Asbestos

Photo: Tremolite-asbestos specimen from California. Tremolite is a hydrous calcium magnesium silicate that can occur in a variety of crystal shapes and sometimes occurs as asbestiform fibers. Chrysotile and amphibole asbestos (such as tremolite, above) occur naturally in certain geologic settings in California, most commonly in association with ultramafic rocks and along associated faults.

Asbestos is a term used for a group of silicate minerals that occur as asbestiform fibers having high tensile strength, flexibility, and heat and chemical resistance. Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. The asbestos contents of many manufactured products have been regulated in the U.S. for a number of years. For example, the California Air Resources Board (CARB) has regulated the amount of asbestos in

crushed serpentinite used in surfacing applications, such as for gravel on unpaved roads, since 1990. In 1998, new concerns were raised about possible health hazards from activities that disturb rocks and soil containing asbestos and may generate asbestos-laden dust. These concerns recently lead to CARB to revise their asbestos limit for crushed serpentinite and ultramafic rock in surfacing applications from five percent to less than 0.25 percent, and to adopt a new rule requiring best practices dust control measures for activities that disturb rock and soil containing naturally occurring asbestos.

The California Geological Survey (CGS) provides information on the geology of asbestos occurrences in California, and has developed Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California (PDF) to assist geologists conducting investigations related to naturally-occurring asbestos.

Examples of CGS asbestos hazards projects include:

- Assisting the U.S. Geological Survey with a research program to evaluate the feasibility of using AVRIS data for identifying areas containing naturally occurring asbestos (currently in progress).
- Development of a generalized map of areas more likely to contain asbestos in California.
- Undertaking a pilot mapping project to produce a map of areas more likely to contain asbestos for El Dorado County.
- Participation on the El Dorado County asbestos committee and contributing to that committee's White Paper and Final Report.

Asbestos Resources

Map Sheet 59: Reported Historic Asbestos Mines, Historic Asbestos Prospects, and other Natural Occurrences of Asbestos in California (PDF; 79 MB)

Map Sheet 59 - Pamphlet (PDF; 3 MB)

Asbestos Sites (PDF) and Asbestos Sites (Excel)

Death Valley Talc (PDF) and Death Valley Talc (Excel)

Fibrous Amphiboles (PDF) and Fibrous Amphiboles (Excel)

Asbestos References (PDF) and Asbestos References (Excel)

Special Report 190: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California

Special Report 192: Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California

Geologic Hazards Investigation 2004-01: Preliminary Report on Using Imaging Spectroscopy to Map Ultramafic Rocks, Serpentinites, and Tremolite-Actinolite-Bearing Rocks in California

Special Publication 124: Guidelines for Geologic Investigations of Naturally Occurring Asbestos in California (PDF).

Open-File Report 2000-19: A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, 2000, Map scale 1:1,100,000 (PDF).

Open File Report 2000-02: Areas More Likely to Contain Natural Occurrences of Asbestos in Western El Dorado County, California, 2000

CGS MENU