

MINING INDUSTRY IN ITS INFANCY

The Lewis and Clark commissioners have compiled a book entitled, "The Mineral Resources of Oregon" by J. H. Fisk, for general circulation. It contains 40 pages and is brimful of interesting facts concerning the mines of Oregon. An article on "Oregon, the Sportsman's Paradise" by A. E. Gebhart is also found in the book and is very interesting. It is profusely illustrated with half tone cuts of scenes around the mines and game views.

State Printer Whitney has just issued 50,000 copies of the book. We quote a portion of the mining article as follows:

But the general mineral and gold producing district is to be found in the Cascade range of mountains, and yet, for all the numerous mining camps found here, it has hardly been prospected. Hundreds of thousands of acres have never had a pick stuck into the ground or hardly been visited by a white man.

The scenery and beauties of the Cascade mountains surpass my power of description, with their numerous waterfalls, their ideal summer resorts, with their flowing thermal springs; the caves of Southern Oregon extending for miles underground, with their stalactites and stalagmites; Crater Lake, majestic Mount Hood and Mount Jefferson; the gorges of the Snake and the Columbia river canyons, the forests, streams, and meadows. The writer has seen many of the beauties and wonders of the world: the towering peaks of the Andes, the burning Mauna Loa, the avalanches of the Arctic, the heights of the Hoopsterns, and the Golden Horn; the vine-clad castles on the hills of the Rhine; the bay of Naples with its villas; but none of these are more royal than the Cascade mountains.

Geology.

The geology of Oregon is interesting and unique, although a United States survey has been made of but a small portion of it, extending over the Sumpster and Bohemia mining districts, and they are not as full and complete as they should be. Certainly no place in the world affords so great an opportunity for geological research as these Cascade mountains. On the Little North Fork the strata will be found well delineated upon the mountain sides, which were once the floors of ancient oceans. These strata stretch out into the vista of unrecorded history beyond the infinite abyss of time.

When the west shore line of the continent lay east of what is now known as the Cascade mountains, and nearly all of what is Oregon and Washington were submerged, the mud flats that afterwards became the auriferous shales of the present Cascades, accumulated upon the ocean bottom to a great depth. In process of time the Cascade region and its westerly lying foothills began to emerge from the ocean, and so slowly that for centuries it remained comparatively low and flat. During this period the Pliocene rivers were born and their erosion commenced. With their many branches and ramifications they presented much the appearance of a wide spread oak whose branches traversed a region so broad and flat that in pursuing their devious courses they doubled on themselves and ran for long distances in various directions, meandering slowly through the great champaign, forming islands, side-channel bays, deltas, and lagoons on their long journey to the ocean. Thus it was that the fluvial system which so puzzles the savants and scientists of the present day to decipher, was plotted out. These rivers entered upon the work of eroding channels for themselves.

The watersheds tributary to them were extensive, covering all of Eastern Oregon and most of the country now drained by the Columbia and Willamette rivers.

Gradually, as the country crust continued to be forced up and the grade became steeper and steeper, the current was accelerated, and the erosive power augmented, while the increased depth also tended to straighten the channels of these rivers, causing them to forsake portions of their former beds to seek more direct routes to the sea.

These ancient streams were not only the wearing bit and transporting power, but all this material was barren, no gold having been ejected from its primary source—the depth of the earth. There was no need of it, no animal having yet been created to appreciate its many uses. The inhabitants of our globe down to and far into the Cenozoic age got along very well without it. The ichthyosaurs, the megatherium, and the saurian that walked in the aquatic seas

were a non-commercial and a non-boarding disposition. However, a notable event was about to happen in the progress of things terrestrial. Man was soon to appear on the scene of action, and nature, anticipating the necessities and desires of this animal, made preparations for bringing up a portion of the auriferous metal from the molten interior of the earth and placing it within his reach. To this end she managed a little before his advent, geologically speaking, to inject into the slates and schists, already tilted up, numerous gold-bearing quartz veins, impregnating them more or less with the royal metal from the hydrothermal rocks.

The Neocene Rivers of Oregon.

The geological observer cannot fail to notice that the gold-bearing gravel of the Neocene rivers of Oregon, Washington, and Idaho, with their watersheds, formed a mountain range as distinct as those of today, and that its first summit in general coincided with the corresponding modern divide, which observation proves that the grade of the remaining Neocene gravel channels are, to a certain extent, determined by the direction in which they flowed. The slopes of the Cascades, as well as the Blue mountains, have been considerably increased since the time when the Neocene rivers flowed over the surface. It seems probable, from the study of the grade curves and the remains of the channels, that the surface of the mountains has been deformed during the uplifts, the most notable deformations having been caused by the subsidence of portions of the great valleys adjacent to the Columbia and Willamette rivers.

These ancient gold-bearing river channels, which are mostly buried in a mass of debris of volcanic material, are not only peculiar to Oregon, but to California as well. A large part of the Blue mountains and the eastern slope of the Cascades are capped with masses of volcanic material under which are buried these old channels. The experienced miner can determine at once channel-washed gold of these rivers from that which has been much later eroded from the quartz veins and porphyry rocks. The gold is rough and craggy, and bears no resemblance to the smooth and flaky appearance of the former, and as the topography of Oregon has been nearly in its present form for the last two geological periods, what we call the buried are dead rivers, are the gulches and canyons of the present Cascade mountains which were sealed up about the close of the Pliocene epoch of the Tertiary period. This is notably the case east of the Cascade mountains, and along the John Day and Des Chutes rivers, which have been much distorted, and during the uplifts left many of these buried branches on the summit of the Blue mountains. The rivers, when once changed, had to gather their waters together again, and in the hundreds of thousands of years that have elapsed these streams have eroded their new channels some places to the extent of thousands of feet.

Gold Mining.

Following the discovery of gold on the Pacific coast, and the immigration of 1849 and 1850 to California, led to the early advent of placer mining on Klamath and Rogue rivers, in Southern Oregon.

It was prosecuted with great energy and vigor for many years, or as late as 1860, when subsequent prospecting of the more northern part of Oregon and Idaho, then Washington territory, led to many discoveries of placer gold, which was mined in the well-known camps of Oro Fino, Florence, and Elk City, in Washington territory, and in Baker and Grant counties in Eastern Oregon. All of this has since passed into history. As these camps became almost exhausted, the want of transportation caused the mining industry to lag for a number of years, but since the advent of the railroad great attention has been paid to quartz mining, working over the ground where these camps drew their supply of gold. But the purpose of this pamphlet is to call the attention to the mining industry as it exists today.

It is a well-known fact that the city of Portland, which has a population of 120,000, owes its origin and prosperity to the early mining in the state, and today is being largely maintained by the more recent quartz mining, which every year seems to open up new sources of wealth in the great and undeveloped Cascade mountains, which extend through the whole length of the state, and, after a lapse of 50 years, the many hydraulic mines in the southern and eastern part of the

state are not yet showing any diminution in their production of the precious metals.

Quartz and Placer Mining.

The development now going on in the different quartz mining districts of our state surpasses anything heretofore known. These districts are now found to be rich in a vast quantity of mineral wealth of great variety, and a large amount of eastern capital is invested in the quartz mines of Blue River, Gold Hill, in Josephine county, Bohemia District, in Lane county, and the Santiam District in Linn county. Each of these districts have very large and extensive mines with about 50 quartz mills in operation.

The following is a list of some of the producing mines in Southern Oregon:

Ajax, Cramer and Palmer, Gopfer, Vulcan, Yellow Horn, Eureka, Rising Star, Mountain Lion, Braden, Bill Nye, Golden Wedge, Golden Standard, Hemmesley Mine, Mule Mine, Oregon Belle, Mayflower, Greenback, Granite Hill, Shorty Hope, Copper Stain, Wymer, Old Channel, Galice Consolidated, Sterling, Lucky Boy, Oregon Security, Black Butte Quicksilver Mine, Alameda, Le Roy, Millionaire, Baby Mine, Williamsburg, Uncle Sam, Great Northern, Blue River, Gold Mine, Gold Hill, Nickel Mine, Chromate of Iron Mine, Poor Man's Mine, Treasury Mine, and Badger Mine.

In the eastern part of the state, in Malheur, Grant, Baker, and Union counties, some of the greatest mines are located, and here, also, much eastern capital is invested. There are a large number of quartz mills, besides a great deal of placer mining. The following is a partial list of some of the producing mines of this section:

Alamo, Balsley Elkhorn, Belcher, Big Four, Blue Bird, Florida, Copperopolis, Cougar, Cracker Jack, Cracker Oregon, Cracker Summit, Del Monte, Dixie Meadows, Emma, Eureka and Excelsior, Flagstaff, Golden Wizard, Gold Hill, Gold Ridge, Great Northern, Highland, I. X. I., Jay Gould, La Bellevue, Magnolia, Maid of Erin, Mammoth, Maxwell, May Queen, Midway, Monumental, Octo, Ohio, Oregon Monarch, Oro, Owl and Elephant, Security, Snow Creek, Standard Consolidated Uncle Dan, White Swan, Yankee Boy.

I will not attempt to describe any particular mine in detail, as I have but a limited space, but sufficient to say, that at one time, they were all prospects the same as thousands of others are today.

Gold has never been found in a pure state, but always alloyed with silver. Silver has never been found absolutely pure, but always alloyed more or less with gold. Several metals resemble gold, but gold resembles no metal, and the only metal of a yellow color. The purest gold ever found in the United States, to my knowledge, was found in Montana, 980 fine. Oregon gold averages 820 fine. Gold dust found in the Cascades, especially the western slope and on Snake river, has evidently been eroded from the porphyry, or allied rocks, which was the first flow of the Cascade mountains about the close of the cretaceous period. Everywhere we find this character of rock it contains traces of gold, and in places runs up to several dollars per ton. This rock may be properly called the acid lava.

The erosion of this character of rock is evidently what has set the free the very fine flour gold dust which is found quite abundantly along the bars of Snake river. On these bars, and in some places 2000 feet above the river, this flour gold is mined to a considerable extent and saved by being washed over burlap tables. It is so fine that it takes 50 colors to make a cent in one pan of dirt. In some places the bars of the rivers are replenished by the spring freshets. I know of one bar in particular which has been washed over every year after the spring freshet, producing as much gold the last year as it did the first. The work has been done over and over by the Chinese who make from one to three dollars per day per man by rockers.

The gold is associated with the black iron sands which comprises about two per cent of the sand washed. This black sand is largely composed of chromate of iron, and, in other places, of magnetite iron and carbonate of iron. The same character of sand at the mouth of the Columbia and Yaquina rivers is not worth more than ten cents per ton in gold, which goes to show that this must have been transported from the far interior by the rivers. Much of the sand on the ocean beach near Yaquina Bay is a brownish red, lustre vitreous, inclining to resinous, and is doubtless monazite, which is abundant in some parts of the state. In the old town of Florence, Idaho, monazite is quite extensive in the gold washings, but has more of a yellowish to a resinous appearance, and is very heavy. It was used by the miners in early days to

adulterate the fine gold dust of that camp, which was similar in color to the gold.

The black sand found on the ocean beach near the mouth of Rogue river, or Gold Beach, is almost wholly titanite of iron, and is not attracted by the magnet. It is quite heavy, and the gold being so much finer, makes it extremely difficult to separate, and many machines have been invented for this purpose, but all have failed to make a complete and profitable separation.

The annual production of gold in this state at the present time is not less than six million dollars, a part of which might be attributed to the placer mines in operation, whereas the government only gives credit for about one million eight hundred thousand.

The renewed activity in the search for and development of these sources of wealth is due to many causes. It is apparent that under the present economic conditions, that though all other products may fall in price from overproduction, the production of gold cannot be overdone. The low price of labor, the extension of steam transportation, and the highly improved methods of production and treatment of ores, are important factors in the development of the mining industry. When Kustall first announced his process of treating base ores by the chlorination method, about 30 years ago, it was claimed that the ores must be worth at least \$25 per ton to make this process profitable. This method has now been improved upon so that today base ores worth not more than five dollars per ton can be worked to advantage.

Many of the quartz mills running on free milling ore twenty-five or thirty years ago, estimated their loss to be \$10 per ton, whereas the loss today on free milling ore need not be over sixty cents per ton.

Base ores running two dollars in gold, ten per cent in copper, three or four ounces in silver, and two or three per cent in lead are abundant in the Cascade range.

While this section, particularly on the Santiam river and its branches, has long been known as a great mineral region, until recently the broken and mountainous condition of the country, and an absence of trails suitable even for a pack animal, have precluded the possibility of a thorough examination by mining men. In the past years many attempts have been made to reduce the ores by different methods, but, owing to the fact that the work was undertaken by inexperienced operators, it has, in every instance proved a failure. During the past five years, however, a more thorough examination has been prosecuted with renewed energy and vigor, in consequence of which large deposits of what may be called low grade concentrating ores have been revealed. In many of the claims much high grade ore has also been found, demonstrating beyond a doubt that this section is destined to become one of the greatest mineral producing sections of the state of Oregon, since added to its vast productiveness, no better location and facilities for the transportation and reduction of ores could be desired.

In my judgment none of these veins are contact veins. They appear to be enclosed in porphyry rocks, and are more in the nature of segregation of ore bodies of large dimensions; and yet in their course and strike they have the appearance of fissure veins. As to their size and dimensions, a conclusion can be only speculative beyond sight. Their continuity seems perfect in crossing the creeks and country all in one direction, and I can not doubt their permanency at great depth.

There are three kinds of mineral veins—veins of segregation, veins of infiltration and great fissure veins. Of these three, one graduates into the other in such manner that it is often difficult to distinguish the difference, but for all practical purposes I shall call them segregated veins. The ore is chalcocite, with occasional bunches of bornite, carrying silver and gold.

I see no reason why this section of the country should not produce hundreds of tons of concentrated ore per day, worth \$40 per ton. The waterfalls of the various streams of these mountains emptying into the Willamette and its tributaries are too numerous to mention. There are sufficient, not only for transporting lumber by flume, but to furnish, when harnessed, all the electric power of the state. The whole of the Cascade mountains is thickly covered with timber of great variety, which is unsurpassed in any part of the world. The lumbering of this section forms the principal business of the Corvallis & Eastern railroad. The abundance of this timber greatly facilitates the development of the mining industry, which in many other states is retarded by its absence.

As an illustration of the value of the low grade ore previously referred to, I might mention the Alameda company, which has a ledge of this character,

one hundred feet wide, and with over five hundred feet of backings, showing more than one million tons of ore in sight, at an average value of \$12 per ton in metals. A smelter is in process of erection on this mine, which is only one of the many now being opened up. The Connor Creek mine and the Virtue mine of Eastern Oregon have been steady producers for the past thirty years.

The mining interests of Oregon are now beginning to grow, and will continue to grow until the mining industry will be of paramount importance in this state.

Labor Notes.

It is reported that the striking garment workers in New York have so crippled the manufacturers that several of them are seeking a settlement with their employes on the "union shop" basis.

The London, England, cab strike has ended in a success for the men, subject to a final arrangement of terms. The real grievance is the excessive number of cabs in the street.

Officials have completed a settlement of hours and wages with the telegraph operators of the system, and a new schedule has been signed.

Boot and shoe workers, of Petaluma, Cal., have formed a union.

There is a strike for the free Sunday at the Wisconsin paper mill.

The strike of the diamond cutters at Antwerp has ended, after a six months' struggle. The men have agreed to accept the terms suggested by M. Terlivagno, the union deputy.

Boston, Mass., union lathers have gone on strike against the open shop.

At a meeting held at Dusseldorf, the Union of German Iron and Steel Makers resolved to form an employers union.

About 500 union painters of Boston are at work, after a strike of several months to obtain higher wages. In the majority of cases the men have been given the \$3 a day for which they asked.

All the collieries in the anthracite region which have been shut down since July 1 have resumed operations.

Northumberland, Eng., miners, at their annual council meeting, decided to apply to the coal owner for 2d. a ton extra for the night shift hewers, as their task is more arduous than day work.

Directors of various bridge building works in Motherwell, in Scotland, have given notice of a reduction of 5 per cent in day wages and 10 per cent, on piece rates of the iron workers. The men threaten to resist the reduction by a strike. Several thousand are concerned.

Terrence V. Powderly may again be the head of the Knights of Labor. It is understood he will accept, if unanimously elected.

Emerson Keeps Up His Kick.

According to the following dispatch from Hoquiam, Wash., Emerson, the old Raglan pitcher, is more than holding his own:

"Hoquiam's players knocked Centralia's pennant aspirations in the head today, when they defeated the Midgets by a score of 3 to 2. Emerson, who pitched for Hoquiam, was the star of the day, and he made the hit in the eighth which scored for the winning run. Emerson allowed only four hits, these being in the seventh inning, when Centralia got her two runs, and he was given perfect support, only four Midgets reaching first base.

"In the seventh inning he struck out the best two men, and all three men who faced him in the eighth."

Free Mails for the Blind.

Under an act of congress, that goes into effect today, the transmission of books for the blind, in packages under ten pounds, will be permitted through the mails. This makes all the libraries in the United States accessible to the blind children of Oregon and books cannot only be sent free from different institutions, but to the homes of children. Supt. Geo. H. Jones, of the state institute for the blind, is very much pleased over this system of franking printed matter for the blind.

Welcome News.

The Salem Military Band will again delight the citizens of Salem this week, by giving two band concerts. The first one will be tomorrow night, Tuesday evening, August 2d, at Wilson avenue, and the second on Friday evening, August 5th, at Marion square, both beginning at 8 o'clock.

Delegates Appointed.

Governor Chamberlain today appointed the following named persons as delegates to the annual meeting of the National Prison Association of the United States: E. W. St. Pierre, C. W. James, Rev. Father Edward Murphy and Thos. N. Strong.

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GUEST LEFT QUICK

Eugene Visitor Turns up Missing and Suicide Is Feared

Eugene, Aug. 1.—Deep mystery surrounds the disappearance of Tom McCoy, recently a guest of the Grand hotel.

In company with a friend, John Welch, the missing man arrived the other day from Grants Pass. They took rooms at the hotel, and were evidently on some business mission. Friday at the lunch hour Welch entered the dining room, leaving his friend, who was too ill to eat, sitting on a bench in front of the hostelry. When Welch had finished his meal he sought McCoy, but that party had disappeared absolutely, and a diligent search has failed to reveal his whereabouts.

It is not believed that McCoy has met with foul play, although he had a considerable amount of money on his person. The missing man has suffered for years with acute gastric trouble, and it is not unlikely that he might have concluded to end it all. At any rate there is a great deal of speculation as to the reasons which prompted him to disappear so suddenly. The police have his description, and are active in the search.

Welch and McCoy have been associated for years, and the former had no intimation that his friend intended to leave in a manner so abrupt and mysterious.

S. W. Minturn, of Elkhorn, is down from his position at the state university at Eugene, to spend a few weeks in the mountains of Marion county. He is noted for being one of the most skillful troutfishermen in the state.

Gone to Chicago and New York

Who's Gone?

S. FRIEDMAN

For What Purpose?

Watch the Papers

In the meantime his business will be in the charge of Anderson and Martin. If you see the prices on clothing, hats, gents' furnishing goods and notions, you will find that the business will not diminish. You will get bargains at 149 State street.

Wall Paper

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The Star Bottling Works, corner of Broadway and Market streets, North Salem, are now ready to fill all orders on short notice, in the line of soft drinks. All kinds of sodas at 75c per case. Quart goods at \$1.50 per dozen. Quality guaranteed. Special Rates to Dealers. Phone 235 White.