

FACT SHEET

Sunchief Mill Site Tonto National Forest

March 2012

ENGINEERING EVALUATION AND COST ANALYSIS (EE/CA)

INTRODUCTION

The USDA Forest Service has prepared a risk assessment and EE/CA for the Sunchief Mill Site, a 21-acre parcel of land located east of Globe, Arizona in Gila County. The purpose of the risk assessment was to identify potential risks to visitors of the mill site and potential risks to the environment. The purpose of the EE/CA was to evaluate potential removal alternatives to decrease risks to human health and the environment.

SITE HISTORY and CURRENT CONDITIONS

The primary historical activity at the Sunchief Mill Site was processing of asbestos ore, which occurred from 1958 to approximately 1972. Asbestos milling operations in the area were shut down by the Pinal-Gila Air Quality Control District in 1972 due to air pollution control violations. Following the asbestos operations closure, a local oil company leased a portion of the property for bulk oil storage for a short period of time.



Sunchief Mill Building

A second period of operations included milling silver and gold ores by the Sunchief Mining Company from 1981 to 1994. The mining company built a tailings dam during that time



Sunchief Warehouse Building

to be used in conjunction with a specific gravity separation mill.

The Site is currently unoccupied and surrounded by fencing that is in need of repair. On-site buildings, which are in poor condition, include a large warehouse, a house/office, a trailer, a shed and concrete bunker, and the mill building.

In addition to the Site buildings, the former tailings pond remains and the Site is littered with various scrap metal, general debris, and waste materials from the milling process. These waste materials include tailings material, mining waste rock, and potential low grade ore material. Small amounts of asbestos ore have been observed at various locations around the Site. Two high-pressure natural gas lines run through the center of the Site from east to west.

SITE INVESTIGATION

During an assessment in 2010, the Forest Service investigated and then removed an unused underground storage tank, conducted exploratory trenching and collected soil, sediment and waste rock/tailings samples. Low concentrations of asbestos (less than 1%) were detected in soil and waste rock/tailings samples as well as elevated concentrations of some

heavy metals. Based on those results, the Forest Service conducted the EE/CA, which included additional soil, sediment, and waste rock/tailings samples with an emphasis on identifying the extent of asbestos contamination across the Site. Recent information from the U.S. Environmental Protection Agency (EPA) indicates concentrations of asbestos in soil as low as 1% can create a human health risk depending on soil conditions.

Asbestos fibers in outdoor soil or other source material are not harmful to human health unless the asbestos is released to air and inhaled. Currently, there is no way to estimate the inhalation risks based on concentrations of asbestos in soil. In order to determine the potential asbestos risk, air samples were collected in the breathing zone of individuals digging soil samples and walking at the Site. These samples were then analyzed for the presence of asbestos fibers. EPA calls this method of sampling *activity-based* air sampling. The sample methods were developed to create conditions at asbestos-contaminated sites that are likely to occur based on a site's land use.

SITE EVALUATION

Potential activities assessed through *activity-based* air sampling at the Sunchief site included general site inspection (walking) and light maintenance (shallow digging). Analytical results of the collected air samples did not indicate detections of asbestos fibers above laboratory detection limits. Future land uses include a return to natural environment with continued limited access. Although asbestos was not detected in collected air samples, the possibility of future breakdown of asbestos ore and asbestos-containing building materials exists and release of that asbestos may pose a potential human health risk.

Additional soil and waste source sampling indicated that concentrations of arsenic and lead greater than Arizona regulatory levels are present in select waste piles across the Site. Copper and lead were also determined to pose a potential risk to ecological receptors.

REMOVAL ACTION ALTERNATIVES

Several removal action alternatives were evaluated to reduce potential risks posed by asbestos and metals detected at the Site to site-visitors and to the environment. Alternatives evaluated include:

- Site access restriction (fencing repairs and signing) and demolition of site buildings. Disposal of building debris in an appropriate off-site landfill.
- Consolidation and burial of contaminated waste rock/tailings material on-site, covering with a clean soil layer, and demolition of site buildings. Non-asbestos containing building materials would be consolidated and buried in an on-site repository located in the current tailings pond area. Asbestos containing materials would be disposed off-site.
- Excavation of contaminated waste rock and tailings material and off-site disposal. Includes demolition of site buildings and disposal in an appropriate landfill.

RECOMMENDED ALTERNATIVES

Demolition of on-site buildings and continued site access restriction (fencing) is recommended in all evaluated alternatives. The buildings, in their current condition, represent a safety hazard and a community eyesore.

Off-site disposal of the building demolition debris and excavated waste rock and tailings material is the recommended alternative. This alternative will reduce the potential for future asbestos exposure by site visitors and will reduce the potential of adverse impacts to the environment presented by high concentrations of metals.

FOR MORE INFORMATION

The Sunchief Mill Site EE/CA and risk assessment are contained in the administrative record and available for review at:

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Contact: Ms. Anne Fischer
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Monday-Friday, 8:00 a.m. – 4:30 p.m.