

IDAHO STATE HISTORICAL SOCIETY

REFERENCE SERIES

THUNDER MOUNTAIN

Number 20

January 1966

Thunder Mountain received its name from the Caswell brothers (who prospected the district from 1894 on) at least as early as 1897 when the story of their find became known. The derivation of the term is uncertain. But a most reasonable explanation of the name is that when storms hit the region, Rainbow Peak (the high point in the area) attracts a good deal of lightning, and Thunder Mountain (a low, inconspicuous projection across the canyon) acts as an excellent sounding board; the ground does not actually tremble, but the thunder is so loud that it seems to; on that account, Thunder Mountain is aptly named, regardless of whether this is the actual explanation. There are numerous such thunder mountains in the Salmon river mountains, and possibly the name was applied earlier to others as well.

Slides of process gravel worth less than twenty-five cents a pan in 1867. While on a trip to Buffalo Hump in 1899, Poe returned to Thunder Mountain only to find that his old discovery had been taken up during an early phase of mining development there. Poe was fortunate not to get too involved in Thunder Mountain lode properties, although some of his unpromising 1899 claims there were later relocated and sold to Pittsburgh investors.

Although Poe could make no use of an almost inaccessible gold lode at Thunder Mountain in 1867, mining conditions improved in three decades. Ben and Lou Caswell-twin brothers from Michigan who had learned something about prospecting in Colorado--had searched for Seven Devils mineral wealth with no success at all in 1894. During the Panic of 1893, gold mining was favored over copper, and they decided to hunt for gold in as remote a wilderness as they could find. By then they were broke. The way Ben reported it, all they "had was a bunch of scrawney cayuses-- in fact they represented about our only possessions when we went into the Seven Devils, so we can't say we lost anything there. Finding some good surface indications on Thunder Mountain in August of 1894, they settled on Cabin Creek, trapped and hunted for a living, and came back the next two summers to use rockers during short two-week seasons when placering was practical. They recovered \$245 worth of gold in eight days in 1895 and another \$190 in 1896. In 1896 they spent most of their time whipsawing lumber for sluices, so as to increase future production. Then

their brother Dan and his partner, Wesley Ritchie, came over from Montana to join them in producing \$900 in 1897 with sluices. Encouraged with this success, Ben and Lou came out to Boise, August 10th, with a remarkable story:

That there are Klondikes yet hidden from the knowledge of men in the wilds of the Idaho mountains was demonstrated yesterday when the discoveries of A. B. and L. G. Caswell in the Salmon river country became known.

These men came into town with a large clean-up of gold. When asked about their discovery they stated they mined the gold on what they called Mule creek, which heads in a mountain which they have named Thunder mountain. Mule creek flows into Monumental creek, this into Big creek and Big creek into the Middle fork of the Salmon.

The brothers discovered the claims some four years ago. The first three seasons they made expenses and this year they have secured a fine clean-up they expressed the belief that the district will make a good camp; and from their report of the character of the discovery would seem to be well founded.

They have been placer mining the surface of lode claims, working the debris on the mountain side. The entire mountain, they say, is gold-bearing and the gold they have been getting has been released by the decomposition of the formation over which it is found.

This remarkable mountain is porphyry. The prospectors describe it as being a great volcanic crater which has been filled with the gold-bearing rock. The gold is found everywhere on the mountain.

The brothers have prospected the ground very thoroughly and say they have pounded up fully a ton of the porphyry. It all pans well. In addition they have had a number of assay tests. The result of their investigations is such as to convince them that the mountain is an enormously valuable deposit of gold. They do not claim the rock is high grade, but they are well satisfied with its value. They did not care to state what the average value of the rock is as determined by their investigations.

Their mountain of gold, even though low grade in value, contained more high grade pay streaks than they noticed at first.

Yet their massive appearing gold deposit had geological characteristics not typical of ordinary mines. They were dealing with an unstable formation which confused more than a handful of competent mining engineers.

Slides of soft, disintegrated rhyolite which absorbs water

in a wet year and begins to roll silently along slick faults, have occurred frequently on Thunder Mountain. (One in 1909 which plugged Monumental Creek and flooded the town of Roosevelt was the most recent of many in the area.) These slides are of some commercial importance, since they contain important gold resources. Prospectors and miners dug around in the mud flows, since gold was precipitated rather widely in them. Some remineralized mud flows had especially rich surface gold deposits. Gold, in fact, had even precipitated on old (thousand of years old, that is) wood chips which acted as a reducing agent. Prospectors got the notion that Thunder Mountain (or at least the rhyolite mud slides on it) was a mountain of gold; there was enough solidification of mud slides from the action of silicic acid as to give some essentially placer deposits an appearance of soft rock which might be worked by quartz methods.

The gold (already precipitated by carbon through a process much like that of a ball mill) was easily recoverable, and the enriched surface concentration of hillside mud placers gave an entirely false impression of the extent and richness of the district. Early in Thunder Mountain's phase of mineral development, some less scrupulous promoters contributed even more in the way of artificially brilliant gold assays. Salting of samples ("salting" is enriching a sample by slipping some already mined gold into the test before assaying) was more than ordinarily common there: John Oberbillig, for example, assayed in there in 1904 and caught some of his clients salting their samples so thoroughly that even barren bull quartz would go \$20 to the ton. Yet surface enrichment in their initial claims gave Ben and Lou Caswell good enough returns they had no need to resort to fraud. They were not trying to peddle their claims, since they were gaining handsome returns for a very short mining season each spring when melting snow provided water for a few days high on Thunder Mountain. They had no way of anticipating that their mountain of gold actually was a mountain with a gold skin. Before this unusual deposition of gold could be evaluated accurately, however, they got involved in one of Idaho's wildest mining developments.

Returning to their Cabin Creek ranch, Ben and Lou Caswell prepared for an enlarged operation in 1898. Reinforced by Dan Caswell and his Montana partner, they obtained about \$3,00 in their two-week season, and managed \$4,000 during a similar run with a small hydraulic giant in 1899. Because they could sluice only a short time while melting snow provided water up on Thunder Mountain, they could manage only brief annual seasons. They received publicity sufficient to attract a number of prospectors in 1899. That fall, S. W. Emerson reported in Grangeville that:

The ledges are composed of talc throughout which are found kidneys of sulphide ore that goes \$3600 tr [sic] the ton. The talc is dug out and allowed to

slack one year and is then run through sluices which virtually make a placer mine of a quartz proposition. The tailings after slacking from ten to twelve months are put through the sluices, giving good return for the labor expended. In fact the tailings sluiced the third time will pay expenses. A stamp mill would save all the values, it being strictly a free milling ore.

H. E. Taylor, impressed by geological similarity between Thunder Mountain and Colorado Cripple Creek District, where he was an experienced mining engineer, concurred. With a Caswell recovery of thirty pounds of gold in only forty-two hours of operation of a small giant in 1899, he anticipated that with "immense richness" and "phenomenal surface showings," Thunder Mountain was "destined to be the leading gold camp in Idaho." Efforts to interest substantial investors proved more difficult, however. Taylor organized a Thunder Mountain Consolidated Gold Mines Company with Weiser capital. His plans to bring in a twenty-five ton Huntington mill in 1900 proved to exceed his investors' resources, so his venture collapsed.

A search for wealthy mine owners eventually produced better results. J. R. DeLamar, who had gained a fortune in developing large scale mining near Silver City had Thunder Mountain checked out by engineers prudent enough to keep him from going into a losing Thunder Mountain proposition. W. H. Dewey, another large Silver City operator, was less fortunate. His son, E. H. Dewey, had excessive confidence in Thunder Mountain. In 1900, after seeing a \$500 short run Caswell production, W. H. Dewey agreed to purchase their property for \$100,000 if a full investigation should warrant such an investment. Dan Caswell certainly had a good operational report:

In a run of 72 hours this season, with hydraulic power, they took out 29 pounds of gold, avoirdupois weight. The gold is worth \$13 an ounce. The 29 pounds was worth between \$5000 and \$8000. They worked this year an area of 75 feet square and to a depth of three feet. These places are nothing more nor less than a huge porphyry belt. The material is dug out and slacks, after which it is washed. Below a depth of three feet it is too hard to work by this method, but carries as much gold as from the surface to that depth.

The extent of this auriferous porphyry is not known, but the whole mountain appears to be porphyry. Three tons were crushed in a mill at Warren to test the value. The three tons yielded \$31.10, or that is the amount that was taken from the plates. The battery was not cleaned. A big mill will some day be put up on Thunder Mountain which will in a not very distant day no doubt be one of the greatest camps in the state.

Citizens of Boise are now talking of constructing a wagon road to Thunder Mountain. The cost will be about \$15,000. The Caswell Brothers have a team and expect to drive as far as Penn basin, 25 miles from Thunder mountain. The route is by way of Bear valley, where they leave the state road. From there to Penn basin there is almost a natural road.

But, aside from a passable road through Penn Basin, more was needed than some small, yet profitable, surface placering of an outcrop which could not be identified as a vein. They had a rhyolite cliff with values exposed to a depth of 200 feet along a length of 500 feet. This whole surface ran an average of \$14 a ton. The face of this cliff that will not pan, and yields of fifty cents to one dollar to the pan are quite frequent." Volcanic basalt and other intrusions made for complicated geology there. Yet L'Hame noticed that "Mineralogically and structurally it is strongly suggestive of the famous Cripple Creek region of Colorado." Because recovery so far at Thunder Mountain has not exceeded half of what gold was processed, L'Hame foresaw a truly bright future.

So did W. H. Dewey.

He immediately put men to work developing them and several tunnels were run a distance of eighty-four feet and the ore take out went \$13.50 to the ton. In another much shorter tunnel the ore went \$8 to the ton.

Up to this time, not including that taken from the tunnels, 460,000 tons of ore has been broken. Mr. Reed, an experienced miner, who has been at work in these mines, has reported that he fully expected to find a sixty foot vein.

Colonel Dewey has order two mills from Chicago, one of which will be here by the 10th of June. One is a 10 stamp mill, which will crush from 50 to 70 tons in a day, the other is a 100 stamp mill and will crush from 500 to 700 tons of ore. The wagon road at present only goes to within 50 miles of the mines and will not be built in this year, as it is thought everything needed can be packed in. The colonel thinks he now has without exception the best mines in the United States and he is going to push the work of development, and it will not astonish anyone who knows anything about this region if the greatest gold discovery of the age is made here.

Impressed with these results of his investigation in 1900, and with Thomas C. Reed's report in June of 1901, he [Dewey] decided to go ahead with his purchase. Reed had shown Thunder Mountain to F. J. Conroy of Pittsburgh, who

brought out 100 samples for assay. Each represents 100 pounds of ore, carefully sampled. Each 100 pounds was crushed, mixed and quartered. The samples were taken from the tunnel, cross-cuts, croppings, and slides. Samples were taken every five feet in the tunnel and cross-cuts . . .

Samples were not taken from all the claims, and this was not really necessary. A sample of one is virtually a sample of all. Assays will be made of samples taken from three or four of the claims.

Dewey sent out eight miners with Locke's pack train. This will make a force of eleven men. Three miners have been at work this Spring and Summer. Four were employed during the winter. The tunnel, with cross-cuts run each way, measures about 300 feet.

At this stage, the Caswells professed disappointment. With additional help from William Huntley, they had increased their total recovery to over \$20,000. While so engaged, they had come across a truly rich pay streak that they thoughtfully covered up.

A five-to-seven-foot vein, forty feet long, ran as high as \$9.80 a pan. An especially valuable three foot section of their vein yielded \$3000 a ton. "Four sacks of ore taken from a width of seven feet gave returns of \$1997.21. Another sample taken where the ledge is five feet wide, assayed \$100.83." Sometimes they contemplated developing their property with Richey and Huntley, hoping that Dewey would reject their offer to sell. But Dewey's energetic development dashed any such hope. (Actually, they were just as well off to realize a hundred thousand instead of losing a fortune that they did not have.) So they finally chose to get out as soon as possible. Using their rich new find as an incentive, they induced Dewey to complete his \$100,000 purchase immediately, rather than wait until 1902 as originally contemplated. Dewey was going ahead anyway, so their insistence did not inconvenience so much just then.

Very flattering reports continued to emanate from Thunder Mountain even though those better discoveries remained confidential. A prominent, but unidentified, Boise miner told E. W. Johnson, July 9, 1901:

After thoroughly looking over this country I am forced to believe that the greatest mining camp in Idaho will soon spring up in the Thunder Mountain region. All it will require is a little nerve and capital to open up these mammoth mineral veins. Prospectors are coming in from all sides and already vacant ground is scarce. Several parties are here waiting for their associates who are coming in with money to secure property and there is no doubt but

there will be lots of development work going on here soon. Every day there are reports of rich strikes being made all around here and these reports are backed up by samples of the ores found. Never before have I seen such surface showings as in this camp. With capital to open these big ledges Thunder mountain would astonish the mining world.

Information reaching the Lewiston Tribune from Grangeville was equally enthusiastic:

Parties arriving from the Thunder Mountain country report that the work has been progressing all winter on the property of Col. Dewey and has shown up an extent of ore and values that is marvelous. This has always been considered one of the richest sections in any part of the State, and indeed ever struck. When the property was in the hands of Dewey's grantors and Mr. Woodruff was managing the mine, he assured his company that if they sold to Dewey he and not they would make millions out of it. But they sold and the facts so far demonstrated prove him right. The property under the management of Dewey has been worked all winter by a force of from eight to twenty-five men, and a large number of cross-cuts, tunnels and shafts have been sunk to ascertain the extent and values of the ore body. It is demonstrated, as has always been contended, that the whole mountain is practically one dyke of ore. Assays have been made nearly every day of a large number of samples from all the workings and the company claims that, making every allowance that could be asked in computing the average values, and then cutting the result in half, the ore in sight if it goes no deeper than the shafts so far sank, which is about 100 feet, is worth \$6,500,000. The enormous total is practically only the surface of eight claims. Other properties in the region was as good apparently.

S. B. Edwards, "one of the best known prospectors of Idaho," had encouraging information based upon his own experience there in 1899 and 1900.

A year ago this summer he discovered some float which struck him as representing something of value. Upon his return in the fall he had assays made of this float both by James A. Pack and Thos. Manning. Pack's assay gave values of \$48 in gold and 6 ounces in silver. These most encouraging assays of the float led Mr. Edwards to return to the Thunder Mountain country early this spring and seek for the ledge from which the

float had come. His efforts led to the discovery of a blind lode upon which he has made three locations all showing ore of a most excellent character.

Ores from these claims have also been assayed by Albert B. Sandford, assayer of the custom house in Denver, Colorado. Mr. Sandford's assays show considerable higher value than those of Pack and Manning, some of them going as high as \$100 in gold and 48 ounces in silver and from 60 to 70 per cent or nearly \$600 a ton.

He further declares that there is room for a thousand prospectors yet remaining. The country is not half prospected. There are probably at this time in Thunder Mountain and the section surrounding it 400 men, but new prospectors are coming in every day. These come from all quarters, from Warrens on the west, Salmon City on the east and from Boise and the southern section. The number now in there will be doubled before snow flies.

Mr. Edwards says he looks for the biggest finds to be made in Thunder Mountain that the northwest has ever seen. He has unbounded confidence in that section and says that Thunder Mountain means to Idaho what Cripple Creek and Leadville mean to Colorado and that the district is a far more extensive one than any that state ever saw. Thunder Mountain itself is nothing but a mass of ore. This has been fully demonstrated by the operations of Col. Dewey and his associates. It is ore everywhere. To be sure much of it is low grade, but the almost limitless quantities in sight will make it one of the most productive sections of the world. He prophesies that it will more than equal the celebrated ore mountain of Treadwell's Island in British Columbia.

A genuine Thunder Mountain mania finally was built up from the impact of countless reports of great mineral wealth there. Thunder Mountain had a romantic name anyway: acting as a sounding board for lightning which danced off nearby Lightning Peak, that somewhat inconspicuous mountain offered legend writers a welcome opportunity to display their talents. While Thunder Mountain was gaining interest everywhere, some practical problems had to be faced. W. H. Dewey raised enough capital in Pittsburgh to assure purchase and development of his Caswell property. To get a road necessary for hauling in a large plant, he offered to put up ten of a twenty-thousand dollar estimated cost if Boise subscribers would match his share. While they contemplated this venture, Dewey's initial ten-stamp mill--designed so that packers could get it over a mountain trail--arrived for shipment to Thunder Mountain. Upon a very strong positive engineering recommendation, Boise's Chamber of Commerce decided to join

Dewey's road project, August 16. John Pilmer, their agent, assured them that

Thunder mountain and its vicinity was an entire revelation to him. Before going in on this trip, he was considerably prejudiced against that section but he returns firmly convinced that Thunder mountain is the greatest mining camp on earth today. He says that the entire mountain is a solid body of ore. In appearance it is very similar to some of the white, chalk like cliffs of the Snake river.

The mountain has a topping of lava, which is broken away upon all sides. The formation itself is a very soft porphyry, every part of which is ore. This decomposes very rapidly upon exposure and from this source came the gold discovery by the Caswell brothers.

The whole side of the mountain disintegrates by the action of the elements and sloughs away to the lower ground. This has been washed in the placer mine with excellent results but the dumps are still nothing but quartz containing much gold.

The Dewey tunnel and all those being driven into the mountain are all in ore. There are no hanging or side walls and but little or no difference in the value of the ore at any given point.

Mr. Pilmer thinks that open cut mining, similar to the operations for many years carried out at the famous Treadwell mine in British Columbia, must be followed at Thunder mountain. He says it is the greatest proposition he ever saw and states and that a 1000-stamp mill, if started tomorrow and operated continually for a thousand years would still leave vast quantities of ore unmilled.

Reassured by this enthusiastic response, and in need for early construction before another winter's delay intervened, Dewey offered to go ahead, advancing initial costs. Then when Boise subscribers succeeded in raising only \$3000 (less than a third of their share), Dewey became impatient. After more than a month's delay, he called his entire proposition off, decided to build his Dewey Palace Hotel in Nampa, and to find a Long Valley route for his road. Meanwhile he had his original mill packed in through Bear Valley and Penn Basin along his original route. This involved great expense. Lem York reported that

Supplies and machinery are freighted to Bear Valley, about 100 miles above Boise, where they are transferred to the big pack trains and transported 80 miles further to the mines. To one who has not been over the route no conception of the difficulties

encountered can be had. Every pound of freight has cost the operators 6 1/4 cents per pound, or \$125 per ton, and it is safe to say that the transportation charges have greatly exceeded the first cost of the invoices.

At the date of our visit, September 1st, the camp presented a very lively scene. Men were hurrying here and there: trails and roads were being graded; wood and timber for the mill was being "snaked" in from the surrounding timber; carpenters were busy erecting a two-story boarding and bunk house; the mill grade was ready for the foundations and most of the machinery was piled in the yard ready for erection. Prospectors, with their pack outfits, attracted thither by the stories of vast wealth, were coming and going, quite a "tent down" being established on the bench above the mine. It was a scene calculated to take the mind back to the pioneer days of Idaho, for Thunder Mountain certainly occupies a frontier position.

Through the courtesy of Supt. Reed, our party was taken through the now famous mine, which has been opened by cross-cuts and drifts aggregating some 550 feet; all in ore. The work has been done in the shape of a cross, thoroughly demonstrating the uniform value of the rock. No timber is required. The ground is easy drilling and breaks fairly well. Fifty-two samples, each weighing 200 pounds were taken from the property, outside and inside, a few weeks ago, the average value being a fraction over \$6 per ton in gold.

When it is considered that this ore can be mined and milled for less than \$1.00 per ton, its value can be partially realized. It is calculated that seventy tons can be treated daily with the 10-stamp mill now in course of construction. The ore is very very free milling, the values being readily saved on plates. Some twenty-five men were employed in and about the property at the time of our visit, but we understand that the number has now reached about 50.

Considering Thunder Mountain's potential, this effort was worthwhile:

Its formation (in the language of the prospector) is porphyry[sic] and basalt, the lines of contact extending nearly east and west, the south side of the mountain being basalt and the north side porphyry. And it is a mountain of gold! Whatever its origin--whether it came up, fell down or slid in, we cannot say--but the fact remains that the whole mass of conglomerated material carries the royal metal in paying quantities.

There are no veins. Not a piece of quartz, even, can be found in that marvelous monument of mineralogy.

Martin Curran (who completed Caswell sale arrangements) returned with assurances that his \$100,000 investment was purchasing two million tons of ore. Having been shown the secret Caswell discovery, Curran had interesting statistics to support his optimism:

Nature did wonders for this property, as the great vein or zone stands up from one hundred feet on the westerly end to one hundred and fifty feet on the easterly end, over the level of the surface exposing the great ore body for more than three thousand feet in length, and from one hundred to one hundred and fifty feet in width, leaving exposed one million five hundred thousand tons of pay ore at a conservative estimate of ten million dollars.

The underground workings consist of about five hundred feet of cross cuts and drifts, every foot in pay ore. Main cross cut, sixty feet, samples seven dollars and eighteen cents, pay ore still in face west drift cross cut fifty-five feet, six dollars and twenty-seven cents. Face of west drift, seven dollars and eighty-two cents dark ore. On south side of west drift one hundred and forty-eight dollars and twenty-nine cents. At this point it requires a cross cut south to determine width of this high grade ore, also forty feet cross cut north to go through ore, such as the face of the west drift. At present it is unnecessary to do any more work in the mine until the mill starts, as it is easier to handle the ore from the mine than the dump.

On the surface and about the center of the great ore body and between the two underground cross cuts there is a very rich chute of ore, forty feet long and from five to seven feet wide, that assays as follows:

Seven feet, \$1975.84, \$100.93; five feet, \$199.78, \$266.20. If this rich chute carries the same values to the tunnel level, same width and length (estimate one thousand tons, average value \$860 per ton, or \$860,000.00), the property can furnish one thousand tons of ore per day, as soon as there are a few chutes put in the mine to load cars from, and can be mined for 60 cents per ton. The property requires 200 stamps, and with that number in operation the property will pay \$150,000 per month.

The property is situated near plenty of wood and water and can be worked by tunnels for a great number of years. The saw mill is all on the ground and will be sawing lumber by the 10th of the present month, also ten stamp mill in course of erection and will be in full operation about December 1st, 1901.

William E. L'Hame concurred:

I consider the formation identical with that of Cripple Creek. It consists of royalite intersected by phonolitic intrusions. The greatest values are met with at the contact of the dyke with the overlying volcanic breccia. The position of the dyke shows that it was one of the last of a series of volcanic actions which took place at a period probably antedating the Cambrian age. At the intersection of the dyke with the other strata the same is crumpled and crushed, giving special opportunities for the mineralization of the same.

It is also proper to assert that the carbonaceous material which is found in the volcanic tufa in the form of fossil has the effect of precipitating the metal from the auriferous solutions which accompanied the dyke during the process of eruption.

I believe the ore presents special facilities for free milling on account of its chemical composition and makeups, pyrites and other base metals being almost entirely absent. Samples taken from the deposit showed values of nearly two thousand dollars per ton, ranging downward, too, of course, less in places. It shows on the surface several hundred feet of valuable ore that has been exposed by hydraulic working a distance of maybe five or six hundred feet in length, and two or three hundred feet wide. The values so exposed will probably range all the way, as far as I am able to say, from two or three hundred dollars to as many thousands.

Mr. Richie showed me a place about as large as this little corner by the door in which they took out three thousand dollars. Mr. Richie panned \$2 from one pan of dirt he took from the top of the hill. There is an immense amount of slide rock and the dirt between it all assays very big. There is a great amount of gold in it, and all the tailings that have gone through the sluicings contain a very appreciable amount of gold. There is an immense amount of ore--a whole world of it.

I think all the slide rock has gold in it, and if it is all auriferous material there is a million tons of ore in sight there. That is a very fine mineral

section in there.

Thunder Mountain is a mountain of ore; there is nothing like it; it is no hill, it is a mountain. There is all the reason in the world to believe the deposit is continuous. I have not seen any mine in the country that makes as fine as Thunder Mountain. I consider it second to none in the United States.

E. W. Burton of Murray came out with a slightly different impression of Thunder Mountain. He

formed a favorable opinion of the new camp, and declares it to be unlike anything ever discovered. He claims that it is simply one vast field of decomposed mineralized rock. Some call it quartz; others designate it as porphyry. Its real value as a whole had not been determined, as there were miles of it. It looked like a vast overflow of some crater, which spread as it continued to discharge. There was no doubt some rich streaks in it, but the mass was low grade, and the methods of working would have to be on a very large scale, so that thousands of tons could be reduced every 24 hours. Water is plentiful within a short distance, but fuel is scarce. It is not, in a strict sense, a poor man's camp, but many miners will be employed there in time.

An even wilder report emerged from Challis:

Thunder Mountain is all the rage in this part of the world. There is nothing peculiar about Thunder Mountain to look at in the distance. But when one gets to it there is something peculiar about it. Thunder Mountain is a big mountain, and nearly all the formations that are common to Idaho are represented there except lime. The make-up of this mountain consists of nearly all the different granites, porphyry, rhyolite, sandstone and a little quartz. In the sandstone is found small seams of lignite stone coal.

While all kinds of accounts of Thunder Mountain circulated during the fall of 1901, Dewey's crew finished installing a mill engine and boiler scheduled to start processing ore in December.

Freight costs from Boise ran 12 cents a pound, but once installed, their mill was expected to process free milling ore at only a dollar a ton. They also employed a string of 120 pack mules to get in their winter supplies late in November. Important new discoveries on Monumental Creek three miles from Dewey's property added a new dimension to mining there, while

accounts of other valuable finds over a broader area created still more excitement. In preparation for a grand rush, Boise's Chamber of Commerce went ahead to construct bridges and road segments which W. H. Dewey had backed off from, and Weiser, Emmett (rail terminal for Dewey's new route), Grangeville, Dixie, Salmon, Mackay, and Ketchum also began to advertise their routes to Thunder Mountain.

Other purchases of claims there (more in the five to ten thousand dollar range) helped boost interest. But W. H. Dewey, returning from Pittsburgh with his hundred thousand to complete his Caswell claim transaction, November 16, went totally wild in announcing his expectations in Chicago:

Colonel W. H. Dewey of Idaho believes he is the richest man in the world or that he soon will be. There will be trumpet tidings from Idaho within two or three months, he says, tidings that will proclaim Idaho an American Transvaal or a United States Klondike, that will pale the fame of Cripple Creek or any other old diggings. The colonel carries in his pocket a little vaseline bottle filled with pure gold, all extracted from just three pounds of quartz. He knows a man who made a bet that a pound of rock from the new Idaho field would result in from \$60 to \$80 worth of gold.

Alvin B. and Daniel G. Caswell went out to Ogden and Denver to tell their story of sudden wealth and to explain how they had discovered some more mines at Thunder Mountain.

Without waiting to see how his ten-stamp mill worked out, W. H. Dewey ordered a \$250,000 second mill with a hundred stamps so that he could process his anticipated \$200,000,000 gold mine more quickly. Professor E. H. Mead, while not trying to estimate how much ore could be developed, assured the Union Pacific that one deposit alone, extending 250 feet in all directions, with no foot nor hanging wall anywhere, equaled a 2,000 foot vein. He regarded Thunder Mountain as "the most wonderful mining country I ever expect to see." Already ore "enough shows to keep a 100-stamp mill going indefinitely." In Minneapolis, Avery C. Moore estimated that fifteen thousand miners would head for Thunder Mountain "as soon as the snow melts" in 1902. Twelve log cabins and a two-story building were available there to accommodate that rush. Late in December, a major stampede was anticipated to Idaho's "MOUNTAIN OF GOLD," in which "Stone coal, Charcoal, Petrified Wood and all Kinds of Usually Barren Mineral Yield Up Treasures." A Grangeville report from L. A. Leland and Frank E. Jonesse outlined Thunder Mountain's attraction, December 26:

"You may say the truth about Thunder Mountain is fully up to the most extravagant stories that have been published anywhere," said Mr. Leland. "It is a

geological revelation. The saying is almost university that 'quartz is the mother of gold.' Thunder Mountain disproves this, for there is almost no quartz there, and that little is found only incidentally. But there is almost everything else, and gold in it all. One finds stone coal, charcoal, petrified wood, and all kinds of barren rock here, impregnated with flakes of gold. You can pan gold out of almost everything on Thunder Mountain proper. How it got there, no one knows. A vast primeval conflagration might have melted the gold, and driven it out either molten or in fumes, so that it filled everything. But there it is, a puzzle to all who see it.

"There is almost no stratification in the camp. It is veritably a mountain of gold. Rhyolite is the chief deposit, although almost everything is found in the most uncommon conglomeration. The mountain has been compared to the Rand reef in the Transvaal.

"There is probably not a pound of spare food in the camp today. I took in 100,000 pounds of vegetables by pack train from the Caswell ranch, last fall, but I understand they are already short. It would not be advisable to attempt going in now, as one could not take in enough supplies to last, and there is nothing in there.

"Every foot of ground for the three or four miles square of Thunder Mountain has a claimant. Fractions are eagerly sought. But there may be other districts just as good near by, only they have not yet been uncovered. . . ."

Although more appropriate for a humor column than for an explanation of a \$30,000 mine sale, this kind of report was issued all too often as a Thunder Mountain mania build up. Late in December another Pittsburgh sale--this time for \$125,000--out-classed Dewey's purchase. By December 28, W. H. Bancroft of the Union Pacific increased his traffic estimate to 20,000 for Thunder Mountain, which passengers expected from all over the United States.

While excitement mounted nationally, mining at Thunder Mountain cooled off when winter arrived. Dewey's ten-stamp mill was completed on schedule in December, and five stamps were tested then. But ore could not be processed until January 3. Winter snow also halted prospecting. Close to a hundred miners worked on their claims, but they could only prepare for later production. Communication was almost cut off with Warrens: three miners spent four days getting out on snowshoes, December 21-25, getting partially frozen on their difficult trip. Aside from thirty to forty Dewey employees, who had been taken care of adequately, provisions were scarce and prices were high. A

November pack train from Warrens would have supplied Thunder Mountain's growing market if snow had not blocked their trail. No more could come through until spring. Warnings were issued to prospective miners to stay away unless they could bring in all their supplies--a practical impossibility. Costs of claims, ranging from one to fifteen thousand dollars, also were inflated greatly. Fred Holcomb, a pioneer miner there, warned that

Thunder mountain it [sic] not a poor man's camp, and those who go there expecting to find it one will be disappointed. The whole mountain is covered with placer rock, but there is no water that could be diverted to handle it. The Caswells appropriated all the water that could be diverted so as to be used for placering. You see, the placer dirt is on the highest mountain in that part of the country, and the water is all below it. The dirt isn't rich enough to haul it to water.

Another prominent Idaho miner, A. J. McNab of Salmon, although "quite enthusiastic over the possibilities of the country" after prospecting thirty-six square miles at Thunder Mountain, also warned miners to wait:

It is foolish for those seeking an intelligent foothold on Thunder Mountain to undertake a trip into the region at this time [January 1902] as it holds out no refuge to the traveler and exposes him entirely to the chance of reaching a cabin. . . .

Unable to go to Thunder Mountain, impatient miners began to pile up in Warrens, ready to dash on in as soon as an opportunity should offer. Stage lines from Union Pacific stations in Ketchum, Mackay, and Red rock, Montana (operating via Salmon) also prepared in January of 1902 to offer service over non-existent roads (through country in which roads still have not been completed eighty years later) when winter might break. Seventeen Concord coaches were procured for a line from Red Rock alone.

At Salmon Meadows, Charles Campbell (one of Idaho's most prominent ranchers) noticed that local packers were trying to break through to Warrens to get in advance of the gold rush. Campbell said that

during his long residence in the west . . . [he had] never seen conservative men lose their heads under pressure as they have done in his section of the state for the past 90 days.

"All the people of the county have the fever," said the visitor, "and if only one-quarter of the

stories they tell about the camp materialize, it will be the greatest mineral belt ever discovered. Scarcely a week passes but some one comes out over the trail from Thunder Mountain, and I have yet to meet the first man who says the 'find' is not a wonder. When old time miners tell you it is the greatest thing they ever saw, it must have some merit."

While a townsite of Roosevelt was being promoted in Boise to serve Thunder Mountain, conditions there grew critical. When Allan Stonebreaker left there January 19 on his regular semi-monthly mail trip, sacks of flour were selling for twenty to fifty dollars each. Only a few were left, and as supplies neared exhaustion, about seventy-five miners had to prepare to retreat from their isolated camp. New rich discoveries--selling for \$500 a claim--were reported. But right then, groceries were needed more than gold.

In an effort to alleviate some of Thunder Mountain's shortage, Frank Andreas set out from Boise, February 3 with a large dog team hauling a ton of provisions. Two other packers left Grangeville with dog teams at the same time. They immediately were followed by an advance wave of the great 1902 Thunder Mountain gold rush. Packers with horses began to break their way from Dixie through Chamberlain Basin to Thunder Mountain, and other pack outfits were assembling in Bear Valley.

Even winter snow could not quite halt a gold rush. Extravagant Thunder Mountain testimonials continued to fill columns of Idaho newspapers, and impatient fortune hunters simply couldn't afford to wait. When Allan Stonebreaker made another postal trip to Dixie, February 6 to 8, he met thirty-five parties of gold seekers. By then their trail was in good shape for horses, with no snow depth exceeding four newcomers. Those who rushed in early in 1902 thus had an unmatched opportunity to assume losses inherent in buying claims there, while those who had spent an expensive winter there had a chance to recover some of their investment in time and travel cost.

Winter travel to Thunder Mountain remained somewhat hazardous on some routes, at least three miners were lost in a snow slide near Elk summit between Thunder Mountain and Warrens, February 10. That misadventure did not slow anyone down too much, though. Some continued to use dog sleds, although others did their own hauling. A horse and dog sled party left Florence, February 11:

A snowshoe and rawhide outfit of horses and a large dog train passed through here today enroute to Thunder mountain. They expect to be on the road from here about one week. The only trail breaking they will have to do is from the Snowshoe cabin across Salmon river bridge to the Warm Springs, about 18 miles, which

they will do with a bunch of horses they have on Salmon river. From the Springs to Warrens and thence to Thunder mountain the road has been kept open all winter. This dog and rawhide train has been on the road from Grangeville to the Salmon river three days and it will take them three days more to reach Warrens, from which point they will have good traveling. There is plenty of feed for horses along the entire route via Grangeville, Florence and Warrens, with good hotel accommodations.

A Grangeville crew, February 13, included experienced old timers who had been to Thunder Mountain years before, as well as others who had come out that winter:

A large party of argonauts left Grangeville this morning, for Thunder Mountain. They will go by way of Florence, the state bridge and Warren, having contracted with Tom Walton to take their supplies as far as Warren. Each of the men took about 250 pounds of supplies--50 pounds of flour, 30 of bacon, and the rest of the weight being made up of tea, sugar, beans and bedding. In the party was one 25-35 Winchester rifle, for the deer that are numerous in the Thunder Mountain country; also one 22-calibre for birds and small game. From Warren, each man will pull his supplies on his own rawhide toboggan.

More dog teams began training in Boise, where small problems such as snow slides near Thunder Mountain did not deter those who wished to leave early. Expectations that mills with 2,000 stamps soon could be hauled there made everyone eager to get in while some potential claims still were left to prospect. News of important new discoveries February 2 arrived in time to encourage more dog trainers, and Ben Caswell confirmed reports he had declined a number of offers of a hundred thousand for his new claims after selling to Dewey. Finally they sold their new property for \$125,000.

Caswell estimated from his experience in Michigan and Pennsylvania that thousands of hopeful fortune hunters soon would be headed for Thunder Mountain, and competition between Northern Pacific and Union Pacific promotional departments for that traffic grew intense. With a variety of Union Pacific entrances (through Red Rock, Mackay, Ketchum, Boise, Nampa-Emmett, and Weiser-Council) and two Northern Pacific options (Lewiston-Grangeville and Stites-Dixie), a large number of local communities contested for favor. Telephone lines from Boise and Blackfoot via Mackay also were projected to Thunder Mountain.

Increased March snow and related fuel problems brought additional complications to Thunder Mountain miners. After two

months of operation, Dewey's stamp mill had to shut down March 10, for lack of fuel. All timber within a mile had been used up, and additional supplies could not be hauled in just then. Everyone wanted to locate more claims rather than operate a mill.

About 250 miners had got in to camp, but none wanted to work. Trails to Thunder Mountain also became more difficult to negotiate. In February, only two miles were closed to anyone aside from hikers who had to drag their supplies over that stretch from Warrens. But conditions grew considerably worse. Flour went up to \$50 a sack, and food shortages became more troublesome. Boise traffic could get through only by equipping horses with snow shoes--an old mountain device to facilitate packing:

The trip from Thunder Mountain to Boise can be made in five days. It took me longer because I stopped on the way. I met two pack trains going in. They were composed of several horses drawing rawhide toboggans. The animals were all heavily loaded. The lead horses of the first pack train wore snowshoes, but the rest seemed to be getting along all right without them. The trains were making about 20 miles a day. I did not know any of the men and did not talk to them. There will probably be a scarcity of horse feed, for the reason that while a horse can draw feed enough to last him along the trail, he cannot do much more, and there is no feed at the other end of the route. The problem of feeding horses will be a serious one before the grass grows in that country.

Late in March, a long train of toboggans and pack horses left Grangeville prepared to break through to Thunder Mountain with almost two tons of supplies. These certainly were needed, as too many gold hunters continued to arrive empty-handed.

"Not an ounce of food is to be bought in Thunder Mountain at any price," said Sheriff J. Dixon, who arrived here today [early April] from Warren. "Men are coming out every day as far as Warren for food, where they can buy staple groceries in limited quantities. It is an 80-mile trip, the way most of the travel goes, and takes about four days either way. A man who is not well equipped will eat in the eight days coming and going almost all he can carry.

"Ten cents a pound is being paid for freight from Meadows to Warren. The freighters won't touch it for less. Seven cents is also being paid from Warren to Shaffer's, 25 miles. A party of three Colorado men came through Warren with 1000 pounds of supplies on which they had paid this rate.

"But the rush continues. One man who came out to Warren last week met four men going in without even a cracker. He divided his last three biscuits among them, telling them that they could buy nothing further on. Still they went in. Others are going not much better prepared. . . .

"A movement is on foot to shorten the distance over the dangerous Elk creek summit. The wind blows the snow up the long slope from this side, whipping it over an almost perpendicular descent on the other side, thus forming a comb of snow 50 to 100 feet deep. This is continually breaking off and making dangerous snowslides down into the valley, besides necessitating a long detour. The plan is to dynamite the snow crest, let the resulting avalanche clear a new short road down into the valley and save the long detour.

"Ten degrees below zero was the record all through the mountains last week. Considerable snow has fallen. There are now between five and six feet of snow at Thunder Mountain, according to all reports. . . ."

New and larger mines also helped compensate for extended hardship of operations at Thunder Mountain. Another \$250,000 Pittsburgh investment, made in frantic haste March 9, set off a new round of transactions. Marshall Field, S. W. Swift (noted for his meat processing), and George H. Phillips invested a hundred thousand in fifteen important claims, and another forty thousand-dollar transaction infused yet more capital into local mines there. By April, Dewey's company had invested about \$700,000 in Thunder Mountain, and that sum by itself amounted to double the total gold production realized there prior to suspension of mining in 1908. Pittsburgh capital also more than made up for Dewey's withdrawal of Boise's Thunder Mountain road project. A total of \$20,000 from Pittsburgh was pledged to match Boise's \$10,000 goal, so Boise's road buildings seemed \$10,000 better off than they would have been if they had received Dewey's original offer. Dewey, however, opposed construction through Bear Valley because of formidable problems his packers encountered that way in hauling his ten-stamp mill prior to construction. So preliminary planning became embroiled in a hopeless controversy over whether to build from an Idaho City-Bear Valley, Placerville-Garden Valley, or Emmett-Garden Valley approach. Dewey wanted to extend his rail line from Emmett toward Garden Valley, while Boise and Idaho City complained about being bypassed with such a project. Meanwhile, promoters of a half dozen other routes clamored for attention.

Insulated by winter from most exterior anguish over how future miners ought to reach their camp, miners at Thunder Mountain had more than enough excitement of their own. Thomas Johnson reported that "there is lots of ready money in Thunder

Mountain. Agents representing all sorts of wealthy clients are there with cash to buy promising properties. The camp is at a fever heat of anticipation." Johnson also had some good stories to tell of skiing in camp and on his trip out to Warrens:

"The average Thunder Mountain traveler isn't in it with some of the trained mountaineers who are going in," said Tom Johnson, just out from the big camp.

"Why, a fellow got caught in a snowslide the other day, and slid for half a mile, along with rocks, trees and 100 feet of snow. What did he do but pull out his pencil and location blanks, figure out the distances by computing the rate of speed and counting the seconds on his watch, and he located three claims before he reached the bottom. He missed getting the fourth one by just one second. Fact, for I saw the slide."

Tom came out from Warren on skees, a month ago, and had a notable run-away from greasing the skees with a prepared dope to make them run more smoothly. This time he stuck to plain webs. Dave Pugh, however, who came with him, was on skees, and Tom persuaded him to buy a bottle of the dope. The skees ran away from . . . [him and dumped him into a bank] of snow. Tom says that his lecture on the genealogy of skees was a masterpiece of impassioned oratory, more picturesque even than the grand mountain scenery round about. Dave keeps the bottle of "slick-em" as a stimulant for his vocabulary, when he runs short of words.

With miners everywhere trying to find new properties, claim jumping grew into a problem. Snow claims (of the kind Johnson satirized) also became all too popular. Of some 2,800 snow claims filed at Thunder Mountain from December through May, less than 15% had any merit. A stampede to Indian Creek, twenty miles south of Thunder Mountain where prospects had been discovered the previous fall, enlarged this difficulty: there "Only snow claims are being staked, the snow being six feet deep."

With the approach of spring, a grand rush to Thunder Mountain got underway in April. Impatient prospectors from all over Idaho and many western states filled all available hotels in Boise, Weiser, Pocatello, Blackfoot, Lewiston, and Idaho City, where the Luna House began to look like old times. Early in April, fifteen to twenty were leaving Lewiston daily to get closer to Thunder Mountain. Some--as many as sixty to seventy each day from all sources--were going all the way, although lack of supplies forced as many to leave, so that Thunder Mountain's winter population (which rose from about 200 to 800) remained at a stable level. Places such as Campbell's Salmon River crossing (between Dixie and Chamberlain Basin) became cities of tents, with 150 to 200 eager miners camped at Campbell's. Organized

efforts to open several routes for horses kept packers in Warrens, Dixie, and Bear Valley more than busy. But during April, none could get through. Operators from Warrens got three burros across Elk Summit trying to break a horse trail April 18, but more snow defeated their attempt. Before they managed to get horses over Elk Summit, May 15, a lone packer had gotten through from Salmon on April 29. Finally on May 12, Frank Andreas of Boise came from Bear Valley with an initial pack train, composed only of dogs. His problem, in common with everyone else, had been late snow that was melting, so that travel had become more difficult than ever.

Dog trains, toboggans and all other modes of taking in supplies give way to packing in on one's back. No one, however, else he may have gone in, comes out for supplies with any other thought than of carrying them in. It is hard work, but is easier, quicker and more satisfactory than any other way. A Boise man who went in with us from Warren, carried two sacks of flour. Another man carried 80 pounds, though most are content to take only 50 or 60 pounds.

There is lots of ready money in Thunder Mountain.

Agents representing all kinds of wealthy clients are there with the cash to buy promising properties. The camp is at a fever heat of anticipation. We heard of only one man in from Salmon City, though he reported a number along the road. No one has as yet come in from Ketchum and Hailey. Most of the travel is by the Warren route.

Comparisons naturally were made between obstacles of reaching Thunder Mountain with those of Chilcoot Pass between Alaska and British Columbia faced by miners on their way to the Klondike only four years before. A far greater number of men made their way over Chilcoot. But they had to overcome problems which did not begin to compare with Thunder Mountain. Ascent of Elk Summit alone--with close to a six thousand foot grade--far surpassed anything along that line around Skagway. And that was only one of a number of major hills they encountered. Thunder Mountain did not have nearly as severe a supply problem. But difficult terrain for winter travel held back almost everyone who aspired to reach Thunder Mountain before spring. Supply trains eventually began to break through from all directions shortly after Frank Andreas' dogs showed what could be done. From then on, energetic miners could reach their destination without undue trouble.

Thunder Mountain received unparalleled publicity during April of 1902. Idaho was expected to profit greatly from so much attention. According to the Salt Lake Mining Review,

The tidal wave of prosperity that is about to engulf the Thunder Mountain region in Idaho will bear on its crest many good things for the entire intermountain region. That this wave is coming and will soon be here is indicated in many ways. Every newspaper, at home and abroad, has something to say of this new El Dorado; of the mineral wealth that has been found within its environments, and of the thousands that will soon be headed toward this promise[d] land, which, from all accounts, will help a number of splendid bonanzas before the close of the present year.

That this will be the case seems almost a certainty, and for two good reasons, one of which is that experts have stated that a vast area of country in this portion of Idaho is heavily mineralized, the other being that a small army of experienced men from Colorado, Utah, Montana, Nevada, California and western mining states will thoroughly prospect this region this summer, and if they do not succeed in finding a dozen or more of Monte Cristo proposition, it will be a nine days' wonder. As a matter of fact the whole western country will receive a wonderful impetus, as far as the mining industry is concerned, because of this rush to Thunder Mountain, and the entire west will be benefitted. It was a boom similar to the Thunder Mountain excitement that made Cripple Creek, and gave to Colorado one of the greatest gold mining camps upon God's footstool. This movement promises as much for Utah, Nevada, Oregon and adjoining mining stations, within whose boundary lines there are many districts, rich in their deposits of the precious metals, which only need publicity to develop into as great producers as are to be found in the west, and this publicity will naturally be drawn to them as a climax of excitement and attention attending the splendid reports emanating from Idaho's new gold camp.

Hope also was expressed that mining, as distinct from publicity, also would help develop Idaho:

"Thunder mountain is going to redeem Idaho as a state," declared Mr. [Frank] Hobbs, "It is going to make a payroll that will radiate in every direction. The Dewey company now has 100 more stamps going into the mine, and one of the big Pittsburg [sic] companies has ordered 250 stamps for its property on Big Creek, 30 miles from Dewey. There is none of the usual uncertainty about following the course of a ledge that drops into the earth and no mining is necessary except to quarry out the mineralized conglomerate and convey

it to the mill. The life of the camp is not dependent on railway transportation as stamps are the only machinery necessary and they can be carried in by pack train. The camp will make itself without any assistance other than the opportunity it is now receiving so lavishly of being operated in a large and proper way under capable hands.

Along with mines at Thunder Mountain, rival town sites also attracted investment. Not much could be done toward development until spring access became feasible. Roosevelt was protected for habitation all during the incipient 1902 gold rush, and so was Caswell. A somewhat prophetic notice from the Boise Clipper raised questions about investment in Roosevelt:

The town is situated on Monumental creek, and sandwiched between two mountains at an angle of forty-five degrees, and from 3,000 to 5,000 feet high. The creek flows from 600 to 700 inches of water at its lowest, and has a fall of from twenty-five to thirty feet to the mile. The townsite of Roosevelt is about one and a half miles long and from 150 to 300 feet wide. The land is about two feet above low water mark.

The stream is noted for its changeable channels caused by snow slides and ice drifts that cause the water to back up until it rises from ten to fifteen feet in places, above low water mark. From Mule up to Coney creek a distance of about 300 feet, the mountain sloping southeast has been swept of nearly all timber by snowslides which have taken rock and earth and deposited it in the bottom of the gulch where the townsite of Roosevelt is located. The snowslides and high water have destroyed all the timber on the creek bottom as far up as Taylor's cabin. On the northwest slope of the east side of Monumental creek the snowslides have not done so much damage, as the mountains are covered with a dense growth of heavy timber. But, if Roosevelt should make a town this timber will be used and then there will be no protection whatever against snowslides and the danger will be greater, and some day Roosevelt will be wiped from the face of the earth. This year is an exception, there being only from five to seven feet of snow, and the sun hardly ever touches the snow on this slope.

If a man should build his house on stilts out of the way of high water, a snow slide is liable to come along and knock the props out from under him, and if he protects himself against snow slides the high water will drown him. Continual displacement of about five feet a year created havoc by misaligning placer ditches.

Although more optimistic observers scoffed that no avalanches disrupted life there in 1902, a potential problem still remained.

When melting snows finally allowed impatient packers to break some final barricades which had obstructed passage to Thunder Mountain, that great 1902 gold rush finally surged into Idaho's most remote mining camp. Considerable effort was required to surmount high drifts blocking ridges such as Elk Summit:

Three hundred and fifty loaded horses, and 100 men, crossed the Elk Creek summit into Thunder Mountain, Sunday, May 25, is the word given out by O. H. Benson, of Florence, who came out from that camp yesterday to bring the good news.

An army of men shoveled snow all Friday and Saturday, and opened the trail. They are pouring into Thunder Mountain now, a regular cataract of men. Everybody goes in by way of Florence, or up the Salmon, through Warren, these being the only routes open. Thunder Mountain is fairly flooded with supplies.

Within a week, another 1,200 pack mules and horses were lined up ascending Elk Summit bound for Thunder Mountain. Completion of a Salmon River ferry helped a throng of miners and packers get between Florence and Warrens on their way to Elk Summit. W. H. V. Richards, a Thunder Mountain pioneer who came out while most people were headed in, reported how ferry service helped out:

About 50 men and 425 horses were waiting to be put across the day it was completed. The road is lined with those going to the camp and old Alaska travelers say the crossing of the Elk divide seems like a miniature of the Chilcot [sic] pass in the numbers of men and horses which are constantly pushing over. When the road was first shoveled through two weeks ago about 500 men were camped on this side and pushed on over. Mr. Rickards estimated that on his way out he saw from 1000 to 1500 men on their way in, either on the road or camped along the way. He says there are probably 4000 people now in the district, and before August he looks for 20,000 people to be there. Arrivals are coming in constantly increasing numbers by Salmon City, Council, Grangeville and Dixie routes, but the majority are going in by way of Warren. He came out by Warren and Florence and says that the only snow now to be encountered is patches between Adams and Florence; that the ground is shoveled bare on the Elk divide and that

at the camp itself there is fine bunch grass and good feed all the way. Mr. Rickards says that the Cripple Creek men who are at the camp (and the whole world has its representatives there) are enthusiastic over the prospects and say there will be at least 8000 people come to the camp from Colorado alone.

There is a town of about 100 tents on Marble creek, and log houses are just going up. On the west fork of Monumental creek; about two miles from Roosevelt, is another town site which is controlled by the O. R. & N. Railway people and is most probably the coming town as there is a 200 acre flat which affords room for building, while the other sites are too narrow and steep in the canyons to permit much of a town being built.

There are three stores and supplies are plentiful at fairly reasonable prices. Flour is \$10 per sack. Some supplies are coming in by way of Salmon City, and pack trains are scattered all along the Warren road with provisions.

More than a few unusual outfits came in. One miner approaching Thunder Mountain through Idaho City pushed his belongings in a wheelbarrow. Another packer used cows instead of horses or mules:

Everybody the past two or three days has been anxiously awaiting the arrival of the cow train from Boise. News of their near approach was telephoned from the office of the Dredge company. Men and women-- young, old, and middle-aged--as well as children, were out on the streets in groups, awaiting the coming of the caravan. The people here have seen almost all kinds of trains, and cows are not a curiosity, but a cow train packed with provisions, camp outfit and other things, is a novelty not often seen. Of the nine animals, six cows and a red bull were packed. They jogged along with their loads as gently, leisurely and contentedly as if they had followed the business from calfhood. The owners of the train are Homer I. and A. D. Clark. The wife of the former is with the train, and was on horseback, with a child in her arms. They are on their way to Thunder.

When a small dairy operated all summer supplied by pack cows which resumed their normal occupation, superiority of that transportation system was demonstrated effectively.

Although estimates of four thousand miners were made by optimistic promoters, some 1,400 actually reached Thunder Mountain early in June. Eventually around two thousand may have got there in 1902. Fortunately all but about ten percent of some

twenty thousand expected gold hunters stayed home. If they hadn't, Thunder Mountain would have faced serious problems compounded by isolation and difficult access. At best, this district offered little or nothing to an ordinary prospector. Thunder Mountain was a rich man's camp--not a poor man's. Most of the two to four thousand expectant miners who actually got there were poor men who served no function in that area. Some went out to find other mining possibilities in nearby districts, but most simply had to go home.

Large investors made out better--at least until they found that they had invested in unproductive mines. Some of them exercised appropriate caution in getting expert evaluation of the potential mines, and still went wrong. H. L. Hillister of Chicago came back at great expense with a party of twenty horses and ten expert appraisers and engineers. He also had William Allen White--a noted Kansas author--along to enjoy their trip. He acquired a number of very important properties in nearby districts as well as Thunder Mountain after verifying values which would

warrant me in giving support to the district. It is a low grade proposition, but a place for big men with large capital, and for big mitts with large capacity.

Lewis N. Clark, sent out by James Guffey of Pittsburgh to supervise construction of a Trade Dollar power dam at Swan Falls, also investigated properties to justify a \$100,000 additional Pittsburgh Thunder Mountain purchase. This action raised Pittsburgh capital invested at Thunder Mountain to about one million dollars.

Other observers concurred. A Thunder Mountain correspondent of the Portland Orgonian explained:

I have carefully weighed all the evidence for and against it, have prospected the rock, had it assayed, and seen as much of the country as was to be seen. I unhesitatingly say that up to the present time there is not a particle of evidence against the camp, absolutely none; and there is much in its favor.

The development on the Dewey group has thus far shown it good, and with every probability of its being a big property. Back of Thunder Mountain is Lightning Peak. Some men brought down surface dirt from it and rocked out over \$50 in a couple of hours. South of the Dewey, and following its general strike, values have been found all along. From the rock, from an assessment hole, a mile to the south, I got an assay of \$5.29. The owner assured me it would not carry anything, and the reason he had done his work there was because it was the easiest place where it could be

done.

Across Monumental, and to the west of Thunder Mountain, porphyry dykes bearing close resemblance to that of the Dewey cut the mountains with the same general direction or strike. Along these dykes good values have been found, and reliable and disinterested men have assured me that they have found colors in panning over a considerable area of that country. The same can be said of the Sunnyside district. Surface values can be found in every direction. That they will go down development alone can tell, but it is far from a discouraging sign of value at depth to find value at the surface.

The important thing for the prospector to learn in the Thunder Mountain district is what rocks carry the values. He will find different conditions that he has probably encountered elsewhere. There are no quartz ledges in the immediate vicinity. The value seems to be in the porphyry. Rock of this character, that I brought out, and which has "a lean and hungry look," and I would have pronounced valueless, assayed well. A creamy white porphyry carrying large white crystals of feldspar went \$12.85; and blackish blue rock yielded \$29.68 gold. Of course there is ore of much higher grade. I brought out a slab of rock as large as my two hands that is plastered with gold--it is a specimen, and a pretty one, but not to be taken into account in reckoning the camp's possibilities from a business standpoint.

Some disagreed:

The general impression among some very conservative mining men now in the district is that there is nothing whatever so far developed to justify the boom, that it is the most overestimated district that has ever been foistered on the public, and that there will be quite a string of disappointed investors, who paid fancy prices and forfeit money when they have had a chance to examine their claims.

There has been nothing of definite value developed on any group of claims in the district so far, outside of the Dewey group, and it is considered by some that the Dewey itself has not developed a pay-ore capacity in excess of its present equipment, which consists of a 10-stamp mill.

But major claim sales continued. W. E. Pierce of Boise realized \$40,000 selling Thunder Mountain properties in the east; F. W. Holcomb of Salmon did better on a \$65,000 transaction with

Thunder Mountain's largest purchasers; Boise attorneys James H. Hawley and W. H. Puckett realized \$73,000 in a Philadelphia transaction, while late in June, another \$100,000 purchase came from New York. Smaller, yet important, sales continued to help support mining at Thunder Mountain.

Townsite development also absorbed Thunder Mountain capital while gold fever ran unabated. Only two saloons and three stores served all of Thunder Mountain early in May. With a great influx of miners, Roosevelt alone gained thirty-seven saloons out of 150 licensed (but not necessarily operating) for Thunder Mountain. By July, Roosevelt, Marble City, and Thunder Mountain City had about 400 population, while another 1,200 were out prospecting in an area of ten square miles. Two other cities, Caswell (an unsuccessful promotion) and Cooper Camp, had less to offer. Fourteen saloons, ten stores, two butcher shops, two drug stores, a restaurant, and a barbershop survived in Roosevelt until mid-July. All these enterprises, along with a residential district were accommodated in forty-two tents and four log structures. By that time, Thunder Mountain City had ten cabins and forty tents to house 250 miners. A month later, Roosevelt still had ten saloons, along with three dance halls to entertain miners in their leisure hours. About 2,000 population remained around Thunder Mountain in August. Five major mines employed, respectively, fifty, forty, twenty-five, twenty, and fifteen men.

A number of smaller mines continued to operate, but most gold hunters preferred to try prospecting to working mines.

In contrast to some western mining camps, Thunder Mountain escaped an era of crime and disorder. Some claim jumping problems created concern issues. Thunder Mountain, in fact, never did have to dispose of criminal cases. Mining values--or lack of them--did not attract a criminal element. Only one mill accounted for all production of any consequence, so little of any value was around to tempt a potential robber.

High costs of living (amounting to five dollars a day into July) continued to restrict companies from hiring miners even if they could have found any willing to go to work. Even Dewey's mill had to shut down until prices declined in mid-July. Then this pioneer mine and mill managed to operate three shifts a day developing a large block of seven-dollars-a-ton ore. A crew of thirty to forty men identified an ore body 2,000 feet long, 140 feet wide, and 180 feet deep. Ore taken out during development kept Dewey's ten-stamp mill busy day and night.

Several other companies devoted 1902 to essential development work. They certainly needed to. One had invested \$125,000 in a Caswell property which had been tested to a depth of only ten feet. Generally they reported encouraging results, although some perceptive miners anticipated trouble from risking so much acquisition and development cost on untested properties.

Two major companies decided to ship their hundred stamp mills to Thunder Mountain in 1902. One came on thirty freight cars from

Thomasville, North Carolina, while Dewey's mill filled forty freight cars from Chicago. Both trains had advertising streamers telling everyone who came by that they were headed for Thunder Mountain. Dewey's mill got as far as Emmett. Lack of a road forced him to park it there for the rest of 1902. Boise's road got as far as Penn Basin that fall, but that did not help. Dewey still had great confidence in his venture in spite of disappointing delay. He still was looking for miners to work all winter.

"If we can get them," says the colonel, "we will keep employed in the neighborhood of 50 men. Superintendent Frederic Irwin's reports are very gratifying to us, and we have every confidence in our Thunder Mountain mines. Why, if the assays show only \$4.50 a ton with the inexhaustible ore body, we will add 500 more stamps, but I am convinced from the returns we have had that the greater portion of it will go much higher. We expect to spend \$1,000,000 before we get anything in return from these mines, and we are making this outlay with the utmost confidence in the district."

Plans to retain around six hundred men at Thunder Mountain for a winter season did not materialize during 1902. (Even if this arrangement had worked out, some 400 to 500 would have had to leave for lack of provisions.) Roads from Bear Valley, Warren's, and Yellow Jacket (giving access to Salmon) were stocked for winter travel. But an extremely heavy, unexpectedly early three-week November snow cut off Thunder Mountain before winter supplies were in. Only 240 miners could be accommodated, so development was restricted.

Legislative support for a Thunder Mountain road led to funding of a state wagon road from Long Valley to Roosevelt. Two seasons' work went into construction, so both of Thunder Mountain's large 100-stamp mills had to wait until September of 1904 before transportation became available to Roosevelt. Development work continued on three significant properties, employing forty, twenty-five, and twenty miners. One small five-man operation and about fifty contractors made up Thunder Mountain's labor force for 1903. Enough was accomplished to demonstrate to George H. Williams--an experienced Idaho mine evaluator--that "There are no mountains of gold there," but that Thunder Mountain "will develop into a good camp." One property had 2,000 feet of tunnels and shafts, while another had 1,000. With Dewey's property already in production, they showed promise.

Another hundred-thousand-dollar Pittsburgh purchase of ten claims, followed by a similar ten-thousand-dollar New York investment, maintained optimism in Thunder Mountain.

Four hundred miners were able to remain in camp for another

winter, which held off until supplies could be brought in. Dewey's mill entered an uninterrupted run of production that returned regular monthly dividends for more than two years from 1904 through 1906. (A four-month shut down in 1904 for lack of fuel limited that year's total to \$78,933.10 from low-grade ore.

About \$67,000 followed in 1905. In 1906, almost \$62,000 was realized in twelve months from 11,784 tons of ore. But production costs of \$3.51 on a return of \$5.25 a ton allowed for a welcome profit.) However, a ten-stamp mill satisfied all of Dewey's needs, so when a wagon road finally reached Roosevelt, no effort was made to haul in another hundred-stamp mill which had languished in Emmett for two years. Thunder Mountain's isolation, in this instance, had saved a lot of transportation costs that otherwise would have been wasted.

Completion of a state wagon road enabled 204 freight horses to haul another large mill (reduced, providently, from one hundred to forty stamps) to Roosevelt late in 1904. Winter supplies also could be brought in. But operations did not work out well from that point on. Handicapped by trying to utilize a mill which had been worn out in North Carolina, a large crew of miners (who had done more than 1,000 feet of development work a year before) managed to process only 180 tons before they had a breakdown, December 21, 1904. Sixty-five left camp immediately, and a hundred were gone before winter travel got too bad. Thirty miners tried to resume operations in May, using thirty of forty stamps which they had available. Then they found that "ore values disclosed in the extensive development of the mine had been shockingly overestimated and the results produced are reported not to have been sufficient to pay operating costs." Efforts to employ a cyanide process failed, and more milling attempted later in 1906 got nowhere.

Shortages of supplies afflicted Thunder Mountain again in 1906, when "life at Roosevelt had few charms." Attempts to improve that situation failed in 1907. Declining ore values held down Dewey's production so much that only a shortened season (April 10-October 28) could be managed. After 8,920 tons of ore yielded \$44,967 in gold, their remaining available rock lacked enough value to pay for processing. After turning out about \$350,000 all together, Thunder Mountain's only productive mine had to shut down. An effort to utilize some new rich discoveries failed in 1908. So finally, out of several major mining properties at Thunder Mountain, none, aside from Dewey's modest operation, produced more than a thousand dollars worth of gold. As a fitting climax to this early phase of mining there, a large slide, May 30, 1909, blocked Monumental Creek and created Roosevelt Lake. Lasting for two days or so, the slide grew large enough to back up a new lake which flooded the town, and Roosevelt had to be evacuated. For the next twenty years or so, buildings floated around in the lake; but as the years went by, they fell apart, and now there are only a lot of boards cast

about in the water.

W. H. Dewey (August 1, 1823-May 9, 1903) never survived long enough to see his Thunder Mountain dream turn into a nightmare. Even his mine, although productive for several years, returned far less than half of his company's investment. Later production, after years of delay, finally increased Thunder Mountain's total to about a half million dollars. But miners at Thunder Mountain could have thought of easier ways to earn that much wealth. Their experience came entirely too close to matching a Roosevelt miner's misadventure late in 1906. While thawing six sticks of dynamite in his oven, he was startled by an explosion. Blown through his cabin roof, he lost his possessions but survived without serious injury. He had a great experience, but incurred severe financial loss. Many other Thunder Mountain miners and investors shared something all too close to his fate.

In spite of failure to match unwarranted expectations, Thunder Mountain had a considerable impact upon Idaho's economy.

A flood of prospectors turned up or enlarged important new mining areas. Big Creek, Marshall Lake, and Stibnite all profited from Thunder Mountain activity. More than a million dollars sent in from Pittsburgh, augmented with funds from other major eastern sources, maintained employment for a substantial Idaho mining camp which produced little aside from out of state capital investment. In addition, a considerable share of that outside capital contributed modest fortunes to Idaho claim salesmen, who realized just as much as they would have if some of their claims had been worth selling. Many prospective miners had a great, if sometimes disagreeable, adventure.

Eastern investors looked at Thunder Mountain differently. When they made their major Thunder Mountain purchases, they were escaping from other traps which far outclassed Thunder Mountain as errors for capital allocation. When Thunder Mountain fever still ran high, July 21, 1902, H. E. Taylor explained this situation in detail:

During the past two years the investing public seems to have been on a continuous investment debauch.

Dozens of concerns styling themselves "bankers and brokers" have sprung up in a day from sources unknown.

They have launched all sorts of mushroom industrial, mining and oil companies, which to the close observer plainly bear the earmarks of the "fake." A lot of worthless property is bought for two or three thousand dollars and turned over to a company. The "banker and broker" then spend \$10,000 or so for printers' ink and glowing reports of alleged "experts," and the public does the rest.

It is the same old story. In times of great prosperity the public seems to completely lose its ability to discriminate between the counterfeit and

genuine in the share market. The operations of these stock highwaymen and financial "jobbers" constitute the greatest burden legitimate mining enterprises have to bear.

We could have made several deals with brokers of this breed had we been willing to sell them something utterly worthless for a few thousand dollars and furnished them "reports to order."

It looks as if a reaction were now setting in, however, the public beginning [to] scrutinize stock offerings more closely. The forfeiture of the charters of 269 Texas "fake" oil companies was a jolt that wakened them up a bit. It is estimated that the "pirating" oil companies sold nearly \$20,000,000 worth of stock during the past year.

Among substantial capitalists and business men there is a healthy and growing sentiment for gold mining investments [sic]. The favor so long enjoyed by "coppers" had been killed and the speculative manipulations of the insiders of the Amalgamated trust and the resulting decline of 20 to 50 per cent in nearly all the leading copper stocks and in the metal itself. New England, the home of the red metal shares, had been hard hit, and is now in a state of investment apathy.

New York and Pennsylvania escaped with only slight injuries and are practically confining their mining investments to gold properties.

Naturally he did not intend to have Thunder Mountain provide a similar deception for unwary eastern investors. Some mine appraisers and mining engineers were prepared to show caution in 1902. But too many were carried away in a speculative mania. So Thunder Mountain was misjudged and oversold in a manner reminiscent of fake oil companies and copper mines whose dealings Taylor did not want to emulate.

Gold rush episodes comparable to Buffalo Hump and Thunder Mountain occurred somewhat rarely. Yet they can be attributed to an economic arrangement which featured profitable ventures along with wild errors. So excessive costs associated with improvident examples such as Thunder Mountain ought to be assigned to an overall balance with accounts for successes as well as failures.

Information gained from colossal disasters such as Thunder Mountain constituted part of a mining heritage which continued to develop western mineral wealth on an enlarged scale for subsequent generations.

Publications--450 N. 4th Street, Boise, ID 83702--208-334-3428