

DATA ABOUT SAND TO BE PUBLISHED

United States Geological Survey Will Publish Valuable Volume About Glass.

STUDY OF SUITABLE SANDS FOR GLASS

Scope of Industry Liable to Greatly Widen in the United States.

A conservative estimate of the value of the glass products manufactured in the United States in 1905 is about \$50,000,000. The cost of material used approximates \$18,000,000, of which \$20,000, exclusive of freight charges, was paid for glass sand.

Will Make Report. In the report which Mr. Burchard will make of his studies the characteristics which render a sand suitable for glass-making glass will be outlined. He will give in tabular form data concerning the chemical composition and physical character of several sands which are present in successful use.

How Glass is Made. Glass is a fused mixture of the silicates of alkalies, of alkaline earths, and the more common oxides. Sand is the most important factor in glass, constituting from 62 to 65 per cent of the mass of the original mixture.

Sand for Plate Glass. For plate and window glass, which are commonly a pale green, absolute purity is not so essential, but it is desirable that the sand should contain not more than one-tenth per cent of ferric oxide.

Points to Be Observed. The best preliminary test in examining sand for glass-making is made with a magnifying glass, holding it close to the sand should be observed. The sand should be nearly white in color, it should be of medium fineness (passing twenty to fifty mesh horizontal sieve), the grains should be uniform in size and angular, or less preferably, they may be rounded.

Smooth Sand Demanded. The impression has long prevailed that round-grained sands are at a decided disadvantage in comparison with the sharp, angular variety. Fracture seems to disagree with this idea at least in the case of the Mississippi valley plants, where only smooth, rounded sand is used for all ordinary varieties of glass.

Where Supply Comes From. The majority of the glass factories of the middle Mississippi basin may be grouped into two districts, eight in the St. Louis district and twenty-one in the southeastern Kansas district.

Factors to Be Considered. Summing up the factors on which the value of a deposit of glass sand depends, Mr. Burchard says they are (1) chemical composition, (2) physical character, (3) the amount available, (4) the location with respect to fuel supplies, (5) the conditions of quarrying or mining, (6) the location with respect to transportation routes, (7) the location with respect to markets, (8) the deposit of sand twenty feet thick should have an area of at least twenty-five acres to warrant the erection of a mill and trackage.

INTERESTING FACTS REGARDING BENTONITE

Clay From Which Antiphlogistine Is Made Receives Attention of Government.

Mr. C. E. Siebenthal of the United States Geological Survey spent part of last summer in the Laramie basin, Wyoming, where he made some interesting observations concerning the variety of clay known as bentonite, which occurs in many localities in that State.

Properties of Bentonite. The clay has a soft, unctuous, or soapy feeling, but it is brittle and is easily quarried. It changes strongly to the gray in weathering. It absorbs a large amount of water and increases much in volume, forming a network mantle an inch thick, but later melting and leaving a thin paste of more water becomes a perfect paste.

Makes Paper and Medicine. The chief use of the clay so far developed is as a material to give body and weight in the manufacture of paper. It is also used in the manufacture of "antiphlogistine," a proprietary remedial dressing, and as an ingredient in the manufacture of candles and drugs.

Deposits Are Described. After discussing the geological occurrence of the bentonite beds, Mr. Siebenthal describes briefly the deposits along Taylor's pit, Lincoln's pit, on the claim of the Cass Mining company, on Sam Hill, and on the Bentonite claim, which are the only occurrences of this clay which have assumed commercial importance in the Rock River region.

Annual Output of Clay. Bentonite has been noted at a few other localities in the Laramie basin, including the Sand creek and on the River-side ranch. From 1888 to 1905, inclusive, about sixty tons annually. From that time it gradually increased until, in 1902, it is reported to have been 1200 tons.

Why White Horse Booms. This condition in Mexico will very naturally draw mining capital in other directions and it is expected that the satisfactory condition in many Nevada districts will have its attraction for those who have heretofore mined in Mexico.

Developing Rich Ore. Within the past six months several strong corporations have invaded this territory, and they are working with vigor in their search for rich ore.

Policy of Government. From the first it was the settled policy of the government to reserve such mineral lands from sale, from pre-emption, and from all grants, whether for railroads, public buildings or other purposes.

Park City Ore Shipments. PARK CITY, Feb. 11.—The ore shipments from the Park for the past week are as follows: Silver King 1,516.80; Daily West 1,125.00; Keane-Kelch 529.00; Daily Judge 448.00; Daily Judge first-class 436.00; Daily Judge middle-class 291.00; Grand total 4,306.80.

Afraid of Strong Medicines. Many people suffer for years from rheumatic pains, and prefer to do so rather than take the strong medicines usually given for rheumatism, not knowing that quick relief from pain may be had simply by applying Chamberlain's Pain Balm and without taking any medicine internally.

FRANKS'S ASSISTANT WITH EPILOGUE

New York Says Guggenheims Have Secured Control of Bingham Con.

HEINZE HAS CHARGE OF COPPER BUSINESS

Apparently Explains Mission of Alfred Franks, Now Examining This Property.

From exclusive dispatches printed in The Tribune from New York it is apparent that the great American metropolis has succeeded in seeing through the fog and smoke of the consolidation struggle over the great copper properties of this country before the wisest of those in the district immediately affected.

Enormous Figures Involved. The districts affected are the Butte, Utah and Avion regions, the mines being as far reaching in extent as the tremendous mineral resources of these districts, and as far as is suspected in certain local circles, the situation has cleared up to the extent that it can be seen in the limited to the two great companies, the Guggenheims and the United States people.

Eits Nicely With Franks's Visit. It is interesting news that Heinze, one of the great promoters of the copper ever saw, will be in charge of the real-estate branch of the Guggenheim consolidation, as reported by the Bingham Consolidated to be a part of the project.

Season of Great Profit. In the furthering of these two tremendous organizations, in arranging the huge claims, the duty of which is only a matter of a short time before this condition must very materially affect the Guggenheims, Sinabos and Sonora. However, the many large enterprises already completed and those commenced must of necessity be advanced for the government and well merited immediate attention.

Why White Horse Booms. This condition in Mexico will very naturally draw mining capital in other directions and it is expected that the satisfactory condition in many Nevada districts will have its attraction for those who have heretofore mined in Mexico.

Application of Business Methods Develops Mineral Deposits Wisely. White Horse district is no less indebted for its fame to sensational strikes made some months since than to the fact that the great gold strike in Utah has been made within the past year.

Developing Rich Ore. Within the past six months several strong corporations have invaded this territory, and they are working with vigor in their search for rich ore.

Application of Brains. But this gratifying condition was not the result of accident or ignorance, for the men operating them have conducted these enterprises on legitimate business lines, and the sounding of brass or tinkling of cymbals has not hindered these important results.

About Bingham Ore. The disseminated copper ore of Bingham canyon, Utah, which is now the subject of so much interest, is a porphyry ore, the values of which are widely dispersed. Fine crushing is necessary to liberate the mineral.

Rather Late in Day. Rolls, ball-mills, Huntington mills and edge-runners are used for this purpose, but it is rather late in the day for the advocacy of stamps, which we have been seriously suggested in connection with one of the projected mills.

Let 'Em Have Corbin. Japan has adopted our pension system in a modified form and has taken up a number of other American ideas of government and administration.

ALLEGED INABILITY OF GOVERNMENT TO PROTECT FOREIGNERS HAVING BAD EFFECT

There appears to be an inside history to foreign mining men operating in Mexico, and the pretense of necessity for a recent order declaring that Government protection could not be assured seems to have been somewhat in the nature of a farce.

NEWSPAPER MILL ACTIVE

The Indiana is very promising, the extensive work done on this property showing a good quantity of values. The newspaper mill will be increased from thirty to 100 tons per day this season.

Drawback to District. One of the main drawbacks to the proper development of Fay is the presence and retention of the presence of the jumpers, whose operations have been productive of much expensive litigation and doubt regarding titles to property.

Must Lie or Die. The Journal does not expect this positive charge to go unanswered, yet it is a fact without doubt, that men operating in Mexico must at this time choose as yet or die. At least no reasonable man who has large interests in Mexican mines is expected to throw up his hat and endorse these facts.

Will Affect Industry. Certainly a great deal of American capital is being diverted from Mexico, and the mining interests do not seem to have been able to do much to prevent it.

Diverting Mining Capital. This condition in Mexico will very naturally draw mining capital in other directions and it is expected that the satisfactory condition in many Nevada districts will have its attraction for those who have heretofore mined in Mexico.

Drawbacks at Fay. The Indiana is very promising, the extensive work done on this property showing a good quantity of values. The newspaper mill will be increased from thirty to 100 tons per day this season.

Outcome of Enterprise. In consequence of the death of McCune's partner, Mr. Hoge of New York, the mill was shut down and Mr. McCune went to South America to engage in a gold strike.

Mill Is Finely Adapted. This is a new and up-to-date mill, perfectly adapted to treat the low-grade, pyritic ore of the camp and it has a capacity of 100 tons per day.

There are fewer nerves in the tea-drinking countries. Imagine a nervous Dutch-woman! Your grocer returns your money if you don't like Schilling's Tea.

DR. ZIMMERMAN, DENTIST. MOST RELIABLE DENTISTS IN THE CITY. SET OF TEETH (Best Red Rubber) \$5.00 Gold Crowns 25c to \$5.00 Bridges Work best at \$5.00 to \$10.00 Gold Fillings \$1.00 up; others, 25c to 50c.

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Hand Sapolio. It makes the toilet something to be enjoyed. It removes all stains and roughness, prevents prickly heat and chafing, and leaves the skin white and healthy.

OUR SPRING HATS



ARE HERE. Come in and look them over. Don't overlook them. Welton Best \$3.00 Hat. Stetson \$4.00 and \$5.00—Soft and Stiff.

A. H. Crabbe Co. Representative of United States Company Expected to Visit District.

SALT LAKERS GET INTO MONTEZUMA. The old Montezuma continues to be heard from almost daily, says the Goldenrod Sun, and that, too, in a very favorable manner. More than 100 men are at work in the district, either on their own ground or on that of others.

Impetus to Development. While the results of assays have not been as large as were those of years ago when the burro carried the rich rock to the railroads hundreds of miles distant, still they are of a most encouraging character and have added an impetus as well as character to the district which has not been known for many years.

Early Important Discovery. Some time ago the Montezuma Mines company, under the superintendence of R. G. Dun, encountered a ledge of ore which carried way into the hundreds. The ledge was good and strong and attracted much attention from the miners in the district.

Salt Lake Capital Interested. Now comes the report, which is without question authoritative, to the effect that the Montezuma Mining company has investigated Salt Lake capital, being noted other than the United States company, in their properties, consisting of ten claims, and that in a few days a representative of the Montezuma Mining company is expected to arrive in Salt Lake City, Utah.

Rich Denver Ledge Will Go Down From All Indications. On the Denver two men are constantly engaged during their shift, sacking ore as it comes from the second level, a tunnel over 700 yards are filled with bursting sacks and away wherever a flat place can be found.

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OREGON SHORT LINE RAILROAD. ARRIVE. No. 4—From Ogden, Chicago, Omaha, St. Louis, Kansas City and Denver. No. 5—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 6—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 7—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 8—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 9—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 10—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 11—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 12—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 13—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 14—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 15—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 16—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 17—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 18—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 19—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 20—From Ogden, Portland, Butte, San Francisco and Sacramento. DEPART. No. 1—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 2—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 3—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 4—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 5—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 6—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 7—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 8—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 9—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 10—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 11—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 12—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 13—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 14—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 15—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 16—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 17—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 18—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 19—From Ogden, Portland, Butte, San Francisco and Sacramento. No. 20—From Ogden, Portland, Butte, San Francisco and Sacramento.

THE LAGOON. Salt Lake and Ogden. SIMON FAMBARGER, General Manager. Time table in effect Nov. 1, 1905. Salt Lake City, 6, 8:30, 11 a. m., 2, 4:30, 7, 9:30, 12 m., 3, 5:30. LEAVE LAGOON. 30 TOURS TO EUROPE. Under superior management, under superior management, under superior management. Fall Tour. World Annual. International. Program. N. E. W. FRANK C. CLARK, N. E. W.