

Clear Creek County

Empire District (aka Upper Union District)

Ore was discovered in 1862 on the southeast slopes of Silver Mountain, a little over a mile north of Empire. The Silver Mountain ore zone was some 3,500 feet long and several hundred feet wide (Lovering and Goddard, 1950) with several feet of gossan. The depletion of these free-milling ores in the oxidized zone signaled the end of the rush in the district. Lode mining proceeded with some success and lasted until 1943. An additional reference is Vanderwilt (1947).

The geology is essentially the same as the other nearby districts where Tertiary stocks of quartz monzonite and dikes of bostonite and alaskite intrude into a terrain of Idaho Springs Formation with Boulder Creek and Silver Plume Granites (Braddock, 1969). Gold was the primary product in the district, although there was some copper. Lead and zinc were scarce.

Mines listed in the district (mindat.org) include:

- A. C. A.
- A. P. T. Tunnel
- Addition
- Albion
- Alexander
- Alhambra (Morning Star; Doc Name; Evertt; Lebanon)
- Alpha (Keith; Iowa; Black)
- American
- Anamosa
- Angeline (Wild Wagoner; Gold Pot; Chicago Belle; Pioneer; Elmira; Great Britan; Ben Harrison)
- Aorta
- Archibell
- Bay State Tunnel
- Black Prince
- Blooming Thistle
- Bonanza
- Boulder West (Boulder Nest)
- Butler
- Cashier Mine¹
- Challenge
- Cleopatra (Apex - Surprise; Three Friends)
- Combination
- Conqueror Mine¹
- Copenhagen (Cincinnati; Stella; N & H; Sunshine; Rexall; Happy Thought; Europe; Alexander; Golden Queen; West End; Equinox; Bonanza; Columbine; Monster; Dundee; Albro)
- Cuba
- De Caprivi Mine
- Dead Jack
- Double Eagle
- Drummond
- Duluth
- Dundee
- Elky Tunnel
- Elmira
- Empire City Mine¹
- Empire Stock
- Empire Tunnel
- Eureka
- Europe
- Fireman and Conductors
- Food Cliff
- Four-C Tunnel
- Franklin D. Tunnel
- Fred Rogers mine
- Free American
- Gold Bug¹
- Gold Chloride
- Gold Dirt¹
- Gold Fissure¹
- Gold Queen
- Gold Valley

- Golden Chariot Mine¹
- Golden Cycle
- Golden Eagle Mine
- Golden Empire
- Golden Hope
- Golden Queen
- Grace Mine
- Happy Thought
- Harrison Mine¹
- Hedla Mine
- Hidden Treasure
- Howard
- Imperial Chief
- Independence Tunnel
- Iowa
- Jackpot Mine
- Kanawha
- Kaverne
- Keith
- La Munyon (Silver Bell; Elm City Occurrence; Great Northern)
- Lady Adelaide
- Legion
- Liberty
- Little Superior
- Mattie Jack Tunnel
- Maud S.
- Mick Mack
- Milton
- Minnesota Mine
 - Atlantic (Rosecrans; Union; Conqueror; Badger Occurrence)
 - Crown Prince Occurrence (Benton; Gold Fissure; Mac Gregor; Silver Mountain; Comet; B.B.)
- Mint Mine
- Monster
- Morning Star Tunnel (Arizona)
- N & H
- Neath
- New Tunnel
- North Fork
- North Star - Mann
- O. S. Storrs
- Omaha Mine
- Ontario
- Oro Cash Mine¹
- Panama Teddy Bear
- Paragon
- Paymaster
- Pegmatite (MRDS - 10142706)
- Pioneer; Happy Thought; Sunshine Occurrence
- Pittsburg
- Platts (Big Chance)
- Primos
- Princess of India Tunnel
- Princeton
- Pumpkin
- Randolph
- Recompense
- Red Elephant (Commodore Tunnel)
- Regina
- Rexall
- Reynolds
- Rifle Group
- Right Tunnel
- Saums
- Silver Bell
- Silver Mountain
 - Gold Dirt
 - Gold Fissure
 - Silver Mountain Occurrence¹
- Silver Wing
- Skidoo
- Stella - Independence Shaft
- Sutro Comstock
- Teddy Bear
- Tenth Legion
- Third Bellevue
- Tom Moore
- Trenton and Jefferson City Lodes
- Twin Ports
- Virginia City
- Walt Stembel
- West Fork
- Wilson Tunnel

Note: * indicates detailed description and discussion in Lovering and Goddard (1950).

Minerals listed in the district (mindat.org, under "Upper Union District") include:

Almandine	Copper	Malachite
Azurite	Cordierite	Muscovite var: Sericite
Baryte	Enargite	Pyrite
Bismuthinite	'Feldspar Group'	Quartz var: Amethyst
Calcite	Galena	Siderite
Caledonite	Gold	Silver
Cerussite	'Hornblende'	Sodalite
Chalcopyrite	'Limonite'	Sphalerite
'Clay'	Magnetite	Zeolite Group

References:

Braddock, William A. 1969. Geology of the Empire quadrangle, Grand, Gilpin, and Clear Creek Counties, Colorado. U.S. Geological Survey Professional Paper 616.

Lovering, T.S. and Goddard, E.N. 1950. Geology and ore deposits of the Front Range, Colorado. U.S. Geological Survey Professional Paper 223.

Vanderwilt, John W. 1947. Mineral Resources of Colorado. Colorado Mineral Resources Board, Denver, Colorado.

www.mindat.org, accessed July 2015.