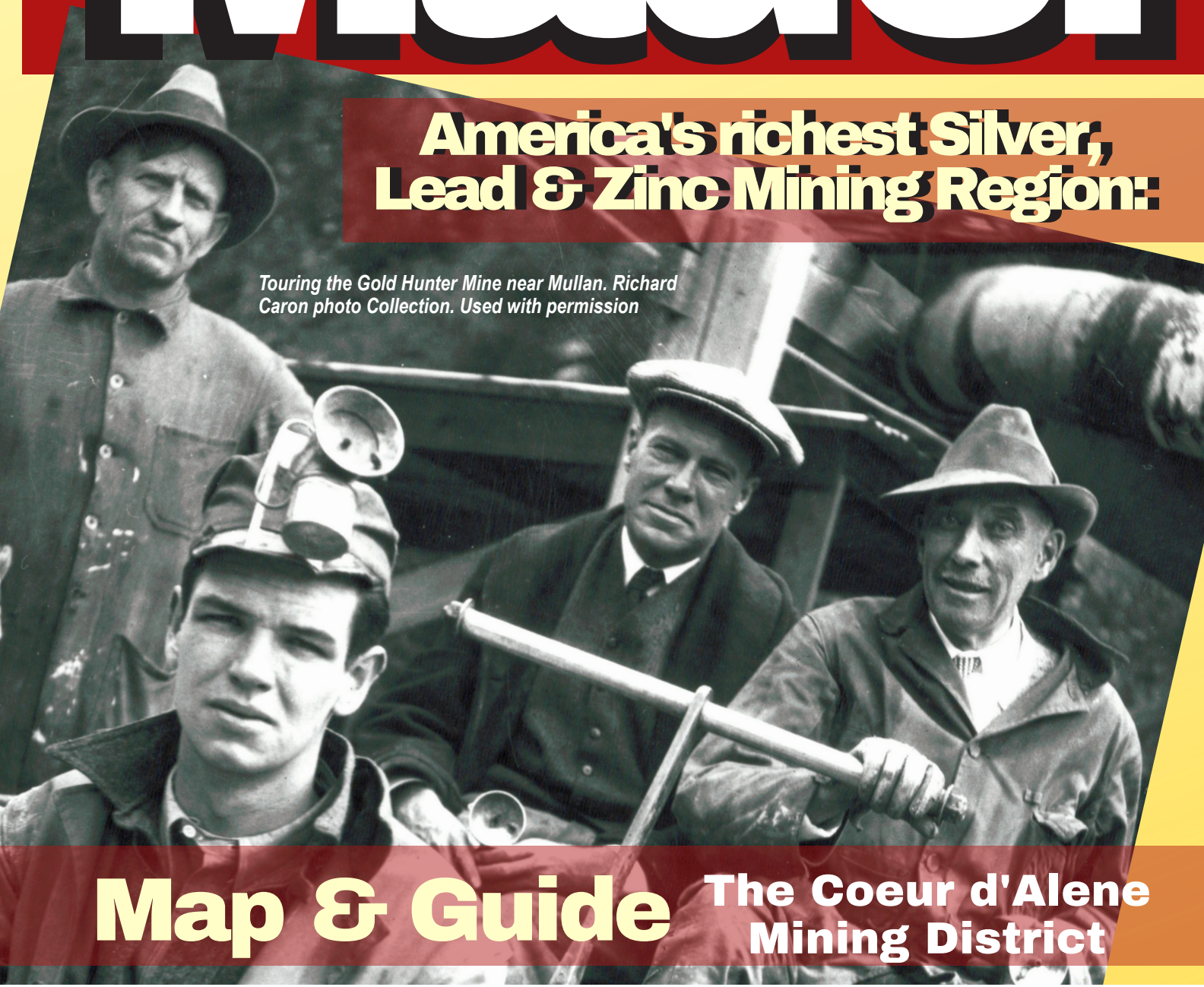
Mine Made:

America's richest Silver, Lead & Zinc Mining Region:



Touring the Gold Hunter Mine near Mullan. Richard Caron photo Collection. Used with permission

Map & Guide

The Coeur d'Alene Mining District

Treasures to unearth

Welcome to the Coeur d'Alene Mining District and the Silver Valley of Idaho, one of the world's richest silver, lead and zinc regions.

Since the 1880s this district has been supplying America and the planet with the metals necessary that make modern life possible.

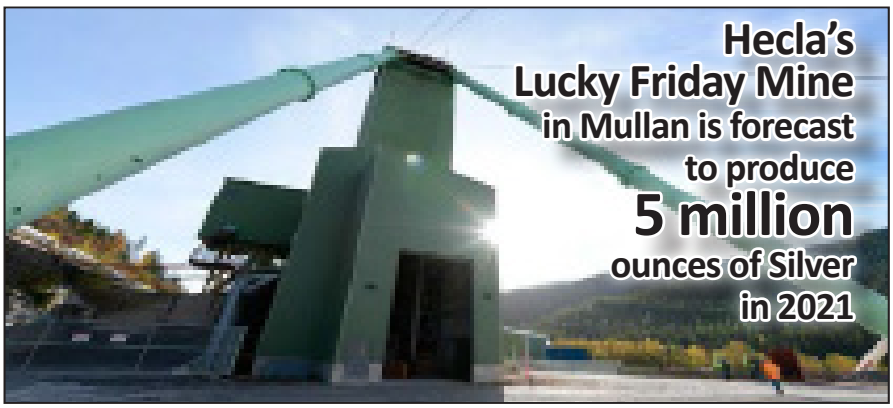
And yes, we are still mining here, with enough reserves to last decades into the future at current metals prices.

Underground at the Galena mine, near Wallace.
AMERICAS GOLD AND SILVER IMAGE

There are over 800 mine and prospect sites in the District. The major producers and points of interest are outlined in this 16 page map and guide.

But this publication merely scratches the surface of the area's mining history.

It is a story perhaps as rich as the minerals found beneath the mountains and as deep as the deepest veins of ore below. It is a story of intrigue, sacrifice, triumph and tragedy -- of literal backbreaking labor, overnight fortunes made and lost, war, gambling, bordellos, Presidential visits and political assassination. As well as a legacy of environmental consequences, reclamation and rebirth.



To find out more, please visit the museums, exhibits and attractions that tell this story in greater depth. They are listed on page 15 of this guide. Those entities' contributions were crucial to the production of this guide.

Also crucial was financial support from the Idaho Humanities Council, Frank A. Morbeck Foundation and those sponsors listed on the back cover.

Production would not have been possible without the assistance of Tammy Copelan, executive director of both the Wallace District Mining Museum and Barnard Stockbridge Photo Museum who provided production numbers and archival images, and Hecla Mining Co. who generously donated of art and graphics.

Other sources used to compile this guide include the comprehensive *1884-1980 Coeur d'Alene District Production Report* penned by Idaho Geological Survey's Victoria Mitchell and Earl Bennett from the University of Idaho, as well as Bennett's *2019 Silver Valley Tour* produced for the Idaho State Historical Society.

Finally, a very special thanks to former Hecla Lucky Friday Mine managers John Jordan and Mike Dexter, former Galena Mine Senior Geologist Harry Lenhard, as well as former Asarco mining engineer Chris Pfahl -- all of whom consulted on this project.

This map and guide produced with support from the Idaho Humanities Council and the Frank A. Morbeck Foundation.

Silver Capital of the World

The phrase, "Silver Capital of the World" isn't wishful conversation or futuristic fiction. No other place on earth has produced over one billion troy ounces of silver in less than one hundred years.

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As of 2020, the area has a history of 113 consecutive years of producing at least one million ounces of silver with fifty-four of those years exceeding ten million ounces. As recently as 2000, 12.9 million ounces were extracted.

Historically this district produced about half of the newly mined silver in the United States. Today district mines account for 10 percent of total newly mined silver in the U.S. A combination of mothballed local mines as well as silver production as a by product in other states' open pit gold and copper mines has reduced the share Silver Valley mines produce.

The significance of the production here is even more remarkable comparing the difficulty of mining these predominately narrow veins with open pit or other large scale methods.

	Oz. Gold	Oz. Silver	Tons Lead	Tons Copper	Tons Zinc	TOTAL VALUE
1884-2010	529,955	1,222,746,200	8,412,308	208,440	3,331,195	$ 6,692,091,000
2011	0	5,303,500	21,235	552	7,305	251,523,000
2012	0	2,316,500	2,632	514		81,240,000
2013	75	3,602,600	13,544	501	3,793	122,509,000
2014	0	4,860,800	24,676	293	8,159	157,446,000
2015	8,000	4,517,800	27,066	152	8,139	139,166,000
2016	575	4,979,700	34,316	0	10,787	164,702,000
2017	3,525	1,973,869	14,624	0	2,560	75,354,000
2018	3,400	1,138,428	9,931	0	673	43,905,000
2019	5,060	1,384,126	10,286	0	2,052	52,947,500
2020	3,755	2,961,198	22,345	0	6,298	116,475,700
Thru 2020	554,345	1,255,784,721	8,592,963	210,452	3,380,961	$ 7,897,359,200

Most of the ore bodies in this district are only economical to mine with portable equipment and hand held drills. Some workings are only slightly more than shoulder width from wall to wall.

> The total value of all metals produced in the Silver Valley, to date, has been nearly...
>
> ***7.9 billion dollars***

Much of the production has been undertaken at great depths. In the 1980's, three of these properties were the nation's leading silver producers twice each, and each of those were extracting ores a mile or more below the surface. With valley floor elevations averaging about one-half mile above sea level, it places the deepest mining activities well over one mile below sea level. Temperatures exceed 100 degrees F° at those depths, requiring extensive refrigeration efforts.

In the twenty-year span before metal prices dropped in the early 90's, the Galena Mine was the nation's leading silver producer seven times, the Sunshine Mine five times and the Lucky Friday, twice. Since "coming of age" in the 1930's, the Sunshine Mine has produced more silver by itself than all mines in Nevada's Comstock lode combined.

Although the district is famous for its silver, it traditionally has ranked among the nation's leaders in lead production with over 8.5 million tons. It has contributed nearly 3.4 million tons of zinc, two hundred ten thousand tons of copper and one and one-half million ounces of gold. The total value of all metals produced in the Silver Valley, to date, has been nearly 7.9 billion dollars.

The future mining in this district has more to do with mining costs than ore body depletion. If metal prices are favorable, activity could return to the twelve million plus ounces of silver per year plus the base metals for which the district is also famous.

Even at that rate, reserves are likely to last for dozens of years.

The Mining Process

From Raw Ore To Silver

Miners in the Silver Valley often work at depths of more than a mile underground, with some mine shafts reaching several thousand feet below the earth's surface. The area that miners work in can range from a stope that is only shoulder width wide to a drift large enough to maneuver a 16-ton dump truck.

DRILLING AND BLASTING

The mining cycle begins with the drilling of blast holes in the rock face. The holes are loaded with explosives and detonated. The collection of drill holes to be blasted together is called the "round."
The blasted ore, called muck, is removed by specialized front end loaders and is hauled from the mine.

BOLTING

Once the work area is mucked out (ore removed) Jackleg drills are used to install the rock bolts in the walls and ceilings of the stope, which reinforce the opening and work area. When the bolting process is completed, the mining cycle begins again

HAULING

Ore is removed from underground in a variety of ways, including battery powered ore trains, on rails, or loaders and dump trucks that transport the ore to a mine shaft where it is hoisted to the surface to be processed in the mill.

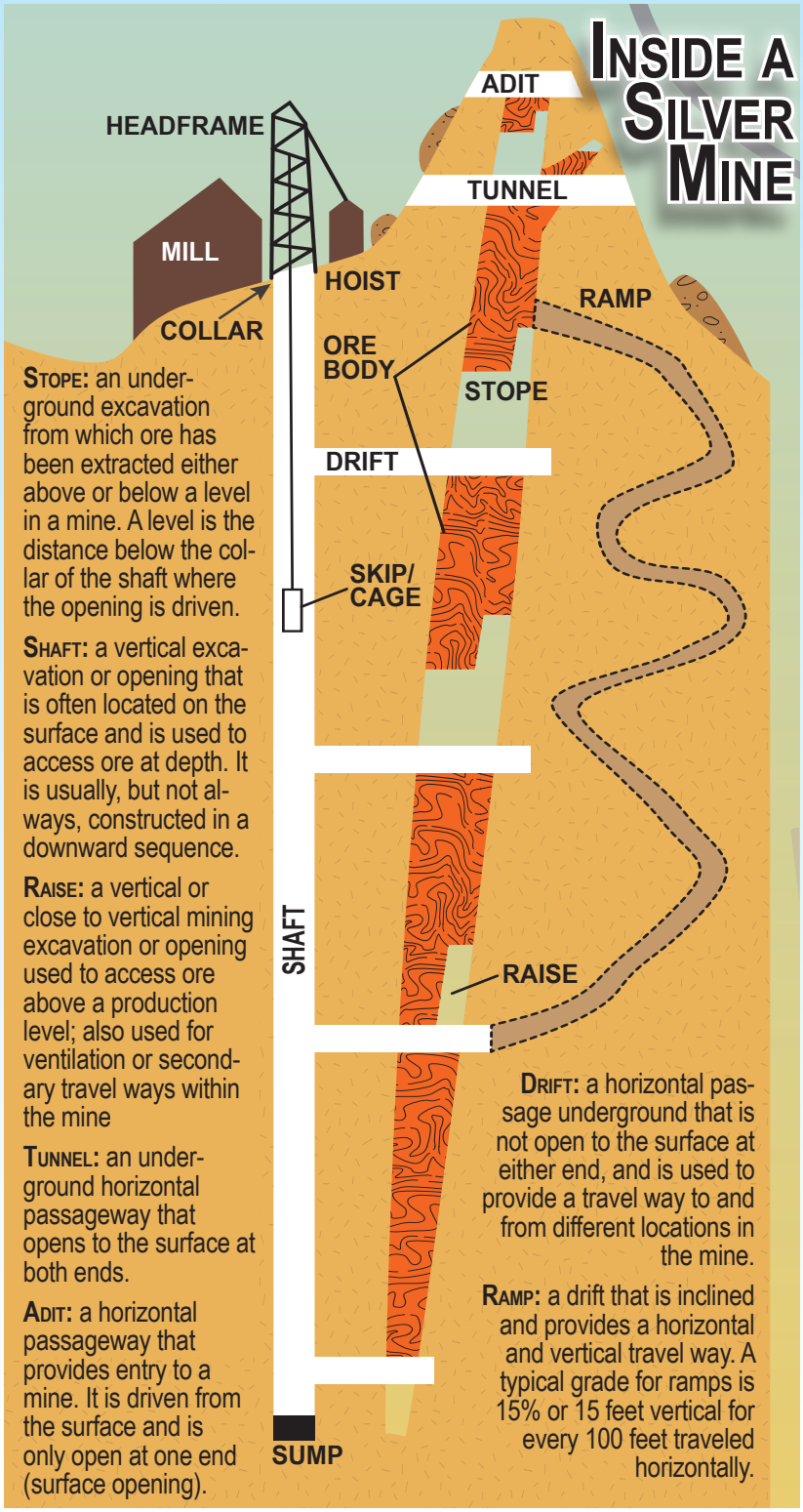
MILLING & CONCENTRATING

Once hoisted to the surface, raw ore is conveyed to the mill where it is first crushed and then ground into a fine powder to begin the concentration process. The fine particles are piped to a froth floatation area where the valuable metals are floated and separated from the waste material, know as mine tailings. The metals are further processed and result in a concentrate and shipped to the smelter.

At the Lucky Friday Mine, approximately 40% of the remaining tailings go back underground and are used as backfill in the mine; the remaining is piped to a tailings' impoundment area

REFINING

The lead concentrate, containing lead and silver, and the zinc concentrate, containing zinc and silver are shipped to smelters around the world to be further refined. At the smelter, silver is processed into bullion and finally sent to a refinery where it is purified through electrowinning, which results in 99.99% pure silver. Most of the metal concentrates in the U.S. are shipped out of the country for processing and refining.



Silver it's in everything, everywhere

You may think silver isn't of much use today, but you'd be wrong.

The shiny metal is omnipresent in today's economy. The car you drive, the phone you talk on, nearly every electrical appliance and device you use, uses silver.

While its infection fighting properties may even save your life.

Though the majority of silver used today is for silverware, jewelry and investment, silver is also in great demand for its unique industrial applications, electrical conductivity and infection fighting properties.

Almost every computer, mobile phone, automobile and appliance contains silver.

It is the perfect substance for coating electrical contacts – like those in printed circuit boards – because of its high electrical conductivity and durability.

And as demand for green electric energy grows, so does reliance on conductive metals like silver.

A 'Silver Bullet' against germs

Silver has a long history of use to prevent the growth of dangerous germs. But it's only in the past few years that scientists discovered how silver works as a biocide.

Silver ions can penetrate the cell walls of bacteria – without injuring mammalian cells – thus destroying the chemical and structural bonds essential for bacteria's survival and growth.

In the past sailors on long ocean voyages would drop silver coins into water and wine casks to keep the liquids fresh.

For decades, physicians placed several drops of silver nitrate into newborns' eyes to prevent infection.

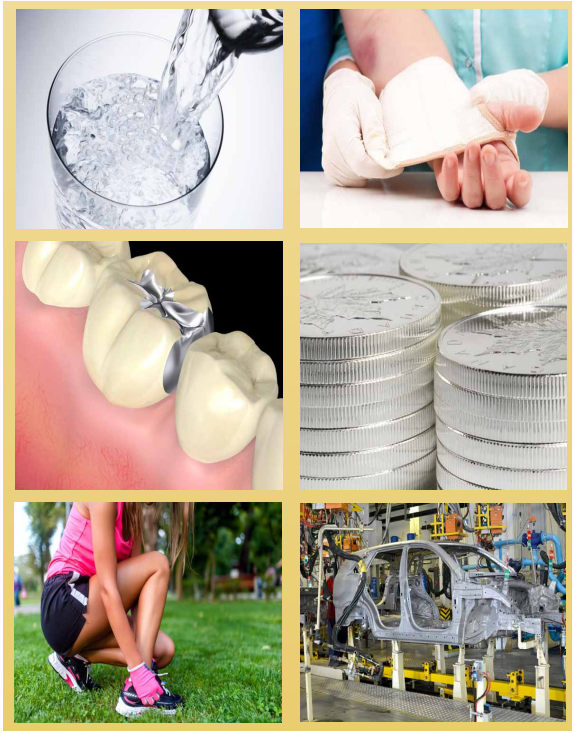
During World War I, battlefield injuries were wrapped in silver foil and silver sutures were used to close deep wounds.

Today that germ killing property makes silver an essential additive for many different medical devices. You'll find silver in everything from bandages and ointments to coatings on breathing tubes, catheters, artificial bones, and in scaffolding used to keep bones in place while they mend. The silver in these devices and products keeps bacteria at bay, allowing the body to heal faster.

Those germ fighting powers are gaining import with the ever growing antibiotic resistance in bacteria like the life-threatening Staph germ called MRSA, often referred to as a "superbug."

To combat the growth of these dangerous germs, there is a growing trend among hospitals, clinics and long term care facilities to use silver-imbedded surgical tools, needles, stethoscopes, furniture, door handles, linens and even paper files.

Silver is still mined here because silver is an essential commodity for modern living,



Silver is used in...

- Electrical & Electronic Components
- Smartphones
- Solar Panels
- Superconductors
- Inks
- Automobile Manufacturing
- Batteries
- Photography Processing
- Mini antennas for radio frequency identification devices in freeway toll booths, casino chips and passports.

Did you know...

Silver has Antibacterial Properties and is used in

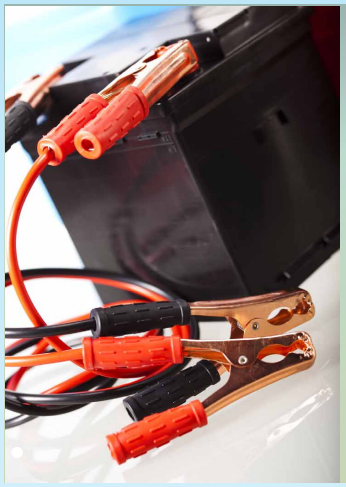
- Bandages for wound care and minor skin infections
- Clothing to help regulate body heat and minimize odor in shoes and athletic wear.
- Water purification
- Cell phone covers to reduce bacteria spread
- Treating of wood to resist mold
- In dental fillings to inhibit tooth decay

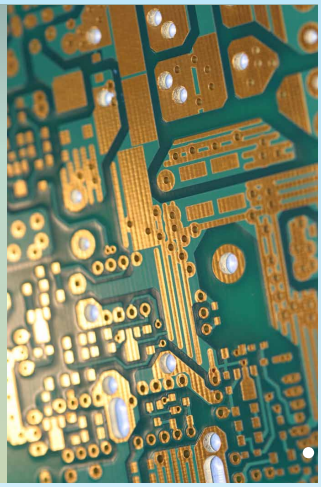
Through 2020, Silver Valley mines produced over 1.255 billion ounces of silver.

Minerals

How minerals impact our lives

The minerals mined in the Silver Valley -- Silver (Ag), Lead (Pb), Zinc (Zn), Copper (Cu), and Gold (Au) -- are essential, irreplaceable components of modern Life





Lead (Pb)

Lead is used primarily in the production of vehicle and industrial type batteries for uninterruptible power-supply equipment, and used to store Green Energy produced from solar and wind sources.

Thru 2020, Silver Valley mines have produced 8.6 million tons of lead.

Zinc (Zn)

ZInc is found in items we use daily, from sun-screen to jet airplanes. Most commonly, zinc is used to make galvanized steel for roofing, rain gutters and pipes.

Thru 2020, Silver Valley mines produced 3.4 million tons of zinc.

Copper (Cu)

Copper is used in construction for wiring and roofing. Copper wire is an essential component of all energy infrastructures.

Thru 2020, Silver Valley mines produced 210,462 tons of copper.

Gold (Au)

Gold has many uses beyond bank reserves, coins and jewelry. Gold is found in electronic devics, smartphones, computer systems, medical equipment and in the aeronautics industry.

Thru 2020, Silver Valley mines produced 554,345 ounces of gold.

Minerals: A Driving Force in Innovation and Technology

Advanced and Green Energy Technologies such as electrical and solar power, wind turbines and electric vehicles rely on Silver, Zinc, Copper and Lead.

Communication and Navigation Systems including GPS and Satellite Technology use Silver, Gold, Copper and Zinc, as do smartphones, laptop computers and many electronics.

Modern Medical Technologies like CAT scans contain Copper, Lead, Silver and Gold.

New Automotive Technologies such as electric and hybrid vehicles rely on Zinc and Lead.

Mining
and the environment

Now

The Lucky Friday Mine Pond #4 impoundment area (left) stores mine tailings – the fine grained rock that remains after the valuable silver, lead and zinc minerals have been removed from the ore. The impoundment is a synthetically lined, earthen fill dam with a capacity to hold 2.64 million tons of tailing. When the impoundment is full, the area will be covered and planted with native grasses and shrubs.

THE EARLY YEARS

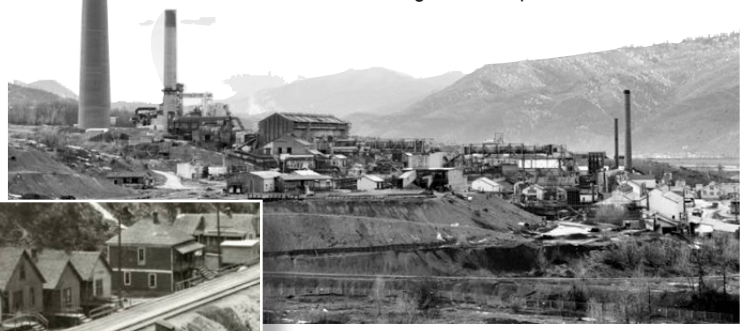
During the late 19th century and through much of the 20th century, environmental issues were not much of a concern in the United States or the world. Mechanization and the billowing smokestacks of the Industrial Age were signs of progress and prosperity. The critical minerals produced from the Silver Valley mines were integral to the U.S. Government's war efforts, which took precedence to environmental considerations at the time.

Our nation's rivers and streams were typically repositories for many types of waste – domestic, municipal and industrial – where an "out of sight out of mind" was considered acceptable. It wasn't uncommon to have "outhouses actually perched over streams as pictured inset on Canyon Creek

Mine tailings throughout the world were similarly disposed of via the local river systems. In the early 1960s, all mine tailings in the Silver Valley were retained in impoundment areas – several years before the first Federal Clean Water Act was passed by Congress in 1972. With these changes, the issues with municipal sewage flushing into rivers became an obvious problem and led to advanced wastewater treatment systems for municipalities.

Then

The Bunker Hill Mill and Smelter Complex in 1968. The complex was razed in 1996 and reclamation began soon after. Barren hillsides and large piles of slag then today are covered with vegitation as pictured bottom left.



TODAY AND THE FUTURE

Mine tailings from the Silver Valley are contained in engineered impoundments

Both mining companies and government agencies conduct extensive environmental monitoring.

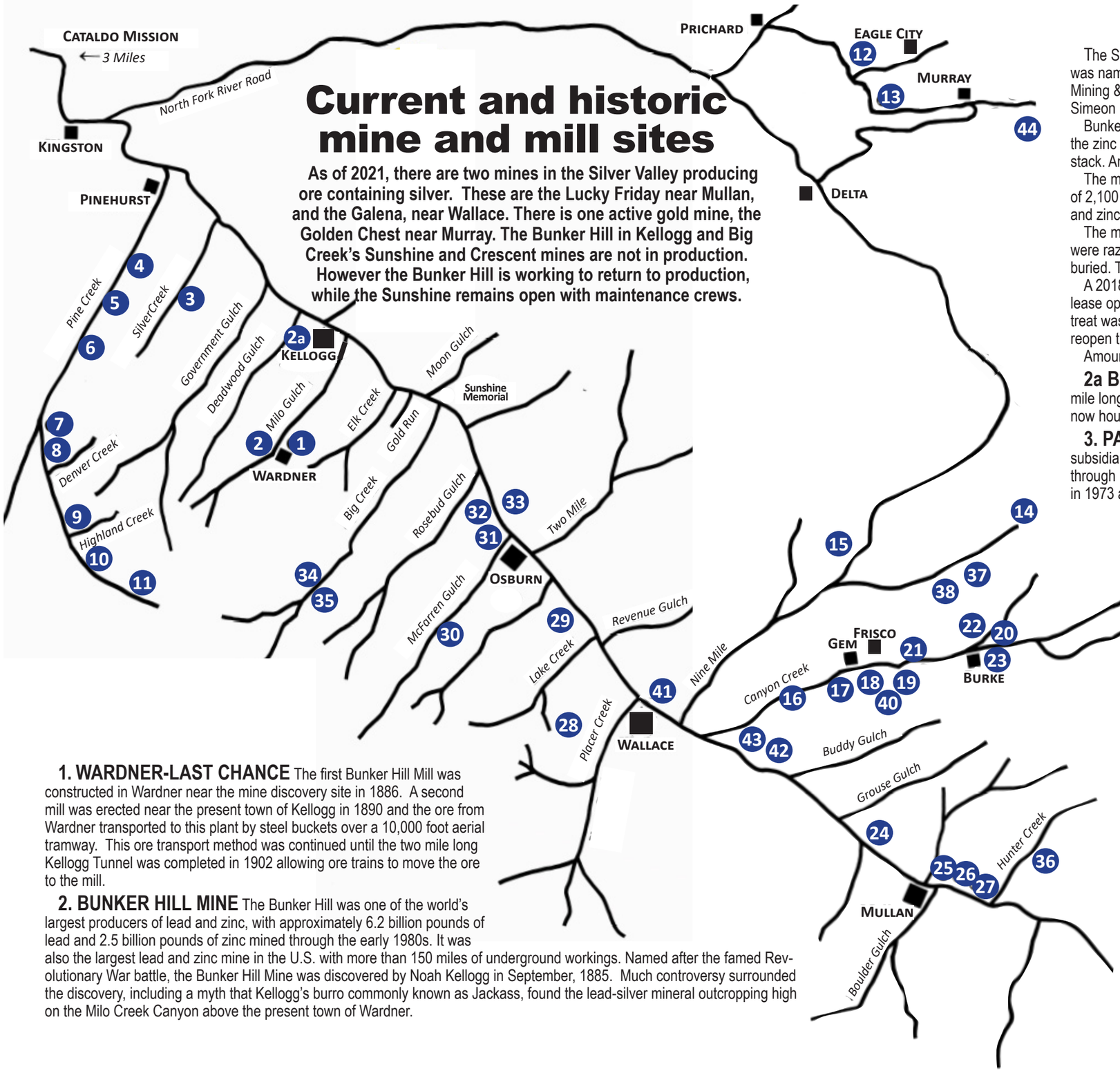
Mining companies must have a Land Reclamation Plan in place before any mining activity begins. This ensures lands affected by mining are returned to protective, post mining land uses.

The reclamation of legacy mining sites continues today. Federal EPA-led cleanup in the Silver Valley has primarily addressed human health exposures and is now focusing on legacy mine sites, many of which were abandoned decades before environmental regulations required closure. Many of the legacy sites have been razed and the sites have been returned to a natural state.

MODERN TECHNIQUES used by the mining industry have greatly reduced the enviormental impact of mining on waterways. Mining companies in the SIlver Valley and across the United States continue to invest in the development of new mining technologies and processes to minimize enviornmental impacts

Current and historic mine and mill sites

As of 2021, there are two mines in the Silver Valley producing ore containing silver. These are the Lucky Friday near Mullan, and the Galena, near Wallace. There is one active gold mine, the Golden Chest near Murray. The Bunker Hill in Kellogg and Big Creek's Sunshine and Crescent mines are not in production. However the Bunker Hill is working to return to production, while the Sunshine remains open with maintenance crews.



1. WARDNER-LAST CHANCE The first Bunker Hill Mill was constructed in Wardner near the mine discovery site in 1886. A second mill was erected near the present town of Kellogg in 1890 and the ore from Wardner transported to this plant by steel buckets over a 10,000 foot aerial tramway. This ore transport method was continued until the two mile long Kellogg Tunnel was completed in 1902 allowing ore trains to move the ore to the mill.

2. BUNKER HILL MINE The Bunker Hill was one of the world's largest producers of lead and zinc, with approximately 6.2 billion pounds of lead and 2.5 billion pounds of zinc mined through the early 1980s. It was also the largest lead and zinc mine in the U.S. with more than 150 miles of underground workings. Named after the famed Revolutionary War battle, the Bunker Hill Mine was discovered by Noah Kellogg in September, 1885. Much controversy surrounded the discovery, including a myth that Kellogg's burro commonly known as Jackass, found the lead-silver mineral outcropping high on the Milo Creek Canyon above the present town of Wardner.

The Sullivan claim, located at the same time, was on the opposite side of Milo Creek. This claim was named after Cornelius Sullivan, another early day prospector. Thus the Bunker Hill and Sullivan Mining & Concentrating Company was incorporated in July of 1887 by Portland, Oregon businessman, Simeon Reed.

Bunker Hill Mining Company was instrumental in developing uses of zinc and contributed much to the zinc casting industry. The company built its own lead smelter in 1917 with a 715 foot high smoke stack. An electrolytic zinc plant followed in 1928 with a similar 610 foot stack.

The mine shut down operations in 1981 due to recession and falling metal prices, causing the loss of 2,100 jobs. When the complex closed, it was producing about 20 percent of the nation's refined lead and zinc and 25 percent of its silver.

The mine reopened in the late 1980s but closed again in 1991. In 1996, the smelter and zinc plant were razed as part of the Superfund project. The two large stacks were dropped into trenches and buried. The mine still contains substantial quantities of lead, zinc and silver ores.

A 2018 Consent Decree with the EPA and current mine owners Nevada Based Placer Gold and lease operator Bunker Hill Mining allows for the reopening of the mine, provided the companies can treat waste water coming from production. As of 2021 Bunker Hill Mining is seeking $42 million to reopen the mine under the EPA agreement.

Amount of Silver Mined, 130.1 million ounces

2a BUNKER HILL MILL Part of the Bunker HIll complex, connected to the mine via a two mile long tunnel, the complex lies on the very west end of uptown Kellogg. A portion of the complex now houses local government offices.

3. PAGE MINE The Page Mine was acquired by the Federal Mining and Smelting Company, a subsidiary of ASARCO, during the years of 1904 to 1908. The mine operated continuously from 1926 through 1969, producing 4.5 million tons of silver-lead-zinc ore. The surface plant at the mine burned in 1973 and the mill and plant buildings were dismantled. The mine's tailings pond is now a sewage lagoon for the South Fork Coeur d'Alene River Sewer District. Amount of silver mined, 14.6 million ounces.

4. AMY-MATCHLESS operated on both sides of Pine Creek from 1912-1956. In addition to its own ore, which ran 2.3% lead, 0.24% zinc and 0.53 oz silver, the Amy mill processed ore from several other small mines and leasers. The mill was lost to fire after closing.

5. SUNSET MINERAL produced 256,437 tons of ore 1937-1963.

6. LOOKOUT MOUNTAIN M & M CO.
Incorporated in 1916, Lookout made initial shipments by wagon of its rich silver-lead ore in 1922. It had its ore custom milled at the Amy mill. The last work was done under contract from the 1,200 foot level of the adjoining Sunset Mineral's shaft.

7. NABOB was an early producer from 1916 – 1955 with 134,069 tons of ore running 5.36% zinc, 33.3% lead and 1.39 oz silver. The Nabob mill was the last mill on Pine Creek to remain standing.

8. SIDNEY This was Pine Creek's top producer and was one of the last big mines to shut down on March 31, 1960. Sidney built a 275-ton flotation mill in 1951, employing ninety men and later increased that figure to one-hundred six. By 1959, Sidney curtailed most of its operations and turned to uranium mining. Sidney did some work on adjoining properties, including Nabob and Nevada-Stewart, before it shut down.

9. HIGHLAND SURPRISE Ranked No. 3 in output with 517,705 tons from 1904 – 1971, assaying 6.00% zinc, 2.15% lead and 0.71 oz of silver. It was the first Pine Creek property to use mechanized equipment for hauling its ore in 1915.

Please note: access to current and former mine sites is restricted. Please do not explore sites in this map & guide without permission of property owners.

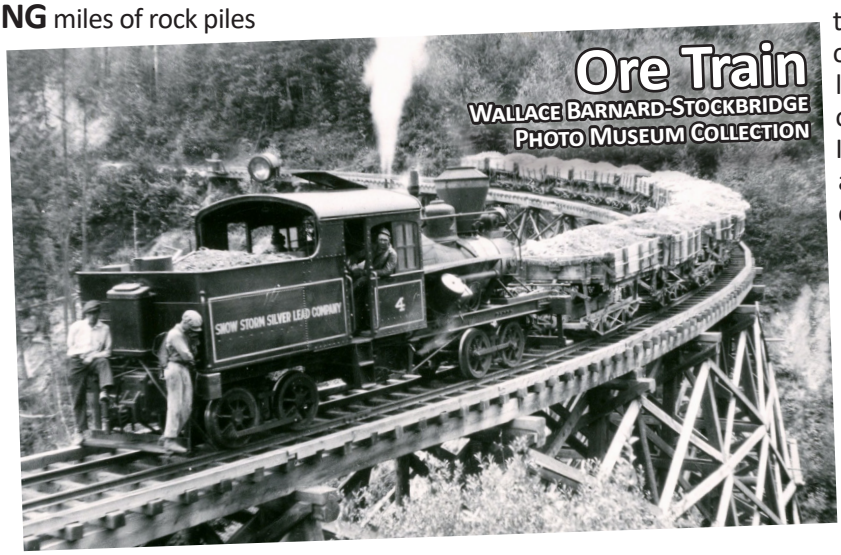
Map & guide produced by LTD Publishing/Heartswood, Wallace Idaho

10. CONSTITUTION Pine Creek's second top producer, after being located in 1901. That ore body reportedly averaged 30 to 35% zinc along with considerable lead and silver. From 1915 – 1968, the Constitution produced 677,325 tons of ore assaying 6.76% zinc, 2.29% lead and 1.91 oz silver.

11. DOUGLAS Located about half a mile below the Constitution, The Douglas had been staked in 1900 by James Bratterton, J.C. McDermaid, J.C. Cone and others.

12. EAGLE CREEK where the first gold was discovered in the Silver Valley in 1883. The first major discovery of gold in the Coeur d'Alene's was near here in 1882.

13. GOLD DREDGING miles of rock piles are from early 20th century to pre-WWII gold dredging operations.



Ore Train
Wallace Barnard-Stockbridge Photo Museum Collection

14. INTERSTATE CALLAHAN named originally for Jim Callahan, who filed on this claim in 1887. During 1906 and 1907, he made a shipment of hand-sorted ore valued at $110,000.

Another adjoining but mostly undeveloped property, called the Interstate, was held by a group of investors from Minnesota, which resulted in the formation of the Consolidated Interstate-Callahan Mining Company.

By 1915, the mine was both the largest zinc producer and biggest dividend payer in Idaho. The following year it was listed on the New York Stock Exchange. It produced 60 million pounds of zinc and 11 million pounds of lead that year.

15. DAYROCK was originally financed through "options on mining claims," which could b redeemed for stock if the mine were successful. By the late 1920s the Day family owned most of the stock and took control of the company.


Morning Mine
Wallace Barnard-Stockbridge Photo Museum Collection

From August 1955 through February 1956, the mine was closed by one of the longest and costliest labor strikes in the history of the district. The walkout by members of the International Union of Mine, Mill & Smelter Workers shut down several mining operations including the Tamarack, Hercules, Frisco, Page, Galena and several more. More than 800 men were affected by the five-month shutdown.

In its heyday, Dayrock was one of the top four lead-producing mines in the nation, along with the Bunker Hill, Lucky Friday and Star-Morning Mines. The first claim in Nine Mile Canyon, located just below the present site of the Dayrock, was the Black Cloud. Discovered May 7, 1884, it showed very promising mineralization. One 1891 sample assayed 70 percent lead and 60 oz silver/ton. By 1930, the Black Cloud was one of more than 30 claims consolidated by the Day family and associates and operated under the name Dayrock.

A total of over ¼ million tons were extracted, and dividends were declared even during the Depression years. Amount of Silver mined: 6.5 million ounces

16. CANYON SILVER is one of many unique true tales in the district. The original property was located in 1897 and operated until 1921. It remained idle for around forty years. The old Formosa property was reorganized as the Canyon Silver.

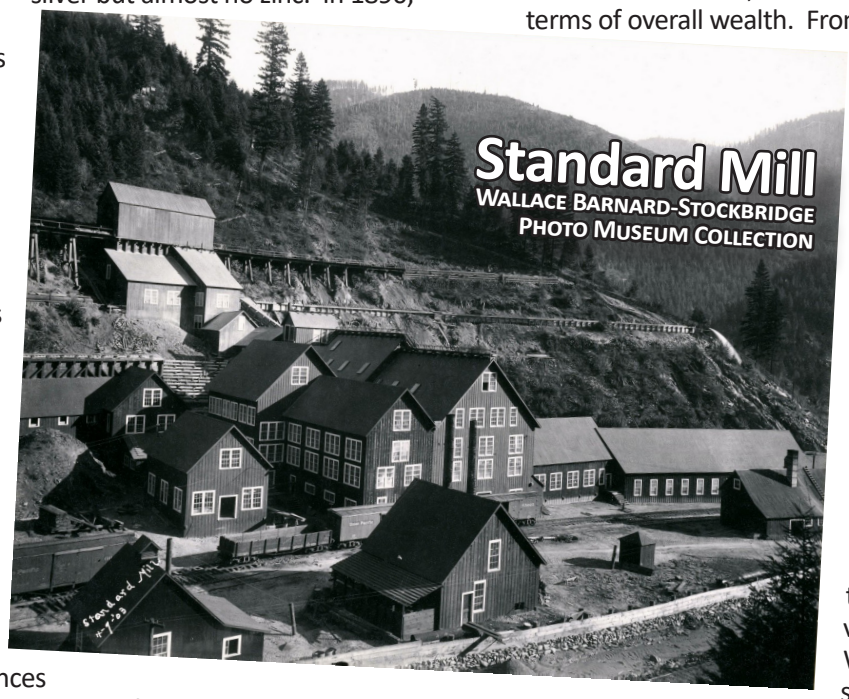
17. GEM The Gem Mine, or "Gem of the Mountains" as it was first known, was located May 16, 1885. By the end of 1891, it was turning out about 20 tons per day. Production records, however, were not compiled before 1897. The figures from 1897 to 1906 were from combined Gem, Frisco, and Black Bear production totals.

18. FRISCO Known over the years as the San Francisco, the Helena-Frisco or just "Frisco" located in Burke Canyon, is probably best remembered for its roles in the mining wars of 1892 and 1899. The ore body was located in 1884, the same year of the District's first lead-silver discovery a couple miles or so up the Canyon.

Development of the property moved along rapidly and by 1891, dividends amounting to $10,000 were being declared two or three times per month.

Ore reserves at the Frisco were depleted fairly quickly. It was already idle in 1913, but sporadic work continued as late as 1967. Complete production records are not available, but we know of about 2.7 million tons of ore extracted, yielding over 7.5 million ounces of silver, 216 million pounds of lead and 173 million pounds of zinc.

19. BLACK BEAR was among the earliest of discoveries in the silver-lead region. Located in 1884, by John Bartlett and William S. Haskins, it initially proved to have good showings of high-grade ore. It contained mostly lead and a fair amount of silver but almost no zinc. In 1890, a one hundred fifty ton concentrator was completed making it the sixth mill to be constructed on Canyon Creek in the first six years since the discoveries. Mill Feed assayed 5% lead and four ounces of silver per ton.



20. HECLA

On a tonnage basis, the biggest producer in Burke Canyon. By 1944, production had yielded about one and a half-billion pounds of lead, almost 41 million ounces of silver and 74 million pounds of zinc. An operating agreement with the adjoining Star claims significantly increased the life of the mine, adding another 9.2 million ounces of silver, 300,000 tons of lead and 664,000 tons of zinc. Hecla Mining Company continued to expand and is now a multi-million dollar international operation. The property was last worked in 1990 on a lease by the Star-Phoenix Mining Company.

21. STANDARD-MAMMOTH The Standard group of claims was located May 7, 1885. In early years, production figures for Mammoth and Standard were recorded separately. If production from both properties were combined for that year, it would have easily been the district's most valuable producer at $2,388,870 versus the Bunker Hill's $1,621,495.

22. HERCULES

The Hercules Mine was one of the richest silver-lead mines in the Coeur d'Alene Mining District. Located above the town of Burke, Idaho. It was discovered by Harry L. Day (Day Mines, Inc.) and Fred Harper. In June of 1901 commercial-grade ore was discovered – a high-grade lead ore that assayed at 362 ounces of silver per ton and 65 percent lead. A fire in 1907 destroyed the original Hercules mill, so ore concentrates were shipped to the Tiger-Poorman Mill in Burke, until the mill was built in Wallace in 1911.

Probably the most significant mine on Canyon Creek in terms of human interest, the Hercules was barely average in terms of overall wealth. From the discovery of the first commercial ore around the turn of the century to its closure in 1925, about 3 ¼ million tons were mined, yielding almost 30 million ounces of silver and 369,000 tons of lead. Net smelter returns of $43.6 million dollars generated dividends of $29 million dollars.

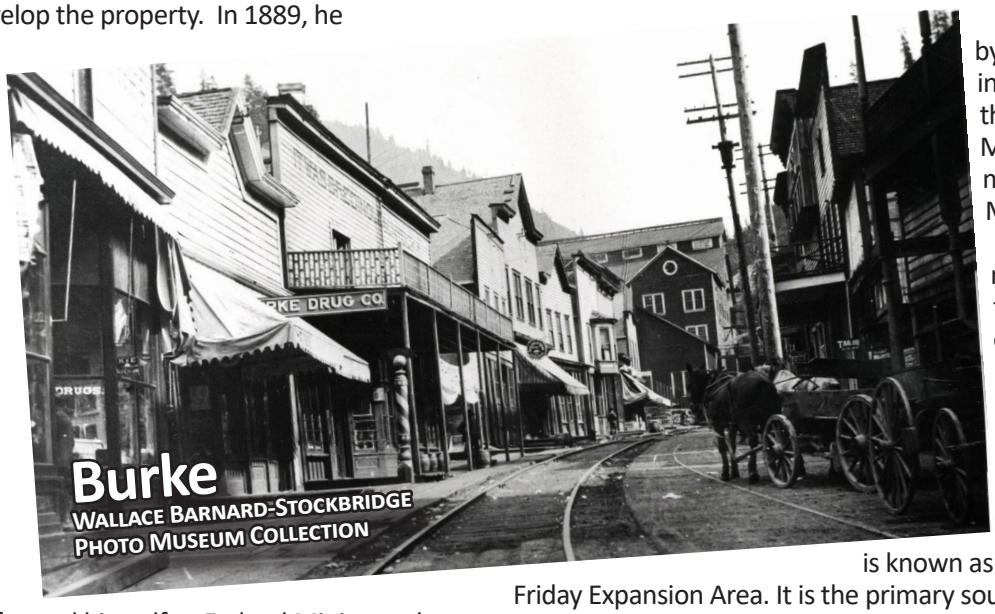
The original investors in the Hercules became its owners and virtually all became very wealthy. Much of this wealth left the District and was invested in nearby Spokane, Washington. Many names still recognized there have roots in the Hercules mine. The Paulsen Building, The Hutton Settlement, The Old National Bank, Davenport Hotel, Spokane Interstate Fair, and numerous other real estate ventures make up only a partial list.

23. THE STAR MINE dates back to the 1890s and is located in the town of Burke. In 1921, Bunker Hill and Hecla formed the Sullivan Mining Company to work the Star Mine, which was located to the west of the Morning Mine. The Star Mine was rich in zinc ore that was used to feed the electrolytic zinc plant at Kellogg.

Access to the Star Mine was through a tunnel, 8,900 feet long, from the 2000 foot level of the Hecla Mine. In 1923, a fire swept through Burke Canyon, destroying the mine buildings and much of the town. The mine complex was rebuilt -- larger, with concrete and brick buildings -- and reopened in 1924.

After the Hecla Mine was mined out in 1944, a new Star tunnel was driven in 1953 from the canyon level. The mine remained operational until the early 1980s.

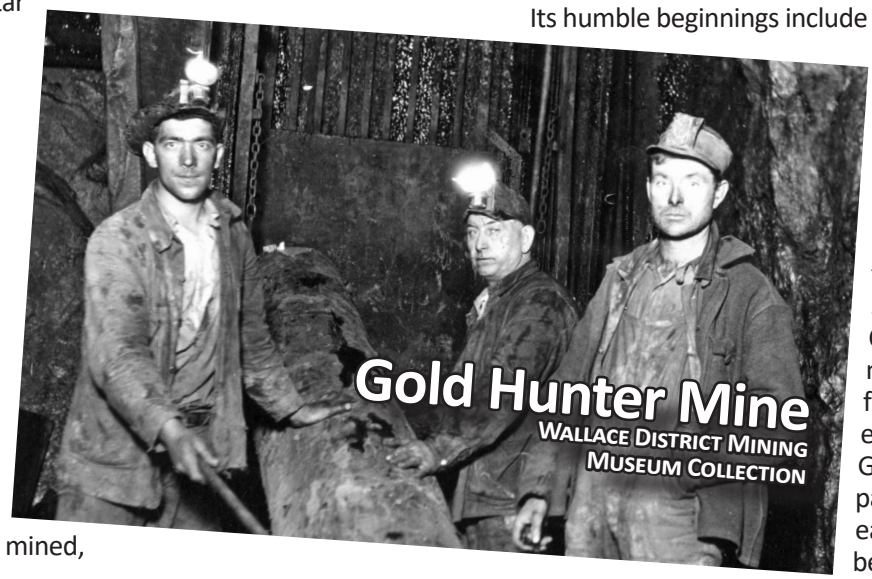
24. THE MORNING MINE site was located on claims filed C. Earle and G.S. Good located July 2 and 3, 1884, which they named the Morning and Evening claims. Charles Hussey became the owner of the Morning claim and began to develop the property. In 1889, he purchased the Evening claim, the combined operation having what he referred to as "the largest ore body known in the Coeur d'Alenes" at the time.



The property, like many others in the district, changed hands several times. Then Charles Sweeny, with the company he formed himself as Federal Mining and Smelting Company, exercised an option on the property for $3,000,000. Cash for the transaction was supplied by John D. Rockefeller, Jr.

By 1950, the Morning operation had generated $50 million dollars in revenue. A major fire destroyed the mill and most of the surface plant in 1957.

The Morning and Star Mine are both part of the same ore body. They operated as the Star -Morning unit with the Morning on the south end rich in lead and silver, and The Star, rich in zinc. The Star-Morning Mine was one of the deepest mines in the district, descending 7,900 feet from the surface, with the 2nd largest production after the Bunker Hill. Total amount of silver mined, 62.3 million ounces.



25. GOLD HUNTER It was May 15, 1884, when J.G. Hunter located his claim just north and east of Mullan. By the late 1920s the Gold Hunter was one of the major silver-lead producers in the District. Gold Hunter's main haulage tunnel was 7600 feet long and the shaft was 1500 feet deep. The entire complex boasted a complete and modern plant with an electric hoist, two compressors, pumps and a machine and blacksmith shop. By 1948 the mine operated at a loss. Stockholders were warned of a potential closing The property was old and been worked for many years. All exploration and development was complete. It was believed no important ore bodies had been overlooked. The mine closed in 1949.

It was purchased by Henry L. Day in 1955. By 1961 the Gold Hunter Mining Company merged into Day Mines, Inc.

Time and technology proved that significant ore borders were still present in the Gold Hunter. Currently the mine is worked by Hecla Mining Company and is known as the Hecla Lucky Friday Expansion Area. It is the primary source of ore mined from the Silver Shaft at the Lucky Friday Mine.

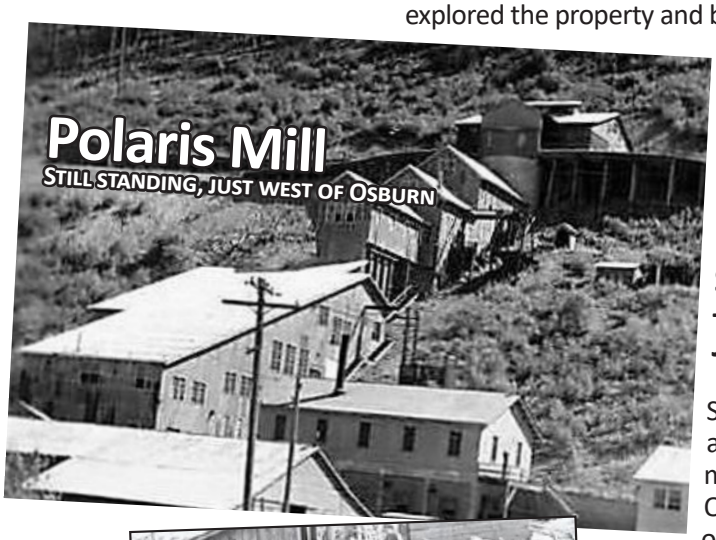
26. LUCKY FRIDAY is among a few active mining operations in the Silver Valley today. The Lucky Friday produces silver, lead and zinc as primary products. Since first commercial ore shipments in 1942 through 2021 over 11 million tons of ore have been mined producing over 160 million ounces of silver, 1 million tons of lead and 179 tons of zinc.

Its humble beginnings include being sold at a sheriff's sale in 1912 for $2,000 and sold again in 1935 for $120 in back taxes. In 1938 John Sekulic, a garage mechanic in Mullan, purchased the mine for $15,000 and formed the Lucky Friday Silver-Lead Mining Company. With technical and financial help from Judge Albert Featherstone, the president of Golconda Mining Company, mining began in earnest and the ore got better as the mine went deeper. In 1958 Hecla Mining Company purchased 38 percent of the Lucky Friday Silver-Lead Company and the two companies merged in 1964.

Hecla expanded operations and ranked third in silver production throughout the U.S. It became the largest producer in the U.S. in 1983 and 1985.

The mine has remained in constant operation with the exceptions of a few months in 1986 and 1987 due to low metal prices and ground control issues and in 2012 when operations were suspended to facilitate the refurbishment

of the Silver Shaft. Production also drastically declined from March 2017 to January 2020 the result of a 2.5 year long labor strike. Since settling the strike in 2020 production has continued to grow with a fore casted five million ounces of silver to be produced annually in the coming years. Completed in 2016, the Friday's new #4 Shaft is nearly 9,600 feet below the surface and is expected to extend the life of the mine for decades.



27. NATIONAL Even though the National Mill was located right next to the Lucky Friday Mine and its lead-silver (mostly galena) ore body, its mine in Deadman Gulch produced mostly copper and silver. The mine was developed heavily, with the concentrator large enough for a major operation.

In the production years from 1914 until 1922, just over 170,000 tons were mined, averaging less than 1% copper and 2 oz of silver per ton.

28. GALENA still in operation, total production has exceeded 255 million ounces of silver, 161 million pounds of copper and 28 million pounds of lead from seven million tons of ore. Over the past 85 years, Galena's Silver Vein alone has produced in excess of 100 million ounces of silver.

This property includes claims which were staked in 1885. The first significant mining was started in 1917. In 1918, the Callahan Zinc-Lead Company secured an option on the property. The mine was idle until 1947, when it was leased to ASARCO Incorporated. After considerable exploration, the mine went into production in 1955. The No. three shaft has a depth of over 6700 feet The property hosts three active shafts and two process facilities.

29. COEUR MINE Owned by Coeur d'Alene Mines Corporation and operated by ASARCO, Inc., the Coeur Mine got its start when ASARCO began its exploration of the present mine site in 1964. A shaft was sunk 4,428 feet and the discovery of ore-bearing veins led to placing the mine into production in 1972. The Coeur produced 2.5 million ounces of silver in 1980. The Coeur maintained steady and consistent production through the early 1990s, until falling silver prices caused operations to cease. Amount of silver mined, 39 million ounces.

30. COEUR D'ALENE In the fall of 1885, a discovery was made in the mountains south of Osburn and the Mineral Point mining claim was staked. Coeur d'Alene Mines Corporation acquired the property in 1928, sank a shaft, explored the property and built a mill. The Coeur d'Alene Mine had produced 440,000 tons of ore by 1952. Today, Coeur d'Alene Mines is a multinational organization. Amount of Silver mined, 5.8 million ounces.

31. CONSOLIDATED SILVER - SILVER SUMMIT - POLARIS MILL- NEW JERSEY MILL

Formerly known as the Silver Summit Mine, this property had a history of sporadic development beginning prior to 1930. Ore from the Polaris Mine, which owned the Silver Summit, was removed through the Silver Summit Mine to the Polaris Mill, still visible on the hillside. The nearby new blue buildings off I-90 near mm 52 are the 360-ton per day flotation mill and concentrate leach plant owned by the New Jersey Mining Company. New Jersey also operates the Golden Chest Gold Mine near Murray.

32. SILVER DOLLAR produced about 300,000 tons of ore.

33. EVOLUTION BRIDGE

This bridge is located near the site of the first mineral discovery in the entire region.

34. CRESCENT has historic production of 25.4 million ounces of silver. The mine closed in 1977, but it opened in 2007 for exploration. The mine's Hooper, Big Creek and Alhambra Tunnels were rehabilitated over the next few years, and mine explorations determined mineral resource estimates to be about 6.1 million ounces of silver.

Early information on the discovery of the Crescent Mine, located adjacent to the famed Sunshine Mine, is not available. However, it was incorporated in 1902, as the Big Creek Mining Company and acquired by the Bunker Hill and Sullivan Mining and Concentrating Company in 1922.

35. SUNSHINE A "late bloomer" in the Silver Valley. Staked in 1884, ownership of the mine changed hands several times before "pay dirt" was finally encountered in

1927. In 1931, a high-grade vein of silver ore twenty feet in width was discovered only 1700 feet beneath the surface. By 1937, the mine set a single year production record of 12 million ounces. The Sunshine is the richest silver mine in the region – perhaps even the world – having produced over 367 million ounces of silver. This represented far more than the famed Comstock Lode of Virginia City, Nevada.

Unfortunately, the Sunshine is also known for one of the worst mining fires in U.S. history. On May 2, 1972, 91 miners died in the tragic Sunshine Mine fire. Most of the fatalities were due to smoke inhalation ore carbon monoxide poisoning. As a consequence of the fire, new and improved safety standards were instituted for underground mines.

36. THE SNOWSTORM MINE located about three miles east of Mullan, Idaho and as primarily a copper operation with some silver produced as a byproduct. Ore from the mine's upper workings was delivered by aerial tramway. In addition to the mill complex, the Snowstorm claimed to have one of the finest boarding houses in the District. It was located near the mine portal. The small community around the mill complex was known as Larson. Amount of silver mined, 4.1 million ounces.

37. THE TAMARACK was another mine controlled by the Day family (Day Mines), Inc. The mine flourished during World War I as metal prices soared, and a tramway system in Burke carried the ore across the mountain to the Frisco Mill. The Tamarack ceased operations in 1979, and for a period afterwards, was used as a training facility for mine rescue teams. Amount of silver mined 8.7 million ounces.

38. THE SUCCESS Mine and Mill were located in Nine Mile Canyon about six miles from Wallace at the end of the Northern Pacific rail line. The first ore concentrates shipped from Burke Canyon in 1887, came from the Success. Mine workings were located on the south side of E. Fork Nine Mile Canyon and the ore was carried by tram buckets to the mill in Burke Canyon. A spur line of the Northern Pacific RR carried ore concentrates out of the canyon.

39. JACK WAITE MINE & DUTHIE The once thriving lead mine and nearby company town of Duthie were abandoned in the 1960s after a prolonged strike. The mine was discovered in 1900 when Jack Waite took a wrong turn en route to Thompson Falls, Montana. Straddling the Idaho Montana border in a remote section of the Bitterroot Range, the Jack Waite and Duthie were often cut off from the rest of civilization by deep mountain snowfall. During the mine's seven decade run it produced 87.9 million pounds of lead, 18.5 million pounds of zinc, 479,505 pounds of copper, and 376, 751 ounces of Silver.

40. FRISCO MILL EXPLOSION 1892 Labor Unions existed in the Coeur d'Alene Mining District since 1885. In 1893, when mine owners again cut wages, the union men called a strike. The owners countered by hiring "scabs," and hired a Pinkerton detective, Charles Siringo, to infiltrate the union at Gem. When the deceit was discovered, union activists dynamited the Frisco Mill on July 11, 1892.

This was the first of several violent labor battles in the District. Idaho Governor Norman Willey sent in federal troops to restore order. The conflicts gave way to a new labor union, the Western Federation of Miners. The union was held responsible for the assassination of Idaho's next Governor, Frank Steunenberg for his role in calling out federal troops again in 1899 after a Northern Pacific Train and Bunker Hill Concentrator were dynamited.

Extensive exhibits, books and a film on the Mining Wars can be found in Wallace at the Wallace District Mining Museum. Signage of the Frisco Mill explosion site can also be found at mile marker #4 on the Burke Canyon road. (State Highway 4)

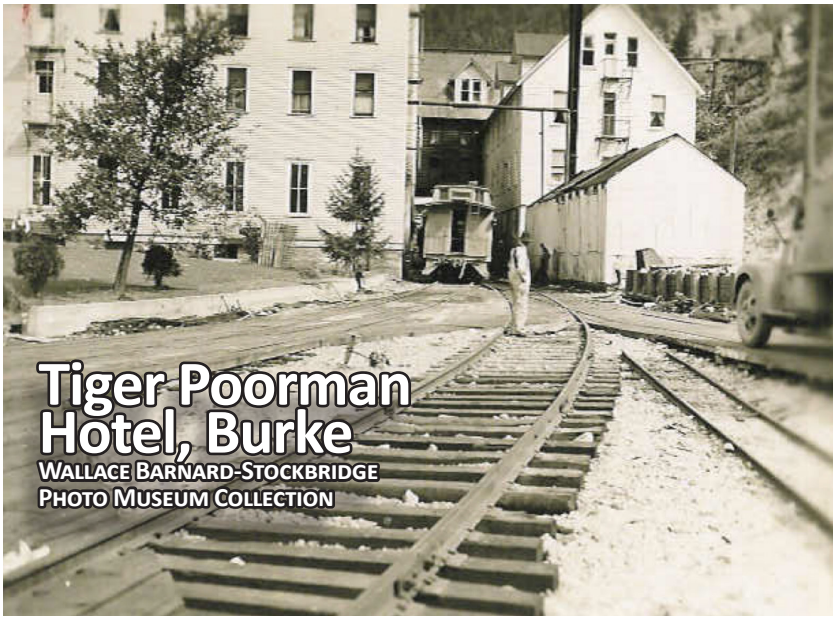
41. HERCULES MILL The concrete footings of the old Hercules mill are on northside of I-90. The Hercules mill was built in 1911 and burned in 1976. At one time it was the largest water-powered mill in the world. Ore from the Hercules Mine (in Gorge Gulch near Burke) was processed here as well as from other Day family holdings.

42. COMPRESSOR DISTRICT The Compressor District was not really a mining district at all, but the site of the largest waterdriven air compressor in the world. Built in 1900 and used until 1950, the compressor was driven by a

33-foot-diameter Pelton wheel flanked by two 11-foot-diameter wheels. The machine produced over 1,000 horsepower and provided all of the compressed air for the large Morning Mine. Streams were diverted to the site from many miles around to drive the compressor. Eventually, electric motors were added to help run the unit in the dry part of the year.

43. GOLCONDA MINE & MILL (also known as the Mayflower) located between Mullan and Wallace in Trowbridge Gulch. The mine was accessed via tunnel from the mill, which after 1967 was used to process Lucky Friday ore.

44. GOLDEN CHEST was the largest producer of lode gold in the mining district during the late 1890s and 1900s. Today the Golden Chest is a shallow underground and open pit operation. Situated approximately two miles east of Murray.



RELATED POINTS OF INTEREST

A. BURKE was home to many mines over the years, including the Hercules, Hecla and Star mines. The town was built in a canyon so narrow that merchants had to roll up their store awnings or lose them to passing trains. In fact, the train tracks ran right through the Tiger Hotel. Passengers went on and off the train right in the hotel lobby.

In the early 1900s residents of Burke survived deadly avalanches and devastating fires, all due to the narrow canyon. Mining operations finally ceased in 1990.

Today, Burke has but a few residents and most of the commercial and mining company buildings in a state of disrepair. The town and mines still exist in their former glory in photo and exhibits and digital archives of area museums

B. KELLOGG/BIG CREEK **The Sunshine Mine Memorial** is located just off Exit #54 two miles east of Kellogg. A massive miner's sculpture with memorials to the men who died in the 1972 mine accident is there. **The Crystal Gold Mine** is one mile west of memorial, offering guided underground tours and gold panning. In Kellogg proper, the **Staff House Museum** lies just east of the Bunker Hill mine on McKinley Ave. with exhibits devoted to mining and the region.

C. MURRAY/ EAGLE CITY **Sprag Pole Inn Mining Museum,** located in Murray features exhibits on the town, gold fields and famed residents such as Molly B'Damn'd. Just west of Murray is the **Eagle City Resort**, where visitors can pan for gold in the original 1880s gold fields

D. MULLAN **Captain John Mullan Museum** located in downtown Mullan in the old Odd Fellows lodge; devoted to mining and the region.

E. WALLACE **The Wallace District Mining Museum**; featured on the Travel Channel's *Mysteries at the Museum* series and named one of Idaho's finest museums by the Idaho State Historical Society, Idaho Preservation Trust and Idaho Humanities Council, the museum is a back up repository for the University of Idaho. Through artifacts, mine models, a mock mine exhibit and thousands of digital and print records, it tells the story of mining, mining communities and major events in the district. Located at 509 Bank Street in Wallace.

Sierra Silver Mine Tour; formerly the mining training site for Wallace H.S., it is presently the only underground silver mine tour in the Inland NW. Retired miners guide visitors through a side cut in the mountain for this one hour 15 minute tour. Tickets are available at 509 Cedar Street in Wallace.

Mine Heritage Exhibition; located just off I-90 at exit #61 in Wallace, the four acre open air museum and river front park offers dozens of exhibits with accompanying story boards detailing mine equipment, mining practices and the history of mining in the region.

Barnard-Stockbridge Photo Museum; housed in the National Register of Historic Places Holy Trinity Church at 412 Fourth Street, the museum features large format high resolution images from the 200,000 plus Barnard-Stockbridge collection as well as the entire digital collection on file. The collection was compiled from the Barnard-Stockbridge photography studio, in operation from the 1880s-1960s in downtown Wallace. Many of the images in this guide are from the collection.

Northern Pacific RR Depot Museum; housed in the old train station depot among manicured grounds and river front, the museum boasts two floors of rare artifacts and photos. Located at 219 SIxth Street.

F. OTHER **EPA Superfund Site** The Coeur d'Alene Basin Cleanup is one of the nation's largest and most complex Superfund sites. It spans 1,500 square miles and 166 river miles. Historical mining and milling methods disposed of tailings in rivers and streams.

The site was first designated in 1983. Since then, EPA and its partners have made significant progress cleaning up contamination with remediation in Silver Valley populated areas. Complete remediation of the entire site area will take decades.

This site is divided into areas for manageable cleanup. One such area is known as "the Box" – a 21-square-mile area surrounding the historic smelter area. The Box includes the Shoshone County cities of Kellogg, Wardner, Smelterville, and Pinehurst. The part of the site outside of the Box is called "the Basin."

since 1884

The Coeur d' Alene Mining District has provided the world with the metals vital to modern living. Thank you to the men, women and their families who make this work possible

Please join us in saluting the contributions of mining families to the Silver Valley

Hecla Lucky Friday Mine, Sunshine Mining and Refining Co., Johnson's Gems, F&H Mine Supply, Mike's Specialty Welding, Idaho Mining Apparel, Zanetti Bros., P1FCU, NW Mine Supply, Historic Wallace Chamber of Commerce

Image courtesy Hecla Mining Co. 125th Anniversary Celebration