

California Building Stone Resources in 1889

Excerpts from the

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Santa Clara County
by A. H. Weber, Assistant in the Field.
(pp. 51)

“The Goodrich and Stanford quarries afford excellent examples of this cross-faulting, much to the regret of the owners working them. Again, the quarries of the Guadalupe Lime Company expose not alone a number of faults, but likewise a very interesting series of intricate folds; these are rendered more pronounced by the thin dark interstratified seams of siliceous rock....”

“This basalt is located but two or two and one half miles from the railroad, easily accessible by a road. It is dense and hard, and cuts very fairly. It is an excellent material for paving blocks and should receive early attention, from its proximity to the railroad. Basalt likewise occurs on the upper course of Coyote Creek.”

(pp. 52-53)

“The Guadalupe Lime Company has continued its operations during the past year, producing fully three hundred barrels of lime per month. A full description of their lime kiln was given in the eighth annual report of the State Mineralogist, pages 543 to 545. The quarries, as developed at present, show several grades in the limestone, varying from a black bituminous to grayish white. One special feature of the lime has been noted and complained of by the parties using the same, that is, the quick setting of the lime when made up as mortar. This is rather a property of cement than of lime, and indicates the presence of silicates in the lime. A close examination of the quarries reveals that the limestone interstratified with narrow bands of chert often dark colored, and then easily separated by hand, but the limestone itself is often dark or the chert light in color, thus rendering the segregation of the chert well nigh impossible, and it thus finds its way into the kiln.

“The silica thus introduced into the kiln with the lime fully accounts for the property of quick setting noticed and objected to by the consumers.

“These bands of dark colored chert emphasize the intricate plactions of the foldings which the strata have been subjected, very similar to those exposed along the Penetencia Creek mentioned before. These plications render the work of quarrying the limestone more difficult and expensive on account of the large amount of surface and soil and waste material that it becomes necessary to remove.

“Possibly the manufacture of cement might be advantageously commenced at this place, as the lime already has some of the properties of cement, and further materials necessary for the manufacture can be found near at hand.”

“The lime kiln near Los Gatos was in operation for a while during the past year, and the local market supplied. At these limestone quarries they likewise have to contend with the interstratified chert, rendering hand picking necessary, and thus increasing the cost of production.

“A good outcrop of light colored limestone is found to the north of the Azure Spring, several miles north of Saratoga.”

“Another very promising outcrop of limestone of good quality occurs to the northeast of the Goodrich Quarries. On the eastern side near the top of the ridge the limestone shows in considerable quantity. The locality is certainly a promising one, inasmuch as good roads are on both sides of the ridge; likewise railroads, the Almaden branch being on the west, while on the east the main line of the Southern Pacific is less than two miles away. The establishment of a lime kiln here would depend mainly on the supply of cheap fuel and upon the uniformity of the limestone and its freedom from chert. The latter condition cannot be answered without a more thorough examination of the magnitude of the deposit by means of small quarries or cuts.”

Building Stone.

(pp. 53-54.)

“The same quarries that were reported in operation a year ago have continued and extended their works according to the demand of the trade.

“The quarries are located about seven or eight miles south southeast of San José, in the same range of hills in which the limestone just mentioned is likewise found. These quarries have been fully described in the eighth annual report, page 547.

“The Goodrich Quarry is furthest south of all, about four hundred yards from the railroad (the Almaden branch of the Southern Pacific Railroad) at the mouth of a small ravine. One of these cross-faults mentioned before runs through the middle of the quarry as now opened. To the south of the fault the beds have a dip of fully 30 degrees to the north, while on the other side they incline but 10 to 15 degrees northeast. As at present exposed and worked the beds show the following thickness:

South of the fault from the bottom –

First ledge, eight and one half to nine feet thick.

Second ledge, five feet thick.

Third ledge, eight feet thick.

Fourth ledge, eight to nine feet thick.

Fifth ledge, twelve feet thick.

Sixth ledge, seven to eight feet thick.

Seventh ledge, nine feet thick.

“The seams between the several ledges are all well defined, and carry more or less clay, especially between the fourth and fifth ledges. The clay averages fully two inches in thickness, greatly facilitating the working of the heavy top ledge (fifth, twelve feet thick). The seventh ledge, or top, is naturally much broken, being at the surface; but the others show very few fissures. Along the line of the fault all the beds are, of course, much broken. To the north of the fault six beds are exposed; their thickness is as follows, likewise beginning at the bottom:

First ledge, nine feet thick.
Second ledge, nine feet thick.
Third ledge, four feet thick.
Fourth ledge, one foot thick.
Fifth ledge, one foot thick.
Sixth ledge, ten feet thick.

“The two nine-foot beds afford excellent material, while the three ledges at the surface (ten feet, one foot, one foot, respectively) are so much broken up that nearly all has to go to the dump.

“There are other smaller openings around, from which blocks of stone have been taken occasionally, but the main work is concentrated on the quarry described above.

“The beds near the surface are harder (from exposure) and somewhat finer grained than those below.

“The Stanford Quarries lie about half a mile to the north of the Goodrich Quarries, close to the railroad. They take their name from Governor Stanford, who has leased them from Mr. Goodrich to procure building material for the Stanford University, at Palo Alto. Fully one hundred feet vertical are exposed in these quarries. The beds are usually very thick (ten, fifteen, and twenty feet). They have a dip of about 20 degrees to the northeast. The seams separating the beds carry so little clay that, at first sight, the whole face exposed appears to be one solid bed; only on close inspection can the seams be made out and traced. On the contrary, the fissures, quite numerous here, carry considerable clay, so that the stone, instead of coming out in more or less regular blocks, is obtained in large irregularly shaped masses, entailing considerable loss of material and time needed to shape them.

“The Flynn Quarry lies about one mile nearer San José, likewise close to the same railroad. The material is of the same quality as in the other quarries, and the beds are easily worked. This quarry has not been opened as largely as the others.”

San Diego County

Recent Work by W. A. Goodyear, Geologist, Assistant in the Field (pp. 139)

Temecula Creek.

“Beyond here the country, so far as seen, for a considerable distance is entirely granitic. Indeed, nothing but granite was seen until just before reaching a Radec, a little Post Office on Section 19, Township 8 south, Range 1 east, S.B.M. Here again was found a narrow belt of slates striking northwesterly and standing nearly vertical. Some prospecting has also evidently been done about here for gold, but we did not learn that anything of importance had been found.

“At Temecula Station there was lying (November 10, 1889) a considerable quantity of dressed street paving blocks of a moderately coarse-grained, light-gray granite, which is stained more or less yellowish in places by oxide of iron.

“The rock seems to be hard and durable, and splits and dresses well. It has been used for paving-blocks in Los Angeles and San Diego, all for street curbing in both those cities, and also in San Francisco. The quarry from which it comes is situated in the foothills on the southwest edge of the valley, about half a mile southeasterly from the head of Temecula Cañon. And here it may be well to correct an error which occurs on page 174 of the seventh annual report, lines five to eight from bottom of the page, where it is stated that Elsinore Lake, in times of heavy rains, ‘discharges its surplus waters into Temecula Cañon, a branch of Temescal Creek, which runs to the Santa Ana River.’ The writer was led into his mistake about the name of the creek by an erroneous map on which the upper part of Temescal Creek is labeled ‘Temecula Cañon....’”

Temecula Cañon Granite.

“In the Temecula Cañon itself there are now two quarries, one about two miles and the other about three miles below the railroad station. From the lower one of these quarries, a block was lying at Temecula Station on November tenth, which will dress into a thirty-inch cube, of a dark gray and fine-grained syenite without a flaw. This block is to form the basis of a monument of some sort at San Diego. The rock contains a little magnetic iron. But it appears to be very hard and strong, and will probably take a beautiful polish and prove to be very durable.”

Limestone.

(pp. 151)

“At one locality within this belt, and on about the middle of the south half of Section 28, of Township 5 south, Range 4 west, S.B.M., there is a considerable body of hard, dark blue, compact limestone. Here, two small kilns have been built, and some of the limestone burned, producing, it is said, a very good quality of lime. A company is now being organized for the purpose of manufacturing hydraulic cement by mixing this lime in certain proportions with the clays that occur in such large quantities among the hills northwest of Elsinore.”

Los Angeles County

by E. B. Preston, E.M., Assistant in the Field. (pp. 190)

Metals and Minerals.

“The mineral and metallic productions of the county include gold, silver, copper, asphaltum, petroleum, graphite, iron, limestone, gypsum, borate of lime, magnesia, kaolin, borax, alum, salt, building stones, such as granite, sandstone, marble, etc. Also clays suitable for mineral paints, fire-clay, coal (poor quality), and cement.”

San Bernardino County

by James H. Crossman, Assistant in the Field. (pp. 214-225)

“Volcanic cones occur in this county, and the short mountain chains and isolated peaks, with which the desert region is dotted, are fissured with metalliferous veins....Pure rock salt is also

found in large quantities, a more particular reference to which is made under a special head elsewhere in this report. Marble is found near Oro Grande, and in Colton, and in Old Woman's Mountain...Aside from the supply by artificial reservoirs and natural sources, water can be obtained in many places in the desert, both north and south of the San Bernardino Range, by sinking wells. It is often reached within a few feet below the surface. One hundred and twenty-one completed artesian wells are said to furnish thirteen million gallons of water every twenty-four hours."

The Towns.

"**Victor** is a station on the California Southern Pacific Railroad, and has an altitude of two thousands seven hundred and thirteen feet above sea level. It is the enterpot and depot for the mining districts situated in Holcomb and Bear Valleys, for the Old Woman's Springs, and the Morongo Gold and Silver Mines. It lies twenty miles southwesterly from Ord Mountain District. Close to the town are large quarries of excellent granite, which are constantly worked. The stone finds a ready market in the southern part of the state.

"Oro Grande is situated on the banks of the Mojave River, about forty-five miles northerly from the City of San Bernardino. Lime is at present the principal product. It is shipped in large quantities to various parts of the State, and also to Lower California. Two large, double, patent kilns are kept constantly burning to supply the demand, and the business gives employment to a number of quarrymen, kilnmen, woodchoppers, and teamsters."

Victor Mountain.

"In this granitic range lie valuable quarries that are being worked and rapidly developed. The range is two miles long by one wide, with a northerly and southerly strike. Lying to the north is an extensive lime belt one mile in width, the strike of which is easterly and westerly, with a longitudinal extent of about twelve miles, where veins carrying gold, silver, copper, and lead occur."

Building Stone, Etc.

Granite.

"The Shearer Quarry is two miles and a half north of Victor, on the east bank of the Mojave River. This quarry produces a fair quality of granite. Where it has been opened, the face is fifty feet in height and seventy-five feet in width. The rock is bluish in color, and in texture, fine-grained.

"Dimension stone can be quarried in blocks four feet square, or larger, if so desired. Twelve men are employed, and operations have been carried on for eighteen months.

"The St. John's Quarry, half a mile south of Victor, owned by the Hesperia Land and Water Company, of Los Angeles, furnishes a good quality of granite for building purposes. It is of a grayish-blue color, very hard and compact, straight and smooth cleavage, dresses well, and takes

a fine polish. The granite formation in which it is found rises to a height of two hundred feet above the Mojave River. Stone from this quarry is used in San Francisco for building, curbing, and street paving; also in Los Angeles, San Bernardino, and other cities and towns in the State. It lies in strata of great thickness. The overlying stratum has been opened for a length of seven hundred feet, and to a depth of fifty, on both the east and west sides of the ridge. The stone in the eastern development is less seamy than that in the western part, and generally of much better quality. A block recently taken from the east side workings measured nine by thirteen by sixteen feet. The strata dip easterly at an angle of 14 degrees.”

Sandstone.

“The Southern California Sandstone Company has opened a quarry and erected a mill at a point twenty miles north 70 degrees east from Colton, in the Yuciepa Mining District, above the mouth of Mill Creek, in Section 7, township 1 south, Range 1 west, San Bernardino Meridian. The strike of this stone is northwest and southeast, dip 30 degrees southwesterly. It consists of two varieties, one hard and fine grained, the other a yellow, soft and coarse. The rock cleaves straight, dresses well, and can be quarried in blocks of any dimensions.”

Lime Quarries Recently Opened.

“Extensive quarries have recently been opened on a blue limestone belt situated in the Oro Grande Mountain Range. For the reduction of this stone eight kilns have been constructed at Oro Grande with a capacity of four hundred and fifty barrels daily. The stratification of the quarries is from northeast to southwest. Thirty men are employed at present, and the production of lime amounts to one hundred barrels per day. The subsidence of the building ‘boom,’ as the excitement was called in the southern part of the State, has materially decreased the need for lime. The quarry is two hundred and fifty feet long, one hundred feet wide, and sixty feet in height.”