PLAINTIFF'S EXHIBIT

UC-4576

3-4: Mineralogy of the Coalinga Asbestos Deposit

by

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Since 1960 the asbestos production of the United States has more than doubled, a phenomenon in large part due to the development of the Coalinga asbestos deposit in western California. Despite the fact that this deposit is of enormous size and contains over 50% recoverable fiber, it remained unrecognized for over 100 years, since its physical appearance is totally unlike that of almost every other asbestos deposit in the world. The Coalinga deposit occupies the southeastern third of the New Idria serpentinite, an elongated dome-shaped body about 4 miles wide and 12 miles long, which has been intruded into greywackes and shales of Jurassic and Cretaceous age. Whereas most asbestos ores consist of cross-fiber veinlets of chrysotile within massive serpentinite, no such veinlets have been found in the Coalinga deposit. This body has been extensively sheared and pulverized into a gigantic pile of powdery asbestos. The great bulk of the deposit consists of soft, powdery, pellet-like agglomerates of matter, friable chrysotile, surrounding blocks and fragments of hard, dense, competent serpentinite. The very nature of this ore has led directly to its exploitation, since mining can be accomplished with ease, by low-cost, open pit methods, and the fiber content can be easily separated from the coarse, hard rock. At the present time three companies are processing Coalinga ore with an annual production of about 50,000 tons.

Four main types of serpentine materials are distinguishable in the ore: (1) fragments and blocks of hard, dense serpentinite, ranging in size from fractions of an inch to boxcar dimensions; (2) large, tough, leathery sheets of matted chrysotile, up to several square feet in size; (3) brittle, bladed fragments of green serpentine, up to several square inches in size; and (4) soft, friable, greenish-white agglomerates of flaky asbestos, 1/4" to 1" in diameter, which also contain appreciable amounts of both the green, bladed material and the hard, gritty serpentinite. The bulk ore consists predominantly of members of the serpentine group, with chrysotile making up about 75% of the total. Chrysotile is almost the sole constituent of both the green bladed material and the leathery sheets. Serpentinite fragments consist primarily of lizardite and antigorite, with smaller amounts of short-fiber chrysotile, brucite, and magnetite. Minor quantities of calcite and traces of chromite and uvarovite are also present. Talc has not been observed.

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