

Fact Sheet



Workman Creek Uranium Mine Sites

October 2008



Workman Creek Falls

Site History

The Workman Creek Uranium Mines Site (the Site) is in the Workman Creek watershed in Gila County, between Young and Globe, Arizona. Access to the Site is from SR 288 between mileposts 284 and 285 on Forest Road (FR) 487.

Uranium was discovered in the area as early as 1950

when above normal radioactivity was detected. Development was slow due to the spotty nature of the deposits and the inaccessibility of the area. Active mining did not occur until 1954 and in 1955 a uranium ore-buying station was built in Globe, which received ore shipments from the Workman Site mines. In general, most of the uranium produced from the area was of low-grade and was uneconomical to mine. By 1957, ore production from the area mines stopped and the ore-buying station was closed.

Exploratory work occurred off and on through the 1980's and included mining, drilling, and sampling to evaluate the remaining uranium reserves. Several mine access roads were built throughout the area. Available information indicates that the Creekside and Cascade Campgrounds may have been used as ore staging areas during active mining.

Current Conditions

The remnants of uranium mining and exploration are visible today. Several open mine adits dot the landscape at eight different mine group areas within the Workman Creek watershed. Additional boarded adits and partially or completely collapsed adits are also present. Although the area is rugged, most of the adits are accessible through foot and/or all-terrain vehicle traffic on the abandoned mine roads.

In addition to open adits, non-ore quality rock removed from the mine remains scattered near the adits and in piles near and on many of the abandoned mining roads.

This material is generally described as “waste rock” and although not typically ore-quality, it can contain significant concentrations of uranium (and its decay products) and other heavy metals.

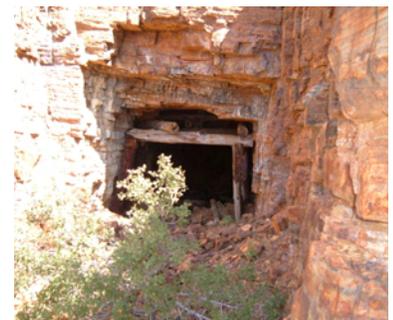
Today the Workman Creek area is a popular recreational area for many visitors. It is adjacent to the Sierra Ancha Wilderness Area and provides opportunities for camping, hiking, fishing, and wildlife viewing. Overnight camping is currently only allowed in the Falls Campground, which was not used as an ore-staging area during the uranium rush. The abandoned mine roads also provide a popular route for ATV-riders. Some of the roads frequently used by ATV-riders go through the middle of various mine groups and near mine adits.

Engineering Evaluation/Cost Analysis (EE/CA)

The Forest Service performed a risk assessment and EE/CA for the Site. The purpose of the risk assessment was to identify risks to potential recreational visitors and to the environment. The EE/CA evaluated the extent of contamination associated with past mining activities at the Site, and evaluated potential alternatives to decrease risks to human health and the environment.

Uranium-bearing rock exposed due to mining is a source of gamma radiation. Direct contact with the waste rock is not required for exposure to gamma radiation. Hikers and/or ATV-riders can be exposed by walking or driving through an area with elevated gamma radiation. These areas include the mine adits where the uranium-bearing rock formation (source of the ore) may be exposed at the surface as well as waste rock piles. Because the Creekside and Cascade Campgrounds were used for ore staging, gamma radiation is also elevated at isolated spots in these areas. Exposure to external gamma radiation is the primary source of risk to human health at the Site.

Additional risks are presented by the open and partially open adits, which pose a physical hazard as well as a radiation hazard.



*Open adit at the
Little Joe/Workman Mine Group.*

The main areas affected by elevated gamma radiation, uranium, and radium (a decay product of uranium) evaluated in the EE/CA are:

- Selected ATV roads
- Creekside and Cascade Campgrounds
- The individual mining groups

The alternatives evaluated for each of the areas of concern are presented in the table below. Alternatives vary from complete closure to public access of Workman Creek canyon and/or ATV roads to moving (excavating) waste rock and affected soil and creating on-site disposal areas.

Alternatives	Workman Creek Potential Action Alternatives		
	ATV Roads	Campgrounds	Mine Groups
Alternative 1: No Action			
Alternative 2: Complete Closure of ATV Roads	Alternative 2: Canyon Closure	Alternative 2: Canyon Closure	Alternative 2: Excavation and On-Site Disposal
Alternative 3: Reroute ATV Traffic	Alternative 3: Closure of Creekside/Cascade Campgrounds	Alternative 3: Closure of Creekside/Cascade Campgrounds	<i>Note: Effective closure of open adits is included in each of the excavation alternatives.</i>
Alternative 4: Excavate Hot Spots with On-Site Disposal	Alternative 4: Excavation and On-Site Disposal	Alternative 4: Excavation and On-Site Disposal	
Alternative 5: Capping Roads in Hot Spot Areas			

Recommended Action for ATV Roads

Gamma readings were higher than natural background in a large portion of abandoned mine roads that extend from the Hope Mine area east of FR 487 near Creekside Campground, north to the intersection of the Honey Creek Divide Road. The recommended action for the ATV roads is to reroute ATV traffic away from the most highly affected areas. This will include closing only the abandoned mining roads that travel through the mine groups. ATV riders will continue to be able to use other roads that are on the north side of the canyon.



Recommended Action for the Campgrounds

The Forest Service would like to return the Creekside and Cascade Campgrounds to overnight use. Elevated concentrations of uranium and radium (the elements that are responsible for gamma radiation) are present in isolated spots at both of these campgrounds. Because

contamination is not widespread in the campgrounds, closing the entire canyon to public use is not needed. The recommended alternative for the campgrounds is to remove (excavate) affected soils. The excavated soil will be placed near the Hope Mine in a constructed disposal cell. The excavated material will be covered with clean soil and vegetated to reduce gamma radiation from being emitted from the pile.

Recommended Actions for Mining Groups

To eliminate physical hazards and to reduce radiation hazards, open adits and partially open adits will be effectively closed by moving surrounding waste rock

into the adit where possible. Waste rock material will be sloped from the adit opening and capped with clean material to reduce gamma emissions. Adits that are not easily accessible to heavy equipment will be closed using a steel plate.



Where possible, remaining waste rock material present within each mine group will be consolidated and covered within the mine group area. To avoid spreading contamination over a larger area, waste rock material will not be moved from one mine group to another. In some cases, it will not be practical to move the waste rock. In those instances, waste rock piles will be capped in-place with clean soil and vegetated.

For More Information

The Workman Creek Site EE/CA and supporting documents are available to the public in the administrative record file for review and comment at the following location:

USDA Forest Service
 Tonto National Forest Supervisor's Office
 2324 E. McDowell Road
 Phoenix, Arizona 85006
 Contact: Ms. Anne Fischer
 (602) 225-5389
 Monday-Friday, 8:00 a.m. – 4:30 p.m.