

Central City/Clear Creek Clear Creek and Gilpin Counties, Colorado

Site Remediation

The clean up plans for the Central City /Clear Creek Superfund Site call for treatment of contaminated water discharging from a number of different mines, capping of tailings and waste rock piles determined to be the largest sources of contamination, further investigation of ground water, and plans to identify contaminated domestic wells and provide the owners with an alternate supply of drinking water.

The Argo Tunnel, in Idaho Springs, is the largest single source of metals contamination to Clear Creek. Construction of a 700 gallon per minute treatment facility was completed in 1998. Full time operation of the treatment plant began in April 1998. Approximately 1200 pounds of metals are prevented from entering Clear Creek each day due to treatment of the Argo Tunnel. The removed metals are pressed into a solid waste and disposed of in a solid waste landfill. The treated water is discharged into Clear Creek.

At the Burleigh Tunnel in Silver Plume, the Department constructed a pilot scale passive treatment system to test an alternative technology for treating acid mine discharge. Although original results were promising, the technology was determined not to be appropriate for treating the contaminated water flowing from the Burleigh Tunnel and the pilot system was dismantled in 1999. The Department and EPA continue to monitor water quality in the vicinity and are exploring other options for the Burleigh Tunnel.

Clean-up of priority waste piles began in 1993, and is on-going. Between 1993 and 1999, the Department and EPA have worked with a number of government entities, developers, individual property owners, and community stakeholders to complete clean up work at twelve priority waste pile locations. Waste piles remediated in Clear Creek County include the Minnesota Mine near Empire, The McClelland Tailings near Dumont, and the Black Eagle and Little Bear waste piles near Idaho Springs. In the Black Hawk/Central City Area clean-up has been completed at the Millsite #11 & #12, Chase Gulch #1, Gregory Incline, Gregory #1, Gregory #2, National Tunnel, Clay County, North Clear Creek, Big Five and Boodle Mill waste piles. Additional mine waste pile clean-ups are scheduled.

The Department and EPA are also taking steps to address groundwater contamination in select portions of the Superfund study area. Virginia Canyon drains the mountain canyons north of Idaho Springs. Groundwater in the vicinity of Virginia Canyon is contaminated by the large concentration of abandoned mines in the area. Groundwater flow is concentrated by the canyon and enters Clear Creek just upstream of the Argo Tunnel treatment facility. The Department is evaluating the potential mean and viability of extracting the contaminated groundwater with future plans to pump the groundwater to the Argo facility for treatment.

The agencies have also taken steps to protect individual home owners who might be drinking contaminated water from domestic wells. From 1994 through 1996, the Department operated a voluntary residential well testing program. Under the programs, owners of domestic wells were offered free well water sampling and analysis. Owners whose well water contained levels of metals that exceeded drinking water standards were supplied with bottled water. Only a small percentage of the wells tested required an alternate source of drinking water, and those homes

have been receiving bottled water ever since. The Department is in the process of selecting long term alternative drinking water sources for the homes affected by contaminated well water.

The Department and EPA will complete remediation work required by existing clean-up plans. The agencies have also been working with local watershed stakeholders to identify significant sources of contamination not covered by existing plans. The goal of this process is to complete work outlined in existing plans, identify and determine appropriate clean-up plans for significant contamination sources not included in existing work plans, and over the long term, to complete the Superfund clean-up of the Clear Creek Watershed.