

**SITUATION REPORT
INCIDENT COMMAND POST GOLD KING
GOLD KING MINE RELEASE INCIDENT
U.S. ENVIRONMENTAL PROTECTION AGENCY**



Installation of discharge piping downgradient of Gold King Mine

Subject: EXECSUM / SITREP #42
Gold King Mine Release Incident
San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

From: Situation Unit, Incident Command Post Gold King

Date: 22 September 2015

Reporting Period: 0700 21 September 2015 through 0700 22 September 2015

Website: www.epa.gov/goldkingmine



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EXECUTIVE SUMMARY

Situation Summary

United States Environmental Protection Agency (U.S. EPA) Incident Command Post Gold King (ICPGK) is comprised of U.S. EPA Regions 8, 6 and 9.

Highlights, Key Updates/Changes

- ICPGK will operate under a 2-week Incident Action Plan (IAP) covering the period of 22 September 2015 through 06 October 2015.
- Incident Command (IC) is ending outreach with private well owners and will not accept sampling requests after 30 September 2015.
- After this Situation Report (SitRep), ICPGK will begin issuing SitReps on a weekly basis.
- ICPGK continues to monitor relations with the Navajo Nation.

Objectives

- Ensure health and safety of the public and responders.
- Continue implementation of private well sampling and water deliveries.
- Establish strategy for private wells exceeding MCL for drinking water.
- Continue coordination with Federal, State, Tribal and local stakeholders.
- Continue management of mine water discharge.
- Continue mine dump and portal stabilization.
- Assessment of sediment impacts.
- Implement transition plan to reduce river and sediment sampling.
- Implement alert and notification plan during mine site operations.
- Explore real time monitoring options.
- Continue water and sediment sampling along the Animas and San Juan Rivers.
- Continue to make personnel adjustment for right-sizing the organization.

Command Emphasis

For this operational period, the ICPGK command emphasis will be:

- Safety of responders and the public
- Visitors to the mine site are required to go through a safety briefing. See mine site safety plan.
- Personnel entering Southern Ute Tribal lands must be escorted by a Southern Ute staff member.
- Ensure information flow between ICP and Stakeholders is transparent.

The metrics provided in this Situation Report represent quantities reported for work completed on 21 September 2015. Press releases are presented in Attachment 1. Metrics table cells and report text highlighted in yellow represent a change/addition from the previous day's Situation Report.



1.0 BACKGROUND

The Gold King Mine (GKM) near Silverton, Colorado is an historic gold mine at an elevation of approximately 11,300 feet above mean sea level. The mine discharge includes acidic mine drainage that is a contributor of heavy metals into the Cement Creek drainage of the Animas River watershed. The GKM workings have been inaccessible since 1995 when the mine portal collapsed.

On 5 August 2015, up to three million gallons (estimated) of water containing sediment and dissolved metals was suddenly released from the Gold King Mine adit. This water discharged into Cement Creek which feeds into the Animas River, and eventually flows into the San Juan River.

The ICPGK (located in Durango, Colorado) continues to assess and mitigate effects from the release. After the release occurred, the U.S. EPA performed daily sampling of surface water and sediment from the Animas River, San Juan River and Cement Creek through 21 September 2015. Sampling frequency for surface water and sediment from the Animas River, San Juan River and Cement Creek will be performed semi-weekly starting on 22 September 2015.

U.S. EPA continues to schedule sampling of private wells within an alluvial area surrounding the Animas River.

2.0 OPERATIONS

2.1 Mine Operations

A summary of mine operations is presented below.

- Gold King Mine diverted discharge continued to flow to the Red & Bonita settling ponds.
- Continued treatment of mine discharge via an automated hopper adding 8 pounds of lime to creek water every 9 minutes.
- Continued monitoring of water quality at 6 locations twice daily. Associated metrics are summarized below.
 - Average flow rate of approximately 557 gallons per minute (gpm)
 - Average pre-treatment pH of 3.44 standard units (SU)
 - Average pH of treated water was 5.33 SU
- Continued installation of shotcrete outside the mine adit/portal for stabilization.
- Continued temporary flow bypass of a portion of Cement Creek, which enabled the continued removal of affected rock from Cement Creek.
- Continued construction of 4 settling ponds.
- Continued developing a plan for removing and managing sediment from the Gold King Mine.
- Collected water and sediment sample from Gold King Mine for analyses.
- Collected sample of dry pre-mixed shotcrete.

2.2 River Sampling

Operational activities for surface water and sediment sampling are summarized below. Sample quantities are based on the SCRIBE database, and include field samples and quality assurance/quality control



(QA/QC) samples.

Table 1 - Operations Sampling Summary			
Matrix	U.S. EPA Region	Qty. (21 Sep 2015)	Qty. (Cumulative)
Surface Water Samples	8	8	536
	6	9	495
	9	5	274
	Total	22	1,305
Sediment Samples	8	8	293
	6	9	493
	9	5	220
	Total	22	1,006

2.3 Private Well Sampling

Operational activities for private drinking water well sampling are summarized below.

The assessment focus area for private drinking water wells in Region 8 includes those private drinking water wells located within 300 feet of the banks of the Animas River (including connected canals), between Baker's Bridge and the Colorado/New Mexico state line. The assessment focus area for private drinking water wells in Region 6 includes those private drinking water wells located within 500 feet of the banks of the affected waterways (Animas River, San Juan River and connected canals) within the Animas River watershed in New Mexico. There has been no sampling of private drinking water wells in U.S. EPA Region 9.

Private well samples that have metals concentrations greater than the Maximum Contaminant Levels (MCLs) and were collected from private drinking water wells during the first sampling event were sampled a second time to confirm the analytical results. In Region 8, the second round of samples at a given property were collected from the tap. Residents that have MCL exceedances have been notified.

A summary of private drinking water well sampling is presented below.

Table 2 – Private Drinking Water Well Sampling Summary			
Matrix	U.S. EPA Region	Qty. (21 Sep 2015)	Qty. (Cumulative)
Private Drinking Water Well Samples Collected (from SCRIBE, includes QA/QC samples)	8	0	400
	6	0	287
Private Drinking Water Well Locations Inside Focus Area	8	0	55
	6	0	121
Private Drinking Water Well Locations Outside Focus Area	8	0	274
	6	0	0



Table 3 – Private Drinking Water Well Primary MCL Exceedances			
Matrix	U.S. EPA Region	Qty. (21 Sep 2015)	Qty. (Cumulative)
Within Focus Area: Private Drinking Water Wells Containing Contaminant Concentrations Above MCLs during Second Sampling Event	8	0	3
	6	0	1*
Outside of Focus Area: Private Drinking Water Wells Containing Contaminant Concentrations Above MCLs during Second Sampling Event	8	0	2
	6	0	0

*Note: One well in Region 6 exceeded the MCL for lead and after further assessment by the State of New Mexico and EPA, it was determined that the exceedance was unrelated to the GKM incident.

2.4 Mitigation Activities

No public water systems are currently affected by the release or response operations.

ICPGK continues to coordinate and deliver bottled drinking water to 5 residences in Region 8. Other public support activities completed are summarized below.

Table 4 - Public Support Summary							
Activity	Entity	21 Sep 2015			Cumulative		
		Deliveries (each)	Qty. (gal)	Qty. (hay bales)	Deliveries (each)	Qty. (gal)	Qty. (hay bales)
Potable Water Deliveries	U.S. EPA R8	0	0			105,600	
Livestock / Agricultural Water Deliveries	U.S. EPA R8	0	0		47	133,770	
	U.S. EPA R6	0	0		59	1,104,990	
	U.S. EPA R9	0	0		13	218,400	
	BIA	0	0		7	975,888	
Agricultural Food Deliveries	U.S. EPA R6	0		0	1		244
	U.S EPA R9	0		0	15		5,760

2.4.1 Water Tanks

On or about 15 August 2015, 15 black steel tanks (16,500 gallon capacity each) were delivered by the ERRS contractor to certain locations on the Navajo Reservation as part of the response to the Gold King Mine release incident. Seven tanks have been removed, and 8 tanks remain on the Navajo Reservation.

2.4.2 Other Mitigation Activities

U.S. EPA continues to work with individual property owners regarding potential sediment issues.

3.0 PLANNING

An IAP was issued for a 2-week operational period covering 22 September 2015 through 06 October 2015.

3.1 Environmental Unit

Environmental Unit (EU) continues to develop correspondence with property owners to present analytical results for sediments. EU also provided analytical results to Southern Ute Indian Tribe for



sediment samples collected from ditches.

3.2 Resources

The table below summarizes staffing numbers for the federal entities and agencies active in the response.

Table 5 - Personnel On-Site		
Region	Agency / Entity	Number of Personnel (21 Sep 2015)
Mine Operations	U.S. EPA	4
	U.S. Coast Guard (USCG)	6
	U.S. EPA Contractors	28
	Other Federal, State, Local and Tribal Entities	0
ICPGK	U.S. EPA	20
	U.S. EPA Contractors	10
	USCG	0
	Other Federal, State, Local and Tribal Entities	3
6	U.S. EPA	0
	U.S. EPA Contractors	7
	USCG	0
	Other Federal, State, Local and Tribal Entities	0
9	U.S. EPA	1
	U.S. EPA Contractors	0
	USCG	2
	Other Federal, State, Local and Tribal Entities	0
Total		81

No unmet critical resource needs reported.

4.0 FINANCE

4.1 Estimated Response Costs to Date

The table below summarizes estimated costs for the response.

Table 6 - Estimated Response Costs Reported as of 21 September 2015					
Region	U.S. EPA * Cumulative Expended Payroll	U.S. EPA Cumulative Expended Travel	U.S. EPA Cumulative Other Charges	U.S. EPA Cumulative Contractors Cost	Total Cumulative Costs
8	\$1,024,462	\$216,313	\$46,109	\$4,023,344	\$5,310,228
6	\$574,073	\$140,950	\$12,989	\$2,710,463	\$3,438,475
9	\$627,360	\$96,500	\$0	\$1,910,951	\$2,634,811
TOTAL	\$2,225,895	\$453,763	\$59,098	\$8,644,758	\$11,383,514

4.2 Estimated Burn Rates

The table below summarizes current estimated burn rates for the response.



Table 7 - Estimated Daily Burn Rates	
U.S. EPA Region	Estimated Daily Burn Rate (as of 21 Sep 2015)
8	\$133,100
6	\$42,410
9	\$53,562
Total	\$229,072

5.0 LOGISTICS

As of 21 September 2015, the following personnel needs remain to be filled: none.

6.0 SAFETY

Safety revised the Medical Plan (ICS-206) and the Safety Message / Plan (ICS-208) for the new operational period. Safety also provided site safety briefing to 2 new IMT staff at ICP in Durango, as well as 7 invited guests from DOJ, EPA and START.

No recordable injuries or illnesses reported.

ICPKG had a Critical Incident Stress Management (CISM) program for personnel involved with the response. On 21 September 2015, the CISM office at the ICPKG received 3 contacts from response personnel. As of 21 September 2015, the CISM center received 282 visits. CISM personnel demobilized on 22 September 2015 and CISM operations have terminated; however, printed CISM information remains located on-site.

7.0 PUBLIC INFORMATION

7.1 Community Engagements

No community engagements were conducted on 21 September 2015. A summary of community engagements is provided below:

Table 8 - Community Engagement Summary		
Description	U.S. EPA Region	Qty. (21 Sep 2015)
Community Engagements	8	0
	6	0
	9	0

7.2 Anticipated Events: VIPs/Congressional Visits and Public Events

Known site visits and public events scheduled for the next 14 days are summarized below.

Table 9 - Anticipated Site Visits and Public Events Summary	
Planned Event	Anticipated Date
R8 CERCLA Attorney, U.S. Department of Justice will visit mine site	22 Sept. 2015
R8 Personnel meeting with Animas River Stakeholders	22 Sept. 2015
U.S. EPA Conference Call with local, state and Tribal stakeholders to discuss conceptual monitoring	22 Sept. 2015
Senator Ellen Roberts' office is hosting a community meeting for local stakeholders	22 Sept. 2015



Table 9 - Anticipated Site Visits and Public Events Summary

Planned Event	Anticipated Date
CDPHE and Silverton officials touring the mine site	23 Sept. 2015
U.S. EPA Director of OEM visit ICP Durango and sampling sites	24 Sept.2015

8.0 LIAISON

Federal, regional, local and other entities participating in the response are summarized below.

U.S. EPA
U.S. Coast Guard (USCG)
U.S. Geological Survey (USGS)
U.S. Army Corps of Engineers (USACE)
U.S. Bureau of Reclamation (USBOR)
U.S. Fish and Wildlife Services (USFWS)
Colorado Office of Emergency Management (OEM)
Colorado Department of Public Health and Environment (CDPHE)
New Mexico Environment Department (NMED)
New Mexico (NM) Department of Health
NM Office of the State Engineer
NM Department of Game and Fish
State of Utah
State of Arizona
City of Durango
La Plata County
San Juan County
San Juan Basin Health Department
County of San Juan – New Mexico
Southern Ute Indian Tribe (SUIT)
Navajo Nation

9.0 SOURCE OF ADDITIONAL INFORMATION

For additional information, refer to www.epa.gov/goldkingmine.



ATTACHMENT 1
PRESS RELEASE



PRESS RELEASE # 1

U.S. EPA Website (<http://www2.epa.gov/goldkingmine>)

September 21, 2015: Gold King Mine Data

(<http://www2.epa.gov/goldkingmine/gold-king-mine-data-september-21-2015>)

EPA sediment samples collected on 8/28, 8/30, 9/8 and 9/9 from locations along the Animas Rivers.

EPA has reviewed the data which includes comparison to screening levels for exposure during recreational use. The metal concentrations of the samples are below sediment/soil recreational screening levels, and are being maintained at pre-event conditions. Based on previous monitoring events it has been shown that metal concentrations may fluctuate from time to time because of water surges due to heavy rains or other events that may change the water flow rates or volume.

- Open or download the data file: Region 8 Sediment Summary Table 09162015 (XLSX) (1 pg, 46 K)

EPA sediment samples collected on 9/15, 9/16 and 9/17 from locations along the Animas Rivers.

EPA has reviewed the data which includes comparison to screening levels for exposure during recreational use. The metal concentrations of the samples are below sediment/soil recreational screening levels, and are being maintained at pre-event conditions. Based on previous monitoring events it has been shown that metal concentrations may fluctuate from time to time because of water surges due to heavy rains or other events that may change the water flow rates or volume.

- Open or download the data file: Region 6 Sediment Summary Table 09202015 (XLSX)(1 pg, 77 K)

EPA surface water samples collected on 9/15 and 9/16 from locations along the Animas Rivers.

EPA has reviewed the data which includes comparison to screening levels for exposure during recreational use. The metal concentrations of the samples are below sediment/soil recreational screening levels, and are being maintained at pre-event conditions. Based on previous monitoring events it has been shown that metal concentrations may fluctuate from time to time because of water surges due to heavy rains or other events that may change the water flow rates or volume.

- Open or download the data file: Region 6 Surface Water Summary Table 09192015 (XSLX)(1 pg, 100 K)