

MINES AND MINERALS.

Valuable Substances Known to Exist in This County.

RICHEST TIN ORE IN AMERICA.

Gold, Silver, Copper, Iron, Asbestos, Gypsum, Pottery and Porcelain Clays, Nickel, Salt and Other Valuables.

Few citizens of San Diego appreciate the value of, or realize how vast in extent are the mineral resources of our country. At the present time it is unwise to make any such statements, but a few notes on the minerals now known to occur in the county may be of interest.

Alum occurs as an incrustation at the mud volcanoes and on rocks in several localities, and the water of numerous mineral springs in the mountains and on the desert is found to be slightly impregnated.

Actinolite was found in large quantities in the Pacific mining district, where the beautiful green crystals are not rare. It also occurs sparingly, so far as observed, in other parts of the county.

Asbestos is found seven miles east of Elsinore, where a four-foot vein exists and is now being worked, and boiler coverings, etc., manufactured for the coast and Eastern markets.

Horblend seems to be very sparingly distributed in the county.

Anglesite (sulphate of lead) I believe occurs in some abundance in the Pacific mining district.

Apatite (phosphate of lead) is reported as found in San Bernardino county, near the San Jacinto Tin Mining Company's property.

Aragonite.—A curious form of this, apparently, was found in June last in the Colorado desert, occurring in veins and radiating masses.

Arsenopyrite, "mispickel," occurs in the county rich in gold, and in uncommon masses, but the locality is not known to me.

Azurite, or mountain blue, occurs sparingly in the Pacific mining district, but I succeeded in securing some fine specimens. This most beautiful copper ore may be considered with us an indication of silver.

Borax probably occurs in abundance in the county, as it does in San Bernardino county or the Mojave desert.

Calcite is found in numerous forms in greater or less abundance. Thinly occurs on the Colorado desert, as also calcareous spar, tufts, etc.

Marble of fair quality is found near San Jacinto.

Cassiterite (tin oxide) occurs in Temescal mountains, San Bernardino county. This is the only locality in the United States where tin ore occurs in quantity to be of any prospective value for mining.

Chalcopyrite is found in the county, and is a valuable copper ore, but I have not yet recognized it in my specimens from the county.

Chalcosite (chloride of silver) may be detected in some of the ores from the Pacific mining district.

Chromite (chromic iron) is widely distributed in this state, but has not yet been reported from our county. It doubtless exists, however, in our mountains.

Chrysocolla (silicate of copper) is abundant in Southern California, and its presence is regarded by miners as a strong indication of silver.

Cinnabar.

A locality has been given me for this valuable ore within the limits of the county. I have seen no specimens and have been unable to visit the prospect, so that the identity of the mineral must be considered in doubt. I have specimens from Lower California, and it is quite likely to be found with us. If the information proves reliable quicksilver will become an important product of our county.

Cuprite (red oxide of copper) occurs in a considerable abundance in the Pacific mining district. It is a mineral which has not before been recorded. The ore in which this mineral occurs is mined for silver.

Diamonds are not actually reported to be found, but I predict that they will be found in some of the many curious formations on our Colorado desert. What resembles the flexible sandstone that forms a matrix for the diamond I have observed, and the occurrence of this gem in placer washings in other parts of the State leads me to believe that it exists in the region named.

Embellite (chloride of silver) is rather an abundant mineral in Southern California.

Fluorite in massive form, is found in the Great Western mine, Pacific mining district.

Gaena is one of the common ores in the Pacific mining district.

Garnet (andradite) occurs in the Salsadero near Santa Ysabel, according to the State Geologist. Stones suitable for jewelry work are found near San Bernardino and a poorer quality of garnet is abundant near Temescal. Others, nearly approaching the requisite quality to be called gems, are sometimes found in our mountains, on the confines of our desert, and in placer washings.

Gold occurs in nearly every part of the county, either in veins of quartz or in placers. Scarcely a vein of quartz that would not yield this precious mineral and scarcely a gulch from which the color may not be obtained! In San Ber-

VISITATION CONVENT BELLS

JACOB KUNKEL.

Not too fast. 2/4 - 60.

Musical score for piano with multiple staves and dynamic markings.

Copyright—Kunkel Bros., 1889.

Musical score for piano with multiple staves and dynamic markings.

REHEARSAL CONVENT BELLS, 24 pp.

Repeat from the beginning to FINE.

ardino county, in Arizona, in Lower California—on every side are gold mines that are or have been worked with profit, and even the waters of the Pacific ocean bounding our county on the west, yield traces of gold upon analysis! Therefore, it is not strange that we find gold as abundantly as we do at Julian, Stone wall mine, Jamul, Escondido, Soledad, Elsinore, San Jacinto and in the Pacific mining district. In the last named district I celebrated the Fourth of July this year by heating several quartz veins, in two of which we detected free gold in the first specimens broken off. Standing on one of the hills we could trace these veins in every direction for miles, and it is doubtless true, beyond question, that a greater extent of gold and silver bearing ores does not exist in any county in the State than can here be found and worked with profit within a radius of five miles.

Gypsum is another useful and abundant mineral that occurs in various forms at Elsinore, Des Palmes station, on Carizo creek, and in thin veins along our ocean bluff in the form of satin spar. On the Colorado desert the crystallized sulfate occurs, but nowhere do I know of any large deposits in the county of any value.

Lignite occurs in several localities near the coast in this county, but only at Elsinore, near Ballena, Ocean Beach and elsewhere in the county. Some of these places are adapted for the manufacture of the finer quality of porcelain. Pottery have been established at Elsinore which are working the clay found there successfully.

One vein exists on the shore of False Bay, near high water mark. As yet coal is produced only by the Elsinore mine in this county.

Malachite occurs near Elsinore. Magnetite (magnetic iron ore) occurs eight or nine miles north of Mesquite station, and possibly at other points. Malachite green carbonate of copper occurs with azurite, cuprite and chrysolite, thirty miles west of the Colorado river in the Lower mine.

Mica (muscovite) is abundant in granite rocks through the State. Black mica is rarer, but occurs in Lower California and probably along our desert borders. Molybdenite is a soft, lustrous, foliated mineral, often mistaken for black lead of no special value. It occurs at the Jamul silver mines, at Campo in granite, and near the Jacumba valley.

Nickel ore is not certainly known to occur in the county, but I strongly suspect the presence of this mineral in some of our ores that bear a close resemblance to the known nickel ore of Lower California, where it occurs in considerable abundance.

Opal occurs on the Colorado desert, and are also credited to the limits of the city of San Diego, but only the inferior varieties are yet known in California.

Orthoclase (felspar) is not rare near Ballena and occurs at Julian and in ocean bluffs in the form of satin spar. On the Colorado desert the crystallized silicate occurs, but nowhere do I know of any large deposits in the county of any value.

Quartz, in the various varieties of agate, cornelian, chalcedony, Jasper, smoky and crystallized quartz and zircon, all these, etc., occur in various parts of the county. Diatomaceous earth occurs on the southeast and siliceous wood and chalcedony occur on the desert at Big Tank and other points.

Rhodonite occurs between San Diego and Colton. Sulphur is formed at the mud volcanoes on the desert.

Tormaline (schorl) is not rare in the field-part that occurs in this county and in Lower California. Large and fine crystals are frequently found and occasionally radiating specimens. Very minute crystals, running through clear quartz have been observed, from the Ballena district.

Wulfenite (molybdate of lead), hitherto rare in California, I found in considerable abundance in the Champion and Opulent mines, in the Pacific mining district, with other lead ores. Very fine crystals were obtained, all sizes.

The only goods known to me as having been found in the county, or in the State is in my cabinet, having re-designed its former position on the Colorado desert. Dentrite, poetically termed "footprints of the fern," is abundant in the Red Cloud mine, Pacific mining district. It is also found in Mission valley, near, if not within the city limits.

Gold may be expected to lead in the mining production of our county. Valuable quartz mines exist at Stone wall, in the vicinity of Julian, Escondido, Elsinore and San Jacinto, and throughout the Cuyamaca and Lizard and other mountain ranges that occupy the northern part of our county, and which lie within the region usually termed the Colorado desert.

Several species of minerals, as yet undetermined, are in my cabinet from the county, and the above outline is sufficient to show that many other and possibly some new specimens may be detected when our mines are even partially developed. For so large a territory as is embraced in this article, exhibiting so great a diversity in its geological formations, it is difficult to predict what may or may not be found.

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Courtesy. A front of the Civette, of the court... follows: "A female... apply to the girl... and if the girl... seems to be... inevitable. If the... agree, the next proceeding is to appoint two... female negotiators... access by... house with the... breaching the... young lady. They... avoid any sudden... mention of the... subject of their... launch out for... of the man who... They speak of his... sions, his cour... accomplishments. The... pretending to be... even at these... grows refractory... away, tearing the... her hair as she... The female embas... got the conce... ents, drag her... excitement, and... force to the... destined husband... leave her. She is... to remain in the... days, silent and... fusing food, until... kind entreaties... vail, she is made... by blows, to the... The Kasir who has... tion of having... number of murders... Hamid... national privileges... spected by all the... hood, and express... or no difficulty in... a wife. The Kasir... doomed to a life of... and drudgery, and... can discard her wh... feels so disposed.

Tom Reed's Resolutions. (San Francisco Chronicle.) Congressmen Thomas R. Reed, of Maine, was interviewed last night on the subject of the great Republican victory. "What legislation will be introduced in the next Congress?" "The next session will be the last of the Fifty-first Congress and the next indicate that anything of importance will be accomplished, but in the Fifty-first Congress, when both houses will have a Republican majority, I believe that a tariff bill will be passed which will reduce the duties. If there is any, without interfering the great manufacturing interests of the country."

In Iceland it is the custom for everybody to kiss everybody else that he meets. It requires a great deal of skill in Iceland to meet only the people you would really like to see.

Honorific Deming. There was a young maid of Lymington, Who could do nothing but deming, Who couldn't mix butter, Or wipe up a platter, Her name was Honorific Deming. She said, "Oh, I wouldn't be hired To do things that make me so tired! And, besides, don't you know, sir, That I can't do more than stir, Are never, no never, admired." So she copied a picture of Moses; She substituted her tea-cup with roses; And when she was asked for a sign, The fan that she carried She painted all over with poise. But when there were babies to tend, Little dresses to make and to mend, See, Little bits to be strengthened, Little wants there was never accorded— She said, "Oh, my cheeks where the roses is, Will be white as the snowflake that snows is; Had Honorific Deming, Learned stitching, and hemming, She might have been a seamstress."

Intelligence of Horses. I once saw a young soldier who belonged to a battery of artillery engaged in patching the harness of a mule (a marker's flag) with cloth from the lining of his uniform. When I asked him why he spent so much time to mend that old flag his answer was that as we were so far from the base of supplies he could not get a new one, and that when the battery went into action with thirty-five horses and six mules, if any struck the battery was to form, and even if the man who rode the leading horse was killed or disabled, and the noise of the battle was so great that the bugle call would not be heard, the horses would wheel around the flag and execute the maneuver known as "fly left into line" and bring the muzzles of the six guns on a line with the flag, and then, as seen as the guns were unlimbered he would again place it about 200 paces in the rear, and the horses would gallop to the rear with the caissons, and halt again on a line with it. Is there not a beautiful sentiment in the thought of these noble horses knowing the flag and rallying to it?

A Cheap Fuel. From Pittsburgh state that Messrs. Moorhead, Brother & Co., proprietors of the Vesuvius Iron and Nail Works, at Sharpsburg, that State, are using coal gas as fuel in a new process, which enables them to furnish fuel for a ton of iron at a cost of a little over \$1 for heating and puddling. A heating furnace in operation for several weeks has shown the cost in the heating process to be less than 60 cents per ton. The new puddling furnaces, which are to be furnished with fuel made under the same process, are about ready to be lighted. The new method will be claimed, effect a saving of about \$1 in making 10,000 pounds of muck bar in a quadruple puddling furnace, and nearly half as much in a double puddling furnace.

It is stated that Emperor Frederick's original diary is in the possession of Queen Victoria, who has a right on it.