

## Gold King Bond Forfeiture M-1986-013

### Phase I 2008 Permanent Portal Discharge Diversion Structure

#### Background

The Gold King Mine has been in operation since the late 1880's. The mine continued underground mining operations through the middle of the 20<sup>th</sup> century. The M-1986-013 permit was issued to re-work three historic interconnected portals, the Level 7, Number 1, and Sampson portals. During permitted mine operations another adit was driven at the Level 7 to bypass a collapse in the original Level 7 portal. Two drill pad sites were inside the permit boundary, but were never utilized.

The three portal areas all have historic waste rock piles. During mine operations, the waste rock was re-graded to allow for better access and equipment turn-arounds. Little to no additional waste rock was added to the historic piles. Most of the newly mined excess waste rock was left underground. The high grade ore was trammed to the surface and loaded into haul trucks or temporarily stored at the surface.

All four permitted portals were originally dry because Sunnyside's American Tunnel, located downhill at Gladstone, deep-drained the mining district. In 1995 Sunnyside sealed the American Tunnel portal with a bulkhead. The result of the bulkhead was a drastic increase in discharge from the Gold King Level 7 portal.

#### Reclamation Plan

The Gold King Mine Reclamation Plan was bonded for backfill closure of the four portals, re-grading of the waste rock piles to 3% grade for drainage, and ripping and seeding of the road between the Sampson and Number 1 portal and the drill pads.

#### 2007 Mine Waste Slope Failure at Gold King Level 7

During the summer of 2007 the mine drainage from the Level 7 portal breached the existing ditch and saturated the top of the Level 7 mine waste pile. The saturated conditions of the waste pile lead to a slope failure that partially blocked access to the site and filled the North Fork of Cement Creek and the associated culvert under the access road with mine waste. The landowner of the site, Todd Hennis, re-installed the culvert and removed the mine waste from the access road, but did not completely address the breached ditch.



*Historic  
Gold King  
Mine photo*

**Land Owner**  
Todd Hennis

**Construction Contractor**  
Maisel Excavation  
PO Box 826  
Silverton, CO 81433

**Project Cost: \$7,880.00**

**DRMS Project Manager**  
Kirstin Brown, 303.866.3567

## *Gold King Permanent Portal Discharge Diversion Structure*



2007 Saturated Mine Waste and breached ditch



2007 Slope Failure

### **Remaining Reclamation Requirements**

The remaining reclamation requirements for the Gold King bond forfeiture are the closure of four portals, two at the Level 7, one at the Sampson Portal, and one at the Level 1 Portal. The diversion structure at the Level 7 will be maintained under a future project and the mine waste at the Level 7 will be graded to 3% to allow for positive drainage. The estimated cost of the remaining reclamation requirement is \$37,000.00.

### **2008 Bond Revocation Construction**

In 2008, DRMS took action and halted the saturation of the Level 7 mine waste pile. DRMS met with Todd Hennis, landowner, and settled on moving the ditch to an eastward flowing direction and lining the ditch with half round HDPE pipe. The location of the ditch is ideal for both long term closure of the site and any future mining activity.

DRMS contracted Maisel Excavation from Silverton, Colorado to complete the construction work. Maisel Excavation was familiar with the mine site because they had been working on other construction items on the site for the landowner.

The project was constructed during the week of August 25, 2008. The new permanent portal discharge diversion structure was excavated into the top of the mine waste and 165 foot of half round 36" diameter corrugated pipe was set at a 2-3% grade.

2008 – Installation of permanent portal discharge diversion structure

