and formed at those points where the bituminous shales and sandstones, tilted up at a high angle, crop out upon the surface. The oil is, doubtless, brought upwards to the surface by capillary attraction, or hydrostatic pressure, and on being exposed to the air the lighter hydrocarbons become volatilized, leaving behind a viscous residuum, which gradually hardens into asphaltum. This substance, under the name of "brea," was known to the inhabitants of California long before the advent of the Americans, and was used by them to form a water-tight covering to their houses. They were accustomed to form a layer of broken bits of "brea" over the usual thatch, where, exposed to the rays of the sun, it soon ran together and formed a homogeneous stratum. Asphaltum is found in greater or less abundance for a long distance on and near the coast at La Brea, near Gilroy in Santa Clara; in Monterey, San Luis Obispo, Santa Barbara, and Los Angeles counties. The largest deposit, however, is to be seen in the county of Santa Barbara, about three leagues west of the town of the same name, and situated directly on the coast. The "brea" is found in the greatest abundance at a place called La Goleta, adjoining the Ranchos de la Patera and de Los Dos Pueblos. Thousands of tons are lying on the sea beach, and for a distance of two miles large masses are seen on the face of the cliffs at heights varying from seventy-five to one hundred feet above the ocean. The method of its occurrence is in diagonal veins at the upturned extremities of the bituminous shales. The masses of "brea" formed at these points project outwards, and finally through the washing away of the earthy strata beneath them they roll downwards to the water. There is found, occurring in thin strata, and in no great abundance, a variety of asphaltum very materially differing in appearance and structure from that used for paving and roofing; it is brittle, jet black, highly lustrous, and susceptible of being converted into a very superior varnish. Large deposits of "brea" are found in Los Angeles County, on some of the Ranchos of Don Abel Stearns; on Las Bolsas, La Habra, and some others. On the Rancho of Dos Pueblos the "brea" may be found by digging a few feet below the surface, at points where its presence is indicated by exudations of tarry matter. The chief source of the supply of asphaltum used in California for paving and roofing, is the Rancho de la Patera. The annual consumption amounts to about 2,000 tons, valued at $20 per ton.

PETROLEUM.

Traces of petroleum, or rock oil, are to be found in many places in the coast range, from Humboldt County on the north, very nearly, to the southern limit of the State. The bituminous shales and sandstones are seen in San Mateo County; near Santa Cruz, in Santa Cruz County; at Gilroy, in Santa Clara County; and "indications" of oil have been reported in Lake, Colusa, and Napa counties; and near San Pablo and Antioch, in Contra Costa; likewise in Los Angeles and San Bernardino. The only localities from which any considerable quantities have been shipped are the Hayward & Coleman, Charles Stott, and the Stanford Bros. works, in Santa Barbara Co.; the Union Mattole well, of Humboldt County; and the Buena Vista Company's works, near Buena Vista Lake, Kern County. The production from these localities has been, according to the "Mercantile Gazette," as follows: From the Hayward Petroleum Company, from October 8th, 1865, to October 8th, 1866, 2,569 barrels; from the Stanford Oil Works, from September 4th, 1865, to October 4th, 1866, 1,187 barrels—making in all 3,756 barrels. The receipts from the Union Mattole and Buena Vista, added to small amounts from minor localities, will bring the total production since mining for oil was inaugurated, up to about 4,000 barrels. The flow of crude oil from the oil creek, Santa Barbara County, is from five to six barrels per day.

Wells have been bored at various points where the surface indications would seem to warrant the probability of finding flowing wells, but hitherto without any marked success. A number of wells have been sunk to very considerable depths; the deepest of which is the Davis well, in Humboldt County, reported to be down over 1300 feet. From many of the wells small quantities of oil have been pumped. Jets of gas, salt water, and other indications, deemed reliable in the East, have, as yet, failed to bring