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#### Third International

The Third International Mining History Conference will be held at the Colorado School of Mines, Golden on the week of June 6-10, 1994. Approximately seventy international speakers have been invited to present papers as diverse as early copper smelting in China to the politics of coal in modern Germany. Many of the speakers were at Melbourne or at Bochum, Germany, the location of the two previous international conferences. We hope for the same comradery and good cheer.

The conference will include a symposium on international aspects of historic mining site preservation. Much good work is being accomplished in Europe, Australia, Latin America, and elsewhere. This forum will provide an opportunity for exchange of philosophies and techniques.

The Colorado School of Mines will co-host the event. We will meet at the Greene Center on campus. The school's museum will be available for tours and the library will be open. James McDivitt of the Minerals Economics department is the prime facilitator for the school. Golden is a suburb of Denver located at the foot of the Rockies.

Tours of nearby mining districts will also be on the venue. Duane Smith and his program committee are arranging details, which will probably include sites and museums in Denver, Georgetown, Colorado Springs, Cripple Creek, Summit County, and Leadville. If you wish to give a paper please submit a

proposal to the MHA by November 30. The proposal should include a brief abstract and vita.

Also, if anyone has a language skill they wish to brush up on, we are looking for volunteers to serve as "friends" to international guests. This would involve helping participants with simple directions and translations, especially during receptions, tours and other more social events.

Details on the agenda, logistics, housing, etc. will be in the next newsletter. If you have any questions write conference coordinator Robert Spude, Mining History Association, P O Box 150300, Denver, CO 80215.

So, mark your calendar and get set for a good time in Golden and a rare opportunity to share information, ideas, and cordialities with our international colleagues.

### From Down Under

Greg Drew of the Department of Mines and Energy of South Australia sent a stack of "guides" to historic mining regions. The guides are exceptionally well produced, high gloss with ample illustrations. The department is assisting in recognizing historic resources and has initiated a series of publications to highlight Broken Hill, Burra Burra, and other well-known districts. The "Discovering" series is available for \$5.95 (Australian) each. Copies may be obtained by writing his office at 191 Greenhill Road, Parkside, S.A.

### Research Assistance

Homer Milford and John Townley are researching that innovative, desert prospectors' tool called the Dry Washer. Long a commonplace machine in the desert country of the American West, the machine was improved in other parts of the globe. They are interested in its invention and dissemination, as well as the varieties. Anyone with information or personal experience can reach them at 5480 Goldenrod, Reno, NV 89511. They are also planning a session on dry placers at the Third International conference and are seeking additional speakers for a complete session.

The Western Museum of Mining & Industry at Colorado Springs received a library grant to catalog its 11,000 books and to enter them into the computer network of libraries in Colorado. This will make the volumes more accessible.



## The President's Page

Each year our conferences just get better. This year's meeting started with an early evening reception at the old Homestake general managers house. This lovely home overlooks the town of Lead, and of course, has a splendid view of the headframe at the Homestake Mine. Historians and miners mingled, some meeting their counterparts for the first time, others catching up since New Haven or Boise.

One of our members had particularly fond memories of this home. Eleanor Swent's thoughts went back to the day her wedding reception was held in this very place. She and her husband, Langan lived in Lead during the early days of his career with Homestake. Langan passed away recently after a distinguished mining career. Eleanor is in charge of the oral history project at the Bancroft Library in Berkeley. (see Duane Smith's comments on oral history, p. 3). It is clear that this venue is recalled fondly by many of the mining people who at some time in their careers worked for Homestake, and made their homes in Lead.

A big thanks to organizers of the Lead meeting: Allison Brooks of the South Dakota Historical Society especially, since she arranged the tours and selected the hotel which proved perfect. Mark Wolfe, City Preservation Officer, led our happy horde along the steps of history through Deadwood. Only a few members were lured off the virtuous path and into the gambling dens of Main Street.

Papers were delivered in a well organized conference room at the Golden Hills Resort. The quality of the papers was high, and the variety of subjects was a credit to the Program Committee. Only a few complaints were heard. Ross Mainwaring from St. Ives, Australia reminded speakers that to pronounce Kalgoorlie, drop the "r." It is silent.

Attenders included a broad spectrum of professional historians, mining executives, and mining history buffs.

Our local hosts made us feel welcome, and many of our members managed a visit to the excellent Black Hills Mining Museum, which donated books to our door prizes at the banquet. Watson Parker gave a superb banquet talk, even after being roasted by Otis Young. His talk was a spritely introduction to the Hills. His acerbic wit and slides kept everyone riveted, even after our hearty dinner of pasties.

We finished the meeting with a tour of the Homestake facility, including the location of their open pit expansion, where some rescue history is underway. I had reason too be in Lead again in October. You should see the progress being made in the pit! Wharf Resources staff gave a tour of the 1910s-1930s Bald Mountain mill, a good example of a period cyanide plant. And a final tour on Sunday to the ghost town of Tinton was highlighted by a bus driver who got the group lost somehow in Wyoming. Everyone survived.

All in all we had a good time in Lead. We continue to learn how to make the annual conference better. Suggestions include a request that a registration list be made available, and that we put out more information in advance of the meeting. Noted. We'll continue to improve the product, and I'll bet we will have a great time in Golden next summer.

Stan Dempsey Denver, Colorado

## Organization Notes

President Dempsey is accepting suggestions for future meeting locations. Several places have been proposed, but before a locale is selected proposers need to supply information about potential meeting space, lodging, logistics (bus rentals) and tours (chamber of commerces can supply all this info). A site committee will review the proposals and select the next meeting place. Houghton, Michigan and Grass Valley-

Nevada City, California have been proposed for 1995.

Individuals with manuscripts, documents worthy of publication, and essays on museums or historic preservation projects should write John M. Townley, editor, of the Mining History Association Journal. The association plans to have the first issue ready for the Third International Mining History conference. For further information contact editor Townley at Great Basin Studies, 5480 Goldenrod, Reno, NV 89511.

There is still time to submit a paper proposal for the Third International Mining History Conference. If you wish to give a paper please submit a brief abstract and vita to the MHA by November 30.

Dues are due. Please fill out the enclosed dues payment and forward your \$10 check to the association. The association will organize a conference, send out newsletters, and publish a journal next year. With the introduction of the journal dues will be increased to \$25 for 1995.

The MHA is still compiling a list of mining museums. The next time you tour a museum, please pick up its literature and pass it along. The list of museums is available as a computer print to anyone interested.

# The Mining History Association Newsletter

Denver, Colorado

Distributed to association members; membership is open to all interested in the history of mining. Dues are \$10 per year. Please send dues to MHA, Post Office Box 150300, Denver, Colorado 80215.

Submissions for publication in the newsletter are welcome. Write to Robert L. Spude, Editor.

#### **ORAL HISTORY**

Mining historians would literally be in seventh heaven if one hundred or one hundred and twenty-five years ago efforts had been made to collect mining records, photographs, and other related materials. Would not it be wonderful if someone had thought to conduct in-depth interviews of the Comstock's Bonanza Kings, Colorado's Horace Tabor, or Montana's Marcus Daly? What if we had newspaper accounts or business records or personal letters to fill out our own research?

We should be doing that collecting with today's mining individuals and companies. Now is the time to be working on gathering those materials that we would love to have had for the nineteenth and early twentieth centuries. It is out there, we just need to find it and save it.

Fortunately the Bancroft Library has made a wonderful start in this direction with its "Western Mining in the Twentieth Century Oral History Series." Twenty-five thorough interviews have already been completed and another six are in progress. For information about this series contact Lee Swent at the Regional Oral History Office, Bancroft Library, Berkeley, California, 94720.

These interviews will give us insight into the Uranium frenzy, the "new" gold rush, and the heavy metals industries. People are the key to understanding such events and oral histories let people say, in their own words, what they did, felt or thought.

But oral history projects like this is not the type of project that should be left to one institution, no matter how strong their program. If we work to collect and interview today and tomorrow, scholars in further generations will thank us, so will current researchers. It is a fun and rewarding effort, think about it and do some field work!

Duane A. Smith Durango, Colorado

### **Historic Preservation**

The Mineral King Preservation Society has completed their context and National Register of Historic Places nomination for the Mineral King Historic District. A boom town of the 1870s and 1880s, Mineral King survived because of the summer retreat it provided the citizens of the deserts below. Historic structures and sites remain, which are the focus of the nomination. The society has also prepared a video of the historic community set in the striking mountain scenery of Sequoia National Park. Copies of the history and the video can be purchased from the society at 2936 S. West Street, Visalia, CA 93277.

The U.S. Forest Service manages the ghost town of Ashcroft, near Aspen, Colorado. The site contains the original townsite and a dozen buildings in various levels of decay. They are preparing a management plan for Ashcrot and are seeking suggestions as well as volunteers. For more information write Bill Kight, White River National Forest, PO Box 948, Glenwood Springs, CO 81602.

The gold rush era Knight & Co Foundry and Machine shop has been restored and opened as a museum at Sutter Creek, California. Begun in 1873, the foundry served the mining industry. Today, the company can and does still manufacture cast iron pieces from its collection of molds. The living history museum can be reached at 81 Eureka Street, P. O. Box 158, Sutter Creek, CA 95685, (209) 267-1449.

H. Mason Coggin, new director of the Arizona Department of Mines and Mineral Resources, is working to make their museum and mining collections more accessible. The museum recently moved to near the State Capitol on Washington St. in Phoenix and is restoring a headframe and mine locomotive, courtesy Phelps Dodge. The museum has extensive research files on

twentieth century mining operations, a major archive too little utilized.

The massive Huber Breaker stands on the rolling landscape of Ashley, Pennsylvania, a reminder of the history of this anthracite coal mining region. Starting November 15, the Canal Museum in nearby Easton will host an exhibit of photographs and Historic American Engineering Record drawings of the mill. For more information write the museum at 200 S. Delaware Drive, P. O. Box 877, Easton, PA 18044-0877.

The Friends of Kennecott have finshed reroofing the twelve story, wooden concentrator at Kennicott, Alaska. The long term plan is to interpret the 1912 mill, which still contains original machinery and is set in the granduer of the Wrangell Mountains at the edge of massive Kennicott glacier (the mining company took their name from the glacier but somewhere along the line misspelled the place). To reach the Kennecott mill, drive six hours east of Anchorage to Chitina, then take the sixty mile dirt road/former railroad grade to McCarthy. Cross the Kennicott River (glacial fed) on the hand operated aerial tram and then walk four miles to the plant.

## Video

Bob Fox has available a 56 minute documentary video of mining in Michigan titled "When Copper was King." The video includes underground scenes in historic mines, views of abandoned properties, and the works of the active White Pine Mine. Copies can be obtained for \$19.95 plus 2.55 shipping from Bob at 1235 N. Westfield Street, Oshkosh, WI 54901.

## Nominees for Council, 1994

Jeremy Mouat, Athabasca, Alberta

Mouat is an Associate Professor of History at Athabasca University in Alberta, Canada. The grandson of a coal miner, his interest in mining history began when commissioned by the New Zealand government to do archival research relating to the site of the first New Zealand gold rush. His dissertation (University of British Columbia, 1988) compared mining communities in New Zealand, Australia and British Columbia. He is at present revising the manuscript for publication, based on that work. He has published a number of articles on mining history, and his current research interests include the litigation which surrounded the introduction of the flotation process. He is also researching British speculative investment in mining. He has attended all the MHA conferences, where he has served as chair or presenter.

#### Rolla L. Queen, Lakewood, Colorado

Queen is a historical archaeologist working for the Department of the Interior, Bureau of Reclamation, in Denver, Colorado. He was awarded a Master's degree in Anthropology from the University of Nevada, Reno, in 1987, specializing in the archaeology of the mining frontier. His Master's thesis focused on the archaeology of the abandoned silver mining town of Candelaria, Nevada. he is currently pursuing a doctoral degree at New York University, also emphasizing the history and archaeology of the mining frontier. Research interests include mining and frontier history and archaeology, frontier settlement, and ethnic relations. Queen has worked throughout the western US on issues relating to the preservation and study of western mining towns and history.

# Karen A. Vendl, LaGrange Park, IL

Vendl, a geologist working in the environmental field, has a Bachelor's and Master's degree from the University of Wisconsin at Madison where she studied economic geology and water resources management. She has had an interest in mining since college and in western mining history, especially Colorado, for the past 10 years. Vendl, and her husband, Mark, have been members of the MHA since 1990, and have attended the Leadville, Boise, and Lead annual meetings. In addition, Vendl is a longtime member of several geological organization and historical societies. The Vendls collect mineral specimens, and mining books and artifacts from Colorado and other parts of the western US. They are currently researching mining in the Breckenridge, Colorado, area for a possible book in conjunction with the Summit Historical Society.

#### Sally Zanjani, Reno, Nevada

Zanjani received her B.A., M.A., and Ph.D. degrees from New York University, and has been associated, since 1975, with the political science department at the University of Nevada, Reno. Much of her work has been devoted to the central Nevada mining camps, where her father was a gold rusher in 1906. She is the author of more than forty articles in various journals. The most recent of her four books is Goldfield: The Last Gold Rush on the Western Frontier (1992). The Ignoble Conspiracy: Radicalism on Trial in Nevada, with Guy L. Rocka (1986), was largely responsible for posthumous pardons granted to Goldfield union radicals, Morrie-Preston and Joseph Smith, in 1987, 80 years after their conviction. Jack Longstreet: Last of the Desert Frontiersmen (1988) is the subject of a forthcoming television documentary. Zanjani is currently writing a book on women prospectors in the American West.

# Nominees for Nominating Committee, 1994

Stu Carlson, Park City, Utah

Carlson is a graduate of the University of Idaho with a degree in range management. He has spent 34 years in government service. In the early 1980s, he served in the minerals management service of the Department of the Interior, and was active in developing the Interior Department's first programmatic federal coal leasing environmental impact statement. Later, he was involved with the Federal Administration's coal program. In 1992, he returned to the West with the Bureau of Land Management as minerals outreach coordinator.

# Charles E. Hughes, Murray, Utah

Hughes is a Ph.D. candidate at Arizona State University. His dissertation is on the environmental impact of the technological changes in the 20th century smelting industry. Three years ago, Hughes organized a Cultural Resource Management Company, Timpanogos Research Associates, that deals primarily with mining-related issues, historic context studies, and archival documentation of historic mining and smelting sites. Hughes has worked in Utah, Alaska, Indiana, Nevada, California, and New Mexico, assisting both current mining operations and documenting historic sites.

#### Lynn E. Langenfeld, Madison, Wisconsin

Langenfeld is assistant vice president and trust officer of First Bank in Madison, Wisconsin. She received her B.A. in finance an banking at the University of Wisconsin. With her husband, Mark, she is researching and documenting the history of the lead/zinc district of southwestern Wisconsin. Langenfeld also is working with the Wisconsin Department of Natural Resources developing and instituting the criteria to be used in determining whether abandoned mines should be protected for their historical significance and/or use as bat hibernacula. This topic was the subject of the Langenfelds' presentation at the 1993 MHA conference in Lead.

# Robert A. Trennert, Tempe, Arizona

Trennert is a professor of history at Arizona State University. He completed his graduate work in frontier history at the University of California, Santa Barbara. Since his teens, he has been interested in mining history and railroads, combining those activities with photography. Active in the historic preservation movement in Arizona, he travels across Arizona presenting public lectures on historic preservation, mining camps, ghost towns, and mine technology. He is the author of three books and over 25 articles in scholarly journals, with a primary focus on American Indian policy.

## **Book Reviews**

Richard H. Peterson, Bonanza Rich: Lifestyles of the Western Mining Entrepreneur. Moscow: University of Idaho Press, 1991. 191 pp., notes, bib.

The mines of the Far West created a number of phenomenally wealthy individuals. In *Bonanza Rich*, Richard Peterson portrays the lavish lifestyles of the Bonanza Kings, a group well-known for their conspicuous consumption.

In a previous volume, *The Bonanza Kings*, Peterson compiled a group biography of the leading mining magnates, their backgrounds, business tactics, and ambitions. In this second volume, he picks up the theme of how they spent their money, outside the business world.

The book is divided into sections on philanthropy, mansion building, and other diversions and pleasures. Magnates were well-known for funding favorite institutions, such as the Colorado School of Mines, which has the Guggenheim Hall.

A favorite passion was mansion-building. The homes of the Comstock kings are the best known, but Peterson shows that each region had its over-flamboyant gothic, or romanesque, or chateauesque palace that stated that the mining magnate had arrived. Each regional mining center had its own "Nob Hill."

Similarly, excesses were seen in art collections, fine horse ownership, or a dozen other means to spend the millions coming from Butte or Bisbee, Leadville or Cripple Creek. A few Bonanza Kings splurged on properties that might benefit more than themselves or fund clubs that benefitted an elite.

Peterson ends his book with a discussion of Frederick Jackson Turner's frontier thesis and the mining entrepreneur. Like other historians, Peterson shows that the frontier thesis had limited application to the mining frontier context. Instead, he shows more a link to the predominate business

culture of late nineteenth century America, especially evident in the Northeast. He concludes that the Bonanza King "reflects the homogeneity of national culture more than a separate regional identity." (p. 156).

William Turpin Prescott, Arizona

David J. Krause, The Making of a Mining District, Keeweenaw Native Copper, 1500-1870. Detroit: Wayne State University, 1993. 297 pp., notes, bib., maps, illus.

The Keeweenaw copper country has received attention by historians within the last few years. Now, scientist David Krause adds to the literature with *The Making of a Mining District*, a detailed account of the early years of the upper peninsula of Michigan. The book, more a chronicle than an interpretive history, compiles information about all the major explorers, from the French to Josiah Whitney.

Krause serves the reader best when describing, in lay terms, the geologic make-up of the district. Specialists may quibble with some of his generalities, but the discussion of the various types of lodes and their early extraction helps the novice understand why this was such a phenomenal find.

This reviewer would have liked to have seen more comparative comments and remarks about how the district's history fit into the broader, national scene (was the Keeweenaw the first big mining rush? What about the upper Mississippi lead districts?). The book contains much detail about events in the district and the main characters, such as Douglass Houghton and Charles T. Jackson. The author's bibliography and notes reveals extensive research into primary sources. The photographs and diagrams compliment the text.

Carl Gibson Dubuque, Iowa Jonathan Selby, ed., South Australia's Mining Heritage. Adelaide, South Australia: Australasian Institute of Mining and Metallurgy, 1987. 203 pp., notes, maps, and illus.

Upon South Australia's 150th Jubilee, in March 1986, the Australasian Institute of Mining and Metallurgy hosted a conference on the history of mining. The topic had been too often neglected and to remedy the situation professionals in the industry prepared papers, thirteen of which are printed here. They detail the history and preservation of South Australia's mining heritage.

The papers range from a broad overview of the region's history to the restoration of a specific site, the Morphetts engine house. The influence of English capital and the Cornish is strong. The C. M. Horn and W. P. Fradd paper on the early history of gold mining and G. J. Grew and J. E. Connell on copper smelting compliment the papers on preservation. I found the information about copper smelting site preservation more helpful than the papers on steam engines and houses. They are of the Cornish kind, little used in the American West.

G. J. Grew and J. Selby describe in detail the very active interpretation program of the South Australia Department of Mines and Energy. J. P. McCarthy describes conservation (preservation) efforts, legislation that established a register, planning policies devised to protect resources, and basic techniques for inventorying and protecting sites. An important link to protection is the proactive development of cultural tourism to ensure appreciation and understanding of historic mine ruinsd.

Preservationists will learn from their fellows from Down Under through this volume. Interpretation, restoration, and industrial archeology appear to be active elements of the South Australian scene.

Robert Spude Denver

### **Book Notes**

For a delightful read about growing up in a down-and-out mining camp of the 1930s see John Jackson, Once Around the Thunder Mug (1993). The little book (only 63 pages) relates tales of depression-era Creede, Colorado, the 1890s silver mining, boom town that had all but gone bust within fifty years. The dry wit of Jackson makes this a fun book to dip into. Stories about "chocolate dipped road apples," "grandparents," or the effects of lima beans and cabbage bring chuckles.

The University of Alaska Press has recently published a paper back edition of Peter A. Coates, The Trans-Alaska Technology, Controversy, Pipeline Conservation, and the Frontier. The prize winning book is the first solid history about the construction and bitter environmental feuds caused by this incredible engineering feat. Order copies (\$25) from UofA Press, 1st Floor Gruening Building - UAF, Fairbanks, AK 99775-1580.

Ye Galleon Press has reprinted the classic history of the gold mining rushes of Montana, Idaho, and British Columbia, William Trimble's Mining Advance into the Inland Empire. Rodman Paul noted that "all subsequent scholars owe much" to Trimble's pioneer work, published in 1914. For copies, \$14.95 each, write them at Box 287, Fairfield, Washington 99012.

Another classic, Clark Spence's Mining Engineers and the American West: The Lace Boot Brigade, 1849-1933, has been reprinted by University of Idaho Press. The 420 page, detailed volume will be available for \$21.95 in November from the press (16 Brink Hall, Uofl, Moscow, ID 83844-1107) or your local book dealer.

Ruth Fenstermaker Danner, Gabbs Valley: Its History and Legend is a new publication by the Nevada Historical

Society, which focuses in on the history of southwest part of the state, its mining booms and busts, and the communities they spawned. Most interesting are the final six chapters on the discovery of 1927, brucite deposits in developments of mining engineer Richard L. Smith in beginning the magnesium industry that helped found Gabbs, and the importance of the industry through WWII. The book is available for \$24.95 from the society at 1650 North Virginia Street, Reno, NV 89503.

Johnny Healy was on the mining frontier from the 1860s in Idaho to Alaska in the 1890s. Lucky in finding the Salmon River, Idaho, mines in 1862, hated for his whiskey peddling in Canada, and praised and cursed for supplying the miners of Alaska and the Yukon, 1880s until his death in 1906, Johnny Healy is the subject of a recent biography, William R. Hunt's readable Whiskey Peddler, Johnny Healy. North Frontier Copies are available from Trader. Mountain Press Publishing Company. PO Box 2399, Missoula, MT 59806. Price, \$12.

Ross Mainwaring has brought to our attention two new publications about the Kalgoorlie gold fields. Kanowna's Barrowman, James Balzano, edited by George Compton and Ron Manners, is the detailed diary of a miner in the Western Australia gold rushes. The Golden Mile, by Geoffrey Blainey, is a good overview history of the Kalgoorlie district.

Isabel Shattuck Fathuer has written a biography of her father, a Bisbee mining man, titled Lemuel C. Shattuck, 'A Little Mining, A Little Banking, and A Little Beer,' He, like so many of his contemporaries, came West a young man to try his hand at cattle, lumber, camp businesses, and mining. Unlike his fellows, Shattuck got lucky. His profits from his saloon and then bank gave him some cash and a lot of credibility with

Eastern investors, who helped open the Shattuck-Arizona, "richest little mine" in the Bisbee, Arizona district. Isabel Shattuck Fathauer has done a credible job. She had access to her fathers papers and is not unwilling to be critical of her father's activities, often typical of the mining frontier environment. Lynn R. Bailey assisted with editing and additional research. The book is available from Westernlore Press, Tucson for \$31.95.

Priscilla Wegars has edited a series of papers on Chinese immigrants in Hidden Heritage, Historical Archeology of the Overseas Chinese. Included are papers about Chinese miners in the camps of Idaho. Other aspects of Chinese life are covered, from gardens to opium. The volume is an excellent tool for those interested in this important section of the mining community. It is available from Baywood Publishing Company, Amityville, New York for \$40.

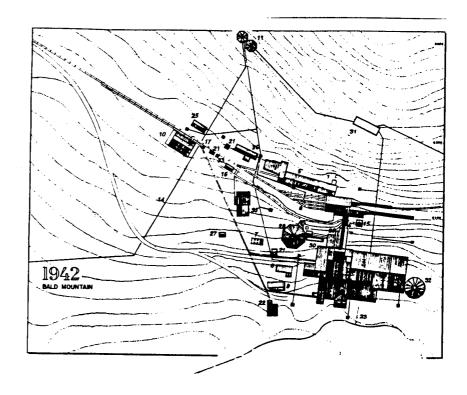
Under the category of not really a book, but really ought to be is the collection of essays by Dan Meschter published in the Philipsburg Mail of Philipsburg, Montana. The 177 columns appeared from June 17, 1985 to June 8, 1989. Meschter used local records, early newspapers and oral histories to retell the history of this mining region from the 1860s through the 1880s. profiles prominent individuals, such as Philip Deidesheimer, the man who perfected square setting on the Comstock and gave his name to the Montana town. Thanks to Bob Anderson of the Bureau of Land Management for sending us copies.

#### **Tours**

Atalaya Tours ltd organizes historic mining tours to Rio Tinto, Sierra Morena, and elsewhere in Spain. For a brochure and information about upcoming tours write them at Ceinionfa, Penglais Terrace, Aberstwyth, SY23 2ET, U. K.

Participants at the Mining History Association conference's Sunday tour visited the Bald Mountain mill, recently recorded by the Historic American Engineering Record. Wharf Resources funded the major portion of the project and supplied the guides for our tour. The drawing at right is a site plan of the mill from the set of plans, now housed in the Library of Congress. Virginia Gerhart Brumback was delineator.

Trivia: In his Political Essay on the Kingdom of New Spain (1811), Alexander von Humboldt comments on "highgrading" by miners in the mines of Mexico. He wrote, "As they [the miners] are almost naked, they make use of a thousand tricks to steal...they conceal small morsels of silver in their hair, under their arm pits, and in their mouths, and they even lodge in their anus cylinders of clay which contain the metal." Humboldt was shocked.



Mining History Association Post Office Box 150300 Denver, Colorado 80215