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# EXAMINING EPA'S UNACCEPTABLE RESPONSE TO INDIAN TRIBES

## FIELD HEARING

BEFORE THE

## COMMITTEE ON INDIAN AFFAIRS
## UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

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# EXAMINING EPA'S UNACCEPTABLE RESPONSE TO INDIAN TRIBES

**FRIDAY, APRIL 22, 2016**

U.S. SENATE,
COMMITTEE ON INDIAN AFFAIRS,
*Phoenix, AZ.*

The Committee met, pursuant to notice, at 10:30 a.m. in the City of Phoenix, Council Chambers, Hon. John Barrasso, Chairman of the Committee, presiding.

## OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM WYOMING

The CHAIRMAN. I call this hearing to order. Good morning, I'm John Barrasso, a U.S. Senator from Wyoming and Chairman of the Senate Committee on Indian Affairs.

Today is Earth Day, a day generally recognized for reflecting on environmental protection. Instead, we're called upon to exam the environmental disaster caused by the Environmental Protection Agency. This hearing will focus on the EPA'S unacceptable response to Indian tribes.

Eight months ago, August 5th, 2015, one of the largest environmental catastrophes this region has seen occurred in the Rocky Mountains. This event, which affected thousands in three states, and at least two Indian tribes, occurred under the direction and supervision of the EPA. It's called the Gold King Mine blowout.

In this disaster, over 3 million gallons of toxic wastewater was unleashed into Cement Creek, a tributary of the Animus River, and then flowed downstream to the San Juan River, affecting thousands of lives on the Navajo Nation.

Pictures of that event are on the easels in front of us today. Words simply cannot describe the devastation that ensued.

In September of last year, the Committee on Indian Affairs and the Senate held a hearing on this disaster, and heard testimony from the Navajo Nation and the Southern Ute Indian tribes.

The president of the Navajo Nation, Russell Begaye, told our Committee that for the Navajo Nation and the people, "Water is sacred and the river is life for all of us."

Unfortunately, for the Navajos and the other surrounding communities—and this is a bottle of water from there—this is what life became for thousands last summer.

I can see why President Begaye and the other members of the Navajo Nation are afraid to use the river. We know that the EPA

caused the spill more than eight months ago, because they made critical mistakes and they failed to take basic precautions.

In a few weeks, spring runoffs will begin in the Rocky Mountains. The spring runoff is causing another round of fear among residents along the banks of the Animus River and the San Juan River, according to a recent study, and a report by the Wall Street Journal article.

On April 8th an article states, "The EPA hasn't returned to conduct more tests and now others are worried that lead and other toxic materials that settled in the river will be stirred up and contaminate the water again as the Animus swells with spring snow melt from the Rocky Mountains."

Furthermore, the article goes on to say, "The sludge turned the Animus mustered yellow for days"—as the pictures show—"and Federal officials found high levels of toxicity from lead and arsenic."

EPA officials eventually cleared the water for drinking and recreation, but warned that chemicals in the riverbed could be stirred up again and that a full cleanup could take years.

The carelessness of the EPA is disturbing, to say the least. It is almost as careless, or to put it more bluntly, disrespectful of the people of the West for the EPA not to send a single witness here when we announced this hearing almost a month ago.

It is a sad day when a subpoena must be issued from the Committee to compel an administration witness to appear.

Not since the hearings of Jack Abramoff has this Committee needed to compel a witness to come forward. It's shameful.

You know it, and Indian country knows it. Let me be clear, the Committee is not finished with the EPA spill. I intend to have further hearings as needed, and I will do whatever it takes for Indian communities to get answers. This isn't the end.

Today's hearing will highlight how the EPA's actions continue to impact tribal communities. This includes the inadequate handling of the Gold King Mine disaster, and the agency's response to cleaning up Cold War-era uranium mines across the Navajo and the Hopi reservations.

I think that the Navajo Nation and other tribes in the West are right to not trust the EPA, which I understand people along the river are actually calling the environmental polluting agency and the environmental poisoning agency.

Before we can receive testimony from our witnesses, I want to thank Senator John McCain. I want to thank him for requesting this hearing on behalf of the Indian tribes, and for his resolute leadership on this matter.

Senator MCCAIN.

**STATEMENT OF HON. JOHN MCCAIN,**
**U.S. SENATOR FROM ARIZONA**

Senator MCCAIN. Thank you, Mr. Chairman. And I appreciate you taking the time from your very busy schedule as chairman of the Indian Affairs Committee and the United States Senate to be here and hold this hearing today.

And from your statement and comment, I know how much you are concerned about this issue, and how important it is, not only

to our Committee but to the Navajo and Hopi people and all members of Congress.

So I appreciate you being here. I appreciate the Honorable Ann Kirkpatrick being here, who represents in her congressional district the Navajo and Hopi Nations. And we welcome you, Congresswoman Kirkpatrick.

As the title of today's hearing indicates, the EPA's failed on many occasions to meet its obligations to Native American tribes. And I'd like to, again, express my dismay, Mr. Chairman, that the EPA had first refused to send a witness.

I don't like to compare things. But suppose there had been a request for an EPA representative in Flint, Michigan at a hearing and the EPA had refused. I think you would have seen an uproar of enormous proportions.

And so, unfortunately, in a bipartisan basis, both Democrats and Republicans on the Committee agreed that we had to subpoena an EPA witness to be here today.

That is indicative of a lot of things, including the priority that the EPA has given this disaster. And it is a disaster.

Today we will focus on their failing government-to-government relations with Indian country. And, obviously, the Gold King Mine disaster is the catalyst for all this.

There's no question as to the EPA's culpability and negligence in this disaster. EPA employees were on site, directing work at the mine. They knew the potential for a catastrophe blowout, for a catastrophic blowout.

Congressional and Federal investigations have since revealed that the EPA did not conduct adequate water pressure tests behind the mine edit, nor did it adequately consult with partnering Federal agencies before excavating around the mine's containment plug.

And as you mention, Mr. Chairman, as a result, more than 400 tons of pollutant, including lead, arsenic, and other hazardous metals entered the San Juan River.

During the peak of the spill, water quality tests registered arsenic levels at 300 times above normal lead levels. 300 times above arsenic levels. And 3,500 times above normal lead levels.

This forced the closure of tribal immigration systems, which has devastated agricultural communities in and around Farmington. An estimated 1,500 Navajo farmers, largely subsistence farmers, have gone without water for their crops and livestock. Roughly 30,000 acres of farmland have been essentially fallowed.

An economic analysis by Douglas Holtz-Eakin, noted economist and former chief of the non-partisan Congressional Budget Office told the Senate Committee on Indian Affairs last year that the Navajo Nation lost an estimated $892,000 in agricultural production alone within the first few weeks.

As information about the devastation continues to mount in months and years to come, the total impact economically could reach upwards of $335 million.

And the economic impact, Mr. Chairman, alone doesn't account for the human tragedy. In the days following the spill, Navajo officials reported several suicides believed to be connected to the disaster.

Today, more than eight months after the spill, questions linger about the presence of toxic chem icals in the river. Sediment, as you pointed out, which experts warn can resurface during periods of heavy rainfall or snow melt.

This isn't the Committee's first hearing on the Gold King Mine disaster, as you mention. No criminal charges have been referred to the Justice Department. And the Navajo has received only $156,000 from the EPA in, quote, reimbursements.

I want to welcome our witnesses here today. Particularly, Navajo Nation President Russell Begaye and Navajo Counsel Speaker LoRenzo Bates who know intimately well the financial and emotional toll this disaster has had on the Navajo people.

We're also joined by Hopi Tribal Chairman Herman Honanie whose people have suffered under EPA's apparent disregard for the Tribe's economic and environmental priorities.

I want to point out, again, Mr. Chairman, to date the EPA has spent $80 million in Flint, Michigan, while spending $157,000 here in the response to this disaster for tribes to deal with this scandal. Native people here in Arizona deserve better answers. What is clear now is that not enough has been done.

And, finally, in closing, after many months and many hundreds of hours involved in this issue, I've come to the conclusion that the Department of Justice criminal investigation is merited and must now occur.

Thank you, Mr. Chairman.

The CHAIRMAN. Well, thank you very much, Senator McCain. We have several witnesses before us today. I'd like to remind the witnesses that your full written statement will be made part of the official hearing record, so I ask that you please try to keep your statements to five minutes so that we may have time for questions. I look forward to hearing from our first panelist, which is the Honorable Ann Kirkpatrick. Welcome and please proceed.

## STATEMENT OF HON. ANN KIRKPATRICK, U.S. REPRESENTATIVE FROM ARIZONA

Ms. KIRKPATRICK. Thank you, Chairman Barrasso and Senator McCain, for this opportunity to testify today before the Committee on an issue of critical importance to the Tribes in my congressional district, specifically, the Navajo Nation and the Hopi Tribe, which I represent.

Chairman Honanie, President Begaye, Speaker Bates. It is an honor to testify with each of you today.

The Gold King Mine spill in August of 2015 sounded many alarms. Not only as an environmental and economic disaster, but also as a failure by the EPA on multiple fronts: a failure to respond swiftly and transparently, a failure to immediately engage tribal governments, and a failure to mitigate the short- and long-term burdens on our tribes from this agency-created disaster.

These failures began on August 5th, 2015, when approximately 3 million gallons of contaminated water were discharged from the Gold King Mine into a Colorado tributary of the Animus River while EPA contractors were conducting investigation of the mine.

By August 8th, the toxic water had spilled into the San Juan River, an important water source for Arizona's tribal communities, agriculture, recreation, and small businesses.

Despite the potential implications of the spill, state and tribal leaders were not immediately notified. The EPA implemented an emergency response within the agency, but it took over 24 hours for the agency to send out any official notice of the incident.

The EPA first contacted state and local officials, with tribes, unfortunately, being the last to know. The delay in notifying impacted communities and the leaders responsible for responding to such a disaster is inexcusable.

For tribal communities downstream of the spill, those were precious hours wasted. Water is life for these communities. And the EPA failed to take appropriate action to respond to the risks to their water supply.

The Navajo Nation has suffered substantial losses as a result of this spill. Loss of crops and livestock, as well as the immense cost of water sampling and monitoring to protect the public health. All of these have been a challenge, to say the least.

In the days after the spill, I was in northern Arizona to meet with EPA officials and local leaders in communities where the jobs and livelihoods of many Navajo families were at serious risk.

The potential for devastating economic impact was looming. On August 8th, the Navajo Nation declared a state of emergency in response to the health risks posed by the contaminated water traveling toward their essential water sources.

In light of the Navajo Nation's limited resources to address such a severe and evolving hazard, the Tribe appealed to FEMA for assistance, but they were denied.

Our tribes are sovereign nations. And as someone who was born and raised on tribal land, I have a deep understanding and respect for what that means.

The Federal Government has historic government-to-government obligations to our tribes and responsibilities to protect tribal land and natural resources.

And until the EPA is held responsible for the cleanup of this contamination, as well as the long-term mitigation of the harm caused by this disaster, that obligation remains unmet.

On August 11th, 2015, Administrator Gina McCarthy stated that the EPA would take full responsibility for the spill. However, as we will hear today, the Navajo Nation as a list of needs that have not been met. And the costs that the Nation incurred responding to this EPA-caused disaster have not been made right.

My colleagues and I in the House of Representatives are asking for exactly that. I have co-sponsored H.R.602, the Gold King Mine Spill Recovery Act of 2015, which would provide compensation to farmers and others who sustained losses related to the Gold King Mine spill.

Congress needs to pass this legislation immediately. Arizona and the Navajo Nation have historically challenging relationships with the EPA, in my view.

The agency often demonstrates a lack of understanding of our western issues, especially in regards to land, energy, and natural resources.

Government-to-government communication and cooperation are key to strong relationships. EPA's lack of transparency on information regarding the Gold King Mine spill is only adding to the feeling of distrust in a community that is already distrustful because of the Agency's troubling response to a disaster it caused.

And I hope we will hear today about the EPA's efforts to better meet the needs of Arizona's tribal communities now and in the future. Our tribes deserve nothing less.

Thank you for hearing my testimony today. And I look forward to answering any questions you may have.

The CHAIRMAN. Thank you very much for your testimony. I appreciate you being here to share your thoughts with us.

Ms. KIRKPATRICK. Thank you.

The CHAIRMAN. We are going to move to the second panel—we have five members of the panel. And if I could ask you to come to the table, our first witness will be assistant administrator of the EPA, Mathy Stanislaus.

We will also hear from the Honorable Russell Begaye, President of the Navajo Nation Council; the Honorable Herman Honanie, who is the Chairman of the Hopi Tribe; the Honorable LoRenzo Bates, who is the Speaker of the Navajo Nation; and Clark Lantz, Dr. Clark Lantz, who is Professor and Associate Head of Cellular/Molecular Medicine at the University of Arizona.

Thank each of you for being here. As I said, your full statements will be made part of the official record of today's hearing. We ask that you try to keep your comments to within five minutes so it will leave time for questioning.

And with that, I welcome you and ask Assistant Administrator of the EPA Stanislaus to proceed.

**STATEMENT OF HON. MATHY STANISLAUS, ASSISTANT ADMINISTRATOR, OFFICE OF LAND AND EMERGENCY MANAGEMENT, U.S. ENVIRONMENTAL PROTECTION AGENCY**

Mr. STANISLAUS. Good morning, Chairman Barrasso and Senator McCain. I'm Mathy Stanislaus, Assistant Administrator for the U.S. EPA Office of Land and Emergency Management that is responsible for EPA's cleanup and emergency program. Thank you for the opportunity to appear here today.

I'm also accompanied by EPA Regional Administrator Jared Blumenfeld, who is responsible for Arizona, among other states. So he's going to join me in terms of specific questions.

The U.S. EPA has a long history working closely with Indian tribes, and is one of the first Federal agencies with the formal policy specifying how it would interact with tribal governments and consider tribal interests in carrying out its programs to protect public health and the environment.

The EPA policy for the administration of environmental programs on Indian reservations signed in 1984, remains the cornerstone of EPA's Indian program.

The EPA continues to enhance our effort to work with tribes based on constitutional authorities, treaties, laws, executive orders, and a long history of Supreme Court rulings.

We are also strengthening our cross-cultural understanding with tribes, recognizing that tribes have cultural, jurisdictional and legal features that must be considered when coordinating and implementing environmental programs in Indian country.

EPA issues its first-ever Tribal Treaty Rights Guidance, issued February of this year. The guidance will further strengthen EPA's close partnership with tribal communities by initiating meaningful discussions with tribes about their partnership with tribal communities be initiating meaningful discussions with tribes about their treaty rights during consultation.

The Guidance will also support the Agency's continued efforts to learn from and expand our collaborations with tribes as we work to achieve our shared mission of protecting human health and the environment.

My office has supported the development of tribal cleanup and response programs through funds through federally recognized tribes who are Superfund authority. More than a hundred tribes have received funding over the years.

In fiscal year 2015, more than $12.7 million was allocated to 106 tribes for their tribal response programs.

These programs have resulted in the Tribes cleaning up over a thousand tribal properties, and resulted in about 3,600 acres being made available and being protected.

Specifically, with the EPA Region 9, more than $15 million was awarded last year to invest in Arizona tribes, including the Navajo Nation, for environmental programs, water, and wastewater infrastructure development, community education and capacity building.

Since 1984, the EPA has provided more than $93 million to support the Navajo Nation's leadership in establishing their own environmental programs.

In addition, the EPA Region 9, partnered with five other Federal agencies, and in consultation with the Navajo Nation developed and implemented a five-year plan in 2008 to address the human health and environmental risks posed by radiological contamination associated with the abandoned uranium mining sites on Navajo Nation lands.

The EPA and its Federal partners have expended more than $100 million to reduce the highest risks to Navajo people by remediating contaminated homes, providing drinking water, and conducting urgent cleanup actions.

Much more work remains. Under the leadership of Regional Administrator Blumenfeld working with the same Federal agencies, we issued a second five-year plan to continue our work with respect to uranium-contaminated mines.

In January of this year, I met with Navajo President Russell Begaye to discuss addressing the historic problems of abandoned mines that has degraded water quality over the decades.

Gold King Mine, and the three other adjacent mines alone, emit 330 million gallons of contaminated wastewater into Cement Creek and Animus River every year.

President Begaye specifically requested a long-term restoration of the river to occur by addressing the emissions of wastewaters from these long abandoned mines in the West through the Superfund national listing process.

EPA conducted extensive outreach with the Navajo, with tribes and communities. And just recently we had proposed the listing of a number of mines to restore a long-term restoration of the river.

This consists of 48 mines, including the Gold King Mine, which collectively discharge 5.5 million gallons a day, every day, and continues to this day. A public comment period continues at this moment.

EPA has been working with the state of Colorado to prevent contaminated abandoned mine discharges that plague the water resources and the Animus River watershed for decades. As part of this effort, an accidental release did occur of about 300 million gallons from the Gold King Mine last year.

After the accidental release, EPA closely coordinated with our Federal partners, with officials in Colorado, New Mexico, Utah, the Southern Ute, Ute Mountain tribes and Navajo Nation who all provided personnel for the unified command center or incident command. I also met with the inter-tribal council of Arizona to address spill response during that event.

One of the initial lessons learned from the aftermath of the incident is that EPA could do a better job in communicating and working with our state and tribal partners. To support enhanced notification, I issued a memo to all the regions to make sure there is expanded notification.

And it should be noted that all notifications did occur before the plume arrived at any of the locations so that the tribes and communities can take action.

To date, the EPA has expended $22 million in response efforts. Including $1.1 million to provide more than 1 million gallons of agricultural and livestock water. And nearly 9,000 bales of hay for the Navajo communities along the San Juan River.

The EPA has also provided more than 150,000 reimbursement to Navajo Nation for their response course, and are working to respond to more of their requests with the Navajo Nation.

The agency has allocated 465,000 to the Navajo Nation to monitor water quality conditions in this river. This is in addition to the more than $1 million of Clean Water Act based funding provided to the Navajo Nation in October 2015 to provide water quality monitoring support and water quality compliance and fund sediment remediation projects.

During our ongoing engagement with tribes, states, and local communities, EPA has received a request for real-time water monitoring, particularly related to the expected increase in spring water rates.

EPA is committed to enable the states and tribes to install real-time monitoring in the upper Animus River so that they can take actions based on their monitoring results.

EPA's core mission is protecting human health and the environment. We will continue our longstanding commitment to consult with tribes, respectful of their sovereignty to protect public health and the environment.

We will continue to work with and support the tribes, states, and local communities throughout the four corners region who are relying on the Animus and San Juan rivers for their drinking water, irrigation water, and recreation.

We know how important rivers are to them. And we're committed to work in collaboration to restore the health through this long-term strategy.

Thank you.

[The prepared statement of Mr. Stanislaus follows:]

PREPARED STATEMENT OF HON. MATHY STANISLAUS, ASSISTANT ADMINISTRATOR, OFFICE OF LAND AND EMERGENCY MANAGEMENT, U.S. ENVIRONMENTAL PROTECTION AGENCY

Good morning Chairman Barrasso and Members of the Committee. I am Mathy Stanislaus, Assistant Administrator for the U.S. Environmental Protection Agency's (EPA) Office of Land and Emergency Management (OLEM) that is responsible for EPA's cleanup and emergency response program. I am joined today by Jared Blumenfeld, Regional Administrator for EPA Region 9, which serves Arizona, California, Hawaii, Nevada, Pacific Islands, as well as 148 Tribal Nations. Thank you for the opportunity to appear today to discuss the EPA's work with and engagement with Indian tribes.

The U.S. Environmental Protection Agency has a long history of working closely with Indian tribes and was one of the first federal agencies with a formal policy specifying how it would interact with tribal governments and consider tribal interests in carrying out its programs to protect human health and the environment. The EPA Policy for the Administration of Environmental Programs on Indian Reservations, signed in 1984, remains the cornerstone for EPA's Indian program.

The EPA's work with tribes is facilitated through the National Tribal Caucus (NTC), a national body of high-level tribal advisors. Members are selected on a regional basis by each Regional Tribal Operations Committee (RTOC) or its equivalent, and represent all tribes within their regions. Their primary focus is to identify and address tribal environmental issues that are national in scope, cross-agency or cross-media in nature, or that may be emerging or time-critical.

Through consultation, collaboration, and shared accountability, the EPA continues to strengthen its partnerships with tribes to help ensure the success of the national environmental program. The EPA focuses on increasing tribal capacity to establish and implement environmental programs while ensuring that our national programs are as effective in Indian country as they are throughout the rest of the Nation.

Under this policy, the EPA is also enhancing our effort to work with tribes based upon constitutional authorities, treaties, laws, executive orders and a long history of Supreme Court rulings. We are also strengthening our cross-cultural understanding with tribes, recognizing that tribes have cultural, jurisdictional and legal features that must be considered when coordinating and implementing environmental programs in Indian country.

After engagement with our tribal partners and reviewing feedback received at the 2014 White House Tribal Nations Conference, the EPA undertook an effort to further preserve the resources protected under treaties. The EPA issued a memo to agency offices stressing the importance of honoring tribal rights and the resources protected by treaties and directed the development of agency-wide guidance. Where the EPA has the discretion and opportunity to do so, EPA programs should be implemented to enhance protection of tribal treaty rights and treaty-covered resources to honor our trust relationship with tribes.

This effort produced EPA's first-ever Tribal Treaty Rights Guidance, issued in February of this year. The Guidance will further strengthen EPA's close partnership with the tribal community by initiating meaningful discussions with tribes about their treaty rights during Consultation. The Guidance will help support the agency's continued efforts to learn from and expand our collaborations with tribes as we work to achieve our shared mission of protecting human health and the environment.

**OLEM Tribal Activities**

EPA's Office of Land and Emergency Management and regional offices work in partnership with tribes as co-regulators to address solid and hazardous waste, emergency response actions, as well as land restoration and clean up issues in Indian country. The EPA seeks to build tribal capacity in assuming program management responsibilities for the cleanup and reuse of land, as well as to forge strong partnerships with tribes and engage tribes in meaningful dialogue and information sharing in a timely manner.

EPA headquarters offices are responsible for providing national policy direction and support for OLEM's tribal work. Working in collaboration with EPA's regional

offices, the EPA works with tribes to enhance capacity and participation in the environmental decision-making process. Through a wide array of program activities, OLEM works with interested tribal government to help ensure that land is cleaned up and restored.

To facilitate our continued work with tribes, OLEM, in cooperation with EPA's Office of Water, awarded a new five-year cooperative agreement in 2014 totaling $2.9 million to the Institute for Tribal Environmental Professionals (ITEP) located at Northern Arizona University, to support the Tribal Waste and Response Assistance Program (TWRAP). Building off the successful work that started through a 2008 award, ITEP continues to strengthen and expand its training, technical assistance, and resources to Native American tribes and Alaska Native Villages (NA/ANV) for subjects related to solid and hazardous waste, resource conservation, brownfields, Superfund, underground storage tanks, emergency response, and water infrastructure. The program supports a national Steering Committee of tribal professionals, the tribal Superfund Working Groups, as well as the Tribal Lands and Environment Forum, a key training event for tribal environmental professionals. This training, technical assistance and targeted outreach provides an opportunity to address the many barriers and challenges tribes experience when it comes to restoring and preserving our land.

We have been helping to ensure that tribal needs and priorities are addressed in EPA's budget and planning documents, by supporting the work of the Tribal Waste and Response Assistance Program Steering Committee that issued their first ever *Priorities Document* to OLEM and our senior management. This document provided key insights for the programs to consider in developing future areas to prioritize and fund.

To address contaminated properties, OLEM has supported the development of tribal response programs. The Brownfields State and Tribal Response Program provides cooperative agreement funds to states and federally recognized tribes under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) 128(a) authorities. More than 100 tribes have received 128(a) funding over the years. In Fiscal Year 2015, more than $12.7 million dollars was allocated to 106 tribes for their tribal response programs. These programs have 1,034 tribal properties enrolled and have resulted in the cleanup of 388 properties, totaling 3,654 acres. In addition, in FY 2015, the EPA provided $800,000 of CERCLA 104(k) funding that supported assessment, job training, and revolving loan fund grants. Together, these two programs have supported the creation of 191 jobs, approximately $20 million additional funds leveraged, and 9 property clean ups and 48 site assessments completed in Indian country.

OLEM also supported efforts to increase capacity and help ensure tribes are trained on how to inspect, develop, and implement hazardous waste and hazardous waste programs, which includes the collection and disposal of household hazardous waste. The EPA provided funding to tribes through the Hazardous Waste Management Grant Program. Further, to help ensure tribal communities have a better understanding of the technical issues related to a Superfund cleanup and key considerations for a site's future use, in FY 2015, the EPA provided technical assistance to tribes by funding 32 cooperative agreements with 12 different tribes, totaling approximately $8.6 million.

In addition, in 2008, the EPA partnered with the Bureau of Indian Affairs, the Nuclear Regulatory Commission, the Department of Energy, the Indian Health Service, and the Agency for Toxic Substances and Disease Registry, and in consultation with the Navajo Nation, developed and implemented a Five-Year Plan to address human health and environmental risks posed by radiological contamination associated with abandoned uranium mining sites on the Navajo Nation. The EPA and its federal partners expended more than $100 million to reduce the highest risks to the Navajo people by remediating 47 contaminated homes, providing drinking water to more than 3,000 homes, and conducting urgent cleanup actions at 9 mine sites. Much work remains and the same federal agencies collaborated to issue a second Five-Year Plan in 2014. The second Five-Year Plan builds upon the work of the first plan to address the most significant risks to human health and the environment. Over the next five years, the Navajo Nation plans to assess and scan 100 homes per year, with the EPA planning to conduct remediation at up to ten homes per year depending on the number of homes found to pose a health risk.

**EPA's Longstanding Relationship with the Navajo Nation**

EPA's Pacific Southwest Office (Region 9) serves the Navajo Nation and 147 other federally recognized tribes within Arizona, California, and Nevada, on whose lands we retain responsibilities for directly implementing federal environmental statutes. Last year, more than $15 million was awarded to invest in Arizona tribes, including

the Navajo Nation, for environmental programs, water and wastewater infrastructure development, community education and capacity building. These grants will help support the significant accomplishments that have been achieved through the collaborative efforts of the tribes in Arizona, the Navajo Nation, and the federal government. Since 1984, the EPA has provided more than $93 million to support the Navajo Nation's leadership in establishing their own environmental programs.

**Addressing Impacts to the Animas River**

Many decades of mine drainage has degraded water quality and contaminated sediment in the Upper Animas watershed and downstream water resources. Based upon 2009–2014 flow data, roughly 330 million gallons of contaminated mine water from four mines discharged annually into Cement Creek and the Animas River. Our most recent studies indicate more than 3,700 gallons per minute, or 5.4 million gallons per day, of mine wastewater is being discharged from 32 mines in the watershed.

In January of this year, I met with Navajo President Russell Begaye to discuss addressing these impacts through Superfund National Priorities Listing process. The EPA conducted extensive outreach with local communities, tribes, and states during the fall of last year and winter of this year to discuss the potential listing of abandoned mines in the Upper Animas Watershed to the Superfund National Priorities List (NPL). After months of engagement and receiving support from the Navajo Nation, the state of Colorado, and local governments, the EPA proposed adding the Bonita Peak Mining District site in San Juan County, Colorado to the NPL on April 7 of this year, to address the discharge of water from abandoned mines posing a risk to public health and the environment. The proposed Bonita Peak Mining District site consists of 48 mining related sites, including the Gold King Mine. A public comment period is underway to solicit comments regarding the NPL proposal.

Mutual respect and accountability, rooted in EPA's 1984 Indian Policy, and recognition of the sovereignty of the Navajo Nation, Southern Ute and Ute Mountain tribes has been the foundation of our long-standing partnership. The EPA recognizes that partnership has been challenged by the accidental August 5, 2015 Gold King Mine release. We all share the same goal, protecting human health and the environment today, and for future generations. We are hopeful that this partnership will allow us to achieve this goal.

After the August 5 accidental release, EPA and Colorado officials informed downstream jurisdictions within Colorado the day of the event and before the plume reached drinking water intakes and irrigation diversions. The following day, other downstream jurisdictions were notified, again, before the plume reached drinking water intakes and irrigation diversions. The EPA deployed federal On-Scene Coordinators and other technical staff within 24 hours to Silverton and Durango Colorado, Farmington, New Mexico and the Navajo Nation to assist with preparations and first response activities in these jurisdictions.

In addition, the agency activated its Emergency Operations Center in Washington D.C. and established a Unified Command Center in Durango, Colorado and an Incident Command in Farmington, New Mexico to help ensure coordination among its regions, laboratories and national program offices. The EPA closely coordinated with our federal partners and with officials in Colorado, New Mexico, Utah, the Southern Ute and Ute Mountain Ute tribes and the Navajo Nation who all provided personnel for the Unified Command Center and/or Incident Command. I also met with the Inter-Tribal Council of Arizona to address the EPA's spill response.

One of the initial lessons learned in the aftermath of the accidental Gold King Mine release is that the EPA could improve its communications regarding releases and other environmental events that may affect multiple jurisdictions. To support response related notifications and communications between the EPA and our state, tribal and local partners, I issued guidance to Regional Response Teams (comprised of representatives from the EPA, other federal agencies and states) to strengthen their Regional Contingency Plans, particularly regarding the need to alert and coordinate with responders in downstream alerts.

As part of the response efforts, water quality samples were collected throughout the water system from multiple locations in Colorado and New Mexico to the Navajo Nation at daily intervals beginning on August 6, 2015.[1] Sediment sampling began on August 11, 2015. The EPA has also sampled private domestic drinking water wells from along the rivers in both Colorado and New Mexico. Drinking water well data was provided directly to the well owner. Results consistent with this sampling

[1] See: *http://www2.epa.gov/goldkingmine/data-gold-king-mine-response*

data were utilized by jurisdictions along the Animas and San Juan Rivers to lift water use restrictions for irrigation, livestock watering, and recreational purposes.

The EPA has expended more than $22 million on response efforts, including $1.1 million to provide more than 1 million gallons of agricultural and livestock water and nearly 9,000 bales of hay for Navajo communities along the San Juan River. The EPA has also provided more than $157,000 in reimbursement to Navajo agencies for their response costs. We are currently reviewing additional costs incurred by the Navajo government.

The first round of sampling conducted last fall under EPA's Post-Gold King Mine Conceptual Monitoring Plan for the San Juan River did not show exceedances of Navajo Nation agricultural water quality standards, or of EPA recreational screening levels. The EPA has shared, and will continue to share its data and analysis with the Navajo Nation, and is fully open to reviewing and discussing any data or analysis generated by their government or other investigators. The agency has allocated $465,000 to the Navajo Nation to monitor water quality conditions in the river, this is in addition to the more than $1 million of Clean Water Act based funding provided to the Navajo Nation in October 2015 to perform water quality monitoring, support water quality compliance efforts, and fund sediment reduction projects.

**Public Information—Water Quality Monitoring Efforts**

One of our foremost priorities during the response has been to collect and publicly release information to help ensure the health and safety of affected communities. Since the August release, numerous status reports, water and sediment sampling results, and documents have been posted on the agency's Gold King Mine website.

On March 24 of this year, the EPA released its final monitoring plan for the Animas and San Juan rivers. The final Conceptual Monitoring Plan is posted on EPA's website. The agency also posted on its Gold King Mine website another round of results of surface water and sediment sampling collected as part of its effort to gather scientific data to evaluate ongoing river conditions.

The Conceptual Monitoring Plan will guide EPA's work to identify changes in surface water and sediment quality. It is designed to gather scientific data to consistently evaluate river conditions over time and compare post-release data against pre-release or historic trends. The EPA has also been working with tribal, state, and other partners to develop a consistent monitoring approach to gather scientific data to assess conditions in the Animas and San Juan rivers. The EPA has made $2 million in initial funding available to launch these additional tribal and state monitoring efforts.

Under the Conceptual Monitoring Plan, the EPA is examining water quality, sediment quality, biological community and fish tissue at 30 locations under a variety of flow and seasonal river conditions. The sampling locations are located within Colorado, Southern Ute Indian Reservation, New Mexico, Ute Mountain Ute Reservation, the Navajo Nation and Utah, spanning Cement Creek, the Animas and San Juan rivers, and the upper section of the San Juan arm of Lake Powell.

When fully implemented, the monitoring plan will provide the EPA, state, local governments and tribes a robust set of scientific data about water quality in the rivers and will help to explain the fluctuations over time and location based on seasonal factors that influence river flow, such as precipitation and snow melt. Initial monitoring data collected during the fall are below risk-based recreational screening levels and consistent with pre-event data which are limited in many areas outside the upper Animas. The spring sampling event is currently taking place, and will be followed by additional sampling planned in June and in the fall of 2016. The EPA will also coordinate with local jurisdictions and tribes to sample the rivers during heavy rain events in the summer.

During our ongoing engagement with tribes, states, and local communities, the EPA has received requests for real-time water monitoring, particularly related to expected increased spring flow rates. The EPA has agreed to contribute additional funds, that in combination with prior funds, will enable states and tribes to fund real-time monitoring in the upper Animas area above Silverton to assess contributions from Cement Creek, Mineral Creek and the upper Animas, as well as above Durango and below the confluence of Mineral Creek and the Animas River. This real-time monitoring would also serve to ensure successful coordination and implementation of notification and preparedness activities for communities downstream.

**Conclusion**

The EPA's core mission is protecting human health and the environment. We will continue our longstanding commitment to working with tribes to accomplish our shared mission. We will continue to work with and support the tribes, states, and

local communities throughout the Four Corners Region who rely on the Animas and San Juan Rivers for their drinking water, irrigation water and recreation. We know how important the rivers are to them, and the EPA is committed to continue to take action to help prevent future releases to protect our vital water resources.

The CHAIRMAN. Thank you very much Administrator Stanislaus for being with us today. I'd like to now turn to the Honorable Russell Begaye, President of the Navajo Nation. Welcome.

**STATEMENT OF HON. RUSSELL BEGAYE, PRESIDENT, NAVAJO NATION**

Mr. BEGAYE. Thank you, Chairman Barrasso and Senator McCain. Senator McCain especially, thank you for taking the challenge on having this follow-up hearing. And Chairman Barrasso for stating that we're not finished yet. "We are going to have further hearings," that is music to our ears, because if you look at that right there, is that anyone looking at that picture right there, should be not only mad but also afraid that this is going to continue, as has been stated just now, is that you have millions of gallons of these contaminates coming onto Navajo land, and nothing, nothing, nothing has been done.

And so we want the wrong to be right. And it hasn't been done yet. Only 8 percent of what EPA owes us has been paid to us, 8 percent. And this is going on for months.

Let me tell you, if another company, a private company did this and they took responsibility for it, guess what, there will be people in jail, there will be public hearings, the company will be shut down, and the company will be forced to go out into the river beds and pick up those contaminates off the river bed.

Has it happened on Navajo land? Nothing has happened. And so we appreciate the hearing, because we want the wrong that's been done to Navajo—especially our farmers are suffering right now.

You know, we're not flushing out the irrigation ditches. And the farmers are afraid. Because they know that there are contaminates up river. When the water spikes, when it goes up, when there's a monsoon, we know that those contaminates upriver will flow down onto our land, onto possibly our farms.

So we're going to keep a very close watch on that. We asked for a mobile lab. Mobile lab has not been provided ever. It was promised but never been delivered. We want a mobile land on the ground so that when the water spikes, we will test it immediately. And that will determine whether we shut down the irrigation gates or not.

And we need that. We need those tools. So I appreciate the testimony on the Gold King Mine spill today.

We're just saying simply that U.S. EPA today has not fully compensated the Navajo Nation or individual Navajo people for the harm suffered as a result of the Gold King Mine spill. The farmers, my people, they have not been compensated.

The standard Form 95 has not been altered, has not been amended, meaning this, is that when a farmer submits a claim is that, when they get a check from EPA, that's it. That's all they're going to get.

And if they submit a claim for the first three weeks or six weeks after the spill and the consequences of us shutting down the irriga-

tion to protect our land, is that when they submit it and they get a check from EPA, guess what, that's it. They're not going to get anymore, even though as farmers, as I was raised on a farm. And so there's continuing loss that occurs when that kind of event takes place.

And so there will be continuing contamination, there will be continuing damage that will be done. And so that standard Form 95 needs to be amended. There needs to be a language that says, "We will waive this."

Now, they're saying, "Well, you have two years." You know, that means that our farmers will have to wait two years to get compensated. And these guys, the farmers, live off the land. That is their revenue. The products that they produce, that's what they sell and that's how they pay their bills. That's how they put food on the table. And that's what sustains them. And to wait for two years is nonsense, you know.

And this basic human right is being violated by that standard Form 95. We want that thing amended. We want new forms put forth. And EPA says, "Well, that's the law."

You know, the laws are always brought up and put in our face when these types of things happen to Indian people. To Navajo Nation specifically.

And, secondly, we want U.S. EPA to designate the upper Animus mining district as a Superfund site. And I was disappointed when the list came out recently. It said these are the NPL sites. And I look on there, thinking that Gold King Mine would be a part of that, but it was not a part of that. And you read down the next section, it says, well, it's being recommended that this will be designated as such.

So meaning that to this day—that to date, this very day on Earth Day, the Gold King Mine is not on the NPL listing. Superfund site has not been designated for Gold King Mine.

And the mines are ready to explode. And EPA knew that Gold King Mine was going to explode. They knew that. They had the information, did nothing about it.

And back in Washington, D.C., they said they will hold themselves fully accountable. Has that happened? Navajo Nation, that has not occurred.

And so I just want to, again, thank the Committee for allowing us to be here today. And I also wanted to say that the tools have not been provided. The harm is there. Our people are still suffering today. And we appreciate the Committee allowing us to come and testify today.

Thank you.

[The prepared statement of Mr. Begaye follows:]

PREPARED STATEMENT OF HON. RUSSELL BEGAYE, PRESIDENT, NAVAJO NATION

**I. Introduction**

Yá'át'ééh (hello) Chairman Barrasso, Ranking Member Tester, and Members of the Committee. My name is Russell Begaye, and I am the President of the Navajo Nation. Thank you for this opportunity to testify before your Committee on an important matter that continues to affect the Navajo Nation every day.

As you know, on Wednesday, August 5, 2015, the United States Environmental Protection Agency (USEPA), and other involved parties, caused a massive release of approximately three million gallons of acidic mine water laden with toxic con-

taminants, including heavy metals and other chemicals, into the Animas and San Juan Rivers. We now know that it was more than 800,000 pounds of metals that entered the Animas River as a direct result of the discharge from the Gold King Mine on that day. We also know that approximately 80 percent of the toxic materials released during the Spill have now settled into the sediments and shorelines of the Animas River and the San Juan River upstream of the Navajo Nation, waiting to be carried downstream during the heavy Spring runoff expected this season.

The San Juan River courses through 215 miles of the Navajo Nation's territory and serves as a major water source for the Navajo people, their livestock, and their crops. The River also holds a profound spiritual significance to the Navajo Nation. The Gold King Mine Spill caused severe damage and devastation to our people. We have lost too much. Crops that served as many Navajo families' primary source of income and stability for generations have been destroyed. The Navajo people have redirected their scarce financial resources to alternate water supplies in desperate attempts to save their crops, their livestock, and their families.

Unfortunately, the damage is not yet done. Because the toxic contaminants have been embedded in the sediment of the River, the Navajo Nation now faces the continuous threat of re-contamination with every storm and increase in River flow. The heaviest flow is typically felt in the Spring as a result of snowmelt, and we are currently experiencing a higher than normal volume of flow due to increased snowpack from winter storms. Although we will be aggressively monitoring and sampling the water throughout this season, there is nothing we can do to prevent the damage from occurring.

Last Fall, you and I both heard from representatives of the USEPA, including Administrator McCarthy herself. The USEPA assured all of us that the EPA has and will continue to take responsibility to help ensure that the Gold King Mine release is cleaned up. They repeatedly vowed to take care of those affected by the Spill. And they promised to work closely and cooperatively with the States and Tribes to right the wrongs. But the USEPA has not fulfilled its commitments to us. I have spoken and written to Administrator McCarthy to lay out the Navajo people's reasonable requests to be made whole as a result of the Spill and to help us avoid future effects from this and other contaminations. But our needs continue to be unmet. I am here today to share with you our experiences over the past eight months and to request that the Congress intervene to protect the Navajo Nation and our Navajo people.

## II. The USEPA Has Repeatedly Resisted and Questioned the Navajo Nation's Demands

It has been over eight months since the Gold King Mine Spill, an environmental catastrophe that caused and continues to cause extreme hardship to the Navajo Nation. Over this time, the USEPA has avoided any real sense of accountability for its actions, even though it repeatedly and publicly claimed responsibility last Fall. Eight months later:

1) The USEPA has yet to fully compensate the Navajo Nation or individual Navajo people for the harms suffered as a result of the Gold King Mine Spill.
2) The USEPA has yet to designate the Upper Animas Mining District as a Superfund site.
3) The USEPA has yet to implement, with Navajo input, a comprehensive plan to ensure no future contamination of Navajo land or waters.
4) And the USEPA has yet to provide the Navajo Nation with the tools it desperately needs to address the harms already caused and to mitigate against future harms.

It is time for the USEPA to stop making false promises and act.

Over the past eight months, representatives of the Navajo Nation have engaged in numerous conversations with the USEPA in an effort to obtain justice for the Navajo people. Each one of our requests and suggestions has been unreasonably and disrespectfully denied and minimized.

First, while the USEPA has technically agreed to engage in discussions regarding a "cooperative funding agreement" designed to cover the Nation's response costs, even that process has been met with resistance and counter-demands. The Navajo Nation submitted detailed paperwork delineating the resources the Nation expended as a direct result of the Gold King Mine Spill. These costs included things like hauling clean water to the Navajo people, assessing the extent of the Spill's impact to the Navajo farms, paying expenses related to irrigation canal closures, and more. The Nation's submission was practical and conservative. But the USEPA questioned the accuracy and reasonableness of our expenses. We requested a little over two million dollars in actual expenses incurred as a direct result of the Gold King Mine

Spill. The USEPA's initial "offer" was insulting. After months of cooperating with the USEPA, the USEPA offered the Navajo Nation a mere $157,000—less than eight percent of what we spent. They claimed this was an initial award but we do not know when or in what amount will be the future awards. We cannot afford that. After the USEPA caused us to incur these expenses, they should not be able to slow play our recovery.

To add insult to injury, the USEPA couched this insignificant amount as a "grant" to the Nation, thereby giving itself substantial control and oversight with respect to how the money is spent. The money was not even recognized as a reimbursement for costs spent as a direct result of the USEPA's actions in causing the Spill.

Second, the Nation repeatedly requested from the USEPA an interim claims process that would provide prompt payment to the Navajo people on an ongoing basis, rather than forcing the Navajo people to either (a) wait for months or years to determine the total amount of the damage and money spent as a result of the Spill, or (b)—the more likely scenario—force the Navajo people to accept less than they are rightfully due simply because they need something to support their families now. The USEPA summarily brushed off this idea, claiming they did not have the authority to set up this sort of process. But this unprecedented Spill calls for new procedures.

We then asked the USEPA for assurances that if a Navajo person does accept an award for current losses now, that they would still be permitted to seek further damages for unknown, future harms as a result of the spill (for example, if their children develop chronic diseases). The USEPA denied authority to do that, as well. Apparently the USEPA does not have the authority to address the problems caused by its own wrongdoing.

These are just two examples of our requests that have been brushed aside and denied by the USEPA. Recently, I sent Administrator McCarthy a letter addressing our legitimate and narrow requests once again. In addition to the interim claims process mentioned above, we renewed our request for the following:

1) A fair and independent assessment of the role the USEPA, and others, played in the events leading up to and causing the Gold King Mine Spill.

The House Committee on Natural Resources issued a report in February criticizing the USEPA's and Department of Interior's failed attempts to provide this assessment. Their investigations are riddled with conflicts of interest and information gaps, and do nothing to answer the ultimate outstanding questions: Who is at fault for the Spill? And who will be held accountable?

2) Resources to conduct our own water, sediment, and soil monitoring; to conduct our own testing and assessment of farms, crops, and livestock; and recognized authority for the Navajo Nation EPA and the Navajo Nation Department of Agriculture to do the necessary work.

We have repeatedly asked the USEPA for funding to conduct necessary sampling to determine the extent of the harm caused by the Gold King Mine Spill, but the USEPA has resisted and tried to bind us to the results of its own sampling. As we have stated before, the Navajo Nation should not be required to trust sampling conducted by the same agency that caused the harm at issue. The conflict of interest in that scenario is obvious.

The Nation would like an on-site laboratory on Navajo land, funding for additional staff and sampling, and funding for the Navajo Nation to execute its own long-term plan to address the harms caused by the contamination (including studying and addressing the contamination's long-term environmental and health impacts).

We recently requested funding specifically dedicated to Spring runoff sampling and monitoring. As I mentioned earlier, approximately 80 percent of the toxic contaminants released from the Gold King Mine on August 5, 2015, are now embedded in the sediments and shorelines of the Animas and San Juan Rivers. The Rivers' strongest water flows occur during the Spring season. We are now enduring the first Spring since the Spill—and a particularly heavy runoff period—and it is crucial that we pay close attention to possible re-contamination of the River during these months. We need funding to do that. We don't want to incur further costs to conduct sampling due to the USEPA's misconduct, only to have the USEPA resist our requests for reimbursement as they have done in the past.

3) Coordinated and meaningful data and information access, with full transparency and immediate turnaround.

The USEPA has taken too long to turn data around. The objectives in the current version of the USEPA's conceptual monitoring plan do not provide for ongoing, time-

ly reporting of water quality. Data collected during the first sampling event in late October 2015 was only made available to partner agencies on March 7, 2016—five months later—and still has not been released to the public. The USEPA needs to provide quick turnaround of its own data, so that we may do our job of protecting our people.

4) Identification and recognition of the full scope of upstream threats and contamination flowing into the San Juan River, and the resources to address the long-term environmental and human health impacts of the Spill.

This would include placement of a water treatment facility at the headwaters of the Navajo Nation and resources to explore alternative water supply systems in the event of an emergency. We cannot again be put in the position of having to pick between turning off the water and losing economic sustenance or turning on the water and risking our health and crops.

5) Recognition of the San Juan River's spiritual and cultural significance to the Navajo Nation.

The San Juan River holds a deeply embedded spiritual and cultural significance to the Navajo community. Contamination of the River takes a profound economic, cultural, and spiritual toll on our people. Indeed, the Nation has suffered a dramatic increase in suicides since the Spill. The psychological trauma resulting from contamination to one of our most important deities should not be ignored or minimized. We deserve recognition, from the agency that caused this contamination, that the damage goes far beyond economic and environmental damage, and the resources to address the emotional and psychological impacts of the Spill.

6) Funds dedicated to emergency preparedness for future environmental disasters like the Gold King Mine Spill, given the continued threat posed by the Upper Animas Mining District.

Despite the warning signs indicating the chance of a blowout, the USEPA was unprepared for the Gold King Mine Spill. As we have discussed in the past, their immediate response to the spill was handled very poorly, and it took far too long for the Navajo Nation to receive notice. Once we received our delayed notice, we did not have much time to mobilize efforts and resources to respond quickly and effectively. Everyone knows that the Navajo Nation and other downstream communities face an ongoing threat of contamination from the mines in the Upper Animas Mining District. We need the resources to assure that we are adequately prepared to take care of our people in the event of another similar environmental disaster.

7) The USEPA's full support of listing the Upper Animas Mining District on the National Priorities List.

For a long time, we have requested that the Upper Animas Mining District be listed on the National Priorities List and that the contamination caused by that district receive the attention and resources that come with such a listing. As you are aware, town and county leaders in Silverton have, after the Spill, unanimously voted to begin negotiating with state and federal environmental officials on accepting a Superfund designation. This was significant. I further understand that the USEPA has now released its proposal that nearly 50 mines in the district be designated a Superfund site. As of today, however, the Upper Animas Mining District is still not listed on the National Priorities List. We need the USEPA to act quickly to have the entire Upper Animas Mining District listed on the National Priorities List and for dedicated and focused federal resources to address the threat posed to the Navajo Nation and other downstream communities.

8) Resources to restabilize farming along the San Juan River.

As I mentioned earlier, the Spill caused extensive damage to Navajo farms. Strains of crops that have been around for generations have been harmed, and in some cases, destroyed. Our people need resources to help rebuild the foundation that previously provided stability, support, and income to their families.

In a March letter we sent to Administrator McCarthy, we asked the Administrator to propose a date within the next thirty days to meet to discuss these goals. We received her response letter this week and we will discuss the details of how we move forward with the USEPA, but I have to say, the Navajo Nation has lost further trust in the USEPA through this frustrating process.

**III. Conclusion**

After over eight months, we are still waiting for the USEPA and other parties responsible for the Spill to make us whole by providing us with the resources needed

to address the Spill and its continuing impacts to our community. We still do not have a clear understanding of how or why this happened, or who is to be held responsible. We need answers.

The Navajo people are not wealthy. Before the Spill, we were already facing a daunting unemployment rate of 42 percent. Farming and ranching are critical means of survival and supporting a family. But ever since the Spill, the farmers and ranchers have had to spend money they don't have in a desperate attempt to salvage their crops and livestock. Our subsistence farmers and ranchers watched their crops die and relocated their livestock away from the River at great expense. Many have lost crucial sources of income and are still suffering. The Navajo people cannot afford to endure the complexities and uncertainties of the legal process for years before they see a dime. They need to be made whole now. We have asked for and deserve full, fair and fast recovery.

The Navajo Nation continues to be eager to work cooperatively and equally with the USEPA to gear all parties toward a productive resolution. As is true for the people suffering in Flint, Michigan—to whom our hearts go out—we want justice for our people. As long as the USEPA continues to disrespect our needs, we cannot achieve that justice.

It means a great deal to the Navajo Nation that your Committee is still focused on this matter after eight months. We are hopeful that the pressure from your Committee, the local States, and the local Indian nations will eventually force the USEPA and other responsible parties to cooperate and provide those harmed with the resources needed to move forward after this unfortunate catastrophe. We hope that the Congress will pass legislation to ensure full, fair, and prompt recovery for our people.

Ahéhee.' Thank you for your time and attention to this important issue.

The CHAIRMAN. Thank you very much, President Begaye.

I'd like to now turn to the Honorable Herman Honanie, who is the Chairman of the Hopi Tribe. Welcome, and please testify.

## STATEMENT OF HON. HERMAN G. HONANIE, CHAIRMAN, HOPI TRIBE

Mr. HONANIE. Thank you, Senator Barrasso, Senator McCain. Good morning.

Thank you to President Begaye, Speaker Bates. Thank you for giving me this opportunity and allowing me to speak before you with our concerns.

I am Herman Honanie, Chairman of the Hopi Tribe. I have matrilineal lineage to the oldest continuously community of Orayvi on the North American Continent, and I'm very proud of that.

Senators, the United States has a special trust relationship with federally recognized Indian tribes, including the Hopi Tribe. However, recently there have been several missed opportunities for the EPA working with other Federal agencies to fully embrace the trust obligations of the United States to the Hopi Tribe.

We have some current examples to share with the Committee. They are described in the written testimony we are submitting on behalf of the Hopi Tribe. And I will just briefly touch on them here.

The first is the Navajo generating station. Despite the economic importance to the Hopi Tribe, the United States, a part owner of the plant, recently decided to shut down one or more of the three units at NGS rather than investing in standard pollution control devices.

The Hopi Tribe has been asking the United States, its trustee to assist the Tribe in finding the replacement revenues for the substantial revenue generated by the coal use at the NGS, but there is currently no plan to do so.

We have the Tuba City open dump. This formerly BIA-operated open dump site is being investigated by the EPA and BIA under the Superfund program.

While the Tribe remains fully engaged in the regulatory process with EPA and BIA on their actions at the Tuba City open dump to complete the remedial investigations and feasibility study, the Tribe has become increasingly concerned that the Tribe's requirement for the cleanup will not be treated as applicable or relevant and appropriate requirements in the remedy selection process.

The Hopi Tribe has had numerous discussions with EPA Region 9 on this issue, nonetheless, to date EPA has not provided a commitment to the tribes requirement will be treated as ARARs.

The third item is the Hopi Arsenic Mitigation Project. Certain water supply systems installed by the United States on the Hopi reservation have been shut down have been shown to contain arsenic at levels exceeding the limits.

The Hopi Tribe continues to work with the United States to further the Hopi Arsenic Mitigation Plan we call the HAMP; however, this process has been very slow. And, meanwhile, the drinking water system at the Hopi Tribe continues to contain elevated arsenic concentrations.

The Hopi Tribe is requesting that this Committee review the handling of this matter by the United States.

While EPA and the Indian Health Service has been instrumental in the initial funding and planning for the HAMP, the funding for the pipeline to connect the replacement water wells to the villages has not yet been identified and made available.

These are a few of the examples we are hoping that the Committee will help in its evaluation, and how the United States can better fulfill its obligations to the Tribe in the environmental and public areas.

We know EPA and the Tribes can continue to improve the efforts to address the environmental problems in Indian country and look forward to better cooperation in this regard.

And, also, I just want to say, Senators, that I'm very happy that we're discussing these issues today on Earth Day. I feel it's very, very appropriate.

We have a saying in Hopi: Water is life, water is sacred. Without water, what is there?

And when we talk about issues, such as what President Begaye explained, and our own issues—and maybe they may be small in comparison—but these issues, especially the open dump mine in Tuba City, and the arsenic, they affect and impact water. The long-term effect of health on our people is of great concern.

I feel collateral damage is in the opening. It's coming. Something needs to be done. We need to work together to address these and correct these issues for the health of my people, for the survival of my people.

And I'm glad that we're here today. You calling us here to testify, you calling on us sends a great and sharp and loud signal to Indian country that, hopefully, we'll renew our faith and confidence in the United States Congress and its leadership.

I thank you for your time. I thank you for giving me the privilege to be here this morning.

Thank you very much.
[The prepared statement of Mr. Honanie follows:]

PREPARED STATEMENT OF HON. HERMAN G. HONANIE, CHAIRMAN, HOPI TRIBE

The United States has a special trust relationship with federally recognized Indian tribes, including the Hopi Tribe. The Hopi Tribe has occupied what is now the Hopi Reservation in Arizona since time immemorial and has had a long and peaceful relationship with the United States. The United States officially recognizes the Hopi Tribe, acknowledging that the Hopi Tribe is entitled to "the immunities and privileges available to federally recognized Indian tribes by virtue of [its] government-to-government relationship with the United States. . ." 80 Fed. Reg. 1,943 (Jan. 14, 2015). However, recently there have been several missed opportunities for the EPA, working with other federal agencies, to fully embrace the trust obligations of the United States to the Hopi Tribe. We have some current examples to share with the Committee summarized below. Additionally, with regard to proposed and future regulation of coal fired power plants in Indian Country, we submit that the United States, as part of its trust responsibilities to Tribes, make sure to off-set adverse economic impacts on Tribes, so that Tribes to not end up bearing a disproportionate burden.

The Hopi Tribe respectfully requests that this committee review the mandatory trust obligations of the United States under applicable statutes in the environmental and public health areas because the federal courts have been reluctant to adequately enforce these obligations unless they are enumerated by statute. We believe that the federal trust obligations to tribes are falling through the cracks as a result, particularly when EPA and other federal agencies are involved, and the tribes have inadequate means to enforce these obligations. Several specific examples involving the Hopi Tribe are set out below.

**Navajo Generating Station**

The Navajo Generating Station (NGS) is a coal-fired power plant located near Page, Arizona on the Navajo Reservation. It is unique as a "mine-mouth" power plant. NGS exclusively uses coal from the Kayenta Mine Complex (KMC), which is located on the Navajo and Hopi reservations, and KMC's only customer is NGS. KMC is geographically isolated, and currently there is no way to sell coal mined there to any other potential purchaser. NGS and KMC were designed by the United States as a single integrated system. The U.S. Bureau of Reclamation owns a 24.3 percent interest in NGS, and, as such, is the largest NGS shareholder. The U.S. Department of the Interior, the U.S. Department of Energy, and the U.S. EPA have formed a Federal Agency Work Group for NGS.

Activities related to NGS are responsible for a major portion of the revenues of the Hopi Tribe's government. The Hopi Tribe annually receives approximately $13 million in coal royalties and bonus payments, $1.6 million in water fees, and hundreds of thousands of dollars in scholarship funds related to KMC and NGS. The Hopi Tribe uses the NGS coal revenues for the provision of basic services and other essential government functions such as health care, education, housing, law enforcement, and social services. These services are crucial, but without any replacement of the lost revenues, the Hopi Tribe's goverment will not be able to provide them.

The Hopi Tribe has communities challenged by poverty. Nearly fifty percent of the people and fifty-four percent of the children living on the Hopi Reservation are living below the poverty level by federal standards. This is more than twice that of Arizona as a whole. The average annual income on the Reservation is half that of the population elsewhere in Arizona. Of the employment that is available on the Reservation, NGS and KMC are responsible for fifty to seventy percent of it—an estimated 1,400 to 1,900 Hopi jobs.

Despite the economic importance to the Hopi Tribe, the United States recently decided to shut down one or more of the three units at NGS rather than investing in standard pollution control devices known as Selective Catalytic Reduction Equipment (SCRs). EPA determined in February, 2013, that SCRs were the Best Available Retrofit Technology (BART) for NGS, and installation at NGS would be affordable and cost-effective. Proposed Rule, 78 Fed. Reg. 8,274 (Feb. 5, 2013). EPA also recognized that early plant retirement would be the only option that would seriously harm the Hopi Tribe's economy.

After publication of the Proposed Rule, a number of stakeholders, including the U.S. Bureau of Reclamation, formed a "Technical Work Group" (the "TWG"). EPA was also involved with the TWG to a lesser extent. The Hopi Tribe was intentionally excluded from the TWG by the United States and the other TWG members. From

at least March through July, 2013, the TWG met pursuant to a confidentiality and non-disclosure agreement.

The result of these negotiations was the TWG Agreement, which set forth a proposal for an alternate scenario to reduce emissions from NGS. The United States signed the TWG Agreement, which imposes specific requirements on the United States to support the TWG Proposal. The TWG Proposal included shutting down one of three units at NGS by 2019 and permanent cessation of conventional coal-fired generation by the end of 2044. 79 Fed. Reg. 46,514 (Aug. 8, 2014). In other words, under the TWG Proposal negotiated and agreed to by the United States, NGS will be closed partially by 2019 and completely by 2044. Coal sales and royalties, water fees, and economic conditions on the Hopi Reservation will follow suit. The day the TWG Proposal was submitted to EPA was the first time that the Hopi Tribe learned of the existence of the TWG. EPA adopted the TWG Proposal. Supplemental Proposed Rule, 78 Fed. Reg. 8,274 (Oct. 22, 2013).

After publication of the Supplemental Proposed Rule, the Hopi Tribe, including the Chairman, Council members, and Tribal members participated in meetings with the United States to voice their concerns about the economic effects of this decision on the Tribe and to request additional information that would help the Tribe further understand how the Supplemental Proposed Rule would impact the Tribe, its members, its lands and how its trustee, the United States, was planning to address this impact. At this point, however, the United States had already signed the TWG Agreement and the Hopi Tribe's opportunity for early meaningful consultation was lost. Even though it recognized that the Hopi Tribe would be severely adversely impacted financially, the United States failed even to analyze or address those impacts. The United States, the Hopi Tribe's trustee, has failed to put a plan in place to address the loss of revenues and resulting impacts to the Hopi Tribe. On August 8, 2014, EPA issued the Final Rule, largely adopting the TWG Proposal. Final Rule, 79 Fed. Reg. 46,514 (Aug. 8, 2014).

A review shows that multiple generating stations in Indian Country have been forced into closure by EPA. Indian Tribes are disproportionately impacted by these closures. A number of tribe's economies are dependent on these plants, and there is inadequate mitigation being provided to these tribes. As appropriate, we can share this additional information with the Committee in a follow-up meeting. The Hopi Tribe has engaged in extensive discussions and negotiations with the United States concerning ways to offset the economic impact that EPA's rule will have on the Hopi Tribe but no resolution has been reached to date. EPA should be required to review its enforcement initiatives to determine whether EPA is acting in accordance with its trustee duties.

**Tuba City Open Dump Superfund Site, Upper Moenkopi Village, Arizona**

The Tuba City Open Dump (TCOD) lies south of Highway 160, south and east of Tuba City, Arizona and adjacent to the Upper Moenkopi Village of the Tribe. The TCOD was operated as an unregulated open-burn dump by the United States Bureau of Indian Affairs (BIA) from the late 1950s until 1997. The TCOD was not approved or permitted as a solid waste disposal facility under any provision of the Resource Conservation and Recovery Act (RCRA).

The TCOD was largely operated as an unregulated cut-and-fill trench type dump. BIA periodically excavated trenches for waste deposition. The trenches were filled with waste, burned, and periodically covered with soil by BIA. Dumping was largely uncontrolled and unsupervised by the BIA. The cycle of opening trenches, depositing wastes, burning the waste, and covering the waste continued until 1997, when the TCOD was closed by the BIA.

The TCOD occupies approximately 30 acres, and is comprised of an "old cell" and a "new cell." The old cell comprises approximately 10 acres, while the new cell, developed in the late 1980's, comprises approximately 20 acres. BIA covered the waste in the new cell and constructed a fence around that cell. More recently, in 2009, BIA constructed a fence around the old cell.

The TCOD was used by both the BIA and the Indian Health Services and may have been used by other departments of the United States government and their contractors. There is information developed by the BIA that wastes from a nearby uranium processing mill (operated by Rare Metals at the direction of the Department of Energy) were deposited in the TCOD. Recently, grinding balls of the type used at the processing mill was found in the old cell. Further, there were numerous reports of "marbles" matching the description of the mill grinding balls being found in the TCOD.

The Hopi Tribe has conducted initial environmental studies and investigations at and near the TCOD. Consultants were retained by the Hopi Tribe, and monitoring wells were installed in the area of the TCOD to assess potential groundwater im-

pacts in and around the TCOD. The studies and investigations led to the discovery of constituents above drinking water regulations in several monitoring wells immediately down gradient from the TCOD old cell. Among these constituents are total dissolved solids, arsenic, selenium, uranium, radium 226/228, nitrate, sulfates and chloride.

Studies have identified saturated waste in the deeper trenched areas of the old cell of TCOD that are believed to be in direct contact with the groundwater. The plume of contaminants under and surrounding, the TCOD is currently adversely impacting the groundwater aquifer, which is an extremely valuable Hopi Tribe resource.

Several years ago BIA signed an administrative order on consent with the EPA to conduct a remedial investigation and feasibility study (RI/FS) at the TCOD under the Superfund Program. The RUFS has been ongoing for the last several years. Even though the Hopi Tribe requested an opportunity to be a party to the administrative order, the United States declined that request but agreed to consult with the Tribe in the administrative process and before any decisions were made. While the Tribe remains engaged in the regulatory process with EPA and BIA in their actions and activities at the TCOD to complete the RI/FS, the Tribe has become increasingly concerned that the Tribe's requirements for the cleanup will not be treated as Applicable or Relevant and Appropriate Requirements (ARARs) in the remedy selection process. Hopi Tribe officials have sent letters and meetings have been held with EPA Region 9 on this issue. Nonetheless, to date EPA has not provided a commitment that the Tribe's requirements will be treated as ARARs. See attached correspondence.

EPA has an opportunity to treat the Hopi Tribe as a co-sovereign with respect to the RI/FS process and remediation of the TCOD. The Hopi Tribe remains hopeful that EPA will properly treat the Hopi Tribe's remedial requirements as ARARs and fulfill its trust obligations to the Hopi Tribe by remediating the contamination caused by the United States actions at TCOD in accordance with Hopi Tribe requirements and in a manner acceptable to the Hopi Tribe.

**Hopi Arsenic Mitigation Plan (HAMP)**

As trustee, the United States has exercised control over the Hopi Tribe's water supplies that were reserved to the Hopi Tribe pursuant to the Winters Doctrine when its reservation was established. In particular, the United States has designed, installed, constructed, and maintained drinking water systems on the Hopi Reservation, including those at the villages of Mishongnovi, Sipaulovi, Shungopavi, and the communities of Polacca and Kearns Canyon. The United States selected and hired the contractors to construct the wells, listed itself as the "owner" of the wells in official paperwork, and designated itself as the record keeper for those wells.

Effective January 23, 2006, EPA lowered the maximum contaminant level (MCL) for arsenic in drinking water to 10 micrograms per liter (idg/L). Id. paragraph 16 (citing 40 C.F.R. 141.6(j)); 40 C.F.R. § 141.62(b)(16). Certain of the water supply systems designed and installed by the United States have consistently contained arsenic at levels exceeding this level, and range from approximately twice the limit to almost five times the limit. Arsenic harms the central and peripheral nervous systems and the heart and blood vessels. It causes serious skin problems. Prolonged exposure causes bladder, lung and skin cancer, and may cause kidney and liver cancer. Water with arsenic levels over the MCL has been found by the United States to be unfit for human consumption, but, for people living in the affected villages on the Hopi Reservation, there is no other source of drinking water currently available.

The Hopi Tribe requested that the United States address the elevated arsenic levels in the drinking water systems, including filing an action in the Court of Federal Claims. The Court recognized that the "central legal question in th[at] case" was the precise scope of the federal government's duties as trustee with respect to Indian trusts." The Court also recognized that the United States' trust duties are determined by "closely examining the statutes that impose them," and that "the Federal Government's trust duties are ultimately determined by Congress." The Court of Federal Claims found that it did not have jurisdiction under the Indian Tucker Act to hear the Hopi Tribe's claim, and the Federal Circuit affirmed.

The Hopi Tribe continues to work with the United States to further the Hopi Arsenic Mitigation Plan (HAMP). However, this process has been very slow, and, meanwhile, the drinking water systems at the Hopi Tribe continue to contained elevated arsenic concentrations. The Hopi Tribe is requesting that this committee review the handling of this matter by the United States. While EPA and the Indian Health Services have been instrumental in the initial funding and planning for the HAMP, the funding for the pipelines to connect the replacement water wells to the Hopi Villages has not yet been identified and made available.

In closing, we hope these examples are helpful to the Committee in its evaluation of how the United States can better fulfill its Trust obligations to Indian Tribes in the environmental and public health areas. Specifically, with regard to current and future economic impacts of regulation of coal fired power plants in Indian Country, we recommend that Committee review the United States' commitment to off-setting adverse economic impacts on Tribes, many of which cannot afford further adverse economic impacts. Thank you for the opportunity to provide testimony.

**Attachments**

*May 11, 2012*

Hon. Ken Salazar,
Secretary,
Department of the Interior,
Washington, DC.

Hon. Lisa Jackson,
Administrator,
Environmental Protection Agency,
Washington, DC.

Dear Secretary Salazar and Administrator Jackson:

We understand that a contaminated groundwater plume emanating from the Tuba City open dump on the Navajo and Hopi reservations poses an immediate threat to critical drinking-water supplies used by both tribes. We are also aware that the Department of the Interior (through the Bureau of Indian Affairs) and the Environmental Protection Agency are currently working on a Remedial Investigation/Feasibility Study (RI/FS) for the site. The plume's migration, however, may be outpacing your efforts. To stave off irreversible contamination of these drinking-water supplies, we encourage you, in coordination with the tribes, to immediately develop and implement a plume containment-and-control strategy. Such a strategy would go a long way toward preventing further degradation of critical resources, while BIA and EPA finalize the RI/FS and identify a long-term solution.

By way of background, it is our understanding that the BIA operated the Tuba City Open Dump from the 1950s until it stopped receiving waste in October 1997. We have also been informed that when in operation, it was an unlined, unpermitted, and unregulated facility. In all, the dump is approximately 30 acres in size, 28 acres of which are located on the Hopi Reservation, within view of the Hopi Village of Upper Moenkopi and the Navajo Nation's Tuba City Chapter.

We have also been informed that monitoring wells located adjacent to the dump indicate that contaminated. groundwater is migrating from the site toward drinking-water wells; purportedly placing the plume within 3,000 feet of drinking-water wells serving the Village of Upper Moenkopi. Based on the information we received, these contaminants may include uranium, sulfates, and chloride, with uranium levels approximately seven times higher than the maximum contaminant levels allowed by the EPA. In light of the foregoing, we request that your respective agencies prioritize completion of the RI/FS, and that you urgently pursue a course of action aimed at containing and controlling the plume.

Thank you for your time and immediate attention to this important issue. As always, we ask that this matter be handled in strict accordance with the existing agency rules, regulations, and ethical guidelines. Please do not hesitate to contact our offices with questions, and let us know if we can be of further assistance in this matter.

Sincerely,

SENATOR JON KYL
CONGRESSMAN PAUL GOSAR
SENATOR JOHN MCCAIN
CONGRESSMAN TRENT FRANKS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
*June 19, 2012*

Hon. Paul Gosar,
U.S. House of Representatives,
Washington, DC.

Dear Congressman Gosar:

Thank you for your letter of May 11, 2012 to EPA Administrator Lisa Jackson regarding the Tuba City Dump (Dump), located on the Navajo Nation and Hopi Tribe reservations. The Administrator has requested our Regional Office in San

Francisco to respond. Your letter expresses concerns that groundwater contamination from the Dump is posing an imminent threat of contaminating the drinking water sources in Moenkopi, and suggests that EPA strongly consider taking immediate action to contain groundwater, before completion of the Superfund remedial investigation and feasibility study (RI/FS) being performed by the Bureau of Indian Affairs (BIA) with EPA oversight under an enforceable agreement.

EPA shares your interest in ensuring that the limited drinking water available for the Navajo Nation and Hopi Tribe in this area remains safe and that the regulatory process to select appropriate cleanup actions takes place expeditiously. The remedial investigation currently being conducted is necessary to fully ascertain any potential risks from the Dump to the supply wells, and will be performed on a schedule that will ensure ongoing protection of the water supply. The feasibility study will evaluate specific detailed alternatives for cleanup of groundwater, the dump material, or both, to ensure that any remedy selected is the best alternative. EPA believes that existing studies and information do not support the need for a groundwater response action before this work is completed.

The fieldwork to complete the remedial investigation is beginning this month. The critical information from these field efforts will be available within the next six months. The Record of Decision is anticipated by early 2014. EPA is continuing to monitor the water from the supply wells and surrounding monitoring well network, and will reconsider taking earlier action should new information indicate it is necessary to protect drinking water. We are committed to continuing to work closely with the Navajo Nation and Hopi Tribe throughout the RI/FS and remedy selection process.

Sincerely,

JARED BLUMENFELD,

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
*June 19, 2012*

Hon. Trent Franks,
U.S. House of Representatives,
Washington, DC.

Dear Congressman Franks:

Thank you for your letter of May 11, 2012 to EPA Administrator Lisa Jackson regarding the Tuba City Dump (Dump), located on the Navajo Nation and Hopi Tribe reservations. The Administrator has requested our Regional Office in San Francisco to respond. Your letter expresses concerns that groundwater contamination from the Dump is posing an imminent threat of contaminating the drinking water sources in Moenkopi, and suggests that EPA strongly consider taking immediate action to contain groundwater, before completion of the Superfund remedial investigation and feasibility study (RI/FS) being performed by the Bureau of Indian Affairs (BIA) with EPA oversight under an enforceable agreement.

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Sincerely,

JARED BLUMENFELD

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
*June 19, 2012*

Hon. John McCain,
United States Senate,
Washington, DC.

Dear Senator McCain:

Thank you for your letter of May 11, 2012 to EPA Administrator Lisa Jackson regarding the Tuba City Dump (Dump), located on the Navajo Nation and Hopi Tribe reservations. The Administrator has requested our Regional Office in San Francisco to respond. Your letter expresses concerns that groundwater contamination from the Dump is posing an imminent threat of contaminating the drinking water sources in Moenkopi, and suggests that EPA strongly consider taking immediate action to contain groundwater, before completion of the Superfund remedial investigation and feasibility study (RI/FS) being performed by the Bureau of Indian Affairs (BIA) with EPA oversight under an enforceable agreement.

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Sincerely,

JARED BLUMENFELD

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
*June 19, 2012*

Hon. Jon Kyl,
United States Senate,
Washington, DC.

Dear Senator Kyl:

Thank you for your letter of May 11, 2012 to EPA Administrator Lisa Jackson regarding the Tuba City Dump (Dump), located on the Navajo Nation and Hopi Tribe reservations. The Administrator has requested our Regional Office in San Francisco to respond. Your letter expresses concerns that groundwater contamination from the Dump is posing an imminent threat of contaminating the drinking water sources in Moenkopi, and suggests that EPA strongly consider taking immediate action to contain groundwater, before completion of the Superfund remedial investigation and feasibility study (RI/FS) being performed by the Bureau of Indian Affairs (BIA) with EPA oversight under an enforceable agreement.

EPA shares your interest in ensuring that the limited drinking water available for the Navajo Nation and Hopi Tribe in this area remains safe and that the regulatory process to select appropriate cleanup actions takes place expeditiously. The remedial investigation currently being conducted is necessary to fully ascertain any potential risks from the Dump to the supply wells, and will be performed on a schedule that will ensure ongoing protection of the water supply. The feasibility study will evaluate specific detailed alternatives for cleanup of groundwater, the dump material, or both, to ensure that any remedy selected is the best alternative. EPA believes that existing studies and information do not support the need for a groundwater response action before this work is completed.

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Sincerely,

JARED BLUMENFELD.

The CHAIRMAN. Thank you so very much, Mr. Chairman for your compelling testimony. Thank you, sir.

Next I'd like to turn to the Honorable LoRenzo Bates, who is the speaker of the Navajo Nation council.

Welcome.

## STATEMENT OF HON. LORENZO BATES, SPEAKER, NAVAJO NATION COUNCIL

Mr. BATES. Thank you, Chairman Barrasso, Senator McCain.

My name is LoRenzo Bates, and I'm an elected member of the 23rd Navajo Nation council representing six Navajo communities, including Nenahnezad, Newcomb, San Juan, Tiis Tsoh Sikaad, Tse Daa Kaan, and Upper Fruitland.

I would first like to begin by thanking you for the opportunity to submit testimony to the Committee on a matter of great significance to the Navajo Nation on and behalf of the communities and the farmers that I represent.

I would also like, with your permission, Chairman, to ask that the folks that drove hours on their own time to be recognized from my communities. If you could stand.

The CHAIRMAN. Please do.

Welcome. Welcome to the hearing. Thank you for bringing them with you.

Mr. BATES. And, also, my chairman for health education committee, Navajo Nation council.

The CHAIRMAN. Chairman.

Mr. BATES. These individuals, as well as myself, represent Navajo people and the families that continue to be impacted by the spill that occurred on August 5, 2015.

The communities of Nenahnezad, San Juan, Upper Fruitland, and Tse Daa Kaan all lie directly along the path of the San Juan River. The other communities that I serve also draw water indirectly or directly from the river for human and livestock and agricultural use.

In the communities of San Juan, Nenahnezad, Tse Daa Kaan, Gadi i ahi, Shiprock, and Upper Fruitland, it is estimated that there are over 1,600 farmers, and tens of thousands of acres of farmland that use water from the San Juan River.

These numbers only reflect four impacted communities. The secondary impacts of these economic losses are only just beginning.

The Navajo Nation, as a whole, has an unemployment rate that very often hovers around above 50 percent. We have a per capita income of around $7,000 annually.

With those statistics in mind, I come before you today on behalf of the communities for the following four reasons: first, to urge the

U.S. Environment Protection Agency to fulfill its obligation to compensate the farmers, livestock owners, and many others who are impacted by the spill in a timely manner and to the full extent of the damages occurred.

We appreciate the fact that the U.S. EPA has begun reimbursing the Navajo Nation's governmental agencies; however, nearly nine months have passed since the spill occurred, and not one single individual farmer, livestock owner or others affected by the spill have been compensated for their losses.

I understand that there is a process that there must be in order to issue financial compensation to the individuals; however, our people need to be informed of the timeline associated with that process, and be compensated as quickly and efficiently as possible.

Second, to demand that the U.S. EPA provides assurances and tangible evidence to the Navajo people and communities that their livestock and agricultural products will be safe for sale and consumption.

There remains great uncertainty and concern over the viability of sales of crops and livestock in the coming months.

While Navajo farmers are now preparing their fields for planting season, there remains uncertainty over whether or not their fields will produce quantity and quality of crops they are accustomed to prior to the spill.

Thirdly, to request closer and more constant collaboration between the U.S. EPA and the Navajo Nation EPA in communicating with one another, sharing data, and conveying that data and information to the Navajo public on a timely and consistent basis.

Numerous meetings have been held, and information has been shared publicly; however, that information is not always consistent.

And I urge all of the entities involved in monitoring the Animus River and the San Juan River to coordinate and speak with one consistent voice when informing the Navajo people.

Lastly, on April 14th, members of the 23rd Navajo Nation Council passed a resolution urging the President of the United States and his designees to hold the U.S. EPA accountable for their negligence resulting in a toxic spill from the Gold King Mine into the Animus River and causing catastrophic consequences for the Navajo Nation.

The resolution is attached to this testimony. I myself as a farmer and livestock owner in the community of Upper Fruitland have seen the impacts firsthand.

Since the spill, I have met many individuals from the impacted area, and continue to struggle with financial losses and look to the Federal government to provide answers and assistance. The assistance can and should come in the form of financial compensation through the claims process.

While I have made reference to financial compensation several times, I also want the Committee and the U.S. EPA to fully understand that the spill that occurred on August 5, 2015, had a price tag. And no monetary figure can be placed on the cultural and emotional impact that the spill continues to have on our Navajo people. Water is life, and indeed that is true for our people.

In closing, we look forward to working closely with the U.S. EPA and the Federal government to address the needs of the Navajo

communities and the environment today, and in the long-term the problems that have defined initial response, cleanup, and compensation do not need to taint the future response and cooperation between the Navajo Nation and the U.S. EPA and the Federal Government.

The Navajo Nation looks forward to working closely with this Committee and Congress to ensure that future needs and communications are handled in a timely and proper manner and to ensure that the Navajo people are compensated.

Thank you.

[The prepared statement of Mr. Bates follows:]

PREPARED STATEMENT OF HON. LORENZO BATES, SPEAKER, NAVAJO NATION COUNCIL

Yá'át'ééh Chairman Barrasso, Vice-Chairman Tester, and Members of the U.S. Senate Committee on Indian Affairs. My name is LoRenzo Bates. I am an elected member of the 23rd Navajo Nation Council, representing six Navajo communities including Nenahnezad, Newcomb, San Juan, Tiis Tsoh Sikaad, Tse'Daa'Kaan, and Upper Fruitland. I would like to begin by thanking you for the opportunity to submit testimony to the committee on a matter of great significance to the Navajo Nation on behalf of the communities and the farmers that I represent.

I also want to acknowledge and thank the members of the impacted communities who are seated in the audience today. At this time, I ask them to please stand and be recognized by the committee. They drove many hours, at their own expense, to be here to support the testimony provided on behalf of the Navajo people, Navajo communities, and the Great Navajo Nation.

They represent the thousands of Navajo people and Navajo families that continue to be impacted by the spill that occurred on August 5, 2015. The communities of Nenahnezad, San Juan, Upper Fruitland, and Tse'Daa'Kaan all lie directly along the path of the San Juan River. The other communities that I serve all draw water directly or indirectly from the river for human, livestock, and agricultural use.

In the four communities of Tse'Daa'Kaan, Gadi'i'áhi, Shiprock, and Upper Fruitland it is estimated that there are over 1,600 farmers and tens of thousands of acres of farmland that use water from the San Juan River—these numbers only reflect four impacted communities. The secondary impacts of these economic losses are only just beginning. The Navajo Nation as a whole has an unemployment rate that very often hovers at 50 percent. We have a per capita income around $7,000.

With those statistics in mind, I come before you today on behalf of these communities for the following four reasons:

1) Firstly, to urge the U.S. Environmental Protection Agency to fulfill its obligation to compensate the farmers, livestock owners, and many others who are impacted by the spill in a timely manner and to the fullest extent of damages incurred. We appreciate the fact that the U.S. EPA has begun reimbursing the Navajo Nation's governmental agencies. However, nearly nine months have passed since the spill occurred and not one single individual farmer, livestock owner, or others affected by the spill have been compensated for their losses. I understand that there is a process that must be followed in order to issue financial compensation to individuals. However, our people need to be informed of the timeline associated with that process and be compensated as quickly and efficiently as possible.
2) Secondly, to demand that the U.S. EPA provides assurances and tangible evidence to the Navajo people and communities that their livestock and agricultural products will be safe for sale and consumption. There remains great uncertainty and concern over the viability of sales of crops and livestock in the coming months. While Navajo farmers are now preparing their fields for planting season there remains uncertainty over whether or not their fields will produce the quantity and quality of crops that they were accustomed to prior to the spill. As you recall, restrictions were placed on the use of irrigation water from the San Juan River following the spill, which left thousands of acres of farmland without water for extended periods of time. The extent of damage to the soil and nutrients remains unknown to this day.
3) Thirdly, to request closer and more consistent collaboration between the U.S. EPA and the Navajo Nation EPA in communicating with one another, sharing data, and conveying that data and information to the Navajo public on

a timely and consistent basis. Numerous meetings have been held and information has been shared publicly. However, that information is not always consistent. I urge all of the entities involved in monitoring the Animas River and the San Juan River to coordinate and to speak with one consistent voice when informing the Navajo people.

4) Lastly, on April 14, 2016, members of the Navajo Nation Council passed a resolution urging the President of the United States and his designees to hold the U.S. EPA accountable for their negligence resulting in a toxic spill from the Gold King Mine into the Animas River and causing catastrophic consequences for the Navajo Nation. The resolution is attached to this testimony. I strongly urge Congress to advocate for an Executive Order that requires all federal agencies to provide timely and effective communication to tribes in events such as the Gold King Mine spill.

I myself am a farmer and livestock owner in the community of Upper Fruitland, and have seen the impacts firsthand. Since the spill I have met with many individuals from the affected communities and many continue to struggle with financial losses and look to the Federal Government to provide answers and assistance. That assistance can and should come in the form of financial compensation through the claims process. However, there are also other means to assisting farmers in the affected regions through other federal agencies such as the U.S. Department of Agriculture, U.S. Bureau of Reclamation, and others.

While I have made reference to financial compensation several times, I also want the committee and the U.S. EPA to fully understand that the spill that occurred on August 5, 2015, had a tremendous impact on Navajo people in a spiritual, traditional, and cultural context. There is no price tag and no monetary figure that can be placed on the cultural and emotional impact that the spill continues to have on our Navajo people. Often times, we hear the phrase "Water is Life" and indeed that is true for our people. Water gives life to us, and all that surrounds us.

Spiritually and culturally, Navajo beliefs are deeply rooted in the land, air, and water that lie between the Four Sacred Mountains that form the aboriginal boundary of our land. These connections are reinforced spiritually in the ceremonies that sustain our people and our livelihood. Our ceremonies use traditional seeds and crops that are grown and gathered on Navajo land. The spill has contaminated or destroyed many of the essential elements of our religious practice, and desecrated a river that we have treated with reverence since time immemorial.

In closing, we look forward to working closely with the U.S. EPA and the federal government to address the needs of the Navajo communities and the environment today, and in the long term. The problems that have defined the initial response, clean up and compensation do not need to taint the future response and cooperation between the Navajo Nation, the U.S. EPA, and the Federal Government. The Navajo Nation looks forward to working closely with this committee and the Congress to ensure future needs and communications are handled in a timely and proper manner and to ensure that our Navajo people are compensated.

**Attachment**

NABIAP-25-16

RESOLUTION OF THE
NAABIK'ÍYÁTI' COMMITTEE OF THE
NAVAJO NATION COUNCIL

23rd NAVAJO NATION COUNCIL - SECOND YEAR, 2016

AN ACTION

RELATING TO HEALTH, EDUCATION AND HUMAN SERVICES, RESOURCES AND DEVELOPMENT AND NAABIK'ÍYÁTI' COMMITTEES; DEMANDING THE PRESIDENT OF THE UNITED STATES AND HIS DESIGNEES TO HOLD THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND OTHER RESPONSIBLE PARTIES ACCOUNTABLE FOR THEIR MISCONDUCT RESULTING IN A TOXIC SPILL FROM THE GOLD KING MINE INTO THE ANIMAS RIVER, WHICH FLOWS INTO THE SAN JUAN RIVER, AND CAUSING CATASTROPHIC CONSEQUENCES FOR THE PEOPLE OF THE NAVAJO NATION

WHEREAS:

A. The Health, Education and Human Services Committee (HEHSC) is a Navajo Nation Council standing committee that has the authority to review and recommend resolutions relating to environmental health. 2 N.N.C. §§ 400(A), 401 (B)(6)(a) (2012); see also CJA-03-13.

B. The Resources and Development Committee (RDC) is a Navajo Nation Council standing committee that exercises oversight authority over water, environment, environmental protection, agriculture, and livestock. 2 N.N.C. §§ 500(A), 500 (C) (2012); see also CJA-03-13.

C. The Navajo Nation established the Naabik'íyáti' Committee as a Navajo Nation Council standing committee and as such empowered Naabik'íyáti' Committee to coordinate all federal programs e.g. United States Environmental Protection Agency to provide the most efficient delivery of services to the Navajo Nation. 2 N.N.C. §§ 164 (A)(9), 700 (A), 701 (A)(4) (2012); see also CJA-03-13.

D. The Navajo Nation has a government-to-government relationship with the United States of America. Treaty of 1850, Sept. 24, 1850, 9 Stat. 974 and Treaty of 1868, Aug. 12, 1868, 15 Stat. 667.

E. The Gold King Mine is an abandoned mine located in the Upper Animas Watershed in southwestern Colorado. *See* Gold King Mine Fact Sheet attached as Exhibit A.

F. On August 5, 2015, the United States Environmental Protection Agency (EPA) was investigating the mine site in order to "assess the on-going water releases from the mine, treat mine water, and assess the feasibility of further mine remediation." *See* EPA Emergency Response attached as Exhibit B.

G. While excavating above an old mine entrance, EPA workers and contractors negligently triggered a leak of pressurized water that resulted in spilling about three million gallons of contaminated water into Cement Creek, which feeds into the Animas River. See Exhibit B; *See* also Chronology of Events attached as Exhibit C.

H. The mine outside Silverton, Colorado, has continued to leak into Cement Creek, which feeds into the Animas River, which flows into the San Juan River.

I. The release of the contaminated wastewater into the local irrigation source for countless Navajo farmers has severely and negatively impacted their crops at the height of growing season, and caused Navajo families to question whether they will have enough income to support themselves throughout the year.

J. Moreover, the release has contaminated drinking water in the area, including local wells, and caused Navajo families to have to haul water over hundreds of miles in order to ensure the survival of their families and livestock.

K. Environmental Protection Agency estimates that most of the metals from the Gold King Mine spill were deposited in the Animas River riverbed. *See* EPA: Gold King Mine Drainage Release: DRAFT Analysis of Fate & Transport of Metals in the Animas and San Juan Rivers, attached as Exhibit E. This raises concerns that toxic metals may be disturbed by increased flow from snow melt and storm events and thereby released into the river. The Navajo Nation has initiated efforts to monitor water quality and provide notice of

potential issues to farmers and water users along the river. *See* 2-page fact sheet entitled Spring 2016 Sampling in Responses to the Gold King Mine Release attached as Exhibit F.

L. The Navajo Nation is working with many other state and tribal entities to coordinate sampling efforts and share data with the goal of developing a robust and comprehensive understanding of the extent of mining-related contamination in the San Juan watershed and its effects on human health and the environment. EPA should provide financial support for these efforts in order to mitigate the effects of its misconduct.

M. To date, scientists and experts are unable to determine the long-term effects of the spill.

N. It has now been determined that the EPA was aware that the conditions at the Gold King Mine presented "an endangerment to human health and the environment" and there was potential for "blowouts" as early as June 25, 2014. *See* Work Order from EPA contractor released August 21, 2015 attached as Exhibit D.

O. Dating back to the 1800s, the Supreme Court has recognized the federal trust relationship between Indian tribes and the United States government: "[Indian tribes] relations to the United States resemble that of a ward to his guardian." Cherokee Nation v. State of Ga., 30 U.S. 1, 2 (1831).

P. On August 12, 1868, the United States of America proclaimed the Treaty between the United States of America and the Navajo Tribe of Indians (herein "Treaty"), forever binding the two parties in a trust relationship.

Q. Article XIII of the Treaty states that the tribe herein named, by their representatives, parties to this treaty, agree to make the reservation herein described their permanent home, and they will not as a tribe make any permanent settlement elsewhere.

R. As the permanent home of the Navajo People, it is imperative that the Federal Government be guided by its responsibility to ensure that the Navajo Nation reservation and affiliated lands are adequately protected from preventable environmental disasters.

S. Diné Natural Law teaches that it is the duty of the Diné - and thus their federal counterparts with whom the responsibility of environmental protection is shared - to protect and preserve that beauty of the natural world for future generations. 1 N.N.C. § 205(G).

T. Additionally, the EPA must adhere to several federal laws and regulations intended to shield human beings from preventable environmental disasters, including but not limited to their responsibility under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

U. The spill created at the Gold King Mine by the EPA's misconduct was not only foreseeable but entirely preventable, and that spill has resulted in the contamination of water essential to the very livelihood of Navajo families.

V. As the party responsible for releasing the Gold King Mine contamination into the Diné People's sacred source of life-giving water, the EPA should publicly acknowledge its responsibility for this disaster, and should commit to supporting the Navajo Nation's efforts to restore harmony to the Animas River, the San Juan River, and all lands and people adversely affected by this spill.

NOW, THEREFORE, BE IT RESOLVED:

A. On behalf of the Navajo People in need of urgent attention, the Navajo Nation demands that the President of the United States and his designees hold the United States Environmental Protection Agency and other responsible parties accountable for their misconduct resulting in a toxic spill from the Gold King Mine into the Animas River and causing catastrophic and far-reaching consequences for the people of the Navajo Nation.

B. The Navajo Nation requests that President of the United States and his designees meet with U.S. Environmental Protection Agency officials and personnel to address how the spill at the Gold King Mine will be addressed in the future as this action has endangered the lives of many Navajo People.

C. The President of the United States and EPA should publicly commit to implementing and/or fully funding the requests of the Navajo Nation and other affected states, tribes, and local entities for:

- A fair and independent assessment of the role the EPA and others played in the events leading up to and causing the Gold King Mine spill;
- A comprehensive study of the San Juan watershed to determine the nature and extent of mine-related contamination and its effects on human health and the environment;
- Listing of the Upper Animas Mining District on the CERCLA National Priorities List;
- Sampling and analysis of water, soil sediment, vegetation, livestock, and wildlife in the San Juan River watershed, including wells, irrigation systems, and public water supply systems;
- An on-site laboratory on Navajo land, including funding for staff and sampling, to enable prompt processing and reporting of results;
- Full and immediate data and information sharing by EPA;
- Placement of a water treatment facility at the headwaters of the Navajo Nation and resources to explore alternative water supply systems in the event of an emergency;
- Recognition of the San Juan River's spiritual and cultural significance to the Navajo people;
- Funds dedicated to emergency preparedness for future environmental disasters like the Gold King Mine spill, given the continued threat posed by the Upper Animas Mining District;
- Resources to support the resurgence of farming and farm development along the San Juan River;

- Prompt and judicious review and approval of claims for damages and losses by people and businesses impacted by the Gold King Mine spill, including an interim claims process; and

- Implementation of real-time monitoring and an early warning system for ranchers, farmers, and other water users in the San Juan River watershed to provide notice of impending contamination from spring snowmelt runoff, storm events, and mining discharges that may cause release or mobilization of contaminants in the river system; and

- A formal, public apology from the United States Environmental Protection Agency Administrator McCarthy and President Obama to the Navajo Nation and to all those affected by this human-caused disaster.

D. The Navajo Nation hereby authorizes the Navajo Nation President, the Navajo Nation Speaker, the Navajo Nation Attorney General, and their designees, to advocate for the requestedactions and consultations.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Naabik'íyáti' Committee of the Navajo Nation Council at a duly called meeting in Twin Arrows, Navajo Nation (Arizona) at which a quorum was present and that the same was passed by a vote of 11 in favor and 1 opposed, this 14th day of April 2016.

LoRenzo C. Bates, Chairperson
Naabik'íyáti' Committee

Motion: Honorable Alton Joe Shepherd
Second: Honorable Amber Kanazbah Crotty

The CHAIRMAN. Thank you very much for being with us today, Speaker Bates. I'm grateful for your testimony.

I would like to next turn to Dr. Clark Lantz, who is a professor and associate head of the Cellular and Molecular Medicine at the University of Arizona.

Welcome, Dr. Lantz.

**STATEMENT OF R, CLARK LANTZ, PH.D. PROFESSOR AND ASSOCIATE HEAD, CELLULAR AND MOLECULAR MEDICINE, UNIVERSITY OF ARIZONA**

Mr. LANTZ. Thank you, Chairman Barrasso and—and Senator McCain. I welcome the opportunity to testify before the Committee today.

So I'm also the associate director of the University's Superfund research program and deputy director of the Southwest Environmental Health Science Center, two of the programs that the university funded by the National Institute of Environmental Health

Sciences that focus on environmental issues and their effects on native populations.

The University of Arizona is uniquely situated to play a major role as an unbiased partner with American Indian communities to determine the contribution of chemical and other environmental exposures, particularly those related to metal mining, to health inequities, and to support efforts to address these threats.

Other National Institutes of Health funded programs at the university include the partnership for Native American Cancer Prevention, and the Center for Indigenous Environmental Health Research.

In addition, the Lowell Institute for Mineral Resources and the Center for Environmentally Sustainable Mining aim to engage communities and be responsive to stakeholders to address environmental issues related to mining in arid and semi-arid environments.

The existence of these programs and their established trust within Native communities were essential to the University of Arizona response to the Gold King Mine spill.

Within a week after the spill, we had developed an extensive information sheet that was posted on the U of A's Superfund website, sent to our extension agents for distribution to farmers, and sent to Navajo research managers for use in their presentations about the spill.

In addition, the University of Arizona's Superfund personnel held community teach-in regarding spill consequences in Shiprock, Arizona, and three community listening sessions in Shiprock, Aneth, and Upper Fruitland, Arizona.

Topics covered included the extent of the contamination and potential for impact to the environment. In particular, water quality and the significance of the spill to Navajo livelihoods and cultural beliefs.

Finally, U of A Superfund personnel hosted four members of the Navajo nation to participate in a panel discussion at the University to discuss Navajo perspectives on the Gold King Mine spill.

University of Arizona researchers felt it was also important to be involved as an independent source in evaluation of the outcomes of the spill.

To this end, researchers submitted and were awarded a grant from the National Institute of Environmental Health Sciences. This application was strengthened by the involvement and support of the Navajo Nation. This included letters of support from President Begaye and Vice President Nez, the division directors, including Navajo EPA Director Dr. Ben, and approval by the Navajo Nation Human Subjects Review Board. The application also had a supporting resolution from the Dine Medicine Men's association.

This research is a partnership between the Navajo Nation and the University. Samples are collected by the community, are guided to the points by farmers for their areas of—areas of concern.

University of Arizona investigators have been quick to respond to questions by the community, and have taken careful steps to seek the Community's input and approvals in research design. All results will be reported first to the community and belong to the community.

Now, I think one of the most important metals to monitor for toxicity—based on the total estimated levels of metals released from the spill and the relative toxicity of the metals, in our opinion, lead and arsenic are the most problematic in terms of health risk.

Lead is known to cause neurological defects. Long-term lead exposure of adults can result in decreased performance in some tests that measure functions of the nervous system.

Children are particularly sensitive to lead exposures, resulting in decreased mental abilities and learning difficulties.

Exposures to lead is most dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature birth, smaller babies, decreased mental ability in the infant and learning difficulties and reduced growth in young children.

Arsenic has been associated with a wide range of chronic diseases. Arsenic has been classified as a carcinogen. And long-term exposure to arsenic is associated with cancers of the skin, bladder, and lungs.

Other adverse health effects include chronic lung disease, developmental effects, neurotoxicity, diabetes, and cardiovascular disease. Children, again, appear to be particularly sensitive, especially to high doses.

Arsenic can be accumulated in some plants and foods, including rice, lettuce, radishes, broccoli, brussel sprouts, kale and cabbage.

Again, I want to thank the Committee for giving me the opportunity to demonstrate how the University has provided, and will continue to provide, unbiased support for native communities concerned with their environmental issues.

Thank you.

[The prepared statement of Mr. Lantz follows:]

PREPARED STATEMENT OF R, CLARK LANTZ, PH.D. PROFESSOR AND ASSOCIATE HEAD, CELLULAR AND MOLECULAR MEDICINE, UNIVERSITY OF ARIZONA

Chairman Barrasso, Vice Chairman Tester and members of the Committee. My name is Dr. Clark Lantz and I want to thank you for the opportunity to testify. I would like to acknowledge that I was assisted with preparing this testimony by Drs. Karletta Chief and Raina Maier. I am the Associate Director of the University of Arizona Superfund Research Program and Deputy Director of the Southwest Environmental Health Sciences Center, two of the programs at the University that focus on environmental issues and their effects on native populations.

The University of Arizona is uniquely situated to play a major role as an unbiased partner with American Indian communities to determine the contribution of chemical and other environmental exposures, particularly those related to metal mining, to health inequities and to support efforts to address these threats. In Part I of this document we identify and highlight the goals and accomplishments of key University of Arizona programs related to native communities and mining. Most of these programs are funded through the National Institutes of Health (NIH) by the National Institute of Environmental Health Sciences (NIEHS) and the National Cancer Institute (NCI). In Part II we describe how the existence of these programs and their established trust within native communities were essential to the University of Arizona response to the Gold King Mine spill. Part III of the document presents information on the toxicity of metals associated with the Gold King Mine spill.

**Part I. Key Programs Related to Native Communities and Mining**

*A. UA Southwest Environmental Health Science Center (SWEHSC) An NIEHS Core Center of Excellence*

The geographic location of the SWEHSC, with its rich Native American cultural heritage, provides unique opportunities for basic environmental health sciences research to impact the health of these populations. The focus of the Center is on sup-

porting research related to unique exposures seen in arid and semiarid environments and how they affect indigenous populations. Within the Center the Community Outreach and Education Core (COEC) provides strong links between the research conducted within the Center and communities that maybe affected by exposures.

Under the theme of activities with tribal entities, the COEC continues to work with the Gila River Indian Community and the Inter Tribal Council of Arizona to develop new activities. In 2015 the SWEHSC COEC built additional collaborations with American Indian communities in close proximity to Tucson, the Tohono O'odham Nation, related to arsenic in the water, and the Pascua Yaqui Tribe, regarding high levels asthma among their children.

Major Recent Accomplishments include:

- Tribal Forum associated with the Annual Meeting of the P30 Core Centers Meeting and the outcomes associated with that meeting
- Water Summit—Arsenic in the Water of the Tohono O'odham Nation
- Publication of the Indigenous Stewards Environmental Literary Magazine and the outcomes related to its publication, a component of the "American Indian Stories of Health and the Environment" administrative supplement funding.

**2015 Tribal Forum**

The COEC Director continues to participate in the bi-annual Inter Tribal Council of Arizona (ITCA), Inc. Environmental Managers meetings and those of the Water Resources working group, the Air Quality working group and the Solid Waste working group led to the relationships that brought over 100 tribal representatives to the Forum. The 2015 Tribal forum was associated with the NIEHS Annual Centers Meeting and was very successful. The forum was called Tribal Stories of Health and the Environment: A forum to share how environmental exposures affect the health of tribal people, and was hosted by the ITCA, the Ak-Chin Indian Community and the Tohono O'odham Nation. Information, can be found at *https://swehsc.pharmacy.arizona.edu/outreach/tribal-stories-health-environment-forum.*

This event grew from the COEC idea of a small meeting with the tribal environmental managers to one with tribal environmental professionals from all the programs. Most of the over 125 people who attended were tribal people, people who work for tribes and attendees from NIEHS and from other P30 Core Centers who work with tribes. An NIEHS article summarizes the forum, "Tribal forum forges new connections" and can be found at *http://www.niehs.nih.gov/news/newsletter/2015/5/spotlight-tribal/*.

**Arsenic Water Summit**

As a result of the forum, Selso Villegas, PhD, the Director of the Water Resources Department of the Tohono O'odham Nation requested help with a meeting with community members concerning low dose chronic exposure to arsenic. The event was held in November, with attendance by Tohono O'odham (TO) community members, two members of the Tribal Council and by a number of TO Community College students. The outcome of the meeting is a request to present to subcommittees of the Council and to the Council itself. In addition, the COEC director discussed pilot project funds available from the SWEHSC for an epidemiological study.

**Indigenous Stewards Magazine**

In 2013 the COEC received an administrative supplement in collaboration with the COEC of the University of Washington. This project has provided new avenues of partnership with the Ha:San High School, the Tohono O'odham Community College and with Native American student associations at the University of Arizona. The output of the supplement is the inaugural issue of a literary magazine Indigenous Stewards, found at *http://swehsc.pharmacy.arizona.edu/content/indigenous-stewards.*

*B. Center for Indigenous Environmental Health Research (CIEHR) An NIEHS and USEPA Center of Excellence on Environmental Health Disparities*

The P50 Center for Indigenous Environmental Health Research (CIEHR) newly established and funded in late 2015, was initiated to partner with American Indian and Alaska Native (AI/AN) communities to build capacity to determine the contribution of chemical and other environmental exposures to health inequities and support efforts to address these threats. AI/AN communities suffer from increased mortality attributable to cancer (stomach, gallbladder, liver and kidney), respiratory disease, diabetes, and liver disease, among other conditions. Chemically contaminated traditional foods, water, air, and household environments, as well as social determinants of health, contribute to these health disparities and stand out as modifiable factors for AI/AN communities. Effective and sustainable environmental health disparities research and mitigation require a community-based participatory research (CBPR)

approach, engaging the strengths of AI/AN communities and providing data and context to inform policy decisions. Nascent research on resilience in AI/AN and other peoples identifies traditional community structure and social relationships, cultural identity and practices, and experience with past adversity as protective, offering innovative directions for AI/AN health research and intervention.

*C. The Partnership for Native American Cancer Prevention (NACP) An NCI Partnership to Advance Cancer Health Equity*

The Partnership for Native American Cancer Prevention (NACP) is a collaborative Minority Institution/Cancer Center Partnership (MI/CCP) between the University of Arizona Cancer Center, Northern Arizona University and the NIH National Cancer Institute. The mission is to alleviate the unequal burden of cancer among Native Americans of the Southwest through research, training and community outreach programs in collaboration with the communities they serve.

The Program is designed to facilitate the entry of Native Americans into biomedical research and healthcare professions while engaging communities in research and training relevant to their needs. Research projects include laboratory, field-based and community-based participatory research. All programs involving communities originate in those communities and are developed and implemented in partnership with NACP students and faculty.

The goals of the NACP are:

1) Continue to increase the competitive stance of cancer research and training at Northern Arizona University by adding new cancer researchers and by continuing strong faculty development programs for all junior faculty.
2) Develop programs that facilitate the successful transition of Native American students into the universities and that enhance the retention and graduation of Native American undergraduates in biomedical sciences.
3) Develop sustainable community education programs and research for cancer prevention that meet the unique needs of the Hopi Tribe and the Navajo and Tohono O'odham Nations.

*D. University of Arizona Superfund Research Program (UASRP) An NIEHS multi-investigator interdisciplinary research program*

The University of Arizona Superfund Research Program (UA SRP) addresses the current knowledge gap in our understanding of mine waste systems in relation to human and environmental health, a current and growing problem. The research goals of the UA SRP are two-fold, first to develop exposure assessment tools that can be used to evaluate the risk for communities that neighbor mine waste or smelter sites. A second goal is to develop and evaluate the effectiveness of new cleanup technologies for mining waste. Along with these goals, the UA SRP has a mission to work to mitigate the human impacts of exposure to mining waste through effective communication of its research and by serving as a State and national resource for human and environmental health issues associated with mining.

Within the UASRP the Community Engagement Core (CEC) applies research outcomes from the UA SRP to empower underrepresented populations to address health and environmental challenges related to our mining legacy. This is done through a combination of community-engaged research and training and capacity building focused on Arizona Tribal Nations and Hispanic communities.

The purpose of the CEC is to deliver science-based information to engage affected community stakeholders so they can become active players in understanding and making informed decisions on health issues related to mining. In this way, they become active players in understanding and dealing with the environmental health issues they face. Active participation allows citizens to help create and drive the research process, problem solving, solution development, and political dialogue. The exchange between the UA SRP and communities is multi-directional so as to influence both the research agenda and the engagement experiences that are implemented. For instance, community members not only interact with CEC personnel regarding community engaged-research, but also, opportunities are made available for them to discuss current UA SRP research as well as how this research can respond to local concerns.

**Mining Modules**

The UA SRP has partnered with Arizona tribal colleges to design and pilot educational modules on mining processes and on the sociocultural and environmental impacts of mining to supplement existing science, technology, engineering, and mathematics (STEM) curricula, with the goal of supporting the Native American STEM pipeline to four-year institutions. The first module, Copper Mining, is avail-

able on-line: *http://www.superfund.pharmacy.arizona.edu/learning-modules/tribal-modules* Five additional modules will be made available as they are completed.

**Community Informational Pamphlets**

The UA SRP has developed a series of eleven tri-fold information sheets to date which are designed to provide a basic introduction to environmental issues for community members neighboring contaminated sites as well the general public. The materials are available online or in English and Spanish. Examples include: What are Mine Tailings?, What is Arsenic?, Lead and Our Health, and What is Hazardous Waste?

*E. Lowell Institute for Mineral Resources (IMR) A State and industry supported Institute*

The IMR (*www.imr.arizona.edu*) is the largest interdisciplinary center for mineral resources research in the US and one of the largest in the world. The purpose of the IMR is to create the "new face of mining" by fusing intellectual disciplines, engaging communities, being responsive to stakeholders, conducting use-inspired research, being entrepreneurial, having permeable boundaries, and being engaged globally. The IMR is unique in the world in the success of this transdisciplinary approach.

The IMR bridges basic and applied research across all areas of science, technology, health, social science, law, policy, business, and leadership and works with leaders to adopt new ideas, policies, and technologies. Key thematic challenges include water, energy, healthy and safe communities, improving our knowledge of the global mineral resource inventory, improving environmental stewardship, obtaining social license to operate, informing law and policy, educating the next generation, and engaging our communities.

Personnel from the IMR have been active in briefing the staffs for all Arizona federal representatives and Senators, state legislators, and local city and county council and supervisors on issues related to mining.

*F. The Center for Environmentally Sustainable Mining (CESM) A State and industry supported Center*

The mission of CESM is to develop educational, specialized professional training, and research initiatives that address environmental issues related to mining activities in arid and semi-arid urban environments. Examples include development of novel technologies to: minimize water use and suppress dust generation in mining operations; allow green engineering for environmentally responsible new mine development; create sustainable mine tailings caps; prevent and treat acid rock drainage; allow long-term assessment of environmental impacts; assess short- and long-term health risks from contaminated water and air in urban environments near mining operations.

A major accomplishment of the CESM is the formation of an Industry-Academic Cooperative for the reclamation of mine wastes. The purpose of the Cooperative is to bring mining companies together with academia to develop improved reclamation technology for mining waste. All members of the Cooperative agree to share results.

**Part II: University of Arizona Response to Gold King Mine Spill**

**Communicating information**

The Gold King Mine spill contaminated waterways running through Navajo Nation communities. The spill occurred on August 5, 2015 from the Gold King Mine in Silverton, CO. Acid mine drainage (AMD) from the mine traveled to Cement creek, a tributary of the Animas River, eventually adding three million gallons of AMD into the waterways of the Colorado River Basin. Tribal community members along the impacted rivers and streams began voicing their concerns about the safety of the contaminated water for personal use as well as for livestock, wildlife, and crops. The Friday after the spill, it was suggested that based on all the questions being received from Navajo Nation Speaker of the Navajo Council Lorenzo Bates and from Navajo and Yuma farmers, that an unbiased information sheet should be developed as quickly as possible. Because of the foundation and trust established by the UA Programs listed above, UA SRP personnel were contacted to help with this project. They produced and published an on-line Gold King Mine spill fact sheet following analysis of data released by the US Environmental Protection Agency (US EPA) in the week following the spill. *http://www.superfund.pharmacy.arizona.edu/sites/default/files/u43/gold__king__mine__spill.pdf.*

The fact sheet was posted on the UA SRP website and was distributed by email and through Jeannie Benally (UA extension agent) who distributed hard copies at the farmers meetings. In addition, Perry Charley (Research Manager at Dine' College) used it in his presentations about the spill. The document continues to be updated and the current version is posted on the UA SRP website at the url provided

above. The fact sheet has also been condensed into a two page brochure for ease of distribution. (The 2 page information sheets are attached).

In addition to the fact sheet, over the next couple of months, UA SRP personnel were engaged in diverse translation and outreach efforts. These included media interviews (see media outlet list below), student educational opportunities, a community "teach-in" regarding spill consequences held in Shiprock, AZ, and three community "listening" sessions held in Shiprock, Aneth, and Upper Fruitland, AZ. Topics covered included the extent of the contamination and potential for impact to the environment, in particular water quality; and the significance of the spill to Navajo livelihoods and cultural beliefs.

Media interview outlets included:

- Arizona Week, a newsmagazine produced by Arizona Public Media
- Native America Calling, a live call-in program which can be heard on over public, community, and tribal radio stations and the Internet
- Arizona Daily Star
- Arizona Farm Bureau

Finally on March 29, 2016, UA SRP personnel hosted four members of the Navajo Nation to participate in a panel to discuss "Navajo Perspectives on the Gold King Mine Spill." Panel members included: Chili Yazzie (Shiprock Chapter President), Perry Charley (Diné College Scientist), Jani Ingram (NAU Chemistry Professor), and Mae-Gilene Begay (Navajo Community Health Representatives Director). The purpose of this visit was to promote meaningful interaction between the Navajo community and the UA community.

**Independent Assessment of Spill Outcomes**

University of Arizona researchers felt it was important to not only provide information related to the spill but to also be involved as an independent source in evaluation of the outcomes of the spill. To this end researchers submitted a grant to NIEHS entitled: "*TóLitso, The Water Is Yellow: Investigating Short Term Exposure And Risk Perception Of Navajo Communities To The Gold King Mine Toxic Spill*". The grant was funded for two years, beginning March 1, 2016, through a rapid funding mechanism that can be used for time sensitive research needs such as the Gold King spill. Realizing the importance of beginning the studies as quickly as possible, UA SRP and SWEHSC both provided preliminary funds so that the project could actually begin in late 2015. The application was strengthened by the involvement and support of the Navajo Nation. This included a letter of support from President Begay and VP Nez, the Division directors including Navajo EPA Dr. Benn, and approval by the Navajo Nation Human Subjects Review Board as of Jan 2016. The application also had a supporting resolution from the Dine' Medicine Men's Association.

The research is a partnership between UA and Navajo Nation. Samples are collected by the community who are guided to the points by farmers for their areas of concern. UA investigators have been quick to respond to the questions by the community and have taken careful steps to seek the community's input in approvals and research design. All results will be reported first and belong to the community. Navajo Nation President Russell Begaye and Vice President Jonathan Nez delivered samples to the University of Arizona. Vice President Nez spent a day touring University labs and discussing issues of the spill with investigators.

**"To Litso, The Water Is Yellow" grant summary**

On August 5, 2015, 3 million gallons of acid mine drainage was accidently released from the Gold King Mine spill, eventually reaching the San Juan River—the lifeblood of the Navajo Nation. Many Native American communities have subsistence livelihoods and strong cultural practices and spiritual beliefs that are deeply connected to the natural environment. As a result, environmental contamination from catastrophic mine spills severely impacts indigenous people to the core of their spiritual and physical livelihoods and there is potential for unique exposure pathways and greater health risks. Further complicating the situation is the lack of empirical short and long-term exposure data following mine spills, necessary for scientists to address these concerns. Building on established partnerships with the Navajo Nation, this project aims to measure the short-term exposure to lead and arsenic and evaluate the risk perceptions of Navajo communities dependent on the San Juan River in order to understand the potential long-term health risks from the Gold King Mine spill and develop mitigation strategies. Exposure and health effects of lead and arsenic are widely studied and clear guidelines for human biomonitoring levels are established such that individuals with high risks can be identified and treated before adverse health effects occur. The first aim is to determine levels of exposures in three Navajo Chapters downstream of spill within 9 months of the

spill and prior to the growing season. The second aim is to assess temporal and spatial changes in sediment, agricultural soil, river and well water in the three Navajo Chapters within 12 months of the spill. The third aim is to determine the association between Navajo community members' perception of health risks and measured health risks from the Gold King Mine spill within the 9-month period after the spill. This application is time-sensitive because it is essential to obtain baseline shortterm exposure measurements prior to spring runoff which is likely to re-mobilize river sediment and prior to the start of the Navajo growing season. Additionally, risk perception is most elevated, dynamic, and diverse shortly after an incident and recall bias should be minimized. The unpredictable timing of a mine spill of this magnitude increases the importance of a timely response for the collection of samples to evaluate potential harm to human health from environmental exposures. The results of this investigation will be used in the future to develop a community-based intervention, designed to (a) prevent potentially harmful exposures based on actual measured risk, and/or (b) communicate the actual long-term risks from the Gold King mine spill, effectively. While this specific incident may have been one of the largest acid mine spills in recent history, the Department of Interior has estimated more than 500,000 abandoned mines throughout the United States, and the potential for ongoing acid mine leaks or large-scale spills to impact many communities and eco-systems is high. Empirical data collected from this study could also be used to improve risk assessment and communication in the unfortunate event of future mine spill disasters affecting other communities.

**Part III: Toxicity of Metals Associated With the Gold King Spill**

Based on the total estimated levels of metals released from the spill (see Understanding the Gold King Mine Spill pamphlet) and the relative toxicity of the metals, in our opinion, the following metals seem to be the most problematic in terms of health risk. These include in order of importance lead, arsenic, mercury, cadmium, manganese, copper and zinc.

**Overview of metal toxicity**

*Lead* is known to cause neurological deficits. Long-term lead exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Children are particularly sensitive to lead exposures resulting in decreased mental abilities, and learning difficulties. Current EPA standards are lead in drinking water is 0.015 milligrams per liter.

*Arsenic* has been associated with a wide range of chronic diseases. Long-term exposure to arsenic may cause cancers of the skin, bladder and lungs. The International Agency for Research on Cancer (IARC) has classified arsenic and arsenic compounds as carcinogenic to humans, and has also stated that arsenic in drinkingwater is carcinogenic to humans. Other adverse health effects that may be associated with long-term ingestion of inorganic arsenic include developmental effects, neurotoxicity, diabetes and cardiovascular disease. Children appear to be particularly sensitive, especially at high doses. Exposures during *in utero* and postnatal development lead to increased mortality, decreased lung function and increased incidence of pulmonary infections in adults. Some of these changes are evident as early as 6 years of age following chronic *in utero* and postnatal exposures. Arsenic can be accumulated in some plants and foods including rice, lettuce, radishes, broccoli, Brussels sprouts, kale, and cabbage. The current EPA standard for arsenic in municipal drinking water systems is 0.010 milligrams per liter.

The nervous system is very sensitive to all forms of *mercury*. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Very young children are more sensitive to mercury than adults. Mercury in the mother's body passes to the fetus and may accumulate there. Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury. The EPA has set a limit of 0.002 milligrams per liter in drinking water. The Food and Drug Administration (FDA) has set a maximum permissible level of 1 milligram per kilogram of seafood.

Long-term exposure to lower levels of *cadmium* in air, food, or water leads to a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. The health effects in children are expected to be similar. Animal studies indicate that younger animals may be more sensitive. Fish, plants, and animals take up cadmium from the environment. You can be exposed by eating foods containing cadmium; low levels are found in all foods (highest levels are found in shellfish, liver, and kidney meats) or by drinking contaminated

water. No long term adverse effects are expected with a lifetime exposure to 0.005 milligrams per liter.

*Manganese* is also known to cause neurological deficits. While most data on manganese is from inhaled occupational exposures, limited evidence suggests that high manganese intake from drinking water may be associated with neurological symptoms similar to those of Parkinson's disease. In addition, limited evidence also indicates children exposed to high levels of manganese had significantly lower scores on tests of intelligence. A life time exposure to 0.3 milligrams per liter is not expected to cause any adverse effects. The current EPA standard for manganese in drinking water is 0.05 milligrams per liter. This is a secondary standard dealing mostly with taste, clarity and other nontoxic properties.

*Copper* and *zinc* are both essential nutrients but high levels may also cause toxicity. Very high doses of copper can cause damage to your liver and kidneys, and can even cause death. We do not know if these effects would occur at the same dose level in children and adults. Studies in animals suggest that young children may have more severe effects than adults, but we don't know if this would also be true in humans. For zinc, harmful effects generally begin at levels 10–15 times higher than the amount needed for good health. Large doses taken chronically by mouth can cause anemia and decrease the levels of good cholesterol. It is not known whether children are more susceptible. EPA recommended levels of copper and zinc in water should not exceed 1 milligram per liter and 5 milligrams per liter for copper and zinc, respectively. These also are secondary standards. Please note that these recommended limits are at least 100 times higher than those for lead, arsenic mercury and cadmium, demonstrating that they are relatively less toxic. However, they are mentioned here because of the high levels of zinc and copper released during the spill.

**Summary of toxicity of each metal**

Additional information about the toxicity of these metals is given in the more detailed sections below and can also be found on the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs websites.

*Lead*

*How can lead affect my health?*

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high-levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production. There is no conclusive proof that lead causes cancer.

*How can lead affect children?*

Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint or swallowing house dust or soil that contains lead.

Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

*What happens to lead when it enters the environment?*

Once lead falls onto soil, it usually sticks to soil particles. Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

*Has the Federal Government made recommendations to protect human health?*

The Centers for Disease Control and Prevention (CDC) recommends that states test children at ages 1 and 2 years. Children should be tested at ages 3–6 years

if they have never been tested for lead, if they receive services from public assistance programs for the poor such as Medicaid or the Supplemental Food Program for Women, Infants, and Children, if they live in a building or frequently visit a house built before 1950; if they visit a home (house or apartment) built before 1978 that has been recently remodeled; and/or if they have a brother, sister, or playmate who has had lead poisoning. CDC has updated its recommendations on children's blood lead levels. Experts now use an upper reference level value of 97.5 percent of the population distribution for children's blood lead. In 2012–2015, the value to identify children with blood lead levels that are much higher than most children have is 5 micrograms per deciliter. EPA limits lead in drinking water to 0.015 milligrams per liter.

*Arsenic*

*How can arsenic affect my health?*

The first symptoms of long-term exposure to high levels of inorganic arsenic (e.g. through drinking-water and food) are usually observed in the skin, and include pigmentation changes, skin lesions and hard patches on the palms and soles of the feet (hyperkeratosis). These occur after a minimum exposure of approximately five years and may be a precursor to skin cancer.

In addition to skin cancer, long-term exposure to arsenic may also cause cancers of the bladder and lungs. The International Agency for Research on Cancer (IARC) has classified arsenic and arsenic compounds as carcinogenic to humans, both through inhalation and through ingestion. Other adverse health effects that may be associated with long-term ingestion of inorganic arsenic include developmental effects, neurotoxicity, diabetes and cardiovascular disease.

*How can arsenic affect children?*

Children appear to be particularly sensitive, especially at high doses. Exposures during *in utero* and postnatal development led to increased mortality, decreased lung function and increased incidence of pulmonary infections in adults. Some of these changes are evident as early as 6 years of age following chronic *in utero* and postnatal exposures.

*What happens to arsenic when it enters the environment?*

Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching. Arsenic can be accumulated in some plants including rice, lettuce, radishes, broccoli, Brussels sprouts, kale, and cabbage.

*Has the Federal Government made recommendations to protect human health?*

U.S. EPA standard for arsenic in municipal water systems is 0.010 milligrams per liter.

*Mercury*

*How can mercury affect my health?*

The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Methylmercury and mercuric chloride are possible human carcinogen.

*How does mercury affect children?*

Very young children are more sensitive to mercury than adults. Mercury in the mother's body passes to the fetus and may accumulate there. It can also pass to a nursing infant through breast milk. Mercury's harmful effects that may be passed from the mother to the fetus include brain damage, mental retardation, incoordination, blindness, seizures, and inability to speak. Children poisoned by mercury may develop problems of their nervous and digestive systems, and kidney damage.

*What happens to mercury when it enters the environment?*

Inorganic mercury (metallic mercury and inorganic mercury compounds) enters the air from mining ore deposits, burning coal and waste, and from manufacturing plants. It enters the water or soil from natural deposits, disposal of wastes, and volcanic activity. Methylmercury may be formed in water and soil by small organisms called bacteria. Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury.

*Has the federal government made recommendations to protect human health?*

The EPA has set a limit of 0.002 milligrams per liter of mercury in drinking water. The Food and Drug Administration (FDA) has set a maximum permissible level of 1 milligram per kilogram in seafood.

*Cadmium*

*How can cadmium affect my health?*

Long-term exposure to lower levels of cadmium in air, food, or water leads to a buildup of cadmium in the kidneys and possible kidney disease. Other long-term effects are lung damage and fragile bones. Eating food or drinking water with very high levels severely irritates the stomach, leading to vomiting and diarrhea. Cadmium is classified as a human carcinogen.

*How can cadmium affect children?*

The health effects in children are expected to be similar to the effects seen in adults (kidney, lung, and bone damage depending on the route of exposure). A few studies in animals indicate that younger animals absorb more cadmium than adults. Animal studies also indicate that the young are more susceptible than adults to a loss of bone and decreased bone strength from exposure to cadmium.

*What happens to cadmium when it enters the environment?*

Cadmium enters soil, water, and air from mining, industry, and burning coal and household wastes. Some forms of cadmium dissolve in water. Fish, plants, and animals take up cadmium from the environment.

*Has the Federal Government made recommendations to protect human health?*

The EPA has determined that lifetime exposure to 0.005 milligrams per liter is not expected to cause any adverse effects. The FDA has determined that the cadmium concentration in bottled drinking water should not exceed 0.005 milligrams per liter.

*Manganese*

How can manganese affect my health?

Manganese is an essential nutrient, and eating a small amount of it each day is important to stay healthy. Limited evidence suggests that high manganese intakes from drinking water may be associated with neurological symptoms similar to those of Parkinson's disease. A study of older adults in Greece found a high prevalence of neurological symptoms in those exposed to water manganese levels of 1.8 to 2.3 milligrams per liter, while a study in Germany found no evidence of increased neurological symptoms in people drinking water with manganese levels ranging from 0.3 to 2.2 milligrams per liter compared to those drinking water containing less than 0.05 milligrams per liter. Manganese in drinking water may be more bioavailable than manganese in food. However, none of the studies measured dietary manganese, so total manganese intake in these cases is unknown. Manganese is not classified as a human carcinogen.

*How can manganese affect children?*

Recent studies have shown that children exposed to high levels of manganese through drinking water experience cognitive and behavioral deficits. For instance, a crosssectional study in 142 10-year old children, who were exposed to a mean manganese water concentration of 0.8 milligrams per liter, found that children exposed to higher manganese levels had significantly lower scores on three tests of intellectual function. Another study associated high levels of manganese in tap water with hyperactive behavioral disorders in children. These and other recent reports have raised concern over the neurobehavioral effects of manganese exposure in children.

In the U.S., the EPA recommends 0.05 milligrams per liter as the maximum allowable manganese concentration in drinking water. This is a secondary standard based on color and taste. Life time exposures to 0.3 milligrams per liter is not expected to cause any adverse effects.

*Copper*

How can copper affect my health?

Everyone must absorb small amounts of copper every day because copper is essential for good health. High levels of copper can be harmful. Breathing high levels of copper can cause irritation of your nose and throat. Ingesting high levels of copper can cause nausea, vomiting, and diarrhea. Very-high doses of copper can cause damage to your liver and kidneys, and can even cause death. Copper is not classified as a human carcinogen.

*How can copper affect children?*

Exposure to high levels of copper will result in the same type of effects in children and adults. We do not know if these effects would occur at the same dose level in children and adults. Studies in animals suggest that the young children may have more severe effects than adults, but we don't know if this would also be true in humans. There is a very small percentage of infants and children who are unusually sensitive to copper. We do not know if copper can cause birth defects or other developmental effects in humans. Studies in animals suggest that high levels of copper may cause a decrease in fetal growth.

*What happens to copper when it enters the environment?*

Copper is released into the environment by mining, farming, and manufacturing operations and through waste water releases into rivers and lakes. Copper is also released from natural sources, like volcanoes, windblown dusts, decaying vegetation, and forest fires. Copper released into the environment usually attaches to particles made of organic matter, clay, soil, or sand. Copper does not break down in the environment. Copper compounds can break down and release free copper into the air, water, and foods.

*Has the Federal Government made recommendations to protect human health?*

The EPA requires that levels of copper in drinking water be less than 1 milligram of copper per one liter of drinking water based on taste and staining.

*Zinc*

*How can zinc affect my health?*

Zinc is an essential element in our diet. Too little zinc can cause problems, but too much zinc is also harmful. Harmful effects generally begin at levels 10–15 times higher than the amount needed for good health. Large doses taken by mouth even for a short time can cause stomach cramps, nausea, and vomiting. Taken longer, it can cause anemia and decrease the levels of your good cholesterol. We do not know if high levels of zinc affect reproduction in humans. Rats that were fed large amounts of zinc became infertile. Putting low levels of zinc acetate and zinc chloride on the skin of rabbits, guinea pigs, and mice caused skin irritation. Skin irritation will probably occur in people. Zinc is not classified as a carcinogen.

*How can zinc affect children?*

Zinc is essential for proper growth and development of young children. It is likely that children exposed to very high levels of zinc will have similar effects as adults. We do not know whether children are more susceptible to the effects of excessive intake of zinc than the adults.

We do not know if excess zinc can cause developmental effects in humans. Animal studies have found decreased weight in the offspring of animals that ingested very high amounts of zinc.

What happens to zinc when it enters the environment?

Some is released into the environment by natural processes, but most comes from human activities like mining, steel production, coal burning, and burning of waste. Depending on the type of soil, some zinc compounds can move into the groundwater and into lakes, streams, and rivers. Most of the zinc in soil stays bound to soil particles and does not dissolve in water. It builds up in fish and other organisms, but it does not build up in plants.

*Has the Federal Government Made Recommendations to Protect Human health?*

The EPA recommends that drinking water should contain no more than 5 milligrams per liter of water because of taste.

GOLD KING MINE SPILL TWO PAGE INFORMATION SHEET

**Gold King Mine Spill Community Sheet**

*In General:*

- Short-term the Gold King Mine spill was quickly diluted and metals settled in the river sediment.
- Long-term health and environmental impacts of the Gold King Mine spill are not well understood.
- Currently different agencies and universities are trying to understand what are the overall impacts.

*The Bottom Line Answer*

*Why was the water yellow after the spill?*

When rocks made up of minerals and metals found in deep mine tunnels come into contact with water and air this combination creates acid mine drainage. This rock-acid mixture causes the metals in the rocks to seep out into the water. The Gold King Mine spill turned a yellow orange color because there was iron present. When acid mine drainage from the spill came into contact with fresh river water it made the mixture less acidic and caused the iron to settle out.

*How will the spill affect people's health?*

Not enough information has been gathered to determine what the health impacts are or will be for people living near waterways affected by the Gold King Mine spill. Tribal, federal, state, and local agencies as well as universities are currently studying the potential short- and long-term effects by collecting water, soil, and animal samples. At this point, drinking water sources have been determined to be safe to drink by federal and state authorities.

*How are crops or gardens affected by the spill?*

Soon after the Gold King Mine spill, irrigation intakes at the Animas and San Juan Rivers were turned off. Because this happened quickly, agencies suggested that crops were not impacted. Many local farmers lost their crops due to a lack of water during the hottest time of the year. The possible longterm impacts of the spill on local crops are not known. It is generally recommended that farmers or gardeners growing crops call the extension office for specific advice. At this time, irrigation intakes have been flushed and reopened for use.

*Can the spill affect livestock?*

In August 2015, the Colorado Department of Agriculture and the Utah Department of Agriculture and Food lifted warnings on the use of water from the San Juan River for livestock. However, there have not been enough studies conducted to say with certainty that livestock was not impacted soon after the spill. Cattle ranchers in areas where the Gold King Mine spill occurred should double check with veterinarians or extension personnel regarding potential impacts.

This is a community summary of the information complied for the "Understanding the Gold King Mine Spill" document available at: *http://superfund.pharmacy.arizona.edu/sites/default/files/u43/gold__king__mine__spill.pdf*

**What happened at the Gold King Mine on August 5, 2015?**

On August 5, 2015, when the U.S. Environmental Protection Agency was investigating the old, abandoned Gold King Mine in Silverton, Colorado, digging machines loosened a soil plug that caused mine water under pressure to gush out and eventually travel to Cement Creek, a tributary of the Animas River. It is estimated that three million gallons or nine football fields with one foot deep of mine water spilled out. This mine water contained acid, salts, and toxic metals such as lead and arsenic. The Gold King Mine spill took place in the Colorado River Basin.

*Who are involved in studying the impacts of the Gold King Mine spill?*

There are various tribal, federal, state, and local agencies as well as universities studying the impacts of the Gold King Mine spill. The following is a list of the major groups involved:

**Tribal Agencies**

Navajo Nation, Navajo, Environmental Protection Agency, Southern Ute Indian Tribe Water Quality Program

**Federal Agencies**

U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Agency for Toxic Substances and Disease Registry, Bureau of Indian Affairs

**State Agencies**

AZ Department of Environmental Quality, NM Environmental Department, CO Fish and Wildlife Conservation Office, CO Department of Public Health and the Environment

**Universities**

University of Arizona, Northern Arizona University, Rice University, University of New Mexico, University of Colorado Boulder, New Mexico State University, New Mexico Institute of Mining and Technology

*What was done and is being done to control the Gold King Mine spill?*

Stopping or pumping the Gold King Mine spill was not possible because the Animas River is flows fast. The water in the river diluted the initial acid mine drainage as it flowed downstream. The U.S. Environmental Protection Agency and

other federal, state, and tribal agencies worked to redirect additional acid mine drainage away from waterways. This acid mine drainage is being treated in a series of man-made ponds that both decrease the acidity using lime and remove metals from the water. Since February 2016, the Bonita Peak Mining District (where the Gold King Mine is located) is being considered for the Superfund National Priority List that would apply more federal monies to monitor and treat contamination.

I would like to talk to someone about the Gold King Mine spill and.
Drinking Water—Janick Artiola, Soil, Water and Environmental Science, (520) 621–3516
Human Health—Clark Lantz, Cellular Biology and Anatomy, (520) 626–6716
Crop/Garden—M¢nica Ramϕrez-Andreotta, Soil, Water and Environmental Science, (520) 621–0091
Community Organizing—Janene Yazzie, Sixth World Solutions, (928) 245–1352
Livestock—Gerald Moore, Navajo Nation Extension Agent, (928) 871–7686
NIEHS Gold King Mine Exposure Project—Karletta Chief, Soil, Water and Environmental Science (520) 222–9801

As a community member, it is important to ask questions! Researchers involved in these studies should follow up with you and your community about the results and what they mean. Information is important for everyone impacted by environmental contamination. You and others can use results from these studies to make informed decisions.

The CHAIRMAN. Thank you very much to each of you.

Senator MCCAIN. Mr. Chairman?

The CHAIRMAN. Yes.

Senator MCCAIN. I would request that Congresswoman Kirkpatrick could join us here, if she would like, in order to ask questions. This whole area lies in her area of responsibility in Congress. And even though we in the Senate are terrible snobs, we'd be pleased to have her join us.

Please come right here.

The CHAIRMAN. You're welcome to join us up here.

Senator MCCAIN. Thank you.

The CHAIRMAN. Dr. Lantz, as you know, among the many toxic compounds in the Gold King Mine wastewater is lead. We just mentioned that.

According to the Centers for Disease Control, "No safe blood lead level in children has been identified." Lead exposure, as you say, can affect nearly every system in the body.

The CDC goes on to say that lead exposure in children causes damage to brain and nervous system, slowed growth and development, learning and behavior problems, hearing and speech problems.

In your written testimony you said movement of lead from the soil—this is what I want to get into—movement of lead from the soil and the groundwater will depend on the type of lead compound, I think you said, and the characteristics of the soil.

So can you go into a little more detail as to what steps the affected communities should take in order to protect their children from the lead exposure, and what assistance and information the EPA should be providing to the public?

Mr. LANTZ. Yes. So lead in the water systems is probably going to be the most problematic. And being exposed through that route may be the one that needs to be monitored.

So certainly what needs to be done is to monitor the lead levels in drinking water or water that's being used for cooking, and making sure that those are at sufficiently low levels so as not to cause adverse health outcomes.

I also think that it's important to make sure that the children have been tested for their own lead levels, so that we have an idea of what the exposure is and that we can correct any types of over-exposures that might occur if those levels are higher than should be.

The action limit right now, I think, is 5 micrograms per deciliter for lead in children. But as you mentioned, the CDC says that there really is no safe level. That there are declines in intelligence tests, I believe, for even levels lower than that.

So the best course of action is to monitor what the lead levels are and to remediate those so that people are not exposed to those lead compounds.

The CHAIRMAN. Thank you, Dr. Lantz. For all our tribal witnesses, you know, I just want to ask you a question about a statement earlier this week, April 18th, a Kaiser news article came out where an administrator, Gina McCarthy, who administers the EPA said, "Well, we are called the Environmental Protection Agency. Our major role is public health." She said, "That is what we do."

So I'd just like to ask the three of you, in your opinion, has the EPA adequately protected the public health of the Navajo Nation and the Hopi Tribe with regard to their response to the Animus River disaster?

President Begaye.

Mr. BEGAYE. Thank you for that question. And for us, the answer is no. The culture of distrust, like I said, still exists. The amount of contaminates that was mentioned just a while ago, 330 million gallons a year, we did not get that information ever, at any time during our lifetime.

And only after this spill are we being told that every single day, 5.5 million gallons a day spills into the Animus River. We did not know that. If we knew that, and EPA had those statistics, they did not share that with us.

How can any Federal agency that has that kind of information and knowledge, and you have that amount of spill taking place, not do a thing?

And they have not been out on the river cleaning up that river. The 330 million gallons a year, they, themselves, now just testified that's how much goes into the river. That is not protecting the health of the Navajo Nation people. And we live with that day in and day out. And they need to do something about it.

And I appreciate the comment was made by Senator McCain about the $80 million that's been spent since the spill took place up in Michigan. Because it's Navajo, only $157,000 has been spent. That is not protecting the health of my people.

Thank you.

The CHAIRMAN. Thank you.

Chairman Honanie, would you like to comment to that statement by the EPA administrator that the major role is public health and how it comports with what you've seen?

Mr. HONANIE. Thank you for that question.

I'd just like to respond in this way: If that has been their mission all along, then where have they been all these years?

When I'm talking about the arsenic in our water, when I'm talking about the open cut mines, and even the pollution coming from

the Navajo generating plant in which the EPA has decided otherwise, by shutting it down to lessen the pollution, you know, the environmental health and the public health is still at stake.

We have not received any remedies openly and progressively from EPA, especially on the arsenic water. That is the most pressing matter to us on Hopi. It has been for years.

And all of a sudden the Flint, Michigan episode comes along, and where is all the focus on? Where is all the attention going? And what is EPA doing here?

But, you know, if they are there, they've obviously dropped the bucket on us and left us here. And we're, again, left alone to deal with it.

If that's the mission of the EPA, I'd like to remind them, and I'd like to call on you to remind them, that they have a huge, huge responsibility and obligation to not only the Hopi people, but as President Begaye has explained and on this situation, that has to be resolved. We cannot afford to wait any longer to see and wait and hope that something will be done.

So it's very, very unnerving to hear them say that that's what it is, but yet, we have not been at the tables to constructively reach a resolve on these issues.

Thank you.

The CHAIRMAN. Okay. Speaker Bates, anything that you would like to add as well?

Mr. BATES. Thank you, Chairman.

As you indicated, the intent of the U.S. EPA is to protect. They not only have a responsibility to the United States, but that includes the Navajo Nation. So speaking in that context, as a delegate representing farmers along the river, there has been the inconsistency of whether or not the water is safe to drink, use as irrigation for the crops.

And because of that inconsistency of not knowing whether or not, is one of the reasons we are here is, as indicated, this is not a short-term. This is a long-term situation that indirectly or directly impacted, have concerns going forth.

So in answer to your question, Chairman, it is the inconsistency, the lack of cooperation in terms of informing the people as to where we are at from one day to the next.

Mr. Chairman.

The CHAIRMAN. Thank you, Speaker Bates. I was going to ask Assistant Administrator Stanislaus, there are about 200,000 people who drink from the river system that the EPA has poisoned last summer.

Among them are Indian farmers, ranchers, families with children whose health and livelihoods are under threat. These are the people of the Navajo Nation and the Hopi Tribe whose leadership has testified here today.

Can you tell them right now, for the record, why does it take a subpoena from this Committee—something we haven't had to do since Jack Abramoff, the scandal years and years ago—to compel the EPA to testify in person about an environmental disaster it imposed on the communities? All we were told is we could get a written testimony until we had a bipartisan subpoena. Can you explain that to us?

Mr. STANISLAUS. Well, I agreed to testify before the subpoena was issued.

The CHAIRMAN. We have the letters from the EPA with saying, "Well, we'll send written testimony." And then we threatened the subpoena.

So let's just say a private company had created an economic disaster and a poisoning of a river like what we've seen here, and then refused to come forward to answer questions to the EPA.

If a private company refused to answer the EPA, would that be acceptable?

Mr. STANISLAUS. No. And to be clear, you know, both I and Administrator McCarthy have testified—we take our responsibility to the Congress very seriously. I think I personally have testified five times regarding this incident. Administrator McCarthy, probably the equivalent. We take our responsibility seriously.

You know, I had to testify yesterday in D.C., so there was some logistical issues that I needed to work through. So it was kind of a logistical issue. And once those were resolved, I agreed to participate in this.

The CHAIRMAN. You know, the Michigan Attorney General recently handed down two felony indictments as a result of the Flint, Michigan water disaster.

Indian Tribes had their own water disaster caused by the EPA. Do you expect a criminal referral to be made?

Mr. STANISLAUS. Well, no. We are moving forward within my area and EPA's responsibility, learning from the incident. Again, this was an accidental event resulting from the historic abandoned mine situation. This particular mine situation was originally lead by the state of Colorado because of the significant loading of metals to the Animus River and the watershed for decades.

The State of Colorado asked our assistance to be there. And an accident did occur. And we immediately addressed that accident so that the rivers and waterways could be restored.

We shared that data with all stakeholders. And clearly there are things we can do better. You know, as I noted earlier, we could have notified earlier and more affectively. And we've implemented that system. Doing additional preparation before these kind of circumstances.

These are tough situations. You know, I have a personal responsibility to respond to communities who have situations like this.

There are abandoned mines around the country. There are abandoned hazardous waste situations that communities look to us to address. And I take that responsibility seriously.

We want to address those hazards in a cooperative way with the local communities so we can, in fact, do the cleanup and enable prosperity and health for those communities.

The CHAIRMAN. Thank you.

Senator McCain?

Senator MCCAIN. Well, thank all the witnesses, and thank you Mr. Stanislaus. I'm interested to hear you say that you were ready to testify, because I'd like to make it part of the record, Mr. Chairman, of the refusal of the EPA. And it required an actual subpoena—and as the Chairman said, for the first time in many years to get you here.

I'm gratified to hear of your willingness, but your agency would not provide you, and did not until we issued a subpoena.

So President Begaye, I hear and was told that there's been suicides because of the devastation of this spill. Is that correct or not?

Mr. BEGAYE. Well, thank you, Senator McCain.

We had several suicides immediately after the spill took place. And two of them were along the river. And any time there's a suicide that takes place, multiple factors, I'm sure, are involved in any taking of a life, where an individual goes to that extent.

When an environment is created where there is distrust, where there is anger, where there's damage being done, where a large amount of people are suffering—where the land is damaged, water is damaged, an environment is created, I believe, where people that are having issues with their own lives that tend to spike. And as a result, like I said, almost immediately along the river, two of people took their lives. There were others, other attempts have been made off the bridge where it crosses the river, but fortunately, those lives were saved and those lives are still with us today.

Thank you.

Senator MCCAIN. Thank you.

For the record, at the last hearing, Administrator McCarthy testified that the EPA notified the the Navajo Nation promptly about the spill.

Just for the record, could you remind the Committee how long it took the Navajo Nation to be contacted by EPA following the spill.

Mr. BEGAYE. It took two days.

Senator MCCAIN. Thank you.

After the disaster, Mr. Stanislaus, the EPA pledged to conduct a, quote, internal review, as well as fund an independent technical review performed by the Interior Department into the cause of the spill.

Did the EPA internal review identify any criminal negligence related to the spill?

Mr. STANISLAUS. No.

Senator MCCAIN. Did the EPA review lead to any criminal referrals to the Department of Justice?

Mr. STANISLAUS. No.

Senator MCCAIN. And it's my understanding that was not in the scope of the EPA internal investigation as well. Is that true?

Mr. STANISLAUS. That's correct.

Senator MCCAIN. Is there any ongoing investigations into criminal negligence?

Mr. STANISLAUS. There is a broad investigation being implemented by the Office of Inspector General.

Senator MCCAIN. E-mails from the House Committee on Oversight and Government Reform and the House Committee on Natural Resources show that you were included in e-mails that helped define the, quote, scope of work for the Department of Interior Independent Technical Review.

I understand that this is a standard procedure. But in an e-mail dated August 16, 2015, between you and other EPA employees in developing the scope of work, it was suggested by EPA staff that the U.S. Army Corps of Engineers would have superior skills for conducting the investigation.

Let me read from the EPA's own recommendation. "Though the Department of the Interior's recommended as the lead, the U.S. Army Corps of Engineers has the program and project management experience, technical experience, and the technology to lead such a study."

Do you agree with the statement the Army Corps. has superior experience than the DOI to lead the study?

Mr. STANISLAUS. I would assume those statements are correct.

Senator MCCAIN. Then who at EPA decided that Interior should lead the study instead of the Corps. of engineers?

Mr. STANISLAUS. So there was an inquiry as to what entity should lead the investigation. And we looked at the Department of the Interior—it would be the Bureau of Lands within the Department of the Interior—for the extensive mining experience. The Army Corps. of Engineers has, particularly, engineering experience.

We felt that ultimately the structure was Department of Interior to lead with the Army Corps serving as peer reviewers for the findings.

Senator MCCAIN. Well, what I'm leading up to is that the decision was made that the Department of Interior would take the lead. And, yet, there was one individual who was included in this group.

And according to the Daily Caller, dated March 18, 2016, entitled EPA Advisor Wrote 'Independent' Review of Gold King Mine Spill, "An independent investigation was formed to determine how the Environmental Protection Agency caused the Gold King Mine spill, but a Daily Caller News Foundation investigation found the Federal department conducting the examination may not have been so independent.

"The Department of the Interior released its Technical Evaluation report in October but the report omitted crucial details, possibly due to conflict of interest.

"The EPA selected DOI to conduct an independent review of the blowout, even though it was involved," itself was involved, "with numerous aspects of the Gold King Mine project both before and after the spill.

"The Department of the Interior branches involved include the Bureau of Reclamation, which 'received thousands of dollars from EPA' for projects related to Gold King Mine."

"The Department of the Interior was involved with numerous aspects of the word—work going on, ...and the mine engineering expert tasked with reviewing the department's reports had serious misgivings about the integrity of the investigation."

Finally, I will summarize, Dr. Olsen, who was the Army Corps peer reviewer who was involved in the investigation, wrote to the Department of Interior, "I have serious reservations with the chronology of events internal to the EPA from the day of the phone call to U.S. Bureau of Reclamation, and up to the day of the mine failure. The actual cause of failure is some combination of issues related to EPA internal communications, administrative authorities and/or a break in the decision path. I believe that the investigation reports should describe what happened internal within the EPA that resulted in the path forward and eventually caused the failure. The report discusses field observations by EPA and why they

continued digging, but does not describe why a change in EPA field coordinators caused the urgency to start digging the plug rather than wait for the Bureau of Reclamation technical output as described by the EPA leader."

In other words, there's real question about the investigation and its result by the individual who was the Army Corps peer reviewer. But I will say, the review did contain at least one finding, "EPA failed to conduct a standard water pressure test at the time."

You agree with that?

Mr. STANISLAUS. Yes.

Senator MCCAIN. And who was responsible for not conducting a standard water pressure test at the mine? Which, to our friends and, for the record, the water pressure test, if it had been conducted, would have shown that there was in danger of the catastrophe that just took place, so...

Mr. STANISLAUS. Yeah. So both in our internal investigation, as well as Department of Interior's investigation, made that conclusion. It also goes on to stay that if that pressure test would have been administered, they would have identified a pressurized situation.

However, they go further on to say that given the geology and geography and the seed conditions, that procedure which was done on the mine below the Gold King Mine to identify the pressurized conditions, they—they could not conclude whether that was possible, nor can they conclude if it was possible, if it was able to prevent the actual incident from happening in the first place.

Senator MCCAIN. Well, I don't want to go into too many more of the details, but it is of interest that the department—the Corps of Engineer [sic], who was the only one outside of your bureaucracy in this investigation, had serious concerns.

Chairman Honanie, maybe you can tell us about the impact of the EPA's regulations on your reservation and its economy.

Mr. HONANIE. With respect to the economy, the work and all the steps that have been taken to address the Navajo generating station, the final rule that came out was that eventually one of the three units would be eventually shut down beginning 2019. And the long range effect would be that in 2044, I believe, is when the entire generating station would be shut down.

So when that does happen, obviously, a huge impact on Hopi will be very devastating, because economically the royalties stemming from the mining, the coal mine, is what provides the revenue to the Hopi Tribe.

And based on these revenues is what we utilize to provide the basic services to our people in the communities and to tribal government programs.

So as a result, what options and other plans that might be available or could be discussed and be used as a resolve to help mitigate and answer some of these questions that we have with regard to the loss of revenue, that has yet to be taken. That has never been fully discussed between the Tribe and the Federal government agencies involved.

And that's what we're waiting for. We desperately need to start talking about that, because for a picture of long-term picture of

closing the entire generating plant in the future is going to be very devastating to our people.

Senator MCCAIN. Well, it just seems to many of us—and I'm sure the members of your Tribe—that actions taken by a Federal bureaucracy, not necessarily by a law passed, but a regulation that would devastate the economy of your people, that there should be some factoring of that into the decision-making process.

I just want to assure the witnesses that we're a long way from finished with this issue. This is the second thanks to our chairman and ranking member, Senator Tester, who is the ranking member; this is a bipartisan issue. We intend to continue until all questions have been answered, and whatever steps, including compensation, that need to be taken, we will continue along this line.

I thank all of the witnesses.

Mr. Chairman.

The CHAIRMAN. Thank you, Senator McCain.

Congresswoman Kirkpatrick.

Ms. KIRKPATRICK. Thank you, Mr. Chairman. Thank you to all the witnesses for testifying today.

Administrator Stanislaus, how many abandoned mines are along the San Juan River and its tributaries?

Mr. STANISLAUS. I don't know the particular number. You know, it's been estimated in the thousands in that area. Of that how much is along the Animus, I have to get back to you on that.

Ms. KIRKPATRICK. Do you have that information?

Mr. STANISLAUS. We can provide you what we have. I don't know the exact-

Ms. KIRKPATRICK. Okay. I'd like to know-

Mr. STANISLAUS. Sure.

Ms. KIRKPATRICK. Exactly where they are, how many there are. Do you have a plan to remediate those abandoned mines?

Mr. STANISLAUS. Yes. So as I mentioned, we proposed for to use, doing the Superfund process, a subset of 48 mines in proximity not only to the Gold King Mine, but 48 mines which are the ones that are most impacting on the Animus River.

So these are 48 mines, which again, collectively discharge about 5.5 million gallons per day into the Animus River heavy metal laden water.

Ms. KIRKPATRICK. And what's your timeline to address that and stop that spillage?

Mr. STANISLAUS. Sure. So we've recently proposed it, and we're in the middle of getting public comments on that. And so based on that, we will be considering that for a final rule in the fall.

Ms. KIRKPATRICK. Well, you heard the concerns expressed about the spring runoff and the possibility of stirring up the sediment at the bottom of the tributaries and the rivers. And, again, bringing contamination to the Navajo Nation.

215 miles of Navajo Nation are along the San Juan River. What's your plan, first of all, to notify the tribal leaders in a timely manner if that happens, not waiting until the pollution gets to the Navajo Nation and the Hopi lands, but what's your plan for immediately notifying them? What's your plan to monitor that sediment and that increased possibility of pollution this spring?

Mr. STANISLAUS. Sure. So the plan is actually do have to provide resources for all the states and Tribes to do it themselves, and us in partnership with them.

So we've already provided substantial resources, I think, for the Navajo a little under—let me see—$465,000 for water monitoring.

In addition, we received a request, in addition to that water monitoring, to do this—what's called real-time monitoring. And we're going to commit to do that as well so that the Navajo, all the Tribes, all the communities would have data themselves, can use to make determinations.

Ms. KIRKPATRICK. Well, you heard President Begaye request a mobile monitoring unit. Why that not been provided to Navajo Nation?

Mr. STANISLAUS. I don't know whether you know.

Mr. BLUMENFELD. Yes.

Mr. STANISLAUS. Yes. I'll have Jared Blumenfeld——

Ms. KIRKPATRICK. Okay.

Mr. BLUMENFELD. So the good news on—on that front is there's 436——

The CHAIRMAN. Would you please identify——

Mr. BLUMENFELD. Sure.

The CHAIRMAN. Just for the Committee, identify yourself.

Mr. BLUMENFELD. Sorry. My name is Jared Blumenfeld, I'm the Regional Administrator for Region 9 EPA.

The CHAIRMAN. Thank you.

Mr. BLUMENFELD. So, President Begaye, you have $436,000 that is available, and will expire in September, that can be used right now to build that mobile lab. And we've informed Dr. Ben and your team of that.

So this is a good news story, which is the money's in place and the authority to use it on that specific task is also in place.

Ms. KIRKPATRICK. What's your timeline?

Mr. BLUMENFELD. The money has been there for the last year. And so it's making sure that that money gets appropriated by the Navajo Nation before September.

Ms. KIRKPATRICK. Can we expedite that?

Mr. BLUMENFELD. We will do anything that we can to expedite that with them.

Ms. KIRKPATRICK. President Begaye, I'd like to know if you've heard from the EPA about any kind of rapid response mechanism or strategy if there is another spill to notify you in real-time when it happens.

Mr. BEGAYE. There has been comments made, especially during the hearings, about setting up some sort of a real-time notification that we would get if a spill occurs. And now we ourselves, will always be on guard because we know there are 48 mines that could, today, do what Gold King Mine did, in Cement Creek and also in Mineral Creek, and in Upper Animus Creek that all flows into the Animus River.

So we will ourselves, stand guard to make sure that if that occurs, that we will be ready to address it when it does happen.

And I do appreciate the comment made about the $436,000 that is there. But that is mainly for testing of the waters and we need a separate funding source. Thank you, Jared, for those dollars—but

we need a separate funding source to purchase the mobile lab unit that will give us real-time, on-location testing of our irrigation canals, of the mouth of the rivers and the tributaries. We need to have that on location.

The $436,000—it is expensive right now because we ship everything out to the lab—to different places around the country. And it will consume this $436,000 very quickly just through the cost of testing the soil. We need a lab and we need those funds to be separate from the $436,000.

Thank you.

Ms. KIRKPATRICK. Chairman Honanie, have you had any discussions with the EPA about a rapid response to you in case there's another spill?

Mr. HONANIE. We have not actively discussed these type of areas, simply because we're in an area isolated from any major rivers sources and so forth.

So when this event took place on Navajo and impacted them, we realized how they were being impacted. I gathered my staff, appropriate staff, who work and studied the area, as far as we're concerned. And we were given the information that we being in an isolated area, did not really have potential for direct acts such as the spill. But we just have other forms and levels of contamination that we're still facing right now, yes.

Ms. KIRKPATRICK. Administrator Stanislaus, is the administration going to support my legislation HR–3602, the Gold King Mine Spill Recovery Act of 2015, which would provide compensation to farmers and others who sustained losses related to the Gold King spill?

Mr. STANISLAUS. So we'll certainly take a look at it. I've been advised we've not looked at it, but we'll certainly be working with your staff in providing technical assistance, so okay.

Ms. KIRKPATRICK. All right. I thank the Chairman and the Senator again for the courtesy to be here today. But I want to assure the EPA and the tribal leaders that my office is going to stay very involved in this because we're extremely concerned.

I just want to tell you, I'm a new grandma. And I'm outraged by the fact that these babies on your tribal land could be drinking contaminated water, that their formula might be mixed with contaminated water. It's outrageous. It has to be stopped. And I want to assure you that my office will be very involved on this issue.

Thank you.

The CHAIRMAN. Thank you for joining us today.

Administrator Stanislaus, I want to direct this to you. And I appreciate Mr. Blumenfeld being here, but I understand he's going to be leaving soon as the Region 9 administrator. And you're the senate confirmed member at the EPA.

So I'm just looking at this article again from the Wall Street Journal article, Friday, April 8th, Toxic Spill Fears Haunt the Southwest. And it's certainly here in Arizona.

But when we go into this, it talks about residents all along the San Juan River has said the EPA has not returned to do more tests. And specifically, officials in New Mexico and others along the river, including the Navajo Nation, they say they expect at least $6 million to fund long-term monitoring.

I know the EPA budget is over $8.6 billion. And what I want to know is if you can—the EPA, for the record, provide these funds and make these commitments and assure these people today that it's going to be coming?

Mr. STANISLAUS. Sure. I mean, so we've taken a multi-layered approach to monitoring. So we've done monitoring ourselves, shared that with states and Tribes. We will continue to do that.

At the request of states and Tribes for resources, we recently awarded resources for the Tribes and states to conduct monitoring themselves.

Subsequent to that, we received a request for this real-time monitoring system, received that recently, and we're committed to providing that as well.

The CHAIRMAN. Okay. Because the article seems to imply that, you know, they get the results not real-time, but delayed.

Mr. STANISLAUS. That's right.

The CHAIRMAN. So that's the concern that I'm hearing from people on the ground and the concerns with regards to the waters of the——

Mr. STANISLAUS. Yes. Subsequent to original notification of resources for developing the water monitoring plan administered by states and Tribes, we received a subsequent request for this real-time monitoring system, and we're committed to making that happen.

The CHAIRMAN. Okay. Thank you.

To the tribal members, I just want to thank everyone for being here to testify today. You know, in last September's testimony the EPA administrator said that the EPA, "Hold ourselves to the same standard we demand from others."

This Committee also heard testimony stating that Native American families are hurting because of the lack of action from the EPA. I think the EPA has been dragging their feet in responding.

In your opinion, is the EPA really holding themselves to that same standard that they demand from others?

And if I could just get a brief answer from each of you just to set the final stage of this hearing.

Mr. BEGAYE. Well, for us today, the farmers have not been compensated. They're still waiting. The farming season is about to start. Their revenue last year was washed out. Those are monies that they saved to buy seeds to get ready for the farming season the following year, which is this year. And they have not received a penny.

And we just need to understand what EPA means when they're going to hold themselves accountable. We have not seen it yet. It's almost like we have big thunder out on the Navajo Nation but no rain.

And that's exactly what it has been, is that they make promises. We meet with them, we have telephone conferences, we have meetings, they come to the Nation. But the farmers have yet to be compensated. And that is not holding yourself accountable.

Thank you.

The CHAIRMAN. We just heard "big thunder, no rain." Could I hear from you.

Mr. HONANIE. Ditto.

The CHAIRMAN. Good.

Mr. HONANIE. Well, yeah. We've had the arsenic situation for years. We've had the Tuba City open dump up matter for years. And I've only grown 20 years older and still no resolve.

So that kind of speaks to that question about timeliness in responding by the EPA. It has not really been happening at all.

So, you know, I'm only getting older. I'm waiting to see what happens tomorrow.

The CHAIRMAN. Speaker Bates.

Mr. BATES. Thank you, Chairman. In answer to your questions. As indicated by Honorable Begaye, President Begaye, and as I indicated in testimony that the farmers that I do represent, we have yet to be compensated. I have yet to turn in Form 95 for the simple reason that I planted five acres of alfalfa.

And during that period that the water was shut off, a period of 21 days, I lost those five acres. So as soon as I put that acreage back in to re-plant it, is an example of what the farmers—the 1,600 farmers have experienced.

And so they're waiting, because the dollars that are needed come directly out of their own pockets. And there are a number of farmers that are going to have to do what I'm going to be doing in the next couple weeks.

So in answer to your question is, no. We want to be compensated. We recognize the process; however, we don't want to wait in line for two, three years before we get compensated.

Mr. Chairman.

The CHAIRMAN. Thank you.

I want to thank all of our witnesses. I want to thank all of our guests for joining us today. We're going to continue to monitor this crisis. And I expect the full cooperation of the EPA.

This Committee, the Tribes, the American taxpayers deserve no less. If there are no more questions for today, members may also submit written follow-up questions for the record, and the hearing record will be open for the next two weeks.

I want to thank all of you for your time and your testimony today. This hearing is adjourned.

[Whereupon, at 12:15 p.m., the field hearing was adjourned.]

# A P P E N D I X

## RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. STEVE DAINES TO HON. MATHY STANISLAUS

*Question 1.* In November 2009, President Obama issued a Presidential Memorandum on Executive Order 13175, requiring all federal agencies to engage in "regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications," and that federal agencies are "responsible for strengthening the government-to-government relationship between the United States and Indian Tribes." Yet, at this hearing we have heard firsthand from tribal leaders that tribes still feel absent of just that meaningful consultation. Does the EPA plan to improve the process by which it consults with tribes to fully comply with Executive Order 13175? If so, how? If not, why not?

Answer. The EPA recognizes the importance of appropriate consultation with tribes, consistent with the federal government's trust responsibility to federally recognized tribes. In response to President Obama's November 2009 memorandum on tribal consultation, the EPA adopted a formal policy on government-to-government consultation and coordination with federally recognized tribes in 2011. EPA's Tribal Consultation Policy is available on EPA's website: *https://www.epa.gov/tribal/epa-policy-consultation-and-coordination_indian_tribes*. The EPA issued its Tribal Consultation Policy after extensive nationwide consultation with tribes. Under EPA's Tribal Consultation Policy, which implements both EPA's 1984 Indian Policy and Executive Order 13175, the agency recognizes its obligations to consult with federally recognized tribes to provide an opportunity for their meaningful input, and to consider their views prior to taking actions that may affect tribal interests. Since the issuance of its Tribal Consultation Policy, the agency has seen marked improvement in the frequency and quality of its consultation and coordination activities with tribal governments. Tribal consultation has improved both the efficiency and the effectiveness of the EPA's program delivery for tribes.

EPA's Tribal Consultation Policy defines consultation as a process of meaningful communication and coordination between the EPA and tribal officials prior to the EPA taking actions or implementing decisions that may affect tribal interests. It calls for the agency to follow up with tribes to explain how their consultation input was considered in the agency's final action. The agency continues to evaluate its Tribal Consultation Policy and has developed a mandatory training course for all EPA employees, "Working Effectively with Tribal Governments", which includes a special emphasis on consultation.

*Question 2.* How would EPA have worked differently with the three impacted tribes in the wake of the Gold King Mine spill to ensure full consultation? What lessons did EPA learn from this catastrophe?

Answer. While the EPA notified the Navajo Nation Environmental Protection Agency and the Navajo Nation Department of Justice of the August 5, 2015, release in an email sent the evening of August 6, 2015, the agency recognizes that more should have been done in alerting downstream tribal, state, and local governments. In order to improve response related notifications and communications between the EPA and our state, tribal and local partners, the agency issued guidance to EPA regions, working through the Regional Response Teams, which includes representatives from the EPA, other federal agencies and states, to strengthen their Regional Contingency Plans, particularly regarding the need to alert and coordinate with downstream responders. Following the release, the EPA invited tribal representatives to participate in Area and/or Incident Command efforts. The EPA recognizes that substantive, early coordination and cooperation with tribal, state, and local governments is an extremely important component of emergency response action.

*Question 3.* In the same way tribes are impacted by the Gold King Mine spill have expressed grave concerns about EPA's lack of consultation following the spill, other tribes have felt neglected in other EPA decisionmaking processes. For example, EPA has largely ignored the Clean Power Plan's significant economic impacts to the Crow

tribe whose economy relies on coal production. What was EPA's process to evaluate the final rule's economic impact to the Crow tribe and what did EPA find?

Answer. The EPA recognizes the importance of appropriate consultation with tribes in developing rules, consistent with the federal government's trust responsibility to federally recognized tribes. Under EPA's 2011 Tribal Consultation Policy, which implements both EPA's 1984 Indian Policy and Executive Order 13175, the agency recognizes its obligations to consult with federally recognized tribes to provide an opportunity for their meaningful input, and to consider their views prior to taking actions that may affect tribal interests. EPA's 2011 Tribal Consultation Policy also encourages tribal officials to request consultation at any time on EPA actions or decisions. As proposals and options are developed, consultation and coordination is continued, to ensure that the overall range of options and decisions is shared and deliberated by all concerned parties, including additions or amendments that may occur later in the process.

The final Clean Power Plan (CPP) was developed after extensive and vigorous outreach to tribal governments, as described in the preambles to the proposed carbon pollution emission guidelines for existing electric generating units (EGUs) and the supplemental proposed carbon pollution emission guidelines for existing EGUs in Indian Country and U.S. Territories. After issuing the supplemental proposal, the EPA held additional consultation with tribes, as described in the preamble for the final rule. To ensure that tribes had the opportunity to participate in the action development process, the EPA conducted outreach and information sharing on the content of the proposal with tribal environmental professionals through the monthly National Tribal Air Association (NTAA) calls and held an informational session at the National Tribal Forum (NTF) in Anacortes, Washington in May 2014. We also held five webinars open to tribal environmental professionals; 11 listening sessions held at all ten EPA regions and at EPA headquarters in Washington D.C.; four two-day public hearings for the proposed guidelines and a public hearing for the supplemental proposal; and three informational meetings (via teleconference) targeted specifically to the tribal community.

Specifically, the agency sent out four letters in 2013 and 2014 to tribal leaders and offered consultation on the rule, prior to proposal and after the proposal, to ensure tribes had the opportunity to participate in the process. As further recognition of the importance of appropriate consultation with tribes in the development of the emission guidelines, we held face-to-face informational meetings and government-to-government consultations with tribes.

Prior to issuing the supplemental proposal, the EPA consulted with tribes on several occasions. The EPA held a consultation with the Ute Tribe, the Crow Nation, and the Mandan, Hidatsa, Ankara (MHA) Nation on July 18, 2014. On August 22, 2014, the EPA held a consultation with the Fort Mojave Tribe. On September 15, 2014, the EPA held a consultation with the Navajo Nation. The July 18, 2014 meeting included government- to-government consultation with four representatives of the Crow Indian Tribe. After issuing the supplemental proposal, the EPA held additional consultation with tribes. On November 18, 2014, the EPA held consultations with the following tribes: Fort McDowell Yavapai Nation, Fort Mojave Tribe, Hopi Tribe, Navajo Nation, and Ak-Chin Indian Community. The EPA held additional consultations with individual tribes on December 16, 2014, January 15, 2015, April 28, 2015, and July 14, 2015.

The Crow Nation submitted comments on the proposed Clean Power Plan on the topic of the CPP's potential effect on their economy. The EPA carefully considered and evaluated the issues raised. The EPA conducted an analysis of the cost, benefit and economic impacts of the CPP in the Regulatory Impact Analysis for the Carbon Pollution Emission Guidelines Supplemental Proposal and for the final emission guidelines in the Regulatory Impact Analysis for the Clean Power Plan Final Rule (RIA) for illustrative implementation scenarios. Though this modeling and analysis does not focus on individualized, indirect impacts outside the regulated sector, as described above, the EPA undertook robust consultation and outreach efforts and considered all input. The EPA notes that this rule does not regulate coal mines and does not directly impose specific requirements on EGUs located in states, U.S. tenitories, or areas of Indian country and does not impose specific requirements on tribal governments that have affected EGUs located in their area of Indian country. For areas of Indian country with affected EGUs, the rule establishes $CO_2$ emission performance goals that could be addressed through either tribal or federal plans.

*Question 4.* What assistance has EPA provided to impacted tribes since the Gold King Mine spill? Has EPA continuously consulted with the affected tribes since the spill to address remaining needs, primarily safety hazards due to water contamination?

Answer. EPA Regions 6, 8 and 9 continue to work with state, tribal and local entities to gather additional documentation where needed to make final determinations regarding reimbursement for submitted response costs. As of June 1, 2016, the EPA has provided more than $1.5 million to states, tribes and local governments through removal cooperative agreements.

In response to dialogue with affected tribes and states, the EPA also allocated $2 million to help tribes and states monitor water quality conditions in the Animas and San Juan Rivers. Of the $2 million, the Navajo Nation was allocated $465,000, the Southern Ute Tribe $130,000 and Ute Mountain Ute Tribe $40,000. The agency has also conducted follow up monitoring at two sampling sites on the Southern Ute reservation and one sampling site on the Ute Mountain Ute reservation.

The EPA also provided additional resources including:

- More than 100 EPA staff from multiple regional offices deployed to Incident Command Posts in Farmington, New Mexico and Durango, CO as well as to the Navajo Nation Emergency Operations Center (EOC) in Window Rock, Arizona, as well as community involvement staff deployed to engage directly with Navajo communities impacted by the release;
- An On-Scene-Coordinator and Coast Guard personnel deployed to support the operations of the Navajo Nation EOC;
- Support to the Navajo Nation, including three native speakers;
- More than one million gallons of livestock and agricultural water, and nearly 8,500 bales of hay provided to Navajo communities along the San Juan River in conjunction with the Bureau of Indian Affairs; and
- Community involvement staff who attended meetings at the invitation of Chapter presidents and local officials, and shared critical information about emergency water and hay provisions and response activities with residents, reaching an estimated 1,100 community members at nine public meetings over ten days.

*Question 5.* Mr. Bates' testimony details how EPA has failed to provide the Navajo Nation the assurances that the tribe's livestock and agricultural products will be safe for sale and consumption. When will EPA provide those assurances?

Answer. The San Juan River has historically received pollutants from a variety of sources, including abandoned mines. During the response to the Gold King Mine release, metal concentrations exceeded Navajo Nation's agricultural screening levels for short durations. Given the short duration of the exceedances, the EPA believes the San Juan River is safe for agriculture and irrigation. Historical data indicates the San Juan River surface water has previously exceeded Navajo Nation's agricultural screening levels. During the Gold King Mine response, the EPA consistently shared its analysis of the data with Navajo Nation government officials.

Through the proposed National Priorities List listing for the Bonita Peak Mining District, the EPA is taking an important step towards addressing ongoing pollution from abandoned mines in the San Juan River Basin. The EPA is also providing Clean Water Act funding to multiple jurisdictions, including $465,000 to Navajo Nation, to conduct additional monitoring and sampling in the watershed. In addition, the EPA is providing funding to support elements of a "preparedness plan" to inform a real time notification system in the event of any seasonal high-level flows associated with the many mine sites in the Upper Animas watershed.

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