



# Atlas Asbestos Co. Superfund Site

Fresno County, CA

CASE

United States Environmental Protection Agency, Region IX

April 1990

## EPA ANNOUNCES PROPOSED CLEAN-UP PLAN

The U.S. Environmental Protection Agency (EPA) has determined its preferred alternative for controlling the asbestos contamination at the Atlas Asbestos Company Superfund site (the Atlas Mine Site). EPA's proposed plan involves control of asbestos in three separate areas:

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1) Atlas Mine Area: Stream diversions and sediment trapping dams are proposed to minimize the release of asbestos into local creeks. Revegetation is proposed to stabilize the area and minimize erosion and future releases of asbestos. The road through the Atlas Mine Area would be paved to reduce airborne asbestos emissions. The current access restrictions to the Atlas Mine Area would be improved.

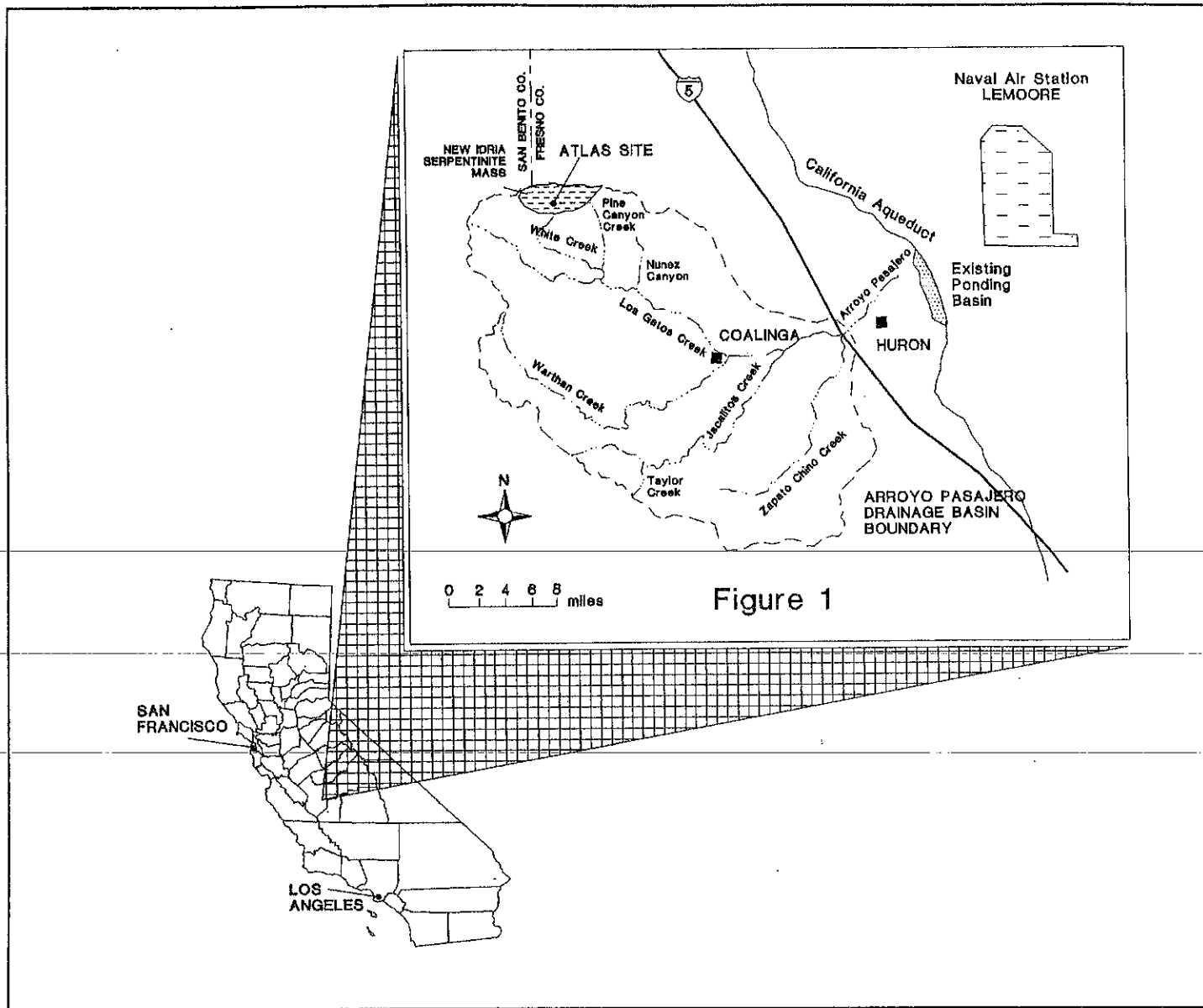
2) Clear Creek Management Area: EPA is proposing no action at this time because of actions being taken by the U. S. Bureau of Land Management (BLM). BLM will revise its Clear Creek Management Plan to minimize asbestos exposure. This decision is discussed in greater detail under the Proposal for the Clear Creek Management Area on page 7.

3) Ponding Basin: EPA is proposing no action at this time in the California Aqueduct ponding basin near Gale Avenue (see figure 1) because of actions being taken by the U.S. Bureau of Reclamation and the California Department of Water Resources. One possible action being considered by BLM is restriction of land use in an expanded ponding basin. This decision is discussed in more detail under Proposal for Clean-up in the Ponding Basin section on page 7.

EPA's preferred alternative for the mine area and several other clean-up alternatives are described in detail in the Feasibility Study (FS) now available at the information repositories listed on page 9. EPA encourages you to review the FS and other site-related documents and provide your comments on the alternatives described in this fact sheet. A document containing a more detailed explanation of certain aspects of the proposed plan (the Atlas Mine Proposed Plan Addendum) is also available. If you are interested in receiving this document, call Debbie Lowe at 1-800-231-3075.

### Traducción en Español Adentro (Spanish Translation Available)

Este folleto contiene información acerca de la plan de acción que la Agencia para la Protección Ambiental ha propuesto para controlar el peligro de contaminación por asbesto(s) en el local de la Compañía de Atlas Asbesto(s). Si Usted quiere recibir una traducción de este folleto en español, por favor, deja una mensaje con la maquina para Debbie Lowe en el número telefonico 'Toll Free': 1-800-231-3075.



## GREATER COALINGA AREA

### SITE BACKGROUND

The Atlas Mine is approximately 18 miles northwest of Coalinga, California, located on land owned by the federal government, the State of California, and private parties (see figure 1). It is located within a 48-square-mile area of serpentine rock (the New Idria Formation) that contains large amounts of naturally occurring asbestos. The Atlas Mine is within an area managed by the Bureau of Land Management (BLM) designated as the Clear Creek Management Area (CCMA, see figure 4). The Atlas Mine includes three open pit asbestos mine surfaces, stockpiles of asbestos waste material, an abandoned mill building, and debris (see figure 2).

Asbestos mining and milling at the Atlas Mine occurred from 1967 to 1979. In 1980, elevated levels of asbestos were detected in water samples from the California Aqueduct near Los Angeles. Subsequent investigations identified the Atlas Mine as a source of waterborne asbestos in the California Aqueduct and as a probable source of airborne asbestos in the surrounding area. In September 1983, the Atlas Mine site was proposed for the Superfund National Priorities List, a list of the nation's most serious hazardous waste sites. (see What is Superfund? on page 8.)

## INVESTIGATION RESULTS

In 1985, EPA began an in-depth investigation (called the Remedial Investigation or RI) to study the nature and extent of the asbestos contamination. This study found large quantities of uncontained chrysotile asbestos in the Atlas Mine area. This asbestos is found in the open mine surfaces and tailings piles. The tailings and ore piles are estimated to contain three million cubic yards of highly concentrated asbestos. The tailings piles have developed deep gullies over time, as a result of local streams draining the Atlas Mine area.

High winds and driving vehicles over the area can cause the asbestos to be released into the air. Inhalation of airborne asbestos can cause cancer in humans (see Public Health Evaluation below). Over time, a protective crust has formed on the tailings piles that appears to reduce wind erosion if left undisturbed.

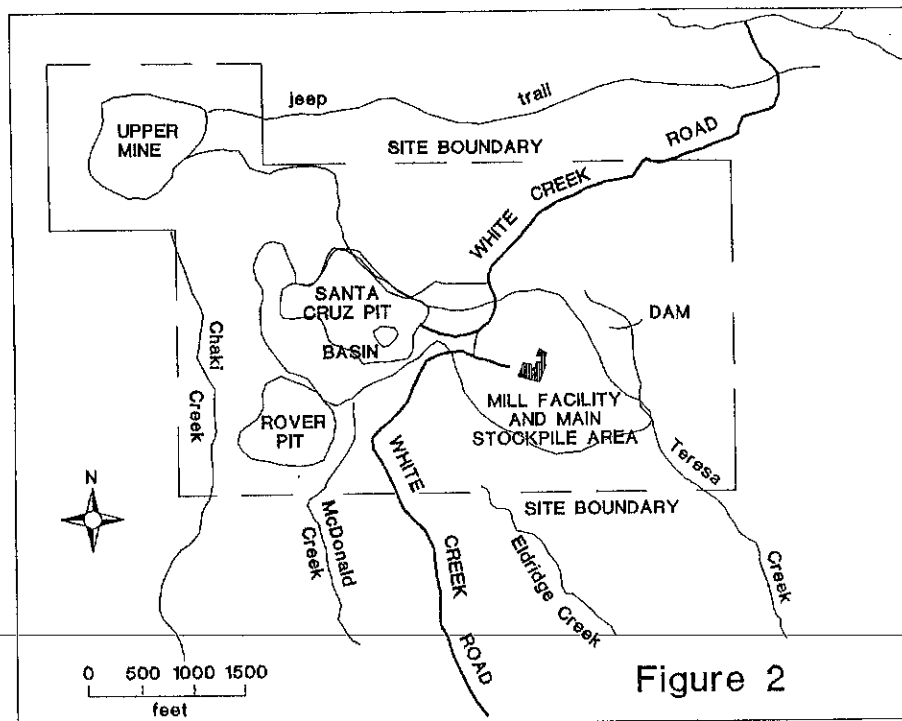


Figure 2: Detailed Map of the Atlas Mine Area

The RI also showed that during heavy rains, significant amounts of asbestos can be transported from the Atlas Mine area down White Creek and eventually onto the Arroyo Pasajero. During very heavy flooding, asbestos-laden water fills the ponding basin and can be released into the California Aqueduct (see the discussion on the Ponding Basin on page 7).

## PUBLIC HEALTH EVALUATION

During the RI, a public health evaluation (also called a risk assessment) was conducted to estimate health risks if the asbestos contamination at the Atlas Mine site is not cleaned up. A public health evaluation is a study in which facts and assumptions are used to estimate the potential for adverse effects on human health that may result from exposure to specific pollutants. Potential risk is expressed in terms of probabilities (e.g., 1 in 10,000).

Elevated health risks were found for people who drive vehicles over contaminated soils and breathe the asbestos-laden air. These elevated health risks were calculated using conservative assumptions. For example, the risk assessment showed that driving a truck over the Atlas Mine area for 3 hours/day, 1 day/week, 16 weeks/year for 5 years could result in an additional five people in ten thousand developing cancer. For a person who drives a truck over the Atlas Mine area for

5 hours/day, 1 day/week, 32 weeks/year for 5 years, the risk assessment showed that an additional two people in one thousand could develop cancer. A scenario considering less frequent use was not considered.


People living near the Atlas Mine area (near White Creek, for example) are also at some additional risk from airborne asbestos. EPA found that for people living near the Atlas mine, an additional four in ten thousand may be at risk of developing cancer under current conditions.

In regards to asbestos in the California Aqueduct, the risk assessment has shown that drinking untreated water from the Aqueduct presents a cancer risk of four in one hundred thousand. However, release of asbestos-laden water into the aqueduct does not occur often and municipalities are required to filter drinking water thereby preventing exposure.

## What is Asbestos?

Asbestos is a naturally occurring mineral which has a fibrous crystalline structure. Asbestos is known to cause lung cancer, mesothelioma, and other serious respiratory diseases such as asbestosis in humans.

Breathing airborne asbestos fibers is the primary route of exposure and poses the greatest health risk, because once fibers enter the lungs, the fibers can be trapped in the body. Asbestos fibers may also be swallowed in food and water.

 EPA's Proposed Clean-up Plan

## CLEAN-UP ALTERNATIVES

| Alternative | No Action | Access Restriction | Continued Monitoring | Stream Diversion | Sediment Trapping Dams | Revegetation | Stabilization of Waste Piles | Capping | Chemical Fixation | Off-site Disposal | Construction of a Dam at White Creek |
|-------------|-----------|--------------------|----------------------|------------------|------------------------|--------------|------------------------------|---------|-------------------|-------------------|--------------------------------------|
| 1           | ●         |                    | ●                    |                  |                        |              |                              |         |                   |                   |                                      |
| 2           |           | ●                  | ●                    |                  |                        |              |                              |         |                   |                   |                                      |
| 3           |           | ●                  | ●                    | ●                | ●                      | ●            |                              |         |                   |                   |                                      |
| 4           |           | ●                  | ●                    | ●                | ●                      | ●            | ●                            |         |                   |                   |                                      |
| 5           |           | ●                  | ●                    | ●                |                        |              | ●                            |         |                   |                   |                                      |
| 6           |           | ●                  | ●                    | ●                |                        |              |                              | ●       |                   |                   |                                      |
| 7           |           |                    |                      |                  |                        |              |                              |         | ●                 |                   |                                      |
| 8           |           | ●                  |                      |                  |                        |              |                              |         |                   |                   | ●                                    |

## CLEAN-UP ALTERNATIVES

The purpose of the Feasibility Study (FS) is to develop and screen potential clean-up alternatives based on the findings of the Remedial Investigation. A range of clean-up options were considered to address the asbestos contamination at the Atlas Mine site. These options are summarized above and described in detail below. EPA uses nine criteria to evaluate these clean-up options and select its preferred alternative. These criteria are explained in detail on page 9.

### ALTERNATIVE 1: NO ACTION

The Superfund program requires that the "No Action" alternative be evaluated at every site to establish a baseline for comparison. Under this alternative, no clean-up action would be taken, but a regular program of site-monitoring would be started. This monitoring program would include periodic sampling of surface water and airborne asbestos levels in the Atlas Mine area, as well as aerial monitoring.

The "No Action" alternative is not protective of human health and the environment and is not considered an acceptable option for this site.

### ALTERNATIVE 2: ACCESS RESTRICTION

The mines and stockpile areas would be fenced to restrict access and prevent disturbance by off road ve-

hicles. Signs would be posted throughout the mine area to warn of an asbestos hazard. The U.S. Bureau of Land Management has already undertaken a portion of this fencing and sign-posting.

This alternative would be protective of human health for persons attempting to drive vehicles across the Atlas Mine Area but would not address the problem of asbestos being eroded from the mine area, transported to nearby creeks and deposited on the Arroyo Pasajero.

### ALTERNATIVE 3: STREAM DIVERSION/SEDIMENT RETENTION DAMS; ACCESS RESTRICTION; REVEGETATION

#### EPA'S PREFERRED CLEAN-UP PLAN

*In addition to the access restriction described in Alternative 2, surface waters would be diverted around contaminated soils with perimeter dikes and lined diversion ditches (see figure 3). These stream diversions would minimize erosion of the mine surfaces and tailings piles. Sediment retention dams would be built to reduce the transport of sediments. Minor regrading would improve the surface drainage and stability of the mines and stockpile areas. These actions would minimize the release of asbestos from the Atlas Mine into local creeks. The road through the Atlas Mine Area would be paved to reduce airborne asbestos emissions.*

A pilot study would evaluate if native vegetation could be established on the disturbed areas without having to import large quantities of top soil. A revegetation project will be implemented if it is found to be technically feasible.

This alternative provides the best balance of tradeoffs among the alternatives with respect to the nine criteria that EPA uses to evaluate clean-up options. This alternative would reduce public health risks by minimizing human contact with the asbestos and minimizing the release of asbestos from the Atlas Mine area. This plan would reduce health risks more quickly and cost-effectively than any other alternative.

**ALTERNATIVE 4: REGRADING OF WASTE PILES PLUS ALTERNATIVE 3**

In addition to all elements of Alternative 3, Alternative 4 adds major improvements to the stability and drainage of mines and stockpile areas. Fully engineered, comprehensive improvements would be performed to minimize collapse and erosion due to run-off. This alternative would disturb the protective crust that has formed on the mine surfaces. It would also be significantly more expensive than Alternative 3 without providing measurable improvement in effectiveness.

**ALTERNATIVE 5: VEGETATED SOIL CAP; ACCESS RESTRICTION; STREAM DIVERSION**

In addition to the stream diversion element of Alternative 3, Alternative 5 includes the construction of a vegetated soil cover on mine surfaces and stockpiles. This vegetated soil cap would be constructed by first reshaping the stockpiles and then covering the mines and stockpiles with 6 to 12 inches of fertile soil cover. (The revegetation proposal in Alternative 3 does not include this soil cover.) Vegetation would then be established on the soil cover. To import the amount of fertile soil needed to cover the mine area would be prohibitively expensive.

**ALTERNATIVE 6: CHEMICAL FIXATION; ACCESS RESTRICTION; STREAM DIVERSION**

Three million cubic yards of asbestos waste materials would be chemically fixed with cementing agents. The asbestos material would be excavated from the mine area and transported to an on-site batch mixing plant. At the plant, the asbestos would be mixed with cementing agents and water to form a slurry. This slurry would then be taken to the open pit mines and previously excavated area. The slurry would harden into a fixed mass similar to concrete. Stream run-off would be diverted around areas containing fixed material, thereby reducing erosion.

This is the only alternative that would physically change the asbestos waste at the site, but it is considered too costly considering the additional protection to human health and the environment that would result.

**ALTERNATIVE 7: OFF-SITE DISPOSAL**

Three million cubic yards of

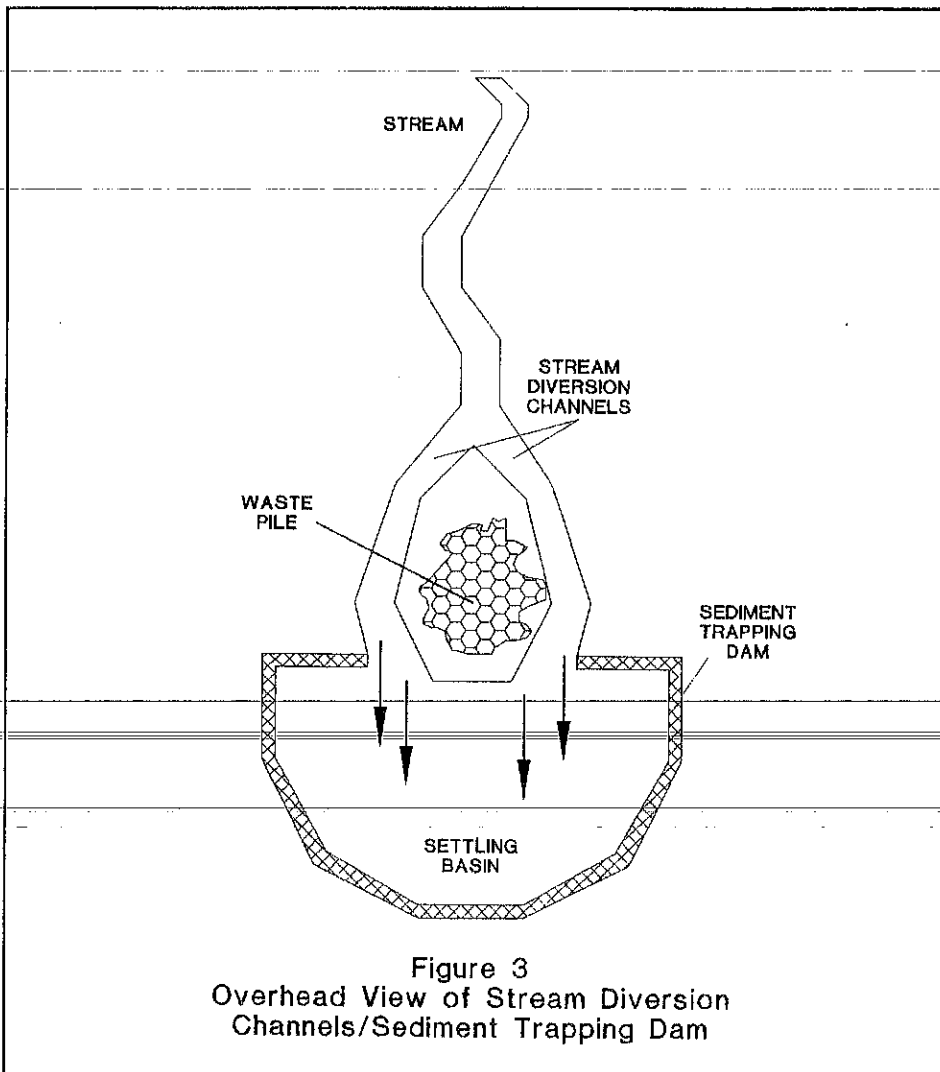


Figure 3  
Overhead View of Stream Diversion Channels/Sediment Trapping Dam

The diversion of streams around asbestos-laden waste piles would reduce the amount of asbestos being transported from the mine area. In addition, settling basins would collect asbestos-bearing sediments thereby slowing the transport of asbestos from the mine area.

would be excavated and transported to an off-site landfill designed to hold asbestos waste. Nearly all contaminants would be excavated and the need for long term monitoring and maintenance of the mines and stockpile areas would be eliminated.

In addition to being prohibitively expensive, there would be risks associated with transport of asbestos from the mine area.

## ALTERNATIVE 8: CONSTRUCTION OF A DAM ON WHITE CREEK

A dam with an approximate reservoir capacity of 7500 acre- feet and an aerial extent of about 200 acres would be constructed. It would most likely be located just below the intersection of White Creek and Diaz Canyon, approximately seven miles down from the Atlas Mine area. This dam would address the transport of waterborne asbestos from the entire White Creek watershed, however, this alternative would not address the health threats at the Atlas Mine.

## Comparison of Clean-Up Alternatives

| ALTERNATIVE  | LONG-TERM EFFECTIVENESS & PERMANENCE   | REDUCES TOXICITY, MOBILITY, VOLUME (TMV) | OVERALL PROTECTION  | COST (PRESENT WORTH) | Months to Implement |
|--|--|--|---------------------|----------------------|---------------------|
| 1. No Action   | Not a permanent solution               | No reduction in TMV                      | No Protection       | \$ 830,000*          | 3                   |
| 2. Restrict Access to Atlas site                                   | Not a permanent solution               | No reduction                             | Limited Protection  | \$ 560,000           | 2                   |
| 3. Minimally intrusive improvements to site drainage and stability | Not a permanent solution               | No reduction                             | Adequate Protection | \$ 4,000,000         | 4                   |
| <b>EPA'S PREFERRED CLEAN-UP PLAN</b>                               |  |  |                     |                      |                     |
| 4. Comprehensive improvements to site drainage and stability       | Not a permanent solution               | No reduction                             | Adequate Protection | \$ 9,400,000         | 6                   |
| 5. Vegetated soil cap  | Not a permanent solution               | No reduction                             | Adequate Protection | \$ 15,000,000        | 6                   |
| 6. Complete chemical fixation of site wastes                       | Virtually permanent                    | Reduces toxicity and mobility            | Most Protection     | \$ 103,000,000       | 48                  |
| 7. Removal of site wastes to off-site Class I Landfill             | Permanent solution                     | No reduction                             | Most Protection     | \$ 243,000,000       | 120                 |
| 8. White Creek Dam   | Does not address problem at Atlas Mine | No reduction                             | Limited Protection  | \$ 16,500,000        | unknown             |

\* This cost represents the cost of monitoring. Alternatives 2-5 do not include the cost of monitoring

## Proposal for the Clear Creek Management Area (CCMA)

The CCMA contains a 36 square mile area which has been designated a Hazardous Asbestos Area by U.S. Bureau of Land Management (BLM). BLM will revise the current land use plan for the CCMA so that airborne asbestos emissions are minimized and the threat to public health represented by the Hazardous Asbestos Area is addressed.

This revision is expected to take 18 to 24 months to complete after EPA issues its Record of Decision. This revision may entail future prohibition of access to the Hazardous Asbestos Area of the CCMA for recreational and other public uses.

In October 1992, EPA will evaluate whether the BLM actions regarding the public health threat in the CCMA are consistent with Superfund objectives. If BLM's actions are not consistent with Superfund objectives, EPA will use Superfund authority to plan and implement the necessary protective action at that time and provide an opportunity for public input. This protective action would include: 1) minimizing exposure to airborne asbestos; and 2) developing land use practices that minimize the discharge of visible emissions.

## Proposal for Clean-up in the Ponding Basin

During heavy rains, asbestos bearing sediments are washed down the creeks near the site into Los Gatos Creek and into the Arroyo Pasajero drainage basin to an area near the California Aqueduct that was designed to manage floodwater (see figure 1). This area is referred to as the ponding basin.

During very heavy flooding, asbestos laden water has filled the ponding basin (and other nearby areas) and been released into the California Aqueduct. Also, disturbance of the soil in the ponding basin (through activities such as tilling) may release asbestos into the air.

The ponding basin area is managed by the U.S. Bureau of Reclamation (USBR) and the California Department of Water Resources (DWR). USBR and DWR are currently developing plans to address the flooding problems and the impacts on the California Aqueduct. They are also considering restricting activities on the land to reduce airborne emissions of asbestos and improve its value as a wildlife habitat.

EPA will not pursue further independent studies of this area at this time. The USBR and DWR will describe their plans in a joint Environmental Impact Report/Statement to be available for public review and comment toward the end of 1990. EPA will review and comment on the plans and actions of the USBR and DWR to ensure consistency with human health and environmental objectives. Should EPA determine that USBR and DWR are not acting consistently with Superfund objectives, EPA will use Superfund authority to ensure protection of human health and the environment. When EPA makes such a determination, a public notice will be issued concerning the tentative decision on what actions will be taken. EPA's determination will occur by mid- 1992.

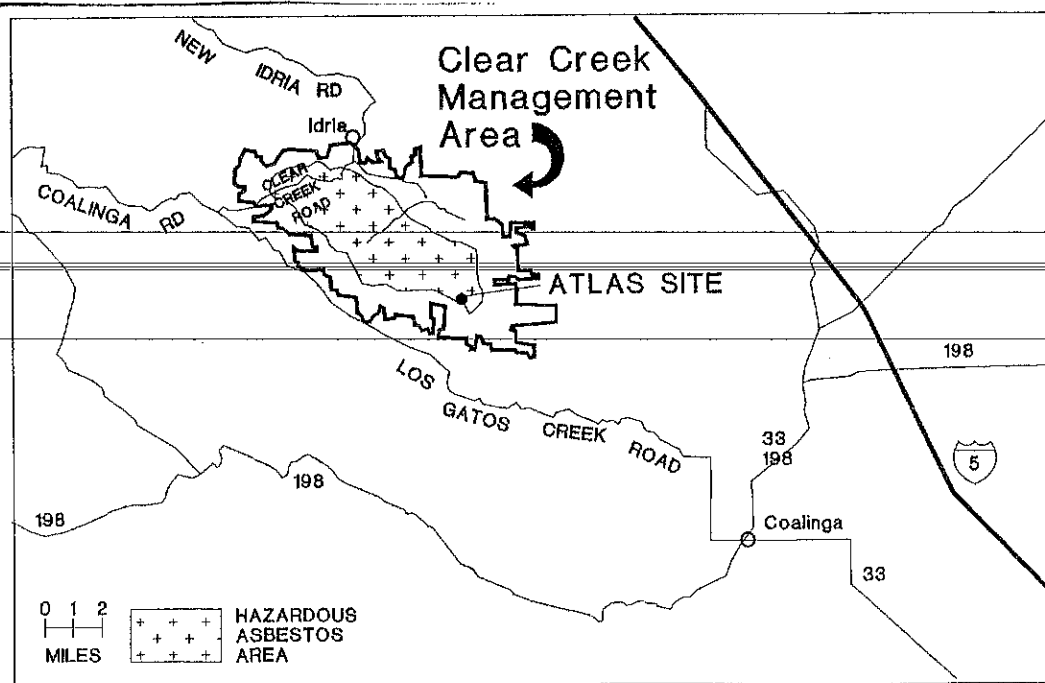
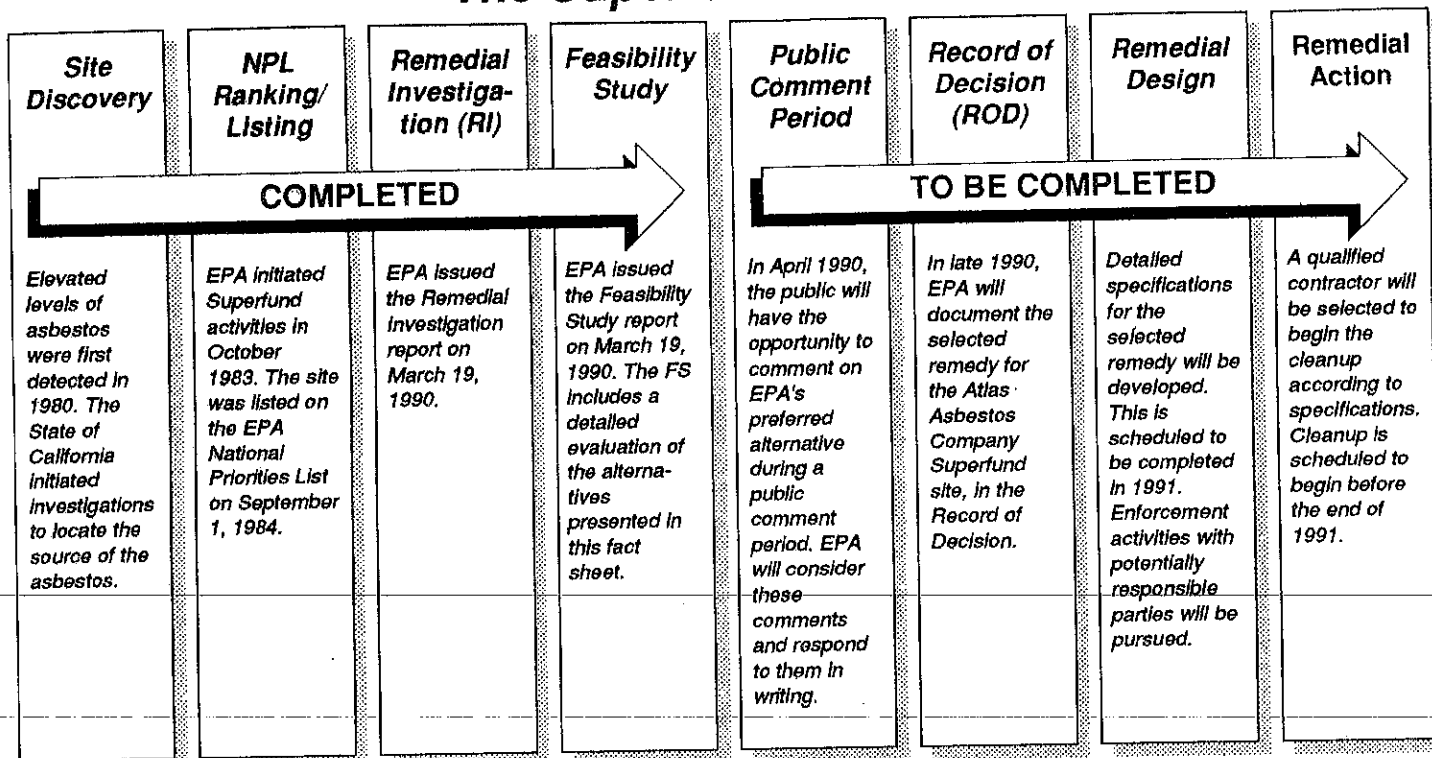


Figure 4: Clear Creek Management Area

# The Superfund Process



**Community Relations Activities Occur Throughout the Superfund Process**

## What is Superfund?

Superfund is the commonly referred name of the law called the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a federal law enacted in 1980 and amended in 1986. CERCLA enables EPA to respond to hazardous waste sites that threaten public health and the environment. Two major steps in the Superfund process are to conduct an investigation of a site (called a Remedial Investigation) and evaluate possible

clean-up alternatives (the Feasibility Study). During the Remedial Investigation (RI), information is gathered to determine the general nature, extent, and sources of contamination at a site. The Feasibility Study (FS) evaluates different clean-up alternatives for the site based on information collected during the RI. Based on the FS and public comments submitted on EPA's preferred remedy, EPA selects a clean-up plan.

## RELATED CLEAN-UP ACTIVITIES

### CITY OF COALINGA

During the investigations of the Atlas Mine site, asbestos was discovered in the city of Coalinga. This asbestos had been shipped from the Atlas Mine site and other sources to a depot in Coalinga for eventual shipment out of Coalinga by rail and truck. This asbestos is concentrated in a 17 acre parcel of land in the southern part of Coalinga. Cleanup of the asbestos in Coalinga began in February 1990 and is currently underway as a separate clean-up action and is scheduled to be completed by September 1990.

### JOHNS-MANVILLE COALINGA ASBESTOS MILL SITE

The Johns-Manville Coalinga Asbestos Mill Site is located approximately 3 miles from the Atlas Mine. It is a separate Superfund site and EPA is currently evaluating the possible clean-up alternatives for this site. EPA anticipates announcing its proposed clean-up plan for the Johns-Manville Mill site in the next several months. EPA will provide a thirty day public comment period to solicit comments on this proposed plan.



# HOW IS A REMEDY SELECTED AND IMPLEMENTED?

|   |   |  |
|---|---|--|
| <p><b>EVALUATION CRITERIA</b></p> <p>EPA will select a clean-up alternative for the site based on nine criteria used to evaluate the alternatives. The evaluation criteria have been developed to address legal requirements, as well as technical and policy considerations that have proven to be important for selecting clean-up alternatives.</p> <p>Each alternative is assessed against the nine evaluation criteria described below. The results of this assessment are used to compare the alternatives and identify the key tradeoffs among the alternatives. This approach is designed to provide decisionmakers with sufficient information to adequately compare the alternatives, select an appropriate remedy for a site and satisfy legal requirements. The nine criteria are summarized below:</p> | <p><b>Long-term Effectiveness and Permanence</b></p> <p>Refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once clean-up goals have been met.</p> <p><b>Reduction of Toxicity, Mobility and Volume Through Treatment (TMV)</b></p> <p>Refers to the anticipated ability of a remedy to reduce the toxicity, mobility, and volume of the hazardous components present at the site.</p>                       | <p>describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.</p> <p><b>Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)</b></p> <p>Addresses whether or not a remedy will meet all ARARs of federal and state environmental statutes and/or provide grounds for invoking a waiver.</p>  |
| <p><b>Short Term Effectiveness</b></p> <p>Addresses the period of time needed to complete the remedy, and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until the clean-up goals are achieved.</p>   | <p><b>Implementability</b></p> <p>Refers to the technical and administrative feasibility of a remedy, including the availability of materials and services needed to carry out a particular option.</p> <p><b>Cost</b></p> <p>Evaluates the estimated capital and operation and maintenance costs of each alternative.</p> <p><b>Overall Protection of Human Health and the Environment</b></p> <p>Addresses whether or not a remedy provides adequate protection and</p> | <p><b>State Acceptance</b></p> <p>Indicates whether, based on its review of the information, the state concurs with, opposes, or has no comment on the preferred alternative.</p> <p><b>Community Acceptance</b></p> <p>Indicates whether community concerns are addressed by the remedy and whether or no the community has a preference for a remedy. Although public comment is an important part of the final decision, EPA is compelled by law to balance community concerns with all of the previously mentioned criteria.</p> |

## INFORMATION REPOSITORIES

EPA maintains four information repositories in the greater Coalinga area that contain project documents, fact sheets, and other reference materials. In addition, the Coalinga District Library holds the Administrative Record file for the site, which is a file containing the documents relied on by EPA in selection of a clean-up plan for the site. EPA encourages you to review these documents to gain a more complete understanding of the site and the Superfund activities that have been conducted.

Coalinga District Library  
305 N. 4th Street  
Coalinga, CA 93210  
(209) 935-1676

Avenal Public Library  
501 East Kings  
Avenal, CA 93204  
(209) 386-5741

Huron City Hall  
36311 Lassen Ave.  
Huron, CA 93234  
(209) 945-2241

Kings County Library  
401 North Douty  
Hanford, CA 93230  
(209) 582-0261

# OPPORTUNITIES FOR PUBLIC INVOLVEMENT

## COMMUNITY MEETING

You are invited to an upcoming meeting regarding the investigation and control of asbestos contamination at the Atlas Mine Superfund site. EPA representatives will report on the clean-up alternatives, including EPA's preferred alternative.

DATE: May 9, 1990

TIME: 7:00 PM

PLACE: Coalinga City Council Chambers

You will have the opportunity to ask questions and comment on the clean-up alternatives at the meeting. If this meeting place is not convenient for you, you should contact Debbie Lowe at 1-800-231-3075 by April 25, 1990 and EPA will consider conducting a second meeting in another location.

## PUBLIC COMMENT PERIOD: APRIL 11 THROUGH JUNE 11, 1990

A 60 day public comment period begins on April 11, 1990. EPA requests your comments on the proposed plan as well as other clean-up alternatives for the site. Written comments should be post-marked no later than June 11, 1990 and sent to:

Dan Meer H-6-2  
Remedial Project Manager  
U.S. Environmental Protection Agency  
1235 Mission Street  
San Francisco, CA 94103

## For More Information

Contact: Debbie Lowe, Community Relations Coordinator  
U.S. Environmental Protection Agency  
1235 Mission Street (H-1-1), San Francisco, CA 94103  
EPA's Superfund Toll-Free Message Line: 1-800-231-3075  
**TRADUCCION EN ESPANOL ADETRIO**

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Environmental Protection Agency  
Region 9

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