



Colorado Department  
of Public Health  
and Environment



## EXPLANATION OF SIGNIFICANT DIFFERENCE FOR THE SUMMITVILLE MINE SUPERFUND SITE

### FACT SHEET

#### INTRODUCTION

This fact sheet summarizes a change to the location and contaminated water conveyance for the new water treatment plant at the Summitville Mine Superfund Site located in Rio Grande County, 25 miles southwest of South Fork. The site is defined as the permitted 1,231-acre mine site that covers most of Section 30 and the northern one-third of Section 31, Township 37 North, Range 4 East of the 6<sup>th</sup> New Mexico Principal Meridian. The site is located within the San Juan Mountain range of the Rocky Mountains, approximately 2 miles east of the Continental Divide. The surface water (both treated and untreated) from the site ultimately drains to Wightman Fork, and then flows approximately five miles downstream to the confluence of the Alamosa River. The Alamosa River flows past the town of Jasper into Terrace Reservoir. Water released from Terrace Reservoir is used for livestock watering, agricultural irrigation, and wildlife habitat. Furthermore, the river feeds wetlands that are habitat for aquatic life and migratory waterfowl. Below Terrace Reservoir, the Alamosa River flows through Capulin and terminates at its final point of diversion. The Alamosa River is non-tributary to the Rio Grande. The Summitville Mine has contributed to the metals and acid contamination along the entire length of the Alamosa River and is responsible for the loss of aquatic life in the river and the reservoir.

#### SUMMARY OF THE SELECTED REMEDY

The elements required by the September 2001 Site Wide Record of Decision (ROD) for the final site remedy include:

- ❖ Active Water Treatment Plant
- ❖ Storage Impoundment
- ❖ Wightman Fork diversion
- ❖ Ditch upgrades
- ❖ Runoff collection from the Highwall
- ❖ Pipelines from the Highwall, Reynolds Adit, French Drain, groundwater and seeps
- ❖ Mine Pool Management
- ❖ Reynolds Adit Rehabilitation and Control Valve
- ❖ Site Maintenance
- ❖ Monitoring

The above remedial elements are at various stages of design, construction, and implementation according to sequencing and available funding.

#### EXPLANATION OF SIGNIFICANT DIFFERENCES (ESD)

Following the issuance of the Record of Decision (ROD) in 2001, the EPA and Colorado Department of Public Health and Environment (CDPHE) conducted pre-design studies for the new water treatment plant (WTP). The purpose of the studies was to evaluate the location of the plant and the water treatment process. The results of these pre-design studies are presented in reports entitled "Geotechnical and Geophysical Investigation Report, Summitville Mine Site" dated November 18, 2002; "Site Development Study for a New Water Treatment Plant, Summitville Pre-Design" dated December 3, 2002; and "HDS Pilot Study Report, Summitville Pre-Design" dated February 11, 2003. URS Operating Services prepared the reports, which are available at CDPHE and EPA record centers and at the San Luis Valley document repositories (address and phone numbers provided in the last section of this ESD).

This ESD focuses specifically on the results of the Geotechnical and Geophysical Investigation and the Site Development Study. A preliminary analysis, conducted for the Feasibility Study and the ROD, led to the conclusion that the new water treatment plant would be most economically and efficiently located downstream of the Summitville Dam Impoundment (SDI). However, based on the detailed study and information derived from the pre-design reports, it was found that the location adjacent to the existing water treatment plant (which will eventually be replaced with the new water treatment plant) is the best overall location when evaluating a number of factors, including pumping costs from the storage impoundment to the Water Treatment Plant (WTP).

The studies considered five potential locations for the new WTP. The factors compared for each location included: utility routing, site drainage characteristics,

construction schedule, site access, snow accumulation, cut and fill and blasting requirements, building foundation, and pumping costs. All costs for an assumed 30-year life were evaluated using present worth calculations so that all potential WTP locations could be considered on an equivalent basis.

The location adjacent to the existing water treatment plant proved to be the most economical, while still adhering to the remedial goals and cleanup requirements specified in the ROD. This ESD proposes to change the location of the new WTP from downstream of the storage impoundment to a location adjacent to the existing WTP (Figure 1).

**WHAT ARE THE SIGNIFICANT CHANGES TO REMEDIATION PROJECT?**

The table below shows the changes being made to the remedy as compared to that presented in the ROD. All other aspects of the remedy will be implemented as detailed in the ROD.

**Change to the Remedy for the new Water Treatment Plant**

ROD-Prescribed Remedy	Modification
1. A new, conventional water treatment plant will be constructed downstream of the on-site impoundment, outside of the 500-year flood plain.	The new water treatment plant will not be located downstream of the storage impoundment, but rather located at the same location as the existing water treatment plant, which is outside of the 500-year floodplain.
2. The new plant will be at an elevation such that sufficient pressure will be available to provide gravity operation of the plant.	The contaminated water will be pumped to the new plant rather than delivered by gravity feed.

**AFFIRMATION OF STATUTORY DETERMINATIONS**

This modification does not change the overall approach of the site wide remedy or remedial goals for the Summitville Mine Superfund Site and meets the ROD requirements.

## SITE HISTORY

On December 3, 1992, the Summitville Consolidated Mining Company, Inc., the operator of the mine, announced pending bankruptcy and informed the State of Colorado that financial support for site operations would not continue beyond December 15, 1992. On December 4, 1992, the State of Colorado requested emergency response assistance from the U.S. EPA. On December 16, 1992, the U.S. EPA Region VIII Emergency Response Branch assumed control of the site as part of an Emergency Response Removal Action. The EPA immediately began water treatment plant modifications to treat cyanide-contaminated leachate and acid mine drainage from numerous sources at the site.

Preliminary Remedial Action Objectives were developed, to the extent practicable, in compliance with applicable or relevant and appropriated requirements to the early site cleanup actions. The site cleanup targeted five areas of primary concern for emergency response actions or interim remedial actions. Emergency response actions included plugging of the Reynolds and Chandler Adits to reduce major sources of acid mine drainage. The other areas of concern, with the exception of groundwater contamination, were addressed through Interim Records of Decision (Interim RODs) published in December 1994 and as described below:

- Water Treatment, designated OU0
- Heap Leach Pad Detoxification /Closure, designated OU1
- Excavation of mine waste from the Cropsy Waste Pile, Beaver Mud Dump and the Cleveland Cliffs Tailings Impoundment, placement of this material in the mine pits and mine pit closure, designated OU2
- Groundwater contamination within South Mountain, designated OU3
- Site-wide reclamation activities, designated OU4

Following the implementation of the Interim RODs, a site wide Remedial Investigation and Feasibility Study was conducted culminating in the site wide Record of Decision signed in September 2001. This ROD specified final remedial actions that would be taken to address residual sources of site contamination not already addressed by the four Interim RODs.

## SITE CONTAMINATION

Past mining operations at the site resulted in contamination of surface water, groundwater and sediments. The principal threat waste includes mobile source materials, such as acid mine drainage originating at the site, that ultimately impacts downstream waters. The acid mine drainage is also accompanied by naturally occurring acid rock drainage from mineralized terrains at the site and other areas within the Alamosa River watershed. The acidic drainage is

characterized by high metals concentration and low pH, typically below four standard units. Metals contaminants at the site include copper, iron, manganese, zinc, aluminum and cadmium among others. In addition, heap leach operations used sodium cyanide to extract precious metals from crushed ore. Minor amounts of cyanide and cyanide degradation products remain within Heap Leach Pad waste material and are therefore included as site contaminants.

### PUBLIC PARTICIPATION

A presentation explaining the proposed changes contained in the ESD will be made during a community site visit to the Summitville Mine Superfund Site scheduled for August 27, 2003. Input will be received during this meeting. Furthermore, written comments will be received regarding the ESD until September 30, 2003.

A public notice was issued on August 27, 2003 in the Valley Courier announcing the document's public comment period August 27, 2003 through September 30, 2003. Upon completion of the thirty-calendar day public comment period, the CDPHE and EPA will evaluate each comment and any significant new data received before issuing a final decision concerning the proposed changes to the new water treatment plant location.

This ESD and all documents that support the modification are part of the Administrative Record and are available at CDPHE Record Center, the EPA Region 8 Superfund Record Center, and the Summitville document repositories located at the Natural Resource Conservation Service in La Jara and the Del Norte Public Library.

### AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information presented in this ESD, CDPHE and EPA believe that the modification to the new water treatment plant location satisfies the requirements of CERCLA Section 121 and is protective of human health and the environment. The modification complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, uses a permanent solution to treat contaminated acid mine drainage and runoff, and is cost effective.

FOR MORE INFORMATION, PLEASE CONTACT:

**Colorado Department of Public Health and Environment**  
Derek Boer, Community Involvement Specialist: 303-692-3329  
Austin Buckingham, Project Manager: 303-692-3435  
Toll Free Number: 1-888-569-1831

CDPHE, Hazardous Materials and Waste Management Division  
4300 Cherry Creek Drive South  
HMWMD-RP-B2  
Denver, Colorado 80246-1530  
  
Record Center 303-692-3331

**U. S. Environmental Protection Agency**  
Catherine Roberts, Community Involvement Coordinator: 303-312-6025  
Jim Hanley, Project Manager: 303-312-6725  
Toll Free Number: 1-800-227-8917 ext. 6670

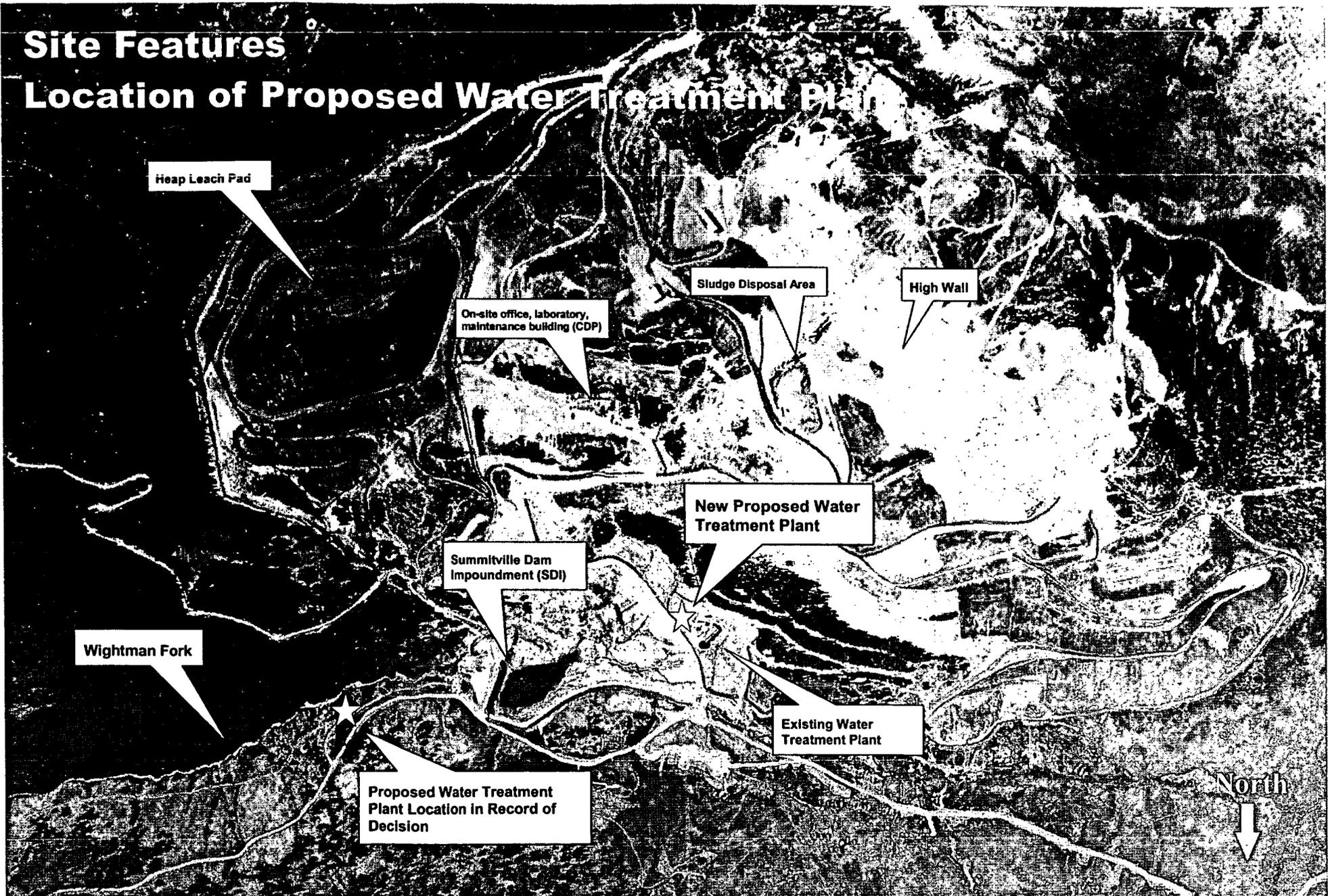
U.S. EPA, Region 8  
999 18<sup>th</sup> Street, Suite 300  
Denver, Colorado 80202  
  
Record Center: 303-312-6473

SAN LUIS VALLEY REPOSITORIES

Del Norte Public Library  
790 Grand Ave.  
Del Norte, Colorado 81132  
719-657-2633

Natural Resource Conservation Service  
15 Spruce Street  
La Jara, Colorado 81140  
719-754-3400

Figure 1





Colorado Department  
of Public Health  
and Environment

# Explanation of Significant Differences Summitville Mine Superfund Site Water Treatment Plant



**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Comment:**

## Summitville Mine Superfund Site Explanation of Significant Differences Available for Public Review

The U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) have issued an Explanation of Significant Difference (ESD) that formally proposes a change in location of the new water treatment plant at the Summitville Mine Superfund Site.

The Record of Decision signed in 2001 outlined a new, gravity-fed water treatment plant to be located downstream of the on-site impoundment. The proposed change calls for the new plant to be located at the same location as the existing water treatment plant, and for contaminated water to be pumped, rather than gravity fed. **The public comment period will be held from August 27 through September 30, 2003.**

The ESD is available for public review at the following locations:

EPA Superfund Records Center  
999 18th Street, Suite 500  
Denver, CO 80202  
(303) 312-6473

CDPHE Hazardous Materials Record Center  
4300 Cherry Creek Drive South Bldg B2  
Denver, CO 80246  
(303) 692-3331

U.S. Department of Agriculture Service Center  
15 Spruce Street  
La Jara, CO 81140  
(719) 274-4311

Del Norte Library  
790 Grand Avenue  
Del Norte, CO 81132  
(719) 657-2633

And on the CDPHE's website:

[http://www.cdphe.state.co.us/hm/Summitville\\_ESD.pdf](http://www.cdphe.state.co.us/hm/Summitville_ESD.pdf)

**For more information please call:**

Derek Boer (sé habla español)  
Colorado Department of Public Health and Environment  
(303) 692-3329



Colorado Department  
of Public Health  
and Environment

