

# LIFE UNDERGROUND HARD ROCK MINING IN THE BLACK HILLS



 SOUTH  
DAKOTA STATE  
HISTORICAL SOCIETY

Department of Tourism and State Development

# PLACER TO HARD ROCK

*Think Black Hills gold rush, and you see a scruffy miner working his lonesome claim with pick and shovel. But most of the mineral wealth lay deep underground. To make money, mines had to dig deeper and start hard rock operations that took plenty of money, machines, and men. Hard rock mines brought cash and businesses like timbering and railroads to the area. Silver, mica, feldspar, and tin were mined in the hills, but gold reigned. More than 50 million ounces of gold came from the Black Hills.*

*Black Hills miners, ca. 1920. In hard rock mining, many men worked to recover a few ounces of gold from tons of ore.*



*Miners working a sluice, ca. 1876. Surface or placer mining uncovered minerals like gold on the earth's surface. One or two people could run a placer mine with little equipment.*



*Homestake Mine's drill-sharpening shop, ca. 1960. To cut through solid rock, miners needed freshly sharpened drill bits each day.*

*Homestake Mine foundry, ca. 1900. The foundry made gears and other machine parts for mining.*



*Homestake mining cars passed over a Chicago and North Western train while the Lead city trolley rolled under both in 1906. Mines helped Lead, Keystone and Rapid City grow.*

# GETTING THE GOLD



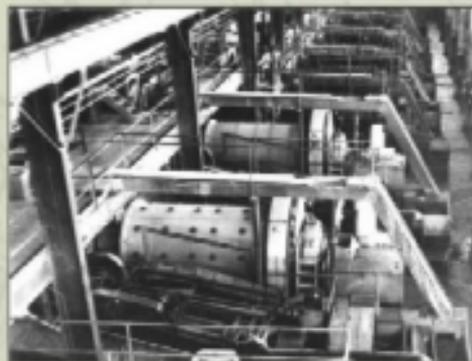
*Ore cars move rock through tunnels and shafts to the surface for processing, 1908.*

**Gold ore had to be mined, crushed, and chemically treated to separate the gold from the waste.**



*On the surface, ore crushers smashed the rock into 1/2-inch pebbles.*

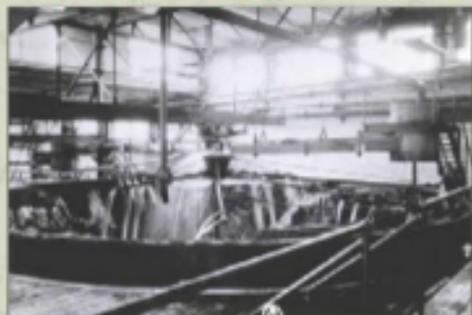
*Rod-and-ball mills ground the ore pebbles with water until it was finer than flour. Earlier, stamp mills did the same thing.*



*Formed into bars, the gold was ready for shipment.*



*Potassium cyanide solution mixed with ore dust dissolved the gold. Added zinc pulled out the gold. Sulfuric acid dissolved the zinc, leaving pure gold.*



# IN THE MINE

Miners worked in underground chambers called stopes. Drilling and blasting the sides of a stope was dirty, dangerous work. Huge cubes of timber called square-sets reinforced each stope. In some stopes, the ore traveled down chutes to the ore cars on the lower levels. Miners had to endure extreme heat and falling debris, watch for poison gases, and avoid falls.



Square-set timbers shored up a stope at Homestake, ca. 1906. Workers could move ore through the chutes to cars on the ground level.



Working in a partly timbered stope at Homestake, ca. 1910. Almost a hundred miners fell to their deaths in Black Hills mines.



Filling an ore car in Homestake with a drawing chute, 1960.

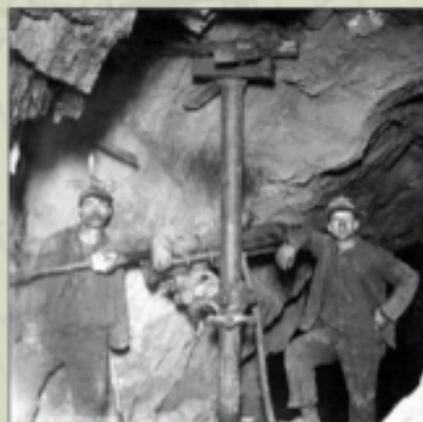
Drilling at the Homestake Mine, ca. 1980.



Drilling overhead, ca. 1946. Miners dubbed the overhead drills "widow makers." Falling rock caused more deaths than anything else in the mines.

# DRILLING & BLASTING

*Mining was hard physical work. Two-man teams drilled holes into the rock for explosives. One man rotated a steel bit against the rock as his partner hit the bit with a sledgehammer. Hydraulic drills later made the job easier.*



*Homestake Mine, 1911. In the early days, miners worked by candlelight. Each miner received three candles for a 10-hour shift underground. He could be totally in the dark if he did not use his light well.*



*Drilling in Homestake, ca. 1920. By this time, carbide lights had replaced the candles on miners' hats.*



*Lighting fuses for a mine blast, ca. 1900. Miners used varied lengths of fuse to get the right blast sequence. This meant lighting more than one fuse at a time, a dangerous practice. Automated blasting caps later made this job safer.*

*Loading dynamite into blast holes, ca. 1946. Blasting took place at the ends of shifts because it filled the mine with dust.*



# LOADING & HAULING

*Muckers loaded the ore into cars. They also laid track and timbered the mineshafts. These "unskilled" laborers earned less than the miners. With experience, a mucker could be promoted to miner.*



*Mucking at Homestake, 1934. Often with only a shovel, a mucker met daily ore quotas or risked losing his job.*



*Homestake's "red wagon" served as the miners' portable toilet underground.*



*Muckers loaded an ore car at Homestake Mine, 1922.*

*This mucker used a power shovel to move ore at Homestake, ca. 1960.*



*In early mining days, horses pulled the ore carts in the mineshafts. Up to 90 horses worked at Homestake before it had electric power. Many mine horses spent their entire lives underground. During the 1910 lockout, the animals brought above ground had to learn how to eat grass. "Old Smoky" served ca. 1910.*



# GETTING WORK

*Education, experience, and ethnic background counted in getting work in the mines. Administrators came from big cities. Professional miners from Colorado and Michigan often got the best underground jobs. Immigrants brought less skilled labor. In winter, local farmers often worked in the mines.*



*Investors hoping to make money in mining inspected the Hidden Fortune property in Lead, 1902. Much of the cash for South Dakota mines came from outside the state.*



*Cornish miners ate pasties on a lunch break, ca. 1910. The Cornish miners or "Cousin Jacks" came to the Black Hills from England or mines in other states. With experience and English language skills, they quickly rose to the top.*

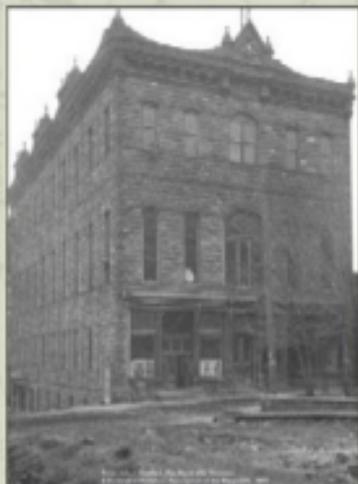


*Finnish workers loaded ore at Homestake, ca. 1904. Non-English-speaking miners did less-skilled work.*



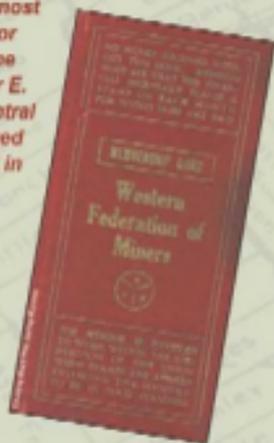
# UNIONS

**Miners' unions formed in Lead, Central City, Bear Butte, Deadwood and Terry. Low wages and safety standards were key issues. The unions helped sick and injured members. They built union halls that served as community centers. And they stayed in touch with members through newsletters.**



**The largest Black Hills mining unions formed in Lead and Central City. Both unions threatened to strike if mine owners did not meet demand for higher wages. Lead Miners Union Hall, 1902.**

**The powerful Western Federation of Miners (WFM) formed in 1893. Delegates from Lead, Central City, and Terry Peak met at Butte, Montana, to help start it. The WFM was one of the most militant labor unions in the West. Miner E. Flow of Central City belonged to the WFM in 1909.**



**Miners at the Golden Reward Mine, Terry, 1880. The Terry Miner's Union threatened to strike for improved working conditions throughout the 1890s. In 1907, they went on strike for an eight-hour workday. The strike of 600 workers closed eight mines and seven mills for five months.**

**About five hundred people died in accidents during the century of Black Hills mining.**



**Mining concerns paid more attention to safety after the passage of worker's compensation laws. Homestake published the Homestake Safety Bulletin. It provided safety tips as well as gory accident details to scare workers into safe practices. This Homestake rescue team posed in 1927.**

# STRIKES & LOCKOUTS

In November 1909, WFM members tried to force Black Hills mines to unionize by refusing to work with nonunion miners. Homestake then locked out all the miners, and other area mines followed suit. The WFM effort failed, and Homestake resumed mining in January. Workers had to promise in writing not to join the union. This put an end to Black Hills mining unions for almost 50 years.



Forty-nine Homestake workers formed the Loyal Legion after the lockout had been going for a month. They petitioned Homestake to reopen. After the Legion started, its ranks quickly increased to 500 plus.

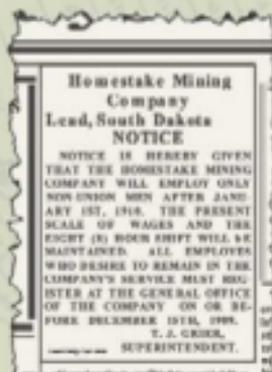
## BULLETIN No. 1

### Traitors to the Working Class

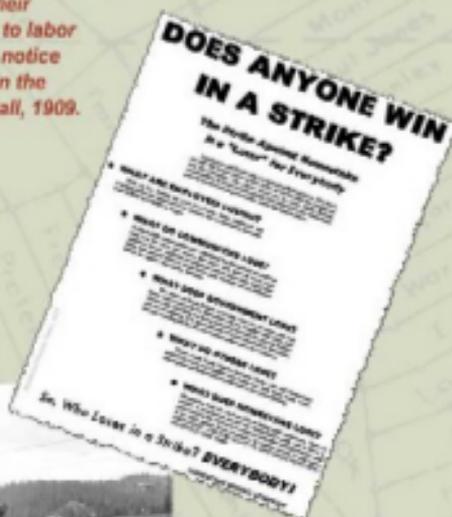
The following having violated their obligations and lost the respect and confidence of all honorable men, are expelled from the Lead City Miners' Union No. 2, W. F. of M., and their names ordered published in every mining Camp in the United States and Canada:

Ed. Van Dikshoff	Wm. Witz	Jerry Glitz
Leslie Elgler	Wm. Tomasek	Barth Short
Richard Farnsworth	Tom Elliott	Ann. Walschinsky
The DeLaney	Edward Lead	Stanley Kinsinger
Ed. Frenschke	Mike Mangler	Orman Shaw
George Collier	Wm. Lawrence	John Pines
John E. Branson	John Turner	Wm. Tompkins
Mike Mervis	Asa C. Cooper	Wm. Mudge
William Hinesman	Samuel Carter	George McCullough
George Matthews	John Shinnick	Ernie Evans
James Harkness	Joseph Wastney	Joe Tompkins
James Hester	Vince Lawrence	Ed Ford
Jim Page	Ray Smith	Chas. Anderson, Jr.
Jack Carr	George Thomas	A. J. White
Frank Stephens	Jerry Latta	Mike Norman
John Ward Jr.	Ed. Frye	Adrian Mathias

(To be Continued)



After the 1909 Lockout, each mine mandated employees sign a card pledging to disavow their membership to labor unions. This notice was posted in the Lead Daily Call, 1909.



Strike parade, 1982. Homestake employees joined the United Steelworkers of America in 1966. The union went on strike in 1972 and 1982, idling 1,600 workers. Lead suffered serious economic loss during the strikes. With federal help, the parties reached agreement and the strikes ended.

# IMMIGRANTS IN THE MINES

The English, Irish, Scots, Finns, Germans, Italians, Scandinavians, Serbs and others came to work in the Black Hills mines. Some came directly from their homelands. Others moved from other places in the United States. Each new group brought a new ethnic culture to the area.



Mrs. Niva ran a boardinghouse for Finnish men in Lead, ca. 1895.



Many foreign workers found jobs in the mines around Terry, west of Lead. Italian miners gathered for this photo, ca. 1900.



Homestake Company Nationality Report, 1922. Mining companies kept track of workers' backgrounds after the 1910 lockout. They believed foreign workers were more pro-union.

HOMESTAKE MINING COMPANY									
Employees Dismissed, Lead, South Dakota					Nationality Report For				
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# ROOF OVER YOUR HEAD

*Many miners owned homes. Homestake Mine offered credit and house plans to help. Homestake thought home ownership gave workers a stake in the community and made them less likely to strike. Ethnic rooming houses sheltered those who could not afford a house.*

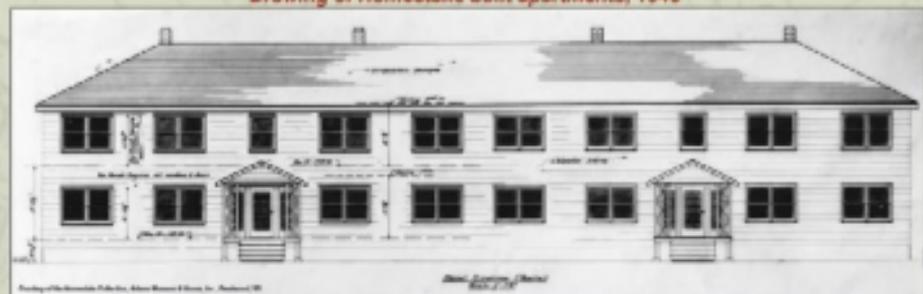


*Newton's Boarding House in Terraville, 1879.*

*The superintendent of Homestake Mine lived in a multistory brick house. It towered over the miners' homes in Lead, 1897.*



*Drawing of Homestake built apartments, 1948*



*Tract housing built for the Homestake miners, ca. 1950.*



# COMPANY TOWN

The Homestake Mine provided worker services including health care and pensions. The Hearst Mercantile offered interest-free credit. This put many miners in constant debt to the company. Phoebe Hearst, wife of Homestake owner William Randolph Hearst, set up a free kindergarten and public library in Lead. The firm also funded a recreation center with bowling alley, swimming pool, and theater. Such endeavors taught immigrant workers the American way of life.



Terry miners competed for fun in an outdoor drilling contest, 1903.



July 4th Drilling Contest in Lead, 1903

Children from the Hearst Free Kindergarten in Lead planted trees on Arbor Day, 1904.



Homestake built Mountain Top Baseball Field at the edge of the Lead Open Cut, ca. 1908.

Homestake "spies" let the company know about daily events in the mine. A March 19th, 1918 report discussed the Mexican workers "There was considerable bitter talk on the level tonight in regard to the new Mexicans who started to work tonight. Every man on the level cursed them and said they should be run out of town. Miller said he hopes none of them will be sent to them."

Original Source: Thursday, March 19th Mining Record

Homestake Company Band Uniform worn by Fred E. Buck, ca. 1920.



# NOISE, DUST AND SMOKE

*Noise, dust, and smoke filled most mining towns. The sounds of machinery and blasting filled the air. Stamp mills pounded the ground and the eardrums 24 hours a day. Smelter smoke darkened the sky and the lungs. Processing chemicals polluted the water.*

*Deadwood citizens sued the Deadwood & Delaware and Golden Reward mining companies in 1901 for damage from smoke and fumes. They said the polluted air destroyed vegetation and made breathing difficult. Smoke from the Deadwood & Delaware smelter filled the air, ca. 1904.*



*Deadwood Terra Stamp Mill, 1888. The noise never ceased as the 800-pound stamps worked the ore day and night.*



*Homestake's cyanide plant, ca. 1920. Miners used cyanide, mercury, and other dangerous chemicals to process gold. Chemical reactions filled the air, often making workers sick. Spills into local streams could be disastrous. A cyanide overflow in 1901 killed thousands of trout in Spearfish Creek.*



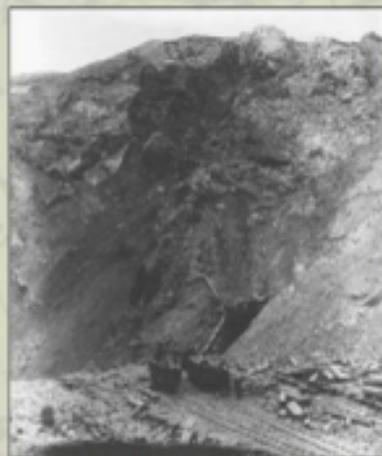
*The Wasp No. 2 Mine near Terry, pictured in 1904, used open-cut mining. It moved rock with dynamite and surface equipment instead of building an underground system of shafts.*

# OPEN CUT

*The Homestake Open Cut in Lead is a startling example of how mining physically changed the landscape. The mountain became a deep crater as the Homestake Mine pulled ore from below.*



Open Cut, ca. 1922.



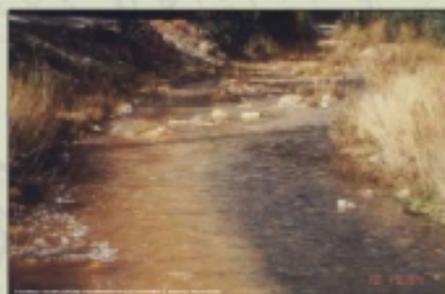
Open Cut, 1888.



Open Cut, 2000.

# RECLAIMING THE LAND

*Mines sometimes pollute water and soil long after they have closed. Drainage from exposed sulfides in mine tailings leaves acid in water and soil. Today's mines must reclaim or restore the land.*



*Polluted water from Strawberry Creek flowed into Bear Butte Creek, 1994. Acid drainage from the Gill Edge Mine dirtied Strawberry Creek.*

*Federal and state agencies reclaimed the Ruby Gulch Waste Rock Depository, pictured in 2001 and 2004, by regrading the land. Diversion ditches, a liner, and ground cover completed the project.*

*Before - 2001*



*After - 2004*



# TIMBER!

Mines used a great deal of timber for shoring their tunnels and burning as fuel. Loggers cut the Black Hills forest to supply the mines. In 1897, President Grover Cleveland set aside nearly a million acres of timberland for the Black Hills Forest Reserve. Homestake Mine made a deal with the U.S. government to cut public forest timber. Mining companies knew that a wise use of timber served their long-term interests.



*Timber piled high at the DeSmet Mill in Central City, 1888.*

*Huge timber piles reached to the top of buildings at Terraville Stamp Mills, 1888.*



*The Father DeSmet site showed the impact of timber cutting, ca. 1889.*

*A Caterpillar dragged logs to Homestake, ca. 1920.*



# HARD ROCK MINING ENDS

*The mining industry left its mark on the Black Hills. The miners' hard work took 50 million ounces of gold from the area. High gold prices and low mining costs caused an economic boom. High mining costs and low gold prices led to a bust. At its height, Homestake Mine employed almost 2,000 workers. Upon shutdown in 2001, it employed fewer than 400. Large-scale gold mining has ceased, but mining for other minerals goes on. The restoration of mining lands continues. The hard work and community involvement of the early mine workers remain.*

*Holy Terror Miners, Keystone, ca. 1892.*



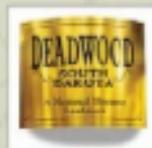
*Homestake Miners, ca. 1930*

*Homestake Miners, ca. 1980*



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