6,700 feet,

and the character of the country rock is granite; of the vein, quartz; of the walls or enclosing rocks, mineralized granite; of the ore, gold and silver.

The ore occurrences are in chutes. Development work engaged the attention of the owners of this mine last year.

A shaft was sunk 100 feet below the tunnel level, and drifted west 100 feet, raised up to tunnel and stoped part of the block of ground. The ore is extracted by stoping and blasting.

Wood for fuel cost \$3 per cord. The average cost of timber per month is about 2½ cents per running foot. It costs 2 cents per pound to transport supplies to the mine. It costs on an average \$3/ton to treat the ore. The Little Giant employs 12 men, the miners receiving \$3.50 per day for a 10-hour shift.

The Lucky Ben and Hornet vein are west of the Little Giant, and the Hornet vein is on the west side of Halls Gulch. The vein is developed by several tunnels, all of which were caved in 1935. As traced by old, caved workings and a float, the vein runs about N. 80° W.

The vein trends towards the Arlise vein. They may be the same vein, but about a half-mile separates their nearest known points, and such interpolation is not safe.

No quartz was seen on one of the dumps on the Hornet Claim, but the quartz monzonite is of the altered type. A few pieces of quartz with a maximum diameter of about four inches lie on another dump (Geology and Ore Deposits of the Warren Mining District, Idaho).

The Lucky Ben vein was discovered in the early days and was developed by the Lucky Ben Mine, now long abandoned and totally inaccessible. It is reported to have produced about \$12,000 worth of metals.

The foliation of the quartz monzonite in the vicinity trends about N. 22° W. and dips about 55° NE. The vein strikes nearly east and dips 75° S.

It was traced by old, caved stopes, mine dumps, prospect pits, and float, for about 900 ft. horizontally and over a vertical range of a little more than 200 ft. Small bunches of rich ore are reported to have come from this vein (Geology and Ore Deposits of the Warren Mining District, Idaho County).

The earliest records on the Lucky Ben and Hornet are 1901-1911 showing no production. Jay Czizek is known to have been a man of science, but he also understood the wisdom of keeping his gold in the ground.

A 1979 interview with Jay A. Czizek's son provides a unique insight into his father's personality.

"...And he says 'I am not going to touch this. I am going to will it to you Jay, and when we work it again, we'll work it together. And whenever we need any money, we'll take it out. I'll show you where to go' and he did, and that's all we worked it for. We worked it for money, never when he had another job, or he was doing something else did we touch it. He said it was better there in the ground than in a... bank"

"...And he says, 'The hell with this, I'm not going to touch this. This is my grub stake.' You know like they all want a grub stake!"

Jay A. Czizek worked the ground as regular claims through 1912 and filed for the patent in 1913.

Czizek patented the ground to prevent claim jumping.



Portal Dumps

There was gold showing and, if he wanted them for himself, that was a way to keep it in the ground.

"...So, he grouched it. He said it was never going to be a big one."

He patented the Lucky Ben, Lucky Ben Extension, and the Hornet.

There is a certain amount of assessment work that had to be done prior to patenting, including several "discovery holes" visible as you climb the hill from the west edge of the Lucky Ben Extension to the east.

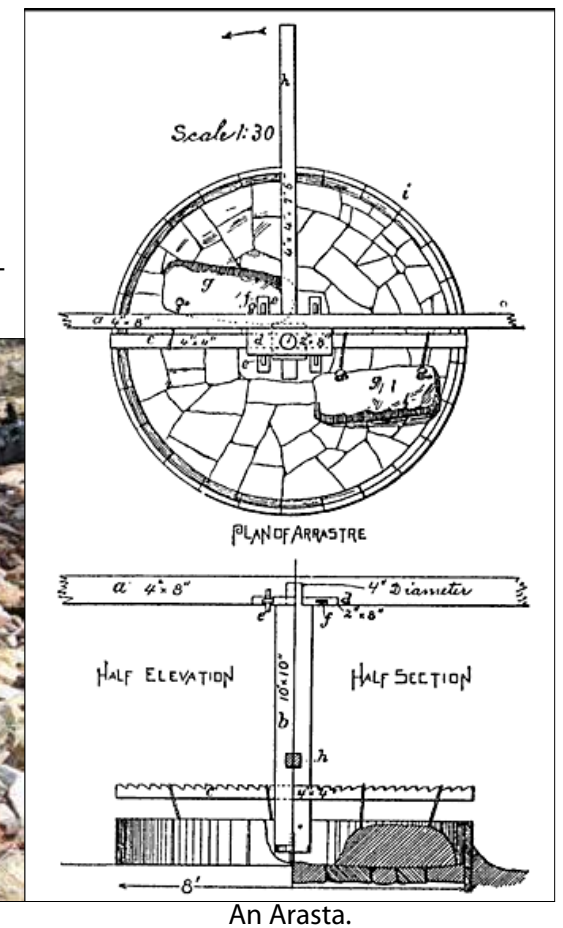
To the Czizeks, the assessment work was a nuisance, as was the \$100 to keep it, and the cost of surveying the properties was substantial.

The tunnel went in an estimated 1,100 ft. with several major stopes driven 200 ft. to surface. The tunnel was fitted with mining rails and a little mine buggy was used to wheel the ore out. It was a small operation of no more than three people.

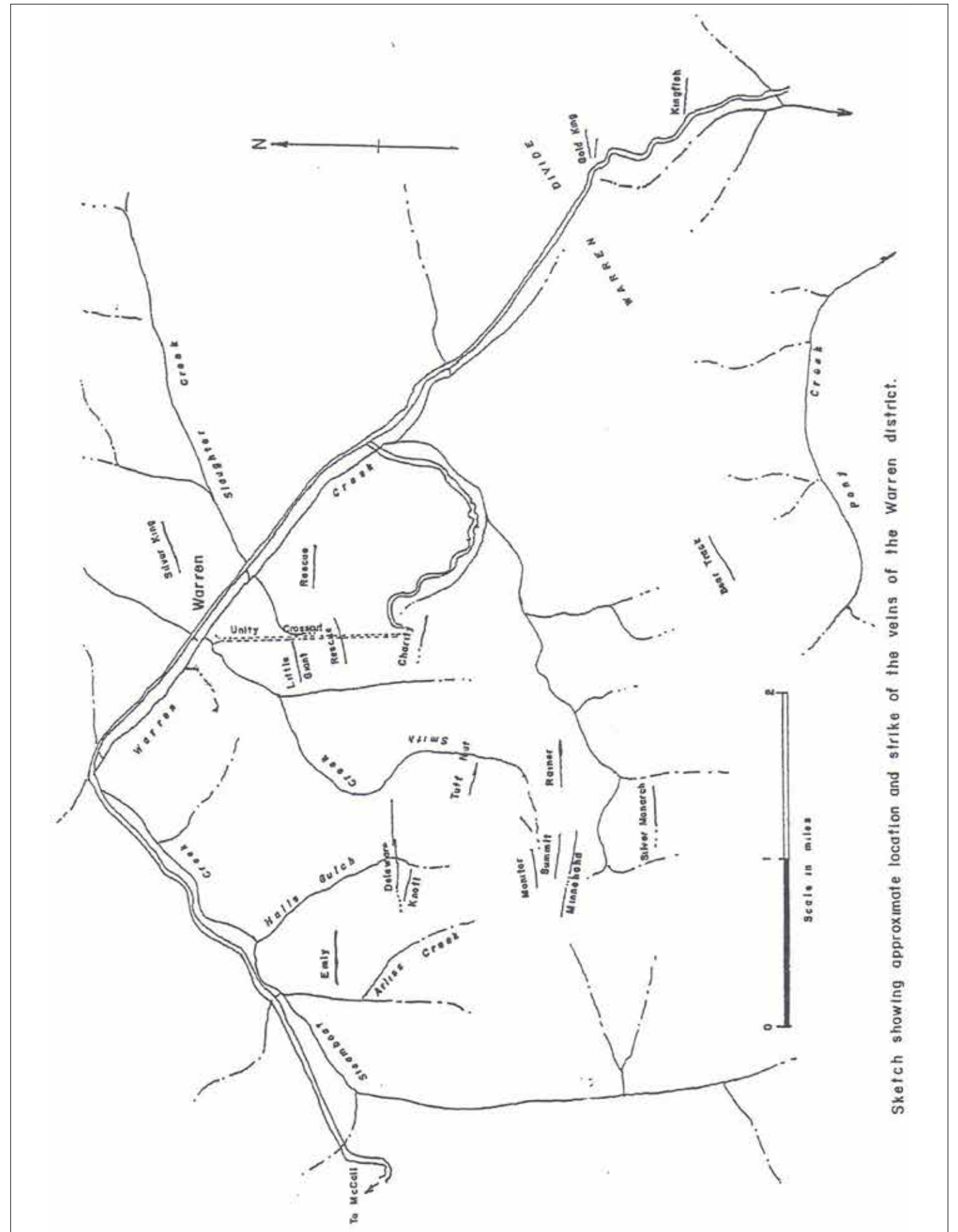
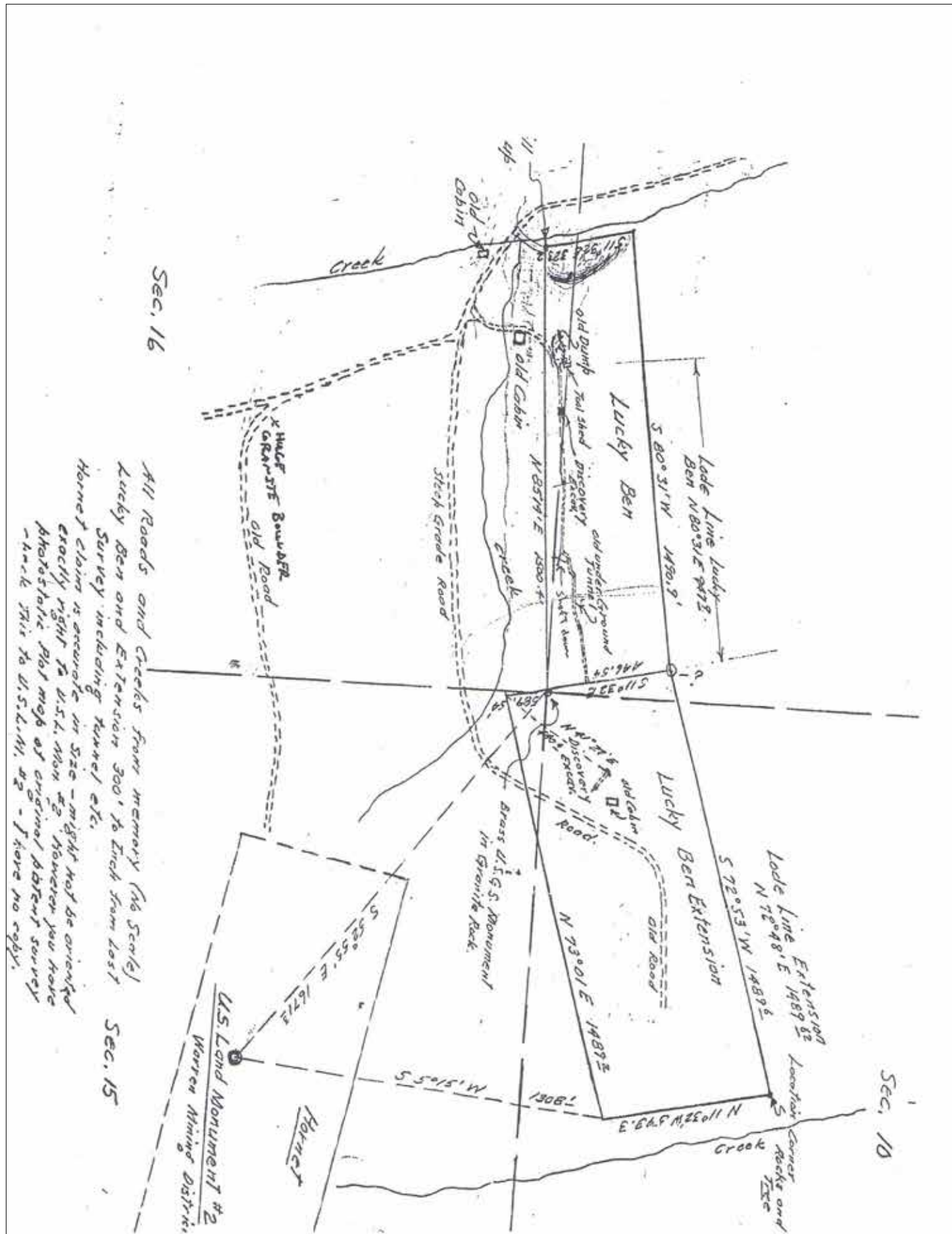
When the family moved in 1929, they caused a cave-in to block the tunnel about 50 ft. into the adit, to prevent claim jumpers from accessing the vein. They used stoping material to close the mine.

The arasta method for processing ore, introduced in North America by the Spanish in mid-1500s, is a primitive yet effective in-field method for processing ore.

Its simplest form is two or more flat-bottomed



An Arasta.



drag stones placed in a circular pit paved with flat stones, and connected to a center post by a long arm.

Human or animal would provide power at the other end of the arm, the stones were dragged slowly around in a circle, crushing the ore

The arasta method the Czizek's used for processing the free milling gold involved a lot of loose wood and logs that heated the ore on a grill.

The fire needs to produce enough heat for the quartz to crack open releasing the gold into the ashes. Then they would take the ashes and everything and filter it out and then run it with some water over a couple little copper plates with mercury.

"Yes it (the rocks) gets fine and it cracks open and you can hear it crackle and it drops the gold through the grill into the ashes."

In subsequent years they used a small rod and ball mill to grind the ore.

"Mercury wasn't expensive then, but you ran it over and the mercury would pick up all the gold and let all the crushed stuff go by and it will pick up the gold pieces and you just ball it."

"Heat the mercury off and what you have left is the gold. We would keep the mercury. Just let it go off and re-distill it and have it back again."

The Lelands purchased the Lucky Ben group in 1978 and attempted several, ultimately unsuccessful ventures to reopen the mine.

In 1984, Gold Stone Company completed sampling work which indicated a vein structure containing 2.25 oz./ton at a vein width of 1.5 ft. Sampling of vein material in the trenches and portal dump gave assay values ranging from 0.2-10.4 oz./ton silver and 0.1 to 13.05 oz./ton gold.

In 2002-2003, they made a deal with Sidney Resources.

Bill Brown had worked for Sidney from 1956 until 1971, when he joined the Board of Directors and became



Survey pin.



Old cabin site.



Tunnel blockage.

Board Chairman and President in 1975. In 1999 he began reviving and restricting the company, which he completed in March, 2003.

Due diligence of the Lucky Ben Project commenced in the spring of 2002 and ended in the fall of 2003. Included in that phase was the sampling of 950 ft. of old drift mining, production raises (several of which surfaced out), and identifying the vein at the surface for over 2,000 ft. to the east.

This area has not been mined on the surface or underground.

Two additional intersecting vein structures with economical grades of gold and silver were discovered.

Additional exploration of this primary vein and all intersecting structures will be ongoing both horizontally and vertically to increase the volume of those resources. (OTC markets)

Sidney Resources Corporation's work to date includes establishing on-site access roads and basic improvements to off-site existing roads. Underground, in place, samples were obtained using channel sampling in place with witnesses.

There are no buildings or old equipment on-site.

Sidney Resources Corporation plans to produce ore, crush, grind, and concentrate on-site with semi-portable equipment, and move offsite to refine.

Sidney Resources Corporation will use an Underground Mining Contractor for development and production mining and supplies his equipment and crews. The contractor can operate two shifts per day, seven days per week.

Sidney Resources Corporation will provide all underground materials for development and operations, as well as safety. (OTC markets)

He had also managed to complete the Steamboat bridge that enters the mine and some road construction on the west side near the audit. Permits were applied for in what was supposed to be a productive 2012 season.

Nearly a decade after the signing the lease with the Lelands, Bill Brown suffered a severe stroke following a fall. He was instantly bed-ridden and unable to communicate. The company issued a statement on July 11, 2012:

"W. F. Bill Brown, President and Chairman of the Board of Directors, sustained serious injuries in a fall in December of 2011. While the Board of Directors had hoped for Bill's rapid recovery, this has not been the case. Bill remains unable to resume his corporate duties and our prayers for a complete recovery continue to be with Bill."

The entire project seemed doomed to failure.

Millions of dollars had been invested and was now being carried with about 1,600 shareholders.

Michael Allen Drew was appointed as interim President with the task of continuing the work that Bill began. By this time, several people had also become involved with the project.

After months of phone calls and e-mails a trip to the mine was arranged and, in November 2012, Dan Hally, his brother, and I did a recon of the Lucky Ben mine.

During this trip one of our main contacts, Rodger Kimmel, suffered a heart attack and died.

We only got about a day and a half of getting familiar with the mine and doing some sampling before the weather moved against us. The recon was successful enough for us to be able to work with the information on hand.

2013 was a busy year with re-structuring the company, negotiating the lease, and formulating a mining plan.

Greg Lindner had come into the project as our President

while Dan Hally was Secretary Treasurer. I had the fortune of becoming the Vice President of Operations for that year. There were and still are several ways to advance this project.

The simplest mining plan was to roll with what Bill Brown had going. He was the most familiar with the Lucky Ben mine.

In principle, a small mining operation could be established on a modest budget, and it would limit the amount of red tape to navigate for a permit. The objective would be to start small and work our way into it. Free milling gold is good to work with.

There is no need for exotic chemicals or flotation processes to recover the gold. The ore can be crushed on site and fed through a shaker table to reach a concentrate level that a smelter would accept.

There is huge potential to expand the project by adding more crews in more locations. Adding more claims and properties to the portfolio would offer long-term security to the company and bring the project to a stage that would be attractive to major investment.

It will take significant amounts of money for a drilling program to produce a N43-101 instrument written by a geologist to go after large investment on the large exchange.

However, that document is required for the company to be listed on the big stock exchanges, and it's your biggest piece of credibility when making multi-million dollar deals with investors.

In late 2013, having taken the project as far as I could, I stepped down.



"The volume of work and improvements completed by Groundhog Mining and Milling Company under the direction of Nathan Hunt, the owner, this season are astounding considering the challenges of the terrain and access." - Dan Hally

A close up of the Lucky Ben Vein

A few weeks later, I received word that Bill Brown had died.

Dan Hally took over as VP of operations in 2014 and continued to successfully decipher the available information on the Lucky Ben history and Bill Brown's work.

Hally has a impressive resume, illustrated by these few highlights: He was Captain in the Asotone County Sheriffs Dept. and the Nez Pierce Tribal Police, and led a multi-jurisdictional task force that resulted in a rare, first-degree murder conviction in a case where the victim's body was not located.

Fifteen years of criminal investigations and emergency management experience made it possible for him to navigate the myriad of variables with this project. It took several years of painstaking research, e-mails, phone calls, negotiations, fundraising, and ultimately, never giving up, to see this project through to a golden opportunity.

In early 2020, the lease with the Lelands was renewed, and market conditions created the opportunity for raising the necessary funds to remove the tunnel blockage. A July update announced funding was in place to complete the work planned for the 2020 season.

On Sept. 30, 2020, nearly a century after the mine was closed by the Czizeks, the blockage was removed. It was a historic moment, setting stage for reopening the mine.

The volume of work and improvements completed by Groundhog Mining and Milling Company under the direction of Nathan Hunt, the owner, this season are

"Go up, which is cheaper. Going down the shaft, you have to pump water and you have to do everything. But if you can get in low, then you can work up and knock your ore down. They put little holes along there and then they cut between them. Catch your tunnel and carry it out. Stopped."



"It was only run as a project to make a little money every now and then. There was no point in spending it all developing it. We didn't want to develop it. We wanted some money once in a while. To carry that little ball of mercury and gold down to the mint. We did it (Tunnel/shaft) so we could do that cheapest because... you must realize our project. Our reasons for this were to take some money out just like you go to a bank teller when we needed it. We just followed the vein and explored a little bit as we went along to know where to go next time when we came"

astounding considering the challenges of the terrain and access.

The work which included collaring in the original portal to the Lucky Ben, clearing access to nearly 250 feet of original tunnel and vein structure including the first large stope previously mined.

This access allowed for sampling to be conducted in areas previously mined and that sampling provided a better understanding of the vein structure, the potential values of the vein structure, and how the information contained in a transcript of an interview conducted with the son of the original owner of the Lucky Ben, who was present during the original mining work, provided an accurate description of how they mined this property.

Historical production records from mining activity at the Lucky Ben indicates the average rate of gold recovered per ton was 1.25 ounces.

Based upon the information provided in the interview transcript, what we observed, and what has been located via ore sampling, we believe most of the recovered gold and silver came from large stopes such as the first major stope we located.

That stope is approximately 50 ft. long x 50 ft. high x 3.5 ft. wide. The estimated weight of the ore is 4,300 lbs./cu. yd. Thus, it appears this first stope contained 696 tons of ore.

Sampling work completed by Gold Stone Company in 1984 indicated a vein structure containing 2.25 oz./ton at a vein width of 1.5 ft.

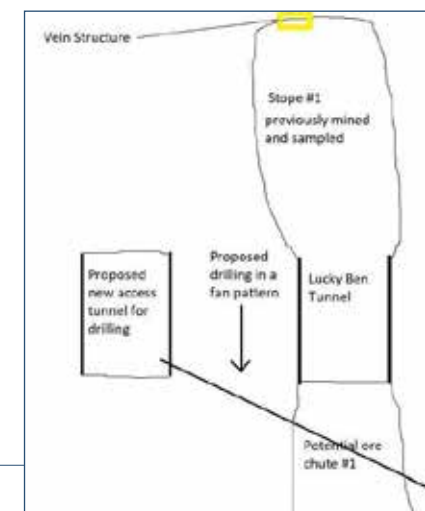
At three feet, because of dilution the estimated grade would be 1.125 oz./ton of gold, thus a 50 x 50 x 3.5 ft. stope of 696 tons of ore would contain 783 oz. of gold which, at \$1,800, would be worth \$1,409,400. The existing Lucky Ben tunnel is 252 ft. from the proposed new tunnel

If the vein structure that was in the first stope continues at depth, the conclusion we draw from available geological data from the region is that up to five additional blocks of ore containing 696 tons of ore would be located within the first ore chute area between the tunnels.

If so, there would be an estimated 3,480 tons of ore in this first ore chute. With a grade of 1.125 oz. of gold at \$1,800/oz. the value would be \$7,047,000. At an estimated net profit of \$1,200/oz. the value would be \$4,698,000.

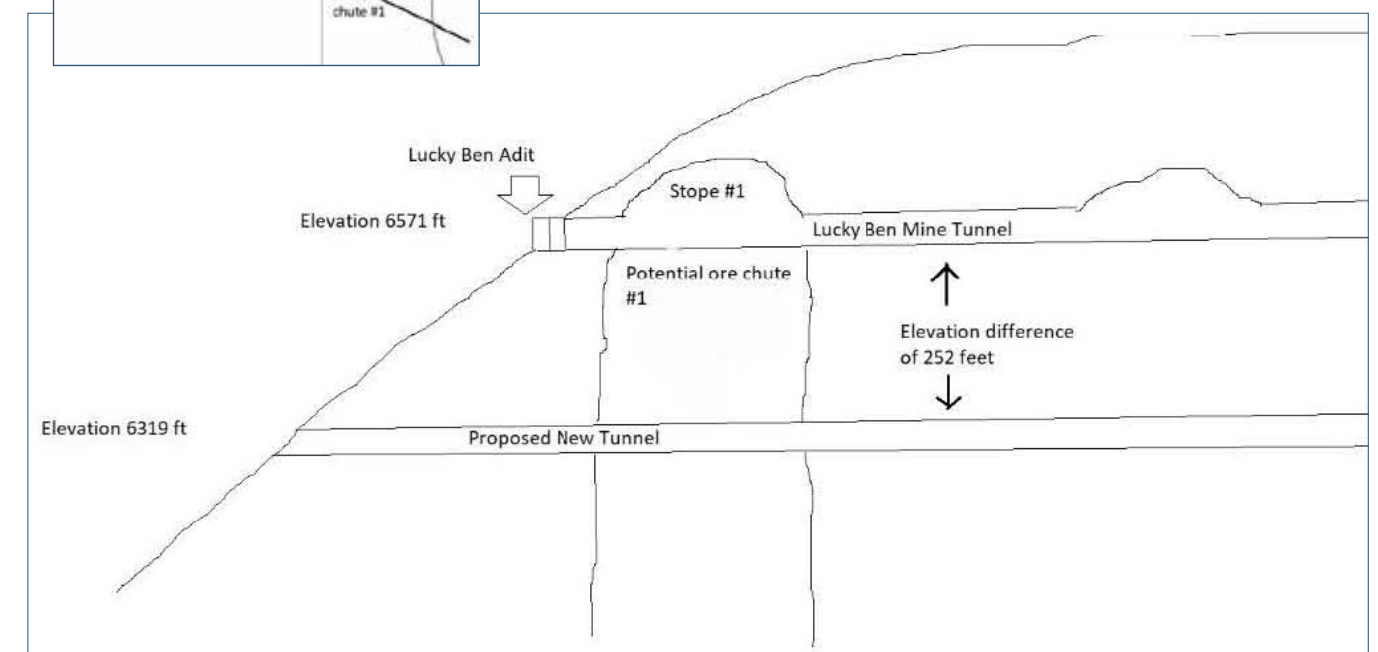
Samples taken from the back (ceiling) of the first stope have a low range of .185 oz. of gold and 1.52 oz. of silver/ton to 1.86 oz. of gold and 45.37 oz./ton of silver.

These samples were taken from areas that were mined; this is what was left behind.



This season's work leaves us in a position to complete a short amount of drift work, extending the tunnel to the left of the existing stope.

We would complete short drilling runs of



under 100 ft. in a fan pattern, to confirm the values and structure of the area below the known first stope that has been previously mined and the proposed tunnel.

Once the drill work is completed and the sample results are known, should the results prove it to be economically feasible as we believe it will, we would collar in the lower portal to the left of the vein that we have located and drift to a distance located below the known stope.

We would then complete another set of short drill runs in a fan pattern to confirm the location and values of the ore chute.

If these results are consistent, we would complete a short drift to the ore chute and mine it to the existing tunnel.

This process would be repeated along the vein structure. Based upon known information we believe there are three additional stopes (four in total) within the first 1,000 ft. of tunnel that have been previously mined.

It has definitely been the most productive and exciting season for us.

Over winter we will work with Groundhog Mining to finalize operational plans and next year's budget for next year.

The management will focus on ensuring we secure the necessary funding to continue working on location for a full season that will likely begin in June and continue until November 2020.

We are exploring plans with Groundhog Mining to have a plan in place where underground mining can continue year-round with the stockpiling of ore and then run the portable mill during summer, with the goal of purchasing additional property to explore and develop.



Bill Brown building road access.



Bridge over Steamboat Creek.



Road access, Nov. 2012.



Mitch Mortensen and Matthew Hally.



(above) Moving over stope debris. (below) Past the debris.



Sidney Resources Corporation
President, Gregg Lindner.



(above) Collar construction.
(below) Collar completed.



Vice President Operations/Secretary
Treasurer, Dan Hally.

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IN A LIGHTER VEIN

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... because it's illegal to sell alcohol to miners.

What is the playboy definition of a metallurgist?
... someone who can tell the difference between a platinum blonde and a common ore.

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