

CHROMIUM, OR CHROME, is found in large quantities in various parts of the State, and is mined and exported with success. This is an iron ore, though used as a pigment in forming colors and paints, and in the coloring of glass. Chrome is a rare and valuable mineral in other sections of the world, but appears to be abundant in California. It is found in the foothills of the Sierra Nevada, in Yuba, Placer, Amador, Tuolumne, and other counties, and in the Coast Range. The principal localities where it is mined are in Del Norte and Sonoma Counties. Near the town of Cloverdale, in the northern part of Sonoma County, a large bed, or vein, of this ore is found, from which some twenty tons per day are taken, the market for it being in England.

COAL.—The geological features of California have been regarded as unfavorable for coal, but nevertheless that valuable mineral, or its relative, lignite is found in many localities, and is successfully mined. At Monto Diablo coal has been mined for the past fifteen years, and some 160,000 tons are produced annually. The coal is of poor quality but being furnished at less price than that imported is largely employed in river and bay steamers, and local manufactories where steam power is used, and the mining has been profitable to the owners. In Butte, Placer, Amador and San Joaquin counties are deep beds of coal, or lignite, and mining is conducted with energy at Lincoln, Ione and Corral Hollow. These lignites have been used to a considerable extent in the vicinity of the mines for some years, giving satisfaction to the consumers. Discoveries of coal have been quite numerous of late in the Coast mountains from San Diego to the northern limits of the State. The Lincoln coal, of Placer County, is supplied in Sacramento at \$4.75 per ton and makes an excellent fuel, but burns up rapidly, leaving no slate or klinker.

BORAX.—This valuable salt was formerly obtained in large quantities from Borax Lake, an arm of Clear Lake, in Lake County, but upon partial exhaustion of the bed, and a rise in the water of the lake occurring in 1888, the mine was abandoned. The borax was chiefly found in crystals in the mud at the bottom of the lake, where it was sought by means of coffer dams. The principal sources of supply of this material at present are in the extensive beds of borate of soda, and borate of lime, in Esmeralda County, Nevada, near the line of California. Similar beds exist in the desert region east of the Sierra Nevada, in this State, one in Inyo County recently prospected shows a value supposed to equal those of Nevada. The products of the Nevada fields are refined in San Francisco and the quantity is such as to supply the home demand and furnish considerable for exportation. The present price of borax is about 12 cents per pound, at which rate its mining and refining is regarded as profitable.

SULPHUR.—Another of the prominent and peculiar minerals of Lake County is sulphur. This is a very common substance, entering largely in the composition of all ores, but disassociated from other minerals and in a pure state is rare. Beds of it exist in Lake, Sonoma, Santa Barbara, and Ventura counties, and it is mined to a large extent. The Lake County mines furnish about 500 tons annually.

SALT.—The salt of California is usually made from sea water, there being several large evaporating fields in Alameda, and also in Los Angeles counties. Upon low lands subject to tidal overflow levees are constructed with gates to flood and drain the field at high and low tide. The sea water is permitted to enter, and is then restrained. In a few days it so evaporates that crystals of salt are formed, when the water is drained off before the salt is embittered or soiled by the deposition of lime or other matter in solution or floating in the water. In this manner many thousand tons of salt of an excellent quality are made annually, and salt marsh lands susceptible of such flooding are held as valuable. One establishment, the Crystal Salt Works of Alameda, produce about 2,500 tons per annum, bringing from \$10 to \$20 per ton in the San Francisco market. The product of the different fields exceeds 30,000 tons per annum. The great Colorado desert was evidently once submerged, and now in the greatest depressions are thick beds of crystallized salt of unknown extent. These would be veritable mines were they near lines of cheap transportation. The State of Nevada contains many such deposits, and the vast quantity of salt used in beneficiating of silver ores is mined within her limits. An extensive salt deposit covering a mile and a quarter square and a foot in depth, of a very pure article, is found near the Panamint mines in Inyo County, and a similar one exists near Cerro Gordo in the same county. Numerous salt beds and springs are found in various parts of the State.

PETROLEUM.—Under the head of petroleum we will include asphaltum and brea, or the mineral tar or bitumen that is so abundant along the southern coast. The early navigators exploring the coast noticed the heavy flow of bitumen into the sea along the Santa Barbara Channel, covering the water for a great distance with a thin film of oil. The same phenomenon continues, and the sailors of to-day are as much astonished at the glimmering irradiations of the surface of the water as were those of Vancouver, or Belcher, half a century or more ago. Flowing springs of this substance are common throughout the counties of Monterey, San Luis Obispo, Santa Barbara, Ventura, and Los Angeles, and it is also found in the Tulare Valley, also in Colusa County, and near the coast in Humboldt County. From the earliest settlement of the country by the Spaniards the "brea" has been used for roofing houses, as tar for the axles of carretas, for paying the seams of boats and vessels, for burning, and for every purpose their limited arts found it applicable. This, when dried and hardened by exposure to the sun and weather, forms asphaltum, of which beds covering hundreds of acres are seen in many localities. The asphaltum is mined or dug out and large quantities find a market at about \$20 per ton in San Francisco and other cities where it is used in making sidewalks, covering roofs, laying pavement, cementing walls to prevent the seepage of water, and other purposes. The field for the uses of asphaltum is very large, as it seems so well adapted to so many purposes, and in congratulating California upon the abundance of her mineral resources, asphaltum and its cheapness comes prominently forward. This substance is quarried by gads and blasting like rock, the beds being sometimes 30 or 40 feet in depth, and is also found in large blocks on the sea shore. In these localities it is sold at from \$2 to \$4 per ton, and in San Francisco at from \$15 to \$20.

Petroleum in flowing wells is rarely found, but in the San Fernando hills, some thirty miles northwest of Los Angeles, are several springs of oil, and developments have been made by boring and tunneling, by which means considerable quantities of a heavy oil is obtained. Numerous mining excitements have attended the explorations of the bitumen and petroleum region, and no settled system of operations and production has been adopted. Many refineries have been established, and large quantities of oil produced, but as yet none has been prepared equal to the illuminating oils of the east, or perhaps the proper burners are not yet invented, as with the greatest care the smoke is not consumed. A good lubricating and burning oil is obtained, and if a perfect method of utilizing it be discovered, unlimited quantities could be supplied.

In 1865 a company of eastern capitalists, of which Thomas Scott, of Pennsylvania, was at the head, obtained some 250,000 acres of land in Ventura, Santa Barbara, and Los Angeles counties, and proceeded to bore extensively for oil. A flowing well was obtained on the Ojai ranch, in Ventura County, at a depth of 600 feet, which at first run 25 barrels a day, but from neglect and partial obstructions, the present flow does not exceed eight or ten barrels. Among the different works of the vicinity are the Hayward, producing ten barrels per day, the Stanford six barrels, the Santa Paula ten barrels, and others an aggregate of ten barrels. This generally, however, is allowed to run to waste, in consequence of a want of market, only about 200 barrels monthly being sold. This oil can be delivered at the wharf at San Buenaventura at one dollar per barrel.

Near the Matole River, in Humboldt County, petroleum has been found, and considerable efforts were made, some years since, to obtain flowing wells, but with poor success.

ETNA INSURANCE COMPANY, of Hartford, lost over \$3,000,000 in the Chicago Fire, and paid in full, dollar for dollar.