SALT OUTPUT OF VARIOUS STATES

United States Leads World in Production of This Valuable Mineral.

UTAH HAD A BIG INCREASE LAST YEAR

Production Figures Given by States in Report of Geological Survey.

The United States not only produced 26.6 per cent of the salt consumed within its borders in 1907, but exported nearly 62,000,000 pounds, valued at more than a quarter of a million dollars, according to W. C. Phalen, whose report on the salt and bromine industry of this country for the last calendar year has just been published by the United States Geological Survey as an advance chapter from its annual volume on the country's mineral resources.

The salt production of the United States in 1907 amounted to 29,704,128 barrels of 280 pounds, valued at $7,439,551—an increase of 1,531,748 barrels in quantity and of $781,201 in value over the output in 1906. Expressed on a tonnage basis, these quantities represent an output of 4,158,578 short tons in 1907, or 214,445 short tons in excess of the production in 1906. The average net value of the product in 1907 was 25.046 cents per barrel, or $1.79 per short ton, as against 23.634 cents per barrel, or $1.69 per ton in 1906, an increase for 1907 of 1.412 cents per barrel, or 10 cents per ton.

For convenience salt is classified according to the grades by which it is sold by the producer, the grades being determined by the amount of refining, the methods employed in refining, and the purposes for which the salt is used. These grades are "table and dairy," which includes the extra fine and fancy grades prepared for family use and all grades artificially dried, used for butter and cheese making, etc.; "common fine," including all other grades of first quality not artificially dried; "common coarse," including all grades coarser than "common fine" made by artificial heat; "packers," "solar," "rock," "milling," "brine," and "other grades." "Packers" sale is that prepared for the purpose of curing fish, meats, etc. "Solar" salt is that made by solar evaporation. "Rock" sale includes all salt mined and shipped without special preparation. "Milling" sale is used in gold and silver mills. Under "other grades" are included the low-grade products used for salting cattle and for fertilizers, etc. "Brine" includes all salt liquor used in the manufacture of soda ash, sodium bicarbonate, sodium hydrate (caustic soda) and other sodium salts or brine sold without being evaporated to dryness. The table of production by grades, given by Mr. Phalen shows a substantial increase in the quantities of the finer grades. Of the total output in the last calendar year 9,222,471 barrels were brine, 7,584,628 were classed as "common fine," 5,809,328 barrels were "rock," 2,537,157 barrels were for "table and dairy" use, and 2,055,054 barrels were of the "common coarse" grade.

The following table gives the production and value of salt, by states:

Production and value of salt in the United States, 1906-7.

STATE.	1906. Quantity. Barrels.	1906. Value. Dollars.	1907. Quantity. Barrels.	1907. Value. Dollars.
New York	8,978,630	2,098,686	9,642,178	2,335,150
Michigan	9,936,802	2,018,760	10,786,630	2,062,357
Ohio	3,236,785	789,237	3,851,243	979,078
Kansas	2,198,837	681,022	2,667,459	962,334
Louisiana	1,179,528	268,005	1,157,621	226,892
California	806,788	291,528	626,693	302,940
West Virginia	200,055	57,584	156,147	76,527
Texas	360,733	170,559	356,086	226,540
Utah	262,212	168,635	345,557	199,779
Idaho	1,574	1,867	1,600	2,040
Nevada	11,249	6,420	6,457	3,654
Oklahoma	9,893	4,965	800	910
Other states	*989,294	100,082	**105,657	61,350
Total	28,172,380	6,658,350	29,704,128	7,439,551

*Includes Virginia, Pennsylvania, New Mexico and Massachusetts.
**Includes Pennsylvania, New Mexico and Massachusetts.

When value of product alone is considered, this table shows that New York still occupies the leading position in the salt industry. Since 1905 Michigan has produced a larger quantity of salt than New York, but the average net price in Michigan is so much less than in New York that the difference in production is not sufficient to compensate for the difference in value. So far as both production and value go, the nine leading states maintain in 1907 the same order as in 1906. Louisiana in both years produced more salt than California, but the output from California had a greater value.

The salt exported, most of which went to Cuba, Canada, Mexico and Panama, amounted in 1907 to 61,603,422 pounds, valued at $232,895. The total imports amounted to 1,062,851 barrels.

In both quantity and value of output the United States stands at the head of the salt-producing countries of the world, and in quantity the United Kingdom, the German empire and France rank next, in the order given, although the value of both the German and the French output exceeds that of the United Kingdom.

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MARK TWAIN'S CABIN STILL AT AURORA

In Aurora, once the county seat of Esmeralda county, Nevada, there live today a score or more of old gentlemen whose hopes have grown grey with their beards, but whose memories are yet vivid with the personal reminiscences of Mark Twain, says the Inyo Magazine. These men lived there when Aurora was known as Esmeralda, when Mark Twain lived among them in a cabin which still holds its prominent position at the head of the town, and when the great Wide West mine, of which he speaks in his books, became the property for ten days of Twain and his two partners.

The last census of Aurora showed three-fourths of its population as wearing grey beards and above the age of seventy. As though the funny spirit of Twain still lingered about the spot, his scores of personal admirers in Aurora have remained the steadfast guardians of the place, laughing at the passage of time and fortunes. Their pride has centered in two features of the place—the mine which he once owned and carelessly lost, and from which subsequently seven millions in silver were taken, and his cabin, which has been stripped entirely of its shingles by casual visitors seeking for mementos, and which was publicly reshingled by the residents of Aurora.

Aurora is a way station now on stage road between Thorn and Bodie. Some years ago when the travel on this road was rather brisk, one stage driver, a clever humorist himself, derived considerable revenue from Twain's old cabin by the sale of flags. In those days a flag was used to designate the humorist's cabin, and the driver, secretly, would strike a bargain with one of his passengers to get this flag, while no one was looking. The price of this piece of daredevilry would be $5 and the happy passenger would drive away with the coveted trophy. Later the driver had the flag replaced by another, which he would again sell at the first opportunity. The flags, it is said, were purchased by him by the hundred lot.

Subsequent to the days of Mark Twain, who was then known only by his real name, Aurora became a very thriving mining camp. A number of very rich mines were found at the place, and of these Twain's mine was one of the very best producers. It was from here that Whiteman is said to have made his clandestine ventures in search of the lost cement mine, which was the cause of taking the humorist into the Lake Mono region, of which he has given a characteristic description.

But the fame of Aurora has long since passed. The county seat was moved to Hawthorne, from where it was again moved later on, and today Aurora is not even marked on a map of the state. Like the somnolent camp of Rip Van Winkle, its location is so shrouded in legend and romance that the practical map maker is unable to find it, and but for the potent spirit of the great humorist, its entire population would, no doubt, long since have wandered away into oblivion. But like the hopes of the children of Israel, the score of aged residents of Aurora hope for the return of their Messiah, and are defying time that they may be there when Twain again returns to his cabin in old Esmeralda.

INTERESTING RELIC OF EMIGRANTS AND INDIANS

Bill Keys, the former head scout and partner of Death Valley Scotty, who is now in Rhyolite, has a watch of historic importance in his possession. The watch originally belonged to a party of emigrants who either perished from thirst at Salt Creek in Death valley, or were killed by the Piute Indians nearly forty years ago. The former assumption, however, is generally accepted.

The watch is a Howard full-jeweled movement with solid gold hunting case. Mr. Keys traded a couple of horses, valued at $150 for the timepiece at Furnace Creek in 1904, to Mary Scott, a full-blooded Piute, and the daughter of a warrior who is supposed to have participated in the massacre of the emigrants. Mary Scott is still alive, and resides at Ash Meadows. Mary was somewhat reluctant to enter into the bargain, saying that her father told her never to let a white man see the watch. The story which the Indians tell is that the emigrants buried their jewelry and other valuables when they saw that they must inevitably perish from thirst in Death valley. The general belief, however, is that the Indians murdered the party and appropriated the valuables. Going on the former theory, Old Man Lee, the father of the Lee brothers, half breeds, the original locaters in the Lee district, spent much time in fruitless search of the buried treasure.

In addition to the watch, Mary Scott, Mr. Keys says, has a very valuable diamond bracelet and other jewelry. He tried to induce her to part with this, but there was nothing doing. She refused to consider any proposition looking to an exchange in this direction. This is believed to have been the same party of emigrants who let themselves and their wagon trains over a precipice in the vicinity of Keane Springs into Death valley by means of log chains. Three miles of these chains were found near the locality, and tradition has it that it was in this manner the wagons and horses were lowered into the great sink. The supposition is that the chains were later abandoned on account of their weight, and the hinderance which they offered in crossing the sands of the valley. The emigrants were from the east and on their way to California. Fifty-two in all are said to have been killed by the Indians.—Bullfrog Miner.

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OLD EUREKA BUSY IN MANY PLACES

Several Properties Now Are Sending Ore to the Utah Smelters.

LEASERS ARE DOING SOME TELLING WORK

Sentinel Tells About Mining Deals and Work About the District.

S. M. Chord and R. H. Locke, of the Eureka Mining and Leasing company, made a shipment of twenty-six tons of ore on Wednesday of this week to the Utah smelters, and have a second shipment well under way, says the Eureka Sentinel.

These shipments are being taken from their lease on the Windfall group of mines situated about six miles south of Eureka, on what is known as the Secret canyon summit, and promises to be a very productive property. The leasers began work in May of this year and prospected the ground for some time with the object of determining the extent of the body of cyaniding ore available. While this was being prosecuted, about the latter part of June, they discovered the vein of shipping ore while drifting from the level of the short tunnel.

It was a well-defined contact between lime and a large body of low-grade quartz. The high-grade streak will average from six inches to two and a half feet, and is in a very brecciated condition. Assays show values of $160, $204 and $240 in gold, while the entire vein carries high shipping values. They are now sinking and drifting on the vein, and at a depth of about fifteen feet it is more clearly defined, as well as increasing in values.

The lower grade quartz through which this vein runs will average from $16 to $24 in gold per ton, and the ledge can be traced for several hundred feet on their ground. This ledge has been carefully prospected and assays show that the ore is continuous and several feet wide on the surface. Messrs. Chord and Locke are purchasing equipment for a twenty-ton cyanide plant to treat this low-grade ore, which carries practically gold values only, and is entirely free from objectionable elements. This plant will be erected at the mine, where an ample supply of water is to be obtained.

They have recently increased their force at the mine and will vigorously push development work on the high-grade ore body. The new air compressor for the Nevada Development and Mining company, that arrived from the east the latter part of last week, was hauled to the Holly mine on Adams hill Tuesday and put in position. The Sentinel is informed that deeds to the Fitzgerald properties on McCoy hill have been placed in escrow in the Eureka County bank. Owing to the reticence of the parties interested we hazard the guess that it means the consolidation of much of the valuable territory lying between Ruby hill and Prospect mountain.

During the week ore shipments were made from the Rocco-Homestake, Julia and McEllin mines at Hamilton, over the E. & P. railway to the United States Smelting company in Utah.

NEW PROCESSES IN ORE CONCENTRATION

Within the past few days a great deal of space has been devoted by daily newspapers in the mining districts and elsewhere, to discoveries of new methods of treating ores which "threaten to revolutionize all existing methods," etc., and, as usual, the newspapers, in their zeal to announce the "good tidings," have been saying many things that are not exactly correct. One of the centers of metallurgical revolution is Goldfield, Nev., the other Cripple Creek, Col. At Cripple Creek, or rather at Colorado Springs, Mr. J. C. Clancy is credited with having discovered a method of treating Cripple Creek ores without roasting and that his discovery will reduce costs about $2 to $4 a ton, a very substantial item in itself, with a recovery of 94 to 95 per cent.

At Goldfield, Nev., the Consolidated Goldfield mines management has worked out a new method of treatment of sulphide concentrates. J. H. Mackenzie writes us that the process is a success, though the press reports are rather stronger than facts warrant. However, the new method will reduce costs materially, while enabling the company to treat sulphides running 15 to 20 ounces gold at low cost, with a recovery of 94 to 95 per cent. The process is described as extremely simple, consisting of fine grinding, washing with weak acid solution and subsequent treatment by cyanide.

Both of these innovations in ore treatment are of undoubted value to the mining world, but probably their greatest value will be in the demonstrated fact that all that may be accomplished in metallurgy has not been discovered and there yet remains much to be accomplished in that direction. These new processes will stimulate research and urge men to renewed experimentation in hope of further important discoveries. The trend in metallurgical experiment is in the direction of wet processes in lieu of smelting and it seems not improbable that we may within a few years see the smelting industry confined to the production of iron and possibly to a portion of the copper of the world.—American Mining Review.

ANOTHER THEORY OF DEATH VALLEY'S PAST

Scientist Believes Famous Sink at One Time Was Full of Civilization.

Charles Glastonbury, F. R. S., former Egyptologist at Cambridge, England, and now engaged in archaelogical and ethnological studies, has just completed a two months' visit to Death Valley, and he gives it as his advised opinion that the country surrounding Death Valley was the seat of an ancient civilization. He has not had time to pass upon the data collected, but he inclines to the belief that Death Valley was inhabited by a race well advanced in the arts of civilization in times dating far back into the prehistoric era. Professor Glastonbury says:

"Geological evidence points to the conclusion that the great sink now known as Death Valley was once an estuary of the Pacific, and the climatic conditions of the region in those times must have been practically perfect. You men of the United States talk of your perfect climate of Southern California, but in those ancient days, this land-locked body of water, it is reasonable to suppose, produced an ideal climatic condition. Moreover, it is reasonable to suppose further that the surrounding country was capable of supporting an immense population, for in those days it certainly possessed great fertility.

"When such a condition prevailed, it is difficult to estimate, but it must have been many thousand years before the days of recorded history. The civilization of Death Valley antedates the Mound Builders of the Mississippi valley and the Aztecs of Mexico and Central America by many thousands of years. There are several facts, however, on which my conclusions are based. The most noticeable is an ancient dam which I discovered south of Wingate Pass.

"For what purpose this dam was constructed it is difficult to imagine. It could hardly have been for irrigation purposes, as the sea that once covered Death Valley and the streams which flowed into it furnished sufficient water for agricultural purposes. Strange to say, there is no remains of machinery, or works of any kind which would lead to a conclusion as to the original intention of the dam.

"In other parts of the valley I found hieroglyphic inscriptions on the rocks, very closely resembling the inscriptions found in the Valley of the Nile. I am led to the belief that the ancient inhabitants of Death Valley were closely related to the builders of the pyramids."—Bullfrog Miner.

THEORY OF DEPOSITING OF PRECIOUS METALS

The occurrences of abnormally rich chloride silver ores as on Fryer hill, Leadville, Col.; on Treasure hill, White Pine, Nev.; and elsewhere, can only be explained by the theory of secondary enrichment; though even by this theory it is difficult to account for the extraordinary masses of pure chloride of silver, some of which weighed 100 pounds or more. The normal grade of the ore is low—sulphides or iron, lead, zinc and copper accompanied by a few ounces of silver and a little gold, with silica and calcite, occurring as a replacement of limestone. The very low grade in silver of the normal ore, as compared with the pure chloride of silver, found in the oxidized zone, is remarkable. The presence of the rich ore cannot be accounted for by the theory that it has been derived from the neighboring low-grade ore, for all the ore of the vicinity was as rich, or richer, than the normal ore. It can only be accounted for by the assumption that the enrichment of this surface ore was the result of a long continued deposition of silver minerals in the oxidized zone, the source of which must have been deep-seated, and probably far below any region that lies within the possibility of human ingenuity to reach. There is good geological ground for believing that the ore bodies of Leadville were formed at a depth of at least 10,000 feet. The uplifting of the formation, with the occurrence of numerous faults followed, and the ore deposits were then brought near the surface by erosion, principally accomplished by glaciers.—American Mining Review.

In Good Luck.

"About two years ago my father came here from Mason City, Iowa, on a visit," says O. L. Scott, Duffield, Mich. "While here he was taken sick with diarrhoea and cramps. I gave him several doses of Chamberlain's Colic, Cholera and Diarrhoea Remedy and it cured him." This remedy always cures. It is for sale by all druggists.

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