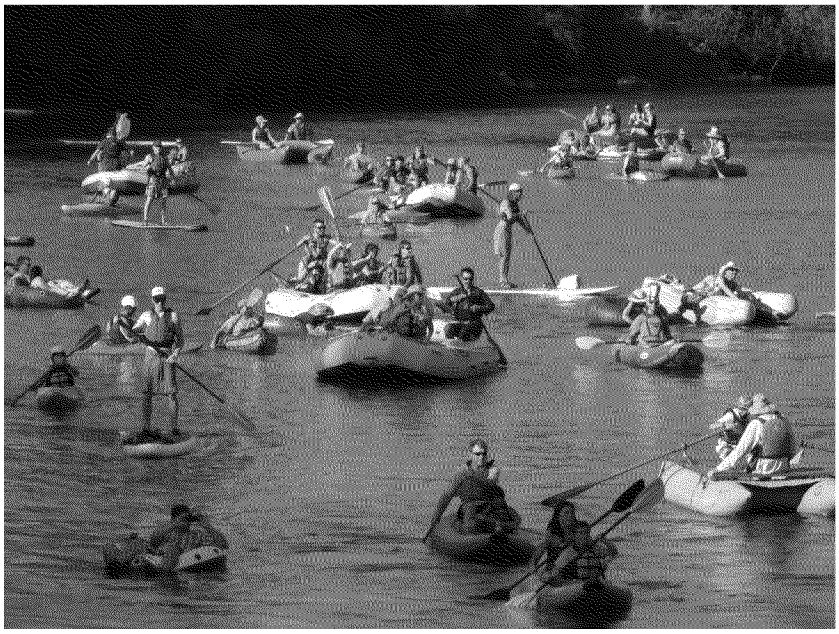
U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Release SITREP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject:	Situation Report #12 Gold King Mine Release San Juan County, CO Latitude: 37.8945 Longitude: -107.6384
From:	Colorado Unified Command (Situation Unit)
Date:	08/20/2015
Reporting Period:	08/19/2015 through 08/19/2015
Website:	http://www2.epa.gov/goldkingmine

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New information included in the SITREP is in bold text.

Executive Summary

On August 5, while investigating the Gold King Mine in Colorado, the EPA cleanup team triggered a release of mine wastewater into Cement Creek which feeds into the Animas River. The release resulted in coloring the Animas River a mustard-orange as the pulse of the release moved downstream. The leading edge of the release passed through Durango, Colorado, on Friday, August 7, 2015, and on August 8, 2015, it crossed the border into New Mexico where it eventually discharged into the San Juan River. As the leading edge of the release moved further down the Animas River into the San Juan River it became indistinguishable.

A Unified Command (UC) located in Durango, Colorado was established and continues to assess and mitigate contamination resulting from the release. The UC includes EPA Region 8, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, and La Plata County. San Juan Basin Health Department has transitioned out of the UC and is now providing an Agency Administrator to the UC. Currently San Juan County and the Ute Mountain Ute Tribe are providing Administrators to the UC. The City of Durango and the Colorado Department of Public Health and the Environment (CDPHE) are providing Agency Representatives to the UC.

The EPA and CDPHE have been taking daily surface water samples from the Animas River and Cement Creek. Animas River sediment sampling has occurred. CDPHE has sampled raw and finished public drinking water supply systems. Upon request, the EPA has also been sampling private drinking water wells. The results of the sampling analysis are being distributed as appropriate. The EPA has also completed irrigation ditch assessment and ditches were flushed and monitored prior to opening for irrigation use.

The Animas River reopened to recreational use mid-day Friday August 14, 2015 after being closed to all watercraft since August 6, 2015. The City of Durango's drinking water intake was not in use at the time of the event and remained off line until Friday, August 14, 2015. Currently all irrigation ditches are open and available for irrigation use.

An EPA Area Command (AC) is also located in Durango, Colorado and coordinates EPA's response between the EPA Regions 6, 8, and 9.

La Plata and San Juan counties sill have active disaster declarations and the public health advisory issued 8/14/2015 by CDPHE for the Animas River remains active.

A Joint Information Center (JIC) and an EPA AC public information officer (PIO) are co-located and coordinating support for the UC and the EPA AC respectively.

1. Introduction

1.1 Background

Site Number: A8K9RV		Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	
NPL Status: not listed		Operable Unit:	
Mobilization Date:	08/05/2015	Start Date:	08/05/15
Demob Date: TBD		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	08/05/15

1.1.1 Incident Category

1.1.2 Site Description

The Gold King Mine near Silverton, Colorado is a historic gold mine at approximately 11,300' elevation. The mine has a continuous discharge of acidic mine drainage that is a significant contributor of manganese, zinc, copper, and cadmium into the Cement Creek drainage of the Animas River watershed. The Gold King Mine has not had maintenance of the mine workings since 1991, and the workings have been inaccessible since 1995 when the mine portal collapsed.

The EPA Region 8 has been investigating the conditions to assess the on-going releases and incremental de-watering and removal of blockages to prevent blowouts.

1.1.2.1 Location

San Juan County, Colorado; La Plata County, Colorado; Southern Ute Indian Tribe; and Ute Mountain Ute Tribe.

1.1.2.2 Description of Threat

Mine waste water was released into Cement Creek and the Animas River. The volume of the release based on US Geological Survey (USGS) Cement Creek gauging station was estimated at three million gallons. The initial environmental concern was the pulse of contaminated water containing sediment and metals discharged in Cement Creek which flows into the Animas River through Durango, Colorado, and into New Mexico where it joins the San Juan River before flowing into Utah.

1.1.3 Site Inspection Results

The Executive Summary section provides a description of the various sampling efforts that have occurred.

1.2 Incident Objectives

1. **Ensure health and safety of the public and response management personnel.**

Sampling operations:

2. **Identify data needs to address need for the current health advisory.**
3. **Continue river assessment through surface water sampling.**
4. **Roll current well sampling effort into interim shallow groundwater monitoring plan currently under development. Communicate private well results and other follow up action within 120 hours of sampling.**
5. **Develop a demobilization plan for next operational period, including identifying triggers and turn back standards.**
6. **Implement medium term river monitoring plan with contractor per their scope of work.**
7. **Evaluate identified assessment locations for potential removal action.**

Mine:

8. **Continue management of adit discharge.**
9. **Maintain stability of mine road to ensure access.**
10. **Prepare for mine dump stabilization.**

Outreach/Community:

11. **Effectively communicate with public and stakeholders, including San Juan County, Colorado, utilizing a multi-faceted communication strategy to disseminate results.**
12. **Develop a means to assess the economic impact upon affected communities.**
13. **Continued coordination with the Department of Agriculture (including state and local veterinarians) and the Colorado Extension.**
14. **Develop short term notification system for any immediate needs and develop a plan for implementing a workgroup to develop a long term notification plan.**
15. **Provide water of appropriate quality for specified use.**
16. **Daily brief of accomplishments and upcoming activities for La Plata, San Juan County, Durango and Southern Ute Tribe policy group by 0800.**
17. **Develop communications message to include:**
    - **a. Mine discharge management plan for next 30-60 days.**
    - **b. Long term monitoring and sampling plan for the Animas river and Cement Creek.**

1.3 Critical Resource Needs

All resources are being tracked by the Resources Unit. Resources for the response continue to be ordered as needed to fill critical resource needs. **There are several UC and IC positions that will be transitioning to new people over the next few days.**

1.4 Strategic Considerations

United group of subject matter experts to advise policy makers.

2. Current Activities

2.1 Operations Section

2.1.1 Response Actions to Date

2.1.1.1 Durango Area Response Actions

Property Assessments

The EPA is continuing property assessments, as needed, and identifying mitigation needs. There are currently 4-8 properties under construction for targeted limited sediment removal.

The EPA continues to pump river water to fill fish ponds at one location. **The head gate of a ditch at another fish pond area was cleaned out.**

Surface and Private Well Water Sampling and Sediment Sampling

The EPA sampled at **seven surface** water locations as follows:

Cement Creek – 1
Animas River upstream of confluence with Cement Creek – 1
Animas River downstream of confluence with Cement Creek – 1
Animas River through Durango – **4**

The EPA samples collected on 8/19/2015 are provided in the following table:

Matrix	Number of Samples *
Potable Water	**15**
Sediment	**1**
Surface Water	**10**

*Quality Assurance samples are included in these numbers.

The EPA is conducting private well water sampling as needed and calling those residents sampled to provide the analytical results. Samples are taken from the well head and not the tap. It is unclear if the exceedances reported in the table below were caused by the mine release. Follow up work at the wells that exceed drinking water standards include: flushing the well; resampling at the well; and taking an additional tap water sample for analysis.

The following table provides the private well information up to 8/19/2015.

Quantity	Daily	Totals
Private well samples requested*	0	322
Private wells sampled (does not include QA samples)	14	276
Private wells with primary drinking water exceedances**	5	12
Private wells with secondary drinking water exceedances**	10	21
Remaining private wells to be sampled*		56

* The well requests and remaining lists are constantly refined as both duplicate requesters and requestors determined to be on city water are removed from the list.

**These samples are taken at the well head and not the tap.

Call Center

Call center totals are provided in the following table:

Topic	8/19/2015	To Date Total
Well Water Test Scheduling	5	360
Water Concerns	1	106
Health Concerns	1	32
Recreation	0	21
Ecological Concerns	0	19
Livestock/Irrigation	0	19
Tourism/Media	3	59
Volunteer Offers	0	24
General Concerns	2	123
Daily Totals:	22	763

Total calls received at the Call Center through 8/19/2015 is 763.

Water Distribution

- There is no longer a need for non-potable water deliveries.
- **On 8/19/15 potable water deliveries were made to two locations for a total of 53,000 gallons.**
- 1120 cases of bottled water have been purchased to hand out to community. Bottled water is available at the UC/AC facility for pickup by community members.

CDPHE

The CDPHE demobilized field sampling teams on 8/19/2015. CDPHE and will return to the normally scheduled watershed sampling in the area. Public water systems will continue sampling according to their regular sample plans established by CDPHE.

2.1.1.2 Mine Division Response Actions

The EPA continues to operate and work on optimizing four treatment and sedimentation ponds at the mine site which are treating water by lowering acidity levels and removing dissolved metals.

Water Treatment Plant

- **Caustic and flocculent addition is on-going.**
- **Built repository for sludge from treatment ponds.**

Water Quality Sampling

- **Water quality parameters continue to be collected at 11 locations three times daily.**
- **Two water samples were collected to be submitted for analysis. Sample collections were located at:**
  - **Gold King Adit, and**
  - **Effluent of treatment pond 4.**
- **Flow Rate of 631 gpm was recorded at 0900 from the Gold King Mine adit portal.**
- **Flow rate of 605 gpm was recorded at 1610 from the Gold King Mine adit portal.**
- **Additional flows collected at:**
  - **1300 from Silver Ledge Mine with 271 gpm;**
  - **1525 from Red and Bonita Mine with 450 gpm;**
  - **1145 from American Tunnel with 65 gpm; and**
  - **1445 from Mogul with 87.5 gpm.**

Gold King Mine

- **Attorneys General from Utah and Colorado were on site.**
- **Mine stability consultants were on site.**
- **Damaged power poles were taken down at Gold King Mine adit.**
- **Berm on GKM road was improved.**

Site Visits

ABC 7 and the Denver Post visited site on 8/19/2015.

2.1.2 Anticipated Activities

2.1.2.1 Durango Area Anticipated Activities

A public meeting will be held at 1830 at Miller Middle School on Thursday, 8/20/2015.

2.1.2.2 Mine Division Anticipated Activities

- **Gabion baskets to be delivered for repair of Gold King Mine road.**
- **Treatment in first pond will be changed from direct treatment to circular treatment to improve circulation.**
- **A survey of the Gold King Mine waste dump will be conducted.**

Other activities occurring in the area that are not directly associated with the response are:

- **Bureau of Land Management (BLM) is conducting survey of roads near the mine site.**
- **San Miguel Power will remove damaged power lines on 8/26/2015 and permission was given to remove poles at Gold King Mine portal.**

2.2 Logistics Section

The UC ICP will be moved from the current facility at the La Plata County Fairgrounds, during the current operational periods of 8/20 to 8/23/2015. The new location is being finalized, but will likely be in La Plata county owned facilities in the Durango Tech Center. The specific location will be distributed once the use agreement has been finalized and approved.

All Sections and Unit's need to plan to move their entire operation at the close of business on Saturday, 8/22/2015. The new facility will be open to allow each section/unit to setup their operations that evening, to facilitate resuming normal operations on 8/23/2015.

2.3 Finance Section

The EPA Region 8 total cost as of the end of 8/19/2015 is $1,539,527. The current burn rate ($/day) is $128,294.

2.4 Other Command Staff

2.4.1 Safety Officer

As of Wednesday August 19, 2015 there are no injuries or accidents to report. As sampling and travel to and from the mine continue, please be alert and watchful of wildlife. All field staff are continually encouraged to perform a quick inspection of their vehicle including the hazard lights and spare tire. The Critical Incident Stress Management (CISM) team has provided a space for staff to step away and de-stress. There were approximately 35 responders who took the opportunity to reduce their stress levels and enjoy a quick break.

You can contact your CISM team members at any time (24/7):

Wendy Adams (R-10): 425 466-6532
Tony Honnellio (R-1): 617 947-4414

2.4.2 Liaison Officer

No report.

2.4.3 Information Officer

There are two PIOs in Silverton to support the community information needs and the San Juan County Emergency Manager.

Social Media Sites being maintained by the UC JIC:

Blog – goldkingminerelease.blogspot.com
FB – facebook.com/goldkingminerelease
Twitter - @GKMRelease, @SilvertonCO1, @VisitSilverton
YouTube Channel – Gold King Mine Release

As of 1130 on 8-20-2015, the blog has received 1239 page views (243 on 8/19/2015), 0 comments; Facebook has 38 likes, 14 shares, 0 comments, and total reach of 216; and there 26 tweets and 24 followers.

2.4.4 Weather Forecast

Weather forecast for August 19 and 20, 2015:

DURANGO AREA
Today
Widespread haze. Mostly sunny, with a high near 87. Light and variable wind becoming west 10 to 15 mph in the afternoon.
Tonight
Widespread haze. Partly cloudy, with a low around 53. West wind 5 to 15 mph becoming east after midnight.
Friday
Mostly sunny, with a high near 85. Light and variable wind becoming west 10 to 15 mph in the afternoon.
Friday Night
Partly cloudy, with a low around 53. West wind 5 to 15 mph becoming east northeast after midnight.

SILVERTON AREA
Today
Widespread haze. Mostly sunny, with a high near 72. Breezy, with a west northwest wind 5 to 10 mph increasing to 15 to 20 mph in the afternoon.
Tonight
Widespread haze. Partly cloudy, with a low around 40. West northwest wind 5 to 15 mph becoming south in the evening.
Friday
A 20 percent chance of showers and thunderstorms. Partly sunny, with a high near 72. Breezy, with a west wind 5 to 10 mph increasing to 15 to 20 mph in the afternoon.
Friday Night
A 10 percent chance of showers and thunderstorms before 9pm. Partly cloudy, with a low around 40. West southwest wind 5 to 15 mph.

3. Participating Entities

3.1 EPA Area Command

The AC includes EPA Regions 6, 8 and 9. The EPA Region 8 includes Colorado. The EPA Region 6 is working closely with the New Mexico Environment Department (NMED) and the EPA Region 9 is working with the Navajo Nation. The AC is completing daily Executive Summary updates on AC operational activities.

3.2 Unified Command and Cooperating Agencies

A Unified Command (UC) located in Durango, Colorado was established and continues to assess and mitigate contamination resulting from the release. The UC includes EPA Region 8, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, and La Plata County. San Juan Basin Health Department has transitioned out of the UC sand is now providing an Agency Administrator to the UC. Currently San Juan County and the Ute Mountain Ute Tribe are providing Administrators to the UC. The City of Durango and the Colorado Department of Public Health and the Environment (CDPHE) are providing Agency Representatives to the UC.

The SUIT continues water delivery. In addition to participating in the UC, the SUIT has been conducting SUIT IMT briefings, public messages and briefings, sampling and analyzing water. As a proactive measure, the SUIT is continuing installing reverse osmosis on tribal residential kitchen taps. If individual drinking well sampling results show any concerns, additional actions will be taken.

On 8/18/2015 the Safety & Cultural Liaison arrived at the UC. A Tribal Liaison from the Indian Health Service will be visiting the tribe the same day. On 8/20/2015 Senator Barasso will be visiting the tribe and the next day there will be an update on the response for the Tribal Elders.

US Bureau of Reclamation (USBR) Technical Service Center is providing technical assistance for the EPA road stabilization efforts in and around the mine site.

A Disaster Assistance Center (DAC) was requested by La Plata County. The request was implemented by the Colorado Department of Local Affairs (DOLA) and will be open in the La Plata County Fairgrounds exhibit hall on Tuesday and Wednesday (August 18 and 19) from 1000 to 1600 hours. The EPA will be accepting claims at this event and CDPHE will also be present. The DAC provides technical assistance and support to the community and impacted residents including providing information on low cost loans.

4. Total Personnel On Incident

Gold King Mine Release 2015	
	08/19/2015
Group	**Number**
EPA @ REOC	11 (12 on call)
Contractors @ REOC	2
EPA in Field)	23
EPA Contractors in Field	36
EPA Laboratory	0
Contractors Laboratory	1
USCG	3
ERT	2
Subtotal EPA Region 8 Resources	**78 (+12 on call)**

On 8/19/2015 the approximate number of people working under the UC was 125. Organizations with individuals deployed to the response under the UC include:

- **Colorado OEM**
- **Southern Ute Tribe**
- **La Plata County**
- **San Juan County**
- **CDPHE**
- **Southwest IMT**
- **Northwest IMT**
- **Boulder IMT**
- **Jeffco IMT**
- **City of Durango**
- **San Juan Basin Health Dept.**
- **US Bureau of Reclamation**
- **US Bureau of Indian Affairs**
- **Grand Junction Fire**

Personnel working at the Colorado Unified Command Post on 08/19/15 (Does not include Area Command Personnel):

Position / Section	Number of Personnel
Unified Command	7*
PIO	12
Safety	1
Operations	2
Planning (incl SITL, ENVL & RESL)	5
Logistics	1
Finance	2
Liaisons	0
Agency Representatives/Administrators	1
Total	**31**

*One UC is located at the Gold King Mine site.

5. **Definition of Terms** –

AC - Area Command (Comprised of EPA Regions 6, 8 and 9)
ATSDR- Agency for Toxic Substances and Disease Registry
BIA - Bureau of Indian Affairs
BLM – Bureau of Land Management
BOR - Bureau of Reclamation
CDPHE - Colorado Department of Public Health and Environment
CERCLA - Comprehensive Environmental Responsibility, Compensation and Liability Act
CISM - Critical Incident Stress Management
COEM - Colorado Office of Emergency Management
DAC- Disaster Assistance Center

DRSEM – Division of Homeland Security and Emergency Management
DOLA- Department of Local Affairs
DRMS - CO Division of Reclamation Mining and Safety
EPA - United States Environmental Protection Agency
ERT - EPA Emergency Response Team
EOC – Emergency Operations Center
gpm – gallons per minute
IC – Incident Command
MCL-Maximum Contaminant Levels
MSDS - Material Safety Data Sheet
NMED - New Mexico Environment Department
OEM – Office of Emergency Management
PIO- Public Information Officer
PPE - Personal Protective Equipment
REOC - EPA Regional Emergency Operations Center
SEOC – State Emergency Operations Center
SHPO - State Historic Preservation Officer
SWIMT - South West Incident Management Team
UC - Unified Command (Comprised of Southern Ute Indian Tribe, La Plata County, EPA Region, State of Colorado OEM)
UCP - Unified Command Post
USCG - United States Coast Guard
UTV- Utility Terrain Vehicle