

Stone Industry: Crushed Rock, Sand and Gravel [1943]

By Henry G. Hubbard

Except at the plant of the Pacific Limestone Products, where a small tonnage of a siliceous dike rock is sorted out for macadam and concrete, there are no commercial rock-crushing plants within the county. There are only two producers of washed and sized sand and gravel; all other material of this kind produced being bank run.

Note that in addition to the below, other firms and individuals occasionally dig sand and gravel from various points on San Lorenzo River, Corralitos Creek, or the Monterey Bay beaches, loading direct to trucks.

Henry J. Kaiser Co., Inc. (Olympia Sand Pit.)

Home office, 1522 Latham Square Building, Oakland, California; plant superintendent, Donald C. Tretzel, Box 102 Felton. This plant is situated in sec. 11, T. 10 S., R. 2 W., M.D., at Olympia on Zayante Creek and about a mile from the present end of the railroad to the north. The property contains some 60 acres and adjoins the land of Pacific Coast Aggregates, Inc. in sec. 14.

Operations were started in June 1937 and the production has since averaged well over 100,000 tons per year. Estimated reserves are 35,000,000 tons. The white sand includes but little gravel. It is well compacted, increasing 67 percent in volume upon being shot down. Two 16-foot bottom holes are drilled by hand with a 5-inch auger, loaded with 120 pounds of dynamite each, and shot together. The present face varies from 50 to 100 feet. Loose material is recovered by a 100-h.p. hoist and drag scraper and moved on an 18-inch conveyor belt 400 feet long to a storage hopper at plant. The latter guards against minor pit delays since storage rate is 200 tons per hour and plant consumption only 120 tons per hour.

From storage hopper, material moves on the 150-foot long 30-inch main conveyor belt to the head chute where the first water is added; to double-deck Niagara 4 by 12-foot screen with 3/8-inch cloth in top deck, and about 1/8-inch in bottom. Material over 3/8-inch is wasted. The minus 3/8-inch to plus 1/8-inch is sold as pea gravel for the production of concrete sand. The minus 1/8-inch material is blended into three types of commercial sand. It goes into four revolving screens which separate minus 10 mesh, minus 20 mesh, and minus 30 mesh; from the revolving screens into a 12 by 36-foot Bodison classifier where the material is washed. Then into four chutes, each with four gates, where the sand is blended into the following finished products: No. 1 plaster sand, No. 2 plaster sand, concrete sand, and asphalt sand. Overflow of water from Bodison classifier goes into a bowl thickener settling fine sands used in asphalt sand. From the 16 gates mentioned above, material gets the final wash in a 16 by 32-foot Dorr classifier to stockpiles. All material loaded out for shipment is handled by an Industrial Brownhoist No. 7 clamshell with a 1¾-yard bucket. Except truckloads filling local orders, shipments are made via Southern Pacific railroad in side-boarded flat cars, hoppers, and gondolas. Available fresh water from surface sources is used at the rate of 600 gallons per minute and this is combined with 1000 gallons per minute of reclaimed water from a Dorr hydro-separator 50 feet in diameter and 10 feet deep. Hydro-separator tailings are pumped into a series of four settling ponds whence the fresh water is further clarified by

treatment with burnt-lime (produced in Santa Cruz County) before being released into Zayante Creek. A fifth settling pond acts as a reserve for emergencies. In flood seasons, as when visited, these sand plants are permitted to release and clean out the accumulated tailing in all ponds. A crew of seven men is employed. At least 95 percent of present production of these adjoining plants goes directly into war construction work.

Pacific Coast Aggregates, Inc.

Home office, 85 Second Street, San Francisco; plant superintendent, L. H. Chase, Route 4, Box 386, Santa Cruz. This plant is located in sec. 14, T. 10 S., R. 2 W., M.D., at Olympia on Zayante Road. The total holding comprise nearly 80 acres.

This pit has been worked since 1928 and has an average annual production of 100,000 tons. It is separated from the actual operations on the adjoining Henry J. Kaiser Co., Inc. land by only a few hundred yards, and resembles the latter workings in so many respects (products, capacity, methods, plant, number of men employed, and others) that only some of the major differences will be listed here and the reader is referred for details to the paragraphs immediately preceding. Bunkers, rather than stockpiles, are used here. Shooting is chiefly confined to one big blast which brings down a year's supply of material. For several years past, this annual tunnel shot has been successfully made in cooperation with Al Cough of the Atlas Powder Co. The blast-tunnel is driven into the bottom of the face for 75 feet and 50-foot wings are then run to right and left, parallel to the face. From 9 to 10 tons of black powder are used to blast down from 100,000 to 125,000 tons of sand. Material goes to the plant on three conveyors, with a sizing screen on the second conveyor removing and wasting all plus 1-inch material; the minus 1-inch goes up another conveyor to a vibrating screen, whence the plus ½-inch to minus 1-inch product is saved as gravel. The minus ½-inch is divided between two machines. One is a rake classifier and the other a screw classifier. The resulting four products are the same as those obtained by Henry J. Kaiser Co., Inc.; the chief difference in the plants being that Pacific Coast Aggregates has ample fresh water from its own springs and reservoir so that no hydro-separator is required. Its No. 1 blending sand is sold to blend with concrete sands of other plants that lack sufficient fines. For emergency use, this company maintains small stockpiles and employs both a Brownhoist and a P. & H. crane. The peak production here was 150,000 tons in one year. Known reserves exist for many years of operation at present rate.

Pleasant Valley Excavation

Owners of the two adjoining ranches are William L. Alvein, Route 1, Box 43, Aptos, and Walter E. Vass, Route 1, Box 42, Aptos. This property is located in sec. 1, T. 11 S., R. 1 E., M.D., about 1½ miles northwest of Corralitos. Two power shovels are loading dump trucks with select material rather than bank run gravel for use as fill on the Watsonville Municipal Airport. The operation is part of an army contract and a total of 156,000 tons is to be taken on a royalty basis. Shovels are moved along the low face of the bank being worked wherever the desired class of material appears. It is not probable that this gravel deposit will be worked to any large extent after the tonnage required for the present job has been removed.

Rubis Sand Pit

Located in sec. 6, T. 11 S., R. 2 E., M.D., on the old Rubis Ranch 1½ miles northeast of Corralitos. This deposit has been worked intermittently by different owners of the ranch and the material resembles that in the two Olympia sand pits. Idle when visited.

Titus Gravel Pit

Owner, John W. Titus, Route 1, Box 19, Aptos. This property is situated in sec. 10, T. 11 S., R. 1 E., M.D., on the Santa Cruz-Corralitos highway about a mile northeast of its junction with the Aptos-Robroy and Cristo road. Bank-run gravel of mixed size is barred and loaded by a small gasoline-powered drag-scraper into dump truck as needed to fill orders. The present face is about 40 feet and but little tonnage has been removed from what appears to be a fairly large deposit.

Sources

- *Hubbard, Henry G. 'Mines and Mineral Resources of Santa Cruz County.' "California Journal of Mines and Geology," January 1943. pp. 50-52. Copyright California Division of Mines and Geology. Used here with permission.*

The content of this article is the responsibility of the individual author. It is the Library's intent to provide accurate local history information. However, it is not possible for the Library to completely verify the accuracy of individual articles obtained from a variety of sources. If you believe that factual statements in a local history article are incorrect and can provide documentation, please contact the Webmaster.