

## COLORADO 1880-1896.

Condensed from the Engineering and Mining Journal:

In the unrelenting march of development seven years is sufficient to cover some startling changes in the conditions governing the mining industry of such a state as Colorado. In 1889 Creede was undiscovered and Cripple Creek unknown. Leadville and Aspen were splendidly prosperous. The mines of Clear Creek were being developed with a cheerful activity unsuspecting of the silver collapse to come and old Gilpin was still quietly holding the first place as a gold producing district.

Other times, other prices. During the year 1889 silver sold for 93.6c. Last year the price averaged 65.8c. This brutal fact more than aught else explains the changed conditions marking the mining industry of today as compared with that of seven years ago. To it is traceable the diminution of exploration in our silver-producing regions and the transference of activity from the mines producing the discredited metal to those whose output is chiefly gold. Aspen wanes as Cripple Creek grows and Gilpin awakens, while Clear Creek declines.

It may seem an easy matter to obtain comparative statistics of the precious metal yield for the two periods, but owing to the vagaries of the director of the mint and the frequent guesses at our production which that official makes, this is a more difficult matter than it ought to be. However, 1889 was the year of the census, and the figures given by its agents were compiled with more than ordinary care and are altogether trustworthy. For 1895 I refer to the statistics of the Mineral Industry, which are the most authoritative. The comparison is as follows.

	Gold.	Ounces.	Silver.	Market Value.
1889	\$2,893,859	18,375,551	\$17,199,515	
1895	13,559,934	17,891,626	11,687,150	

The increase in our gold production has been uninterrupted and promises to continue. In 1895 the value of the gold product for the first time exceeded that of the silver. After 1889 the silver output increased until in 1892 it reached its maximum of 26,350,000 oz. Since then it has steadily declined and will further decline with increasing rapidity unless conditions alter.

The uncertain history of mining camps is made evident when we inquire into the sources of the yield of these two periods.

Name of County.	1889		1895	
	Gold.	Silver.	Gold.	Silver.
Boulder	\$222,537	\$252,177	\$413,527	\$54,034
Clear Creek	488,631	2,499,588	729,775	2,065,166
Gilpin	956,856	452,506	1,399,923	252,678
Lake	177,321	8,890,365	1,524,393	12,487,254
El Paso			6,879,137	90,875
San Juan region	88,473	4,024,838	2,980,391	6,301,157
Pitkin		8,696,611	1,565	6,775,488
Mineral			129,181	7,649,921

The silver is figured at coinage value.

These are the figures of the mint reports, which usually err in giving amounts higher than ultimate statistics justify. However, such as they are, they give room for very obvious deductions.

In Boulder the falling off in silver mining is obvious and it is not yet compensated for by the increased gold yield. Clear Creek holds its own very fairly with an obvious tendency to shift the balance of production from one metal to another.

Gilpin, the oldest gold district, whose discoveries in May 1859, heralded the very beginnings of Colorado's mining industry, has added to its former yield more largely than the statistics for last year indicate. Owing to severe floods and several serious mine accidents, 1895 was a bad year and does not represent the average of a very steady production, approximating \$2,000,000 per annum.

Lake county means Leadville. The gold yield has sprung up owing to the discoveries in the Little Johnny mine and the silver output is maintained by the development of the ore measures underlying the eastern outskirts of the city. It is a fine tribute to the energy and skill of the Leadville mine managers that in face of calamitous decline in the prices of lead and silver, and in spite of the rapid exhaustion of the big bonanzas, the output should be maintained at so high a figure. El Paso means Cripple Creek, unknown in 1889, discovered in 1891, and to-day the largest gold producer of all the mining camps of America.

The six counties comprising the San Juan region are lumped together, since they form what is practically one district. The increase in the gold output is

mainly traceable to Telluride, in San Miguel County, and to Silverton, in San Juan County. The latter with Hinsdale County, helped also to build up the silver increase. Pitkin is the county where Aspen is situated. The Aspen, the Aspen Compromise and the Compromise were the mines which, in 1889, yielded the bulk of the output. In 1891 the bonanza of the Mollie Gibson was uncovered, and in the following year the Argentum-Juanita became a large producer. In 1892 Aspen produced 8,275,000 oz., valued at \$10,674,000. Creede lies in the newly formed county of Mineral, at the headwaters of the Rio Grande. Its discovery in the summer of 1891 led to a silver output which culminated with \$3,100,000 in 1892.

The bare facts told by this glance over the statistical tables are full of a telling suggestiveness to those who are familiar with the conditions obtaining in Colorado during the past few years. At the time of the last meeting of the Institute the gold-mining industry was less important than the silver one yielded \$3,883,859 and the other \$5,344,800. At that time silver mining was in the ascendant, and its importance far overshadowed the search for the other useful metals. The rapid uncovering of ore deposits of extraordinary richness at Aspen, the discovery of the Amethyst lode at Creede, the reckless exploitation of the Rico ore measures and the extension of the known productive territory at Leadville were all factors in giving a remarkable impetus to the production of the white metal, culminating in 1892 with a yield of 26,350,000 oz. In the summer of that year the silver market collapsed, some of the mines shut down, others ceased exploratory work and began the gradual gutting of their ore reserves. The full effect of the altered conditions did not become reflected in the statistics of production until a couple of years later, Creede fell off quickly. Aspen's big bonanzas enabled the maintenance of a respectable output; low wages and cheap freights prevented Clear Creek from succumbing suddenly. Rico had already been depleted by reckless mining and Leadville gave up activity in California gulch for the development of the higher grade ores which had been proved to follow the extension of the regular geological horizon under the streets of the city. Then, at a time of severe depression aggravated by the hysterical vaporings of demagogues, there were made a series of gold discoveries which gave a new outlet to the undaunted energies of a very resourceful community.

As the Leadville ore zone had been followed eastward toward the Mosquito range some unimportant discoveries of gold have been made. In the pyritiferous porphyry of Breece Hill several shafts had been started, and in the fall of 1893 one of these, the Little Johnny, encountered a large body of rich gold-bearing ore. The development of this, added to other mines already productive, such as the Antioch and Lilian, brought Leadville's production for that year to \$897,456, growing to \$1,657,000 in 1894. This caused a very cheerful renewal of activity in that part of the district and although it has as yet led to little more than the determination of the narrow boundaries of the gold-bearing territory it was of incalculable benefit in the restoration of confidence which it induced at a most trying period.

So also with Cripple Creek. Although discovered in 1891 the prospect holes on the further slope of Pike's Peak were at first panned because of a queer fiasco which in 1889 had occurred at Mount Pisgah in the same neighborhood. But when the silver mining industry became paralyzed every gold discovery gained in importance, and there occurred an exodus of disappointed silver miners to the new gold region. It was almost the energy of despair which changed an uncertain discovery into a recognized mining camp, and started a development which is amply reflected

in the statistics of production. In 1892 Cripple Creek yielded \$583,010; in 1893, \$2,215,000, in 1894, \$3,900,000, and in 1895, \$6,879,137. These figures tell an eloquent story.

Gilpin was least affected by recent economic changes. Nevertheless, overlooked as it had been during the years when silver mining had attracted so much capital, it was bound to gain by a diversion of some of that capital to gold seeking. It is a noteworthy instance of the vicissitudes of mining that of the several properties which in 1889 yielded more than three-quarters of the output, not one is today producing, although in several instances a large yield is now coming from mines adjacent to them and previously idle. Seven years is longer than the productive period of an average mine. One can extend the field of inquiry over the whole state only to confirm the deduction just suggested. Of the properties which yielded over \$500,000 in 1889, more than half are today producing less than \$50,000; others have taken their places. Nor is this characteristic of Colorado only; on the contrary, it is particularly worthy of note in discussing the history of a state whose ore deposits are notably more persistent than those of most mining regions.

It is due to the hurry to realize upon the wealth uncovered by the pick of the mines; it is aided by the rapidity of exploitation rendered possible by a magnificently elaborate industrial machinery; it is also traceable largely to the imprudence of mine managers who are forgetful of the necessity of doing an amount of exploratory work which shall keep pace with the removal of ore.

In parenthesis it may be pointed out, what no retrospect of Colorado history will fail to emphasize, namely, the resourcefulness of the state. Individual mines are discovered, and, having had their day, become impoverished; particular districts rise and wane; silver mining is in fashion for a time, and then yields in importance to gold, the lead production wilts while copper is in the ascendant, but throughout these changes the mining industry holds its own, because built upon a basis wider than the price of any one metal or the prosperity of any single camp.

## MINING STOCK EXCHANGE IN TORONTO.

Toronto brokers are engaged preparing to list mining stocks on the Toronto Stock Exchange. It is proposed to demand fulfillment of the following conditions before a mine can be listed:

1. Listing fee to be \$50.
2. Evidence to be furnished as to proper incorporation of company.
3. Evidence to be given of good title to mine or principal mines owned, and a satisfactory engineer's report furnished.
4. At least \$25,000 to have been expended on property in operating expenses.
5. Stock issued as fully paid must be shown to be non-assessable and free from subscription liability.
6. Statement of company's position to be given.
7. Any one or all the foregoing requirements may be waived by the managing committee in cases of a mining company whose stock is listed on either the Montreal, New York, London or Paris markets, or is otherwise well established.

Perhaps the people who framed those conditions could give some pointers as to how \$25,000 is in many cases to be raised except by selling stock. Only \$15,000 had been spent in operating expenses on the War Eagle when it paid a dividend of \$32,500. Well, well; let them establish their mining exchange. But would it not have been a better condition to impose that a mining company should have taken \$25,000 out of the ground instead of having put it in? Legitimate mining consists in taking money out of the ground at the least possible cost; not in putting it in.

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