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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8

Subject:	**SITREP #4** **Gold King Mine Release** **San Juan County, Colorado** **Latitude: 37.8945 Longitude: -107.6384**
From:	R8 IMT Situation Unit
Date:	08/12/2015
Reporting Period:	08/11/15 through 08/11/15
Website:	epa.gov/goldkingmine

Executive Summary

On August 5, while investigating the Gold King Mine in Colorado, an EPA cleanup team triggered a release of mine wastewater into Cement Creek. The EPA is working closely with responders and local, state and tribal officials to monitor water contaminated by the release. The release's path flows through three of the EPA's regions - Region 8 (Colorado, Utah, Southern Ute Tribe, and Ute Mountain Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA has also set up an incident command center in Durango, CO. The EPA is coordinating with officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation and the Ute Mountain Ute Tribe.

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

The La Plata County Sheriff issued an order closing the Animas River to all watercraft from the north County line (San Juan County, Colorado) to the south County line (at the Colorado/New Mexico State line) until further notice. Furthermore, all such watercraft must be removed from the Animas River within the locations cited above. The decision was made after consultation with the EPA, CDPHE, the San Juan Basin Health Department, and representatives of the Southern Ute Indian Tribe. The order will remain in effect until it is determined that the river is safe

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 Reservation and Ute Mountain Ute Tribe reservation.

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 gaging station is 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. The City of Durango relies on the Animas River as one of its main water sources - the Animas source is off-line. The river is also used for recreational purposes, including fishing and rafting, and is an important cultural resource for the Navajo Nation.

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.

1.1.3 Site Inspection Results
Aerial and ground reconnaissance indicates that the plume associated with the Gold King Mine release has dissipated downstream and there is no leading edge of contamination visible in downstream sections of the San Juan River or Lake Powell.

The EPA is collecting and assessing water quality from Cement Creek and the Animas daily. Water sampling is occurring, and pH levels and dissolved concentrations of metals are being monitored.

1.2 Incident Objectives

- Continue private water well call tracking, follow up actions and owner communications.
- Continue sampling plan and develop strategy to mitigate risks due to sediment in the river.
- Continue river assessment through sediment and water sampling.
- Continue management of adit discharge and develop call down verification (CDPHE).
- Effectively communicate with public and stakeholders utilizing a multi-faceted communication strategy to dissemination results.
- Ensure health and safety of the public and response management personnel.
- Develop a means to assess the economic impact upon affected communities
- Coordinate with the Colorado Division of water and other stakeholders to assess and begin flushing ditch status
- Provide water of appropriate quality for specified use.
- Develop Veterinarian Consortium, including Colorado Extension.
- Continue to treat water at the mine.
- Stabilize mine road to ensure access 8/12/15.
- Prepare for mine dump stabilization.

(b) (6) [redacted]

- Continue adit discharge management, treatment and sampling.

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.

company Environmental Restoration

Art Slaton 1056-

(b) (6) [redacted]

1.4 Strategic Considerations

United group of specialist to advise policy makers.

call center # 5pm 591 cally pH testing/ditch clean & 99 H2O - hall general

2. Current Activities

2.1 Operations Section

2.1.1 Response Actions to Date

A Unified Command (UC) post in Durango was established on 8/7/2015 and expanded on 8/10/2015 to full staff levels. An Area Command was also moved to Durango on 8/10/15. The UC includes EPA, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, La Plata County, San Juan Basin Health Department. The Ute Mountain Ute Tribe will likely join during the next operational period. The EPA Regions 6 and 9 have established incident command posts in Farmington, New Mexico that cover New Mexico and the Navajo Nation response areas.

The EPA initiated a water quality sampling effort on August 5, 2015, to assess the impacts of the release at the Gold King Mine. There were a total of 5 sampling teams deployed on Monday, 8/10/2015, three from the EPA Region 8 and two from Colorado Department of Health and the Environment (CDPHE). There were four river and 30-40 well water samples collected August 10, 2015. The EPA collected surface water quality samples from seven locations; two of these locations were on Cement Creek, and five of these were on the Animas River in Colorado. Well samples were also collected. These locations were selected based on the availability of an historical dataset for these locations. These analysis of these samples include pH, dissolved concentrations of metals, and operational milestones. The CDPHE collected samples from raw and finished drinking water supplies and water samples from the northern segment of the Animas River.

On Tuesday, samples from 19 of the 20 planned sediment sampling locations were completed by the EPA (contractor) sampling teams. Daily residential sampling is occurring. As of 6pm on 8/11/2015, 226 requests had been received. There were 20 private drinking water samples taken on 8/11/2015 with a total 49 of through the end of 2/11/2015. Bottle water shipments from local suppliers have been occurring daily and distributed as requested.

drinking H2O: 8/12/15 - 36 samples ~~wells~~ from wells (includes several duplicates)

total - 85 samples

16 result drinking H2O - none over MCLs

total wells sampled -

Non-Potable water distribution as of 8-11:

Total deliveries: 16
26,220 Gallons
Stakeholders:

- Cattle & Horse Farms
- Nursery

no sediment tonight

49 36 85

- Fish Hatchery/Fish Ponds
- Commercial organic produce farm

Potable Water Delivery as of 8-11:

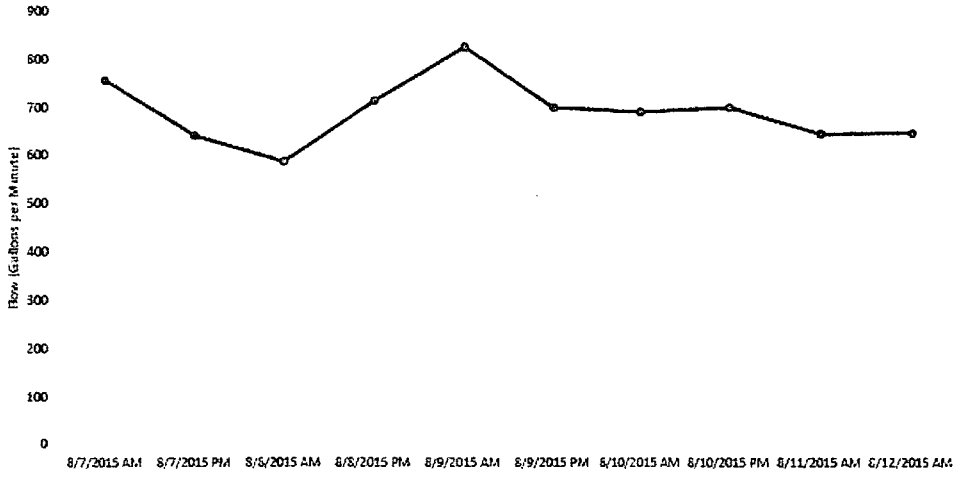
Total Deliveries: 6
19,200 gallons
Stakeholders:

- Single Family Home cisterns.
- Multiple family homes on neighborhood cistern.

224 cases of bottled water have been purchased to hand out to community.

CDPHE continued watershed sampling on Animas River taking samples at four points including one location upstream of where Cement Creek discharges into the Animas. Staff of CDPHE also visited Gold King Mine site portal and water treatment facility and Red Bonita Mine site with the EPA and Southern Ute Tribe representatives. Public water systems regulated by CDPHE in the impacted area are taking raw and finished water samples to monitor water quality. CDPHE is coordinating with City of Durango drinking water treatment staff regarding the Animas River intake. It was not in use at the time of the event and has been off-line pending water quality assessment with CDPHE. Some sediment sampling was also performed.

The EPA continues to operate four treatment and sedimentation ponds at the mine site which are treating water by lowering acidity levels and removing dissolved metals. Flow from the mine through the morning of 8/12/2015 is shown in the following chart.



Treated water from the last treatment pond is discharging into Cement Creek at levels cleaner (higher pH and lower levels of metals) than pre-event, background conditions in the creek. Over the next several days, the EPA will make upgrades to the system to ensure its continued operation. Flow data out of the mine is being collected manually two times per day. Water quality data is being collected at the influent and effluent of the treatment

system as well.

ASPECT aerial flyovers and ground reconnaissance indicates that the plume associated with the Gold King Mine release has dissipated downstream and there is no leading edge of contamination visible in downstream sections of the San Juan River or Lake Powell.

Colorado Parks & Wildlife officials have been monitoring the effects of the spill on terrestrial & aquatic wildlife since the incident began. To date we have seen no indication of widespread fish mortality in the Animas or San Juan. Fish cages placed directly in the Animas River by the State of Colorado Division of Parks and Wildlife (CDPW) for two days indicate one mortality out of 108 fish tested. CDPW pulled the fish from the Animas on 8/11/2013 and they were preserved for necropsy and toxicity (tissue analysis). There was no additional fish mortality after the initial one fish mortality. The state of Utah has been sampling along the San Juan River in proximity to Lake Powell.

2.2.1 Anticipated Activities

There will be seven sample teams, five from the EPA and two one-person teams from CDPHE. Sampling of the seven data points on the river will continue. A pilot test flush of the Animas Consolidated Ditch is scheduled for 8/12/2015. A system to prioritize and track water well sampling is going to be developed. Durango area operations are focusing on the ditch and water survey work.

Sampling procedures and a sampling plan are being established and shared with all relevant parties to ensure consistency.

The EPA Region 8 is distributing bottled water to citizens, and both potable and non-potable water for livestock and other agricultural purposes, as needed.

The EPA Region 8 is coordinating with Agency for Toxic Substances and Disease Registry (ATSDR) in response to public health concerns/questions associated with the mine waste plume. ATSDR has been in communication with local health officials at San Juan County Basin Health Department in Colorado. Public health questions should be directed to Chris Poulet, ATSDR.

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

The UC was moved to the County fairgrounds the evening of 8/10/2015.

2.4 Finance Section

2.4.1 Narrative

The UC in Durango includes Finance section personnel and this will be updated in the next report.

2.5 Other Command Staff

2.5.1 Safety Officer

Anyone (visitors or IMT staff) who plans to visit the mine are to have personal protective equipment with them. Visitors who are "touring", are currently required to wear a hard hat, safety shoes, safety vest as well as safety shoes

2.5.2 Liaison Officer

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area.

The EPA Region 8 has contacted the US Fish and Wildlife Service and the US Department of Interior about the incident, and is working with the US Geological Service on water flow data in Cement Creek and the Animas River.

2.5.3 Information Officer

A last press release done on August 10, 2015.

2.5.4 Weather Forecast

Weather forecast for Tuesday, August 12, 2015:

DURANGO AREA

Today

Isolated showers and thunderstorms after 2pm. Mostly sunny, with a high near 83. Southeast wind 5 to 10 mph becoming south southwest in the afternoon. Chance of precipitation is 10%.

Tonight

A 10 percent chance of showers and thunderstorms before 7pm. Partly cloudy, with a low around 54. West southwest wind 5 to 10 mph becoming north northeast after midnight.

Thursday

A 20 percent chance of showers and thunderstorms after 1pm. Mostly sunny, with a high near 85. Light and variable wind becoming west 5 to 10 mph in the afternoon.

Thursday Night

A 10 percent chance of showers and thunderstorms before midnight. Partly cloudy, with a low around 55. West northwest wind around 10 mph becoming north northeast after midnight.

SILVERTON AREA

This Afternoon

Scattered showers and thunderstorms. Mostly cloudy, with a high near 69. South wind around 10 mph. Chance of precipitation is 40%.

Tonight

A 30 percent chance of showers and thunderstorms,

mainly before 8pm. Partly cloudy, with a low around 43. South southwest wind 5 to 10 mph becoming light and variable in the evening.

Thursday
A 40 percent chance of showers and thunderstorms, mainly after 11am. Partly sunny, with a high near 67. Calm wind becoming west southwest around 5 mph in the afternoon.

Thursday Night
A 30 percent chance of showers and thunderstorms before midnight. Partly cloudy, with a low around 43. Northwest wind 5 to 10 mph becoming east in the evening.

3. Participating Entities

3.1 Area Command

The EPA Region 8 is coordinating with the EPA Regions 6 and 9, the states of Colorado and Utah, the Southern Ute Tribe and the Ute Mountain Ute Tribe. The EPA Region 6 is working closely with the New Mexico Environment Department (NMED) to evaluate possible impacts in Mexico. The EPA Region 9 is working with the Navajo Nation to evaluate possible impacts to the Tribe. Potentially impacted water systems have been notified, and precautions are in place to ensure drinking water is protected. The EPA and NMED are providing assistance to community water systems and closely monitoring the situation.

The EPA Region 9 has contacted the Bureau of Indian Affairs regarding potential impacts to the Navajo Nation.

3.2 Unified Command and Cooperating Agencies

The UC includes EPA, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, La Plata County, San Juan Basin Health Department. The Ute Mountain Ute Tribe will likely join during the next operational period.

The City of Durango is involved through an agency representative. San Juan County is an Agency Administrator.

The CDPHE is collecting samples as noted above and sending the sampels to their lab in Denver for expedited analysis.

4. Personnel On Site

Gold King Mine Release 2015	
	08/11/2015
Group	**Number**
EPA @ REOC	13

Contractors @ REOC	2
EPA in Field (R8)	23
Contractors in Field (R8)	12
EPA Laboratory	8
Contractors Laboratory	7
USCG	10
ERT	1
Total EPA Region 8 Resources	76

5. Definition of Terms - No information available at this time.

6. Additional sources of information – epa.gov/goldkingmine

7. Situational Reference Materials - epa.gov/goldkingmine