

Pinal Creek Water Quality Assurance Revolving Fund Site August 2009

SITE DESCRIPTION

The ADEQ Water Quality Assurance Revolving Fund (WQARF) program, which is also known as state Superfund, investigates and cleans up contaminated groundwater and soil sites across the state. Since 1987 ADEQ has conducted oversight of the cleanup of the Pinal Creek WQARF Site including: 1) review and approval of site investigations into the degree and extent of contamination; 2) groundwater, surface water, and soil sampling/monitoring; 3) review and approval of feasibility studies, remedial designs, remedial actions, and remedial construction; and 4) biological assessment of the perennial reach of Pinal Creek. The Pinal Creek WQARF Site is located in the Globe-Miami area of Gila County, Arizona and has irregular boundaries. The boundary includes the entire mine sites of Freeport-McMoRan Copper & Gold, Inc. (FCX) (formerly known as the Phelps Dodge Miami Mine and the Inspiration Mine) and the mine sites of BHP Copper, Inc. (the Miami Mine, the Copper Cities Mine, the Old Dominion Mine and related properties and the Solitude Tailings).

The southern boundary follows the southern margin of the floodplain of Bloody Tanks Wash through the town of Miami and the community of Claypool, and then turns south to include the BHP Solitude Tailings. The boundary follows the eastern margin of the floodplain of Russell Gulch and Miami Wash northward to the confluence with Pinal Creek. The boundary parallels both sides of upper Pinal Creek to the City of Globe, including the Old Dominion Mine and related mine properties in the Globe Hills.

North of the confluence of Miami Wash and Pinal Creek, the boundary parallels Pinal Creek on both sides including the floodplain of Pinal Creek plus a margin approximately 1,000 feet wide surrounding the floodplain as far north as Inspiration Dam. North of Inspiration Dam, the boundary follows the floodplain of Pinal Creek. The northern boundary terminates at the Salt River.

WHAT ARE THE CONTAMINANTS AT THE SITE?



Overview of Water Treatment Plant at Lower Pinal Creek.

The major contaminants of concern at this site include aluminum, arsenic, beryllium, cadmium, copper, cobalt, iron, manganese, nickel, sulfate, zinc, and sulfuric acid (acidity). Contaminants of concern at the Site may change as new data become available.

HEALTH/WATER QUALITY

Direct exposure to the contaminants could occur from the consumption of contaminated surface water or groundwater, or from the ingestion or inhalation of contaminated soil particles. Water provided by the local water suppliers (the American Water Company, the City of Globe and others) comes from the deeper regional aquifer.

NOTE: If your drinking water is provided by the American Water Company or the City of Globe, it meets all regulatory drinking water standards.

The American Water Company and City of Globe are required by law to provide water that meets all state and federal drinking water standards. The American Water Company and City of Globe conduct regular testing of your drinking water to ensure that standards are met and to ensure that safe drinking water is delivered to the community. Residents in unincorporated portions of the county rely on private wells. The Pinal Creek Group (a consortium of Phelps Dodge, BHP Copper Inc., and Inspiration Consolidated Copper Co.) has implemented a private well replacement program since 1994 and offers free testing of private wells in the site. Approximately 90 wells have been replaced to date. For more information concerning your drinking water quality, please contact the City of Globe Water Department (928) 425-7140 ext. 14 or 15 or American Water Company at (928) 473-4433. If you are using a private well located within the boundary of the Pinal Creek WQARF site and are concerned about the water quality, please call Ed Pond, ADEQ Project Manager at (602) 771-4575 or, toll free at (800) 234-5677 Ext. 771-4575.

For more information about possible health issues, please call the Department of Health Services, Office of Environmental Health, (602) 364-3118 or (800) 367-6412.

SITE HISTORY

From 1979 to 1981 groundwater and surface water investigations began and widespread groundwater and surface water contamination was documented. Releases of contaminants and hazardous substances have occurred from all of the major mining and processing sites from a variety of different sources. Source control actions began in 1986 under order from EPA for violations of the Clean Water Act. In 1989, the site was listed on the old WQARF Priority List by the State of Arizona. In 1989, the Pinal Creek Group was formed to conduct the Remedial Investigation (RI) and begin remedial actions. In 1994, The Pinal

Creek Group began a private well testing and replacement program, which continues today. In 1998, construction began at the Lower Pinal Creek (LPC) Treatment Plant that was designed to prevent further degradation of the perennial reach of Pinal Creek. In October 1998, the site was placed on the new WQARF Registry.

SITE INVESTIGATION/CLEANUP ACTION

In 1999, the LPC Treatment Plant was completed and groundwater extraction at the leading edge of the acid-metal plume began. In 2001, a groundwater barrier (soil-cement-bentonite slurry wall) was constructed across Lower Pinal Creek, which serves as the downstream containment of the plume. Full scale groundwater extraction began just above the barrier for neutralization and metal removal in the LPC Treatment Plant. A second treatment plant (Diamond H Treatment Plant) was completed to treat water captured from the Kiser Basin (upstream) containment. In June, a groundwater well field (Kiser Basin well field) that serves as the upstream containment of the acid-metal plume was completed, and groundwater extraction began.

In spring 2004, reclamation of the BHP Copper Old Dominion Mine waste rock and tailings was completed. Major construction was completed and revegetation of the piles began during the spring of 2004. In 2006, Bloody Tanks Wash, which is adjacent to the BHP Copper-Miami, was widened. The retaining wall that separated Bloody Tanks Wash from the former Miami Tailings No. 2 was removed and the tailings behind the wall were relocated onto the remaining tailings leftover from the previous reprocessing operation. The remaining tailings at the BHP Miami Unit lie outside of the 100-year floodplain.

During the summer of 2006, reclamation of the remaining tailings at the BHP Copper-Miami Unit was conducted. The tailings were capped with clean fill, consolidated, regraded, and storm water channels and storm water and sediment ponds were constructed. In the late part of summer, BHP began a site characterization/remedial investigation of the Solitude Tailings Impoundment located in Solitude Canyon (a tributary of Russell Gulch). In 2007, Phelps Dodge-Miami completed reclamation of the slag pile along Bloody Tanks Wash.

WHAT ARE ADEQ'S FUTURE PLANS AT THIS SITE?

ADEQ continues to review source control RI's and feasibility studies (FS's) at the FCX and BHP Copper mining and processing facilities. Source control remedial actions are being implemented



Lower Pinal Creek Treatment Plant.

at FCX and BHP Copper mining facilities. In 2008, FCX submitted an addendum to their original FS that addresses the Webster Gulch facilities including: 1) the Webster Gulch tailings piles, 2) the former Webster Lake bed, 3) storm water management of the Lost Gulch arm of Webster Lake, 4) the Webster lake sediments and 5) capping and re-vegetation of the various piles and closed facilities. BHP Copper has submitted the RI for the Solitude Tailings Impoundment which is currently under review. The tailings piles will be re-graded, re-vegetated and significant improvements to the surface water conveyances will be conducted.

FOR MORE INFORMATION:

Community outreach activities for this site are conducted by the Pinal Creek Group with ADEQ oversight and support. The Pinal Creek Group routinely generates newsletters, press releases, and fact sheets, conducts briefings for interested parties, conducts tours of treatment facilities, and participates in interviews on local radio stations. Please contact Pinal Creek Group, Bob Ressler, P.O. Box 4444, Claypool, AZ 85532-4444, Phone: (928) 473-7016.

Technical Information:

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Hearing-impaired individuals may call our TDD line at (602) 771-4829.

Interested parties can review select site documents at the Miami Memorial Library located at 1052 Adonis in Miami, (928) 473-4403. BHP Copper-Old Dominion Mine files can be found at the Globe Public Library located at 339 S. Broad Street in Globe, (928) 425-6111. Complete public files regarding this site are located ADEQ. With 24 hours notice, an appointment to review related documentation is available, Monday through Friday from 8:30 a.m. to 4:30 p.m. at ADEQ, Records Management Center, 1110 West Washington Street, Phoenix, Arizona. Please contact 602-771-4380 to schedule an appointment to review these documents. Hearing-impaired individuals may call our TDD line at (602) 771-4829.

For more information on this WQARF site or others sites in Arizona, please visit the ADEQ Web site at: www.azdeq.gov. In the left hand column, click on Waste Programs, then Superfund/WQARF. Look for site information and map link.

Para información en español sobre este sitio, comuníquese con Felicia Calderon al (602) 771-4167.