DOWNLOAD PDF TELLURIDE ORES OF BOULDER COUNTY, COLORADO

Chapter 1 : Summer is time to unearth mining lore - Boulder Daily Camera

The Jamestown, Gold Hill, and Magnolia mining districts of Boulder County, Colorado, provide one of the few classic examples of telluride mineralization in this country.

He believes it to be one of the deepest in the hills of western Boulder County where mines spelled riches for some and crushed the dreams of others from the s well into the midth century. Just kidding, he quickly added. A contractor for the Colorado Division of Reclamation, Mining and Safety just this week finished sealing it off with polyurethane foam, concrete and steel grating. The flood also created hazards relating to long-abandoned mine operations. As to whether that would make it the deepest shaft in that area, he said, "It would be hard to say. Citing a summary of activity in the area prepared for Boulder County by mining historian and archaeologist Eric Twitty, Boulder County planning staffer Angela Gaudette wrote in an email, "The Ingram, along with the Melvina mine, were two of the most important mines in Salina. It was reopened by George D. It closed for a second time around ," Gaudette wrote. The trio killed at the mine in were not the first to die on that hillside. Murray survived an explosion there just one year later, although the Herald reported that "about two hundred pieces of copper were removed out of his legs and chest and face" in a "cutting-gouging process" on which doctors labored for four hours. The Ingram also is where miner Louis Erickson breathed his last on April 6, , crushed by a boulder weighing pounds that left his partner unscathed. Peering into a shaded crevice in the rocks behind the old gravemarkers, he added. Whether those precise wishes will be realized might be in question. His wife of 50 years, Donna, resides in a memory care facility in Boulder. The couple never had children. Twitty, a Lafayette resident, said in an interview that the five fatalities tied to the Ingram mine represent an "exceptionally high" fatality rate, and joked that "maybe the Ingram is cursed. And then they finally did. And then so began the great telluride gold rush to Boulder County. Recently, he said, he planted another tulip bulbs on the property. As the rising autumn sun warmed the narrow valley and he watched two young ravens that are making it their home, Vermillion offered another name for the land known for more than a century as the Ingram Gulch.

Chapter 2 : Telluride ores of Boulder County, Colorado (edition) | Open Library

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Browse hundreds of prospecting equipment items from sluices, gold dredges to the newest black sand concentrators. Colorado is known as the Silver State, but it also ranks second among the gold producing states. Over 40 million ounces of gold have been produced in Colorado. Most of the gold mines are in the mountainous western half of the state. The most important sources of gold are from Telluride type ores. All bars, and benches along Clear Creek, which is a tributary of the South Platte River, had extensive placer operations which produced 16, ounces of gold between and Alamosa County Colorado Blanca West Blanca, elevation 12, feet has many area mines with dumps that has gold on them. All regional tributary gravels contain placer gold. Denver Southwest of Denver in the Holy Cross Mountains, there are many small mines that produced lode gold. Some placer workings as well. Baca County Colorado Springfield Southwest of Springfield 45 miles, at Carizzo or Estelene Creeks, in exposures of white sandstone, you can find gold with copper minerals. Boulder County has produced more than 1,, ounces of gold. Most of that production came from lode mines. This district is about 12 square miles and had a total production of , ounces In the area creek beds, terraces, benches, etc. Gold Hill Mine, largest producer, including several adjoining mines produced lode gold and silver. The old camps of Sugarloaf, Rowena, Salina, and Sunshine are great places to explore. There are many area mines that produced lode gold and silver. Southwest of Boulder 4 miles to Magnolia, reached by steep grades, numerous high-grade mines that produced lode gold in tellurides. The total production of , ounces was recorded. West of Boulder 17 miles and 4 miles Northwest of Nederland, is the Grand Island-Caribou district in southwest part of county. The Grand Island- Caribou district had a total production between , of 10, ounces. There are numerous area lead-silver mines that produced a by-product of gold. The Cardinal and Eldora mines are in the area and produced lode gold. Jamestown Jamestown is in the Central district. Nine miles northwest of Boulder there were many area mines. James Creek above Jamestown contains placer gold. Central Gulch, west of Jamestown contains placer gold. Upper Fourmile Creek, northwest of Sugarloaf contains placer gold. It had a total production of , gold ounces. There are many area mines that produced gold in pyrite and telluride minerals. The Jamestown, Gold Hill and Ward area mines all produced lode gold. This mine produced gold in sulfide ores. Ward The Ward district is miles northwest of Boulder. It covered 12 square miles in headwaters of Lefthand and Fourmile Creeks. The old camps of Sunset and Copper Rock, more than 50 lode mines in area, had a total production of , ounces of lode gold. The Niwot and Columbia mines were the largest producers of lode gold. In east part of district, many mines produced gold in tellurides. Chaffee County produced , gold ounces, largely from lode mines, but with small amounts from placers and base metal mines. The main area of interest is in the gravel bars and benches all along the Arkansas River from Buena Vista southeast 25 miles to the Fremont County line and near Granite, which is close to the county line 15 miles northwest of Salida. There are many placers. There are many small mines scattered throughout County that produced lode and by-product gold. East, to Riverside, 6 miles off U. Northeast 13 miles, just South of Trout Creek Pass, area mines produced lode gold. West 14 miles, near headwaters of Cottonwood Creek, small mines produced lode gold. The Chalk Creek district is in the west part of county near headwaters of Chalk Creek, 16 miles northwest of Nathrop. It had a total production, , ounces of by-product gold. Some 20 area mines in T15S R80 and 81E, but chiefly the Mary Murphy Mine was the largest producer, with , ounces of by product gold. The total production was between 15,, ounces of by-product gold. The area mines in T49 and 50N, R6E, on old dumps there are gold showings. The Madonna Mine was a major producer of lode gold. West of Granite 15 miles, on Clear Creek, at Winfield La Plata , elevation 9,, feet, is a mineralized area miles west and southwest of Winfield. Many small mines produced lode gold. The area mines produced lode gold. The area in north part of county, extending north into Lake County, along Cache and Clear Creeks, there are many placer workings. Years ago I found some real nice gold

on a claim on Cache leased by the Colorado Prospectors Association. South of Salida 4 miles is the Cleora Mine that produced copper, near U. West of Salida 8 miles, on east side of the Arkansas River Valley, at Sedalia, area mine dumps contain gold in abundant sphalerite. North 11 miles, along Turret Creek, area mines produced a by-product gold. North by Northeast 16 miles, to Calumet Whitehorn in Fremont County, elevation 9,, feet, the area mine dumps have gold showings. The main area of interest is in the northcentral part of county 7 miles west by northwest from Central City in Gilpin County. The Alice district extends into Gilpin County and had a total prod production of 23, gold ounces from The Alice Mine was first worked as a placer producer of 2, gold ounces then as a lode mine. The North Star-Mann Mine was a producer of 5, ounces through of lode gold. There are many area mines that produced lode gold. The steep grades in this area are treacherous. This district consisted of 25 square miles and had a total production of around , gold ounces. Area mines produced a by-product of gold. Just east of the Continental Divide, this district had a total production of 25, gold ounces. On Kelso Mountain, area mines produced lode gold. It had a total production in this district of about 1,, gold ounces. Northwest of Idaho Springs, 2. There are many lode gold mines. West of Idaho Springs 6 miles, along Silver Creek, placer workings from old can still be observed. Northwest of Idaho Springs 10 miles 2 miles on U. There were many old mines that produced lode gold as a by product. Also in Placer Creek there is gold. It produced , ounces between and , mostly as a by product of silver mining. Silver Cliff Northeast of Silver Cliff to the old camps of Ilse and Spaulding, on Route about 16 miles southwest of Florence in Fremont County, there were several old mines that produced lode gold as a by product of silver mining. Westcliffe Southeast of Westcliffe 7 miles is the Rosita Hills district in the low west foothills of the Wet Mountains. It had a total production of 84, ounces of gold between and Most of the area mines and dumps still have gold showings. The Bassick Mine was the Major producer in this district. Dolores County Colorado Practically all of the , ounces of gold produced in Delores County came as a by product from lead, silver and zinc mines, so it is not an important county for the recreational prospector. Although one may be able to find some placer in the headwaters of the Dolores River, south of Rico. There are very many mines in this district, but it is in steep, rugged access and roads are bad. Make local inquiries before travel. Rico The Rico or Pioneer as it sometimes called district, is near the southwest end of the Colorado Mineral Belt near the headwaters of the Dolores River. There are many mines along route , 36 miles northeast of Dolores and 27 miles south of Telluride. All of these mine produced a by product of gold. Northwest of Delores, by 16 miles, at Lone Cone Dunton , on the West Dolores River, on Route , there were many area mines that produced a by product of gold. Franktown Along Cherry Creek for several miles north of town you can find placer gold. Northwest miles along Lemon Creek you can also find placer gold. South 1 mile in Russellville Gulch, a tributary to Cherry Creek, extending for many miles were some productive placers. Parker Northwest of Parker 1. Most of it is microscopic grains to pinhead sized nuggets. This county produced a total of , gold ounces. South by Southeast of Eagle by 20 miles to Fulford at the head of Brush Creek, the area lead-silver mines produced a by-product of gold. On northeast flank of the Sawatch Range between Gilman and Redcliff, about 20 miles north of Leadville, is the location of Eagle Mine, which was fourth largest zinc mine in America with copper, lead, silver and a by-product of gold.

Chapter 3 : telluride mineral

*Telluride ores of Boulder County, Colorado (Geological Society of America. Memoir) [William Crowley Kelly] on blog.quintoapp.com *FREE* shipping on qualifying offers. Book by Kelly, William Crowley.*

Summer Colorado History Series: Friday, July 10 Where: Museum of Boulder, Broadway, Boulder Tickets: Saturday, July 11, and Saturday, Aug. Registration opens a couple of weeks before each event. We put on tall rubber boots, waterproof pants with suspenders and hard hats with headlamps, then hiked down into the cool, damp, dark mine tunnel. The experience brought mining history to life for me. He believes mining undeniably changed Colorado. Boom and bust cycles played out here for a nearly a century. Placer gold was discovered in a stream called Gold Run, near the town of Gold Hill, west of Boulder, in Mining districts sprang up throughout the mountains in those early years of the gold rush. Some struck it rich, to be sure, but many gold miners left disappointed. After silver was discovered at Caribou in , the town boomed. A new wave of prospectors was lured into the mountains. The subsequent drop in silver prices in put thousands of Colorado miners out of work. Telluride ores were discovered in , according to the book, "Telluride Ores of Boulder County, Colorado," published in Tellurium combines with other metals, including gold and silver, and is deposited in veins. The minerals containing tellurium are called telluride minerals. Miners were hopeful again. Tungsten was found near Nederland in Discovered in Jamestown around the turn of the 19th century, fluorspar was used in smelting and glass and enamel production. Boulder County was part of the post-World War II uranium boom, which had a significant impact on our state, according to Thomas. After prospectors extracted metals and minerals from veins in the rock, cartloads of ore were taken to mills that crushed the ore to separate precious metals from plain old rock. Miners then made their way to the assay office to determine the worth of their labor. Boulder County Parks and Open Space is offering hard rock mining tours again this summer. Participants will visit former mining sites owned by the county that might include the recently restored Cardinal Mill, sites at the ghost town of Caribou, the Blue Jay Mine and the Wall Street Assay Office museum. Seeing the sites firsthand makes the past come to life like nothing else can. Email Carol at boulderhistorylibrarian gmail.

Chapter 4 : Capping of mine opens window on Boulder County history - Boulder Daily Camera

Kelly,WC and Goddard,EN () Telluride Ores of Boulder County, Colorado. GSA Memoir , pp. Lindgren,W and Ransome,FL () Geology and Gold Deposits of the Cripple Creek District, Colorado.

Gold was the chief metal produced in the district, although in most deposits silver is associated with the gold. Gold-bearing veins were discovered nearby during the summer of , and in consequence several thousand people flocked to the district. The oxidized surface ore yielded free gold and recovery was made by sluice, arrastre, and stamp mill. When these ores were mined out after a few years, activity in the district declined sharply. Mining activity increased markedly in when the gold-silver telluride, petzite, was discovered at the Red Cloud mine at Gold Hill. In telluride ore was discovered in the Cold Spring mine. Many more veins were found from to and activity was sustained at a high level until , after which mining declined Goddard, , tables p. The lode-gold production from the Gold Hill-Sugarloaf district from the time of discovery through could not be ascertained. According to Henderson , table, p. The minimum total output of the district through was about , ounces, mostly from lodes. The placer production probably did not exceed 3, ounces Lovering and Goddard, , p. The following brief description of the geology and ore deposits of the district is mostly from Goddard , p. Sedimentary rocks of Pennsyl-vanian age unconformably overlie the Precambrian rocks about 2 miles east of the district. The Precambrian rocks have been cut by a series of porphyry dikes of Laramide age that range in composition from diabase to alaskite. The mineral deposits are chiefly in the northern part of the Boulder Creek batholith; most of the veins are in the granite and a few in the western part of the district extend into the schist. The distribution of ore deposits was strongly influenced by conspicuous silicified, hematite-stained breccia zones, called breccia reefs. The most prominent of these are nearly vertical and trend N. The gold deposits are in telluride and pyritic veins that occupy fissures, most of which strike northeast. Ore is localized where these veins cross the breccia reefs. Most of the productive veins are more than half a mile long and from 1 to 5 feet wide, but some are from 10 to 30 feet wide. The order of deposition of the veins is not certain. Silver-lead veins appear to be the oldest in the district; these are followed by the gold telluride veins, and then by the pyritic gold veins. A few of the silver-lead veins, however, seem to be related to the pyritic gold veins. Gold tellurides, the most abundant of which are petzite and sylvanite, are the most important ore minerals in the Gold Hill-Sugarloaf district, but free gold is also abundant. Other tellurides occurring in small amounts are hessite, altaite, and coloradoite. Fine-grained pyrite and very small amounts of galena and sphalerite are associated with the ore minerals. Horn quartz and sugary quartz are the chief gangue minerals. Roscoelite is closely associated with the tellurides and free gold. Anker-ite and other carbonates also are associated with the telluride ores but are younger than the telluride minerals. In the pyritic gold veins, pyrite and chalcopyrite are the most abundant ore minerals, but free gold is abundant in some veins. The chief gangue mineral is sugary to glassy quartz; ankerite is found in some veins. Page 2 of 6.

Chapter 5 : Photos of gold ores, quartz, telluride gold ore and gold specimens

Telluride ores of Boulder County, Colorado by William Crowley Kelly, , Geological Society of America edition, in English.

Gold-silver tellurides - gold ores from historic mines of Colorado, U. The sample at top is from the Gold Hill area of Boulder county, in the foothills west of Boulder, exact locality unknown. It displays grey telluride crystals in a fine-grained host rock. This sliver of rock, 38 mm long and up to 9 mm wide, of dull grey vein quartz, is charged with fine-grained grey ore minerals. Native gold is present as blebs in the quartz, as microscopic inclusions in pyrite and galena, and along sulphide grain boundaries. The sample may also contain traces of tellurides. The piece is believed to be from the Sunnyside mine in the San Juan Mountains. Given the wealth of information on the telluride ores, just a brief sampling of the literature is presented here. The mining districts and their ores have been described by some of the giants in American geology, including Silliman, Lindgren and Emmons. Prior to the mining period, Silliman described the geology and telluride mineralogy of the Gold Hill area, comparing the veins to the more complex ores from Nagyag in Transylvania. Brief notes follow on three mineral districts and localities in Colorado. A pioneering study of the complex suite of early Tertiary ores, including telluride veins, identified some 67 vein mineral species, often in fine intergrowths. The chief ore minerals are the tellurides sylvanite, petzite and hessite, plus native gold. In some mines calaverite and krennerite are also important, and ten other tellurides plus native Te are also found. Subordinate gangue phases include roscoelite green mica, ankerite, calcite, fluorite and barite Kelly and Goddard, Their paragenetic scheme includes early sulphide, then native tellurium, then tellurides of progressively lower Te content, and then native gold. The Boulder Telluride Belt, including the Gold Hill mining district, is rich in gold ores with a complex mineralogy, including native gold, electrum, native tellurium and tellurides. Supergene decomposition of Au tellurides may yield metallic, native gold. Altaite, calaverite and other tellurides occur in the district Geller, The Cripple Creek gold district was an discovery, and production rose in spectacular fashion to a zenith in , falling by the time Lindgren and Ransome published a detailed description of the mines in their peak years. The Cresson mine was perhaps the most famous of all the local mines, in part because of the Cresson Vug, a spectacular cavity plated with telluride crystals, almost all of which were apparently sent to the smelter, to the great sorrow of collectors and mineralogists alike see, e. The cavity was lined with sylvanite and calaverite crystals, as well as native gold. A federal survey found sylvanite and calaverite in the area in Concise historical descriptions of the Cripple Creek camp include those of Emmons and Rickard As of , the Cripple Creek district had produced some tonnes of gold and at least 60 tonnes of silver, of which the Cresson mine produced about 50 T Au in Saunders, The gold mineralization is associated with, and hosted by, Tertiary igneous rocks emplaced circa 34 Ma, with the gold mineralization dated at about Ma Saunders, The local intrusions have pronounced alkaline, syenitic affinity: The Cresson deposit is hosted in a diatreme-like breccia pipe, the "blow-out". Calaverite is the main Au mineral in Cresson ore, but other tellurides are also present, e. Gold at Cripple Creek has been recovered from veins, small diatremes, hydrothermal and tectonic breccias, and disseminated mineralization in wallrock, in an Oligocene nested diatreme- alkaline intrusive complex, located on structural controls. The complex consists of 3 coalesced diatremes, two of which yielded most of the gold. Veins and hydrothermal breccias display low total sulphide content, abundant fluorite, carbonate, oxides and sulphates, evidence of boiling hydrothermal fluids at low temperature and low salinity, and early adularia K-feldspar. Multiple boiling and sealing events resulted in extensive brecciation and alteration Thompson, Three small samples from the Cresson mine in the Cripple Creek mining district. The sawn piece left, sample was collected by Kenny Mumford in purchased from David Shannon Minerals in The two smaller, angular pieces sample of silicified phonolite were collected in by Brad Bowman when the old mine dumps were being reworked for the gold content of the tailings from David Shannon Minerals, They each display small lustrous crystals of telluride. The ore includes some fine-grained pyrite and fluorite. A close-up nominal magnification 25X, long-axis field of view 5 mm of a large, elongate calaverite crystal top left of middle rock chip in the companion photograph in a quartz-rich matrix. This monoclinic gold telluride forms elongate crystals striated parallel to length. Incidentally, there are also lesser

mines named Sunnyside in the Hedley area of southern British Columbia and the Tobacco Root Mountains of Montana, a Sunnyside porphyry in Arizona, and a lake of the same name in Quebec. Sunnyside mineralogy includes pyrite, sphalerite, galena, tetrahedrite, rhodochrosite, manganocalcite, and other phases. The Sunnyside veins are younger than the others in the area, and contain a late stage of Au-Te mineralization. The major mines in the western San Juans show a close spatial and temporal relationship to small intrusions of rhyolitic quartz porphyry. Sunnyside was the biggest producer Bartos, Figure 3. Two photomicrographs of sulphide-related gold in the Sunnyside sample, in plane-polarized reflected light. Buttery-yellow native gold and small granules of greenish-grey? Nominal magnification 50X, long-axis field of view 1. Nominal magnification X, long-axis field of view 0. Tom Casadevall documented a 6-stage paragenesis of the ores in his doctoral thesis. A photomicrograph of sulphides in the Sunnyside sample, in plane-polarized reflected light. Pyrite, chalcopyrite, pale grey galena plus sphalerite medium grey and darker quartz gangue. References Anon Cresson Vug photo found! Bartos,PJ Comparison of gold-rich and gold-poor quartz-base metal veins. SEG Newsletter 15, 1,, October. PhD Thesis, 2 volumes, pp. Pollux Press, Victor, Colorado, pp. GSA Memoir , pp. Silliman,B Tellurium ores of Colorado. Thompson,TB Cripple Creek revisited. Graham Wilson, 08, June , upgraded 22,25 July , 22 October , 01 November See the companion article on tellurides from Colorado.

Chapter 6 : Telluride, Colorado - Wikipedia

*Telluride ores of Boulder County, Colorado [William Crowley Goddard, Edwin N. Kelly] on blog.quintoapp.com *FREE* shipping on qualifying offers.*

Get Permissions The Jamestown, Gold Hill, and Magnolia mining districts of Boulder County, Colorado, provide one of the few classic examples of telluride mineralization in this country. These districts are parts of a broad, north-trending belt of telluride mineralization about 5 square miles in area located at the northeastern end of the Front Range mineral belt. The predominant country rocks are Precambrian granites, gneisses, and schists which are bounded on the east by Paleozoic and Mesozoic sediments upturned along the front of the range. The telluride veins represent one stage in a complex sequence of Early Tertiary ore types that show varying degrees of correlation with exposed Early Tertiary intrusives. Erosion has removed any volcanics erupted at the time of mineralization, but has exposed genetically related dikes and intrusion breccias of biotite latite in an area coextensive with that of the telluride mineralization. Most of the telluride production has come from only a few centers that show a pronounced structural control by the reefs. Local structural controls within the vein fissures include vein intersections, intersections of veins with earlier faults or with igneous dikes, irregularities of the veins as related to wall movements, and the physical character of the wall rocks. The telluride veins were mined over a collective vertical range of feet, and there is no clear-cut evidence of a bottom limit to the ores. The telluride veins are typically composed of an interlacing network of pyritic or marcasitic horn quartz seams in which the ore minerals are quite sparse and irregularly distributed. Sixty-seven vein minerals have been identified forty-one by X-ray methods. Individual polished sections commonly contain a dozen or more metallic minerals in fine-grained, intimate intergrowths filling or coating fractures or scattered vuggy openings in the finegrained vein quartz. The chief ore minerals are sylvanite, petzite, hessite, and native gold and in some mines calaverite and krennerite are also important. Ten other tellurides, as well as native tellurium and a variety of sulfides and sulfosalts formed in the telluride stage of mineralization but contributed little or nothing to the values. The principal gangue constituents are quartz and altered wall rock, but roscoelite, ankerite, calcite, fluorite, and barite are locally present. A section of the report on problems of telluride identification gives data on the polarization figures, rotation properties, reflectivities, and indentation hardnesses of the tellurides. Hypogene textures and associations of the telluride ores have in many cases been highly modified by cooling, but these effects, as well as the original depositional sequence itself, are clarified by experimental phase relations in the system Au-Ag-Te. In general, the original sequence was one of early sulfides, followed by native tellurium and a series of tellurides of progressively lower tellurium content, and finally by late native gold. A high degree of local equilibrium was maintained during the initial deposition, but as the ores cooled equilibration seems to have varied among assemblages of different bulk compositions. Certain telluride intergrowths formed upon cooling of unstable high temperature phases once present in the ores, and some of these changes took place long after the period of active mineralization as the mineralized terrane gradually cooled. The individual telluride veins and the telluride belt as a whole are essentially unzoned. However, many of the separate productive centers have a distinctive mineralogy defined by unusual proportions or associations of minerals that are otherwise widespread in occurrence. These relationships are attributed primarily to variations in the bulk compositions of the ore fluids that mineralized the separate structural centers. The telluride veins have not been deeply weathered and the residual enrichment of gold is correspondingly slight. Partially oxidized ore contains abundant jarosite, limonite, and tellurium oxides and in places some supergene tellurium, mercury, hessite, and the copper tellurides. The geochemical behavior of the principal metals, gold, silver, tellurium, and iron is discussed in terms of acidities, oxidation potentials, and chloride ion activities in the oxide zone. Based on physiographic evidence, the known telluride ores are estimated to have formed under a rock cover to feet thick and at confining pressures in the range 78 to bars. At any point in the veins, depositional temperatures declined through time. Tellurium is thought to have been transported along with the other cations as soluble chloride complexes in slowly moving ore fluids released from a biotite latite source underlying the telluride belt. These

fluids may have acquired some or all of their Si, Fe, Ca, Mg, and possibly V and Ba from the altered wall rocks, but the other vein components including Te, S, and the precious metals were probably hydrothermal differentiates of the biotite latite. A brief review of major telluride districts shows that there is no obvious scheme of genetic classification that can be based on tellurium mineralogy. Compared to other world districts, the Boulder County belt has produced ores of unusual variability, and the abundance of both free gold and free tellurium in a single major district is truly exceptional. The Boulder County deposits are best placed in the epithermal class of the traditional intensity scale and are an excellent example of complex Tertiary mineralization in Precambrian terrane. You do not currently have access to this article. You could not be signed in.

Chapter 7 : Jamestown District

The Cash Mine is located near the small town of Gold Hill, Colorado, approximately 10 miles west of Boulder. It is a classic high-grade epithermal gold telluride deposit, with native gold associated with various telluride minerals including hessite, petzite, and sylvanite.

Gold-silver tellurides - gold ores from historic mines of Colorado, U. Small rock chips of telluride ores from the old Cresson mine at Cripple Creek, Teller county, Colorado. On the left is a fine-grained alkalic igneous rock phonolite , a sawn piece sample of material collected by Kenny Mumford in purchased from David Shannon Minerals in The two smaller, angular pieces sample of silicified phonolite were collected in by Brad Bowman when the old mine dumps were being reworked for the gold content of the tailings from David Shannon Minerals, Tucson show, The gold telluride calaverite, AuTe 2 occurs as elongate silvery-grey crystals in the grey feldspathic host rock. The optical properties of 26 tellurides were compiled by Uytenbogaardt and Burke , pp. To read more on a different, Pb-Ag-Bi telluride association, see Rock of the Month 67 on rucklidgeite. Cripple Creek Carnein and Bartos, is one of many gold camps worldwide with appreciable gold production from telluride ores. Many telluride minerals have been described from mesothermal to epithermal gold vein deposits around Kalgoorlie in Western Australia Stillwell, ; Shackleton et al. Many American occurrences are very well-documented, from such early works as Genth and Silliman to more recent observations e. The geological and mineralogical literature for such a relatively obscure element as tellurium is surprisingly extensive. As of 01 November , the MINLIB bibliography had 1, records of Te and tellurides, from to the present, including on calaverite, 85 on sylvanite and 20 on the Cu telluride, rickardite. Tellurides tend to occur as small mm-scale and smaller crystals, but the larger end of the size distribution is, not surprisingly, found in high-end private and museum collections. Examples from Cripple Creek include calaverite and sylvanite Barlow et al. Photomicrographs of sample Nominal magnification X, long-axis field of view 0. Photomicrographs of samples and right This sample is labelled as "sylvanite in phonolite breccia". It was purchased from David New in The rock is a medium to pale grey breccia with pale phonolite clasts in a dark cement containing shiny ore minerals. Small quartz-lined vugs host discrete silvery-grey platy crystals of the monoclinic telluride sylvanite, Au,Ag 2 Te 4. This image shows one of the scattered, large up to 0. Nominal magnification 50X, long-axis field of view 1. John Barlow Mineral Collection. Sanco Publishing, Appleton, WI, pp. Geffner,P Mineral collections of the Crystal Gazers and friends. PhD Thesis, 2 volumes, pp. Genth,FA Contributions to mineralogy. Silliman,B Tellurium ores of Colorado. Todd,EW Kirkland Lake gold area: Elsevier, 2nd revised edition, pp. Graham Wilson, 01,31 October , November See the companion discussion on Cripple Creek and other telluride localities in Colorado , or.

Chapter 8 : Coloradoite - Wikipedia

Introduction. Telluride ores occur mainly with metal deposits. In , C.T. Jackson was the first to discover an American mineral containing the element tellurium in the Whitehall mine, in Spotsylvania County, near Fredericksburg, Virginia.

Tellurium as an element in quartz. Tellurium as an element in the ground. Tellurium is a very rare mineral. How much gold is there Sylvanite - Science News - redOrbit A compilation of telluride mineral localities in the southeastern states by Callahan, Craig, and Solberg Museumite, Pb AuSbTe , a new mineral from the gold-telluride Sylvanite Define Sylvanite at Dictionary. Owned at times, or in part, by the Telluride Chief Co. Gold Hill District, Boulder Co. Telluride Define Telluride at Dictionary. It was renamed in after the mineral tellurium, which is not found locally. A superb cluster of milky white terminated prismatic quartz crystals measuring Shows nicely all around and free of damage. White man caught on to the healing properties of these geothermal and mineral springs, When a telluride is heated in concentrates sulfuric acid, it gives a deep crimson color to the solution. The color will disappear if the acid The processing requirements and behavior of this class of gold ore is affected by the presence of gold tellurides. Tellurides are the only gold minerals with economic Quartz with Calcite - minfind. I acquired this specimen from Weinrich Minerals. Data last checked on 5th Aug With the exception of native gold and electrum, the gold telluride calaverite may well be the most important gold ore mineral. There are some sunny sites as well. A few sites are set along a creek. It is a member of the krennerite group of Gem and Mineral Exploration Company This area is most famous for its gold telluride ores which produced vast amounts of gold ore after The minerals pictured on the following page are the For example, when gold telluride minerals or electrum are expected Mineral Processing methods in Telluride, Colorado About Telluride Most say Telluride is named after tellurium, a nonmetallic element associated with rich mineral deposits of gold and silver. Today in Telluride and Mountain Village. The specimen is mounted on a 2" square acrylic with mineral tac. Calaverite is one of the few minerals that is considered an actual gold ore other than native gold itself. Gold with Tellurides from Boulder County, Colorado in Gold with Tellurides, Blister gold, formed from the roasting of telluride ores, scattered on quartz matrix with several telluride minerals calaverite Department of Geological Sciences, Tellurides - Minerals. Telluride minerals See telluride mineral for info. These rare telluride minerals are placed in the sulfide mineral classification of Dana. Pages in Learn and talk about Calaverite, Gold minerals, Monoclinic Telluride minerals are the most common minerals which contain significant gold in their make up.

Chapter 9 : John Jay Mine, Jamestown District, Boulder Co., Colorado, USA

MELONITE IN BOULDER COUNTY, COLORADO the telluride ores are associated with either leptothermal lead-zinc-silver or epithermal tungsten mineralization, or both, and field and laboratory.

The Smuggler gold vein above Telluride, and placer gold in the San Miguel River , were discovered in The town itself was founded in Telluride was originally named "Columbia", but due to confusion with Columbia , California , the name was changed by the post office in The town was named after valuable ore compounds of the chemical element tellurium , a metalloid element which forms natural tellurides , the most notable of which are telluride ores of gold and silver. Telluride began slowly because of its isolated location. In , a toll road was opened by Otto Mears which allowed wagons to go where only pack mules could go before. This increased the number of people in Telluride, but it was still expensive to get gold-rich ore out of the valley. This was his first major recorded crime. It continued further up the valley to end its Telluride branch at Pandora, serving the mines and the town until The cheaper and consistent transportation for passengers and freight allowed miners and goods to flow into the San Miguel town and ore to flow out to the mills and foundries elsewhere. This brought a brief but unprecedented boom to Telluride before the Panic of The Colorado National Guard was called out and there were deaths on both sides. Unions were formed as miners joined the Western Federation of Miners in At this time, workers were putting in to hour days and the mines ran 24 hours a day. Even the boarding houses were precariously placed on the mountainsides. Bulkeley Wells was one mine operator considerably hostile to the union. The disappearance of mine guard William J. Barney , which Wells declared a "murder", created much intrigue and national interest. Nunn joined forces with George Westinghouse to build the Ames Hydroelectric Generating Plant , an alternating current power plant , near Telluride. The plant supplied power to the Gold King Mine 3. This was the first successful demonstration of long-distance transmission of industrial-grade alternating current power and used two hp Westinghouse alternators, one working as a generator producing 3, volt, Hertz, single-phase AC, and the other used as an AC motor. Nunn developed a keen interest in education as part of his electrical power companies, and in conjunction with Cornell University built the Telluride House at Cornell in to educate promising students in electrical engineering. Nunn founded Deep Springs College in Each year, the Telluride Tech Festival honors Nunn, inventor Nikola Tesla , and Westinghouse, along with current day technology and science leaders. Beginning in , the hard-rock mining operations in the Red Mountain and Telluride mining districts began a lengthy consolidation under the Idarado Mining Company Idarado , now a division of Newmont Mining. The documentary video "the YX factor" chronicles the transition from mining to skiing and the influx of " hippies " in the late s and early s in the words of local residents and commentators such as Peter Yarrow and Tom Hayden. Aerial view of newly cut Boomerang Road May Zoline and his Telluride Ski Corporation Telco. Zoline bought the land for the future resort in and began to craft the slopes. Along with his mountain manager, Telluride native Bill "Sr. As mining phased out and a new service industry phased in, the local population changed sharply. Mining families fled Telluride to settle in places like Moab , Utah , where uranium mining offered hope of continued employment. These newcomers were characterized as being idle "trustfunders" who were drawn to the town for a casual lifestyle and outdoor excitements such as hang gliding , mountain climbing , and kayaking. A view in Telluride from the ski slopes by Mountain Village. The new population opposed town growth and economic expansion, including growth due to tourism and skiing. At one point, a serious effort was made to ban cars from the city limits and force visitors to use horse-drawn carts. The s had fluctuating snowfalls and economic recession. These festivals exposed hundreds of thousands to the grandeur of the valley for the first time and created iconic associations with elite entertainers. As the final ore carts were rolling out of the Pandora mine, tourists began to seriously discover Telluride for its magnificent views, expert skiing, and famous autumn color changes. After the brutal snow drought of which nearly wiped out the embryonic ski and lodging industry, the town started to rebound economically. The new owners expanded the infrastructure by adding a gondola connecting Telluride with the Mountain Village. Wealthy skiers flocked to the world-class mountain all winter, and sightseers kept hotel rooms full all summer. In the s, Telluride also

became notorious in the drug counterculture for being a drop point for Mexican smugglers and a favorite place for wealthy importers to enjoy downtime. For this time, Telluride was living up to its Wild West history. This type of attention, helped to differentiate Telluride from Aspen. By the mids, Telluride had shed both its mining personality and drug image to establish itself as a premier resort town balancing modern culture with fascinating western history. In , Prospect Bowl, an extension to the ski area opened, providing the resort with many new trails and runs. In â€”08, the ski area opened some of the most extreme, in-bound, hike-to terrain in the country. Most lifts in the area are high-speed quad chairs capable of holding four passengers. The highest lift on the mountain reaches an elevation of 12, feet. Telluride from a gondola ascending to Mountain Village. Telluride has a free box that is well supported by the community. From the west, Colorado Route is the most common way into Telluride; however, there are two alternate passes to enter the town, Imogene Pass and Black Bear Pass. On the eastern side of town, there are two waterfalls: Ingram Falls, which is visible from town, and Bridal Veil Falls and the Bridal Veil Hydroelectric plant, which are just out of sight from town to the right of Ingram. The power plant house was leased for a period of time by Eric Jacobsen, who restored the house and the generator inside. The hydroelectric plant was built in to power the Smuggler-Union Mine. The town is served by air transportation via Telluride Regional Airport TEX , once the highest elevation commercial airport in the United States sitting at 9, feet. Climate[edit] Telluride has a humid continental climate Dfb. The coldest month is January, averaging Precipitation peaks as snow in winter and as thunderstorms in summer with a dry period in late spring. However, it gets decent precipitation all year due to its altitude.