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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument

that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and

irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

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Cc: Merritt, Steven[Merritt.Steven@epa.gov]; Ackerman, Joyce[Ackerman.Joyce@epa.gov]

From: Cristiano, Gina

Sent: Thur 8/13/2015 3:44:27 AM

Subject: R8 RRT 8/12 meeting notes

Hello Everyone,

Thanks to all who called in to the RRT meeting today! Here's a quick summary…

•□□□□□□□ EPA started limited flushing on an irrigation ditch north of Durango

•□□□□□□□ Colorado Parks & Wildlife placed 108, 1.5" trout in four locations on the Animas River (3 in the spill area, 1 in a control location) to determine acute effects of the mine release; there were none. They are determining need and scope for subsequent sampling (e.g. tissue sampling).

•□□□□□□□ EPA Region 8 is setting up Area Command; Regions 6 and 9 and state and local entities will also be involved.

•□□□□□□□ Governor Hickenlooper was onsite yesterday. EPA administrator Gina McCarthy was onsite today.

•□□□□□□□ Related to activities at the Gold King Mine site – Since the blowout, crews have worked to repair the road, which was washed out by the release, and they have installed four treatment ponds to treat the discharge water. Caustic and flocculant are being used for the treatment. These ponds are a short term solution; a more robust treatment set-up will be needed over winter. The flow from the adit ranges from 500-800 gpm

•□□□□□□□ Related to the activities in/around Durango –

o EPA's ASPECT aircraft captured aerial imagery to document/track the leading edge of the plume.

o The Animas River is one of the water sources supplying the Town of Durango, so the water treatment plant was a major concern. However alternate sources of raw water and voluntary conservation measures are protecting the water supply.

o Some private drinking water wells near the river have been impacted; EPA is supplying bottled water to residents and for livestock. EPA has received 226 requests for well sampling; we've completed approximately 50-60 of these.

•□□□□□□□ Data results are approximately 2 days behind. EPA is trying to ensure its data gets out to state and other entities in Unified Command, even if it's preliminary data.

•□□□□□□□ Data is being evaluated relative to risk based exposures.

•□□□□□□□ The River is still closed to access, which is causing significant economic impacts. EPA has distributed claims forms for submittal. Form 95 was distributed at the most recent public meeting.

•□□□□□□□ There are many concerns about the impacts to Lake Powell and beyond. Utah DEQ Water Quality Division representatives have been collecting water samples at four locations, twice per day. Results are being posted on the UDEQ website: http://www.deq.utah.gov/Topics/Water/goldkingmine/index.htm. Utah is also working with toxicologists on public health related issues. At this time the data indicates the spill "does not pose an immediate public health risk."

•□□□□□□□ ATSDR described their consultation with San Juan County (Colorado) health department, which provided information/assessment of public health threats.

•□□□□□□□ EPA Region 9 is working closely with Arizona and USGS. Significant sampling efforts are underway; ongoing. R9 has deployed numerous assets to Durango, Farmington, NM and elsewhere to respond.

•□□□□□□□ EPA Region 6 representatives were on the call but lost signal.

•□□□□□□□ There is an EPA hotline number (toll free) 1-844-607-9700.

Thanks again, Gina

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

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From: Allen, HarryL
Sent: Tue 8/11/2015 5:46:27 AM
Subject: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf
SITREP 2 Gold King Mine.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to

deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; Personal Email/Ex. 6 Personal Email/Ex. 6 donbenn@navajo-nsn.gov; tflora@nndoj.org; perryinwr@gmail.com;

Personal Email/Ex. 6 rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; Personal Email/Ex. 6 ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both

dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is

sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; Personal Email/Ex. 6 Personal Email/Ex. 6 donbenn@navajo-nsn.gov; tflora@nndoj.org; perryinwr@gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; Personal Email/Ex. 6 ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

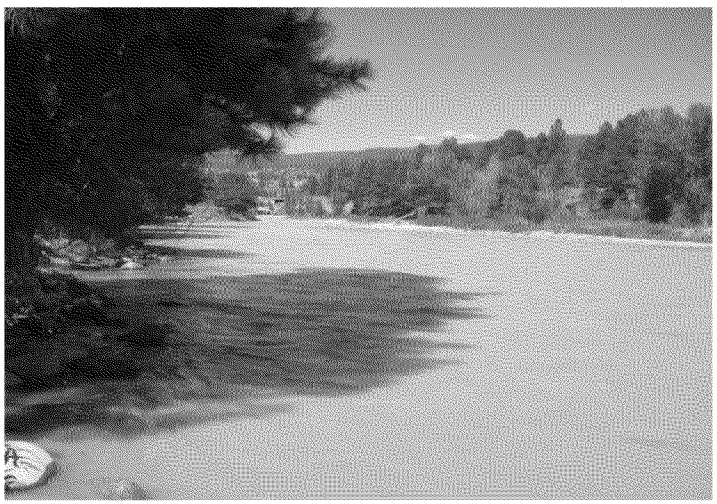
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

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Personal Email/Ex. 6

Personal Email/Ex. 6

Personal Email/Ex. 6

Personal Email/Ex. 6

From: Allen, HarryL
Sent: Mon 8/10/2015 6:31:24 AM
Subject: Gold King Mine Realease - Region 9 Update 3
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is: [redacted].

Non Responsive Conference Code

BackgroundOn August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced

focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; perryinwr@gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday*

8/10 - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill

on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support

immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

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OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

To: Eric Zielske[ezielske@blm.gov]; Jeffery Smith[jefferysmith@usbr.gov]; Lynn Wellman[lynn_wellman@fws.gov]; Carrie Marr[carrie_marr@fws.gov]; Holly Weyers[hsweyers@usgs.gov]; Robert Horton[rhorton@usgs.gov]; Joshua Allan[joshua.allan@bia.gov]; Sid Caesar[Sid.caesar@bia.gov]; Mark Anderson[mark_anderson@nps.gov]; D_L_Anderson@nps.gov[D_L_Anderson@nps.gov]; Allen, HarryL[Allen.HarryL@epa.gov]; Richman, Lance[Richman.Lance@epa.gov]; Matthew Brown[matthew_brown@ios.doi.gov]; Max Rosen[max_rosen@ios.doi.gov]; Thomas Armstrong[thomas_armstrong@ios.doi.gov]
From: Port, Patricia
Sent: Thur 8/13/2015 4:16:48 PM
Subject: Fwd: Notes from 8/12 Region 8 RRT Meeting

R 9 at end...
---------- Forwarded message ----------
From: **Robert Stewart** <robert_f_stewart@ios.doi.gov>
Date: Thu, Aug 13, 2015 at 7:13 AM
Subject: Notes from 8/12 Region 8 RRT Meeting
To: doi_watch_office@ios.doi.gov
Cc: John Wegrzyn <john_wegrzyn@fws.gov>, Maria Boroja <maria_boroja@fws.gov>, Laura Archuleta <laura_archuleta@fws.gov>, Stephen Spencer <stephen_spencer@ios.doi.gov>, Patricia Port <patricia_port@ios.doi.gov>, Nancy Coulam <ncoulam@usbr.gov>, David Jevons <dejevons@blm.gov>

•□□□□□□ EPA started limited flushing on an irrigation ditch north of Durango

•□□□□□□ Colorado Parks & Wildlife placed 108, 1.5" trout in four locations on the Animas River (3 in the spill area, 1 in a control location) to determine acute effects of the mine release; there were none. They are determining need and scope for subsequent sampling (e.g. tissue sampling).

•□□□□□□ EPA Region 8 is setting up Area Command; Regions 6 and 9 and state and local entities will also be involved.

•□□□□□□ Governor Hickenlooper was onsite yesterday. EPA administrator Gina McCarthy was onsite today.

•□□□□□□ Related to activities at the Gold King Mine site – Since the blowout, crews have worked to repair the road, which was washed out by the release, and they have installed four treatment ponds to treat the discharge water. Caustic and flocculant are being used for the treatment. These ponds are a short term solution; a more robust treatment set-up will be needed over winter. The flow from the adit ranges from 500-800 gpm

Related to the activities in/around Durango –

•□□□□□□ EPA's ASPECT aircraft captured aerial imagery to document/track the leading edge of the plume.

•□□□□□□ The Animas River is one of the water sources supplying the Town of Durango, so the water treatment plant was a major concern. However alternate sources of raw water and voluntary conservation measures are protecting the water supply.

•□□□□□□ Some private drinking water wells near the river have been impacted; EPA is supplying bottled water to residents and for livestock. EPA has received 226 requests for well sampling; we've completed approximately 50-60 of these.

•□□□□□□ Data results are approximately 2 days behind. EPA is trying to ensure its data gets out to state and other entities in Unified Command, even if it's preliminary data.

•□□□□□□ Data is being evaluated relative to risk based exposures.

•□□□□□□ The River is still closed to access, which is causing significant economic impacts. EPA has distributed claims forms for submittal. Form 95 was distributed at the most recent public meeting.

•□□□□□□ There are many concerns about the impacts to Lake Powell and beyond. Utah DEQ Water Quality Division representatives have been collecting water samples at four locations, twice per day. Results are being posted on the UDEQ website: http://www.deq.utah.gov/Topics/Water/goldkingmine/index.htm. Utah is also working with toxicologists on public health related issues. At this time the data indicates the spill "does not pose an immediate public health risk."

•□□□□□□ ATSDR described their consultation with San Juan County (Colorado) health department, which provided information/assessment of public health threats.

•□□□□□□ EPA Region 9 is working closely with Arizona and USGS. Significant sampling efforts are underway; ongoing. R9 has deployed numerous assets to Durango, Farmington, NM and elsewhere to respond.

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PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

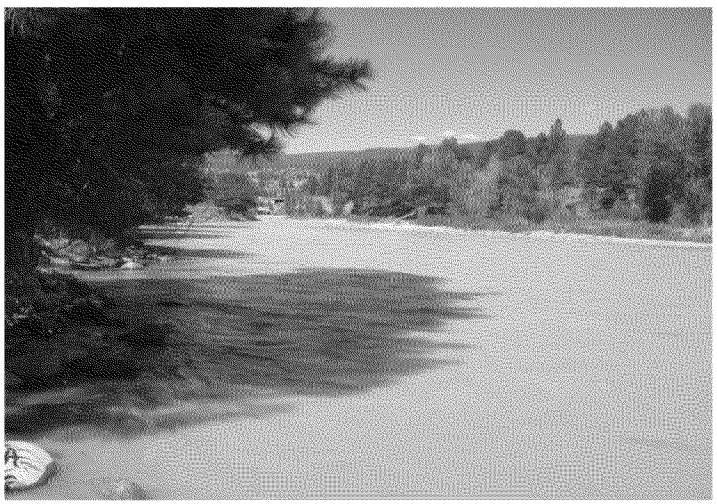
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

To: Bidtah Becker[bidtahnbecker@navajo-nsn.gov]
From: Allen, HarryL
Sent: Sat 8/8/2015 4:10:26 PM
Subject: Re: Animas River Spill - Region 9 Staff deploying to coordinate with R8 and the Navajo Nation

Certainly.

Sent from my iPhone

On Aug 8, 2015, at 8:55 AM, "Bidtah Becker" <bidtahnbecker@navajo-nsn.gov> wrote:

Dear Mr. Allen,

Thank you for the update. Please add Navajo Nation Council Delegate Amber Crotty, cc'd here, to your distribution list.

Thanks again,

Bidtah

Bidtah N. Becker, Acting Executive Director

Division of Natural Resources

Navajo Nation

c:928-401-5100

From: Allen, HarryL <Allen.HarryL@epa.gov>
Sent: Friday, August 7, 2015 11:58 PM
To: R9_ER List
Cc: ebranch@nndoj.org; Bidtah Becker; russellbegaye@gmail.com; jonmnez@yahoo.com; Donald D. Benn; tflora@nndoj.org; perryinwr@gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; Ronnie Ben; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David
Subject: Animas River Spill - Region 9 Staff deploying to coordinate with R8 and the Navajo Nation

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT). Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The mine discharge water presented in the Animas River as river-bound plume, easily distinguished by it's bright yellow-orange color. As of Friday afternoon, 8/7, an aerial survey conducted by EPA 's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) documented that the mine discharge water was clearly visible as far south as Aztec, NM (ca. 7pm on 8/7). Observations on 8/7 noted that water in Cement Creek and the Animas River near Silverton is clearing. EPA expects conditions will continue to improve in the coming hours and days. The adit is still discharging lower flows into Cement Creek. Today, EPA is rebuilding settling ponds to treat these flows – should be completed on 8/8. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built.

EPA is coordinating with ATSDR in response to public health concerns/questions associated with the mine discharge water plume. ATSDR has been in communication with local health officials at San Juan County Basin Health

Department in Colorado. Any public health questions/concerns from public health agency representatives may be directed to Chris Poulet, ATSDR/R8 at 303-312-7013 .

EPA Region 8 has been coordinating with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, the Southern Ute Tribe. Region 6 is working closely with the New Mexico Environment Department (NMED) to evaluate possible impacts in New Mexico. Potentially impacted water systems have been notified and precautions are in place to ensure drinking water in homes is protected. Colorado officials are requiring all watercraft off the river, and other authorities are following suit. EPA and NMED are providing assistance to community water systems and closely monitoring the situation. Water sampling teams are on the ground in CO and NM (prelimary resutls are attached).

Site information, maps and sampling data are all available at: http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has yet to cross the Navajo Nation boundary, near Hogback, but Navajo officials have reacted quickly, assesing their water intake systems and issuing a precautionary "do not use" public service annoucement regarding tap water. Region 9 reached out to Navajo EPA officials and subsequently were requested assist w ambient river sampling in the San Juan River. The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River today - prior to the spill impact. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. Region 9 deployed 2 START contractors to coordinate and assist them with sample collection and lab services and will assist in creating a sampling Task Force with NNEPA, Navajo water agencies and potentially the Bureau of Reclamation.

Region 9 also is deploying an OSC Rob Wise to Durango to coordinate Navajo sampling Task Force updates and results with the Region 8 incident command post and will ensure command messages get back to Navajo officials in this early phase of the response. OSC Randy Nattis will deploy to the Navajo Nation on Monday to coordiante additional field activites. Other Region 9 staff may assist with these

roles.

Region 9 will also delopy a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies. This person will be the point-of-contact for Navajo official and media inquiries as well. The Region anticipates coordiantion with Navajo agencies on public health messaging and outreach and is prepared to provide additional assistance, e.g., consultation with drinking water supply subject matter experts and community involvement resouces.

To: Erica Gaddis[egaddis@utah.gov]; danielf2368@yahoo.com[danielf2368@yahoo.com]; nnepawq@frontiernet.net[nnepawq@frontiernet.net]; Macauley[ymacauley@utah.gov]; Walter Baker[wbaker@utah.gov]; llamb@utah.gov[llamb@utah.gov]; Kim Shelley[kshelley@utah.gov]; Doug Wong[dwong@utah.gov]; David Ariotti[dariotti@utah.gov]; Craig Dietrich[dietrich@utah.gov]; Ken Bousfield[kbousfield@utah.gov]; Kim Dyches[kdyches@utah.gov]; Rachael Cassady[rcassady@utah.gov]; rmeyer@sanjuancounty.org[rmeyer@sanjuancounty.org]; Sam LeFevre[slefevre@utah.gov]; Whitlock Jenna[jwhitloc@blm.gov]; Porter Lance[l50porte@blm.gov]; Crandall Megan[mcrandal@blm.gov]; christiana_admiral@nps.gov[christiana_admiral@nps.gov]; Benally Rebecca M.[rmbenally@sanjuancounty.org]; Benally Rebecca M.[Personal Email/Ex. 6]; Eldredge Rick[reldredge@sanjuancounty.org]; William Stoner[wstoner@blm.gov]; Ransel Beth[bransel@blm.gov]; Donald Hoffheins[dhoffhei@blm.gov]
From: Bahrman, Sarah
Sent: Mon 8/10/2015 3:05:34 AM
Subject: Fwd: Gold King Mine Release update

Wanted to make sure you all saw this.
Thanks

Begin forwarded message:

From: "Cristiano, Gina" <Cristiano.Gina@epa.gov>
Date: August 9, 2015 at 8:58:57 PM MDT
To: "Ackerman, Joyce" <Ackerman.Joyce@epa.gov>, "Allison.Majure@state.nm.us" <Allison.Majure@state.nm.us>, "ann.bruzzese@PSMedicalCenter.org" <ann.bruzzese@PSMedicalCenter.org>, "Bahrman, Sarah" <Bahrman.Sarah@epa.gov>, "bgardner@silverton.co.us" <bgardner@silverton.co.us>, "bobbylieb@frontier.net" <bobbylieb@frontier.net>, "Bohan, Suzanne" <bohan.suzanne@epa.gov>, "brad.blake@co.laplata.co.us" <brad.blake@co.laplata.co.us>, "brad.cochennet@PSMedicalCenter.org" <brad.cochennet@PSMedicalCenter.org>, "bsmartinez@fs.fed.us" <bsmartinez@fs.fed.us>, "Buhl, Rick" <Buhl.Rick@epa.gov>, "byrd_s@fortlewis.edu" <byrd_s@fortlewis.edu>, "Card, Joan" <Card.Joan@epa.gov>, "Chavez, Luke" <Chavez.Luke@epa.gov>, "chris@frontier.net" <chris@frontier.net>, "citycouncil@durangogov.org" <citycouncil@durangogov.org>, "CMacpherson@sjbhd.org" <CMacpherson@sjbhd.org>, "Copeland, Michael" <Copeland.Michael@epa.gov>, "Cristiano, Gina" <Cristiano.Gina@epa.gov>, "Crossland, Ronnie" <Crossland.Ronnie@epa.gov>, "dariotti@utah.gov" <dariotti@utah.gov>, "david.kreutzer@state.co.us" <david.kreutzer@state.co.us>, "david.kurz@state.co.us" <david.kurz@state.co.us>, "Dhieux, Joyel" <Dhieux.Joyel@epa.gov>, "dietrich@utah.gov" <dietrich@utah.gov>, "director@sjcph.org" <director@sjcph.org>, "doug.jamison@state.co.us" <doug.jamison@state.co.us>, "dspangler@utah.gov" <dspangler@utah.gov>, "dwong@utah.gov" <dwong@utah.gov>, "egaddis@utah.gov" <egaddis@utah.gov>, "ellen.roberts.senate@state.co.us" <ellen.roberts.senate@state.co.us>, "Eoc, Epahq" <Eoc.Epahq@epa.gov>, "Foster, Althea" <Foster.Althea@epa.gov>, "Garcia, David" <Garcia.David@epa.gov>, "gary.baughman@state.co.us" <gary.baughman@state.co.us>, "Gleason, Michael" <Gleason.Michael@epa.gov>, "greg.naugle@state.co.us" <greg.naugle@state.co.us>, "Griswold, Hays" <Griswold.Hays@epa.gov>, "gwen.lachelt@co.laplata.co.us" <gwen.lachelt@co.laplata.co.us>, "Hayes, Mark" <hayes.mark@epa.gov>, "Hestmark,

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Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman

Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

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Sent: Mon 8/10/2015 3:03:01 AM
Subject: Fwd: Gold King Mine Release update

Wanted to make sure you all saw this.
Thanks

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Date: August 9, 2015 at 8:58:57 PM MDT
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Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ Claims process

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the

contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

To: Donald Hoffheins[dhoffhei@blm.gov]; Erica Gaddis[egaddis@utah.gov]
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From: Bahrman, Sarah
Sent: Mon 8/10/2015 12:47:24 AM
Subject: RE: UTAH EMAIL LIST: Communication regarding San Juan River mine water pulse

Just spoke with Don Hoffheins and realized you may not have all seen the EPA data that is out so far, including samples from 8/5 and 8/6.

Raw data tables with (lat/longs) is available here:
http://www.epaosc.org/sites/11082/files/PreliminaryData_08092015.pdf

Trend graphs and interpretation of this data is available in a report here:
http://www.epaosc.org/sites/11082/files/Data%20Update%2008082015.pdf

I'll send out any data updates to this whole email list as it's available. Data from 8/7 is still being analyzed and interpreted.

Thanks

Sarah E. Bahrman | Acting Director, Water Program | U.S. Environmental Protection Agency - Region 8

(p) 303.312.6243 | (c) 303.903.8515 | (f) 877.876.9101

From: Donald Hoffheins [mailto:dhoffhei@blm.gov]
Sent: Sunday, August 09, 2015 4:20 PM
To: Erica Gaddis
Cc: Bahrman, Sarah; danielf2368@yahoo.com; nnepawq@frontiernet.net; Macauley; Walter

Baker; llamb@utah.gov; Kim Shelley; Doug Wong; David Ariotti; Craig Dietrich; Ken Bousfield; Kim Dyches; Rachael Cassady; rmeyer@sanjuancounty.org; Sam LeFevre; Whitlock Jenna; Porter Lance; Crandall Megan; christiana_admiral@nps.gov; Benally Rebecca M.; Benally Rebecca M.; Eldredge Rick; William Stoner; Ransel Beth
Subject: Re: UTAH EMAIL LIST: Communication regarding San Juan River mine water pulse

Please add the following BLM and Park Service back onto the list as they have gotten dropped over the last two days. Also add the San Juan county commissioner and San Juan County Sheriff and local BLM Field Staff working on this issue. All addresses are included above. Thanks :

Jenna Whitlock, BLM Utah Acting State Director

Megan Crandall, BLM Utah Public Affairs Specialist

Lance Porter, BLM Canyon Country District Manager

Christiana Admiral, NPS Glen Canyon Chief of Interpretation, Partnerships and Education

Rebecca Benally, San Juan County Commissioner

Rick Eldredge, San Juan county sheriff

Bill Stoner, field Law Enforcement Ranger,

Beth Ransel, acting BLM District Manager

Sent from Don Hoffheins' iPhone

Personal Phone/Ex. 6

On Aug 9, 2015, at 12:35 PM, Erica Gaddis <egaddis@utah.gov> wrote:

Greetings,

I've added Danny Fleming to the email list and Steven Austin from Navajo Nation.

Here is an update from UDWQ.

* We have a crew at the stateline with a pH meter waiting for the plume. We estimate that

the plume will arrive between 3:00pm and midnight tonight (assuming a travel time from Kirtland of 1.4 of 3 mph).

* We plan to take metals samples and pH readings at the state line at 12:00, 3:00 pm, 6:00 pm, and 9:00 pm today.

* We will transport these samples to SLC early tomorrow for analysis either at a private lab or our state lab and expect to have data to report by Tuesday.

* We have sondes in the river measuring continuous pH at Montezuma, Sand Island, and Mexican Hat (map attached). We were not able to deploy a continuous instrument at the stateline site.

* Beginning tomorrow we will collect water column samples at all four sites once in the morning and again in the afternoon. We will continue this sampling regime until Friday unless there is reason to cut it short or go longer.

* Two of our samplers are at Shiprock talking with USGS now. They report that the leading edge is either 2 or 15 miles downstream of Shiprock. pH readings at Shiprock are 8.09. It appears that the plume is buffered and we don't expect to see a pH signal when it enters Utah. Depending on which report is correct and the travel rate, we expect it arrive at the border as early as 3:00 pm but more likely not until early tomorrow morning.

* We think it is unlikely that they will be able to visually see the plume when it arrives.The river is very turbid due to rains and our crew does not think they will be able to visually see the plume when it arrives. They describe the river now as red, turbid, and consistency of a smoothie.

Erica

On Sun, Aug 9, 2015 at 12:00 PM, Bahrman, Sarah <Bahrman.Sarah@epa.gov> wrote:

> Hi Ying Ying and Don –
>
> Thanks for sharing the info you have from the field. Our EPA Region 9 office has been working with the Navajo systems. I will pass this info on to them and let you know any info I hear back on the status of the Halchita system. As for the leading edge, the EPA airplane was up this morning and could not identify a leading edge of the plume. They will do another flyover this afternoon.
>
> -Sarah

Sarah E. Bahrman | Acting Director, Water Program | U.S. Environmental Protection Agency - Region 8

(p) 303.312.6243 | (c) 303.903.8515 | (f) 877.876.9101

From: Donald Hoffheins [mailto:dhoffhei@blm.gov]
Sent: Sunday, August 09, 2015 11:29 AM
To: Macauley
Cc: Erica Gaddis; Walter Baker; llamb@utah.gov; Kim Shelley; Doug Wong; David Ariotti; Craig Dietrich; Ken Bousfield; Kim Dyches; Rachael Cassady; rmeyer@sanjuancounty.org; Bahrman, Sarah; Sam LeFevre; Daniel Fleming
Subject: Re: UTAH EMAIL LIST: Communication regarding San Juan River mine water pulse

Good morning all, yesterday I offered a water trailer beginning Monday if needed for the communities along the San Juan river. This morning I received a call from commissioner Benally accepting that. She says that the town of Hachita is having water line issues so they are actually limited on water anyway, so they will need assistance as soon as we can get it to them. I'm driving to the state line and Montezuma creek now because we have unconfirmed reports that the spill waste has traveled that far. I will check in later.

Sent from Don Hoffheins' iPhone

Personal Phone/Ex. 6

On Aug 9, 2015, at 11:13 AM, Macauley <ymacauley@utah.gov> wrote:

Some updates from Mexican Hat in Utah -

Just finished talking to Danny Fleming, the water master of Mexican Hat water system. He saw the Fox News 13 reporting about Aneth and Montezuma Ck shutting down their DW systems. Danny is wondering about the status the Halchita water system on Navajo Nation land directly across the river from Mexican Hat. Halchita has a surface water intake directly from the San Juan River. Danny anticipates to provide water hauling assistance to Halchita residents if requested. (Is EPA working with Halchita water system? Does anyone know what Halchita will do or is doing with its DW intake from the river?)

Danny thinks Mexican Hat's wells may be okay since they have several hundred feet of ground filtration between San Juan river and the wells, plus the well water goes through a membrane treatment plant before entering the distribution system.

Danny has been talking to Doug Wong of DWQ on coordinating the sampling. Danny has his own Hach kit and can do some monitoring. Danny plans to monitor the metals of the wells. I recommended that, in addition to monitoring metals, Danny also continue to monitor and compare the pH and conductivity of the wells and the nearby river water, especially comparing to the historical well data.

P.S. It may be a good idea to add Danny Fleming (danielf2368@yahoo.com) to the Utah email list.

Ying-Ying

On Aug 7, 2015, at 2:00 PM, Erica Gaddis <egaddis@utah.gov> wrote:

> This email is just to establish the list of people that should be included in any further communication about the San Juan River mine water pulse. The list includes representatives from the Division of Water Quality, Division of Drinking Water, DEQ's District Engineer, Utah Department of Health, San Juan County Health Department, and BLM. If there are additional contacts that need to be included, please add them and resend this email.

--

Erica Brown Gaddis, Ph.D.
Assistant Director

Division of Water Quality
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, Utah 84116

P 801.536.4314 | F 801.536.4301
C 801.205.3769

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Assistant Director

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Utah Department of Environmental Quality
195 North 1950 West
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To: R9_ER List[R9_ER_List@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; acrotty@navajo-nsn.org[acrotty@navajo-nsn.org]; jdelmar@navajo-nsn.org[jdelmar@navajo-nsn.org]; Yogi, David[Yogi.David@epa.gov]; Hubbard, Secody[Hubbard.Secody@epa.gov]; Lee, Bessie[Lee.Bessie@epa.gov]; hcleveland@navajo-nsn.org[hcleveland@navajo-nsn.org]; Foster, Althea[foster.althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]
Cc: ebranch@nndoj.org[ebranch@nndoj.org]; bidtahnbecker@navajo-nsn.gov[bidtahnbecker@navajo-nsn.gov]; russellbegaye@gmail.com[russellbegaye@gmail.com]; jonmnez@yahoo.com[jonmnez@yahoo.com]; donbenn@navajo-nsn.gov[donbenn@navajo-nsn.gov]; tflora@nndoj.org[tflora@nndoj.org]; Personal Email/Ex. 6 mail.com; Personal Email/Ex. 6 @gmail.com]; rjoe.opvp@gmail.com[rjoe.opvp@gmail.com]; rbegay@nndoj.org[rbegay@nndoj.org]; dtaylor@nndoj.org[dtaylor@nndoj.org]; cbradley@nndoj.org[cbradley@nndoj.org]; smpollack@nndoj.org[smpollack@nndoj.org]; ronnieben@navajo-nsn.gov[ronnieben@navajo-nsn.gov]; nnepawq@frontiernet.net[nnepawq@frontiernet.net]; ybarney@navajopublicwater.org[ybarney@navajopublicwater.org]; Johnson, AudreyL[Johnson.AudreyL@epa.gov]; Li, Corine[Li.Corine@epa.gov]; Montgomery, Michael[Montgomery.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]
From: Allen, HarryL
Sent: Mon 8/10/2015 6:31:24 AM
Subject: Gold King Mine Realease - Region 9 Update 3
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

BackgroundOn August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced

focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 mail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday*

8/10 - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill

on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support

immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

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Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

To: R9_ER List[R9_ER_List@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; acrotty@navajo-nsn.org[acrotty@navajo-nsn.org]; jdelmar@navajo-nsn.org[jdelmar@navajo-nsn.org]; Yogi, David[Yogi.David@epa.gov]; Hubbard, Secody[Hubbard.Secody@epa.gov]; Lee, Bessie[Lee.Bessie@epa.gov]; hcleveland@navajo-nsn.org[hcleveland@navajo-nsn.org]; Foster, Althea[foster.althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]; Pease, Amanda[Pease.Amanda@epa.gov]
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From: Allen, HarryL
Sent: Tue 8/11/2015 5:46:27 AM
Subject: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf
SITREP 2 Gold King Mine.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to

deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 m;

rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both

dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is

sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

1-866-299-3188

password 6533646#

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

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OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

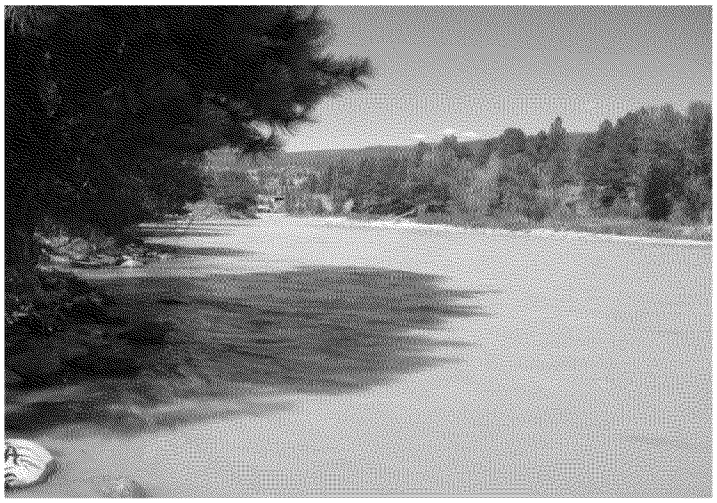
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

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,,,,,

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

∀ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

∀ **Mine discharge treatment**

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

∀ **ASPECT**

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

∀ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the

upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

∀ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument that measures volume by measuring flow, which is much more precise.

∀ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

∀ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

To: Cook, Brenda[cook.brenda@epa.gov]
From: Foster, Althea
Sent: Tue 8/11/2015 1:40:26 PM
Subject: any background i can find

Additional Gold King Mine statement/update 8/10
Gold King Mine statement/update 8/10
RE: Questions about pretreatment
Gold King Mine Release update
Gold King Mine - statement and additional information
Untitled

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Subject: Gold King Mine Release update

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Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

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USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument

that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

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EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and

irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

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From: Cristiano, Gina
Sent: Sun 8/9/2015 2:49:01 AM
GoldKingMineUpdate 080815.pdf

Good Evening Everyone,

Please see the attached EPA statement for August 8th.

Also, some of you may have already heard through other channels but, there is pH, dissolved metals and other information on the website – www.epaosc.org/goldkingmine.

Thank you,

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

August 8, 2015

FINAL STATEMENT FOR RELEASE

EPA is committed to working closely with response agencies and state and local officials to ensure the safety of citizens, respond to concerns and to evaluate impact to water contaminated by the spill. EPA teams are deployed throughout the Animas River corridor collecting data.

EPA Region 8 is also in close coordination with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

EPA is sharing information as quickly as possible with the public as experts work to evaluate any effects the spill may have on drinking water, public health, agriculture, fish and wildlife. Regular updates on the response for the public and the media are scheduled throughout the weekend. The latest updates and information on the response at available at: http://www2.epa.gov/region8/gold-king-mine-release-emergency-response.

8/8/15 Update:

- The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

- Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

- The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

- Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

- Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

- The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

- A summary of pH and dissolved metals data is available here: http://epaosc.org/goldkingmine

NEXT STEPS

- Continue to treat drainage at mine site.
- Continue to sample the Animas River corridor
- Evaluate and publish data as it is finalized.
- Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
- Continue to provide drinking water and water testing to private well owners.

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To: Ackerman, Joyce[Ackerman.Joyce@epa.gov]; Allison.Majure@state.nm.us[Allison.Majure@state.nm.us]; ann.bruzzese@PSMedicalCenter.org[ann.bruzzese@PSMedicalCenter.org]; Bahrman, Sarah[Bahrman.Sarah@epa.gov]; bgardner@silverton.co.us[bgardner@silverton.co.us]; bobbylieb@frontier.net[bobbylieb@frontier.net]; Bohan, Suzanne[bohan.suzanne@epa.gov]; brad.blake@co.laplata.co.us[brad.blake@co.laplata.co.us]; brad.cochennet@PSMedicalCenter.org[brad.cochennet@PSMedicalCenter.org]; bsmartinez@fs.fed.us[bsmartinez@fs.fed.us]; Buhl, Rick[Buhl.Rick@epa.gov]; byrd_s@fortlewis.edu[byrd_s@fortlewis.edu]; Card, Joan[Card.Joan@epa.gov]; Chavez, Luke[Chavez.Luke@epa.gov]; chris@frontier.net[chris@frontier.net]; citycouncil@durangogov.org[citycouncil@durangogov.org]; CMacpherson@sjbhd.org[CMacpherson@sjbhd.org]; Copeland, Michael[Copeland.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]; Crossland, Ronnie[Crossland.Ronnie@epa.gov]; dariotti@utah.gov[dariotti@utah.gov]; david.kreutzer@state.co.us[david.kreutzer@state.co.us]; david.kurz@state.co.us[david.kurz@state.co.us]; Dhieux, Joyel[Dhieux.Joyel@epa.gov]; dietrich@utah.gov[dietrich@utah.gov]; director@sjcph.org[director@sjcph.org]; doug.jamison@state.co.us[doug.jamison@state.co.us]; dspangler@utah.gov[dspangler@utah.gov]; dwong@utah.gov[dwong@utah.gov]; egaddis@utah.gov[egaddis@utah.gov]; ellen.roberts.senate@state.co.us[ellen.roberts.senate@state.co.us]; Eoc, Epahq[Eoc.Epahq@epa.gov]; Foster, Althea[Foster.Althea@epa.gov]; Garcia, David[Garcia.David@epa.gov]; gary.baughman@state.co.us[gary.baughman@state.co.us]; Gleason, Michael[Gleason.Michael@epa.gov]; greg.naugle@state.co.us[greg.naugle@state.co.us]; Griswold, Hays[Griswold.Hays@epa.gov]; gwen.lachelt@co.laplata.co.us[gwen.lachelt@co.laplata.co.us]; Hayes, Mark[hayes.mark@epa.gov]; Hestmark, Martin[Hestmark.Martin@epa.gov]; jason.king@state.co.us[jason.king@state.co.us]; jodi.scarpa@psmedicalcenter.org[jodi.scarpa@psmedicalcenter.org]; joe.kerby@co.laplata.co.us[joe.kerby@co.laplata.co.us]; jpaul.brown.house@state.co.us[jpaul.brown.house@state.co.us]; julie.westendorff@co.laplata.co.us[julie.westendorff@co.laplata.co.us]; Kahn, Lisa[Kahn.Lisa@epa.gov]; karin.mcgowan@state.co.us[karin.mcgowan@state.co.us]; KBousfield@utah.gov[KBousfield@utah.gov]; kkohake@yahoo.com[kkohake@yahoo.com]; Kortuem, Patrice[Kortuem.Patrice@epa.gov]; kshelley@utah.gov[kshelley@utah.gov]; Land, Kelcey[Land.Kelcey@epa.gov]; Laura.Rendon@state.nm.us[Laura.Rendon@state.nm.us]; llamb@utah.gov[llamb@utah.gov]; Lloyd, Lisa[Lloyd.Lisa@epa.gov]; Logan, Paul[Logan.Paul@epa.gov]; martha.rudolph@state.co.us[martha.rudolph@state.co.us]; McComb, Martin[McComb.Martin@epa.gov]; McGrath, Shaun[McGrath.Shaun@epa.gov]; meghan.trubee@state.co.us[meghan.trubee@state.co.us]; mjblanchard@fs.fed.us[mjblanchard@fs.fed.us]; Mohr, Mindy[Mohr.Mindy@epa.gov]; monica.sheets@state.co.us[monica.sheets@state.co.us]; mwhiting@archuletacounty.org[mwhiting@archuletacounty.org]; Myers, Craig[Myers.Craig@epa.gov]; Mylott, Richard[Mylott.Richard@epa.gov]; O'Connor, Darcy[oconnor.darcy@epa.gov]; oem@sanjuancountycolorado.us[oem@sanjuancountycolorado.us]; Ostrander, David[Ostrander.David@epa.gov]; patrick.j.pfaltzgraff@state.co.us[patrick.j.pfaltzgraff@state.co.us]; Patrick.Longmire@state.nm.us[Patrick.Longmire@state.nm.us]; R8 Documentation Unit Leader[R08_Documentation_Unit_Leader@epa.gov]; Restivo, Angela[Restivo.Angela@epa.gov]; richard@population-matters.org[richard@population-matters.org]; rledger@bresnan.net[rledger@bresnan.net]; ron.leblanc@durangogov.org[ron.leblanc@durangogov.org]; Russo, Rebecca[Russo.Rebecca@epa.gov]; Saldenha, Jasmine[Saldenha.Jasmine@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]; sanjuancounty@frontier.net[sanjuancounty@frontier.net]; sarah.jacobson@co.laplata.co.us[sarah.jacobson@co.laplata.co.us]; sean.smith@co.laplata.co.us[sean.smith@co.laplata.co.us]; Sierra, Eddie[Sierra.Eddie@epa.gov]; Smith, Paula[Smith.Paula@epa.gov]; Stavnes, Sandra[Stavnes.Sandra@epa.gov]; Stevenson, Peter[Stevenson.Peter@epa.gov]; SweetieMarbury@DurangoGov.org[SweetieMarbury@DurangoGov.org]; Thomas, Deb[thomas.debrah@epa.gov]; tojohns@southernute-nsn.gov[tojohns@southernute-nsn.gov]; tyson.ingles@state.co.us[tyson.ingles@state.co.us]; Videtich, Callie[Videtich.Callie@epa.gov]; Ward, W. Robert[Ward.Robert@epa.gov]; warren.smith@state.co.us[warren.smith@state.co.us]; Way,

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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)

Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the

Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument that measures volume by measuring flow, which is much more precise.

•□□□□□□□ EPA resources dedicated to the response

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ List of work with local, tribal, state and federal agencies

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland,

NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

To: Wolk - CDPHE, Larry[larry.wolk@state.co.us]
From: Cristiano, Gina
Sent: Mon 8/10/2015 3:39:55 AM
Subject: Re: Gold King Mine Release update

Absolutely Larry. I apologize you didn't get added sooner. If there are any other CDPHE personnel you'd like added, please let me know. Regards, Gina

Sent from my iPhone

On Aug 9, 2015, at 9:23 PM, Wolk - CDPHE, Larry <larry.wolk@state.co.us> wrote:

Probably in EPA best interests to make sure I get a direct copy of these kind of reports. Thanks

Larry Wolk, MD MSPH
Executive Director and Chief Medical Officer

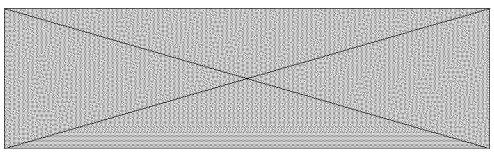
P. 303-692-2012 | F. 303-691-7702 | larry.wolk@state.co.us
4300 Cherry Creek Drive South
Denver, CO 80246-1530

---------- Forwarded message ----------
From: "McGowan - CDPHE, Karin" <karin.mcgowan@state.co.us>
Date: Aug 9, 2015 10:13 PM
Subject: Fwd: Gold King Mine Release update
To: "Greg Stasinos - CDPHE" <greg.stasinos@state.co.us>, "mark.salley@state.co.us" <mark.salley@state.co.us>, "Larry Wolk" <larry.wolk@state.co.us>, "Patrick Pfaltzgraff - CDPHE" <patrick.j.pfaltzgraff@state.co.us>, "Meghan Trubee - CDPHE" <meghan.trubee@state.co.us>
Cc:

Does it make sense for us to start posting some of this information on our CDPHE site? Including CDPHE water quality sampling when it comes in? Maybe on WQ's page but with a front page CDPHE link?

This has some good information in it...

Karin McGowan
Deputy Executive Director



303-692-3473 | C 303-257-4674

---------- Forwarded message ----------
From: **Cristiano, Gina** <Cristiano.Gina@epa.gov>
Date: Sun, Aug 9, 2015 at 8:58 PM
Subject: Gold King Mine Release update
To: "Ackerman, Joyce" <Ackerman.Joyce@epa.gov>, "Allison.Majure@state.nm.us" <Allison.Majure@state.nm.us>, "ann.bruzzese@PSMedicalCenter.org" <ann.bruzzese@psmedicalcenter.org>, "Bahrman, Sarah" <Bahrman.Sarah@epa.gov>, "bgardner@silverton.co.us" <bgardner@silverton.co.us>, "bobbylieb@frontier.net" <bobbylieb@frontier.net>, "Bohan, Suzanne" <bohan.suzanne@epa.gov>, "brad.blake@co.laplata.co.us" <brad.blake@co.laplata.co.us>, "brad.cochennet@PSMedicalCenter.org" <brad.cochennet@psmedicalcenter.org>, "bsmartinez@fs.fed.us" <bsmartinez@fs.fed.us>, "Buhl, Rick" <Buhl.Rick@epa.gov>, "byrd_s@fortlewis.edu" <byrd_s@fortlewis.edu>, "Card, Joan" <Card.Joan@epa.gov>, "Chavez, Luke" <Chavez.Luke@epa.gov>, "chris@frontier.net" <chris@frontier.net>, "citycouncil@durangogov.org" <citycouncil@durangogov.org>, "CMacpherson@sjbhd.org" <CMacpherson@sjbhd.org>, "Copeland, Michael" <Copeland.Michael@epa.gov>, "Cristiano, Gina" <Cristiano.Gina@epa.gov>, "Crossland, Ronnie" <Crossland.Ronnie@epa.gov>, "dariotti@utah.gov" <dariotti@utah.gov>, "david.kreutzer@state.co.us" <david.kreutzer@state.co.us>, "david.kurz@state.co.us" <david.kurz@state.co.us>, "Dhieux, Joyel" <Dhieux.Joyel@epa.gov>, "dietrich@utah.gov" <dietrich@utah.gov>, "director@sjcph.org" <director@sjcph.org>, "doug.jamison@state.co.us" <doug.jamison@state.co.us>, "dspangler@utah.gov" <dspangler@utah.gov>, "dwong@utah.gov" <dwong@utah.gov>, "egaddis@utah.gov" <egaddis@utah.gov>, "ellen.roberts.senate@state.co.us" <ellen.roberts.senate@state.co.us>, "Eoc, Epahq" <Eoc.Epahq@epa.gov>, "Foster, Althea" <Foster.Althea@epa.gov>, "Garcia, David" <Garcia.David@epa.gov>, "gary.baughman@state.co.us" <gary.baughman@state.co.us>, "Gleason, Michael" <Gleason.Michael@epa.gov>, "greg.naugle@state.co.us" <greg.naugle@state.co.us>, "Griswold, Hays" <Griswold.Hays@epa.gov>, "gwen.lachelt@co.laplata.co.us" <gwen.lachelt@co.laplata.co.us>, "Hayes, Mark" <hayes.mark@epa.gov>, "Hestmark, Martin" <Hestmark.Martin@epa.gov>, "jason.king@state.co.us" <jason.king@state.co.us>, "jodi.scarpa@psmedicalcenter.org" <jodi.scarpa@psmedicalcenter.org>, "joe.kerby@co.laplata.co.us" <joe.kerby@co.laplata.co.us>, "jpaul.brown.house@state.co.us" <jpaul.brown.house@state.co.us>, "julie.westendorff@co.laplata.co.us" <julie.westendorff@co.laplata.co.us>, "Kahn, Lisa" <Kahn.Lisa@epa.gov>, "karin.mcgowan@state.co.us" <karin.mcgowan@state.co.us>, "KBousfield@utah.gov" <KBousfield@utah.gov>, "kkohake@yahoo.com" <kkohake@yahoo.com>, "Kortuem, Patrice" <Kortuem.Patrice@epa.gov>, "kshelley@utah.gov" <kshelley@utah.gov>, "Land, Kelcey" <Land.Kelcey@epa.gov>, "Laura.Rendon@state.nm.us" <Laura.Rendon@state.nm.us>, "llamb@utah.gov" <llamb@utah.gov>, "Lloyd, Lisa" <Lloyd.Lisa@epa.gov>, "Logan, Paul" <Logan.Paul@epa.gov>, "martha.rudolph@state.co.us" <martha.rudolph@state.co.us>, "McComb, Martin" <McComb.Martin@epa.gov>, "McGrath, Shaun" <McGrath.Shaun@epa.gov>, "meghan.trubee@state.co.us" <meghan.trubee@state.co.us>,

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Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ Claims process

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at **R8_GKM_Claims@epa.gov** beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ Water quality data

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the

release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ List of work with local, tribal, state and federal agencies

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region

9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

To: Steve Austin[nnepawq@frontiernet.net]
Cc: Robert Henrion[rhenrion@usgs.gov]; Foster, Althea[Foster.Althea@epa.gov]; david.nez@nndoh.org[david.nez@nndoh.org]; thomas.skibitski@state.nm.us[thomas.skibitski@state.nm.us]
From: Bexfield, Laura
Sent: Mon 8/10/2015 6:34:19 PM
Subject: Re: FW: Gold King Mine Realease - Region 9 Update 3

Thank you so much for the information, Steve. As you probably already know from your conversation with Rob Henrion, our USGS office had two sampling crews in the affected area over the weekend. I have included a few other folks on this email to keep everyone informed of our data collection so far. Our crews collected a total of 7 water samples at 5 sites. Four of these samples (1 on the Animas at Farmington, 1 on the San Juan at Shiprock, and 2 on the San Juan at Four Corners) were collected prior to arrival of the plume. Three samples (1 each on the Animas at Farmington, the San Juan at Farmington, and the San Juan at Shiprock) were collected after the plume had arrived. We are submitting these samples to our laboratory today for analysis of major elements, trace elements, and mercury. We are requesting expedited analysis, but I do not know yet how quickly the data will be reported to us.
If there is any other information we can provide that would be helpful to you, please do not hesitate to ask.

Best regards,
Laura

Laura Bexfield, Hydrologist
U.S. Geological Survey
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On Mon, Aug 10, 2015 at 11:06 AM, Steve Austin <nnepawq@frontiernet.net> wrote:

Rob/Laura,

Here is the latest update from EPA Region 9. The attached preliminary data file has the full suite that EPA is analyzing for. The link to Region 8's information website is in the update below. Please let me know if you have any other questions.

--Steve

Steve Austin

Senior Hydrologist

NNEPA WQ/NPDES Program

505-368-1037

From: Allen, HarryL [mailto:Allen.HarryL@epa.gov]
Sent: Monday, August 10, 2015 12:31 AM
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Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

password Nonresponsive Conference Code

BackgroundOn August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly

triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

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PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; perryinwr@gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

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Nonresponsive Conference Code

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Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had

collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

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A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

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EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

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Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

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To: R9_ER List[R9_ER_List@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; acrotty@navajo-nsn.org[acrotty@navajo-nsn.org]; jdelmar@navajo-nsn.org[jdelmar@navajo-nsn.org]; Yogi, David[Yogi.David@epa.gov]; Hubbard, Secody[Hubbard.Secody@epa.gov]; Lee, Bessie[Lee.Bessie@epa.gov]; hcleveland@navajo-nsn.org[hcleveland@navajo-nsn.org]; Foster, Althea[Foster.Althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]
Cc: ebranch@nndoj.org[ebranch@nndoj.org]; bidtahnbecker@navajo-[redacted]ussellbegaye@gmail.com[russellbegaye@gmail.com]; [redacted]m]; donbenn@navajo-nsn.gov[donbenn@navajo-nsn.gov]; tflora@nndoj.org[tflora@nndoj.org]; [redacted]egay@nndoj.org[rbegay@nndoj.org]; dtaylor@nndoj.org[dtaylor@nndoj.org]; cbradley@nndoj.org[cbradley@nndoj.org]; smpollack@nndoj.org[smpollack@nndoj.org]; ronnieben@navajo-nsn.gov[ronnieben@navajo-nsn.gov]; [redacted] ybarney@navajopublicwater.org[ybarney@navajopublicwater.org]; Johnson, AudreyL[Johnson.AudreyL@epa.gov]; Li, Corine[Li.Corine@epa.gov]; Montgomery, Michael[Montgomery.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]

Personal Email/Ex. 6

Personal Email/Ex. 6

Personal Email/Ex. 6

Personal Email/Ex. 6

From: Allen, HarryL
Sent: Mon 8/10/2015 6:31:24 AM
Subject: Gold King Mine Realease - Region 9 Update 3
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf

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BackgroundOn August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
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http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

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Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

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Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

To: Pease, Amanda[Pease.Amanda@epa.gov]; Johnnye Lewis[jlewis@cybermesa.com]; Del Yazzie[Del.Yazzie@nndoh.org]
From: Moore, Kathi
Sent: Tue 8/11/2015 6:02:46 AM
Subject: Fwd: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
ATT00001.htm
StandardForm95.pdf
ATT00002.htm
Overview Map.pdf
ATT00003.htm
SITREP 2 Gold King Mine.pdf
ATT00004.htm

Sent from my iPhone

Begin forwarded message:

From: "Allen, HarryL" <Allen.HarryL@epa.gov>
Date: August 10, 2015 at 10:46:27 PM PDT
To: R9_ER List <R9_ER_List@epa.gov>, "Ostrander, David" <Ostrander.David@epa.gov>, "acrotty@navajo-nsn.org" <acrotty@navajo-nsn.org>, "jdelmar@navajo-nsn.org" <jdelmar@navajo-nsn.org>, "Yogi, David" <Yogi.David@epa.gov>, "Hubbard, Secody" <Hubbard.Secody@epa.gov>, "Lee, Bessie" <Lee.Bessie@epa.gov>, "hcleveland@navajo-nsn.org" <hcleveland@navajo-nsn.org>, "Foster, Althea" <Foster.Althea@epa.gov>, "Webster, Susan" <webster.susan@epa.gov>, "Hayes, Mark" <hayes.mark@epa.gov>, "Sandoval, Joni" <Sandoval.Joni@epa.gov>, "Pease, Amanda" <Pease.Amanda@epa.gov>
Cc: "ebranch@nndoj.org" <ebranch@nndoj.org>, "bidtahnbecker@navajo-nsn.gov" <bidtahnbecker@navajo-nsn.gov>, "russellbegaye@gmail.com" <russellbegaye@gmail.com>, "jonmnez@yahoo.com" <jonmnez@yahoo.com>, "donbenn@navajo-nsn.gov" <donbenn@navajo-nsn.gov>, "tflora@nndoj.org" <tflora@nndoj.org>, **Personal Email/Ex. 6**, "rjoe.opvp@gmail.com" <rjoe.opvp@gmail.com>, "rbegay@nndoj.org" <rbegay@nndoj.org>, "dtaylor@nndoj.org" <dtaylor@nndoj.org>, "cbradley@nndoj.org" <cbradley@nndoj.org>, "smpollack@nndoj.org" <smpollack@nndoj.org>, "ronnieben@navajo-nsn.gov" <ronnieben@navajo-nsn.gov>, "nnepawq@frontiernet.net" <nnepawq@frontiernet.net>, "ybarney@navajopublicwater.org" <ybarney@navajopublicwater.org>, "Johnson, AudreyL" <Johnson.AudreyL@epa.gov>, "Li, Corine" <Li.Corine@epa.gov>, "Montgomery, Michael" <Montgomery.Michael@epa.gov>, "Cristiano, Gina" <Cristiano.Gina@epa.gov>, "Farris, Laura" <Farris.Laura@epa.gov>, "Lloyd, Lisa" <Lloyd.Lisa@epa.gov>, "Adams, Elizabeth" <Adams.Elizabeth@epa.gov>, "leslee.bechtel@azdema.gov" <leslee.bechtel@azdema.gov>
Subject: Gold King Mine Realease - Region 9 Update 4

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbraboney@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a

large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 ail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the

plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

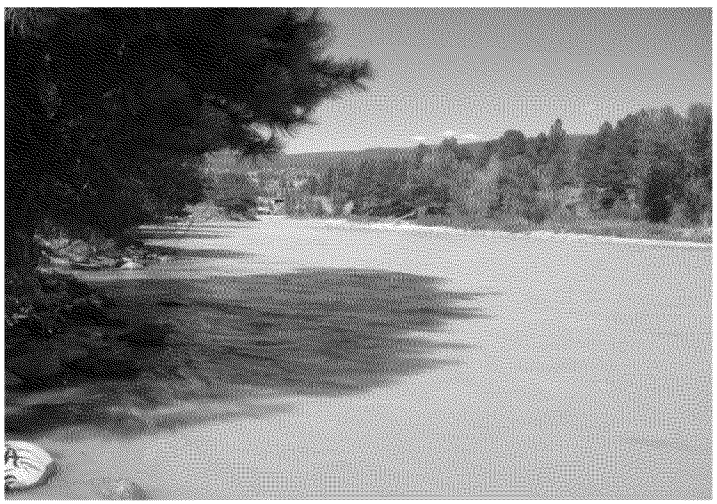
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

To: Allen, HarryL[Allen.HarryL@epa.gov]
Cc: Guria, Peter[Guria.Peter@epa.gov]
From: Moore, Kathi
Sent: Tue 8/11/2015 6:01:29 PM
Subject: Talking Points

Sampling from the Source of the spill indicates that there is --

Low risk of human health effects from contact with or ingestion of river water (even considering a 30 day repeated exposure).

Low risk of adverse effects on livestock from water ingestion or contact.

pH is normal. Avoid orange colored water as a precaution. Always wash w soap and water after being in contact w river water.

ASPECT flyovers have shown that the leading edge of the plume has been diluted when joined the confluence of the San Juan River.

Region 9's field efforts are focused on protection of human health, property and the environment of the Navajo Nation and Arizona

Region has initiated surface water and sediment sampling at 11 locations along the San Juan River

Region 9 is working with sister federal, state and local agencies who are also performing sampling in the vicinity through the RRT.

Other Agencies **possibly** include:

NTUA, NNEPA, USGS (modeling & Sampling provided soon), Bureau of Rec (no sampling), BIA, AZ State; Coconino County, City of Paige

We are working on focused on communicating with all agencies that we use comparable, compatible methodologies for sampling

EPA will release a 1-800 number for private wells to be sampled in NM/AZ/NN

Kathi Moore, Manager

CERCLA Enforcement Section

Superfund Division

US EPA, Region 9

75 Hawthorne Street

San Francisco, CA 94105

(415) 972-3271

(415) 699-1847 BlackBerry

To: Yolanda Barney[ybarney@navajopublicwater.org]; Chischilly[mchischilly@navajopublicwater.org]; Delfred Gene[waterdog@navajopublicwater.org]
From: Li, Corine
Sent: Sat 8/8/2015 5:50:09 PM
Subject: FW: Animas River Spill - Region 9 Staff deploying to coordinate with R8 and the Navajo Nation
PHstatement8-7.docx
DissMetalsUpdate_08072015.pdf

Will you or someone from your staff be present for the call. Thanks for the information on Montezuma Creek water system. Can you tell me if there are any private wells located in close proximity to the San Juan River that could be impacted?

From: Allen, HarryL
Sent: Friday, August 07, 2015 10:58 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; perryinwr@gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David
Subject: Animas River Spill - Region 9 Staff deploying to coordinate with R8 and the Navajo Nation

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT). Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way,

opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The mine discharge water presented in the Animas River as river-bound plume, easily distinguished by it's bright yellow-orange color. As of Friday afternoon, 8/7, an aerial survey conducted by EPA 's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) documented that the mine discharge water was clearly visible as far south as Aztec, NM (ca. 7pm on 8/7). Observations on 8/7 noted that water in Cement Creek and the Animas River near Silverton is clearing. EPA expects conditions will continue to improve in the coming hours and days. The adit is still discharging lower flows into Cement Creek. Today, EPA is rebuilding settling ponds to treat these flows – should be completed on 8/8. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built.

EPA is coordinating with ATSDR in response to public health concerns/questions associated with the mine discharge water plume. ATSDR has been in communication with local health officials at San Juan County Basin Health Department in Colorado. Any public health questions/concerns from public health agency representatives may be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

EPA Region 8 has been coordinating with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, the Southern Ute Tribe. Region 6 is working closely with the New Mexico Environment Department (NMED) to evaluate possible impacts in New Mexico. Potentially impacted water systems have been notified and precautions are in place to ensure drinking water in homes is protected. Colorado officials are requiring all watercraft off the river, and other authorities are following suit. EPA and NMED are providing assistance to community water systems and closely monitoring the situation. Water sampling teams are on the ground in CO and NM (prelimary resutls are attached).

Site information, maps and sampling data are all available at: http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has yet to cross the Navajo Nation boundary, near Hogback, but Navajo officials have reacted quickly, assesing their water intake systems and issuing a precautionary "do not use" public service annoucement regarding tap water. Region 9 reached out to Navajo EPA officials and subsequently were requested assist w ambient river sampling in the San Juan River. The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River today - prior to the spill impact. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. Region 9 deployed 2 START contractors to coordinate and assist them with sample collection and lab services and will assist in creating a sampling Task Force with NNEPA, Navajo water agencies and potentially the Bureau of Reclamation.

Region 9 also is deploying an OSC Rob Wise to Durango to coordinate Navajo sampling Task Force updates and results with the Region 8 incident command post and will ensure command messages get back to Navajo officials in this early phase of the response. OSC Randy Nattis will deploy to the Navajo Nation on Monday to coordiante additional field activites. Other Region 9 staff may assist with these roles.

Region 9 will also delopy a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies. This person will be the point-of-contact for Navajo official and media inquiries as well. The Region anticipates coordiantion with Navajo agencies on public health messaging and outreach and is prepared to provide additional assistance, e.g., consultation with drinking water supply subject matter experts and community involvement resouces.

To: Pease, Amanda[Pease.Amanda@epa.gov]; Johnnye Lewis[jlewis@cybermesa.com]; Del Yazzie[Del.Yazzie@nndoh.org]
From: Moore, Kathi
Sent: Tue 8/11/2015 6:02:46 AM
Subject: Fwd: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
ATT00001.htm
StandardForm95.pdf
ATT00002.htm
Overview Map.pdf
ATT00003.htm
SITREP 2 Gold King Mine.pdf
ATT00004.htm

Sent from my iPhone

Begin forwarded message:

From: "Allen, HarryL" <Allen.HarryL@epa.gov>
Date: August 10, 2015 at 10:46:27 PM PDT
To: R9_ER List <R9_ER_List@epa.gov>, "Ostrander, David" <Ostrander.David@epa.gov>, "acrotty@navajo-nsn.org" <acrotty@navajo-nsn.org>, "jdelmar@navajo-nsn.org" <jdelmar@navajo-nsn.org>, "Yogi, David" <Yogi.David@epa.gov>, "Hubbard, Secody" <Hubbard.Secody@epa.gov>, "Lee, Bessie" <Lee.Bessie@epa.gov>, "hcleveland@navajo-nsn.org" <hcleveland@navajo-nsn.org>, "Foster, Althea" <Foster.Althea@epa.gov>, "Webster, Susan" <webster.susan@epa.gov>, "Hayes, Mark" <hayes.mark@epa.gov>, "Sandoval, Joni" <Sandoval.Joni@epa.gov>, "Pease, Amanda" <Pease.Amanda@epa.gov>
Cc: "ebranch@nndoj.org" <ebranch@nndoj.org>, "bidtahnbecker@navajo-nsn.gov" <bidtahnbecker@navajo-nsn.gov>, "russellbegaye@gmail.com" <russellbegaye@gmail.com>, "jonmnez@yahoo.com" <jonmnez@yahoo.com>, "donbenn@navajo-nsn.gov" <donbenn@navajo-nsn.gov>, "tflora@nndoj.org" <tflora@nndoj.org>, "[redacted]@gmail.com>, "rjoe.opvp@gmail.co[redacted]y@nndoj.org" <rbegay@nndoj.org>, "dtaylor@nndoj.org" <dtaylor@nndoj.org>, "cbradley@nndoj.org" <cbradley@nndoj.org>, "smpollack@nndoj.org" <smpollack@nndoj.org>, "ronnieben@navajo-nsn.gov" <ronnieben@navajo-nsn.gov>, "nnepawq@frontiernet.net" <nnepawq@frontiernet.net>, "ybarney@navajopublicwater.org" <ybarney@navajopublicwater.org>, "Johnson, AudreyL" <Johnson.AudreyL@epa.gov>, "Li, Corine" <Li.Corine@epa.gov>, "Montgomery, Michael" <Montgomery.Michael@epa.gov>, "Cristiano, Gina" <Cristiano.Gina@epa.gov>, "Farris, Laura" <Farris.Laura@epa.gov>, "Lloyd, Lisa" <Lloyd.Lisa@epa.gov>, "Adams, Elizabeth" <Adams.Elizabeth@epa.gov>, "leslee.bechtel@azdema.gov" <leslee.bechtel@azdema.gov>
Subject: Gold King Mine Realease - Region 9 Update 4

Personal Email/Ex. 6

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 gmail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a

large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 mail.com; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the

plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

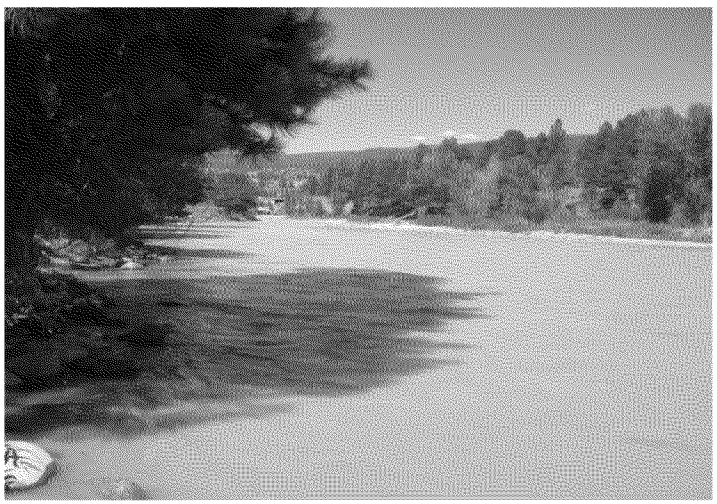
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

To: Pease, Amanda[Pease.Amanda@epa.gov]; Johnnye Lewis[jlewis@cybermesa.com]; Del Yazzie[Del.Yazzie@nndoh.org]
From: Moore, Kathi
Sent: Tue 8/11/2015 6:02:46 AM
Subject: Fwd: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
ATT00001.htm
StandardForm95.pdf
ATT00002.htm
Overview Map.pdf
ATT00003.htm
SITREP 2 Gold King Mine.pdf
ATT00004.htm

;;;;;
;;;;;

Sent from my iPhone

Begin forwarded message:

From: "Allen, HarryL" <Allen.HarryL@epa.gov>
Date: August 10, 2015 at 10:46:27 PM PDT
To: R9_ER List <R9_ER_List@epa.gov>, "Ostrander, David" <Ostrander.David@epa.gov>, "acrotty@navajo-nsn.org" <acrotty@navajo-nsn.org>, "jdelmar@navajo-nsn.org" <jdelmar@navajo-nsn.org>, "Yogi, David" <Yogi.David@epa.gov>, "Hubbard, Secody" <Hubbard.Secody@epa.gov>, "Lee, Bessie" <Lee.Bessie@epa.gov>, "hcleveland@navajo-nsn.org" <hcleveland@navajo-nsn.org>, "Foster, Althea" <Foster.Althea@epa.gov>, "Webster, Susan" <webster.susan@epa.gov>, "Hayes, Mark" <hayes.mark@epa.gov>, "Sandoval, Joni" <Sandoval.Joni@epa.gov>, "Pease, Amanda" <Pease.Amanda@epa.gov>
Cc: "ebranch@nndoj.org" <ebranch@nndoj.org>, "bidtahnbecker@navajo-nsn.gov" <bidtahnbecker@navajo-nsn.gov>, "russellbegaye@gmail.com" <russellbegaye@gmail.com>, "jonmnez@yahoo.com" <jonmnez@yahoo.com>, "donbenn@navajo-nsn.gov" <donbenn@navajo-nsn.gov>, "tflora@nndoj.org" <tflora@nndoj.org>, Personal Email/Ex. 6 <Personal Email/Ex. 6 "rjoe.opvp@gmail.com" <rjoe.opvp@gmail.com>, "rbegay@nndoj.org" <rbegay@nndoj.org>, "dtaylor@nndoj.org" <dtaylor@nndoj.org>, "cbradley@nndoj.org" <cbradley@nndoj.org>, "smpollack@nndoj.org" <smpollack@nndoj.org>, "ronnieben@navajo-nsn.gov" <ronnieben@navajo-nsn.gov>, "nnepawq@frontiernet.net" <nnepawq@frontiernet.net>, "ybarney@navajopublicwater.org" <ybarney@navajopublicwater.org>, "Johnson, AudreyL" <Johnson.AudreyL@epa.gov>, "Li, Corine" <Li.Corine@epa.gov>, "Montgomery, Michael" <Montgomery.Michael@epa.gov>, "Cristiano, Gina" <Cristiano.Gina@epa.gov>, "Farris, Laura" <Farris.Laura@epa.gov>, "Lloyd, Lisa" <Lloyd.Lisa@epa.gov>, "Adams, Elizabeth" <Adams.Elizabeth@epa.gov>, "leslee.bechtel@azdema.gov" <leslee.bechtel@azdema.gov>
Subject: Gold King Mine Realease - Region 9 Update 4

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and

sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.
The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public

Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
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Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for

any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA

drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

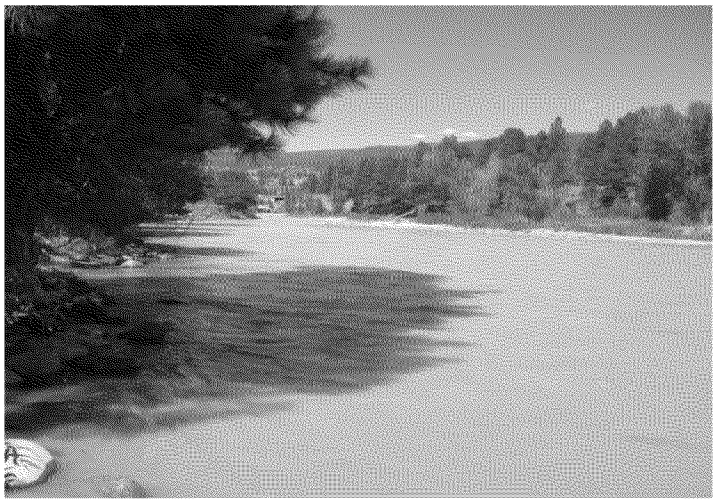
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

To: Allen, HarryL[Allen.HarryL@epa.gov]
Cc: Guria, Peter[Guria.Peter@epa.gov]
From: Moore, Kathi
Sent: Tue 8/11/2015 6:01:29 PM
Subject: Talking Points

...
,,,
Sampling from the Source of the spill indicates that there is --

Low risk of human health effects from contact with or ingestion of river water (even considering a 30 day repeated exposure).

Low risk of adverse effects on livestock from water ingestion or contact.

pH is normal. Avoid orange colored water as a precaution. Always wash w soap and water after being in contact w river water.

ASPECT flyovers have shown that the leading edge of the plume has been diluted when joined the confluence of the San Juan River.

Region 9's field efforts are focused on protection of human health, property and the environment of the Navajo Nation and Arizona

Region has initiated surface water and sediment sampling at 11 locations along the San Juan River

Region 9 is working with sister federal, state and local agencies who are also performing sampling in the vicinity through the RRT.

Other Agencies **possibly** include:

NTUA, NNEPA, USGS (modeling & Sampling provided soon), Bureau of Rec (no sampling), BIA, AZ State; Coconino County, City of Paige

We are working on focused on communicating with all agencies that we use comparable, compatible methodologies for sampling

EPA will release a 1-800 number for private wells to be sampled in NM/AZ/NN

Kathi Moore, Manager

CERCLA Enforcement Section

Superfund Division

US EPA, Region 9

75 Hawthorne Street

San Francisco, CA 94105

(415) 972-3271

(415) 699-1847 BlackBerry

To: Donald Benn (donbenn@navajo-nsn.gov)[donbenn@navajo-nsn.gov]
From: Tenley, Clancy
Sent: Sat 8/8/2015 8:58:50 PM
Subject: Agency Call Fw: Animas River Spill
PHstatement8-7.docx
DissMetalsUpdate_08072015.pdf

This is the Agency call.

From: Allen, HarryL
Sent: Friday, August 7, 2015 10:58 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; Personal Email/Ex. 6 donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David
Subject: Animas River Spill - Region 9 Staff deploying to coordinate with R8 and the Navajo Nation

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT). Please join us. The call in number is:

Nonresponsive Conference Code

password Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an

abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The mine discharge water presented in the Animas River as river-bound plume, easily distinguished by it's bright yellow-orange color. As of Friday afternoon, 8/7, an aerial survey conducted by EPA 's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) documented that the mine discharge water was clearly visible as far south as Aztec, NM (ca. 7pm on 8/7). Observations on 8/7 noted that water in Cement Creek and the Animas River near Silverton is clearing. EPA expects conditions will continue to improve in the coming hours and days. The adit is still discharging lower flows into Cement Creek. Today, EPA is rebuilding settling ponds to treat these flows – should be completed on 8/8. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built.

EPA is coordinating with ATSDR in response to public health concerns/questions associated with the mine discharge water plume. ATSDR has been in communication with local health officials at San Juan County Basin Health Department in Colorado. Any public health questions/concerns from public health agency representatives may be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

EPA Region 8 has been coordinating with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, the Southern Ute Tribe. Region 6 is working closely with the New Mexico Environment Department (NMED) to evaluate possible impacts in New Mexico. Potentially impacted water systems have been notified and precautions are in place to ensure drinking water in homes is protected. Colorado officials are requiring all watercraft off the river, and other authorities are following suit. EPA and NMED are providing assistance to community water systems and closely monitoring the situation. Water sampling teams are on the ground in CO and NM (prelimary resutls are attached).

Site information, maps and sampling data are all available at: http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has yet to cross the Navajo Nation boundary, near Hogback, but Navajo

officials have reacted quickly, assesing their water intake systems and issuing a precautionary "do not use" public service annoucement regarding tap water. Region 9 reached out to Navajo EPA officials and subsequently were requested assist w ambient river sampling in the San Juan River. The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River today - prior to the spill impact. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. Region 9 deployed 2 START contractors to coordinate and assist them with sample collection and lab services and will assist in creating a sampling Task Force with NNEPA, Navajo water agencies and potentially the Bureau of Reclamation.

Region 9 also is deploying an OSC Rob Wise to Durango to coordinate Navajo sampling Task Force updates and results with the Region 8 incident command post and will ensure command messages get back to Navajo officials in this early phase of the response. OSC Randy Nattis will deploy to the Navajo Nation on Monday to coordiante additional field activites. Other Region 9 staff may assist with these roles.

Region 9 will also delopy a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies. This person will be the point-of-contact for Navajo official and media inquiries as well. The Region anticipates coordiantion with Navajo agencies on public health messaging and outreach and is prepared to provide additional assistance, e.g., consultation with drinking water supply subject matter experts and community involvement resouces.

To: R9_ER List[R9_ER_List@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; acrotty@navajo-nsn.org[acrotty@navajo-nsn.org]; jdelmar@navajo-nsn.org[jdelmar@navajo-nsn.org]; Yogi, David[Yogi.David@epa.gov]; Hubbard, Secody[Hubbard.Secody@epa.gov]; Lee, Bessie[Lee.Bessie@epa.gov]; hcleveland@navajo-nsn.org[hcleveland@navajo-nsn.org]; Foster, Althea[foster.althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]; Pease, Amanda[Pease.Amanda@epa.gov]
Cc: ebranch@nndoj.org[ebranch@nndoj.org]; bidtahnbecker@navajo-nsn.gov[bidtahnbecker@navajo-nsn.gov]; russellbegaye@gmail.com[russellbegaye@gmail.com]; jonmnez@yahoo.com[jonmnez@yahoo.com]; donbenn@navajo-nsn.gov[donbenn@navajo-nsn.gov]; tflora@nndoj.org[tflora@nndoj.org]; Personal Email/Ex. 6 rjoe.opvp@gmail.com[rjoe.opvp@gmail.com]; rbegay@nndoj.org[rbegay@nndoj.org]; dtaylor@nndoj.org[dtaylor@nndoj.org]; cbradley@nndoj.org[cbradley@nndoj.org]; smpollack@nndoj.org[smpollack@nndoj.org]; ronnieben@navajo-nsn.gov[ronnieben@navajo-nsn.gov]; nnepawq@frontiernet.net[nnepawq@frontiernet.net]; ybarney@navajopublicwater.org[ybarney@navajopublicwater.org]; Johnson, AudreyL[Johnson.AudreyL@epa.gov]; Li, Corine[Li.Corine@epa.gov]; Montgomery, Michael[Montgomery.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]; Farris, Laura[Farris.Laura@epa.gov]; Lloyd, Lisa[Lloyd.Lisa@epa.gov]; Adams, Elizabeth[Adams.Elizabeth@epa.gov]; leslee.bechtel@azdema.gov[leslee.bechtel@azdema.gov]
From: Allen, HarryL
Sent: Tue 8/11/2015 5:46:27 AM
Subject: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf
SITREP 2 Gold King Mine.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to

deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; **Personal Email/Ex. 6**

rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both

dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is

sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; russellbegaye@gmail.com; jonmnez@yahoo.com; donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 n; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; nnepawq@frontiernet.net; ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

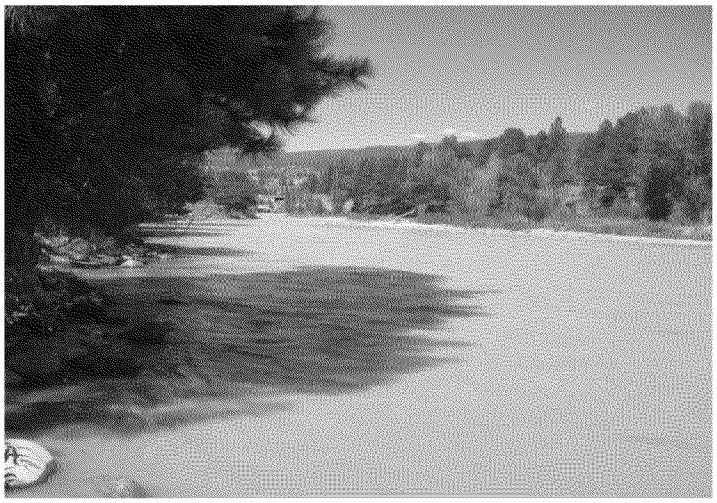
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

To: R9_ER List[R9_ER_List@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; acrotty@navajo-nsn.org[acrotty@navajo-nsn.org]; jdelmar@navajo-nsn.org[jdelmar@navajo-nsn.org]; Yogi, David[Yogi.David@epa.gov]; Hubbard, Secody[Hubbard.Secody@epa.gov]; Lee, Bessie[Lee.Bessie@epa.gov]; hcleveland@navajo-nsn.org[hcleveland@navajo-nsn.org]; Foster, Althea[Foster.Althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]; Pease, Amanda[Pease.Amanda@epa.gov]
Cc: ebranch@nndoj.org[ebranch@nndoj.org]; bidtahnbecker@navajo-nsn.gov[bidtahnbecker@navajo-nsn.gov]; Personal Email/Ex. 6 Personal Email/Ex. 6 tflora@nndoj.org[tflora@nndoj.org]; Personal Email/Ex. 6 Personal Email/Ex. 6 dtaylor@nndoj.org[dtaylor@nndoj.org]; cbradley@nndoj.org[cbradley@nndoj.org]; smpollack@nndoj.org[smpollack@nndoj.org]; ronnieben@navajo-nsn.gov[ronnieben@navajo-nsn.gov]; Personal Email/Ex. 6 ybarney@navajopublicwater.org[ybarney@navajopublicwater.org]; Johnson, AudreyL[Johnson.AudreyL@epa.gov]; Li, Corine[Li.Corine@epa.gov]; Montgomery, Michael[Montgomery.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]; Farris, Laura[Farris.Laura@epa.gov]; Lloyd, Lisa[Lloyd.Lisa@epa.gov]; Adams, Elizabeth[Adams.Elizabeth@epa.gov]; leslee.bechtel@azdema.gov[leslee.bechtel@azdema.gov]
From: Allen, HarryL
Sent: Tue 8/11/2015 5:46:27 AM
Subject: Gold King Mine Realease - Region 9 Update 4
PreliminaryData_08092015.pdf
StandardForm95.pdf
Overview Map.pdf
SITREP 2 Gold King Mine.pdf

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation and Arizona coordination call at 4pm Navajo Time (3PM PDT/Arizona Time) - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately three million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

See attached for the current SITREP from Region 8 or see http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and was last observed between Kirtland and Shiprock, NM. Navajo officials reacted days prior to the observed impact, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. On 8/8, the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Region 9 held a coordination meeting today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Region 9 activities with an EPA Area Command in Region 8. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

Region 9 deployed an OSC to the Farmington Incident Command Post today to coordinate field activities and stakeholder requests for assistance. The ICP is co-located with EPA Incident Commanders from Region 6 (Dallas, TX office).

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact and have since established 8 fixed monitoring stations to be sampled daily. The strations stretch along the San Juan between Shiprock, NM and Mexican Hat, UT. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA (a static map of the sampling locations "Overview" is attached).

Today START contractors tried to pinpoint the leading edge of the waste water discharge plume near Hogback, NM. Though not clearly visible as before, contractors conducted conductivity monitoring and collected samples from the area in an atempt to identify downstream impacts. Also, coordination calls today with Federal agencies, State of AZ, Coconino County and City of Page officials and congressional representatives suggested the need for sampling even further downstream in teh Glen Canyon, Lake Powell and Coconino County segments of the San Juan River. EPA has begun to coordinate efforts with those of the Bureau of Reclamation and US Geological Survey to share information.

NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. A USEPA drinking water experts has deployed and is working with NNEPA to inventory and assess water sources including private wells and intakes. USEPA will establish and provide a 1-800 telephone for private citizens and entities to request well water sampling.

Region 9 has hired a contractor to coordinate with Navajo Tribal Utilities Authority (NTUA) to

deliver water to the areas impacted by the discharge. The Montezuma Creek well development area was closed as a precaution prior to any impact. EPA contractors are collecting NTUA provided water from the Sweetwater wellfield and delivering it to the Montezuma Creek service area.

Two Community Involvement Coordinators (CICs) arrived in Farmington Sunday. CICs met with Navajo Incident Command in Shiprock Sunday evening for an update on outreach activities to date. It was reported that by the end of 8/10, approximately 75% of Navajo communities along San Juan River had been reached by Navajo teams. Community Health Representatives from Navajo working to finish outreach to remaining communities. On 8/10, CICs attended two special chapter meetings arranged by Vice President Jonathan Nez and provided an update on EPA activity to date. At both chapter meetings, held at Aneth and Oljato, Vice President Nez participated, along with Attorney General Ethel Branch and local chapter officials. Present at the Olijato meeting were NNEPA Executive Director Dr. Donald Ben and special advisor to President Begaye Peterson Zah. The CICs will partner with various Navajo officials, Navajo incident command, and other responding agencies to ensure comprehensive outreach to all affected Navajo Chapters.

OSC Robert Wise (Durango):562-889-2572

CIC David Yogi (Farmington): 415-760-5419

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (Farmington): 415-940-1108

OSC Heister (to Farmington 8/11)

OSC Moxley (to Farmington 8/12)

OSC Calanog (to Durango 8/12)

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Sunday, August 9, 2015 11:31 PM
To: R9_ER List; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; hcleveland@navajo-nsn.org; Foster, Althea; Webster, Susan; Hayes, Mark; Sandoval, Joni
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; Personal Email/Ex. 6 Personal Email/Ex. 6 donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 Personal Email/Ex. 6

Personal Email/Ex. 6 rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; Personal Email/Ex. 6 ybarney@navajopublicwater.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina
Subject: Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

Nonresponsive Conference Code

Background

On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both

dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals
Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

EPA Region 9 Activities

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan RIver valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.
Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is

sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmingtonon Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report):415-218-7406

From: Allen, HarryL
Sent: Saturday, August 8, 2015 9:50 PM
To: R9_ER List
Cc: ebranch@nndoj.org; bidtahnbecker@navajo-nsn.gov; Personal Email/Ex. 6 Personal Email/Ex. 6 donbenn@navajo-nsn.gov; tflora@nndoj.org; Personal Email/Ex. 6 nail/Ex. 6 n; rjoe.opvp@gmail.com; rbegay@nndoj.org; dtaylor@nndoj.org; cbradley@nndoj.org; smpollack@nndoj.org; ronnieben@navajo-nsn.gov; Personal Email/Ex. 6 ybarney@navajopublicwater.org; Ramona.nez@nndoh.org; Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura
Subject: Gold King Mine Realease - Region 9 Update 2

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Nonresponsive Conference Code

Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:
http://epaosc.org/goldkingmine

NEXT STEPS
• Continue to treat drainage at mine site.
• Continue to sample the Animas River corridor
• Evaluate and publish data as it is finalized.
• Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
• Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

http://www.epaosc.org/site/site_profile.aspx?site_id=11082. Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service annoucement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitornig program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the forseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will depoy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

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OSC Robert Wise (Durango): 562-889-2572

PIO Rusty Harris-Bishop (Durango): 415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**158**	**159**	**160**	**101**	**103**	**102**	**103**	**172**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	< 20 U	< 20 U	< 20 U	**55.1**	**45.6 J**	**31 J**	**30.5 J**	**513**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Arsenic	7440-38-2	ug/L	--	**0.628 J**	**0.603 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Barium	7440-39-3	ug/L	--	**48.2**	**49.3**	**45.7**	**21.3**	**21.9**	**22.5**	**21.8**	**20.2**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	**0.178 J**	**0.16 J**	**0.19 J**	**0.828**	**0.815**	**0.974**	**0.85**	**1.81**
Calcium	7440-70-2	ug/L	--	**51200**	**51400**	**52200**	**36400**	**37200**	**36700**	**36900**	**61300**
Chromium	7440-47-3	ug/L	--	**3.06**	**3**	**2.47**	**1.08 J**	< 1 U	**1.23 J**	< 1 U	< 1 U
Cobalt	7440-48-4	ug/L	--	**0.321**	**0.332**	**0.307**	**0.34**	**0. 371**	**0.375**	**0.405**	**5.75**
Copper	7440-50-8	ug/L	--	**1.7**	**1.56**	**1.62**	**3.45**	**3.16**	**3.52**	**3.26**	**9.27**
Iron	7439-89-6	ug/L	--	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Lead	7439-92-1	ug/L	--	**0.24**	< 0.1 U	**0.115 J**	**0.232**	**0.283**	**0.82**	**0.329**	**0.225**
Magnesium	7439-95-4	ug/L	--	**7280**	**7350**	**7120**	**2580**	**2560**	**2580**	**2610**	**4590**
Manganese	7439-96-5	ug/L	--	**105**	**105**	**97.8**	**737**	**727**	**757**	**817**	**1370**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	**1.51**	**1.44**	**1.48**	**1.4**	< 1 U
Nickel	7440-02-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**2.87**
Potassium	7440-09-7	ug/L	--	**1960**	**2020**	**1890**	**535 J**	**530 J**	**515 J**	**514 J**	**691 J**
Selenium	7782-49-2	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Sodium	7440-23-5	ug/L	--	**11400**	**11600**	**11000**	**1750**	**1720**	**1740**	**1720**	**2400**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Zinc	7440-66-6	ug/L	--	**43.5**	**37.8**	**49.1**	**199**	**238**	**324**	**326**	**699**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	32nd St Bridge	32nd St Bridge	32nd St Bridge	A68	A68	A68	A68	A72
			Sample ID	085M-1491	085M-1492	085M-1490	085M-1497	085M-1499	085M-1500	085M-1498	085M-1483
			Date	8/5/2015	8/6/2015	8/6/2015	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015
			Sample Time	20:50	0:40	9:45	16:00	19:15	23:30	6:15	13:45
			Latitude	37.299991	37.299991	37.299991	37.81120198	37.81120198	37.81120198	37.81120198	37.79027049
			Longitude	-107.868199	-107.868199	-107.868199	-107.6591665	-107.6591665	-107.6591665	-107.6591665	-107.6675778
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**176**	**171**	**220**	**111**	**103**	**88.3**	**90.9**	**5970**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**6.17 D**
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**28.9 D**
Barium	7440-39-3	ug/L	--	**49.9 JD**	**48.8 JD**	**46.8 JD**	< 25 U	< 25 U	< 25 U	< 25 U	**168 D**
Beryllium	7440-41-7	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Cadmium	7440-43-9	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	**0.724 JD**	**0.652 JD**	**0.717 JD**	**0.703 JD**	**2.27 D**
Calcium	7440-70-2	ug/L	--	**52000**	**52200**	**51600**	**37600**	**37700**	**38500**	**38300**	**61700**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Cobalt	7440-48-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	**7.04 D**
Copper	7440-50-8	ug/L	--	**2.7 JD**	< 2.5 U	**3.31 JD**	**6.15 D**	**4.14 JD**	**4.89 JD**	**4.63 JD**	**49.3 D**
Iron	7439-89-6	ug/L	--	**331**	**295**	**371**	**165 J**	**132 J**	**138 J**	**143 J**	**66300**
Lead	7439-92-1	ug/L	--	**2.56 D**	**1.8 D**	**3.46 JD**	**1.77 D**	**1.54 D**	**2.18 D**	**1.55 D**	**214 D**
Magnesium	7439-95-4	ug/L	--	**7140**	**7160**	**7050**	**2560**	**2540**	**2590**	**2590**	**5600**
Manganese	7439-96-5	ug/L	--	**118**	**113**	**120**	**729**	**711**	**750**	**793**	**1480**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Nickel	7440-02-0	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**4.33 JD**
Potassium	7440-09-7	ug/L	--	**2050**	**2110**	**2050**	**636 J**	**644 J**	**616 J**	**578 J**	**2380**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**11100**	**11300**	**10900**	**1680**	**1710**	**1710**	**1690**	**2470**
Thallium	7440-28-0	ug/L	--	**12 D**	**13.2 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	**18.3 D**
Zinc	7440-66-6	ug/L	--	**71.9**	**67.7**	**79.8**	**222**	**248**	**316**	**321**	**731**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

J	Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as reporting limit.
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equivalent = mg/Kg.
ug/L	Parts per billion (micrograms per liter). Solids equivalent = ug/Kg

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
DM-Hardness - Calculated											
Hardness	NA	mg/l	--	**271**	**158**	**144**	**143**	**98**	**98**	**138**	**537**
ICPOE/ICPMS Diss. Metals											
Aluminum	7429-90-5	ug/L	--	**12000**	**1370**	**59.1**	< 20 U	**52.3**	**43.9 J**	**904**	**23900**
Antimony	7440-36-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Arsenic	7440-38-2	ug/L	--	**0.797 J**	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Barium	7440-39-3	ug/L	--	**22.6**	**21.6**	**20.8**	**21.5**	**29.8**	**29.9**	**30.3**	**25.7 JD**
Beryllium	7440-41-7	ug/L	--	**4.5 J**	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	**9.29**
Cadmium	7440-43-9	ug/L	--	**15.2**	**4.29**	**2.59**	**2.11**	**0.353**	**0.336**	**5.32**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**95400**	**55700**	**51000**	**50700**	**32600**	**32600**	**46500**	**190000**
Chromium	7440-47-3	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Cobalt	7440-48-4	ug/L	--	**32.1**	**7.98**	**5.4**	**4.69**	**1.02**	**1.08**	**9.32**	**54.4 D**
Copper	7440-50-8	ug/L	--	**1410**	**205**	**11.4**	**7.63**	**2.28**	**1.88**	**189**	**2260 D**
Iron	7439-89-6	ug/L	--	**5840**	**3170**	**2090**	**1980**	< 100 U	< 100 U	**189 J**	**27000**
Lead	7439-92-1	ug/L	--	**50.7**	**3.12**	**0.118 J**	< 0.1 U	< 0.1 U	< 0.1 U	**1.56**	**73.9 D**
Magnesium	7439-95-4	ug/L	--	**8030**	**4650**	**4170**	**4030**	**3990**	**3920**	**5300**	**15400**
Manganese	7439-96-5	ug/L	--	**6650**	**1810**	**1320**	**1160**	**306**	**296**	**2090**	**10900**
Molybdenum	7439-98-7	ug/L	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Nickel	7440-02-0	ug/L	--	**13.8**	**4.04**	**2.69**	**2.72**	**0.646 J**	**0.788 J**	**5.39**	**28.8 D**
Potassium	7440-09-7	ug/L	--	**1520**	**721 J**	**631 J**	**605 J**	**631 J**	**646 J**	**912 J**	**2160**
Selenium	7782-49-2	ug/L	--	**1.14 J**	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U
Silver	7440-22-4	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Sodium	7440-23-5	ug/L	--	**2600**	**2310**	**2330**	**2310**	**1790**	**1790**	**1960**	**3930**
Thallium	7440-28-0	ug/L	--	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 2.5 U
Vanadium	7440-62-2	ug/L	--	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 10 U
Zinc	7440-66-6	ug/L	--	**4020**	**1210**	**733**	**609**	**85.8**	**110**	**1700**	**8540**

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	A72	A72	A72	A72	Bakers Bridge	Bakers Bridge	Bakers Bridge	CC48
			Sample ID	085M-1482	085M-1485	085M-1486	085M-1484	085M-1495	085M-1493	085M-1494	085M-1489
			Date	8/5/2015	8/5/2015	8/5/2015	8/6/2015	8/5/2015	8/6/2015	8/6/2015	8/5/2015
			Sample Time	16:15	20:10	23:50	6:30	20:05	0:00	9:00	19:25
			Latitude	37.79027049	37.79027049	37.79027049	37.79027049	-37.454134	-37.454134	-37.454134	37.82
			Longitude	-107.6675778	-107.6675778	-107.6675778	-107.6675778	-107.801601	-107.801601	-107.801601	-107.6631
ICPOE/ICPMS Tot. Rec. Metals											
Aluminum	7429-90-5	ug/L	--	**126000 D**	**12800**	**4470**	**2780**	**363**	**375**	**31400**	**69000 D**
Antimony	7440-36-0	ug/L	--	< 50 U	**10.2 D**	**2.66 JD**	< 2.5 U	< 2.5 U	< 2.5 U	**19.9 JD**	**35.1 JD**
Arsenic	7440-38-2	ug/L	--	**1080 D**	**116 D**	**27.1 D**	**15.7 D**	< 2.5 U	< 2.5 U	**264 D**	**732 D**
Barium	7440-39-3	ug/L	--	**1410 D**	**111 D**	**47.6 JD**	**31.2 JD**	**29.9 JD**	**30.7 JD**	**341 D**	**439 JD**
Beryllium	7440-41-7	ug/L	--	**18.4 JD**	**2.06 J**	< 2 U	< 2 U	< 2 U	< 2 U	**4.73 J**	**13.1 JD**
Cadmium	7440-43-9	ug/L	--	**28.3 D**	**4.69 D**	**3.23 D**	**2.34 D**	< 0.5 U	< 0.5 U	**6.13 D**	**30.6 D**
Calcium	7440-70-2	ug/L	--	**98400 D**	**55100**	**51100**	**50300**	**33000**	**32400**	**48500**	**171000 D**
Chromium	7440-47-3	ug/L	--	< 100 U	**10.6 D**	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Cobalt	7440-48-4	ug/L	--	**54.1 D**	**9.51 D**	**5.92 D**	**5.24 D**	**0.975 JD**	**1.12 D**	**12.8 D**	**59.8 D**
Copper	7440-50-8	ug/L	--	**4820 D**	**542 D**	**180 D**	**113 D**	**4.03 JD**	**4.15 JD**	**1120 D**	**3620 D**
Iron	7439-89-6	ug/L	--	**1250000 D**	**164000**	**35700**	**18400**	**421**	**412**	**326000**	**896000 D**
Lead	7439-92-1	ug/L	--	**25600 D**	**1390 D**	**301 D**	**88.3 D**	**3.45 D**	**1.5 D**	**5720 D**	**7530 D**
Magnesium	7439-95-4	ug/L	--	**41800 D**	**6490**	**4640**	**4120**	**4110**	**3920**	**12100**	**23400 D**
Manganese	7439-96-5	ug/L	--	**12200 D**	**2020**	**1350**	**1170**	**302**	**295**	**3040**	**11900 D**
Molybdenum	7439-98-7	ug/L	--	**268 D**	**23.2 D**	**5.89 D**	< 5 U	< 5 U	< 5 U	**66.9 D**	**138 D**
Nickel	7440-02-0	ug/L	--	< 50 U	**6.61 D**	**3.75 JD**	**3.54 JD**	< 2.5 U	< 2.5 U	< 12.5 U	**36 JD**
Potassium	7440-09-7	ug/L	--	**28600 D**	**3030**	**1480**	**940 J**	**751 J**	**748 J**	**8400**	**11300 D**
Selenium	7782-49-2	ug/L	--	< 100 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 25 U	< 50 U
Silver	7440-22-4	ug/L	--	**149 D**	**8.25 D**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**37.8 D**	**45.7 JD**
Sodium	7440-23-5	ug/L	--	**4750 JD**	**2460**	**2310**	**2250**	**1870**	**1820**	**2710**	**4450 JD**
Thallium	7440-28-0	ug/L	--	< 50 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 12.5 U	< 25 U
Vanadium	7440-62-2	ug/L	--	**677 D**	**80.7 D**	**18.7 D**	**12.4 JD**	< 10 U	< 10 U	**172 D**	**455 D**
Zinc	7440-66-6	ug/L	--	**6840 D**	**1250**	**806**	**672**	**129**	**137**	**1860**	**8060 D**
TM_Mercury 245.1											
Mercury	7439-97-6	ug/L	--	**0.418**	**0.065 J**	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	**0.152**	**0.078 J**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
DM-Hardness - Calculated						
Hardness	NA	mg/l	--	**467**	**433**	**1300**
ICPOE/ICPMS Diss. Metals						
Aluminum	7429-90-5	ug/L	--	**14400**	**10100**	**91900**
Antimony	7440-36-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Arsenic	7440-38-2	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Barium	7440-39-3	ug/L	--	< 25 U	< 25 U	< 50 U
Beryllium	7440-41-7	ug/L	--	**4.31 J**	**2.65 J**	**34.8**
Cadmium	7440-43-9	ug/L	--	**19.1 D**	**14.2 D**	**98.3 D**
Calcium	7440-70-2	ug/L	--	**167000**	**156000**	**461000**
Chromium	7440-47-3	ug/L	--	< 5 U	< 5 U	< 10 U
Cobalt	7440-48-4	ug/L	--	**36.2 D**	**30.7 D**	**204 D**
Copper	7440-50-8	ug/L	--	**1130 D**	**786 D**	**10400 D**
Iron	7439-89-6	ug/L	--	**21300**	**20000**	**49500**
Lead	7439-92-1	ug/L	--	**54.1 D**	**30 D**	**150 D**
Magnesium	7439-95-4	ug/L	--	**12300**	**10900**	**36500**
Manganese	7439-96-5	ug/L	--	**8020**	**6720**	**37100**
Molybdenum	7439-98-7	ug/L	--	< 5 U	< 5 U	< 10 U
Nickel	7440-02-0	ug/L	--	**18.2 D**	**15.8 D**	**91.5 D**
Potassium	7440-09-7	ug/L	--	**1600**	**1410**	**6630**
Selenium	7782-49-2	ug/L	--	< 5 U	< 5 U	< 10 U
Silver	7440-22-4	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Sodium	7440-23-5	ug/L	--	**3660**	**3690**	**4960**
Thallium	7440-28-0	ug/L	--	< 2.5 U	< 2.5 U	< 5 U
Vanadium	7440-62-2	ug/L	--	< 10 U	< 10 U	< 20 U
Zinc	7440-66-6	ug/L	--	**5820**	**4650**	**26800**

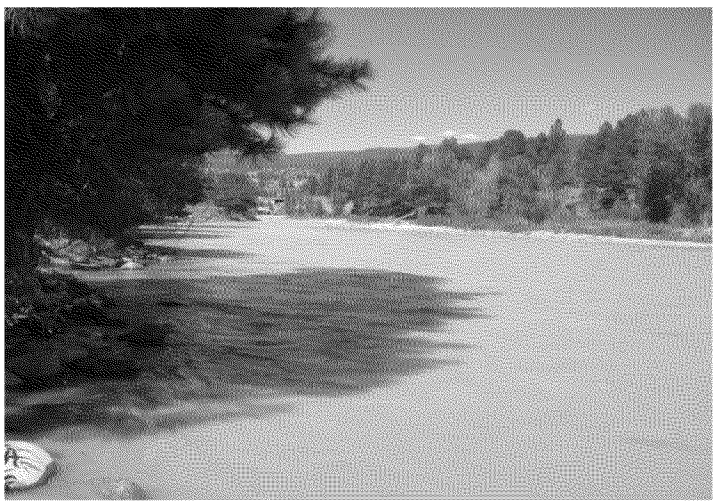
PRELIMINARY Analytical Data
Upper Animas River

Analyte	CAS.NO	Units	Location	CC48	CC48	Cement Creek 14th St Bridge
			Sample ID	085M-1488	085M-1487	085M-1496
			Date	8/5/2015	8/6/2015	8/5/2015
			Sample Time	23:00	6:00	16:00
			Latitude	37.82	37.82	37.8124
			Longitude	-107.6631	-107.6631	-107.661401
ICPOE/ICPMS Tot. Rec. Metals						
Aluminum	7429-90-5	ug/L	--	**28700 D**	**16400**	**945000 D**
Antimony	7440-36-0	ug/L	--	**14.1 D**	**6.79 D**	**321 JD**
Arsenic	7440-38-2	ug/L	--	**203 D**	**98.5 D**	**8230 D**
Barium	7440-39-3	ug/L	--	**159 D**	**52.3 D**	**9730 D**
Beryllium	7440-41-7	ug/L	--	< 10 U	**3.55 J**	**135 JD**
Cadmium	7440-43-9	ug/L	--	**18.5 D**	**14.5 D**	**165 D**
Calcium	7440-70-2	ug/L	--	**154000 D**	**146000**	**454000 D**
Chromium	7440-47-3	ug/L	--	**17.2 JD**	**6.62 JD**	**706 JD**
Cobalt	7440-48-4	ug/L	--	**39.1 D**	**29.8 D**	**384 D**
Copper	7440-50-8	ug/L	--	**1480 D**	**909 D**	**36700 D**
Iron	7439-89-6	ug/L	--	**276000 D**	**130000**	**9930000 D**
Lead	7439-92-1	ug/L	--	**2010 D**	**536 D**	**179000 D**
Magnesium	7439-95-4	ug/L	--	**15000 D**	**11300**	**279000 D**
Manganese	7439-96-5	ug/L	--	**8270 D**	**6540**	**78000 D**
Molybdenum	7439-98-7	ug/L	--	**36.5 D**	**14.3 D**	**2010 D**
Nickel	7440-02-0	ug/L	--	**20.8 D**	**14.8 D**	**276 JD**
Potassium	7440-09-7	ug/L	--	**5220 D**	**2470**	**212000 D**
Selenium	7782-49-2	ug/L	--	**10.1 JD**	< 5 U	< 500 U
Silver	7440-22-4	ug/L	--	**10.8 D**	**2.53 JD**	**1110 D**
Sodium	7440-23-5	ug/L	--	**3940 JD**	**3730**	**23400 JD**
Thallium	7440-28-0	ug/L	--	< 5 U	< 2.5 U	< 250 U
Vanadium	7440-62-2	ug/L	--	**131 D**	**67.3 D**	**5470 D**
Zinc	7440-66-6	ug/L	--	**5400 D**	**4160**	**44000 D**
TM_Mercury 245.1						
Mercury	7439-97-6	ug/L	--	**0.077 J**	**0.052 J**	**19.2 D**

J	Data Estimated qualifier (also applied to all data l
MDL	Method Detection Limit
PQL	Practical Quantitation Limit, also known as report
U	Analyte not detected at or above MDL qualifier
D	Diluted value qualifier.
mg/L	Parts per million (millligrams per liter). Solids equ
ug/L	Parts per billion (micrograms per liter). Solids equ

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Blowout - Polrep/Sitrep
Initial Polrep/Sitrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: **SITREP #2**
Initial Situation Report
Gold King Mine Blowout

San Juan County, Colorado
Latitude: 37.8945 Longitude: -107.6384

To:
Thru: David Ostrander, Regional Incident Coordinator
From: R8 IMT Situation Unit
Date: 08/07/2015
Reporting Period: 08/06/15 through 08/07/15

All highlighted sections are unique to this document.

Executive Summary

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine. The intent of the investigation was to create access to the mine, assess on-going water releases from the mine to treat mine water, and assess the feasibility of further mine remediation. The plan was to excavate the loose material that had collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

Initial estimates are that the release contained approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris. There were several workers at the site at the time of the breach, all were unharmed.

The large pulse of water dissipated in about an hour. Today the water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging lower flows into Cement Creek.

We expect conditions will continue to improve in the coming hours and days. As of 10 am today, the leading edge of the plume was at 8 miles, as the crow flies (not river miles), from the New Mexico state line. We expect an update on that location later this afternoon.

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	08/05/2015	**Start Date:**	08/05/15
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/05/15

1.1.1 Incident Category

1.1.2 Site Description.

1.1.2.1 Location San Juan County, Colorado, and La Plata County, Colorado.

1.1.2.2 Description of Threat

Approximately one million gallons of mine waste water was released into Cement Creek and the Animas River. The primary environmental concern is the pulse of contaminated water containing sediment and metals flowing as an orange-colored discharge downstream through Durango, Colorado, and into New Mexico and Utah. The City of Durango relies on the Animas River as one of its water sources - the Animas source is off-line, and they are continuing to provide clean drinking water to the City. The river is also used for recreational purposes, including fishing and rafting. At the confluence of the Animas River and the San Juan River in New Mexico, there is a designated critical habitat for the Colorado Pike Minnow fish and the Razorback Sucker fish.

The pulse of water passed through Durango, Colorado, in the late afternoon on Thursday, August 6,

2015, and as of August 7, 2015, is roughly half way between the City and the New Mexico border.

1.1.3 Preliminary Site Inspection Results

Water sampling has occurred (analytical results are pending), and pH levels and other water quality parameters are being monitored.

1.2 Incident Objectives

The incident overall objective is to protect the drinking water supply of the City of Durango, Colorado, and others who may be using the river for various purposes.

Divert adit discharge and begin water treatment.

1.3 Critical Resource Needs

No information available at this time.

1.4 Strategic Considerations

No information available at this time.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Water quality sampling has occurred and results are pending. OCSs have been deployed to the area. EPA Region 8 staff are coordinating with relevant county/city/tribal officials.

2.1.2 Response Actions to Date

Water quality sampling by EPA Region 8 staff occurred yesterday, and START is taking more samples today. EPA Region 8's lab in Golden, Colorado, (ESAT) and a local lab in Durango, are being used to analyze the samples. Meetings were held with San Juan County, Colorado, officials, and La Plata County, Colorado, officials yesterday. ATSDR consulted San Juan County, Colorado, with them on personal safety issues for people potentially affected by the contaminated water.

The EPA Region 8 Regional Administrator and Removal Manager met with LaPlata County and City of Durango officials on August 7, 2015, and held a public meeting.

EPA Region 8 staff met with the Durango City Engineer to analyze and implement measures to protect the Durango drinking water supply.

ASPECT arrived in Santa Fe, New Mexico, last evening. They completed a preliminary overflight to determine how far downstream the release had travelled. On August 7, 2015, ASPECT flew over the river from the New Mexico border to the mine. They determined that the leading edge of the release was 8 miles from the New Mexico Border at 10a.m.

EPA Region 8 is coordinating on the incident with EPA Regions 6 and 9, the States of Colorado and New Mexico, and the Navajo Nation and Southern Ute Tribes.

A call was held with the Regional Response Team on Friday, August 7, 2015.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

The Planning Section's Situation Unit stood up on 08/06/2015 in the EPA Region 8 REOC. SITREPS will continue to be prepared until it is determined that they are no longer necessary.

EPA's ASPECT flew this morning from the New Mexico border to the mine to take photographs. The flight crew will fly the river again this afternoon.

EPA is rebuilding settling ponds to treat these flows – the upper pond will be completed by early afternoon, and the lower pond by COB or early tomorrow. EPA will treat the mine water diverted to the ponds with caustic soda and flocculent once the ponds are built. The discharge flow rate from the mine will be confirmed.

The EPA Region 8 Regional Administrator flew to Durango this morning, and will be meeting OSCs and local officials, and will tour affected sections of the Animas River. He will also attend a public meeting on the incident in the afternoon.

Baseline water quality data from the past 17 years has been obtained, and will be compared with the new water quality data that will be available today.

We will continue to coordinate with local, state, tribal and federal officials.

EPA Region 8 is coordinating with 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/concerns should be directed to Chris Poulet, ATSDR/R8 at 303-312-7013.

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

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information at this time.

2.4 Finance Section

2.4.1 Narrative

Stood up on August 7, 2015.

Mission Number	Mission Assignment Description	Funding Amount (in thousands)	Status

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

A press release was prepared, and a public meeting was held on August 7, 2015.

2.5.4 Weather Forecast

Weather forecast for Friday, August 7, 2015:

Today

Showers and thunderstorms likely, mainly after 2pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a high near 84. South southwest wind 5 to 10 mph increasing to 10 to 15 mph in the afternoon. Chance of precipitation is 60%.

Tonight

Showers and thunderstorms likely, mainly before 10pm. Some of the storms could produce gusty winds and heavy rain. Cloudy, with a low around 54. Southwest wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in

the affected area.

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.

We've contacted the US Fish and Wildlife Service and the US Department of Interior about the incident.

4. Personnel On Site

Gold King Mine Blowout 2015	
	08/07/2015
Group	**Number**
EPA @ REOC	13
Contractors @ REOC	2
EPA in Field (R8)	5
Contractors in Field	Several (count TBD)
WERT Reg 8	0

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

To: Crossland, Ronnie[Crossland.Ronnie@epa.gov]; Foster, Althea[Foster.Althea@epa.gov]; Nattis, Randy[Nattis.Randy@epa.gov]; Allen, HarryL[Allen.HarryL@epa.gov]; Eoc, Epahq[Eoc.Epahq@epa.gov]
From: Cristiano, Gina
Sent: Sat 8/8/2015 12:50:12 AM
Subject: FW: Flyover Data

Just wanted to share – see below about ASPECT (some of you may have seen this already-imagery is on viewer, accessible via osc.org site)

From: Hestmark, Martin
Sent: Friday, August 07, 2015 6:46 PM
To: Cristiano, Gina
Subject: FW: Flyover Data

From: Lucotch, John [mailto:John.Lucotch@WestonSolutions.com]
Sent: Friday, August 07, 2015 6:40 PM
To: Hestmark, Martin
Cc: McComb, Martin
Subject: Flyover Data

Aerial Distance:

Last Imagery is from 3:30 PM

1.80 Miles from Colorado/New Mexico Border

12.20 Miles from Aztec, New Mexico

John Lucotch

IT Manager

Phone: 970-301-1416

Weston Solutions, Inc.

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To: Ackerman, Joyce[Ackerman.Joyce@epa.gov]; Allison.Majure@state.nm.us[Allison.Majure@state.nm.us]; ann.bruzzese@PSMedicalCenter.org[ann.bruzzese@PSMedicalCenter.org]; Bahrman, Sarah[Bahrman.Sarah@epa.gov]; bgardner@silverton.co.us[bgardner@silverton.co.us];

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sarah.jacobson@co.laplata.co.us[sarah.jacobson@co.laplata.co.us]; sean.smith@co.laplata.co.us[sean.smith@co.laplata.co.us]; Sierra, Eddie[Sierra.Eddie@epa.gov]; Smith, Paula[Smith.Paula@epa.gov]; Stavnes, Sandra[Stavnes.Sandra@epa.gov]; Stevenson, Peter[Stevenson.Peter@epa.gov]; SweetieMarbury@DurangoGov.org[SweetieMarbury@DurangoGov.org]; Thomas, Deb[thomas.debrah@epa.gov]; tojohns@southernute-nsn.gov[tojohns@southernute-nsn.gov]; tyson.ingles@state.co.us[tyson.ingles@state.co.us]; Videtich, Callie[Videtich.Callie@epa.gov]; Ward, W. Robert[Ward.Robert@epa.gov]; warren.smith@state.co.us[warren.smith@state.co.us]; Way,

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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument

that measures volume by measuring flow, which is much more precise.

•□□□□□□□ EPA resources dedicated to the response

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ List of work with local, tribal, state and federal agencies

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and

irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

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Finch[thomas.finch@dot.gov]
From: Cristiano, Gina
Sent: Sun 8/9/2015 2:49:01 AM
GoldKingMineUpdate 080815.pdf

Good Evening Everyone,

Please see the attached EPA statement for August 8th.

Also, some of you may have already heard through other channels but, there is pH, dissolved metals and other information on the website – www.epaosc.org/goldkingmine.

Thank you,

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

August 8, 2015

FINAL STATEMENT FOR RELEASE

EPA is committed to working closely with response agencies and state and local officials to ensure the safety of citizens, respond to concerns and to evaluate impact to water contaminated by the spill. EPA teams are deployed throughout the Animas River corridor collecting data.

EPA Region 8 is also in close coordination with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

EPA is sharing information as quickly as possible with the public as experts work to evaluate any effects the spill may have on drinking water, public health, agriculture, fish and wildlife. Regular updates on the response for the public and the media are scheduled throughout the weekend. The latest updates and information on the response at available at: http://www2.epa.gov/region8/gold-king-mine-release-emergency-response.

8/8/15 Update:

- The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

- Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

- The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

- Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

- Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

- The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

- A summary of pH and dissolved metals data is available here: http://epaosc.org/goldkingmine

NEXT STEPS

- Continue to treat drainage at mine site.
- Continue to sample the Animas River corridor
- Evaluate and publish data as it is finalized.
- Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
- Continue to provide drinking water and water testing to private well owners.

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To: Crossland, Ronnie[Crossland.Ronnie@epa.gov]; Foster, Althea[Foster.Althea@epa.gov]; Nattis, Randy[Nattis.Randy@epa.gov]; Allen, HarryL[Allen.HarryL@epa.gov]; Eoc, Epahq[Eoc.Epahq@epa.gov]
From: Cristiano, Gina
Sent: Sat 8/8/2015 12:50:12 AM
Subject: FW: Flyover Data

Just wanted to share – see below about ASPECT (some of you may have seen this already-imagery is on viewer, accessible via osc.org site)

From: Hestmark, Martin
Sent: Friday, August 07, 2015 6:46 PM
To: Cristiano, Gina
Subject: FW: Flyover Data

From: Lucotch, John [mailto:John.Lucotch@WestonSolutions.com]
Sent: Friday, August 07, 2015 6:40 PM
To: Hestmark, Martin
Cc: McComb, Martin
Subject: Flyover Data

Aerial Distance:

Last Imagery is from 3:30 PM

1.80 Miles from Colorado/New Mexico Border

12.20 Miles from Aztec, New Mexico

John Lucotch

IT Manager

Phone: 970-301-1416

Weston Solutions, Inc.

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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument

that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and

irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

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Finch[thomas.finch@dot.gov]
From: Cristiano, Gina
Sent: Sun 8/9/2015 2:49:01 AM
GoldKingMineUpdate 080815.pdf

Good Evening Everyone,

Please see the attached EPA statement for August 8th.

Also, some of you may have already heard through other channels but, there is pH, dissolved metals and other information on the website – www.epaosc.org/goldkingmine.

Thank you,

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

August 8, 2015

FINAL STATEMENT FOR RELEASE

EPA is committed to working closely with response agencies and state and local officials to ensure the safety of citizens, respond to concerns and to evaluate impact to water contaminated by the spill. EPA teams are deployed throughout the Animas River corridor collecting data.

EPA Region 8 is also in close coordination with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

EPA is sharing information as quickly as possible with the public as experts work to evaluate any effects the spill may have on drinking water, public health, agriculture, fish and wildlife. Regular updates on the response for the public and the media are scheduled throughout the weekend. The latest updates and information on the response at available at: http://www2.epa.gov/region8/gold-king-mine-release-emergency-response.

8/8/15 Update:

- The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

- Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

- The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

- Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

- Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

- The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

- A summary of pH and dissolved metals data is available here: http://epaosc.org/goldkingmine

NEXT STEPS

- Continue to treat drainage at mine site.
- Continue to sample the Animas River corridor
- Evaluate and publish data as it is finalized.
- Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
- Continue to provide drinking water and water testing to private well owners.

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To: Crossland, Ronnie[Crossland.Ronnie@epa.gov]; Foster, Althea[Foster.Althea@epa.gov]; Nattis, Randy[Nattis.Randy@epa.gov]; Allen, HarryL[Allen.HarryL@epa.gov]; Eoc, Epahq[Eoc.Epahq@epa.gov]
From: Cristiano, Gina
Sent: Sat 8/8/2015 12:50:12 AM
Subject: FW: Flyover Data

Just wanted to share – see below about ASPECT (some of you may have seen this already-imagery is on viewer, accessible via osc.org site)

From: Hestmark, Martin
Sent: Friday, August 07, 2015 6:46 PM
To: Cristiano, Gina
Subject: FW: Flyover Data

From: Lucotch, John [mailto:John.Lucotch@WestonSolutions.com]
Sent: Friday, August 07, 2015 6:40 PM
To: Hestmark, Martin
Cc: McComb, Martin
Subject: Flyover Data

Aerial Distance:

Last Imagery is from 3:30 PM

1.80 Miles from Colorado/New Mexico Border

12.20 Miles from Aztec, New Mexico

John Lucotch

IT Manager

Phone: 970-301-1416

Weston Solutions, Inc.

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To: Ackerman, Joyce[Ackerman.Joyce@epa.gov]; Allison.Majure@state.nm.us[Allison.Majure@state.nm.us]; ann.bruzzese@PSMedicalCenter.org[ann.bruzzese@PSMedicalCenter.org]; Bahrman, Sarah[Bahrman.Sarah@epa.gov]; bgardner@silverton.co.us[bgardner@silverton.co.us];

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Personal Email/Ex. 6

Personal Email/Ex. 6

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From: Cristiano, Gina
Sent: Mon 8/10/2015 2:58:57 AM
Subject: Gold King Mine Release update

Hello,

Below the latest statement from EPA on the Gold King Mine Release.

Thank you, Gina

8/9/15 Gold King Mine Release Update

BACKGROUND

On August 5, while investigating the Gold King Mine in Colorado, the EPA and State Division of Reclamation Mining and Safety triggered a large release of mine wastewater into Cement Creek. The EPA is working closely with first responders and local and state officials to monitor water contaminated by the release. The release's path flows through 3 of the EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). The EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. The EPA is closely coordinating with the officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information, photos, and the data when available, visit: http://epaosc.org/site/site_profile.aspx?site_id=11082.

•□□□□□□□ **Claims process**

A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in the EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

Claims for monetary compensation may be filed by submitting a Standard Form 95 specifying the nature of the loss suffered and the EPA actions, if known, causing the loss or damage to property, to either of the following contacts:

Richard Feldman
Claims Officer
U.S. EPA Office of General Counsel
1200 Pennsylvania Avenue, NW (MC 2399A)
Washington, D.C. 20460

Michael Nelson
U.S. EPA Region 8 Office of Regional Counsel
1595 Wynkoop Street (MC 8RC)
Denver, CO 80202

Alternatively, claimants may submit signed electronic versions of Standard Form 95 to the EPA for the Gold King Mine Release via e-mail at R8_GKM_Claims@epa.gov beginning Tuesday, August 11, 2015.

The fillable PDF version of Standard Form 95 is available in the documents section of this website or via the link below:

http://www.epaosc.org/sites/11082/files/StandardForm95.pdf

Standard Form 95 is used to present claims against the United States under the Federal Tort Claims Act (FTCA) for property damage, personal injury, or death allegedly caused by a federal employee's negligence or wrongful act or omission occurring within the scope of the employee's federal employment.

Standard Form 95 is not required to present a claim under the FTCA, but it is a convenient format for supplying the information necessary to bring an FTCA claim. Please note that a completed form must state a claim for money damages in a "sum certain" amount (that is, a specific amount) claimed for personal injury, death, or injury to or loss of property. In addition, if a sum certain is not specified in Standard Form 95 block 12d, or in accompanying information, a submission cannot be considered a valid presentation of a claim.

Although the EPA's regulations state that the EPA has 6 months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to the EPA within two years after the claim accrues.

•□□□□□□□ Mine discharge treatment

The flow from the Gold King mine was measured at 548 gallons per minute as of noon on August 8. The mine water is being treated in a series of settling ponds constructed near the portal. The treatment appears to be effective. The pH (acidity) of the water is being raised with the addition of lime and sodium hydroxide solution to facilitate sedimentation of the metals in the ponds. Flocculant is being added to increase the amount of sedimentation. The treated water that is being discharged to Cement Creek has a pH of 5.5.

•□□□□□□□ ASPECT

This morning, the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover observed that the conditions from Farmington to Durango show improvement. While the San Juan River remains discolored, the leading edge of the contaminant plume is no longer visible. These visual observations are a useful indicator, however, water quality data will provide the definitive information about river conditions. Aerial photos will be available in the next day or two at http://epaosc.org/goldkingmine.

•□□□□□□□ **Water quality data**

Yesterday, the EPA collected water quality samples from nine locations in the river near intakes for Aztec, Farmington, Lower Valley Water Users Association, Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to monitor as the release makes its way past these areas. In the San Juan River, the release is moving at about 2.5 miles per hour and as of 3 p.m. yesterday it had reached Nenahnezad, NM, approximately 9 miles west of Farmington. The EPA's Mobile Command Post arrived in Farmington today. At the request of New Mexico Environmental Department (NMED), the EPA is sending additional scientist and technicians to New Mexico to assist with water quality monitoring, sampling and outreach.

Water quality data from throughout the affected region continues to be collected and evaluated. This morning the EPA released a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6. The data table contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

Collection, transport and lab analysis of metals in water is complex and time consuming. Workers at the lab and data experts are working continuously to evaluate and summarize the data.

The incident, which occurred on August 5, caused a spike in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is evaluated, will inform whether the trend towards pre-event conditions continues. EPA is working with state and local government officials to determine when to reopen both drinking water intakes and open the river for recreation.

The contaminant plume is depositing sediments and we are beginning to assess the impacts of the sediment.

Link to data table: http://epaosc.org/goldkingmine (under "documents")

•□□□□□□□ **Discharge estimates**

USGS measured increased flows at a streamgage starting at about 12:30 p.m. and ending about 7:15 p.m. This resulted in a provisional calculated flow volume of 3,043,067 gallons discharged from the Gold King Mine. The EPA's original estimate of 1 million gallons discharged from the Gold King Mine was based on an estimate of the size of the adit. A streamgage is an instrument

that measures volume by measuring flow, which is much more precise.

•□□□□□□□ **EPA resources dedicated to the response**

The EPA has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). In the EPA's regional office in Denver, there are 21 employees and one contractor providing support services to the response. Several incident management team positions will be deployed to Durango on Monday. Two Community Involvement Coordinators (CICs) were deployed to Farmington today and will meet with local Navajo Chapter officials and host public meetings in the coming days. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The EPA has tapped into several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

•□□□□□□□ **List of work with local, tribal, state and federal agencies**

EPA Region 8 is coordinating the incident with EPA Regions 6 and 9, the States of Colorado, Utah and New Mexico, and the Navajo Nation and Southern Ute Tribes as well as the San Juan County, City of Durango and the Town of Silverton.

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.

The Colorado Fish and Wildlife Conservation Office is monitoring effects on wildlife and aquatic life in the affected area. The Colorado Department of Public Health and the Environment is assisting with drinking water concerns.

EPA Region 9 is working with the Navajo Nation and the Bureau of Indian Affairs. The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and

irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with NNEPA and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the release's impact. Region 9 provided 2 contractors and 4 additional personnel are en route to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA.

EPA Region 6 is coordinating with the NMED to determine the potential impacts on water quality in the state and impacted communities that rely on the river. The EPA and NMED are providing free water quality testing for private drinking water well owners in the affected area as well as providing water quality monitoring for the five drinking water systems with intakes from the river.

The EPA is working with U.S. Fish and Wildlife Service and the U.S. Geological Service.

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

To: SweetieMarbury@DurangoGov.org[SweetieMarbury@DurangoGov.org]; chris@frontier.net[chris@frontier.net]; bgardner@silverton.co.us[bgardner@silverton.co.us]; gwen.lachelt@co.laplata.co.us[gwen.lachelt@co.laplata.co.us]; julie.westendorff@co.laplata.co.us[julie.westendorff@co.laplata.co.us]; brad.blake@co.laplata.co.us[brad.blake@co.laplata.co.us]; citycouncil@durangogov.org[citycouncil@durangogov.org]; ellen.roberts.senate@state.co.us[ellen.roberts.senate@state.co.us]; jpaul.brown.house@state.co.us[jpaul.brown.house@state.co.us]; ron.leblanc@durangogov.org[ron.leblanc@durangogov.org]; joe.kerby@co.laplata.co.us[joe.kerby@co.laplata.co.us]; sean.smith@co.laplata.co.us[sean.smith@co.laplata.co.us]; sanjuancounty@frontier.net[sanjuancounty@frontier.net]; rledger@bresnan.net[rledger@bresnan.net]; brad.cochennet@PSMedicalCenter.org[brad.cochennet@PSMedicalCenter.org]; mwhiting@archuletacounty.org[mwhiting@archuletacounty.org]; ann.bruzzese@PSMedicalCenter.org[ann.bruzzese@PSMedicalCenter.org]; richard@population-matters.org[richard@population-matters.org]; jodi.scarpa@psmedicalcenter.org[jodi.scarpa@psmedicalcenter.org]; kkohake@yahoo.com[kkohake@yahoo.com]; bobbylieb@frontier.net[bobbylieb@frontier.net]; byrd_s@fortlewis.edu[byrd_s@fortlewis.edu]; director@sjcph.org[director@sjcph.org]; sarah.jacobson@co.laplata.co.us[sarah.jacobson@co.laplata.co.us]; oem@sanjuancountycolorado.us[oem@sanjuancountycolorado.us]; Claire Macpherson[CMacpherson@sjbhd.org]; Ackerman, Joyce[Ackerman.Joyce@epa.gov]; Allen, HarryL[Allen.HarryL@epa.gov]; Allison.Majure@state.nm.us[Allison.Majure@state.nm.us]; Bahrman, Sarah[Bahrman.Sarah@epa.gov]; Bohan, Suzanne[bohan.suzanne@epa.gov]; bsmartinez@fs.fed.us[bsmartinez@fs.fed.us]; Buhl, Rick[Buhl.Rick@epa.gov]; Butch Knowlton-LaPlata Co EM[knowltonbk@co.laplata.co.us]; Card, Joan[Card.Joan@epa.gov]; Chavez, Luke[Chavez.Luke@epa.gov]; Copeland, Michael[Copeland.Michael@epa.gov]; Cristiano, Gina[Cristiano.Gina@epa.gov]; Crossland, Ronnie[Crossland.Ronnie@epa.gov]; dariotti@utah.gov[dariotti@utah.gov]; david.kreutzer@state.co.us[david.kreutzer@state.co.us]; david.kurz@state.co.us[david.kurz@state.co.us]; Dhieux, Joyel[Dhieux.Joyel@epa.gov]; dietrich@utah.gov[dietrich@utah.gov]; doug.jamison@state.co.us[doug.jamison@state.co.us]; dspangler@utah.gov[dspangler@utah.gov]; dwong@utah.gov[dwong@utah.gov]; egaddis@utah.gov[egaddis@utah.gov]; Eoc, Epahq[Eoc.Epahq@epa.gov]; Faulk, Libby[Faulk.Libby@epa.gov]; Foster, Althea[Foster.Althea@epa.gov]; Garcia, David[Garcia.David@epa.gov]; gary.baughman@state.co.us[gary.baughman@state.co.us]; Gleason, Michael[Gleason.Michael@epa.gov]; greg.naugle@state.co.us[greg.naugle@state.co.us]; Griswold, Hays[Griswold.Hays@epa.gov]; Hayes, Mark[hayes.mark@epa.gov]; Hestmark, Martin[Hestmark.Martin@epa.gov]; jason.king@state.co.us[jason.king@state.co.us]; Joshua Allan - BIA[joshua.allan@bia.gov]; Kahn, Lisa[Kahn.Lisa@epa.gov]; karin.mcgowan@state.co.us[karin.mcgowan@state.co.us]; KBousfield@utah.gov[KBousfield@utah.gov]; Kortuem, Patrice[Kortuem.Patrice@epa.gov]; kshelley@utah.gov[kshelley@utah.gov]; Land, Kelcey[Land.Kelcey@epa.gov]; Laura.Rendon@state.nm.us[Laura.Rendon@state.nm.us]; Liane Jollon - San Juan Basin HD[ljollon@sjbhd.org]; llamb@utah.gov[llamb@utah.gov]; Lloyd, Lisa[Lloyd.Lisa@epa.gov]; Logan, Paul[Logan.Paul@epa.gov]; Madigan, Andrea[Madigan.Andrea@epa.gov]; martha.rudolph@state.co.us[martha.rudolph@state.co.us]; McComb, Martin[McComb.Martin@epa.gov]; McGrath, Shaun[McGrath.Shaun@epa.gov]; meghan.trubee@state.co.us[meghan.trubee@state.co.us]; mjblanchard@fs.fed.us[mjblanchard@fs.fed.us]; Mohr, Mindy[Mohr.Mindy@epa.gov]; monica.sheets@state.co.us[monica.sheets@state.co.us]; Myers, Craig[Myers.Craig@epa.gov]; Mylott, Richard[Mylott.Richard@epa.gov]; Nattis, Randy[Nattis.Randy@epa.gov]; O'Connor, Darcy[oconnor.darcy@epa.gov]; Ostrander, David[Ostrander.David@epa.gov]; patrick.j.pfaltzgraff@state.co.us[patrick.j.pfaltzgraff@state.co.us]; Patrick.Longmire@state.nm.us[Patrick.Longmire@state.nm.us]; R8 Documentation Unit Leader[R08_Documentation_Unit_Leader@epa.gov]; Restivo, Angela[Restivo.Angela@epa.gov]; Russo, Rebecca[Russo.Rebecca@epa.gov]; Saldenha, Jasmine[Saldenha.Jasmine@epa.gov]; Sandoval, Joni[Sandoval.Joni@epa.gov]; Sid Caesar - BIA[sid.caesar@bia.gov]; Sierra,

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Finch[thomas.finch@dot.gov]
From: Cristiano, Gina
Sent: Sun 8/9/2015 2:49:01 AM
GoldKingMineUpdate 080815.pdf

Good Evening Everyone,

Please see the attached EPA statement for August 8th.

Also, some of you may have already heard through other channels but, there is pH, dissolved metals and other information on the website – www.epaosc.org/goldkingmine.

Thank you,

Gina Cristiano

Emergency Response & Planning Coordinator

EPA Region 8

303-312-6688

August 8, 2015

FINAL STATEMENT FOR RELEASE

EPA is committed to working closely with response agencies and state and local officials to ensure the safety of citizens, respond to concerns and to evaluate impact to water contaminated by the spill. EPA teams are deployed throughout the Animas River corridor collecting data.

EPA Region 8 is also in close coordination with Region 6 and Region 9 and the states of Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

EPA is sharing information as quickly as possible with the public as experts work to evaluate any effects the spill may have on drinking water, public health, agriculture, fish and wildlife. Regular updates on the response for the public and the media are scheduled throughout the weekend. The latest updates and information on the response at available at: http://www2.epa.gov/region8/gold-king-mine-release-emergency-response.

8/8/15 Update:

- The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

- Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

- The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

- Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

- Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

- The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

- A summary of pH and dissolved metals data is available here: http://epaosc.org/goldkingmine

NEXT STEPS

- Continue to treat drainage at mine site.
- Continue to sample the Animas River corridor
- Evaluate and publish data as it is finalized.
- Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
- Continue to provide drinking water and water testing to private well owners.

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