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## INCIDENT COMMAND TRANSITION PLAN

### GOLD KING MINE RELEASE INCIDENT AMIMAS RIVER OPERATIONAL AREA 17 SEPTEMBER 2015

#### U.S. ENVIRONMENTAL PROTECTION AGENCY

**Incident:** EPA Response to Gold King Mine Release Incident

**Subject:** Reduction in Surface Water and Sediment Sampling Frequency

#### Executive Summary

Given the trend of analytical results for surface water towards pre-event conditions, analytical results that are below recreational screening levels and/or demonstrating minimal variability, the EPA Environmental Unit recommends a reduction in sampling frequency of surface water and sediment from the current daily sampling regiment to twice-a-week sampling. Details on how EPA will transition and reduce surface water and sediment sampling frequency is described herein.

#### Strategic Objectives:

1. Describe the reduction in frequency for surface water and sediment sampling and the organizational transition from incident management to project management while a Conceptual Monitoring Plan is developed.
2. Maintain consistent messaging while coordinating the notification to and participation of stakeholders within the operational area.

#### KEY POINTS

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1. This proposed transition document is focused on river assessment/operations, and is not intended to address activities related to the stabilization of the release at the Gold King Mine.
  2. Transition activities will include:
    - a. Coordination and communication with stakeholders and communities as needed.
    - b. Maintain an organizational structure designed to ensure management accountability for the continuing operations.
  3. This Transition Document should be accompanied by a global message that explains and supports the transition from incident command to project management.
  4. The transition organization will retain the capacity and flexibility to rapidly and effectively respond to concerns and/or issues raised by U.S. EPA, state, tribal and local partners.
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## BACKGROUND

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While U.S. EPA was investigating the Gold King Mine near Silverton, Colorado on August 5, 2015, a release of mine wastewater occurred. The wastewater was released to Cement Creek, which then discharges to the Animas River. The release resulted in discoloration of the Animas River, temporarily making the river water a mustard-orange as the slug of mine water flowed downstream. The leading edge of the release passed through Durango, Colorado, and crossed the border into New Mexico where it eventually discharged into the San Juan River. As the slug of discolored water moved downstream in the waterways, State and local jurisdictions closed public water system intakes on the Animas and San Juan rivers. The state and local jurisdictions also issued advisories regarding recreational use of the rivers and private drinking water wells within the Animas River watershed. The slug of mine water contained levels of metals that resulted in a temporary increase in surface water metals concentrations above pre-incident levels and deposited sediment.

## SUMMARY OF RESPONSE ACTIVITIES

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U.S. EPA Regions 8, 6 and 9 have performed mitigation, sampling, and data evaluation activities since inception of the Gold King Mine Release Incident. U.S. EPA Headquarters and other U.S. EPA regions have supported the response, along with support from other federal and state agencies, tribal and local jurisdictional agencies.

Over 300 personnel have performed field response and/or engaged technical/scientific support throughout the response area. To date, U.S. EPA has collected over 700 surface water samples and approximately 500 sediment samples from the Animas and San Juan Rivers, between Cement Creek in Colorado and Lake Powell in Utah. U.S. EPA also collected water samples from private drinking water wells in the Animas River watershed at locations selected in conjunction with State environmental partners. U.S. EPA's mitigation activities to date include delivery of more than 800,000 gallons of potable water, and more than 2,299,278 gallons of livestock/agricultural water. U.S. EPA has also provided over 5,620 bales of hay for use as livestock food.

### ***Situation Status***

State and local jurisdictions have lifted water use advisories, including drinking water, for the Animas River watershed. The Navajo Nation has lifted restrictions on wells serving the Montezuma Creek Public Water System. The Navajo Nation has also opened the Fruitland Irrigation Canal and lifted agricultural restrictions for water use which serves 3 Chapter locations. Navajo Nation EPA has determined that water from the San Juan River meets the Navajo Nation's water quality standards for the limited use of irrigation. This conclusion is based in part on NNEPA's test results, which are consistent with those of other agencies testing the river.

## DATA EVALUATION

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### ***Pre-Event Watershed Conditions***

A variety of metals have been historically present in surface water within the Animas River, San Juan River and Lake Powell. U.S. EPA has identified that 4 of the metals including arsenic, cadmium, mercury and



lead have greater toxicity than other metals present in water discharged during the Gold King Mine Release Incident. These 4 metals are naturally occurring at relatively low levels in the waterways and were also present in the water discharged during the Gold King Mine Release Incident.

Due to changing weather conditions (i.e., spring snow melt, late summer dry season), the metals concentrations in surface water vary seasonally and annually. Discharges from historic mines throughout the Animas and San Juan watersheds also affect the concentration of metals in these waters.

### ***Sampling Objectives***

U.S. EPA developed data quality objectives (DQO) to evaluate human health risk for surface water and sediment along the Animas and San Juan Rivers affected by the Gold King Mine Release Incident.

### ***Data Evaluation Criteria***

EPA uses “recreational screening levels” as a comparator for Gold King Mine data. The recreational screening levels for metals were developed for the hiker/camper exposure to surface water and sediment. These screening levels represent levels that are without adverse effects over an extended period of time from a continuous 64-day exposure. The surface water recreational screening levels assumes that adults and children receive all of their daily water intake (2 liters/day) from the river over a 64 day period. This exposure is estimated for ten years as a child and 20 years as an adult for a total of 30 years of exposure. The sediment screening levels are based on a hiker/camper exposure to sediments alongside the riverbank, and represent a bounding estimate for recreational users; meaning they are more conservative than screening levels for fisherman, rafters, swimmers, or other recreational users of the river primarily because the consumption rates of water and sediment for these groups is higher.

### ***Environmental Unit Evaluation of Results***

Evaluating the affects to the waterways as a result of the Gold King Mine Release incident is based upon a comparison of analytical results for the 24 metals analyzed. The determination of impacts to the river is based upon a comparison of detected metal concentrations with site-specific pre-incident/background concentrations. Any metal detection that exceeded background levels was then compared with risk-based screening criteria for human recreational water use. Sample results will continue to be compared with the recreational screening levels for human recreational water use developed as described above.

Based on analytical data trends observed for samples collected, between 5 August 2015 through 6 September 2015, U.S. EPA expects that recreational or agricultural use of the San Juan and Animas Rivers will not result in adverse effects to humans, livestock and/or crops. The metal concentrations of the samples are below sediment/soil recreational screening levels, and remain at pre-event conditions.

Updated findings of analytical results will be provided as new data is received and evaluated. A watershed monitoring plan is expected to be developed and implemented based on discussion with the affected U.S. EPA Regions, U.S. EPA Headquarters, Tribal Nations, State and local partners. The anticipated Conceptual Monitoring Plan is expected to address sampling locations, matrices, analyses, and evaluation of the changes in surface water and sediment quality trends in the watershed as a result of the Gold King Mine Release Incident relative to pre-release historical data. Private groundwater wells in areas of the alluvium within 200 to 300 feet of the Animas River bank of the Colorado section of the waterway will continue to be evaluated.



U.S. EPA operations currently include treatment of water flowing from the Gold King Mine prior to discharge to Cement Creek. As a result, U.S. EPA anticipates that metals concentrations in surface water within the Animas River and San Juan River will remain at levels that are protective of human health for short-term recreational exposure, which assumes that adults and children receive all of their daily water intake (2 liters/day) from the River over a 64 day period for a period of 30 years.

**ENVIRONMENTAL UNIT RECOMMENDATIONS**

Given the trend of analytical results for surface water towards pre-event conditions, analytical results that are below recreational screening levels and/or demonstrating minimal variability, the EPA Environmental Unit recommends a reduction in sampling frequency of surface water and sediment from the current daily sampling regiment to twice-a-week sampling. If after a two week period, analytical results from the twice-a-week sample collection continue to demonstrate pre-event conditions, the sampling frequency will be reduced further to once per week starting on week 3, and then re-evaluated after week 4 to determine further sampling needs. A Conceptual Monitoring Plan is expected to be implemented based on discussion with the affected U.S. EPA Regions, U.S. EPA Headquarters, Tribal Nations, State and local partners.

**FIELD OPERATIONS**

A summary of the current and proposed operations is presented below in Tables 1 and 2, respectively.

Table 1 – Overall Response Operations				
Region	Surface Water and Sediment Sampling	Groundwater Well Sampling	Mitigation	Outstanding Commitments
8	Surface water/sediment sample locations daily.	Private drinking water well sampling in response to local request.  Alluvium well sampling.	Potable water deliveries.	Sampling/analysis of groundwater wells.  Assessment at locations with appreciable amounts of settled sediment, in response to local request.
6	Surface water/sediment sample locations daily.	Private drinking water sampling activities.	Livestock/agricultural water deliveries. Completed.  Livestock food deliveries. Completed.	Sampling of finished water from public water systems.
9	Surface water/sediment sample locations daily or as conditions permit.	No well sampling activities.	Potable water deliveries.  Livestock/agricultural water deliveries.  Livestock food deliveries.	N/A



**Table 2 – Proposed Transitional Operations**

Region	Operational Period #1 (2 weeks)	Operational Period 2 (2 weeks)	Post Transition Activities
8	Surface water/sediment sample locations. Decrease sample frequency to twice weekly.  Alluvium groundwater sampling.  Potable water delivery to locations in alluvial that exceeded MCL after second sample result.  Assessment at locations with appreciable amounts of settled sediment, in response to local request.	Surface water sample locations. Decrease sample frequency to once weekly.  Alluvium groundwater sampling, as needed.  Assessment at locations with appreciable amounts of settled sediment, in response to local request.	Activities associated with treatment of the mine water will be addressed separately
6	Surface water/sediment sample locations. Reduce sample frequency to twice per week.  Sampling of finished water from public water systems until complete.  No planned mitigation activities.	Surface water/sediment sample locations. Reduce sample frequency to once weekly  Sampling of finished water from public water systems until complete.	Sampling of finished water from public water systems until complete.
9	Surface water/sediment sample locations twice weekly or as conditions permit.	Surface water/sediment sample locations sample once weekly or as security conditions permit.	N/A

**STAFFING AND MANAGEMENT**

On September 2, 2015, Area Command and three separate Incident Command Posts were consolidated into a single Incident Command structure based in Durango, CO. Current staffing is down to approximately 75 people (EPA, EPA contractors, and USCG) from almost 300 personnel two weeks ago. With the recommended reduction of sampling activities staffing in the Durango ICP will continue to scale down. It is also anticipated that with the reduced frequency of sampling events proposed that the field activities could be adequately supported by the Regional Offices in lieu of the Durango ICP (e.g., Sampling on the Navajo Nation).

Incident Command recommends maintaining the ICP during the first week of the reduced sampling primarily to support communication with stakeholders. In the following two weeks, Incident Command recommends scaling down the Durango ICP further to primarily support Colorado field activities (i.e., mine activities) and serve as a clearing house for data from Regions 6 and 9 on an as needed basis. By the week of October 5, 2015 the ICP in Durango should be primarily staffed by Region 8 personnel. The ICP will continue to be well positioned to respond in the event of any subsequent releases from Gold King as EPA concludes wintering activities there over the next month.



Transition of communications and liaison functions are described in the Gold King Mine Public Affairs and Liaison Function Transition Plan.

### **CONTINGENCY PLANNING**

The Gold King Mine Stakeholders Alert and Notification Plan is currently being implemented through Incident Command. The Plan provides for stakeholder notifications throughout the entire watershed in Regions 8, 6 and 9 of any mine related activities that could potentially impact the watershed. The Plan in its current form will remain in effect as long as work is ongoing at the Gold King Mine Site. ICP Durango will continue to support activities at the Gold King Mine Site and will maintain the ability to mobilize in the event of an incident that impacts the watershed.

### **PROPOSED SCHEDULE FOR TRANSITION**

Beginning 9/21/15

- Reduction in field activities as described in Table 2 (above)
- Further reduction in personnel in Durango ICP
- Regional Offices work with Incident Command to determine an efficient operational structure, if any, to meet the needs of their respective areas of responsibility
- Coordination for the Conceptual Monitoring Plan

Beginning 9/28/15

- Continued contraction of Durango ICP aiming to primarily support Colorado activities (e.g., mine activities)
- Regional Offices work with Incident Command to determine an efficient operational structure, if any, to support respective sampling commitments.
- Continue coordination conference calls for field activities between Regions 6, 8, and 9

Beginning mid-October

- Begin to implement elements of the Conceptual Monitoring Plan
- Coordination between Regions 6, 8, and 9 facilitated through regular conference calls.
- Field sampling frequency is done on a weekly basis (or phased out)