

# Community Fact Sheet

## Orphan Mine Site 2016

### Soil Investigation

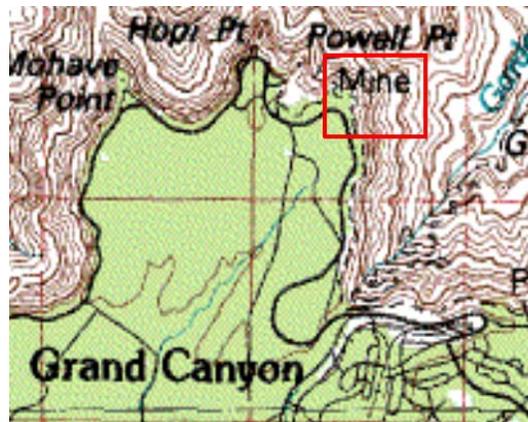
National Park Service  
U.S. Department of the Interior

Grand Canyon National Park  
April 2016



#### A SITE HISTORY...

The Orphan Mine Site (Site) is located on and below the South Rim in Grand Canyon National Park. The Site is approximately two miles northwest of Grand Canyon Village, between Maricopa Point and the Powell Memorial along the Hermit Road. The South Rim Trail detours around the Site.



The Orphan Mine Claim was patented in 1906. It contained more than two acres extending from approximately 500 feet south of the South Rim to approximately 1,100 feet below the South Rim. In the early 20th century, the claim hosted occasional mining operations which produced small amounts of copper and other metals. In 1951, geologists discovered high-grade uranium deposits on Site and by 1956 a private mining company had purchased the Orphan claim to develop a uranium mine. The company built many structures to support its mining activities, including an aerial tram system for hauling ore from the lower mine area to the upper mine area on the South Rim. To increase uranium production, in 1959 the tram was replaced by the construction of a vertical hoisting mineshaft. The hoist system, supported by a headframe, was used to haul ore, personnel, and materials between the lower mine workings and the upper mine area on the south rim.

#### A SITE LEGACY...

The thirteen year legacy of uranium mining at the Orphan Mine resulted in the presence of mine waste on the upper and lower mine areas and on the steep slope down the canyon, leaving the National Park Service with the responsibility to clean up the Site. Access to the upper mine is restricted by two protective fences and a locked gate to protect park visitors from any potential exposure to radiation and other mining-related contaminants. The lower and middle mine areas are generally inaccessible to park visitors. The original "glory hole" in the lower mine area, though isolated, is clearly visible from Maricopa Point.

#### ENVIRONMENTAL INVESTIGATIONS...

The National Park Service (NPS) has performed preliminary environmental investigations of the upper mine area and identified areas of elevated radiation levels and other contamination associated with historic mining activities at the Site. NPS determined that further evaluation of the Site pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is needed. NPS is proceeding with studies to determine whether a CERCLA cleanup action is required to reduce potential risks posed by hazardous substances present at the site through the development of an Engineering Evaluation/Cost Analysis (EE/CA) for the upper mine. Once complete, the EE/CA Report (including any cleanup recommendations) and supporting documents will be made available to the public for review and comment, most likely in the latter part of 2016. The lower mine area will be addressed in the future.

## **CHANGES ON THE HORIZON ...**

The development of the upper mine area EE/CA occurs in three phases. Phase I was the Man-Made Features Removal project, completed in June 2009, that consisted of removing concrete, debris, and other mining-related equipment from the upper mine area so that field investigation activities such as soil sampling could be performed.

In 2011, Phase II of the EE/CA process included a year-long radon monitoring effort and a soil investigation. The EE/CA will include the results of the radon study and soil investigation.



Phase III of the EE/CA process is the development of the EE/CA Report. The EE/CA will analyze the nature and extent of contamination, determine the human and ecological risk from the contamination, and identify and evaluate cleanup alternatives for the area, if appropriate. This report will be made available for public review and comment.

The history of the mine will be preserved through wayside exhibits, interpretive programs, and the comprehensive cultural resources inventory and data recovery program conducted at the Site that included completion of Historic American Engineering Record (HAER) reports for all man-made features at the upper mine area, documentation of the Civilian Conservation Corps footpath, and development of an interpretive plan for the area. The HAER reports are available for public review in the Site administrative record file, discussed below.

## **AND NOW FOR YOUR PART...**

Community involvement is an important part of the CERCLA process. In 2009, public meetings were held in the Park and in Flagstaff, AZ to give the public an opportunity to learn about the Man-Made Features Removal Project and the EE/CA process in general. The public will have the opportunity to review and comment on the Orphan Mine Site EE/CA Report and proposed cleanup plans for the upper mine area once the EE/CA Report has been completed in 2016. An Administrative Record has been established that contains documents upon which the selection of Site cleanup action will be based. This record, which is updated periodically, is available for public review at the following location:

Grand Canyon National Park  
Museum Collection Office  
Corner of Albright Street and Center Road  
Grand Canyon, Arizona 86023  
Contact: Colleen Hyde  
Phone: (928) 638-7769  
Mon.-Fri. 8:00 a.m.– 5:00 p.m.

## **FOR MORE INFORMATION...**

If you have questions concerning the information contained in this fact sheet, please contact Pamela Innis at (602) 417-9578 or by email at [pamela\\_innis@ios.doi.gov](mailto:pamela_innis@ios.doi.gov).