

**Nomination: 2005 Abandoned Mine Land Reclamation Award**

**Montana Silver Smelter Reclamation Project**

Giant Springs–Heritage State Park and Fish Hatchery  
4600 Giant Springs Road  
Great Falls, Montana

**Submitted by:**

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Construction Start Date: September 2, 2003  
Construction Completion Date: December 11, 2003

Project Owner: Montana Department of Environmental Quality  
Landowner: Montana Department of Fish Wildlife and Parks  
Contract Engineer: Tetra Tech Environmental Management, Inc.  
Construction Contractor: Shumaker Trucking and Excavating Contractors, Inc.

**TOTAL CONSTRUCTION COST: \$2.1 million**

**Date Submitted:**

March 18, 2005

## **Montana Silver Smelter Reclamation Project**

“Toxins Haunt Giant Springs” read the October 31, 2002 headline on the Great Falls Tribune. On December 12, 2003 the Tribune proclaimed “Cleanup Completed”. During the thirteen-month interim, Montana’s Abandoned Mine Reclamation Program spearheaded a reclamation project at an abandoned smelting and mineral-processing site located at the popular Giant Springs State Park and Fish Hatchery. Reclamation at the site included site sampling, risk assessment, environmental compliance documents, meetings with community groups, public meetings, contract preparation and bidding, and construction contracting and oversight.

Integral to the project was coordination of the drawdown on a run-of-the-river hydropower reservoir on the Missouri River to allow for dredging mine waste and contaminated sediments from the reservoir and removing and rebuilding river banks consisting of smelting wastes. Work in the reservoir and along the banks of the Missouri River was performed under a Corp of Engineers 404 Permit.

Completing construction in the limited window of time available involved temporarily removing hatchery employees from their homes to allow for replacing residential yards built on smelter wastes and rebuilding the riverbanks in front of the homes.

The Montana Silver Smelter Project involved removing 100,000 tons of soil and mineral processing wastes contaminated with lead and arsenic from Giant Springs State Park and disposing of 765 tons of highly contaminated debris in an out of state hazardous waste landfill. Lower level contaminated soil was disposed in a local landfill where it was to be used as daily cover and then capped. Clean soil, sod, trees, and landscaping were installed to finish off the project. Decorative iron fencing was installed to isolate, protect, and allow for interpretation of remnants of the smelter uncovered during the project.

The complicated cleanup was completed under the watchful eye of a concerned and involved citizenry. Despite the potential for controversy and weather delays Montana’s AML Program kept the project on a tight and aggressive schedule. Completion of the project removed the stigma of contamination from a popular State attraction in plenty of time for the Lewis and Clark Celebrations planned for the Park.

### **BACKGROUND:**

July 1805 Lewis and Clark were the first white men to visit Giant Springs located between Black Eagle Falls and Rainbow Falls at the Great Falls of the Missouri. While Lewis and Clark noted the site as a “Giant Fountain”, it remained for other visitors to measure the flow – 338 million gallons of water a day bubbling up from the Madison Limestone aquifer.

Today Giant Springs is a State Park and Fish Hatchery where over 150,000 visitors a year enjoy the shade and cool lawns, marvel at the size of the fish in the viewing pools, and contemplate the endless bubbling of the Springs. Today the Springs are the location of an idyllic park, but in the past all that water attracted a different kind of activity. The waters of Giant Springs were first harnessed for industrial purposes in 1888 when a lead-silver smelter was built on the site. The Springs were an integral part of the smelter with the water used to supply the plant, cool the furnaces, and as a domestic water supply for the community built at the smelter to house the workers and managers.

It has been over 100 years since the silver-lead mining and smelting industry dominated the economies of the Rocky Mountain West. The smelter at Giant Springs operated a scant 12 years and then was abandoned, gutted, collapsed into rubble and forgotten as the economy moved beyond a sole reliance on extractive industries. In 1910 Rainbow Dam was closed 1 mile downstream. The rising water level flooded mine wastes dumped above the old high water level. In the 1930's the site was claimed by the county for back taxes and the country turned the site over to the City of Great Falls for parkland where the springs were a must-see for local visitors. By the time the site became a State Park and Fish Hatchery the smelter had been nearly forgotten but the lead and arsenic contamination left behind were still present on the site.

In June 2002 rumors about mining related contamination at the site surfaced after Great Falls was selected as one of thirteen sites designated nationally to host events commemorating the Bicentennial of Lewis and Clark's Voyage of Discovery. These concerns prompted the Montana Department of Fish Wildlife and Parks to request the Department of Environmental Quality include the old smelter site in the AML program's Priority Sites Inventory of abandoned mines and mineral processing sites. Sampling of the areas around the old smelter site led to the discovery of percentage levels of lead and arsenic in the soil at the State Park. Contamination was found not only on the parklands open to the public, but also in the yards and gardens of the residences built on the site to house the employees of the State fish hatchery. The sampling report was released in October 2002, and following a public meeting to discuss the findings, the Great Falls Tribune shouted out its Halloween headline: TOXINS HAUNT GIANT SPRINGS.

Given the high profile nature of the site and the levels of contamination, the Abandoned Mine Reclamation program put in place an aggressive schedule to complete the work at a time when it was possible to close the popular Park to the public and ensure that construction activities would not interfere with the National Lewis and Clark Bicentennial Celebrations scheduled for the site in June and July 2005.

Footnote: The project was featured five different times on the front page of the Great Falls Tribune testifying to the local concern and interest generated by

the project. The final article carried the bold headline all the way across the top of the page: CLEANUP COMPLETED. In 2004 the project manager was awarded the Montana Governor's Award for Excellence in Performance. Chalk up another one for Montana AML.

**Photo captions:** 6 photos provided with text

Cover photo: Montana Silver Smelter Reclamation Project is located at Giant Springs-Heritage State Park on the Missouri River at Great Falls, Montana

Old Smelter Photo: Discovered by Lewis and Clark in 1805, the Giant Springs were put to work as an industrial water supply for a silver-lead smelter in 1888.

Work Underway: Mineral processing wastes contaminated with lead and arsenic were removed from 40 acres of Giant Springs – Heritage State Park.

Excavate River: Reservoir level was lowered to allow for the excavation of mine waste from the reservoir and reconstruction of river banks.

Restored yards: Residential yards built on mineral processing waste were excavated and replaced with clean soil and fresh sod.

Restore the Past: Smelter remnants uncovered during the project were preserved and fenced to allow for interpretation.