

## SUPERFUND UPDATE



# ATLAS/JOHNS-MANVILLE ASBESTOS MINE SITES REMEDIAL INVESTIGATION/FEASIBILITY STUDY

JUNE 1987

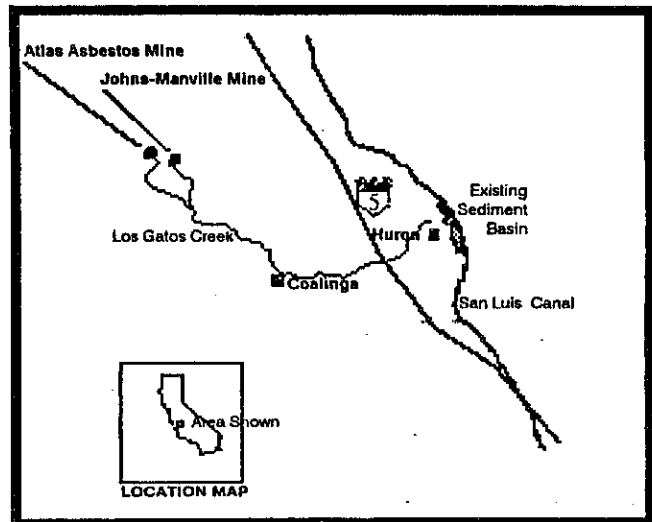
### INTRODUCTION

In 1980 asbestos was detected in the California Aqueduct south of Huron. Governmental studies have shown that, during floods, asbestos-laden water and sediments flow into the Arroyo Pasajero and sometimes into the aqueduct near Huron. It has been assumed that mining activities in the area were the primary source of the asbestos.

After a survey of the area in September 1983, two abandoned mines were identified as the most likely significant sources of the asbestos. The two sites, Atlas Asbestos Mine and Johns-Manville Asbestos Mine, near Coalinga were added to EPA's National Priorities List which identifies the nation's most serious hazardous waste sites for cleanup. Since then, more recent studies indicate that erosion from naturally occurring asbestos deposits may also be contributing to the contamination problem.

Both mines are located on the Joaquin Ridge, an area containing one of the largest serpentine deposits in North America. The most abundant serpentine mineral on the ridge is chrysotile asbestos.

Asbestos is a fibrous mineral once used to manufacture many common products including insulation materials, brake linings, and fire retardant cloth. The use of asbestos is now being phased out because of adverse health effects. A number of health studies tracking workers exposed to asbestos on the job have documented high incidences of lung cancer, mesothelioma (a cancer of the linings of the lung and abdomen), and asbestosis (a respiratory disease).



EPA is currently conducting a Superfund Remedial Investigation to more fully understand the extent of the contamination. The results of this study will be used to determine any public health threats and to identify possible solutions. These cleanup options will be detailed in a report known as a Feasibility Study. After public review and comment on the options, the Agency will select the best way to conduct the cleanup and proceed with work to prevent further public exposure to the asbestos coming from the mines.

Ongoing studies indicate the possibility that airborne asbestos in Coalinga may exceed the normal background levels that would be expected. Since asbestos is considered a potent human carcinogen, the Agency's studies will focus on how much asbestos is present and determine what risk it may pose.

This fact sheet provides a brief description of the sites, a summary of EPA's Superfund program, and an overview of the site work.

## SITE BACKGROUND

The Atlas and Johns-Manville Mines are located in Fresno County, approximately 20 miles northwest of the town of Coalinga. The Johns-Manville Mine ended its mining and milling operations in 1976. The Atlas Mine closed in 1979. While these mines were operating, some milling and mining products were transported to the town of Coalinga. Open pit mine areas and tailings still exist on the sites and are subject to runoff and erosion.

Mine drainage flows into Los Gatos Creek, which carries water to the east, passing just north of Coalinga. Los Gatos Creek joins with several other creeks forming Arroyo Pasajero, a floodplain adjacent to the California Aqueduct east of Huron. A detention basin was built in the floodplain to store water during heavy runoff and allow the asbestos-laden sediment to settle. Sediments carried by floodwaters have silted up the detention basin and diminished its storage capacity. As a result, the waters are released into the canal via four drain inlets and asbestos is carried into the aqueduct. However, most of the downstream users of the aqueduct water are protected by filtration and settling pond systems which trap most of the asbestos fibers.

Airborne asbestos, because it is a known human carcinogen when inhaled, may be a greater health concern than waterborne asbestos. The microscopic asbestos fibers are easily blown about in the wind and can remain suspended in the air for days, sometimes travelling great distances. Besides the mines, mills, tailings piles, and exposed mineral formations, other sources of airborne asbestos may be the streambeds, floodplain and detention basin where the sediments have settled.

## THE SUPERFUND PROGRAM

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund") authorizes EPA to respond directly to abandoned hazardous waste sites that pose a threat or potential threat to public health and the environment. Federal funds may be used for site investigation and waste cleanup or containment. EPA seeks vol-

untary cooperation from parties responsible for contamination and, when possible, pursues reimbursement for Superfund expenditures.

The Atlas site is on public land, managed by the U.S. Bureau of Land Management. The Johns-Manville site is owned by Southern Pacific Land Company. Southern Pacific has conducted some studies and planned mitigation measures to curtail runoff from the site tailings. EPA, Southern Pacific, and possibly previous mine owners and operators, may jointly be involved in the investigation and cleanup under EPA supervision.

## REMEDIAL INVESTIGATION

Comprehensive information about the sites must be gathered before permanent corrective actions can be identified. Some field sampling occurred in 1985 and provided the basis for further planning of the investigation. Additional water and preliminary air samples were collected during 1986 and in March of 1987. Further investigation will continue at least through 1987.

To date, the studies by EPA and other agencies have found high asbestos concentrations in soils and sediments near the sites. Heavy metals, including arsenic, cobalt, mercury, and chromium, have also been found at levels above background in these soil samples and will be further studied in the upcoming work.

One set of air samples near the sites and from the town of Coalinga have shown asbestos levels of possible concern. Additional sampling is being done to determine if this was an isolated event or if the average day-to-day levels present a public health hazard.

The remaining investigation will attempt to more fully define the background level of hazardous materials in the area and distinguish them from what is being contributed by the mine sites. The degree of public health risk posed by the sites, as distinguished from background levels, will be assessed. Information will be gathered to evaluate and rank control options in the Feasibility Study. Future work will include:

- Expanded air sampling upwind and downwind of the sites and in populated areas in the vicinity.

- Soil erosion and runoff content tests, including use of a rainfall simulator to determine how the rate of rainfall affects the amount of sediment carried by the streams.

- Assessment of how much people may now, and in the future, be exposed to the hazardous materials, the toxicity of the materials, and, from these, a characterization of the human health risks.

### FEASIBILITY STUDY

As the Remedial Investigation is being concluded, the Agency will conduct a Feasibility Study which will examine the feasibility of using various options to control and cleanup the asbestos contamination. The types of options which will be considered include:

- Removal - how much, from where and to where, and ways to handle the material;
- Prevention of movement - such as on-site sedimentation basins, dust control, diversion ditches, and wind fences; and,
- Containment - such as capping, pavement, or other types of control of the tailings piles, streambed sediment, and detention basin sediments.

EPA is also required to consider the effects of no further control actions. This option would be selected only if taking no further action will adequately protect human health and the environment. Each of the control options will be evaluated to determine how well it satisfies the objective of a safe, reliable, and cost-effective permanent remedy.

### INTERIM MEASURES

The Agency has the authority to undertake emergency response when any imminent or substantial hazards are identified. While the investigation and review of permanent cleanup options is underway, EPA can also undertake obvious interim actions that deal with distinct

segments of the long-term problem. Examples of this work which could occur in the short term are:

- Stream diversion,
- Partial site capping,
- Removal of small tailings piles in populated areas, and
- Controlling site access to restrict activities at the two NPL sites.

### WORKER SAFETY

Routine precautions are required for the Agency's workers who are regularly exposed to many different hazardous materials. Workers collecting samples at the sites and in Coalinga, Huron, and nearby areas, will wear protective clothing and respirators (as pictured below) as part of these precautions.



## FOR FURTHER INFORMATION

If you have any questions or comments, or would like to receive additional copies of this fact sheet, please contact:

Gail Louis (415) 974-8003  
Community Relations Coordinator

or

Jennifer Decker (415) 974-8161  
Remedial Project Manager

or toll-free @ (800) 231-3075

U.S. Environmental Protection Agency  
215 Fremont Street  
San Francisco, CA 94105



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Community Relations Coordinator  
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