Colorado Mining History
Resource Guide

By Dana Echohawk

Contributors:

CHRISTINE BRADLEY, Clear Creek County Archivist, Georgetown, Colorado, and author.

JAMES E. FELL, JR., PHD, Department of History at University of Colorado Denver, a founder of the Mining History Association, recipient of the organization’s Rodman Wilson Paul Award for distinction in that field.

THOMAS J. NOEL, PHD, Professor of History, Director of Public History, Preservation & Colorado Studies at University of Colorado Denver / Co-Director of Center for Colorado & the West at Auraria Library.

DUANE A. SMITH, PHD, Professor of History at Fort Lewis College, Durango, Colorado, and a founder of the national Mining History Association.

ERIC TW amy, Mining historian, archaeologist, and principal with Mountain States Historical, Lafayette, Colorado.

Thank you also to the following people for their review and assistance with this publication.

ELLEN METTER, Research Librarian & Project Lead, Collection Development, Auraria Library

ASHLEIGH HAMPF, Graduate Student, Department of History, University of Colorado Denver
Electronic resources listed in the *Colorado Mining History Resource Guide*, are easily accessible from its online publication at:

Center for Colorado and the West at Auraria Library:  
[http://coloradowest.auraria.edu](http://coloradowest.auraria.edu).

Front cover: 1859 Argonaut. Photo credit Thomas J. Noel collection

Front and back cover: Mining Claims courtesy Denver Public Library Digital Collections.

Back cover:

Top photo: Miners pose by a group of mule-drawn ore cars inside a mine tunnel in San Juan County, Colorado. Between 1880 and 1900. Photo courtesy Denver Public Library Digital Collections, X-62251.

Bottom photo: Coal miners Eloy Cruz (left) and his brother-in-law Leandro Vigil pose near the entrance to the Frederick Mine in Valdez, Las Animas County, Colorado. Eloy wears a cap with a battery-operated lantern. He has a brass identification tag, common for miners. When going into a mine, they would hang their tag on a board and pick it up when they left. This allowed mine managers to know who was in the mine. In the case of an explosion or accident, they knew which miners may be trapped inside the mine. Photo credit: A. Gene Vigil, Auraria Digital Library Collections.
Dana EchoHawk earned a Master of Arts in History from the University of Colorado Denver, with a focus on American West and public history. Dana's B.A. in Visual Cultural Journalism from Metropolitan State University of Denver and a certificate in Historic Preservation from the University of Colorado Denver compliment her graduate studies.

In 2009 Dana was a Koch Fellow at the Colorado Historical Society (now History Colorado), and a Coulter Scholar in Colorado history. In 2010 she received the Ward Family Prize in Public History. Dana served as a King Fellow for the Center for Colorado & the West from 2009 to 2011. Since 2012 she has served as Managing Director of the Center for Colorado & the West at Auraria Library.

Dana has advanced the following Center for Colorado & the West projects:

2010: Collection and description of 500 historic photographs that depict Latino/Hispanic history in Colorado. The collection is available on the Center for Colorado & the West at Auraria Library website: http://coloradowest.auraria.edu and the Auraria Library digital repository: http://digitool.library.colostate.edu. The Institute of Museum and Library Services provided funding through a Library Services and Technology Act award distributed through the Colorado State Library.


2011: Collection and captioning of 100 additional historic photographs that depict Latino/Hispanic history in Colorado. The collection is available on the Center for Colorado & the West at Auraria Library website: http://coloradowest.auraria.edu, and the Auraria Library digital repository: http://digitool.library.colostate.edu. Funding was provided by the Institute of Museum and Library Services through a Library Services and Technology Act award distributed through the Colorado State Library.


2012: Project manager/interviewer for the “Warrior Natives” video series reflecting perspectives on war and tradition from a Native American war veteran. Videos are available online at CC&W: http://coloradowest.auraria.edu.

Project manager for the Colorado Connecting to Collections grant award. The 2-year project will increase the number of trained professionals who can assess cultural heritage institutional preservation needs, and strengthen relationships between Colorado cultural heritage institutions, emergency managers and first responders. The grant is a collaborative partnership between The Colorado Wyoming Association of Museums (CWAM), the Society of Rocky Mountain Archivists (SRMA), the Colorado State Library (CSL), History Colorado and the Center for Colorado & the West. Funding is provided from the Institute of Library and Museum Services.

As a personal project during 2011-2012, Dana and colleague Vicky Bunsen successfully wrote the historical narrative and submitted application placing the Montoya Ranch in Huerfano County, Colorado on the National Register of Historic Places.
Table of Contents

FIGURES ............................................................................................................... vi
INTRODUCTION ................................................................................................ vii
COLORADO MINING HISTORY TIMELINE ......................................................... vii
COLORADO REGIONS MAP ........................................................................ xiv
Bibliography: GENERAL ......................................................................................... 1
Bibliography: NORTHWEST ..................................................................................... 17
Bibliography: SOUTHWEST ..................................................................................... 21
Bibliography: FRONT RANGE .................................................................................... 27
Bibliography: SOUTH CENTRAL ............................................................................. 33
Bibliography: SOUTHEAST ....................................................................................... 39
Bibliography: LABOR/UNIONS .............................................................................. 41
Bibliography: ETHNIC MINERS/WOMEN ........................................................... 47
Bibliography: GHOST TOWNS ............................................................................ 51
Bibliography: TECHNOLOGY ............................................................................. 55
Bibliography: VIDEOS ......................................................................................... 57
Bibliography: FICTION ......................................................................................... 61
OTHER RESOURCES ........................................................................................ 63
    Mining-Related Properties On National, State and Local Registers of Historic Places .......................................................... 63
    Misc. Directories and Online Resources .......................................................... 68
    Additional Online Resources for Articles and Primary Documents .................. 71
    Libraries and Research Institutes ................................................................... 72
    Photographs and Maps (Digital, Available Online) ........................................ 75
    Associations and Clubs .................................................................................... 76
    Mining Towns, Museums and Mine Tours ....................................................... 78
    Journals ........................................................................................................... 89
Figures

FIGURE 1: Dredges In Swan River Valley ............................................................. xii
FIGURE 2: Miners Employed In Mascot Mine ...................................................... xii
FIGURE 3: Colorado Regions Map ........................................................................xiv
FIGURE 4: Gold Fields Hand Book Cover .............................................................. 1
FIGURE 5: The Board of Trade and Mining Exchange ......................................... 5
FIGURE 6: Five Miners and Dog ............................................................................ 8
FIGURE 7: 1859 Gold Panning ........................................................................... 11
FIGURE 8: Gold Panning .................................................................................... 14
FIGURE 9: Giant Monitor At Hydraulic Placer Mine, Fairplay, Colorado .......... 20
FIGURE 10: Mine Timbering .............................................................................. 25
FIGURE 11: 1St Smelter At Silverton, San Juan County .................................. 27
FIGURE 12: Mcnally Peter & Columbine Mine Crew ........................................... 30
FIGURE 13: Louisville Coal Miners ....................................................................... 33
FIGURE 14: Miners At Work .............................................................................. 36
FIGURE 15: Victor Mine on Bull Hill, 1893 ......................................................... 38
FIGURE 16: Party of Finland Miners With Wives & Children .......................... 39
FIGURE 17: Hispanic Mine Marshals ................................................................... 41
FIGURE 18: Greek Strike Leader ......................................................................... 44
FIGURE 19: Refugees of Ludlow Tent Colony .................................................... 47
FIGURE 20: 11Th U.S. Cavalry ............................................................................ 48
FIGURE 21: Ludlow Strike ................................................................................... 48
FIGURE 22: Irish Miners .................................................................................... 50
FIGURE 23: Baby Doe Tabor ............................................................................. 51
FIGURE 24: Chinese-American Miners ............................................................... 51
FIGURE 25: Miners, Some Possibly Asian ........................................................... 52
FIGURE 26: March To Free Mother Jones ........................................................... 52
FIGURE 27: Saint Elmo, Colorado, 1952 .............................................................. 55
FIGURE 28: Tin Can Campfire ............................................................................ 60
FIGURE 29: 1442 Creede By William Henry Jackson ......................................... 64
FIGURE 30: Miners Pose Near A Hoist ............................................................... 78
FIGURE 31: Men Inside Mine ............................................................................. 80
FIGURE 32: Exchequer, Colorado ....................................................................... 90
FIGURE 33: Headframe of Silver Pick Mine ......................................................... 95
INTRODUCTION

Spanish explorers visited within Colorado boundaries as early as the 1600s and frequently during the 1700s in their searches for gold and silver. Records of the 1765 expedition of Don Juan Maria Antonio Rivera refer to a piece of silver that a ‘Yuta’ (Ute) Indian woman wanted to trade that encouraged his search for the shining metal in the La Plata Mountains. Frenchmen were lured to Colorado in 1739 by rumors they heard of rich mines. Nineteenth century American explorers left notes in their journals of small discoveries of minerals in Colorado, but the locations were lost or forgotten.

When the California gold rush began in 1849, Colorado’s high peaks became a barrier to reaching the Golden State. Nine years later, the Russell Party found gold at the future site of Denver on the South Platte River and Cherry Creek, sparking the 1858 Colorado Gold Rush. Discoveries of more gold, silver, lead, zinc and coal rapidly followed and railroads, industry and urbanization boomed with the mines.

The early mining boom reached its apex with the 1880s silver rush to Leadville, Aspen and other silver cities, followed by the great Cripple Creek Gold bonanza of the 1890s. In Cripple Creek and elsewhere, the rise of militant unionism led to deadly mining labor disputes as workers struggled to earn a minimum wage of $3 a day for an eight hour day. As mining and smelting processes improved and became large-scale corporate operations, many mining millionaires made Colorado’s most celebrated fortunes.

In the twentieth century, Colorado became one of the largest U.S. producers of molybdenum, tungsten, uranium, radium and vanadium. With a history dating back to the mid 1600s, mining gave birth to the state and shaped its history down to the present when coal, oil, and natural gas are booming, along with the Cresson gold mine in the Cripple Creek District.

Although Colorado mining history has been prolifically researched and published, topics remain to be explored. The stories of ethnic groups, women, and children connected to the mines have largely been untold, as have the everyday lives of miners. Of world significance, Colorado’s twentieth century mining activities also offer exciting new research opportunities.

Mining’s past achievements and modern challenges are covered in this newest addition to the Center for Colorado & the West (CC&W) published and online resource guides (coloradowest.auraria.edu). In collaboration with Colorado’s leading mining history scholars, project manager Dana EchoHawk, a former CC&W King Fellow and current CC&W Managing Director, has produced this partially annotated Resource Guide as a beginning point for further exploration of a vast subject. We hope that students, teachers, researchers and the general public will find it useful. We welcome suggestions and feedback.

MARY M. SOMERVILLE, PhD, Professor and University Librarian, University of Colorado Denver; Director, Auraria Library; and Co-Director, Center for Colorado & the West at Auraria Library

THOMAS J. NOEL, PhD, Professor, History; Director Public History, Historic Preservation & Colorado Studies, University of Colorado Denver; And Co-Director, Center for Colorado & the West at Auraria Library
**COLORADO MINING HISTORY TIMELINE**

Juan Maria Rivera leads Spanish expedition into San Juan and Sangre de Cristo Mountains in search of gold and silver.  

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1765</td>
<td>Dominguez and Escalante Expedition find mine workings in the San Juan region.</td>
</tr>
<tr>
<td>1776</td>
<td>Pursley reports to Pike at Santa Fe that gold occurs on the South Platte, to which “he had refused to lead Spaniards.”</td>
</tr>
<tr>
<td>1807</td>
<td>Gold said to be found near site of Lake City, Hinsdale County, by a member of an exploring party in command of J.C. Frémont, but the spot is unmarked and unheralded.</td>
</tr>
<tr>
<td>1848</td>
<td>Green Russell discovers small placer gold deposits near confluence of South Platte River and Cherry Creek, precipitates gold rush.</td>
</tr>
<tr>
<td>1858</td>
<td>Prospectors unearth hardrock gold veins at Gold Hill, Boulder County, initiating the first underground mining in the Rocky Mountains.</td>
</tr>
<tr>
<td>1859</td>
<td>George A. Jackson finds gold along South Clear Creek at the mouth of what is later called Chicago Creek on present site of Idaho Springs.</td>
</tr>
<tr>
<td>1859</td>
<td>Thomas Aikens and party find placer gold at Gold Hill, Boulder County.</td>
</tr>
<tr>
<td>1859</td>
<td>John Hamilton Gregory makes famous gold-lode strike on North Clear Creek soon called Gregory diggings. This stimulates rush of prospectors who establish camps of Black Hawk, Central City and Nevadaville.</td>
</tr>
<tr>
<td>1859</td>
<td>Placer gold is found on headwaters of Arkansas River, chiefly in Cache and Clear creeks, now in Chaffee County.</td>
</tr>
<tr>
<td>1859</td>
<td>Auraria City is laid out by Levi J. Russell on west bank of Cherry Creek near its junction with the Platte, at site of discovery of placer gold deposits a year before.</td>
</tr>
<tr>
<td>1859</td>
<td>Jefferson Territory is organized without sanction of Congress to govern gold camps; officers are elected. Prospectors spread through mountains and establish camps at Boulder, Colorado City, Gold Hill, Hamilton, Tarryall, Oro City and elsewhere.</td>
</tr>
<tr>
<td>1859</td>
<td>Coal is discovered in Marshall area southeast of Boulder. Jim Baker mines surface coal near Lafayette and sells it in Denver.</td>
</tr>
<tr>
<td>1859</td>
<td>Placer gold is found in Georgia Gulch and other gulches on the headwaters of the Blue and the Swan, over the mountain passes from the South Park.</td>
</tr>
<tr>
<td>1860</td>
<td>While looking for gold in the Leadville area, prospector Abe Lee finds gold ore in California Gulch, the future site of Leadville. Silver, zinc and lead are also eventually mined in the same area. By the late 1870s, the area becomes the most important mining center in Colorado.</td>
</tr>
<tr>
<td>1860</td>
<td>A second rush, larger than the one in 1859 commences. Most of the immigrants head for Gregory Diggings, which they find overcrowded and from there, they spread in every direction.</td>
</tr>
<tr>
<td>1860</td>
<td>First stagecoach from Denver to Gregory district arrives over Golden Gate-Dory Hill road.</td>
</tr>
<tr>
<td>1861</td>
<td>Congress organizes Territory of Colorado with William Gilpin as governor.</td>
</tr>
<tr>
<td>1861</td>
<td>The nation’s second oil well is drilled near Florence, Colorado.</td>
</tr>
</tbody>
</table>
1864 A 40-stamp mill and reverberatory furnace for gold ores is built at Georgetown.

One of Colorado’s earliest silver rushes begins after discoveries at the
Belmont lode, on Mount McClellan, 8 miles above Georgetown.

Evolution of the idea of the Colorado mineral belt begins. The area
stretches northeast from the La Plata Mountains in Southwestern
Colorado to the Front Range near Boulder, Colorado. Most of the historic
metal mining camps of Colorado lie in this area. The exception being
Cripple Creek District, which becomes prominent in the 1890s.

Silver mining begins in Clear Creek Valley, and is the beginning of the
associated heavy mining industry in the Georgetown and Silver Plume area.

Charles Burleigh develops the Burleigh drill at Silver Plume.

This machinery is among the earliest mechanical rockdrills.

Captain Ira Austin discovers a coal vein on the hill due east of Erie
in Boulder County and opens the first coal mine in the Erie area.

Nathaniel Hill opens the first smelter in Colorado at Black Hawk,
inaugurating an era of large scale ore processing.

Silver is discovered at Caribou in Boulder County.

Colorado School of Mines is established at Golden.

Coal miners in Boulder County strike in Erie. Twelve miners are jailed.

Boulder Valley Railroad builds off the Denver Pacific line
and stimulates renewed development of the Northern Coalfield.

Congress creates the Mining Act of 1872.

Prospectors discover silver ore on Mount Bross, Park County,
initiating a rush and growth of the subsequent mining industry.

Congress demonetizes silver in the “Crime of 1873”.

With the Brunot Agreement and removal of the Utes
the San Juan Mountains are open to prospecting.

The Boyd Smelter and the Delano Mill are
erected near the mouth of Boulder Canyon.

Silver-lead carbonates are produced from mines in
California Gulch near the future site of Leadville.

The first gold mining claim is made in the
mountains above what is now Telluride.

The silver boom begins in Leadville and soon silver displaces
gold as Colorado’s number one mineral. Leadville becomes
the largest silver-lead smelting center in the world.

Leadville is incorporated; rich silver strikes of Iron, and carbonate
soon make it one of the world’s greatest mining camps.

Silver is discovered at Silver Cliff, Custer County.

Silver Cliff briefly rivals Leadville in importance until around 1880.

Horace Tabor strikes it rich in Leadville with
the Little Pittsburgh Mine (silver-lead).
First mining labor union in Colorado, the Knights of Labor
Local #771 is established in Erie, Boulder County.  1878

Congress remonetizes silver in the Bland-Allison Act.  1878

Silver ore is discovered on the Roaring Fork River where the town of Aspen grows as a remote prospecting outpost.  1879

Molybdenum is found in Climax, north of Leadville. During World War I, the Climax area becomes the largest source of molybdenum in the United States.  1879

Small quantities of uranium-bearing carnotite are found in western Colorado near Naturita, along with gold. Later, carnotite is found to contain radium and vanadium in addition to uranium.  1881

Steel is milled in Pueblo from Colorado ores. Company later becomes Colorado Fuel and Iron Company (CF&I)  1882

Electricity is introduced to mining for lighting, in Clear Creek County.  1882

Carrie Everson invents ore flotation in Denver and Georgetown, but can't make it a commercial success.  1880s

Aspen becomes a major industrial center as its hardrock mining industry booms.  1886

Mining companies advertised in foreign newspapers promising jobs and large numbers from Europe, Austria, Italy, Serbia, Croatia, Cornwall, Ireland, Wales, France, Germany, Russia, Norway, Sweden, Finland, Denmark and elsewhere began to arrive in Colorado to work in the mines.  1880s

The Simpson Coal Mine opens, owned by Mary and Lafayette Miller. The Simpson Mine becomes one of the largest coal mines in northern Colorado until its closing in 1927  1887

Electricity is adapted for mining at Aspen.  1888

Passage of Sherman Silver Purchase Act raises price of silver to more than $1.00 on ounce.  1890

Nicholas Creede discovers a high-grade silver vein on Willow Creek, a tributary of the Rio Grande. This starts the Creede rush.  1890

Interest grows in gold mines at Cripple Creek and Victor, essentially in a volcanic cone outside the Colorado mineral belt.  1890

Robert Womack discovers the great gold field of Cripple Creek, Colorado's largest gold discovery.  1891

Winfield Scott Stratton discovers the Independence Lode near Victor, Colorado on July 4, 1891. This becomes one of the richest gold mines ever located and Stratton becomes the Cripple Creeks district's first millionaire.  1891

Repeal of Sherman Act causes value of silver to fall by nearly one-half. National financial panic follows. Colorado silver mining collapses, and wipes out the fortunes of Horace Tabor and others.  1893

Silver mines reopen with substantially lower wages, prompting the rise of militant unionism led by the Western Federation of Miners.  1894

Arthur Redman Wilfley designs the Wilflley table. The large wooden table is used to concentrate copper particles. First used in Colorado it becomes a preferred method for washing copper slime.  1896
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1896</td>
<td>Leadville area miners strike over wages and set fire to the Coronado Mine, killing three men.</td>
</tr>
<tr>
<td>1897</td>
<td>An improved national economy, widespread mechanization, and better milling revives mining across Colorado. The industry reaches a peak lasting until 1908.</td>
</tr>
<tr>
<td>1898</td>
<td>Ben Stanley Revett, a mining engineer, launches the first dredge boat (a 100-foot barge) in Breckenridge, starting the town’s third gold boom.</td>
</tr>
<tr>
<td>1898</td>
<td>Ten tons of yellow ore that tested high in uranium and vanadium are dug out of a deposit at Rock Creek in Montrose County. The new rare mineral was named carnotite. The name comes from a French chemist named Carnot.</td>
</tr>
<tr>
<td>1899</td>
<td>Tungsten is discovered in the mountains west of Boulder near Nederland. The ore sells for $2 per unit in 1901 and reaches $16 per unit by 1916 with the beginning of WWI. (One unit is twenty pounds of mill concentrates).</td>
</tr>
<tr>
<td>1900</td>
<td>Gold production reaches peak of more than $20,000,000 annually at Cripple Creek.</td>
</tr>
<tr>
<td>1903</td>
<td>Mine, mill and smelter workers strike statewide for higher wages and better working conditions. The Cripple Creek strike results in property damage and loss of life. State militia crushes Western Federation of Miners Union.</td>
</tr>
<tr>
<td>1908</td>
<td>Dome of the State Capitol is plated with gold leaf at a cost of $14,680.</td>
</tr>
<tr>
<td>1908</td>
<td>3,000 coal miners in Boulder County go on strike lasting five years.</td>
</tr>
<tr>
<td>1910-1922</td>
<td>The Uravan mineral belt of Colorado and Utah supplies half the world’s radium and most of the vanadium.</td>
</tr>
<tr>
<td>1911</td>
<td>Underground banquet held at the Wolftone Mine near Leadville to celebrate finding zinc carbonate.</td>
</tr>
<tr>
<td>1914</td>
<td>Strike of coal miners in southern Colorado fields is climaxed by Battle of Ludlow near Trinidad. More than 100 men, women and children are killed during the hostilities between miners and the State militia.</td>
</tr>
<tr>
<td>1914</td>
<td>U.S. Army occupies Louisville in Boulder County during coal miner’s strike.</td>
</tr>
<tr>
<td>1916</td>
<td>Mining of tungsten causes boom in Boulder-Nederland area.</td>
</tr>
<tr>
<td>1916</td>
<td>World War I revives silver and industrial metals mining throughout Colorado.</td>
</tr>
<tr>
<td>1917</td>
<td>Colorado reaches maximum mineral production of more than $80,000,000.</td>
</tr>
<tr>
<td>1918</td>
<td>Coal production of state reaches new high of 12,500,000 tons. WWI stirs development of mining of molybdenum at Climax near Leadville as the nation’s greatest source of the metal. Molybdenum is produced to make steel for British and later American tanks. WWI ushers in the mining of industrial metals often found outside the Colorado mineral belt: molybdenum, tungsten, vanadium, and radium especially.</td>
</tr>
<tr>
<td>1930</td>
<td>Great Depression forces remaining metal mining operations to close. Gold Reserve Act boosts value of gold to $35.00 per ounce, and Silver Purchase Act increases silver to $.71 per ounce. Gold and silver mining operations experience a limited revival but is hampered by lack of capital.</td>
</tr>
</tbody>
</table>
The Gold Standard Act stimulates little response to reactivate the mining industry. 1935

Baby Doe Tabor dies during the night while at the matchless Mine near Leadville. 1935

The Idarado Mining Company is formed and begins to consolidate mining properties in the Red Mountain area of the San Juan Mountains of Ouray County. 1939

War Production Board outlaws gold mining as non-contributing to World War II mobilization. Most gold mines close, never to reopen. 1942

Manhattan Project secretly begins mining and milling carnotite for uranium in the Uravan Mineral Belt, the nation's only domestic source. The uranium is used in the world's first two atomic bombs. 1943

Montrose and San Miguel counties become the nation's most important sources of uranium for Cold War atomic weapons. 1948

The last smelter in Leadville is closed 1960

Atomic Energy Commission explodes atomic bombs north of Grand Junction to free natural gas, but it proves too radioactive for commercial use. 1973

The Henderson molybdenum mine begins west of the town of Empire in Clear Creek County. The Henderson mine is North America's largest producer of primary molybdenum. 1976

The Idarado Mining Company closes. 1978

Coal mining production on the Western Slopes hits all time high as the United States becomes more dependent on energy resources at home rather than overseas. 1980

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) commonly known as Superfund is enacted by Congress. This precipitates vast environmental litigation and cleanup of old mining sites. 1980

The Climax Molybdenum Mine is closed. 1982

National Mining Hall of Fame and Museum opens in Leadville. 1987

Anglo Ashonti Gold begins cyanide heap leaching in Cripple Creet and Victor as one of the largest U.S. gold producers. 1995

The Asarco Black Cloud Mine closes. Located 10 miles east of Leadville above timberline. The mine produced lead, zinc, silver and gold. This ends an era of traditional mining at Leadville. 1999

The Climax Molybdenum Mine is reopened. 2012
FIGURE 1: DREDGES IN SWAN RIVER VALLEY

Hydraulic placer gold dredge, in Summit County, Colorado. Shows the gantry, tail sluices, processing sheds, and the stacker extending over mine tailing piles.

*Photo credit: Denver Public Library Digital Collection, X-60165.*

FIGURE 2: MINERS EMPLOYED IN MASCOT MINE

Miners include E.H. Purdy, Newton, Bellows, Cheesewright and Carter post with picks, shovels, oil cans, and miner’s candles by a mine ore car at the Mascot Mine near American City, Gilpin County, Colorado. Between 1895 and 1905.

*Photo credit: Denver Public Library Digital Collection, X-62792.*
COLORADO REGIONS

FIGURE 3: COLORADO REGIONS MAP

The following mining history bibliography has been organized geographically according to the above map.

Image credit: Composite by Dana EchoHawk
BIBLIOGRAPHY: General


(Missouri), Pacific Railroad. Pacific Railroad of the Missouri: The Old Established and Most Reliable Route to Kansas, Nebraska, and All Points on the Missouri River. The Most Direct Route to the Newly Discovered Gold Fields of Pike’s Peak and Cherry Creek. Denver, CO: Pikes Peak Guidebooks, 18, 1963. 10. Facsimile reprinted by Nolie Mumey. illus. map


Lucien Nunn owned restaurants in the 1880s in Leadville, the San Juans and Durango Mine manager in Telluride. Generated electrical power for mine. invested in the Rio Grande Southern railroad.


Beadle, J. H. *Western Wilds and the Men Who Redeem Them: An Authentic Narrative, Embracing an Account of Seven Years Travel and Adventure in the Far West; Wild Life in Arizona; Perils of the Plains; Life in the Canon and Death on the Desert; Thrilling Scenes and Romantic incidents in the Lives of Western Pioneers; Adventures among the Red and White Savages of the West; a Full Account of the Mountain Meadow Massacre; the Custer Defeat; Life and Death of Brigham Young, Etc*. Cincinnati: Jones Bros., 1882. 628. col. illus. maps.

Mining trips to Colorado in 1874-1882. Denver, Georgetown, Boulder Valley, Central City, Leadville, Silver Cliff and Rosita.
[electronic resource]: http://books.google.com books?id=a3NNAAAAYAAJ


[electronic resource]: http://books.google.com/books?id=TWNAAAAAYAAJ


Canfield, John G. Mines and Mining Men of Colorado, Historical, Descriptive and Pictorial: An Account of the Principal Producing Mines of Gold and Silver, the Bonanza Kings and Successful Prospectors, the Picturesque Camps and Thriving Cities of the Rocky Mountain Region. Denver, CO: J.G Canfield, 1893. illus. photos. directory.


Excelsior Company, 1867, a gold smelting process. St. Luis Park Grant, 1868, a placer mining company. Treasure Mining Company, 1868, Lake County


Clark, Charles M. A Trip to Pike's Peak & Notes Along the Way: Being Descriptive of Incidents and Accidents That Attended the Pilgrimage of the Country through Kansas and Nebraska; Rocky Mountains; Mining Regions; Mining Operations, Etc., Etc. Revised ed. Lake City, CO: Western Reflections Publishing Co., 2009. 197. illus.

Gold rush memories from 1860. Getting there, placer mining on Clear Creek.


v. 1. Old South Park, Denver to Leadville.

v. 2. Old South Park, across the Great Divide – v. 3. Georgetown – Mining – Colorado Central railroad.


An important, readable book on the neglected, unromantic, but crucial subject of ore processing, which made paydirt pay off.
Bibliography: General


Biography of circuit riding Methodist minister of Colorado mining towns (1861-1880).


[electronic resource]: http://www.archive.org/details/coloradohistorical00foss

Foster, Thomas J. Coal Miners’ Pocketbook


The doctor started in a mining camp in the Elk Mountains in Western Colorado in 1879.


Out of Print [electronic resource]: http://archive.org/details/miningindustries00hagurich


Hunt, Pratt and. *A Guide to the Gold Mines of Kansas: Containing an Accurate and Reliable Map of the Most Direct Railroad Routes from the Atlantic Cities to the Farthest Point West Now Reached by Railroad Communication, Via Hannibal and St. Joe Railroad, and from Thence to the Gold Mine. Also All Other Practicable Routes.* Denver, CO: Pikes Peak Guidebooks, 13, 1954. Facsimile reprinted by Nollic Mumeuy, Pratt & Hunt, Civil Engineers and Surveyors, Kansas Territory. Chicago, IL: C. Scott and Co., 1859. 70. illus. map.

Mines and mineral resources in Aspen and Leadville areas


[electronic resource]: http://archive.org/details/digginggoldamong00inghrich


[electronic resource]: http://archive.org/details/bibliographycol00jonegoog


[electronic resource] access to some volumes or items may be restricted: http://books.google.com/books?id=IIM1AAAAAMAAJ


Much on mining in the San Juans. An economic geology textbook.

[electronic resource]: http://archive.org/details/geologywesterno00lakegoog


Pullman’s beginnings in the Colorado gold rush, 1860-1863.


Two-volume study of the heyday of gold, silver, and copper mining in the American West. Lingenfelter describes how great expectations follow the money from rich pockets of ore and the bulging pockets of investors and speculators through mills, smelters, and stock markets.


Includes list of mining districts and mineral deposits by counties


A preacher’s early years in Colorado at the railroad yards in Como, the Mary Murphy Mine in the chalk Creek District.


Unions, the owners, the mines, strikes early 1900s.


[electronic resource]: http://books.google.com/books?id=5Bw1AQAAMAAJ


Pikes Peak gold rush, Cripple Creek and Camp Bird Mine.


Prepared for the U.S. Treasury Dept. Issued as: House ex. doc. no. 210, 42d Congress, 3d session.


Rickard worked at Red Mountain and Rico in 1893 and La Plata in 1896.


Albert Eugene Reynolds was a young man from a modest home in the East, he made a fortune in the West of the late nineteenth century. Intelligence, industry, and luck assured his success as a military sutler, Indian trader, overland freighter, and cattle rancher, and as the owner and operator of silver and gold mines.


Biography of Leadville’s silver king.


---

**FIGURE 8: GOLD PANNING.**

*Photo credit Thomas J. Noel collection*


Streufert, Mark W. Davis & Randall K. Gold Occurrences of Colorado. Denver, CO: Colorado geological Survey, Department of Natural Resources, 1990. selected bibliography. mpas. tables


[electronic resource]: http://books.google.com/books?id=DVIUAQAAMAAJ


Transcription of all the local district bylaws.


[electronic resource]: http://archive.org/details/silverminingreg00whitgoog


David Wood was a transportation pioneer who used passenger and freight wagons to reach the mines until displaced by railroads in the late 1870s. Gunnison. San Juans.


Young, Court H. *The Orphan Boy: A Love Affair with Mining, 1880 to the Present*. CO: Compressor House, 2006. 252. photos. maps. index. Includes companion DVD
BIBLIOGRAPHY: Northwest


Chapter on refinding a famous gold nugget.

Mining: the pick, pan and blasting powder route to riches – Breckenridge mining: gulches of gold – Ten mile mining: storied Silver Canyon – Montezuma mining: treasure atop the Rockies – Then and now: a photographic perspective – Summit ghost camps – Ox, burro and mare: Summit transportation till the 1880’s

Prospecting in Tarryall, South Park.


[electronic resource]: http://books.google.com/books?id=SXTnAAAAMAAJ


Little known mining area in northern Colorado.


Information on mines and ghost towns


Some mine plans.
Bibliography: Southwest


2d was published by Bert Baker in 1956.

History of the narrow gauge railroads that ran north from Silverton to serve the mines of the San Juan Mountains.


Information circular (United States. Bureau of Mines) ; 7726.


Railroad that served Telluride and towns on the western side of the San Juans


History of mining town now a ski resort on the western edge of the San Juans.


Prospecting and the beginning or uranium mining on the Colorado Plateau.


Nunn, L. L., and San Miguel County Museum Society. *L. L. Nunn* sound recording, 1 sound disc (ca. 95 min.): digital; 4 3/4in.

1 sound cassette (90 min.): 1 15/16 ips, mono.; 3 5/8 x 2 1/2in.


Also published San Francisco: Dewey, Journeys of Observation, 1903. 130. illus. photos.

Horseback trip across the San Juans by mining engineer. Many mines were visited.

[electronic resource]: http://archive.org/details/acrosssanjuanmou00rickrich


Southern supply center for many San Juan mines


Stories of early days in the San Juan Mountains.

---

**FIGURE 11: 1ST SMELTER AT SILVERTON, SAN JUAN COUNTY.**

View of workers at a smelter in San Juan County, Colorado show slant roof building with chimneys. 1900. Photo credit, Denver Public Library Digital Collection, X-61438.


The life and activities of Peter McFarlane a Central City, Colorado mining entrepreneur who arrived there in 1869 and spent most of the rest of his life there.


1 CD-ROM includes searchable text of book in Microsoft Word.

Site descriptions, histories.


Western Americana, frontier history of the trans-Mississippi West, 1550-1900 series. 139, n9. 1467. Available in Microfilm.


A two-foot railroad that ran from Central City mines to the Black Hawk smelters.


This folder contains 3 copies of a report reprinted from the Colorado Scientific Society Proceedings, vol. 14, no. 4. Two of the copies contain Norma LeVeque's notes about mines in the Gold Hill Mining District.


[electronic resource] from the U.S. Geological Survey Warehouse, Geological Survey bulletin ; 931-O:
http://pubs.er.usgs.gov/ - search:advance/page=1/page_size=100/series_cd=B/report_number=931-o:0


Originally published in 1930.


Silver mining from 1870 in this mining area


[electronic resource]:
http://books.google.com/books?id=RqvmAAAAMAAJ

![Figure 13: Louisville coal miners.](https://example.com/louisville-coal-miners.jpg)

*Photo credit, Thomas J. Noel collection.*


County history, historic site identification and significance evaluation. Mines and mineral resources Colorado Boulder County History. Historic buildings Conservation and restoration Colorado Boulder County. [electronic resource]: http://hdl.handle.net/10176/co:1206_hed6502m562007internet.pdf


Growing up in Creede. Insights into what it was like in the 1890s in a booming mining town.


Burbank, W.S. and Charles W. Henderson. “Geology and Ore Deposits of the Bonanza Mining District, Colorado, with a Section on History and Production (Online).” 166. Washington, DC, 1932.


Research indicates that Coolbaugh (listed as Resident Manager in item introduction) was elected president of CMC in 1959 but then became president of the Climax Metal Company in 1960 (hence, item publication date assumed as 1959).


Silver mining in Creede in Bonanza years.


Letters of Dr. Charles and Maggie Brown and relatives. They lived in Bonanza on Kerber Creek, Saguache County 1880-1882.


---

**FIGURE 14: MINERS AT WORK**

L.C. McClure collection, ca. 1900. album XI,7. Nine hard rock miners and one mine supervisor working underground preparing blasting holes with rock hammers and chisels; area appears to be lit by candles on miners’ hats and tunnel walls. Photo credit: Denver Public Library Digital Collection, MCC-44.


Short biographies and history of district towns.


*Men of note Affiliated with Mining and Mining Interests in the Cripple Creek District*. S.l.: L.A. Snyder, Publisher. 1905.

[electronic resource]: http://archive.org/details/menofnoteaffilia00sllarich


Mumey, Norma L. *Early Mining Camps of South Park*. Denver, Colo.?: s.n., 1952. 54. illus., map. biblio.


Stride, Robert. *Cripple Creek Gold Camp Souvenir Edition of Mines and Mining Men in Colorado, Historical, Descriptive and Pictorial... An Account of the Principal Producing Mines of Gold and Silver, the Bonanza Kings and Successful Prospectors, the Picturesque Camps and Thriving Cities of the Rocky Mountain Region*. Denver.; J. G. Canfield, 1895. 118. illus.


History of Custer County, historic site identification and significance evaluation.


Portland Mine on Battle Mountain in Cripple Creek district.


Williamson, Arlene E. *Fred Schwartzwalder and His Fabulous Strike on Indian Head Mountain*. Carlton, 1983. 64. photos.

---

**FIGURE 16: PARTY OF FINLAND MINERS WITH WIVES & CHILDREN**

Peter Carlson photographer, 1904. Finnish miners, wives and children sit on a tippie of the head frame of the Log Cabin shaft of the Morning Glory silver and lead mine in Leadville, Lake County, Colorado, owned by H.S. Dickerman. Photo credit: Denver Public Library Digital Collection, Z-1894.


History of Bear Canyon Coal Company from 1905-1953 by the owner’s daughter. Located SW of Ludlow down Berwind Canyon.

---

**FIGURE 17:** HISPANIC MINE MARSHALS

Crecencio Vigil and Melitón Barela, marshals at the Colorado Fuel and Iron Cokedale Mines in Cokedale (Las Animas County), Colorado. *Photo courtesy: Latinos/Hispanics in Colorado Collection (Denver Public Library Digital Collection), AUR-2306.*

*Photo credit: A. Gene Vigil, Auraria Library Digital Collections.*
BIBLIOGRAPHY: Labor/Unions

_Facts Concerning the Struggle in Colorado for Industrial Freedom._ Denver, CO: Coal Mine Managers, 1914. 78. illus.
[electronic resource]: http://archive.org/details/factsconcernings00commrich


Access to some volumes or items may be restricted. San Francisco, Calif.: 2008. World Wide Web.


Report of the commanding general to the governor, for the use of the Congressional committee, exhibiting an account of the military occupation to the time of the first withdrawal of the troops in April, 1914. General John Chase, commanding general. Submitted by the governor of Colorado to the chairman of the House Committee on mines and mining, 63d Cong. Access to some volumes or items may be restricted. Electronic reproduction. San Francisco, Calif.: Internet Archive, 2008. Mode of access: World Wide Web.
[electronic resource]
http://www.archive.org/details/militaryoccupati00colorich
Colorado. Special Board of Officers to Inquire into the Armed Conflict April 20 1914. Ludlow, Being the Report of the Special Board of Officers Appointed by the Governor of Colorado to Investigate and Determine the Facts with Reference to the Armed Conflict between the Colorado National Guard and Certain Persons Engaged at the Coal Mining Strike at Ludlow, Colo., April 20, 1914. Denver,: Press of the Williamson-Haffner Co., 1914. 29. Access to some volumes or items may be restricted

http://www.archive.org/details/ludlowbeingrepor00colorich


Mined uranium in 1912 and was at Ludlow during the shootings in 1914.


FIGURE 18: GREEK STRIKE LEADER

Portrait of Peter Catsules (?), a Greek UMWA strike leader against CF&I in Ludlow, Las Animas County, Colorado; his kerchief denotes support for the coal miners. 1913 or 1914.

Photo credit, Denver Public Library Digital Collection, X-60367.


Coal strike and incidents at Ludlow during 1914 strike.

Keating, Edward, and University of Colorado Libraries. Archives Dept. *Edward Keating Papers, 1900-1964*. 25 linear ft. (16 boxes). In Congress, he forced a congressional investigation of the great strike in the coal mines of Southern Colorado. Included are Keating’s original notes, drafts, proofs and published book The story of “Labor” (1953). Notes, drafts, manuscripts and published memoirs from The gentleman from Colorado (1964) are included. Other items include books from Keating’s personal library, scrapbooks, photographs, newspapers and newspaper clippings.


The strike from the miner’s point of view

Lewis, John L. *The Miners’ Fight for American Standards*. Indianapolis, IN: Bell Publishing Company, 1925. 189. tables


Ludlow 1914


Biography of Greek immigrant who was a union organizer in the Colorado coal mines. Murdered in the Ludlow Massacre during 1914 strike.


http://books.google.com/books?id=xNAoAAAAIAAJ


FIGURE 20: 11TH U.S. CAVALRY
A member of the 5th U.S. Cavalry poses with his rifle inside a building in Trinidad (Las Animas County) Colorado. The troops were called in at the request of Colorado Governor Ammons, to restore order in the coal fields after the Ludlow Massacre at the time of the United Mine Worker’s strike against Colorado Fuel & Iron. 1914. Photo credit, Denver Public Library Digital Collection, X-60568.

FIGURE 21: LUDLOW STRIKE
Coal miners marched into Trinidad from Ludlow to confront the federal troops during the UMW labor strike against CR&I, Las Animas County, Colorado. Camp San Rafael. 1913 or 1914. Photo credit: Denver Public Library Digital Collection, X-60410.


The story of Maggie Brown


Told from Baby Doe’s perspective


Horace Tabor’s first wife and her side of the affair and divorce.


Foote married a mining engineer and lived in Leadville. 1879-1881.


[electronic resource]
http://Archive.Org/Details/coloradominingto00bessrich


Before and after divorce from Horace Tabor.


Todd, A. C. *The Cornish Miner in America: The Contribution to the Mining History of the United States by Emigrant Cornish Miners—the Men Called Cousin Jacks*. Truro (Cornwall), Glendale (Calif.): Barton; Clark, 1967. 279 illus., maps on endpapers. biblio. footnotes.


[electronic resource]: available. Access may be limited to NetLibrary affiliated libraries.
FIGURE 23: BABY DOE TABOR


FIGURE 24: CHINESE-AMERICAN MINERS

Dr. James Underhill poses with Chinese-American miners (probably) in the Colorado School of Mines’ Edgar Experimental Mine near Idaho Springs (Clear Creek County), Colorado. Between 1920-1930. Photo credit, Denver Public Library Digital Collection, X-21651.
FIGURE 25: MINERS, SOME POSSIBLY ASIAN
Ouray County, Colorado, between 1880 and 1900.
Photo credit: Denver Public Library Digital Collection, X-61120.

FIGURE 26: MARCH TO FREE MOTHER JONES
Miners and women march to free Mother Jones from prison and support the UMW Ludlow strike against CF&I, Commercial Street, Trinidad, Las Animas County, Colorado 1914.
Photo credit, Denver Public Library Digital Collection, X-60506.

______. *Ghosts of Summit County: A Guide to the Ghost Towns and Mining Camps of Summit County, Colorado.* Lakewood, CO: Centennial Graphics, 1986. 44. col. illus. map. folded map. biblio.


______. *My Favorite Ghosts: Excerpts from the Fourteen Book Series on Ghost Towns and Mining Camps in Colorado Written by the Same Author.* Lakewood, Colo.: Centennial Graphics, 1988. 60. col. illus. biblio.


Bibliography: Ghost Towns


   Towns: Altman, Anaconda, Arequa, Barry, Cameron, Cripple Creek, Eclipse, Elkton, Gillett, Goldfield, Independence, Lawrence, Midway, Mound City, Stratton, Victor, Teller County geology.


   Towns: Caribou, Nederland, Ward

Aldrich, John K., Ron Williams, Peg Williams, and Anne Justen. *Ghosts of Gilpin County: A Guide to the Ghost Towns and Mining Camps of Gilpin County, Colorado*. [4th ed. Denver, CO: Columbine Ink, 2011. 44. col. illus. folded map. biblio,

   Towns: American City, Antelope, Apex, Baltimore, Black Hawk, Central City, East Portal, Gambell Gulch, Gilpin, Gold Dirt, Kingston, Lake Gulch, Missouri Flats, Mountain City, Nevadaville, Nugget, Perigo, Rollinsville, Russell Gulch, Tolland.


   [electronic resource]: available


   Volume one of three volume set. (Boulder, Clear Creek, Gilpin, Grand, Jackson, Larimer, Moffat, Routt and Summit Counties)


   Volume two of a three volume set. (Garfield, Eagle, Pitkin, Lake, Park, Teller, Chaffee and Gunnison counties)


   Volume three of a three volume set. (Custer, Fremont, Alamosa, Conejos, Costilla, Rio Grande, Saguache, Hinsdale, Mineral, Ouray, San Juan, Delores, Montezuma, San Miguel, Las Animas, La Plata and Huerfano Counties)
Organized into three regions, Northern, Central and Southern and within each region, by county.


From old mining camps high in the Rockies to Mesa Verde in the south to homestead villages in the east, Kenneth Jessen presents the top 105 ghost towns of Colorado, selected from his 40-plus years of exploring over 1,600 ghost towns throughout the state. Each ghost town comes to life through color photos and a brief history; complete with descriptive directions and map coordinates.


BIBLIOGRAPHY: Videos


Access requires authentication through Films on Demand.


. *Cripple Creek and the Mining Camps of Teller County, Colorado mining camp series.* Round Rock, TX: Wild Horse Publishing,, 1995. videorecording, 1 videocassette (20 min.): sd., col. with b&w sequences ; 1/2 in.

. *Leadville the Boom Years, Colorado mining camp series.* Round Rock, TX: Wild Horse Publishing,, 1995. videorecording, 1 videocassette (27 min.): sd., col. with b&w sequences ; 1/2 in.


The Mining Camps of South Central Colorado, Colorado mining camp series. Round Rock, TX: Wild Horse Publishing,, 1995. videorecording, 1 videocassette (25 min.): sd., col. with b&w sequences ; 1/2 in.

The Mining Camps of the San Juans, Colorado mining camp series. Round Rock, TX: Wild Horse Publishing,, 1995. videorecording, 1 videocassette (40 min.): sd., col. with b&w sequences ; 1/2 in.

FIGURE 28: TIN CAN CAMPFIRE

Photo credit, Thomas J. Noel Collection
[electronic resource]: http://memory.loc.gov/cgi-bin/query/h?ammem/papr:@field(NUMBER+@band(edmp+1173))
Duration: 0.46 at 16 fps. Comedy. From Edison films catalog: Shows tap room of the “Miners Arms,” stout lady at the bar, and three men playing stud horse. Old toper with a silk hat asleep by the stove. Rough miner enters, bar maid serves him with Red Eye Whiskey and he proceeds to clean out the place. Barmaid takes a hand with a siphon of vichy, and bounces the intruder, with the help of the card players, who line up before the bar and take copious drinks on the house.


A historical novel based on rise and fall of silver mining in Colorado.


A novel of hard times in mining towns before things work out in Cripple Creek.


[Electronic resource]: http://archive.org/details/mountainiddyllsot00king


This 1971 Pulitzer-Prize winning novel explores America’s mining frontiers from one family’s perspective, setting one man’s obsession with mining against his wife’s yearnings for the cultural opportunities she left in the East.
People bundled in coats stand in front of shanties in the town of Creede, Colorado in Mineral County. One of the rectangular wood-frame buildings has a gable with roofing; the gables of the other buildings are covered with tent material. Stacks of wood are piled in the foreground near piles of boards, debris, and rocks. The snow-covered, steep rocky hills that surround the town are in the background. Signs “Saloon Istrael and Groff” and “Notice This land either belongs to R.H. Sayre who has located it with Valentine Script or to the State of Colorado. In either case you are trespassing and cannot possible gain anything by squatting upon it. The matter will probably be settled in 30 days, at which time you can purchase lots and get a title. For particulars call on J.W. Smith” show. 1885.

Photo credit, Denver Public Library Digital Collection, X-7490.
MINING-RELATED PROPERTIES ON NATIONAL, STATE AND LOCAL REGISTERS OF HISTORIC PLACES

Colorado Historical Society: Office of Archaeology and Historic Preservation
Denver, Colorado

- Directory of Mining-related properties in the Colorado State Register of Historic Properties, c2006
  http://hdl.handle.net/10176/co:1285_hed6502m662006internet.pdf

  http://hdl.handle.net/10176/co:1198_hed6502m661983internet.pdf

- 2008 National Register of Historic Places Multiple Property Documentation: The Mining Industry in Colorado MPS:

- Metal Mining and Tousrit Era Resources of Boulder County MPL (Amendment):

PROPERTIES ON THE NATIONAL REGISTER OF HISTORIC PLACES
(For Colorado, see above online directory of mining-related properties)

Boulder County

Cardinal Mill
Added to Register: December 22, 2011
Along Coon Track Creek at Cardinal, around 4 miles west of Nederland.
Intact ore concentration mill dating to the late 1890s.
Milled tungsten and gold ore.

Fox Mine Office
Added to Register: February 23, 1996
1226 S. Cherryvale Rd., Boulder, CO
Period of Significance: 1899-1925
Gold Hill National Historic District
Added to Register: August 3, 1989
Roughly bounded by North St., Pine St., and College St.
Gold Hill, Colorado
Period of Significance: 1874-1925

Lewis House
Added to Register: May 20, 1983
108 E. Simpson St.
Lafayette, Colorado
Miners Museum
Period of Significance: 1899-1925

Modoc Mill
Added to Register: December 27, 1978
North of Ward, Colorado

Rocky Mountain Mammoth Mine
Added to Register: July 6, 2010
4879 Magnolia Dr.
Nederland, Colorado

Snowbound Mine
Added to Register: August 3, 1989
County Road 52
Gold Hill, Colorado

Chaffee County

Crescent Moly Mine No. 100 and Mining Camp
Added to Register: October 11, 2003
Vicksburg vicinity
Period of Significance: 1925-1949

Vicksburg Mining Camp
Added to Register: March 8, 1977
15 mi. N.W. of Buena Vista on SR 390
Period of Significance: 1875-1899

Winfield Mining Camp
Added to Register: March 10, 1980
15 mi. N.W. of Buena Vista
Period of Significance: 1875-1899
Clear Creek

*Argo Tunnel and Mill*
Added to Register: 1978
2517 Riverside Dr., Idaho Springs
Period of Significance: 1899-1949

*Lebanon and Everett Mine Tunnels*
Added to Register: 1971
N.E. of Silver Plume, adjacent to I-70 right-of-way, Silver Plume
Period of Significance: 1874-1900

*Ore Processing Mill and Dam*
Added to Register: May, 6, 1971
Also known as Lebanon Mill
1 mi. S.W. of Georgetown off I-70, Georgetown
Period of Significance: 1850-1899

Gilpin County

*Central City-Black Hawk Historic District*
Added to Register: 1966
Period of Significance: 1850-1874

Hinsdale County

*Argentum Mining Camp*
Added to the Register: 1999
Address Restricted, Lake City
Period of Significance: 1875-1899

*Capital City Charcoal Kilns*
Added to Register: 1999
Address Restricted, Lake City
Period of Significance: 1875-1899

*Empire Chief Mine and Mill*
Added to Register: 1999
Address Restricted, Lake City
Period of Significance: 1924-1949

*Golconda Mine*
Added to Register: 1999
Address Restricted, Lake City
Period of Significance, 1900-1949

*Hinsdale County Metal Mining MP*
Rose Lime Kiln
Added to Register: 1993
Co Rd. 20 SW of Lake City
Period of Significance: 1875-1899

Tellurium-White Cross Mining Camp
Added to Register: 1999
Address Restricted, Lake City
Period of Significance: 1899-1900

Tabasco Mine and Mill
Added to Register: October 16, 2008
South of San Juan County Road and Hinsdale County Road 34
Lake City, Colorado
(Listed as part of Hinsdale Metal Mining MPS)
Extends into San Juan County
Period of Significance: 1899-1900

Lake County

Derry Mining Site Camp
Added to Register: 2000
West of US 24, Leadville
Period of Significance: 1900-1924

Leadville Historic District
Added to Register: 1966
Period of Significance: 1874-1899

Matchless Mine
Added to Register: December 28, 2010
East 7th Road, Leadville, CO
(Mining Industry in Colorado, MPS)

Mesa County

Calamity Camp
Stone and log residences and other buildings dating back to 1913.
Added to Register: June 1, 2011
About eight miles southeast of Gateway, Colorado
Mined: Carnotite ore, a source of radium, uranium and vanadium

Pitkin County

Holden Mining and Smelting Co.
Added to Register: June 22, 1990
Aspen vicinity
Period of Significance: 1875-1899
San Juan County

*Animas Forks*
Added to Register: March 21, 2011
Address Restricted, Silverton vicinity (Access is open)
(Mining Industry in Colorado, MPS)

*Martin Mining Complex*
Added to Register: 1966
6350 City Rd. #2, Silverton
Period of Significance: 1899-1949

*Minnie Gulch Cabins*
Added to Register March 21, 2011
Address Restricted, Silverton vicinity (Access is open)
(Mining Industry in Colorado, MPS)

*Placer Gulch Boarding House*
Added to Register March 21, 2011
Address Restricted, Silverton vicinity (Access is open)
(Mining Industry in Colorado, MPS)

*Silverton National Historic Landmark District*
Added to Register: July 4, 1961
Silverton, Colorado

*Shenandoah-Dives Mill*
Also called: Mayflower Mill
Added to Register: February 16, 2000
Silverton, Colorado
Two miles northeast of the Silverton town limits on Highway 110
and 100 feet north of the highway.
Access is restricted to tours

*Silverton Historic District*
Added to Register: 1966, expanded 1997
Along CO 110 and aerial tramway from
Lodore Mine to Mayflower Mine, Silverton
Period of Significance, 1874-1900

*Tabasco Mine and Mill*
Added to Register: October 16, 2008
South of San Juan County Road 25 and County Road 34
Lake City, Colorado
(Listed as part of Hinsdale Metal Mining MPS)
Extends into Hinsdale County
Period of Significance: 1899-1925
San Miguel County

*Lewis Mill*
Added to Register: 2009
3.5 mi S.E. of Telluride at the head of Bridal Veil Basin, Telluride
Period of Significance: 1900-1924

*Telluride National Historic District*
Added to Register: July 4, 1961
Telluride, Colorado
Period of Significance: 1899-1900

*Valley View Leasing and Mining Company Mill*
Also known as Matterhorn Mill
CO 145, 2.8 mi. S. of Ophir, Ophir
Period of Significance: 1924-1949

Teller County

*Cripple Creek Historic District*
Added to Register 1966
Period of Significance: 1875-1899

*Stratton's Independence Mine and Mill*
Added to Register: 1993
Jct. of Rangeview Rd. and CO 67, Victor
Period of Significance: 1899-1949

MISC. DIRECTORIES AND ONLINE RESOURCES

Atomic Energy Commission (AEC) Publications
Includes government publication for the uranium industry.

Colorado Historic Newspapers Collection (Online)
Newspapers provide a wealth of information on the history of mining in Colorado, often not available in any other source. The Colorado Historic Newspapers Collection represents 163 individual newspapers published in Colorado from 1859 to 1923.

Colorado Mining Fatalities: An alphabetical listing of people who were killed in mining accidents in Colorado from 1884, when state legislation first required mining companies to report their accidents, through 1962.
http://digital.denverlibrary.org/cdm/compoundobject/collection/p16079coll16/id/1931/rec/19


http://digital.denverlibrary.org/cdm/ref/collection/p16079coll9/id/114


History Colorado, Office of Archaeology and Historic Preservation possesses numerous professional reports for cultural resource projects involving specific mining regions and individual mines. The reports, organized by county, usually include valuable area and site histories available nowhere else. Contact History Colorado for more information.

Historic Colorado Mining Districts
Colorado Geological Survey (Interactive Map)
http://geosurvey.state.co.us/MINERALS/HISTORICMININGDISTRICTS/Pages/HistoricMiningDistricts.aspx

Historic Mines & Mining Companies
inside.mines.edu/LBGuide_Historic_Mines_Companies
Arthur Lakes Library, Colorado School of Mines
This guide focuses on mines in Colorado and the Western U.S. Some resources also include modern mines and existing companies.

Information on Leadville, Clear Creek, Gilpin counties and the San Juans.

List of Colorado Mines:
www.historycolorado.org/researchers/mines-monuments
Mines Digital Repository: Colorado School of Mines
minesdr.coalliance.org/
A web-based searchable repository that collects, preserves, and provides
permanent open access to digitized materials of historical and institutional value
as well as the scholarly works of Colorado School of Mines academic community.

Overview of the Mining Industry in Colorado as outlined in the 2008 National
Register of Historic Places Multiple Property Listing: The Mining Industry in
Colorado by James E. Fell and Eric Twitty.
www.historycolorado.org/archaeologists/mining-industry-colorado
(This document develops four historic contexts).
• Precious and Base Metal Mining Industry in Colorado: 1858-2005
• Coal Mining Industry in Colorado: 1858-2005
• Industrial Metals Industry in Colorado: 1870-2005
• Mining Technology, Methods, and Equipment in Colorado: 1858-2005

“Western Mining Directory: Embracing an Index of the Principal Working
Mines, Stamp Mills, Smelters, Reduction Works, Cyanide and Chlorination
Plants of Arizona, California, Colorado, Dakota, Idaho, Montana, Nevada,

Red Mountain Town by Mark L. Evans
www.narrowgauge.org/ncmap/excur2_red_mnt_town.html
Photos and discussion of the confusion surrounding Red Mountain Town
and Red Mountain City.

Routt and Moffat Counties, Colorado: Coal Mining Historic Context
Steven F. Mehs, Carol Drake Mehs, 1991
http://cospl.coalliance.org/fedora/repository/co:1282/
hed6502r761991internet.pdf

Robert A. Corregan and David F. Lingane, eds. Index to Colorado Mining Directory.
Denver, CO: The Colorado Mining Directory Co., 1883. Available Online

Simmons, J.S. Bartow and P.A. Colorado Mining Directory, 1896. Denver, CO:

The U.S. Geological Survey and Colorado Geological Society published
Professional Papers and Bulletins on the geology, ore deposits, and histories
of most principal mining regions in Colorado. Librarian assistance may be
requested to locate these reports.

USGS Publications Warehouse
http://pubs.er.usgs.gov/ - home
Explore publications by USGS authors on Colorado mining history

Wickersheim, Laurel Michele and LeBaron, Rawlene. Mine Owners and Mines
photos. index.
Reprint of Corbett, 1879 directory
ADDITIONAL ONLINE RESOURCES
FOR ARTICLES AND PRIMARY DOCUMENTS

Scholars and enthusiasts have produced numerous articles on Colorado coal mining and primary documents such as news articles, letters, and diaries have been reproduced in collections. In addition to checking the bibliographies of books in this guide for resources, try these free and commercial databases and digital collections.

**American Periodical Series Online** (Auraria campus constituents have access)
American Periodicals presents digitized images of the pages of American magazines and journals published from colonial days to 1900. From Proquest.

**American West** (Auraria campus constituents have access)
Contains the digitized contents of The Graff Collection of Western Americana at the Newberry Library in Chicago. Contents include original manuscripts, ephemeral material (including trade cards, wanted posters, photos, claim certificates, news-sheets, etc.), maps, and rare printed works. From Adam Matthews Digital.

**GoogleScholar** (Open access)
An index to a wide variety of journals. Auraria campus users will be linked to the full-text of articles, when available, by signing in through this link.

**JSTOR** (Auraria campus constituents have access)
An archival suite of full-text scholarly journals.

**Nineteenth Century U.S. Newspapers** (Auraria campus constituents have access)
A searchable full-text facsimile-image database of 19th-century newspapers from across the nation chronicling American culture, daily life and events. From Gale Cengage.

**Periodical Archive Online (PAO)** (Auraria campus constituents have access)
Find hundreds of full-text digitized journals in PAO with content ranging from the early 19th century to the year 2000. From ProQuest/Chadwyck-Healey.

**Project Muse** (Auraria campus constituents have access)
Provides full text of over 100 scholarly journals in arts and humanities, social sciences, and mathematics. Current issues and backfiles.

**Readers’ Guide Retrospective: 1890-1982** (Ebsco)
Readers’ Guide Retrospective contains comprehensive indexing of the most popular general-interest periodicals published in the United States and reflects the history of 20th century America.
LIBRARIES AND RESEARCH INSTITUTES

Arthur Lakes Library, Colorado School of Mines

library.mines.edu/
1400 Illinois Street, Golden, Colorado 80401
303-273-3911

In addition to archival collections, Arthur Lakes Library hosts two online resources for Colorado mining history:

- Mines Digital Repository: Colorado School of Mines
  minesdr.coalliance.org/

- Historic Mines & Mining Companies
  http://library.mines.edu/LBGuide_Historic_Mines_Companies

Bessemer Historical Society

www.steelworks.us/index.php?option=com_content&view=article&id=58&Itemid=120
215 Canal Street Pueblo, CO 81004
719 564-9086

The CF&I Archives include over 100,000 photographs, more than 150 films, 30,000 maps and drawings, hundreds of ledgers, and internal publications such as Camp and Plant, The Industrial Bulletin, and The Blast.

Boulder Public Library
Carnegie Branch for Local History

http://boulderlibrary.org/carnegie/
1125 Pine St., Boulder, Colorado 80302
303-441-3110

- Manuscript collections including photographs, diaries, oral histories and documents related to the mining industry in Boulder and Clear Creek Counties.

- The Maria Rogers Oral History Program
  http://boulderlibrary.org/carnegie/collections/mrohp.html

1125 Pine St., Boulder, Colorado 80302
303-441-3110

Includes an extensive collection of oral histories focusing on mining in Colorado. Most interviews were conducted during 1980-1990.
Center of Southwest Studies, Fort Lewis College

swcenter.fortlewis.edu/
1000 Rim Drive, Durango, Colorado 81301
970-247-7456

Manuscript collections include documents on the uranium and vanadium mining industry, and mining records and printed materials, particularly for the Four Corners Region.

Clear Creek County Archives

405 Argentine St., P.O. Box 2000, Georgetown, Colorado 80444
303-679-2357
e-mail: Christine Bradley, mailto:cbradley@co.clear-creek.co.us

Colorado State Archives

www.colorado.gov/dpa/doit/archives/
1313 Sherman, Room 1B20, Denver, Colorado 80203
303 866-2358

Online resources are available. Requests for archived records may also be made Online.

Denver Public Library Western History and Genealogy Department

denverlibrary.org/
10 W. 14th Pkwy, Denver, Colorado, 80204
720-865-1111

Manuscript collections including photographs, maps, and documents related to Colorado mining history.

Russell L. & Lyn Wood Mining History Archive

inside.mines.edu/Mining_History_Archive
Arthur Lakes Library, Colorado School of Mines

The Archive supports research on the history of mining, with emphasis on Colorado and the West. This includes the technical, environmental, economic and human aspects of the mining industry. Archive collections include documents, journals, books, maps, photographs and artifacts. In addition we hold materials on the history of the Colorado School of Mines.
San Juan County Historical Society Archive
Silverton, Colorado
970-387-5609 / bevrich@frontier.net
Located on Court House Square to the north of the Court House and the Historical Society Museum.

Large collections of historical documents pertaining to San Juan County region, including communities no longer there. Business records, survey notes, personal correspondence, diaries, maps, books, tapes, photographs and outstanding oral history collection.

Stephen H. Hart Library and Research Center
www.historycolorado.org/researchers/stephen-h-hart-library-and-research-center
History Colorado Center
1200 Broadway, Denver, Colorado 80203
303-866-2305

Manuscript collections including photographs, maps, documents related to Colorado mining history.

W. Ross Moore Mining History Library of the American West
Research requests are accepted. Online index of collections: www.ouraycountyhistoricalsociety.org/RossMooreLibraryNew/index.html
Operated by the Ouray County Historical Society

Archives include books, documents and photographs between dated between 1875–2001 with focus on Colorado mining, mineralogy and geology, specifically related to the San Juan region.

Western Museum of Mining & Industry Library
Over 5,000 volumes of early mining practice to contemporary fiction.
Online catalog: http://opac.libraryworld.com/opac/home
PHOTOGRAPHS AND MAPS (Digital, Available Online)

David Rumsey Map Collection: http://www.davidrumsey.com/
Denver Public Library:
- Western Mining: http://digital.denverlibrary.org/cdm/mining/
Keller Mining Photographic Collection
  Colorado Mining History in Images: http://www.miningbureau.com/
The Library of Congress Map Collections
  http://memory.loc.gov/ammem/gmdhtml/gmdhome.html
Stephen H. Hart Library and Research Center
  Photography Collection: Mines – Monuments:
  www.historycolorado.org/researchers/mines-monuments
University of Colorado Boulder Map Collection Cartographic Perspectives
  Mining maps including the collections of: W.H. McLeod, Charles A. Wolcott, Harrison Cobb and Hall, Babbitt and Thayer and the maps of Henry A. Drumm.
  http://www.cartographicperspectives.org/index.php/journal/article/view/43/92
U.S. Geological Survey Photographic Library
  http://libraryphoto.cr.usgs.gov/keyword.htm

FIGURE 30:
MINERS POSE NEAR A HOIST
CELEBRATIONS / EVENTS

Town of Frederick Annual Miners Memorial Day Celebration
    September
    frederickco.gov/Residents/Miners-Memorial-Day-Celebration.htm

Leadville Boom Days Old West Festival,
Mining Celebration & Burro Race
    www.leadville.com/boomdays/

Nederland Miners’ Day Celebration
    www.nederlandmuseums.org/minersdays.html

Silverton Colorado Hardrockers’ Holidays
    Traditional celebration of mining, with mining competitions
    http://silvertonspecialevents.com/

ASSOCIATIONS AND CLUBS

Online Resource for Mining Agencies & Resources,
Associations, Organizations & Clubs
    www.icmj.com/clubs-associations-govt-agencies.php - top

Colorado Mining Association
    www.coloradomining.org/index.php
    216 16th St., Suite 1250, Denver, Colorado 80202
    303-575-9199

Colorado Mining History Association
    http://www.mininghistoryassociation.org/
    P.O. Box 552, Sedalia, Colorado 80135

Colorado Department of Natural Resources
    dnr.state.co.us/Pages/DNRDefault.aspx
    1313 Sherman Street, Room 718, Denver, Colorado 80203
    303-866-3311 / 1-800-536-5308

Denver Mining Club, Ltd.
    www.denverminingclub.org
    303-986-6535
    Local Chapter of the International Order of Ragged Ass Miners,
    established in 1891.
Denver Region Exploration Geologists’ Society

www.dregs.org/

The Denver Region Exploration Geologist’s Society’s principal objective is the exchange of current scientific thought and technology as it applies to exploration and ore deposits. Membership is open to persons with a geological background interested in mining or mineral exploration, or supporting technologies.

Gold Prospectors of Colorado

www.gpoc.com/

Colorado Springs, Colorado

Founded in 1974 for recreational gold prospectors.

U.S. Geological Survey (USGS)

Colorado State Minerals Information

minerals.usgs.gov/minerals/pubs/state/co.html

1313 Sherman Street, Room 715, Denver, Colorado 80203

303-866-2611

FIGURE 31: MEN INSIDE MINE

Photo credit: Denver Public Library Digital Collection
Alma, Colorado

Alma Firehouse and Mining Museum
http://www.almafoundation.com/firemuseum.htm
CO Hwy. 9 & 1 West Buckskin Rd., Alma, Colorado
719-838-0795

A fire in 1937 destroyed Alma’s business district. The museum displays firefighting equipment and materials on the mining industry that gave birth to what is now the highest (10,355 ft.) town in the United States.

Aspen, Colorado

Holden/Marolt Mining and Ranching Museum
(former Holden Mining and Smelting Company)
http://www.heritageaspen.org/bm.html
40180 Highway 82, Aspen, Colorado

Located on the site of the 1891 Holden Lixiviation Mill. In 1990 it was recognized as a historic district and listed on the National register of Historic Places. Mining exhibits feature the silver boom and bust. The site was originally founded as a silver mining camp in 1879.

Smuggler Mine/Compromise Mine
110 Smuggler Mt. Road, Aspen, Colorado
970-924-2049

Breckenridge, Colorado

Barney Ford House Museum
www.summithistorical.org
111E. Washington Ave., Breckenridge, Colorado
970-453-5761

Barney Ford, a runaway mulatto slave who became a prominent entrepreneur and black civil rights pioneer in Colorado. Ford invested in various mining ventures and ‘grubstaked’ miners with equipment and supplies.

Carbonate Mine
www.carbonatemine.com
Iowa Milling Co., Breckenridge, Colorado
720.226.0702
County Boy Mine  
www.countryboymine.com/  
French Gulch Road, Breckenridge, Colorado  
970-453-4405

The County Boy Mine was a gold mine that today offers tours, gold panning, and other activities reminiscent of Colorado's historic mining days.

Iowa Hill Hydraulic Placer  
970-370-5726

The Iowa Hill Mine is a partially restored hydraulic placer operation, with walking trail and archaeological features interpreted. The site included a log boardinghouse, mine workings, and equipment.

For tour meet in Carriage House parking lot at corner of Valley Brook and Airport Road in Breckenridge, Colorado.

Lomax Placer Mine  
www.summithistorical.org/Lomax.html  
301 Ski Hill Rd., Breckenridge, Colorado  
970-453-9022

The Lomax Mine was a hydraulic placer mining operation active in the 1860's and near downtown Breckenridge. Today, the mine has a complete collection of equipment used in a typical hydraulic mining operation. A miner’s log cabin is also located on the site with artifacts to demonstrate on miners and their families lived.

Sallie Barber Mine, Australia Gulch  
www.summithistorical.org/SallieBarberMine.html

On the north face of Bald Mountain, the Sallie Barber was a hardrock mine. J.H. Johnston discovered the lode in 1880. Zinc was primarily mined, but silver was as well. Interpretive signage, remnants of the old mine including the headframe and tipple remain. See website for location and directions.

Washington Gold & Silver Mine  
www.summithistorical.org/Washington.html  
465 Illinois Gulch Rd., Breckenridge, Colorado  
970-453-9022

The Washington Mine began in the early 1880s as a hardrock gold and silver mine. Cornish miners drilled and blasted the ore and teated their underground gremlins ' the “Tommy Knockers” with offerings of food to insure their mischief did not cause the miners harm. Scandinavian timbermen shored up the workings with timbers cut from local forests. The mine was active from 1880–1905 and intermittently until the 1960s. Tours are available.
Cokedale, Colorado

www.sangres.com/colorado/lassanimas/cokedale.htm#.UKVlro45uDk
Cokedale is an example of an intact coal camp in Colorado. Named after nearby rows of coke ovens, the town was founded in 1906 by the American Smelting and Refining Company (ASARCO). In 1909, the main coal mine blew up and many miners died. A second portal blew up in 1911 and it was then determined that the coal was too gassy and attention turned to coking the coal brought from other locations. Cokedale was placed on the National Historic Register in 1984.

Cokedale Mining Museum
719-846-7428
Located in the Gottlieb Mercantile Building. Open by appointment.

Colorado Springs, Colorado

Western Museum of Mining & Industry
www.wmmi.org/
225 North Gate Blvd., Colorado Springs, Colorado 80921
719-488-0880 / 800-752-6558
The museum provides exhibits, guided tours and a variety of educational events.

Craig, Colorado

Trapper Mine
Hwy 13, six miles south of Craig
970-824-4401

Creede, Colorado

Creed Underground Museum
museumtrail.org/creedeundergroundminingmuseum.asp
503 Forest Service Rd #9, Creede, Colorado
719-658-0811
The underground museum blasted out of solid rock includes displays of mining equipment and serves as a underground mining museum and community center. Tours are given by retired miners.
Cripple Creek, Colorado

Mollie Kathleen Mine
www.goldminetours.com/goldminetours.com/Home.html
9388 Hwy. 67, Cripple Creek, Colorado
719-689-2466
Mollie Gortner discovered an outcropping of gold laced in quartz while out taking a walk to see a herd of elk. She became the first woman in the Gold Camp to find gold and strike a claim in her own name. The Gortner family operated the mine until 1949. Tours are available.

Cripple Creek District Museum
www.cripple-creek.org/
5th & Bennett, Cripple Creek, Colorado
719-689-2634
The museum complex contains three buildings with six floors of mining memorabilia, maps, paintings, glass and china, children's items, furnishings, an assay office, a photograph gallery, Indian artifacts, mineral displays and two Victorian apartments.

Central City

Hidee Gold Mine
www.hideegoldmine.com/
County Road 6, Central City/Blackhawk, Colorado
303-989-2861
The Hidee Gold Mine was originally located in 1896. The vein has been worked intermittently until the present. In the 1980s, it was opened for tours to schools, universities and mineralogists.

Gilpin County Historical Society Museum
www.coloradomuseums.org/gilpin.html
228 E. High Street, Central City, CO 80427
303-582-5283

Georgetown

Lebanon Silver Mine
(Part of the Georgetown Loop Railroad Tour)
www.georgetownlooprr.com
111 Rose Street, Georgetown, Colorado
888-456-6777
Golden

Colorado School of Mines Geology Museum
www.mines.edu/Geology_Museum
1310 Maple St., Golden Colorado 80401
Located in the General Research Laboratory (GRL) building
303-273-3815

The museum serves as the state repository for Colorado’s mineral heritage and historic mining reassures.

Idaho Springs, Colorado

Argo Gold Mine & Mill Museum
www.historicargotours.com/
2350 Riverside Drive, Idaho Springs, Colorado
303-567-2421

The Argo Mill was constructed to process gold bearing ore from area mines, much of it delivered via the 22,000-foot Argo Tunnel from 1913 until its closure in 1943. Tours are available.

Clear Creek Mining and Milling Museum
23rd Ave. and Riverside Drive, Idaho Springs, Colorado

Colorado School of Mines / Edgar Experimental Mine
365 8th Ave. Idaho Springs
303 567-2911

Open late May to late August. Tours take one hour and go a half-mile underground. The students and faculty of the Colorado School of Mines who try out traditional mining techniques as well as the latest advances in technology run the mine.

Phoenix Gold Mine  Idaho Springs
www.phoenixmine.com
I-70 to exit 239, take Stanley Road to west Trail Creek
(303) 567-0422

Tours provide a glimpse of hard rock mining as well as at the process of gold panning.

Underhill Museum
1416 Miner St., Idaho Springs
303-567-4709

A fascinating collection of mining artifacts and authentic living accommodations of the gold mining era.
Lafayette, Colorado

Lafayette Miner’s Museum
108 East Simpson Street, Lafayette, Colorado 80026
303-665-7030

The museum exhibits artifacts and photographs depicting Lafayette history through its coal mining years to the present. William E. Lewis, a coal miner, and his family lived in the 900-square-foot house, now home to the museum.

Lake City, Colorado

Hard Tack Mine
www.hardtackmine.com
Hanson Creek and Engineer Pass Road, Lake City, Colorado
970-944-2506

Hinsdale County Museum
http://www.lakecitymuseum.com/
130 North Silver Streets, Lake City
970-944-2050

Leadville, Colorado

Matchless Mine
www.matchlessmine.com/
414 E. 7th St., Leadville, Colorado
719-486-1229

Operated by the National Mining Hall of Fame and Museum. The mine helped make its owner, Horace Tabor, a millionaire and a U.S. Senator. Tabor’s fortune dwindled after the silver crash of 1893 and his destitute widow, Baby Doe, spent her last three decades living along at the mine where her frozen body was found in 1935. Tours are available.

National Mining Hall of Fame & Museum
www.mininghalloffame.org/
20 W. 9th, Leadville, Colorado 80461
719-486-1229

Dedicated to men and women who pioneered the discovery, development and processing of our nation’s natural resources, the museum is located in the former Leadville high school. Exhibits of coal and hard rock mining artifacts include minerals, miniature dioramas and a model train.
**Louisville, Colorado**

*Louisville Historical Museum*

library.louisvilleco.gov/HISTORICALMUSEUM/tabid/607/Default.aspx
749 Main Street, Louisville, Colorado 80027
303-665-9048

Four buildings constructed between 1904 and 1908 feature artifacts and historic photographs that reflect the settlement and industry of Louisville, including coal mining and equipment. The Jacoe Store building is on the National Register of Historic Places and the Louisville Register of Historic Places. The Tomeo House is on the Louisville Register of Historic Places.

**Nederland, Colorado**

www.nederlandmuseums.org/minersdays.html

A celebration of miners and mining heritage. Spike driving, jackleg drilling, bow sawing, mucking and single and double jack are competitive events open to all adults and kids can participate in gold panning.

**Ouray**

*Bachelor-Syracuse Mine Museum*

www.bachelorsyracusemine.com
1222 County Rd. 14, Ouray, Colorado
970-325-0220

This mine produced millions in silver, gold, lead, zinc and copper for investors from Syracuse, New York. Tours feature a 3,350-foot ride into the gold hill on a mine tram to investigate mining artifacts and equipment. Tours are available.

*Ouray County Museum*

www.ouraycountyhistoricalsociety.org/
420 6th Avenue, Ouray, Colorado 81427

Housed in the original St. Joseph’s Miners’ Hospital built in 1887, the Ouray County Historical Society operates the museum featuring mining, ranching and railroading, the three main means of employment in Ouray’s early history.
Pueblo

*Bessemer Historical Society*

www.steelworks.us/index.php?option=com_content&view=article&id=79&Itemid=92

The Bessemer Historical Society offers an annual Mine Excursion to a mine site related to Colorado Fuel and Iron. Past years trips have included mining camps at Primero, Ideal, Orient, Cameron, Walsen, Coal Creek, Crested Butte. These history-rich programs are available to members and the general public and typically occur during May.

*Steelworks Museum*

www.steelworks.us/

215 Canal Street Pueblo, CO 81004

719-564-9086

Located in the former CF&I Medical Dispensary, the museum features exhibits related to all facets of the CF&I, including the history of mining, labor history, history of steel production, railroad history, as well as history of Pueblo and Colorado and CF&I’s impact on the region.

Salida, Colorado

*Lost Mine*

www.salida.com/lostmine

1147 E. St., Salida, Colorado

719-221-6463

Silverton, Colorado

*Mayflower Gold Mill (Shenandoah-Dives Mill)*

www.silvertonhistoricalsociety.org

Hwy 110 and County Road 2, Silverton, Colorado

970-387-5838

The Mayflower Gold Mill was a working hardrock precious metals mill from 1930 to 1991. Operated by Silverton Historical Society. Tours available.

*Old Hundred Gold Mine*

www.minetour.com/

721 County Rd., Silverton, Colorado

970-387-5444

Three brothers from Germany, Reinhard, Gustave, and Otto Neigold began old Hundred Gold Mine. They spent 30 years prospecting on Galena Mountain. They once had their own town called Neigoldstown on Stony Pass trail where they entertained the mining camp with music, song, operas and plays during long winter months. They owned the mine until 1904. The mine was active until 1973. Tours are available.
**Alpine Loop**
4x4 route from Silverton to Ouray, through the center of Silvery San Juans. Numerous mines are interpreted with signage and pamphlets.

**South Park, Colorado**

*South Park City*

[www.fairy-lamp.com/SPCMuseum/South_Park_City_Main.html](http://www.fairy-lamp.com/SPCMuseum/South_Park_City_Main.html)

South Park City is an open-air museum of a historic reconstruction of a mining town from the days of the Colorado Gold Rush. 34 authentic relocated buildings are open with artifacts that depict aspects of life in a mining town during the last half of the 1800s. Two buildings are listed on the National Register of Historic Places, the South Park Brewery and the Summer Saloon.

*Living History Days*


In August, South Park City hosts a celebration with volunteers dressed in period dress to romanticize the frontier and mining history. The game of faro is played, popular during the California and Colorado gold rushes, it is a game of chance illegal to play for money in all fifty states.

**Victor, Colorado**

*Victor-Lowell Thomas Museum, Victor*

[www.victorcolorado.com/museum.htm](http://www.victorcolorado.com/museum.htm)

3rd St. and Victor Ave., Victor, Colorado

719-689-5509

Two floors of artifacts depicting life in Victor from its beginnings during the heyday of gold mining are located in the 1899 building, once a hardware store, hotel and furniture store.

*Gold Coin Mine*

4th & Diamond, Victor, Colorado

The mine site has a giant hoist, shaft and remaining buildings. Across the street is the Gold Coin Club, built in 1899 as a recreation hall for miners. The Gold Coin Mine is open for visitation.

*Cripple Creek & Victor Gold Mining Company (CC&V)*

[www.victorcolorado.com/mining.htm](http://www.victorcolorado.com/mining.htm)

719-689-4211

The CC&V is the largest gold mine in Colorado today. Tours are available.

*Teresa Mine, Victor Pass.*

Intact headframe and buildings on interpretive walking trail.
Walsenburg, Colorado

Walsenburg Mining Museum
www.spanishpeakscounty.com
112 5th St., Walsenburg, CO
719-738-1992

Located in the former 1896 county jail, exhibits trace the history of southern Colorado coal mining. Mining equipment, gear, historic photographs and materials relating to the coalfield-labor wars are on display.

FIGURE 32: EXCHEQUER, COLORADO

JOURNALS

E&MJ Engineering and Mining Journal
New York, New York
www.e-mj.com/

Mining & Scientific Press
San Francisco, California
www.sfmuseum.org/hist6/minjour.html

The Mining History Journal
http://www.mininghistoryassociation.org/index.htm
(Since 1994)
ADIT OR PORTAL: An opening from the surface into a mine. Unlike a tunnel which is open on two ends, an adit is open at one end and is level or more or less level.

ASSAY: Qualitative or quantitative analysis of a metal or ore to determine its components.

BLASTING: Using explosives to loosen rock or other closely packed materials.

BULLION: Gold or silver considered with respect to quantity rather than value. The metal has typically been melted into the form of bars, ingots, or plates suitable for further processing.

BULKHEAD: A structure of almost any material to hold back something. Usually heavy timber temporarily placed at the top opening of a raise or manway to stop fly-rock from entering.

CAGE or MANCAGE: A device, similar to an elevator, of many sizes and styles for raising or lowering personnel in a shaft or raise. A skip can be attached to the bottom of a cage so man and rock can be moved simultaneously.

CHARCOAL: A black amorphous form of carbon produced by heating wood or bone in little or no air. Used as a fuel in smelting metal ores.

COAL: A combustible compact black or dark-brown carbonaceous rock formed from compaction of layers of partially decomposed vegetation or fossilized plants: a fuel and a source of coke, coal gas, and coal tar.

ANTHRACITE COAL: A hard natural coal that burns slowly and gives intense heat.

BITUMINOUS COAL: A type of soft black coal with a high percentage of volatile matter. It has a high sulfur content and burns with a smoky yellow flame. Also called soft coal and is the most common coal. Nickname “bit coal”.

LIGNITE: Brown coal is a carbonaceous fuel intermediate between coal and peat. It is brown or yellowish in color and woody in texture. It contains more moisture than coal and tends to dry and crumble when exposed to the air. The flame is long and smoky and the heating power low.

METALLURGICAL COAL: Sometimes referred to as coking coal because it is used in the process of creating coke.
COKE: The porous hard black rock of concentrated carbon created by heating bituminous coal without air to extremely high temperatures. It is used as a fuel and in making steel.

COKING: The process of converting solid residue into coke. This is done in a coking furnace.

CONCENTRATE: To separate ore or metal from its containing rock or earth by evaporation. The clean product recovered in froth flotation or other methods of mineral separation.

CONTRACT MINING: An agreement by which a company pays a mining crew for the amount of work accomplished in a given amount of time, as opposed to an hourly wage. In some cases this contract payment is for the tonnage of rock broken or per foot of advancement. Other times it was for the amount of rock moved to a designated location. In the late 1870’s and early 1880’s miners working in the North Star on Sultan Mountain near Silverton, mostly Cornish miners, were paid under a system called Tutwork. This was a form of contract mining that had been practiced in Cornwall. Because of contract mining Silverton, in the best of times, would be close to having the highest per capita income in the State of Colorado.

CRIB: A structure composed of frames of timber laid horizontally upon one another built up like walls. One type of manway. Cribwork is a low-rent room for a low-rent whore.

CROSSCUT: A drift or tunnel driven approximately at right angles to its destination point and usually in barren rock to intersect a vein or other location.

CUT: In stopping, a pattern of holes drilled vertical to slab off the rock after being loaded with explosives and detonated. Usually drilled in rows from wall to wall, six feet deep. The rows are spaced about four feet apart and are drilled the entire length of the stope. After all the rows are shot out, the process is start all over again, being another cut. The cut is usually started in the middle of the stope and the rows of holes drilled back in two different directions.

CUT HOLES (cut): A pattern of closely drilled holes placed in the center of a round (see driving drift). They are the first …… hole in the rock so the other holes will have something to break to. There are many types of cuts, each with its own name such a 5-Hole burn, V-Cut, Pyramid, and so on.

DOG HOLE: A small short, horizontal excavation through a pillar, usually leading from a raise or manway into a stope or finger raise. Small enough where one must crawl through.

DOG HOUSE: Usually a small, excavated area n the mine, enclosed with boards and has a door. Furnished with table, bench and heater for mining crews to eat lunch and dry wet clothing.

DRIFT: A horizontal passage underground. A drift follows the vein, as distinguished from a crosscut, which intersects it.
DRIVING DRIFT (drifting): To excavate horizontally. Distinguished from “sinking” a shaft down or “raising,” excavating vertically upward. The technique varies, depending on its intended use. Basically, a pattern of holes are drilled horizontally (drilling a round) in the face or heading (interchangeable words referring to the end of the Drift) to a predetermined depth (usually six feet, but can vary) and as wide and high as necessary to establish size. The holes are then loaded with explosives and detonated (shot). After removing the broken rock (by a variety of methods) the process is then repeated, called cycling a round.

As for sinking shaft and raising, the technique is somewhat different, but the basic principle is the same as described above in drifting, but worked vertically.

DUMP ROCK: The waste rock dumped over the hillside outside the portal form developing a mine. This is what is seen outside most mines near the opening. No commercial value.

MINING ENGINEER: Engineers who specifically measure the excavation advancement throughout the mine. Those measurements are the basis for the mining maps. These maps need to be very accurate to establish a relationship between the surface and exact locations within the underground workings.

FAULT: In geology, a break in the continuity of a body of rock, attended by a movement on one side or the other of the break so that what were once parts of one continuous rock stratum or vein are now separated. The movement can be inches or thousands of feet.

FLOTATION: The modern milling process of separating the metals from the ore, as used in a flotation mill. After the rock is pulverized and mixed with water, the metal is literally floated to the surface with chemical regents and retrieved. The waste rock which remains on the bottom of the float cell is carried down and out of the mill to waste piles called tailings ponds.

FLOTATION CELL: The device in which froth flotation of ores is performed.

FOOT WALL: The lower wall of an inclined vein. You can actually put your foot on it.

FURNACE: Enclosed space for burning fuel. The separation of many metals from their ores is accomplished by the use of various kinds of furnaces.

BLAST FURNACE: Structure used chiefly in smelting. The principle involved in extracting metals by the removal or oxygen from the metal oxide in order to obtain the metal. In the extraction of iron from ore, as the operation proceeds, the mass in the furnace becomes molten and the iron sinks to the bottom with impurities or slag being lighter, float on top. The slag is drained off and the iron tapped into sand molds to harden.

REVERBERATORY FURNACE: Used from smelting, refining, or melting metal from ore. The fuel is not in direct contact with the ore but heats it by a flame blown over from another chamber. Reverberatory furnaces are used in copper, tin and nickel production.

HANGING WALL: Opposite the foot wall, that portion which hangs over the miner at work.
**HEADFRAME**: Also known as a gallows frame, winding tower, hoist frame, pit frame, shafthead frame or headgear, is the structural frame above an underground mine shaft. In historic mines, headframes were constructed of timber.

**FIGURE 33: HEADFRAME OF SILVER PICK MINE**


**HIGHGRADE**: High Quality ore, rich in gold or silver, usually visible. Highgrading is to remove this ore from the mine, hopefully unseen, in one’s pocket or otherwise and is a form of theft.

**LEYNER (drifting drill)**: Technically a brand name of a rock drill (introduced shortly after the turn of the century) that was designed to be mounted on a metal column for drilling horizontal holes and in driving drift. It could be made to drill vertically as well. In later years, used as a slang word to describe any rock drill (regardless of make) which was mounted on a column.

**MANCAGE**: (see cage).

**MANWAY**: Usually a vertical excavation of any size, but more often about the size of an elevator shaft, with ladders for climbing to and from working places (stopes) or to a level above. All stopes carry at least one manway. Most manways would also have a small one-man skip attached to a cable and thus to a hoist (tugger) for lifting men and material.

**METALLURGY**: The science that deals with procedures used in extracting metals from their ores, purifying and alloying metals, and creating useful objects from metals. Also the study of metals and their properties in bulk and at the atomic level.
MILL: A facility for processing raw ore.

STAMP MILL: A machine for crushing very strong ores or rocks; consists essentially of a crushing member (gravity stamp) which is dropped on a die, the ore being crushed in water between the shoe and the die.

MINE: An excavation in the earth from which ore or minerals can be extracted.

HARD-ROCK MINE: A mine located in hard rock, especially a mine difficult to drill, blast and square up.

OPEN PIT MINE: A method of extracting ore from the earth by removal from an open pit or borrow as opposed to funneling into the earth. Used when deposits are found near the surface. Also see Strip mine.

PLACER MINE: The obtaining of minerals from a surface deposit of minerals that have been laid down by a river. The area is referred to as a placer. The minerals are usually concentrated in one area due to being relatively heavy and therefore settle out of the river’s currents more quickly than lighter sediments such as silt and sand. The extraction of minerals from placers is done by panning, washing or dredging.

STRIP MINE: An open mine, especially a coal mine, whose seams or outcrops run close to ground level and are exposed by the removal of overlying soil and rock.

MOIL: A sharp, pointed steel used for a variety of jobs. For example, one could hammer out a ledge in the rib in order to set a timber. The noun today means hard work or drudgery.

NIPPER: A person hired to move supplies and/or material to working locations throughout the mine. Nippers usually worked in teams.

ORE: A mineral or an aggregate of minerals from which a valuable constituent, especially a metal, can be profitably mined or extracted.

ORE CHUTE: A structure usually made of heavy timber to catch and hold rock falling from above. Used to discharge rock into cars to be transported to another location.

ORE PASS: A near vertical excavation similar to a raise or shaft, but with no timber. It is used to drop ore by gravity from upper levels to a pickup point below. In the case of 2200 Ore Pass of the Sunnyside in the San Juan, it starts on C Level ad extends to the American Level with connections to all other levels in-between; a vertical distance of about 1,600 feet.

ORE PILE: An area where commercially valuable ore is stored before shipment to mill or smelter for processing.

ORE SHOOT: A body of ore, usually of elongated form, extending downward within a vein. A mineralized zone of ore in a vein.

PILLAR: A sold block of ground left in place to support the back (roof) or hanging wall in a stope. It can also be the rock ground between two excavations. A widely used mining term.
**RAISE:** A vertical or near-vertical excavation driven from the bottom up and about the size of an elevator shaft, and is interchangeable with manway if used in the stoping process. At times a raise is driven from level to level, similar to a crosscut, but vertical.

**REFINING:** Various processes for separating impurities from crude material or ore. The purification of a metal is based upon physical or chemical differences between the metal and its accompanying impurities, including density, melting point, magnetic properties, and reaction to certain chemicals.

**AMALGAMATION:** A method of extracting precious metals from their ores by treatment with mercury to form an amalgam.

**CYANIDE PROCESS:** A process of recovering gold and silver from ores by treatment with a weak solution of sodium cyanide. Also called cyaniding.

**SHAFT:** This word is probably the most misused mining term of the layman. A shaft is a vertical or near-vertical excavation, but is sunk from the top down. It can be of any size, but is usually the size of a large elevator shaft. It normally has a laddered manway and at least one large mancage which is raised and lowered with a wire rope hoist. Usually it is a main artery in a mine and can have many horizontal levels leading off of it. In one care, the Washington Incline Shaft in the Sunnyside mine is almost 1,000 feel high and intersects six levels.

**SHIFTER:** A frontline supervisor, in mine or mill.

**SKIP:** Technically, a bucket or other device used for raising or lowering rock (ore or waste) in a shaft or raise. Usually designed to automatically dump its load at a determined point. On occasion the term is used instead of mancage. More often, skip is used to describe a one-man cage in a small raise.

**SMELTER:** A facility or apparatus for smelting or extracting metal from its ore. This includes production of silver, iron, copper and other base metals from their ores.

**MATTE:** An impure metallic sulfide mixture produced by smelting the sulfide ores of such metals as copper, lead or nickel.

**SLAG:** The vitreous mass left as a residue by the smelting of metallic ore. In the process of coal mining, slag is a mixture of shale, clay, coal dust and other mineral waste produced during the process of coal mining.

**STARTER STEEL:** This short steel bar about one inch in diameter and about a foot long was used to start a hole. Depending on the length of the hole, three or more steels would follow. Started steel, second steel, third steel, finisher, for example, for a thirty-inch hole. This technology carries over to today’s modern drilling.

**STOPE:** An excavation from which the ore has been extracted from the vein, either above or below a level. Usually mined in horizontal strips called cuts and taken up vertically. In the shrink stope method, only enough broken ore is extracted from the stope (shrank) while being taken up to maintain a working platform. The dimensions will vary depending on ore availability, but vertically will run from level to level and 200 to 250 feet long; the depth determined by the width of the ore. In short, a stope is a very large room with the miners working off a rock pile. When finished, the stope is “pulled dry”.
**STOPER (Buzzy):** A rock drill designed to drill vertical holes. Name derived from taking up stopes. See stope above.

**STUB TRAM:** A short, aerial tram system, not unlike the larger aerial trams. Normally tied into the larger trams for carrying supplies from the main tram house to remote work areas or boarding house.

**TAILINGS:** Ore which has been processed is known as tailings and is generally a slurry. Tailings are pumped to a dam or settling pond where the water evaporates. Tailings ponds are often toxic due to the presence of unextracted sulfide minerals, and chemicals used to treat the ore such as cyanide.

**TIPPLE:** A device for overturning ore trucks or mine cars so that they discharge their load. The place such trucks are tipped and unloaded is also referred to as tipple.

**TRAMMER:** The movement of broken rock from one location to another by various means.

**TRAMWAY:** A four-wheeled, open, box-shaped wagon or iron car run on tracks in a coal mine.

**TUNNEL:** A horizontal passage like a drift, but coming from the surface. A tunnel is open at both ends. A crosscut from the surface to intersect a vein.