

*Competition, Community, and
Entertainment: The Anaconda
Company's Promotion of Mine Safety
in Butte, Montana, 1915-1942*

By
Brian Leech

The Granite Mountain mine disaster in June of 1917 signaled a period of chaos for Butte, Montana. More than 160 men lost their lives because of a fire within the Speculator Mine, one of the North Butte Mining Company's copper mines. It was the worst metal mining disaster in history, triggering a major strike, which, in turn, led to martial law.¹

Although an outlier in the number of fatalities, this disaster was sadly one of many experienced in Butte's mines. Some miners were injured by dynamite and drills; others by ore cars, trains, and motors.² A typical miner's phrase was "she's talking to you," which meant that loose rocks and treacherous ground could be identified by listening closely to timber bending and small pebbles tumbling. No matter what precautions miners took, though, the roof could still come crashing down.³ Loose rock slabs within Butte's mines became known as "Duggans" after a local mortician. As one miner put it, Butte was "noted by all boomers as the toughest of mining districts because of its combination of dangerous heavy ground, heat and humidity, acid mine waters, and hard-nosed bosses."⁴

Perhaps the most deadly component of the mining environment, however, was not something miners could sense: fine particles of silica, which resulted from rapid industrial drilling and blasting. The buildup of silica inflamed and scarred miners' lungs, which could not rid themselves of such tiny particles. The U.S. Bureau of Mines found evidence of silicosis in 42.4 percent of the Butte miners who asked to be examined between 1916 and 1918.⁵

The biggest mining company in Butte, the Anaconda Copper Mining Company, introduced water into the drilling process to keep down the dust. This lessened the danger, but the condition still killed many

miners.⁶ According to one historian, the deadly conditions in early Butte's underground were globally rivaled only by mines in the Transvaal of South Africa.⁷ As a Butte nurse explained, "there was kind of that fatalistic idea . . . if you work in the mines, you're apt to get it."⁸

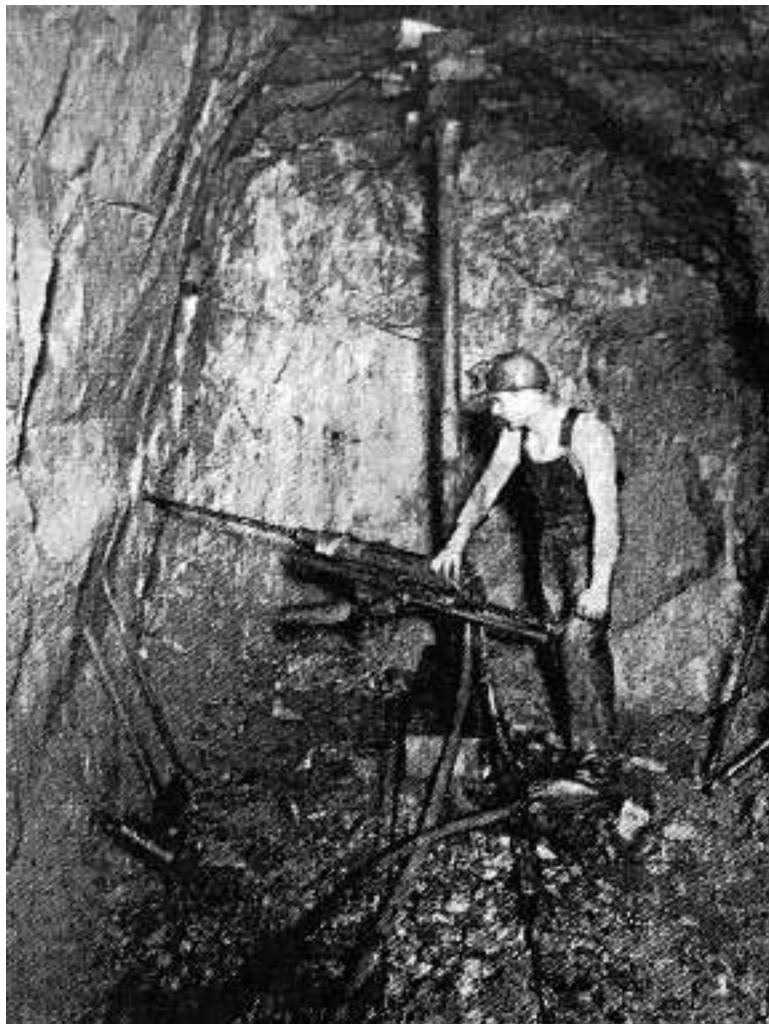
The seriousness of this danger is exactly why the pages of *The Anode*, the Anaconda Company's safety-focused publication, are so surprising. Published from 1915 to 1942, *The Anode* insisted that certain precautions be taken when underground; yet, it remained as likely to encourage groups to socialize, to promote safety contests, or to provide off-color ethnic humor as it was to give stern lectures about do's and don'ts. This article will argue that *The Anode*, and related

promotions at field days and on film, showcase a perhaps surprising, and certainly overlooked, way that mining companies sold the serious subject of workplace safety: through competition, community engagement, and entertainment.

"Safety First" at Anaconda

In the early twentieth century, many industrial companies, including mining companies like Anaconda, devoted increasing energy to safety. U.S. Steel started the "Safety First" movement in 1906. The idea behind the slogan was that every industrial worker should consider safety before any other objective or action. U.S. Steel originally turned to a safety program as a

Drilling and blasting endangered miners due both to immediate threats like rock falls and to a more slow-acting, yet often deadly disease known as silicosis. (Russell Lee, "Butte, Montana. Anaconda Copper Mining Company. Pneumatic Drilling in Copper Mine," 15 August 1942, Farm Security Administration—Office of War Information.)



way to generate better press, but it also found the program led to more efficient operations, an increasingly important goal for progressive-era businesspeople. U.S. Steel saved money by decreasing accidents—less lost time and less misused property equaled more money.⁹

A number of mining companies followed U.S. Steel in the Safety-First movement. A December 1907 explosion in the Fairmont Coal Company's mines at Monongah, West Virginia, killed an incredible 362 miners. West Virginia coal mine operator Aretas Brooks Fleming reacted to the disaster by investing in safety promotion. He helped to establish the U.S. Bureau of Mines in 1910, which he hoped could improve mine safety while side-stepping more intrusive state legislation.¹⁰

The Bureau produced important tax-supported research and encouraged safety measures, but its efforts were limited by the fact that it had no power to inspect or supervise any mine's operations until 1941, when the first federal mine inspection legislation passed. Yet, public outcry over mine accidents, fires, and explosions still encouraged many early-twentieth-century mining companies to look further into the most pressing problems.¹¹

As mining companies began safety campaigns, they discovered many benefits. Engineers, who could not perform time and motion efficiency studies underground, nor often find good ways to observe mine work at all, discovered that safety was one of the most effective ways to enforce new work practices on a group of laborers who prided themselves on independence. Beyond gaining improved worker efficiency, some mining companies found that Safety-First ideas instilled greater loyalty from workers and, in a few cases, even suppressed union growth, as workers unsatisfied with job safety would sometimes join unions over the issue.¹² Industrial workplaces abroad, including Japan's famous Ashio copper mine, engaged in similar accident-reduction campaigns during this era, often un-

der the banner of Safety First.¹³

The Anaconda Company entered this movement with its own safety campaign, partly because Montana had joined other U.S. states in considering new workplace legislation.¹⁴ The state's governor had appointed a commission in 1910 to prepare legislation that would assist injured workers. Introduced legislation failed twice until early in 1914, when the Montana Advancement Association proposed a state initiative to provide mandatory compensation to workers who suffered a severe injury. The Anaconda Company fought hard against the initiative, claiming it would raise taxes and force companies to hire greater numbers of foreigners.

The initiative failed, but the idea lived on in a 1915 legislative discussion. After making changes to create a more palatable bill for Anaconda, Montana's legislature passed a state workmen's compensation act in March. Under the new law, the amount paid for a disabling or fatal injury still failed to properly cover a mining family's expenses, but the law did showcase a dramatic change from an earlier period in American workplaces, when all injuries were assumed to be the fault of individual workers.¹⁵ The fear of having to pay much more money increased the Anaconda Company's motivation to reduce injuries.

Seeing legislation coming down the pike, the company quickly formed a safety organization early in 1914. Anaconda's Bureau of Safety spent much of its first year gathering accident data, then it turned to the creation and enforcement of new safety procedures. The bureau's director, C. W. Goodale, a long-time engineer in Anaconda's Butte Mines, and his deputy, John Boardman, quickly recognized that they needed to get workers, not just managers, involved in the new safety mission.¹⁶

The Anode

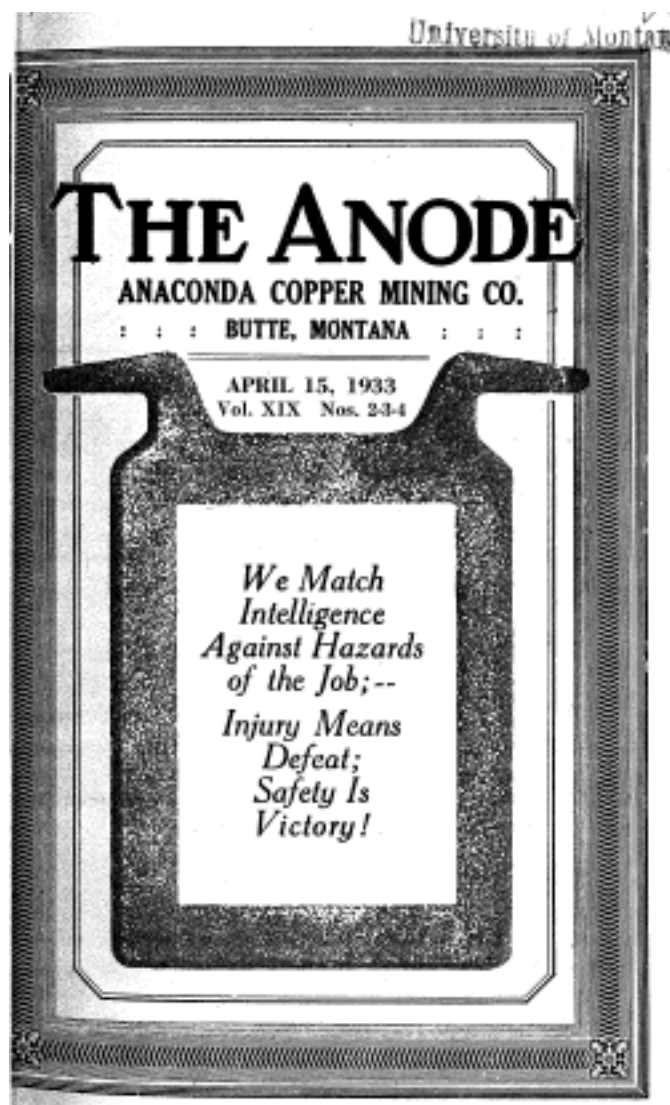
The main promotional vehicle for Anaconda's

efforts became *The Anode*, which began publication in 1915. The editor was A. S. Richardson, a safety engineer and mine rescue expert who understood the importance of multiple approaches to safety promotion. The company invested a lot of money and time into its sixteen-page publication—six thousand to nine thousand copies of each issue were freely distributed amongst employees, with a few additional copies going to other community members. Anaconda then sent another thousand copies throughout the country to showcase its prowess in occupational safety and industrial relations.¹⁷

The Anode was a monthly publication un-

til 1932, when cutbacks made it a quarterly.¹⁸ Although it also served as a way to distribute some general company news, its primary focus throughout its twenty-seven-year history was always safety. Because new safety measures meant both tighter discipline and a loss of traditional work practices, they often faced worker resistance, particularly in the mining industry, where facing danger had long proven a worker's worth and manliness. To fight against what one article called the miners' "spirit of bravado," *The Anode*, like other safety materials of the era, had to carefully use the techniques of modern advertising to make a convincing case.¹⁹

The cover of The Anode in later decades featured an image in the shape of an anode, which is a copper plate produced during the smelting and refining process. In electrolytic refining, the 99-percent pure copper plate is placed into a bath containing copper sulfate and sulfuric acid. Electricity shot into the solution forces positively-charged copper ions from the anode to migrate to a negatively-charged cathode. The result is a 99.99% pure copper product. (The Anode, 15 April 1933.)



The content of some articles is what a reader today might expect. There were typically a number of articles written by workers, managers, and especially safety engineers about specific concerns, providing instructions for how to deal with each dangerous situation. Earl Baker's January 1918 admonishment to clear tracks underground was typical. He told a story of a specific time when a number of wood planks had slipped onto the rail. Baker quickly rectified the problem; otherwise "an insurance company would be out a couple of thousand dollars and a Colorado girl would be minus a sweetheart" [*sic*].²⁰ Other

entries featured serious warnings about the "startling effects of industrial accidents" or how-to discussions of first aid and mine rescue.²¹

Often the publication would contain photos of dos and don'ts while in the mines. These features involved staging mine accidents, then photographing the results. Below the images, text implied that miners should abandon old practices and instead follow engineers and safety experts in new methods.²²

The Anode would often decry older practices, such as the long-time use of "sounding," which meant tapping around a working area, known as



Like other mining companies, Anaconda provided safety information via staged underground photographs. ("Bad Practice" and "The Result," The Anode, November 1918.)

a stope, to see if rock falls were likely. The editor warned that this practice was as likely to result in a rock fall itself as it was to warn miners of a coming problem.²³

It was not all serious lectures, though. Entertainment and competition came into Anaconda's safety promotion almost immediately. Even the written content of *The Anode* often came via a contest. To invite employee buy-in, *The Anode* awarded five dollars for each published article submitted by an employee. Most of the employee-written pieces consist of testimonials about unsafe and safe practices. As a way to encourage more submissions, the best article in each issue submitted by a miner or smelter worker earned a fifteen dollar prize instead of five dollars.²⁴

Testimonials often mixed the serious with the amusing. One entry in December 1918 asked miners to face the same direction in each packed cage when heading down the mine's shafts. The reason to do so was both to halt the influenza epidemic and to stop breathing the stink from "a man who has been trying to drink all the whiskey there is."²⁵

Safety Competitions

Competition extended into the day-to-day workplace. Every issue of *The Anode* went into fine-grained detail about each department, providing the number of fatal and serious accidents since the last publication, as well as the names of the foremen responsible for each mine or shop. Now that the company could be held responsible for its workers' injuries, this feature in the newsletter served partly to deflect blame onto each mine foreman. *The Anode's* editor wrote in a 1917 edition that the mine foreman served as an instructor and example to his workers, hence accidents reflected on his leadership.²⁶

This newsletter material did not simply scold those who allowed injuries, however. It also showcased the "honor roll" of foremen whose workers had no, or little, lost time during

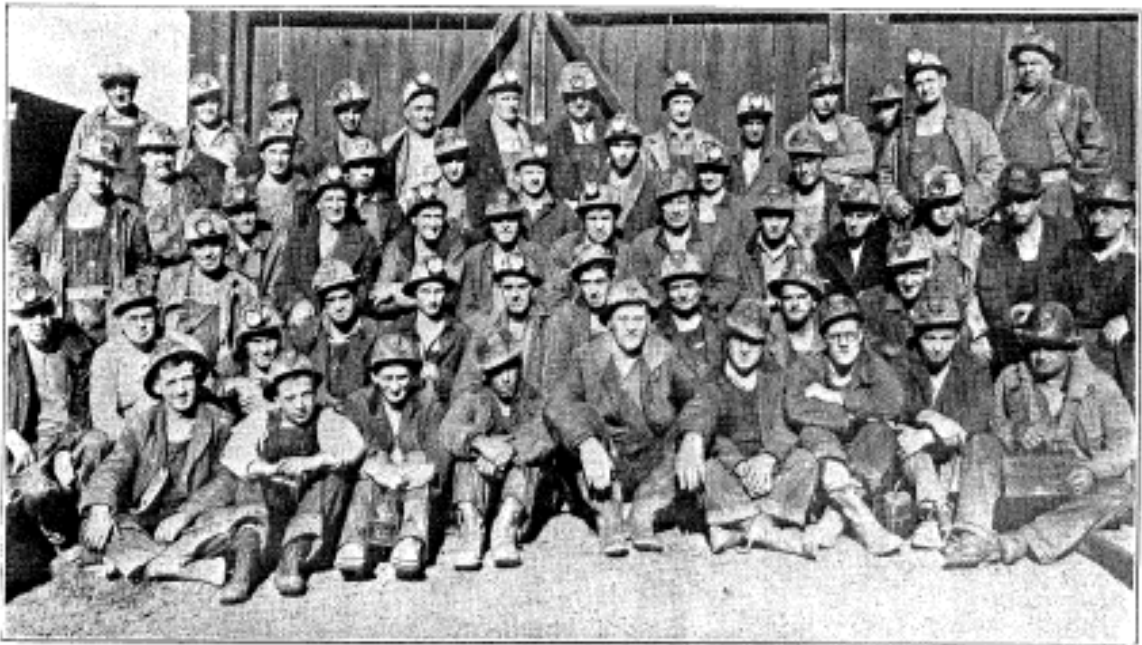
their shifts.²⁷ The foreman with the best annual safety record received a \$750 bonus, while those who did not achieve a good record could end up temporarily discharged or even laid off.²⁸ Anaconda encountered a few setbacks in this reward system, though, as at first it failed to include assistant foremen and shift bosses. Hence, these employees, facing "ill will from miners" annoyed at new protocols, often failed to fully cooperate with the safety engineers who were gaining additional control over the workplace.²⁹

The company therefore created an additional competition to become the "Safest Crew in Butte." Losing the least amount of time to injury over each three-month period gained your crew recognition in a labeled photograph in the publication. Beyond public recognition, crew members received additional financial incentives.³⁰ Winners of the quarterly "safety prize drawing," a later initiative, received even more public recognition. Once a man qualified due to his good safety record, he had his name entered in the drawing. If he won, a short biography accompanied his listing in *The Anode*. Winners also received big prizes, like a sedan, a refrigerator, or a cabinet radio.³¹

In 1940, the company announced the C. F. Kelley Award, which went beyond Butte to encompass all of Anaconda's international operations. The Montana Division, the Salt Lake Division, the Inspiration Consolidated Company in Arizona, the Cananea Consolidated Company in Mexico, the Chile Exploration Company, and the Andes Copper Company began to compete with each other over the most improvement in their lost-time accident rates.³²

Anaconda joined a number of companies in putting work sites into competition with each other over injury rates. According to historian Mark Aldrich, such competitions, because they did not just scold workers, tended instead to raise employees' competitive spirit and hence self-esteem. Aldrich believes that competitions of this sort were among the most common, and

THE SAFEST CREW IN BUTTE



The Butte mining crew that lost the least amount of time to injury over each three-month period gained public recognition in The Anode. ("The Safest Crew in Butte," The Anode, 15 July 1939.)

effective, ways that companies attempted to sell safety. No worker wanted to be held responsible for losing a team's possible bonus or trophy; hence, employees voluntarily accepted new practices during a competition.³³

Anaconda's effort to make safety a matter of fun and games went further than injury rate competitions, though; as historian Brian Shovers puts it, "the company, in effect, turned safety into a spectator sport."³⁴ In *The Anode's* August 1918 issue, John Boardman admitted that "a large number of people are rather apathetic" about first aid, despite its vital importance. Some attended first-aid classes offered by the company, but others, sadly, just were not inspired. He explained that most workers instead became energized by competition.³⁵

The company's response was to hold first-aid competitions for cash prizes, then aggressively promote those competitions and their winners through *The Anode*. The first annual competition

featured sixteen teams of six men. The winning team earned a trip to the Panama-Pacific International Exposition in San Francisco. Sometimes the local event also fed into a state-wide contest. A 1915 state-wide meet in Billings, Montana, featured a model mine made out of two by fours and tar paper. Hot sun accidentally set off black powder, turning the demonstration into a real fire. The fake victims had to escape through the sides of a flaming "mine" before rescue teams arrived. Safety engineer John Boardman jokingly wrote that "from the viewpoint of the rescue crew, the demonstration was more or less a failure, but from that of the audience it was a spectacular success." Football and a banquet followed the two-day meet.³⁶

Anaconda continued to hold such events until 1918, when the company instead placed its safety contest as the centerpiece of a Miners' Safety-First Field Day. Anaconda joined other local mining companies in organizing the

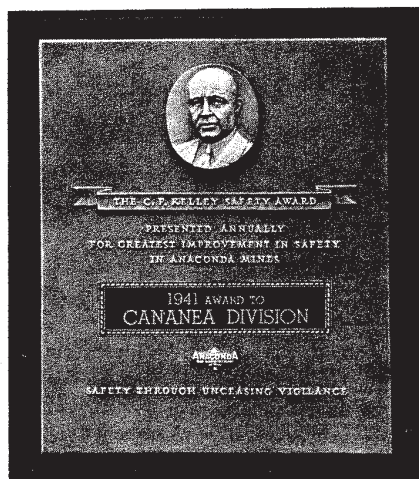
THE ANODE

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Vol. 28

Butte, Montana, April, 1942

No. 2



CANANEA CONSOLIDATED DIVISION WINS KELLEY AWARD

As a concrete demonstration of his personal interest in the safety of Anaconda employees and as an inducement for increasing interest in safety by encouraging a spirit of competition amongst the various operating divisions, Mr. C. F. Kelley, Chairman of the Board of Directors of the Anaconda Copper Mining Company, last year established the Kelley Safety Award. This award is a bronze plaque to be presented annually to the division of the Company's mining operations which shows the highest percentage decrease in lost-time injury rate compared with the consolidated rate of the past five years.

Since there was no uniform tabulation of injury rates for all of the divisions prior to 1939, it was decided to make the award for 1940 on a comparison with the 1939 rate alone; the 1941 award on the combined 1939-40 rate, and so on, adding a year's experience each year until a five-year record becomes available. Thereafter a new year will be added and the oldest year's rate dropped to form a continuing five-year basis for comparison.

The following tabulation shows the results of the 1941 accidental injury experience for the six divisions of the Company's mining operations compared with the total rate for the years 1939-40:

Division	1939-40 Lost-time rate per 10,000 shifts	1941 Lost-time rate per 10,000 shifts	Difference plus or minus	% plus or minus
Cananea Consolidated	35.658	16.360	—19.298	—54.12%
Andes	4.489	2.937	—1.552	—34.57%
Montana-Idaho	6.358	5.000	—1.358	—21.36%
Salt Lake	7.444	6.293	—1.151	—15.46%
Inspiration	10.850	10.690	—0.160	—1.47%
Chile Exploration	5.744	6.350	+ 0.606	+10.55%

The Anaconda Company introduced a safety competition between each of its international divisions in the early 1940s. The division with the highest percentage decrease in its lost-time injury rate would win. In 1942 this meant that the Cananea Consolidated Division in Mexico won the award despite its very high 16.36 lost-time rate per 10,000 shifts, as it experienced the greatest decrease over the previous three years. Montana-Idaho, by contrast, had a 5.00 rate that year, as its safety record had already improved greatly.

("Cananea Consolidated Division Wins Kelley Award," The Anode, 15 April 1942.)

University of Montana

THE ANODE

Published Quarterly by the Bureau of Safety of the Anaconda Copper Mining Company

Vol. 25 Butte, Montana, July, 1939 No. 3

FIRST AID RESULTS

Because of the annual first aid contests at Butte, Anaconda and Great Falls, the July issue of the Anode must be a first aid number. Highlights of the Anaconda and Great Falls contests will be found on other pages. The Butte contest was held at Columbia Gardens on July 2nd with twenty-one teams participating. While there have been first aid contests in Butte with a larger number of teams, there has never been one of nicer setting, better spirit or finer attendance.

This year a new system of judging was tried out. It consisted of dividing the teams into groups and working all of the five problems simultaneously. One problem was assigned to each judge in each group and each judge handled one problem only throughout the contest. It is thought that this method had a tendency toward eliminating the differences between the judges. Thus, the judge who was assigned number one problem judged each team of his group in turn on that problem so that if any difference in the respective abilities of the judges existed, all the teams in each group received the same treatment.

Space does not permit the listing of names of team members but the names of teams and captains, together with the prizes, follow:

Place	Prize	Team	Captain
1st	\$250.00	Leonard Mine No. 1	Philip L. Lathrop
2nd	100.00	Mt. Ida Mine No. 1	Frank Magnus
3rd	50.00	Mt. Ida Mine No. 3	George Fanning
4th	\$4.00	Anselmo Mine No. 2	Henry J. McCooler
5th	\$4.00	Tramway Mine No. 1	J. Ronald Fidler
6th	\$4.00	Burns Mine Shays	Richard Watson
7th, 8th and 9th	\$4.00	Belmont Mine No. 1	Richard Livered
10th, 11th and 12th	\$4.00	Belmont Mine No. 2	John P. Langhorn
13th, 14th and 15th	\$4.00	Anselmo Mine No. 1	William Sauer
16th	\$8.00	Anselmo Mine No. 3	James Richards
17th	\$8.00	Orphan Girl Mine No. 1	Harold Kelly
18th	\$8.00	St. Lawrence Mine No. 1	Theodore C. Moxel
19th	\$4.00	Tramway Mine No. 2	Dan A. McFar
20th	\$5.00	Orphan Girl Mine No. 7	L. A. Kaasalainen
21st	\$5.00	Orphan Girl Mine No. 6	Vincent Riche
22nd	12.00	Orphan Girl Mine No. 5	Leslie Merrill
23rd	12.00	Orphan Girl Mine No. 3	Harry Cote
24th	12.00	Orphan Girl Mine No. 4	Herbert Downing
25th	12.00	Mt. Ida Mine No. 2	Bernard Barde
26th	12.00	Orphan Girl Mine No. 2	George Nool
27th	12.00	Orphan Girl Mine No. 8	James W. Hesterman

That there was a tie for 7th place and the teams involved elected to share the prizes for 7th, 8th and 9th places.

The Anaconda Company annually held a first aid competition for each of its Montana operations. The Butte contest, held at the Columbia Gardens, a company-owned amusement park and recreation area in Butte, was part of a field day that also featured music, sports, and food. ("First Aid Results," The Anode, July 1939.)

event, which its safety bureau chief hoped would spread safety propaganda and, perhaps more importantly, take the place of the Miners' Union Day picnic.³⁷

The previous four years had seen a conservative miners' union break apart over tensions between old and new immigrants, the bombing of the union's hall, protests by both socialist workers and Irish immigrants over U.S. entry into World War I, the aforementioned Speculator Mine disaster that sparked further anger, a union organizer's murder, and more violence throughout Butte.³⁸ The company therefore used its field day to gain some control over worker expression, while practicing a time-honored tradition of welfare capitalism in providing social, cultural, and educational opportunities for workers' families.³⁹

The first day hosted at least twenty thousand spectators who watched thirty-three teams of six men each. The teams all competed in first-aid demonstrations. These were supposedly the day's highlight, although the field sports afterwards were also obviously popular, particularly because non-miners could participate in the baseball, football, basketball, running, and dancing. The organizing committee held even more unusual sporting events, such as rock drilling for miners, ladder-climbing for shift-bosses, a pole-climbing contest for electricians, and a three-legged race for timekeepers, while women could compete in either a wheelbarrow race or a turkey race.⁴⁰

This field day continued annually for many years. It was always held at the Columbia Gardens, a large, company-owned amusement park and recreation area, and it typically attracted large crowds. The company counted somewhere between eighteen thousand and twenty-five thousand individuals at each field day. By 1936, the Anaconda Company was awarding three hundred dollars to the first-prize safety team. Women and children joined men in flocking to each free event, partly because the popular Butte Mines Band played a full concert afterwards.⁴¹

It is also likely that high participation continued because each field day gained extensive promotion and coverage from *The Anode* and other local, company-owned newspapers.

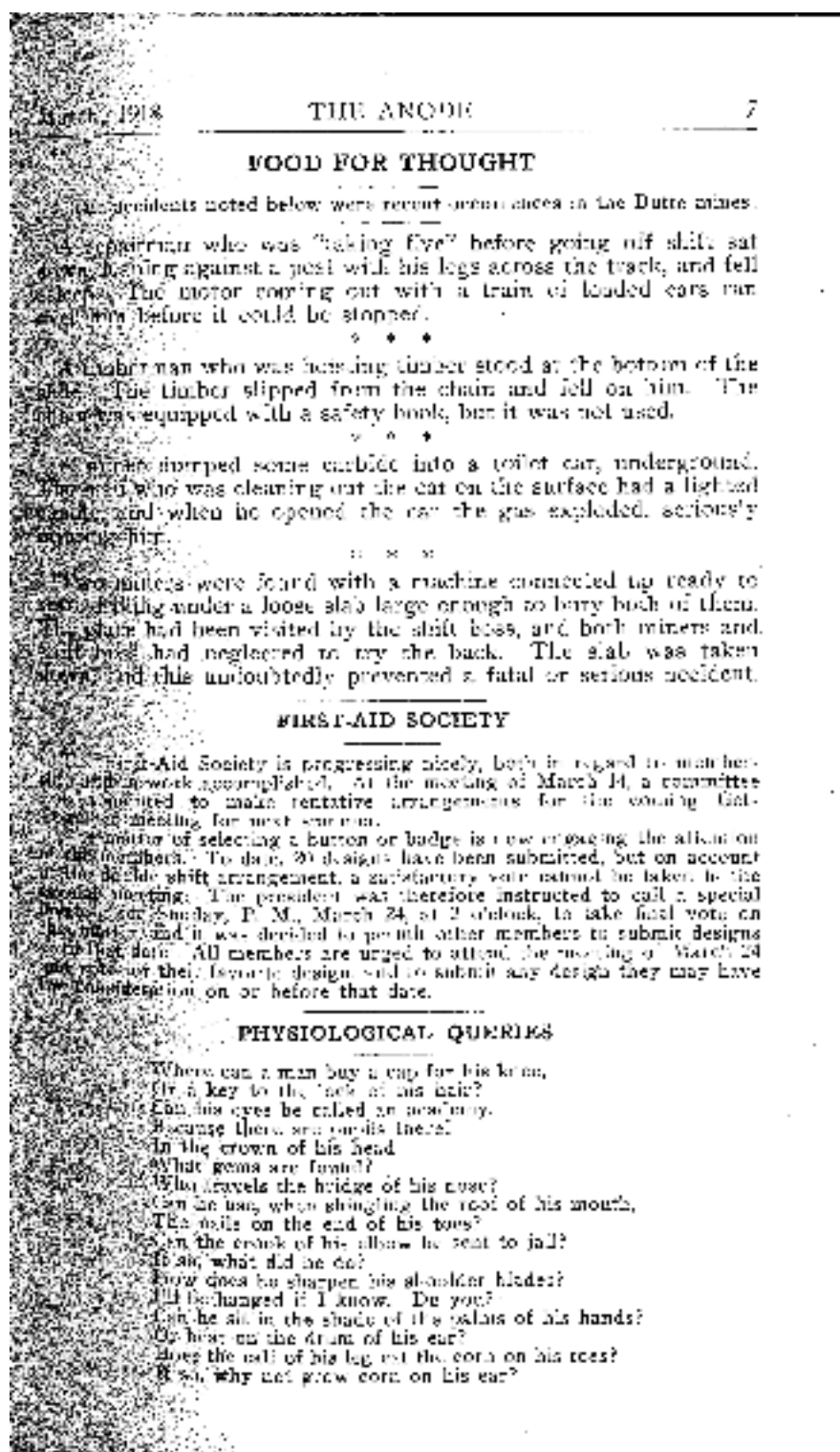
Anaconda followed many other companies in this practice. The company's safety bureau apparently got the idea to host a large, safety-related event from the coal mining districts of Iowa and Kansas.⁴² The U.S. Bureau of Mines not only sponsored such competitions across the industry, it even held nation-wide first-aid contests from 1914 to 1931. The bureau would supply sample emergencies to each company hosting a first-aid competition. Although these competitions risked alienating losers from the bureau or company, they were apparently successful in spreading life-saving training across the industry.⁴³

Other mining companies also introduced family entertainment into safety days. The Red Jacket Coal Company in southern West Virginia, for instance, hosted a Family Picnic and Safety Day, which included a mine rescue competition but also featured contests for men, like hog calling, for children, like a three-legged race, and for women, like a husband-calling event.⁴⁴

Socializing Safety

Beyond its large competition days, Butte's Anaconda Company joined the Red Jacket Coal Company in encouraging socialization surrounding first-aid and safety practices. In March 1918, *The Anode* promoted the inaugural meeting of a "First-Aid Society." This society hosted gatherings into the 1920s to consider issues of preparedness.⁴⁵ The company not only put on first-aid classes for miners, it did the same for Boy Scouts, Girl Scouts, and Camp Fire Girls, spreading the safety doctrine to the community's young while appealing to wives, who managers hoped would preach safety to their husbands.⁴⁶

The Anode's editor also understood that gaining support from the broader community was



The Anode often recounted meetings of the First-Aid Society. Another common section, titled "Food for Thought," provided descriptions of recent accidents in the Butte mines. ("First-Aid Society" and "Food for Thought," The Anode, March 1918.)

key to changing workers' behavior. The publication therefore featured a smattering of articles that promoted safety outside of the workplace, including pieces about home fires, camping, and auto safety.⁴⁷ In between its safety information, the newsletter interspersed a few community-related announcements, such as a call from the "soccer-football" team at the Great Falls Reduction Works for games with other company teams, news about Christmas trees and skating rinks, and even reports on long-time employees' summer vacation plans.⁴⁸

Another appeal to the newsletter's broader family and community audience came in *The Anode's* front-page stories. Many discussed an important issue of the day, whether it was preparation for world war, consideration of the Depression's drastic effects, or general comments on the importance of copper to modern life.⁴⁹ This tactic linked safe mining with major world events—hence drawing in readers who might otherwise toss away the newsletter.

Early issues encouraged new immigrant workers to "Americanize" their ways, to learn English, and to become better American patriots, as the Great War required safe work. Injuries from poor communication and unsafe practices would only delay copper production, and thus damage America's war effort.⁵⁰ The same approach appeared in columns and cartoons during World War II. Reminders came to workers that "accidents help the Axis."⁵¹ Hence, the newsletter gave the company an avenue to achieve greater control over workers and their desire to strike.

Using Humor

A slightly more unusual way to publicize safe practices to miners and their families was through, or in conjunction with, anecdotes and jokes. Many of *The Anode's* short stories or jokes focused on the topic of safety.

A shift boss at the West Colusa Mine in

Butte, Howard Estey, wrote a piece for the August 1918 *Anode* that told the fictional tale of Single Jack Murphy and his fellow Irish American buddy, Paddy Moore. The story starts with great amusement and joy between the two men, riddled with slang. Their pal "Hapy Hogan" [*sic*] had changed—transforming from a clean-cut, jolly jokester into a dirty alcoholic "lit up like a synagogue on a Jewish Holiday," explained Single Jack.

The reason for this shift was then relayed as a frightening tale of when Hogan forgot to remove loose rock slabs from the back of a mine tunnel after a blast, a process known as barring down. When a mucker came in to perform his primary task, which involved shoveling up broken rock and ore from the floor, the roof fell in on him, killing him instantly. Constantly thinking of his mistake, Hogan was now "a victim of his own conscience."⁵²

Another example of a relatively light-hearted take on mine dangers came in Mrs. D. S. Beyer's amusing 1919 poem, "Safety Last." In that poem, Beyer includes lines like: "If you tumble down the stair, break your leg or muss your hair, it's a fine excuse to swear," and: "Never worry never weep, do not groan when you're asleep, compensation bills are cheap. Safety Last!"⁵³ Another poem, from 1940, mentioned that many people sadly claim that "The Other Fellow is Crazy" instead of taking responsibility for their own unsafe actions.⁵⁴

Other funny bits had nothing to do with the topic of safety. *The Anode* continued a nineteenth century tradition of interspersing quick anecdotes and snappy jokes amongst more serious content. Many jokes were fairly tame. The April 1934 issue, for instance, featured a joke in which one person states: "If you keep holding your mouth that way, I'm going to kiss you." The other answers: "Well, I can't hold it that way much longer."⁵⁵ Similarly, the January 1941 issue contained a joke in which one man stated: "You've sure got to give that man credit. He

started life as a barefoot boy." The other man replied: "I wasn't born with shoes on either."⁵⁶

Unsurprisingly, other jokes contain a host of racial slurs and ethnic attacks. One joke featured an African American woman who was asked at the voting booth what party she affiliated with. She refused to answer the question because her "affiliate" had not yet divorced his wife.⁵⁷ Many other jokes made fun of the various ethnic dialects in the Butte mines. Some jokes were written in a dialect whether or not the joke itself had anything to do with targeting a particular group.⁵⁸

Another common target for *The Anode's* jokes was women. Sometimes more edgy topics like sexuality came into play as well. In the

April 1941 issue a joke titled "Correct" featured a short story about milking a cow. "Now tell the jury, lady," instructed the young lawyer, "just where the prisoner was milking the cow. The young lady looked a trifle embarrassd [sic], smiled sweetly and replied, 'Why I think it was just a little back of the center, sir.'"⁵⁹ Another joke more worryingly made light of spousal abuse.⁶⁰

Although *The Anode* perhaps trended more towards lighthearted humor than other companies' safety publications, it isn't a complete outlier. Certainly many mining newsletters contained jokes and entertaining images. A couple of decades later, Climax Molybdenum Company issued a set of publications from its Leadville, Colorado, operations. Artist Ted Mullings craft-

"SAFETY LAST"

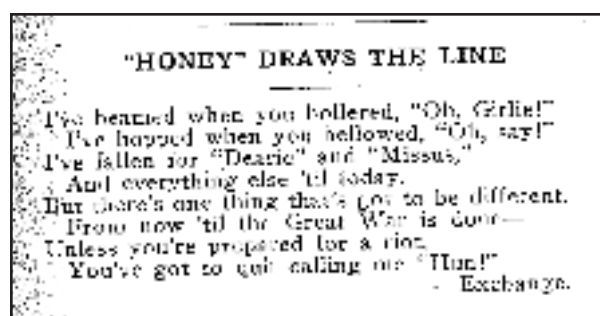
By Mrs. D. S. Beyer (Maria Conde), in "Safety Engineering"

*Is your engine unprotected?
Safety last!
Are the plans for guards rejected?
Safety last!
Pat it gently on the gear,
By the middle of next year
You will likely not be here!
Safety last!*

*Never label stairways "Danger,"
Safety last!
Do not warn the passing stranger,
Safety last!
If you tumble down the stair,
Break your leg or muss your hair,
It's a fine excuse to swear!
Safety last!*

*Is your emery wheel a menace?
Safety last!
Has it blinded Mike or Dennis?
Safety last!
Never worry, never weep,
Do not groan when you're asleep,
Compensation bills are cheap,
Safety last!*

The poem "Safety Last" was one of many employee contributions to The Anode. Many such offerings combined humor and serious advice. (D. S. Beyer, "Safety Last," The Anode, September 1919.)



The Anode featured many jokes. Some were safety-related, but many were not, such as this 1918 pun about the Great War. ("Honey" Draws the Line," The Anode, June 1918.)]

ed amusing cartoons for the company, many of which showcased unsafe and safe mining behaviors.⁶¹

Safety on Film

In Butte, using entertainment to sell safety went beyond the pages of *The Anode*. Starting in the 1916, Anaconda created Safety-First Motion Pictures, regarded by the company's Bureau of Safety as an important "supplement" to *The Anode*. The first twelve-reel film interspersed safety slogans throughout footage of the proper ways to perform mining, smelter-work, and wire-making.

These expensive films not only served as a tool for employee training, the company used them for community entertainment. Local theaters provided free screenings so that mining families could learn more about the industry and be delighted by films that featured familiar faces and places. The films were so unusual and popular with "the mining public" that other companies around the country requested loans, while the U.S. Bureau of Mines asked for its own copies.⁶² Taking into consideration Anaconda's promotional activities in film and print, H. J. Rahelly, of the U.S. Bureau of Mines, proclaimed "Anaconda is leading in the 'safety-first' propaganda."⁶³

Anaconda was among the first companies to fund this kind of film, joining corporations like U.S. Steel—whose 1913 *An American in the Making* jointly promoted industrial safety and immigrant citizenship—and the Brooklyn Rapid Transit Company—whose *The Cost of Carelessness* from the same year taught safe behaviors around electric trolley cars. By the 1920s, Kodak's development of non-flammable 16mm film triggered an explosion in industrial filmmaking, as it made such films cheaper to produce, easier to transport, and safer to show. The U.S. Bureau of Mines followed its early cooperation with Anaconda by coordinating with other firms and trade associations to produce films about mining and milling practices. Just as they did for Anaconda, the twin goals of education and entertainment became central to the emergent industrial film enterprise.⁶⁴

Assessing *The Anode*

Beyond entertainment, another reason to pay attention to these safety materials is their honesty. Recent research argues that the Anaconda Company received little critical press coverage of any sort, not to mention any realistic coverage of mining's dangers. Journalism professor Denis Swibold's book *Copper Chorus* is the best example of this scholarship, as it describes Montana's newspapers as a "captive press," held prisoner by the "copper collar." It is true that Anaconda owned all but one of the state's major newspapers and that news about mine accidents seldom gained notice in the regional press.⁶⁵

However, the company's own publication, *The Anode*, actually provided locals with detailed data about mining accidents. Even when the numbers were not particularly flattering, the company would still publish the rate of accidents per shift. The August 1918 issue, for instance, described each fatality that month—whether from a blast, falling ground, or a cage—as well as the number of additional accidents. One goal

of this public, conspicuous display was likely shame—each injury count included the name of the foreman and assistant foremen overseeing that mine.

Another common feature in the newsletters was a “Food for Thought” column, which featured longer descriptions of recent accidents in the Butte Mines so that others could avoid them.⁶⁶ In its efforts to communicate risks, *The Anode* also devoted articles to analyzing accident data. An October 1935 article, for instance, summarized all of the major causes of mining accidents in Butte’s mines over a five-year period, showing that falling ground was the worst, as it caused 30 percent of all injuries.⁶⁷

That is not to say that Anaconda was completely honest with its readers. A number of articles in *The Anode* claimed the company had dramatically improved mining methods and equipment, partly as a way to downplay its role in ongoing injury issues. One article claimed that the sophistication of the company’s new first aid methods had changed dramatically from the old days, when miners supposedly either drank the alcohol coming off of the first-aid iodine or consumed ammonia as a hangover remedy.⁶⁸ Other articles continued an older, long-standing tradition amongst management by encouraging what one 1935 article called the noble and intelligent choice to take “Individual Responsibility for Injury” and not bother the company with claims.⁶⁹

Many types of mining hazards are also glaringly absent from *The Anode*. Long-term health hazards, like the dust that caused silicosis, do not appear, nor do most equipment-related hazards, perhaps because both types of problems could be more firmly labeled company responsibilities than the unsafe behaviors dominating *The Anode*’s pages.

However, it is still striking just how open this publication was about the continued dangers of



*The Anode featured a few cartoons.
(The Anode, 15 January 1936.)*

mining. There was initially some dissension in the mining press about how Anaconda tabulated its injuries, but the company at least adopted a standard report and always noted its successes and failures.⁷⁰ Although *The Anode* was a publication meant mostly for workers, it circulated widely, with many of its articles clearly written

2

THE ANODE

January, 1939

METAL MINING DEPARTMENT

Metal and Serious Injuries for the Three Months, September,
October, and November, 1938, Inclusive.

(Excluding men for more than 14 days.)

No. of Men	NAME	FOREMAN	No. of Inj.	ASSISTANT FOREMAN	No. of Inj.	TOTAL SHIFT WORKERS	No. of Inj.
1	East Ore.....	WILL LEBLANC (Asst.)	0			3,140.50	0.0
2	East Ore (Killer's)	Thomas Hite (Asst.)	0			3,080.75	0.0
3	Orphan Hill.....	A. C. Bishop	0			3,348.00	0.0
4	West Mayfield	Norman Thomas	0			3,344.25	0.0
5	Phosphate (Col. 300)	W. H. Traeger	0			3,710.50	0.0
6	Phosphate	Harvey Hogan	0			3,680.25	0.0
7	Tramway	E. Leland	0			3,447.00	0.0
8	West House	A. H. Sims	0			2,475.00	0.0
9	Original	George McGrath (Asst.)	0			3,375.00	0.0
10	Boys			A. C. Bishop	0	3,118.75	0.0
11	Mr. View	H. R. Calvert	0			720.00	0.0
12	Asphalt	L. Smith	0	E. Corbin J. Williams W. Myers J. Haddock E. Smith	0 0 1 2 3	3,400.00	1.75
13	St. Lawrence	Mark James	0	L. Smith	0	3,140.00	0.54
14	Hacker Hill	John Eubanks	1			3,056.50	0.10
15	Lawrence	Harvey Haggan	10	H. Berke J. Davis R. Smith C. W. Lee T. O'Leary	0 2 2 2 3	30,228.00	4.305
16	Mt. Ore	W. L. Edmund Jr.	15	J. Smith H. Neely H. Sato R. Tolia S. Gray H. Russell J. Ryan	0 0 1 1 0 0 3	7,721.15	0.550
17	Stewart	H. H. Parnell	11	W. Green H. Green S. Green C. Edstrom F. Thompson H. Green	0 1 2 2 2 0	37,380.20	1.658
18	Holmes	Walter Brown	30	J. Ryan W. Green H. Green C. Edstrom F. Thompson T. Harris	0 0 0 0 0 0	68,801.00	4.757
19	Asphalt	John Davis (Asst.)	2			3,007.25	0.179
20	Mineral		0			1,768.00	0.0
	TOTAL MINES		81			190,371.50	8.280

Note: There are two fatalities included in the above totals due to men falling in chutes.

Want of wit is worse than want of wealth, so if you're short of wit, give your tongue more holidays than your head.

You can't have faith in the future until you get rid of fear of the past.

Each issue of The Anode provided a list of fatal and serious injuries since the last publication. It gave the name of both the foreman and, eventually, the assistant foremen responsible for each mine or shop as a way for the company to hold employees responsible for allowing dangerous practices. ("Metal Mining Department," The Anode, 15 January 1939.)

for a general readership.

Improved Safety at Anaconda

The Anode ceased publication in 1942, replaced by a bi-weekly, World War II-focused, labor-management publication called *Copper Commando*; yet, its competition, community engagement, and entertainment left a legacy.⁷¹ It is hard to know what company tactics were most successful, but Butte's underground became safer over this period. Annual fatalities, which had reached a high of 229 in 1917, dropped to 43 by 1926. The injury rate in Montana that year was higher than in either Michigan's or Arizona's copper mines, suggesting that Anaconda was not leading the safety trend, but the numbers still showed notable improvement.⁷²

The 1930s and 1940s proved even safer for Butte miners, reaching a low point of 22 annual deaths, and a lost-time accident rate in 1941 of 4.77 per 10,000 shifts, half that of two decades earlier. That year, the U.S. Bureau of Mines recorded that Montana's mining injury rate sat slightly higher than the low rate of other major copper-producing states, like Utah and Arizona, but lower than other mining areas, like Nevada and Idaho. Butte's mines were thus following good trends across the industry.⁷³

Successes were partly technological in Butte and elsewhere. From the 1910s to the 1940s, Anaconda introduced into the mining process hard hats, carbide and then battery-powered lights, improved drilling and blasting techniques, ventilation fans, and slushers and loading machines; yet, first-aid practices, improved mine rescue procedures, and greater cooperation with safety engineers also meant gains.⁷⁴ Reflecting on his mid-century work, Anaconda's chief engineer in charge of safety proudly noted that Butte had gone from the district with the most recorded underground mine fires to a place that saw few deadly accidents.⁷⁵ In 1940, another safety engineer claimed that increased safety and

conveniences had turned the job into "department store mining."⁷⁶

Certainly the underground still offered plenty of danger. Dan Aguilar, a miner who put in fifteen years long after "department store mining" had come into vogue, insisted, "I was lucky I survived."⁷⁷ Nor did the silicosis problem go away. Defeating ballot initiatives and unfavorable legislation, Anaconda ensured for decades that the state workers' compensation program would not cover silicosis.⁷⁸ However, there was enough success to suggest that *The Anode* and Anaconda's other safety strategies were helpful.

Indeed, large metal-mining companies like Anaconda became leaders in organized safety work. In 1910, when the U.S. Bureau of Mines began collecting data on fatalities, copper mining showed a slightly higher fatality rate (2.15 per one million man hours) than coal (2 per one million man hours). During the rest of the 1910s, the two forms remained equal, but during the 1920s coal fatality rates rose slightly, while copper fatalities fell dramatically, hitting about 0.9 fatalities for every one million man hours by 1939.⁷⁹

Mark Aldrich argues that increasing use of the less dangerous, more efficient method of open-pit mining accounts for only a small percentage of this marked increase in safety. His figures show organized safety work to instead be the primary reason for a fatality rate decline of about 44 percent. That companies like Anaconda, Kennecott, and Phelps Dodge dominated the business meant that better mine layout, thorough supervision, promotional materials, and standardized operating procedures could have dramatic benefits across the copper industry in a way they did not for a more divided coal industry.⁸⁰

The Safety-First campaign in Butte also achieved additional company goals. Like other forms of welfare capitalism, tactics like the Miners' Field Day, the First-Aid Society, entertaining films, and even amusing jokes likely improved

the Anaconda Company's standing in the community. Meanwhile, incentive programs, safety rules, and accident charts placed engineers and management more in control of mine practices. Because of *The Anode* and related safety promotions, Anaconda's managers and engineers gained more oversight over an increasingly safe underground.

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Notes:

1. Daniel Harrington, "Lessons from the Granite Mountain Shaft Fire, Butte," *Bureau of Mines Bulletin* 188 (Washington, D.C.: USGPO, 1922); Michael Punke, *Fire and Brimstone: The North Butte Mining Disaster of 1917* (New York: Hyperion, 2006); Clemens P. Work, *Darkest Before Dawn: Sedition and Free Speech in the American West* (Albuquerque: University of New Mexico Press, 2005); David M. Emmons, *The Butte Irish: Class and Ethnicity in an American Mining Town, 1875-1925* (Urbana: University of Illinois Press, 1989), 255-91, 340-97; Dennis L. Swibold, *Copper Chorus: Mining, Politics, and the Montana Press, 1889-1959* (Helena: Montana Historical Society Press, 2006), 195-9.
2. In the 1930s, injuries from handling tools and materials were almost as common as the leading cause of injury, falling rock. Each caused between 20 and 30 percent of injuries each year. Ore cars, trains, and motors offered the third most likely cause of injury. See: "The Three Greatest Causes of Accidents in Mines," *The Anode*, Oct. 1935, 1-2. On injuries from falling rock, see: George Vidrich, interview by Brian Leech, 2 Aug. 2010, Butte, MT, transcript and digital recording, Oral History Collection (hereafter OHC), Butte-Silver Bow Public Archives (hereafter BSBPA).
3. "She's Talking to You," *The Anode*, 15 Apr. 1936, 7.
4. Clarence Adami Wendel, "Mining in Butte 40 Years Ago," *Montana: The Magazine of Western History* 31, no. 3 (Sum. 1981): 60-6, quote on 60. See also: John Mihelich, "The Richest Hill on Earth: An Ethnographic Account of Industrial Capitalism, Religion, and Community" (Ph.D. diss., Washington State University, 1999), 118-27; Matthew Basso and William Allen Burke, "Another Look at Burke's Butte: The Great Depression and William Allen Burke's 'Greenhorn Miner,'" *Montana: The Magazine of Western History* 56, no. 4 (Win. 2006): 18-31, 97-8.
5. Daniel Harrington and A. J. Lanza, "Miners' Consumption in the Mines of Butte, Montana," *U.S. Bureau of Mines Technical Paper No. 260* (Washington, D.C.: USGPO, 1921), 10-2. On the emergence of silicosis as an industrial disease, see: David Rosner and Gerald Markowitz, *Deadly Dust: Silicosis and the On-Going Struggle to Protect Workers' Health*, rev. ed. (Ann Arbor: University of Michigan Press, 2006).
6. During this period, the company was primarily known as the Anaconda Copper Mining Company, but it was also called the Amalgamated Copper Mining Company until 1915 and became just the Anaconda Company later. I will primarily refer to it simply as the Anaconda Company or just "Anaconda" in this article. See: John Connors, interview by Laurie Mercier, 9 Dec. 1982, Butte, MT, transcript; Jim Carden, interview by Joe McCarthy, 7 Apr. 2001, Butte, MT, partial transcript and notes; both OHC, BSBPA.
7. Brian Shovers, "The Perils of Working in the Butte Underground: Industrial Fatalities in the Copper Mines, 1880-1920," *Montana: The Magazine of Western History* (Spr. 1987): 26-39.
8. Joyce Coupal, interview by John Terreo, 3 Apr. 1990, Noxon, MT, tapes and transcript, OHC, BSBPA.
9. Dianne Bennett and William Graebner, "Safety First: Slogan and Symbol of the Industrial Safety Movement," *Journal of the Illinois State Historical Society* 68 (June 1975): 243-56; Mark Aldrich, *Safety First: Technology, Labor, and Business in the Building of American Work Safety, 1870-1939* (Baltimore: Johns Hopkins University Press, 1997), 91-4.
10. Jeffrey B. Cook, "The Ambassador of Development: Aretas Brooks Fleming, West Virginia's Entrepreneur, 1839-1923," (Ph.D. diss., University of West Virginia, 1998), 112-3, 300.
11. Mark Aldrich, "The Perils of Mining Anthracite: Regulation, Technology, and Safety, 1870-1945," *Pennsylvania History* 64, no. 3 (June 1997): 361-83; Mark Aldrich, "Preventing 'the Needleless Peril of the Coal Mine': The Bureau of Mines and the Campaign against Mine Explosions," *Technology and Culture* 36, no. 3 (June 1995): 483-518.
12. Harold W. Aurand, "Mine Safety and Social Control in the Anthracite Industry," *Pennsylvania History* 52, no. 4 (1985): 227-41; Eric Nystrom, "Underground Photography and American Mining before 1920," *Mining History Journal* 17 (2010): 103-25.

13. "Safety-First in Japan," *The Anode*, June 1918, 2.
14. State of Montana, *First Biennial Report of the Department of Labor and Industry 1913-1914* (Helena, MT: Independent Publishing, 1914), 43-4. On workman's compensation as a movement see: John Fabian Witt, *The Accidental Republic: Crippled Workingmen, Destitute Widows, and the Remaking of American Law* (Cambridge, MA: Harvard University Press, 2004).
15. On the traditional way of viewing mine accidents and other work injuries as either inevitable or as the fault solely of each individual, see: Larry D. Lankton, "Died in the Mines," *Michigan History* 67, no. 6 (1983): 33-41; Brian Lee Shovers, "Miners, Managers, and Machines: Industrial Accidents and Occupational Disease in the Butte Underground, 1880-1920" (M.A. thesis, Montana State University, 1987), 100-5; Aldrich, *Safety First*, 248; "Watch Your Step," *The Anode*, 15 Apr. 1938, 12.
16. Boardman later succeeded Goodale as chairman of the bureau. C. W. Goodale and John L. Boardman, "Bureau of Safety of Anaconda Copper Mining Company," *AIME Transactions* 68 (1922): 8-32.
17. *The Anode* focused on Butte's mines, with some references to the smelter in the town of Anaconda and no material on the Anaconda Company's large lumber operation in Montana. Publication numbers come from: Dan Harrington, "Accident Prevention in the Mines of Butte, Montana," U.S. Bureau of Mines *Technical Paper* 229 (Washington, D.C.: USGPO, 1920), 5.
18. "The Anode in Retrospection," *The Anode*, Jan. 1935, 1.
19. Quote is in: John L. Boardman, "First-Aid for Cuts and Bleeding," *The Anode*, Sep. 1918, 2. On workers' resistance to safety campaigns and advertising's influence on Safety First, see: Larry Lankton, *Cradle to Grave: Life, Work, and Death in Michigan Copper Mines* (New York: Oxford University Press, 1991), 141; Aldrich, *Safety First*, 136-7; "Advertising the Danger Sign," *The Anode*, April 1919, 1.
20. Earl A. Baker, "A Clear Track for the Motor," *The Anode*, Jan. 1918, 8.
21. "Startling Effects of Industrial Accidents," *The Anode*, Dec. 1918, 1-2. See also: "First-Aid," Apr. 1918, 6-7; A. A. Barton, "Handling Explosives," Jan. 1919, 1-2; "Army Gas Masks," May 1919, 1-2; "Avoidable Accidents," Apr. 1933, 4-5; "Butte Mines Adopt Modern Equipment," Apr. 1934, 1-2; "Bunch Blasting in Butte Mines," Apr. 1934, 9; "The Safe Use of Explosives," 15 Oct. 1936, 15; "Protective Shoes," 15 Jan. 1937, 5; "Safe Handling of Explosives," 5 Jan. 1937, 15; "More About Feet," Oct. 1937, 13; all in *The Anode*.
22. Examples are in: "Bad Practice/The Result," May 1918, 4-5; "Bad Practice/The Result," June 1918, 4-5; "Bad Practice/The Result," Aug. 1918, 4-5; "Bad Practice/The Result," Dec. 1918, 4-5; all in *The Anode*. See also: Harrington, "Accident Prevention," 29-31. On the use of photographs in mine safety campaigns, see: Nystrom, "Underground Photography." On the ways in which mining maps and models, like photographs, allowed engineers to better understand and hence gain more control over the underground, see: Eric C. Nystrom, *Seeing Underground: Maps, Models, and Mining Engineering in America* (Reno: University of Nevada Press, 2014).
23. "She's Talking to You," 7.
24. Harrington, "Accident Prevention," 31; "Contributions," *The Anode*, June 1918, 7.
25. Frank Cole, "Riding the Cage," *The Anode*, Dec. 1918, 2. See also: Ernest McLaughlin, "Safety-First and Neatness Go Hand-In-Hand," May 1918, 2; Walter R. Russert, "Bar Down before Timbering," July 1935, 11; both in *The Anode*.
26. *The Anode*, Mar. 1917, 1.
27. For examples, see: "Honor Roll," Apr. 1934, 9; "Honor Roll," 15 July 1939, 9; in *The Anode*.
28. Shovers, "Miners, Managers, and Machines," 97.
29. Harrington, "Accident Prevention," 11-3.
30. "The Safest Crew in Butte," Oct. 1933, 8-9; "The Safest Crew in Butte," July 1939, 8; in *The Anode*.
31. "Winners of the Third and Fourth Quarters Safety Prize Drawing," Jan. 1942; "Butte Mines Safety Prize Winners for the Second Quarter of 1941," Oct. 1941, 11; in *The Anode*.
32. "The C. F. Kelley Award," July 1940, 1; "The C. F. Kelley Safety Award," Jan. 1941, 6-7; "Salt Lake Division Wins Kelley Award," Apr. 1941, 1-2; "Cananea Consolidated Division Wins Kelley Award," Apr. 1942, 1; all in *The Anode*.
33. Aldrich, *Safety First*, 140-2.
34. Shovers, "Miners, Managers, and Machines," 98.
35. John L. Boardman, "Field Day and the Reason," *The Anode*, Aug. 1918, 1.
36. John L. Boardman, "Montana First-Aid Meet," *Coal Age* 8, no. 10 (4 Sep. 1915): 392; Goodale and Boardman, "Bureau of Safety," 8-32.
37. Goodale and Boardman, "Bureau of Safety," 8-32.
38. Punke, *Fire and Brimstone*, 202-25; Work, *Darkest Before Dawn*, 60-106; Jerry W. Calvert, *The Gibraltar: Socialism and Labor in Butte, Montana, 1895-1920* (Helena: Montana Historical Society Press, 1988); Emmons, *Butte Irish*, 340-97.
39. On the use of welfare capitalism to demonstrate corporate generosity and discourage labor unrest, see: Andrea Tone, *The Business of Benevolence: Industrial Paternalism in Progressive America* (Ithaca: Cornell University Press, 1997); Sanford M. Jacoby, *Modern Manors: Welfare Capitalism since the New Deal* (Princeton: Princeton University Press, 1998). Suggestions that Field Day was one of many attempts by the company to improve labor relations are in "The Commissioner of Labor," *The Anode*, Mar. 1918, 1.
40. John L. Boardman, "Field Day and the Reason," Aug. 1918, 1; "Miners' Safety-First Field Day," June 1918,

- 6-7; "Field Day," July 1918, 1-3; all in *The Anode*.
41. "First Aid Contest in Butte," 15 July 1936, 10-1; "Butte First Aid Contest," 15 July 1937, 1-2; "Butte Mines First-Aid News," 15 July 1941, 1; all in *The Anode*. See also: Goodale and Boardman, "Bureau of Safety," 8-32.
 42. "Miners' Safety-First Field Day," *The Anode*, June 1918, 7.
 43. Aldrich, *Safety First*, 222-3.
 44. Joe Plasky, "Worth Their Weight in Gold: Recalling Red Jacket Safety Day," *Goldenseal* 33, no. 2 (2007): 38-45.
 45. "The First-Aid Society" and "First-Aid Smoker," Jan. 1918, 7; "First-Aid Society," Mar. 1918, 7; John L. Boardman, "Some Real First-Aid," *The Anode*, Sep. 1919, 8; all in *The Anode*.
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 47. "Prevent Forest Fires," July 1933, 3; "Our Accident Prevention Efforts," July 1942, 13; "Are You Safe at Home?" Oct. 1941, 13; C. F. Stanley, "Fire Prevention," Oct. 1941, 5; "Autos More Deadly Than Disease," July 1933, 5; "Skating and Sliding" and "Silk and Gasoline," Oct. 1933, 2-3; "The Danger That Never Sleeps," Jan. 1918, 12; R. B. Kelly, "The Hazard of the Highway," Apr. 1935, 3; "Montana Highway Patrol Law," Apr. 1935, 12-3; "Accident Facts," July 1935, 1-2; "Carbon Monoxide," 15 Oct. 1936, 16; all in *The Anode*.
 48. "Soccer Football," Nov. 1918, 11; "Soccer Football," Jan. 1918, 2; "Personals," July 1933, 2; "Great Falls Plant," Oct. 1933, 13; "The Butte Anglers Club," Apr. 1934, 3-5; R. B. Kelly, "Anaconda Plant News," Jan. 1935, 10-1; R. B. Kelly, "Anaconda Smelter Notes," Oct. 1935, 14-5; "Great Falls Plant News," 15 Oct. 1937, 3; all in *The Anode*.
 49. "The Outlook," July 1933, 1-2; E. B. Young, "From Ore to Metal: Secrets of the Rocks," Sep. 1919, 1-2; "A Vision for Copper," Jan. 1933, 1-2; "The Contribution Which Copper Makes to Humanity," Jan. 1937, 12-4; all in *The Anode*.
 50. Untitled, June 1915, 8; "The Day of Discipline," Apr. 1918, 1-2; "Americanization," May 1918, 1; "Safety First and Patriotism," May 1918, 11; "Americanization," June 1918, 9; "The Loss of Time Caused by Accidents," Sep. 1918, 3; "A Good Citizen," Dec. 1918, 8; all in *The Anode*.
 51. "Preventable Accident is No. 1 Fifth Column," "General Somervell Tells of Production Miracles," and "Accidents Help the Axis," 15 July 1942, 2-16; "A Sensible View of the War," 15 Apr. 1942, 16; "We Line Up for War," 15 Jan. 1942, 1-2; "Labor's Right to Strike," Apr. 1941, 6-7; "Our Mines Accident Rate," Apr. 1941, 11; all in *The Anode*.
 52. Howard W. Estey, "Remorse," *The Anode*, Aug. 1918, 8-9.
 53. D. S. Beyer, "Safety Last," *The Anode*, Sep. 1919, 4.
 54. "The Other Fellow Is Crazy," *The Anode*, 15 July 1940, 2. Other examples include: S. A. Coburn, "A Thought of Safety," *The Anode*, Jan. 1918, 9.
 55. "A Little Speed, Please," *The Anode*, Apr. 1934, 2. See also: "Dad's Excuses Were Poor," Apr. 1918, 7; "A Bellhop," Sep. 1918, 3; "Little Willie," Jan. 1934, 13; "Not One of His Daily Dozen" and "Some Job," Jan. 1935, 11; "Try This Pill," July 1933, 3; all in *The Anode*.
 56. "You've Sure [*sic*]," *The Anode*, 15 Jan. 1941, 11.
 57. "A Negress," *The Anode*, Apr. 1941, 7. See also: "Many Feel," Jan. 1918, 9; "The Bright Side," Dec. 1918, 7; "Offisher [*sic*]," July 1933, 15; "Rastus," Jan. 1939, 3; "Reproachfully," 15 Apr. 1940, 14; all in *The Anode*.
 58. "The Scotch of It," Dec. 1918, 8; "Man Dauvit," Apr. 1918, 12; "Lighter Load," July 1939, 12; "Name?" Jan. 1940, 3; all in *The Anode*.
 59. "Correct," *The Anode*, Apr. 1941, 11. See also: "Indirect Taxation," Apr. 1918, 2; "An Insult," Jan. 1933, 15; "When the Cork Pops," Oct. 1933, 2; "The Awakening," Oct. 1933, 12; "Love at a Price," Jan. 1934, 13; "The Doctor," Apr. 1936, 14; "Nipper," Apr. 1937, 13; "A Cop Says," Oct. 1937, 15; all in *The Anode*.
 60. "Magistrate," *The Anode*, Oct. 1936, 14.
 61. Steve Voynick, "Ted Mullings: The Art of Mining," *Colorado Central Magazine*, June 2000, <http://cozine.com/2000-june/ted-mullings-the-art-of-mining/>, accessed 15 June 2016.
 62. Quotes in Goodale and Boardman, "Bureau of Safety," 8-12. See also: *The Anode*, November 1915, 3; Harrington, "Accident Prevention," 31; Shovers, "Miners, Managers, and Machines," 98.
 63. "Anaconda in the Movies," *Engineering and Mining Journal* 102, no. 15 (7 Oct. 1916): 685.
 64. Director/Photographer Carl L. Gregory, *An American in the Making* (United States Steel Corporation/Thanhouser Film Corporation, 1913); writer Eugene C. Clarke, *The Cost of Carelessness* (Brooklyn Rapid Transit Company and the Brooklyn Institution for Safety/Universal Film Manufacturing Company, 1913); both in: National Film Preservation Foundation, *Treasures III: Social Issues in American Film*, 2007, DVD. See also: Julius Klein, "What Are Motion Pictures Doing for Industry?" *Annals of the American Academy of Political and Social Science* 128 (Nov. 1926): 79-83; Anthony Slide, *Before Video: A History of the Non-Theatrical Film* (New York: Greenwood Press, 1992), 9; Brian Oakes, "Building Films for Business: Jamison Handy and the Industrial Animation of the Jam Handy Organization," *Film History* 22, no. 1 (2010): 95-107; Dan Streible, Martina Roepke, and Anke Mebold, "Introduction: Nontheatrical Film," *Film History* 19, no. 4 (2007): 339-43.

65. Swibold, *Copper Chorus*, 262-3.
66. Among many examples, see: "Metal Mining Department," Aug. 1918, 7; "Metal Mining Department," Oct. 1933, 3; "Food for Thought," Mar. 1918, 7; "Food for Thought," Aug. 1918, 9; all in *The Anode*. See even longer discussions of fatal accidents in: "Lessons to Be Learned from Fatal Accidents in 1937," *The Anode*, Jan. 1938, 1.
67. "The Three Greatest Causes of Accidents in Mines," *The Anode*, Oct. 1935, 1-2.
68. "C. P. Anderson, "Mining—Then and Now," 15 Oct. 1940, 5; "Butte Mines Adopt Modern Equipment," Apr. 1934, 1; both in *The Anode*.
69. "Individual Responsibility for Injury," *The Anode*, Apr. 1935, 1. See also: "Motormen and Swampers' Responsibility for Accidental Injuries," *The Anode*, Oct. 1935, 12.
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