

CASO

Atlas Asbestos



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, CA 94105

1-31-90

Mr. Ed Hastey
State Director
Bureau of Land Management
2800 Cottage Way, Room E-2841
Sacramento, California 95825

Dear Mr. Hastey: *Ed-*

The U.S. Environmental Protection Agency (EPA) is pleased to provide you with a draft proposed plan for the Atlas Mine Superfund Site. EPA expects to release this proposed plan for public comment within the next month. Please note that this draft document is for internal BLM use only.

If you have any questions about the proposed plan, please contact me directly at (415) 768-1427. Dan Meer (415) 768-3089 of my staff is also available to assist you.

Sincerely,

A handwritten signature in cursive script that reads "Jerry Clifford".

Jerry Clifford, Assistant Director
Superfund Programs

Enclosures

cc: With Attachments

Bob Beehler
Bureau of Land Management
Hollister Resource Area Office
402 Hill Street, Building #C
Hollister, CA 95023

DRAFT PROPOSED PLAN

ATLAS ASBESTOS COMPANY SUPERFUND SITE

INTRODUCTION

This Proposed Plan identifies the U.S. Environmental Protection Agency (EPA) preferred option for cleanup of chrysotile asbestos (asbestos) contamination at the Atlas Asbestos Company Superfund Site (Atlas Mine Site or the Site), Fresno County, California. The EPA conducted a Remedial Investigation/Feasibility Study (RI/FS). The RI examined the nature and extent of the asbestos contamination, possible threats to human health and the environment and the necessity for remedial action. The FS evaluated possible cleanup alternatives based on data presented in the RI.

This document summarizes information that can be found in greater detail in the RI/FS reports and other documents contained in the administrative record file for this site. EPA and the State of California encourage you to review these other documents to gain a more complete understanding of the Site and Superfund activities that have been conducted there. If you wish to comment on the selection of the final remedy for the Atlas Mine Site, we encourage you to submit comments to EPA on all of the alternatives presented in the Proposed Plan. The information upon which the selection of the response action will be based, is available at the information repositories listed on page [].

SITE BACKGROUND

The Atlas Mine Site is located approximately 18 miles northwest of Coalinga, California on land owned by the Federal Government and the State of California (see Figure 1). It is situated within a 48 square mile area of serpentine rock (the New Idria Formation) containing large amounts of naturally occurring chrysotile asbestos as well as other minerals associated with serpentine. The Site includes three open pit asbestos mines, stockpiles of asbestos waste material, an abandoned mill building and debris (figure 2). During heavy rains, asbestos-bearing sediments are washed down the creeks adjacent to the Site into Los Gatos Creek and eventually is transported into the Arroyo Pasajero drainage basin to an area near the California Aqueduct that was designed to manage floodwaters (figure 1). This area is called the ponding basin. During very heavy flooding, asbestos laden water has filled the ponding basin and been released into the California Aqueduct. The ponding basin has been designated as a part of the Site because it contains asbestos which has been transported from the Atlas Mine.

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. Subsequent inves-

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tigations 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 Priority List (NPL). RI/FS activities were initiated by EPA in 1985. During the RI activities, uncontained asbestos mining and milling product was discovered in the City of Coalinga. This asbestos product 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. The asbestos is concentrated in a 17 acre parcel of land in the southern part of Coalinga. Cleanup of the asbestos contamination in Coalinga is currently underway as a separate, fast tracked, "operable unit" remedial action.

REMEDIAL INVESTIGATION RESULTS

Site investigations have revealed large quantities of uncontained chrysotile asbestos in the Atlas Mine area. This asbestos occurs as part of open faced mine surfaces and tailings piles. The tailings and ore piles have been estimated to contain 3 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. During heavy rains, high levels of asbestos were measured in local streams.

High wind and activities (such as driving a vehicle on the tailings piles) that disturb the mine surfaces and tailings piles can cause airborne asbestos emissions. Over time, a protective crust has formed on the tailings piles that appears to reduce wind erosion if left undisturbed. 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 alluvial fan.

SITE REMEDIATION STRATEGY

The three major problems at the Atlas Mine area are: i) the release of chrysotile asbestos from the mine area into local creeks during heavy rains and ii) generation of airborne asbestos by vehicles driving on mine areas, on asbestos-bearing soils and on roads; and iii) the transport of asbestos from the mine area by vehicles which have been driven through the mine.

A system of stream diversions and sediment trapping dams (figure 3) are proposed to minimize the release of asbestos into the local drainage. Restricting vehicle access into disturbed areas (such as mines and tailings piles) or areas where asbestos has been transported as well as paving the road through the Site would reduce the generation of airborne asbestos. This access restriction would include prohibiting all recreational activity in the asbestos hazard area of the Clear Creek Management Area

all recreational activity?

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terms to further restrict vehicle access,

(figure 4). Perimeter fences and warning signs have already been installed at the Atlas Mine area. In addition, reclaiming the mined areas by revegetation could help stabilize these areas and minimize future releases of contaminants.

The two major problems in the ponding basin are: i) the release of asbestos-bearing water into the California Aqueduct during heavy flooding; and ii) the possibility that agricultural activity causes airborne asbestos emissions

possibility?

This is the second of three planned operable units for the Site. The first operable unit addressed the problem of uncontained asbestos waste in the City of Coalinga as described above. The second operable unit addresses the mine surfaces and asbestos tailings piles which pose a threat of release in local creeks and into the air. The third operable unit will address problems in the ponding basin.

at the site?

ASSESSMENT OF HEALTH RISKS

During the RI, an analysis was conducted to estimate the health or environmental problems that could result if the asbestos contamination at the Atlas Mine Area was not cleaned up. This analysis is commonly referred to as the baseline risk assessment or the public health evaluation (PHE).

The PHE focused on the risks from chrysotile asbestos present at the Site or transported from the Atlas Mine area by local streams and/or wind. Elevated risks were found for people who engage in dust-generating activities (for example, driving a vehicle over contaminated soils or tailings piles) and breathe the dust-laden air. The PHE found that over a lifetime of exposure from driving a 4-wheel drive truck in the mine area, an additional five people in ten thousand (the most probable scenario) or possibly four people in ten (the worst case scenario) are at risk of developing cancer if remedial action is not taken. It should be noted that these risk values were calculated using conservative assumptions. For example, in calculating the average risk as described above, it is assumed that a person drives on the mine area for an average of 3 hours per day, 1 day per week, 16 weeks per year for 5 years. A scenario assuming less frequent use was not considered. Persons living near the Atlas Mine area (for example, people living near White Creek) are also at some risk from airborne asbestos. The PHE found that for people living near the Atlas mine, an additional four in ten thousand may be at risk of developing cancer from breathing asbestos fibers in the air. There does not appear to be a significant risk from ingestion of water from the California Aqueduct or from ingestion of asbestos from surface soils. The baseline risk assessment is included as Chapter 6 of the RI report for the Atlas Mine Site.

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SUMMARY OF ALTERNATIVES

The alternatives analyzed for the Site are presented below and summarized in Table 1. These are numbered to correspond with the numbers in the FS report. The alternatives are the following:

- Alternative 1: No Action
- Alternative 2: Access Restriction with Continued Monitoring (CM)
- Alternative 3: Stream Diversion/Sediment Trapping Dams; Access Restriction; Revegetation and CM
- Alternative 4: Stabilization of Waste Piles; Stream Diversion/Sediment Trapping Dam; Access Restriction; Revegetation and CM
- Alternative 5: Capping; Access Restriction; Stream Diversion and CM
- Alternative 6: Chemical Fixation; Access Restriction; Stream Diversion and CM
- Alternative 7: Off-Site Disposal
- Alternative 8: Construction of a Dam at White Creek

All of the costs and implementation times presented below are estimates. The cost estimates for Alternatives 2 through 6 do not include the cost of continued monitoring. Details of how the cost estimates were calculated are included in the FS.

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 remedial 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. In addition security at the Atlas Mine would be improved.

Alternative 2: Access Restriction with Continued Monitoring

The mines and stockpile areas would be fenced to restrict access and prevent disturbance by off road vehicles. White Creek Road would be paved through the Site area to reduce vehicle-generated dust plumes. Signs warning of asbestos hazards would be posted throughout the Mine area. All recreational activity would be prohibited in the Asbestos hazard area of the CCMA. Criteria would be established for all other activity to mitigate the amount of airborne asbestos emissions. ✓

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**Alternative 3: Stream Diversion/Sediment Retention Dams
Access Restriction; Revegetation and CM**

In addition to access restriction, surface waters would be diverted around mine surfaces and stockpile areas with perimeter dikes and lined diversion ditches. 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 downstream. Minor regrading would improve the surface drainage and stability of the mines and stockpile areas. A pilot study would evaluate if vegetation could be established on the disturbed areas.

Alternative 4: Regrading of Waste Piles plus Alternative 3

In addition to all elements of Alternative 3, Alternative 4 includes major improvements to the stability and drainage of mines and stockpile areas. Fully engineered, comprehensive improvements would be performed to minimize slumping and erosion due to run-off. Otherwise, Alternative 4 is similar to Alternative 3.

**Alternative 5: Vegetated Soil Cap; Access Restriction;
Stream Diversion and CM**

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. Vegetation would then be established on the soil cover.

**Alternative 6: Chemical Fixation; Access Restriction; Stream
Diversion and CM**

Three million cubic yards of asbestos waste materials would be chemically fixed with cementing agents. The asbestos material would be excavated from the mines and stockpiles 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 transported to the open pit mines and previously excavated areas. After curing, the slurry would harden into a fixed mass similar to concrete. Stream run-on would be diverted around areas containing fixed material, thereby reducing erosion.

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Alternative 7: Off-Site Disposal in a Class I Landfill

Three million cubic yards of asbestos contaminated material would be excavated and transported to an off-site, permitted, Class I landfill. Nearly all contaminants would be excavated and the need for long term monitoring and maintenance of the mines and stockpile areas would be eliminated.

Alternative 8: Construction of a Dam on White Creek

A dam with an approximate reservoir capacity of 7500 acre-feet and an areal extent of about 200 acres would be constructed. The probable location would be just below the intersection of White Creek and Diaz Canyon, approximately 7 miles 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 specific conditions and health threats at the Atlas Mine (except for transport of asbestos bearing sediments from the Site to the ponding basin by surface streams).

EVALUATION OF ALTERNATIVES

EPA's preferred alternative for mitigating the chrysotile asbestos contamination at the Atlas Mine area is Alternative 3 - Stream Diversion/Sediment Retention Dams; Access Restriction; Revegetation and Monitoring. Based on current information, this alternative would appear to provide the best balance of trade-offs among the alternatives with respect to the nine criteria that EPA uses to evaluate alternatives. This section profiles the performance of the preferred alternative against the nine criteria, noting how it compares to the other options under consideration. A glossary of the evaluation criteria is included on page [].

Analysis of the Preferred Alternative

Overall Protection. Alternatives 3 through 7 would all provide adequate protection of human health and the environment by controlling risk through engineering controls, institutional controls. Alternative 6 is the only option that utilizes treatment. Alternative 8 would not address conditions and health threats at the Atlas Mine. Alternative 3 would control the significant risk from inhalation of asbestos-contaminated air at the Atlas Mine and nearby areas by severely access to the Atlas Mine, by paving the road through the mine area and by prohibiting recreational activity in the CCMA. The stream diversions and sediment retention dams would minimize the release of asbestos from the Atlas Mine into local creeks. Unlike Alternative 4, Alternative 3 would not disturb the protective crust on the stockpiles to a great extent. The revegetation element of Alternative

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3 could, if successful, help stabilize disturbed areas, minimize erosion and reduce future releases of contaminants. Alternative 2 would be protective of human health for persons attempting to enter the Atlas Mine area or engage in recreational activity in the CCMA.

Because the "no action" alternative is not protective of human health and the environment, it is not considered further in this analysis as an option for the Site.

Compliance with ARARs. Alternatives 2 through 7 would meet their respective applicable or relevant and appropriate requirements of Federal and State environmental laws. The fencing and sign posting would comply with the specifications in 40 CFR section 61.153(b) and section 61.156(b). Access restriction would comply with the "no visible emission" criterion in 40 CFR Section 61.153(a)(1). The vegetated soil cover (Alternative 5) would comply with the specifications in 40 CFR, Section 61.153(a)(2). Alternative 6 is the only alternative that includes treatment as a principle element, thereby fulfilling the requirements of CERCLA Section 121(b). The disposal of the material in a Class I landfill would comply with the specifications in 40 CFR, Section 61.153(a)(2). There are no ARARs that apply to Alternatives 8.

Long-term effectiveness and permanence. ~~Alternative 3 would reduce the amount of asbestos-contaminated material released into the air and the surface water in the Atlas Mine area. By restricting access to areas where asbestos has been transported and paving the road through the mine area, Alternative 3 would reduce the long-term risk of exposure to asbestos-contaminated air. For this criterion, Alternatives 4 and 5 are comparable to Alternative 3.~~

Alternative 6 provides the greatest amount of long-term effectiveness and permanence. Alternative 7 would remove all waste to a permitted, off-site, Class I landfill, thereby eliminating the long-term risk of exposure at the Site. As with all landfills, the long-term effectiveness of the containment system may need to be retrofitted or replaced. While the off-site disposal option eliminates risk at the Atlas Mine, off-site disposal without treatment is the least preferred option under CERCLA.

Reduction of Toxicity, Mobility or Volume of the Contaminants through Treatment. Only Alternative 6 would treat the waste to reduce the toxicity and mobility of the asbestos. Technology is not currently available that would reduce the volume of asbestos contaminated soils. Alternatives 2 through 5 and Alternative 7.

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Short Term Effectiveness. Alternative 2 would reduce the possibility of direct human contact with contaminants at the Atlas Mine in the least amount of time. Alternative 3 would have a minor, short term risk of exposure for workers at the Atlas Mine. Alternatives 4 through 7 would have a greater short term risk of exposure for on-site workers, compared to Alternatives 2 and 3. In addition, Alternative 7 would subject the surrounding community to the possibility of accidental spillage during transport of the contaminant off-site. Alternative 8 would have no effect in the short term. However, this alternative does not address exposure at the Atlas Mine.

Implementability. Alternatives 2, 4 and 7 would have no unusual technical difficulties that could delay implementation. Alternative 3 would have few, if any, technical or administrative difficulties. Alternative 7 could face minor administrative difficulties in getting permits from state and federal agencies for transporting the asbestos material on public roads. Alternative 5 would face a technical difficulty in finding adequate borrow sources near the site for capping and could face major administrative difficulties in getting permits from local and county development agencies to exploit nearby borrow sources. Alternative 6 could face a major technical difficulty with the process system designed to fix the waste material. Alternative 6 would also require a pilot study prior to implementation. Alternative 8 would have no technical difficulties but would face formidable administrative difficulties in terms of permitting and environmental impacts, at the state and federal level. In addition, the construction of such a dam in an area of known seismic activity may not be feasible.

Cost. All of the following cost figures are estimates of capital cost. The cost of Alternative 3 for the Atlas Mine area is \$3,943,000. The lowest cost alternative is Alternative 1 at \$0. The highest cost alternative is Alternative 7 at \$243,326,000. Alternative 2 has a cost of \$478,000. Alternative 4 has a cost of \$9,115,800. Alternative 5 has a cost of \$14,334,600. Alternative 6 has a present-worth cost of \$103,335,800. The cost of Alternative 8 is unavailable. For Alternatives 2 through 5, the costs outlined above do not include the cost of continued monitoring.

State Acceptance. (NOT KNOWN AT THIS TIME. TO BE INCLUDED AFTER REVIEW BY DHS)

Community Acceptance. Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the Record of Decision for the Site.

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Summary of the Preferred Alternative

Alternative 3, the preferred alternative, would achieve substantial risk reduction through institutional and engineering controls that: i) minimize human contact with the contaminant at the Atlas Mine and nearby areas; and ii) minimize the release of chrysotile asbestos from the Atlas Mine area. Alternative 3 would achieve these objectives more quickly and at less cost than any other alternative. Therefore, this alternative is believed to provide the best balance of trade-offs among alternatives with respect to the evaluation criteria. Based on the information available at this time, EPA and the State of California believe this alternative would be protective of human health and the environment, would comply with ARARs and would be cost effective. The only technically feasible treatment technology for asbestos waste at the Site is too costly. EPA believes the preferred alternative satisfies the statutory requirements of CERCLA Section 121(b).

INFORMATION REPOSITORIES

EPA maintains four information repositories in the greater Coalinga area that contain project documents, federal and State regulations, fact sheets, the Community Relations Plan and other reference material. A complete Administrative Record file is available at the Coalinga District Library. The other repositories listed below contain important documents, such as the RI/FS, as well as an index of all documents in the Administrative Record.

Coalinga District Library
305 N. 4th Street
Coalinga, CA 93210
(209) 935-1678

Huron City Hall
16900 Fifth Street
Huron, CA 93234
(209) 945-2241

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

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