

# **CASE STUDY**

## **Golf Tunnel Mine Buena Vista, Colorado**

**August 2010**

**Prepared by  
The Interstate Technology & Regulatory Council  
Mining Waste Team**

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# GOLF TUNNEL MINE, BUENA VISTA, COLORADO

## 1. SITE INFORMATION

### 1.1 Contacts

Dr. Peter Phillips  
Associate Professor of Biology  
Winthrop University, Rock Hill, SC  
803-323-2111 Ext.6183  
E-mail: [phillips@winthrop.edu](mailto:phillips@winthrop.edu)

### 1.2 Name, Location, and Description

Golf Tunnel, in Buena Vista, California (Figure 1-1).

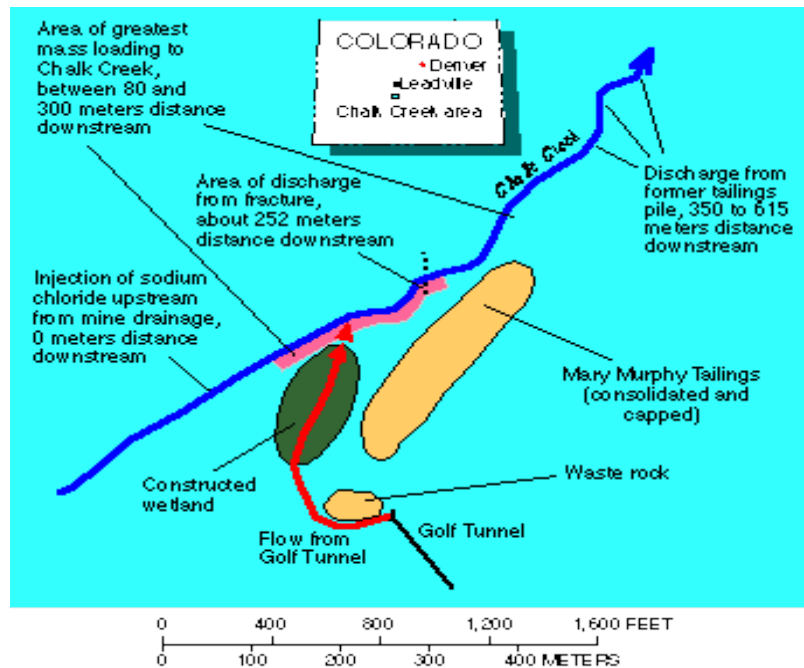


Figure 1-1. Golf Tunnel location map. (Source: Kimball 1997)

## 2. REMEDIAL ACTION AND TECHNOLOGIES

Lagoon treatment using microbial mat, otherwise known as a cyanobacteria, in situ phytoremediation technology. The contaminants of concern include the following:

- 12,050 mg/kg Mn
- 30,300 mg/kg Zn
- Ag, Cd, Cu, Cr, Ni, Pb, and Fe

The treatment rate was 40 liters per minute on a 1900 ft<sup>2</sup> pond.

### **3. PERFORMANCE**

Passivation appears effective on freshly mined surface to reduce the acidity and metals concentration by over an order of magnitude over many months. It is not as effective on weathered and oxidized surfaces. Unfortunately, the tests were stopped prematurely due to mine expansion.

### **4. COSTS**

The costs during the pilot test were <\$60,000 for the 40,000 ft<sup>2</sup> contained. Full scale is expected to be considerably less, but data are not available.

### **5. REGULATORY CHALLENGES**

None reported.

### **6. STAKEHOLDER CHALLENGES**

None reported.

### **7. OTHER CHALLENGES AND LESSONS LEARNED**

None reported.

### **8. REFERENCES**

Kimball, B. A. 1997. "Use of Tracer Injections and Synoptic Sampling to Measure Metal Loading from Acid Mine Drainage." U.S. Geological Survey Fact Sheet 245-96. <http://ut.water.usgs.gov/publications/fs245-96>.