



**THE  
TRONOX NAVAJO AREA URANIUM MINES  
FY2015 ANNUAL REPORT**

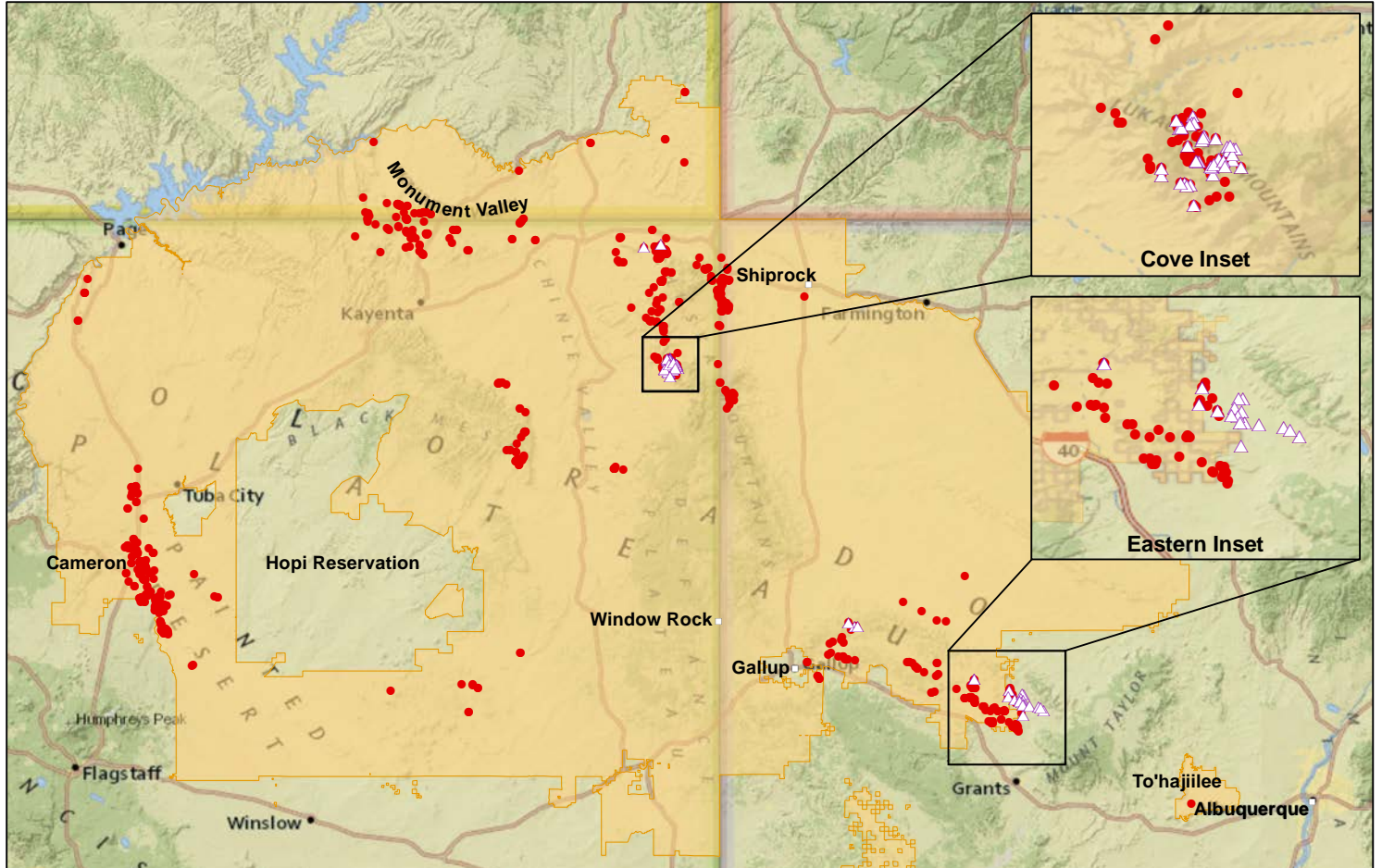
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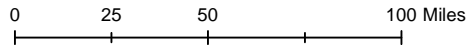


**Mine Category Assessment Protocol (MCAP) Assessment Team**



-  Tronox Abandoned Uranium Mine
-  Abandoned Uranium Mine
-  Navajo Nation Boundary

## Tronox Mines on and Near Navajo Nation Lands



SFD1602325 March 30, 2016

# 1.0

## Introduction: Overview and Planning of the 2015 Tronox Settlement

On January 21, 2015, the Tronox Settlement agreement resolving fraudulent conveyance claims against Kerr-McGee Corporation and related subsidiaries of Anadarko Petroleum Corporation went into effect. Pursuant to the settlement agreement, Anadarko paid \$5.15 billion plus interest to the litigation trust on January 23, 2015.

### As a Result of the Settlement

- USEPA received a distribution of 20% (~\$917 million) of the Anadarko Litigation Proceeds for the cleanup of approximately 49 uranium mines that were operated, and subsequently abandoned, by Kerr-McGee in and near the Navajo Nation territory;
- USEPA also received a distribution of 2% (~\$92 million) of the Anadarko Litigation Proceeds; for the cleanup of Northeast Church Rock Quivira Mine Site; and

- Navajo Nation received a distribution of 1% (~\$45 million) of the Anadarko Litigation Proceeds.

USEPA and the Navajo Nation Environmental Protection Agency (NNEPA) will continue their ongoing process of prioritizing response actions for the Navajo Area Uranium Mines.

For more detail information refer to <http://www2.epa.gov/enforcement/case-summary-tronox-incorporated-bankruptcy-settlement>

## 1.1 Shared Vision

On December 2, 2015, personnel from USEPA Regions 6 and 9, Navajo Nation agencies (NNEPA, AML, OMB), New Mexico environmental agencies and invited guests met to share updates and information on past and future Tronox related activities and to jointly identify a shared vision and roadmap for working together on the Tronox Program.

### Our Shared Vision

- Restore harmony and healing within communities and on the land in our work;

- Incorporate Navajo fundamental Law and cross cultural understanding into the cleanup process;
- Work with impacted communities to improve public understanding;
- Put life into what we do by working together and cooperating;
- Create significant and meaningful jobs and job training for the Navajo people; and
- Pursue expeditious, efficient, and effective cleanups while collaborating with impacted communities.

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## 1.2 Tronox 5-Year Plan Objectives to Address Impacts of Uranium Contamination on and Impacting the Navajo Nation

As a result of the Tronox Settlement, the second Five-Year Plan (2014-2018) <https://www3.epa.gov/region9/superfund/navajonation/5-yr-plan-2014.html> is being amended to address impacts of uranium contamination from Tronox Navajo Area Uranium Mines. The proposed objectives of the 2014-2018 Five Year Plan Tronox addendum are designed to investigate and clean up contamination related to Tronox legacy uranium mining and milling activities on and near the Navajo Nation. These objectives have been proposed for years 2016-2018 to align with the existing 2014-2018 Five Year Plan. Another plan will be developed to cover the period beyond 2018. These proposed objectives include:

**Proposed Objective 1: Sample streams, wells, and springs for contamination in the Cove Watershed and San Mateo Creek Basin, and take response actions as needed to protect human health.**

By 2018, sample streams, wells, and springs that are potentially impacted by uranium mining and milling in the Cove community and San Mateo Creek Basin. In consultation with the Navajo Nation, take response actions if needed to protect human health.

**Proposed Objective 2: Conduct cleanup investigations at Tronox mine sites and take response actions as needed to protect human health.**

By the end of 2018, complete up to 30 cleanup investigations and five engineering evaluations/cost analysis at uranium mine sites in the Cove and San Mateo basin areas. In consultation with the Navajo Nation, take response actions as needed to protect human health.

**Proposed Objective 3: Propose a cleanup alternative for the Quivira mine sites.**

By 2018, complete an engineering evaluation/cost analysis to evaluate cleanup options for the Quivira mine site near Church Rock, New Mexico. Seek community input and consult with the Navajo Nation prior to selecting a cleanup alternative.

**Proposed Objective 4: Communicate and coordinate with communities.**

By 2018, deepen relationships with community members, stakeholder groups, and Navajo Nation elected officials on cleanup activities. Continue hosting and participating in public meetings; sharing information at chapter events; disseminating publications on

cleanup; conducting public education events; communicating information through the radio, newspaper and stakeholder meetings; and partnering with related cleanup agencies to leverage resources and draw greater community participation into the cleanup process.

**Proposed Objective 5: Provide job opportunities to Navajo communities.**

By 2018, provide outreach to Navajo communities on contracting opportunities; provide grant opportunities to Navajo organizations to support USEPA response actions; interface with Navajo Nation Workforce Development Agency, Diné College, Navajo Technical University, and other tribal colleges to build a Navajo workforce development internship program.

**Proposed Objective 6: Increase transparency by developing a data management system accessible to communities**

By 2018, provide a mechanism for increased transparency of data collection and analysis, and create reporting and visualization tools to support cleanup activities. Make the data available to chapters, agencies and stakeholders to promote clear understanding of uranium mine hazards and cleanup progress.

## 2.0 Community Involvement

USEPA's Navajo Nation Community Involvement team continues to engage in various outreach efforts related to the assessment and cleanup of Tronox mines throughout Navajo Nation. The team has taken a lead role in communicating with community members and chapter officials on site-specific activities, such as aerial fly-overs in the Cove Chapter to identify mine waste and conducting the Cove Wash watershed sampling. The team is routinely active in communities near Tronox mines:

Community Involvement Coordinators (CICs) are assigned regionally allowing community members access to a single point of contact for all uranium work taking place in their region (see figure page 8):

- Secody Hubbard\* - Northern AUM Region
- Priscilla Tom\* - Eastern AUM Region
- Amanda Pease - Western AUM Region
- Elsa Johnson\* - Central AUM Region
- Elena Neibaur - Communications Team Lead

\*Navajo Speakers

Community Involvement team activities include:

- Responding to community inquiries at chapter meetings and chapter planning meetings.

- Interfacing and working effectively with community members, tribal officials and Navajo Nation government representatives on site issues;
- Developing publication material (such as: fact sheets, post cards, educational material);
- Hosting and attending community meetings, workshops and training sessions for communities on various cleanup topics; and
- Developing Community Involvement Plans.

In addition to these activities, USEPA has hired a Community Liaison in Cove, Arizona. The Community Liaison not only conducts door-to-door outreach regarding Tronox work in Cove, but she also distributes printed materials such as health fact sheets, Five-Year Plan and contact information for its implementing agencies, water sampling fact sheets, maps etc.

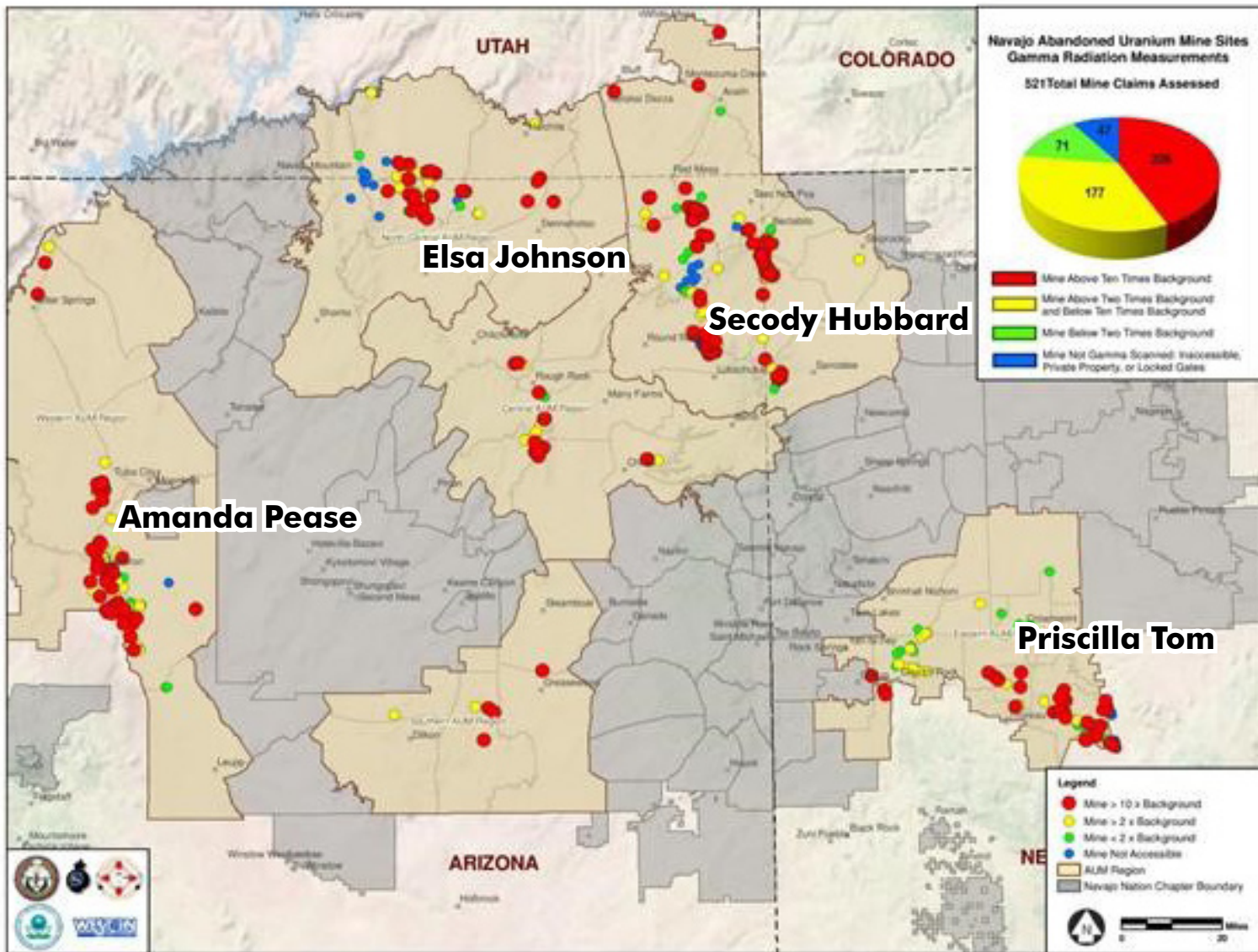
Community Involvement Plans (CIP) are living documents and the central for enhanced dialogue and consistent community engagement efforts at USEPA's cleanup sites. For the Tronox mines, USEPA is currently developing CIPs for the Cove area, Quivira Mine, and

Ambrosia Lake area. *Note: USEPA Region 6 lead for Ambrosia Lake mine.*

In FY2014-2015, USEPA was also engaged in various Navajo Nation-wide outreach efforts with other federal and tribal stakeholders including: Navajo Nation EPA, Indian Health Service (DHHS), Navajo Community Health Representative/Outreach Program, ATSDR, DOE, and Bureau of Indian Affairs, among others. Examples of these outreach efforts include:

- Development of an uranium mine awareness and education poster campaign;
- Promotion of the Indian Health Service's Community Uranium Exposure Journey to Healing Program partnership; and
- Participation in annual Navajo Nation special events in all regions.

Using USEPA's Technical Assistance Support for Communities (TASC) contract program, USEPA is working to conduct Technical Assistance and Needs Assessment reports for communities impacted by uranium mine waste. These reports will assist USEPA's Navajo Nation Community Involvement team in developing a framework for identifying, organizing, and responding to community involvement needs.



Community Involvement Coordinators are Assigned Regionally



# 3.0

## Abandoned Uranium Mines Program Workforce Development Opportunities

Cleaning up abandoned uranium mines on the Navajo Nation creates safe jobs for Navajo workers and provides opportunities for Navajo businesses. These opportunities will increase as cleanup work at the mines accelerates.

### Jobs Provided to Navajo Workers Within the Past 4 Years

Project/Activity	Job Duties	Workers Hired
Navajo Nation Environmental Protection Agency	Environmental Program Manager, Sr. Environmental Specialist, Geographic Information System Specialist, Administrative Staff	4
Community Housing & Infrastructure Development (CHID)	2 projects managers, 1 inspector, 2 construction supervisors, senior plumber, electrician, office specialists, and 13 carpenters	20
<b>Cove Tronox Mines</b>	Botanist, geologist, Navajo language interpreters, community liaison	6
<b>Cove Watershed Sampling</b>	2 Diné College interns, 2 Navajo Technical University interns, 1 New Mexico State University intern, and 1 Eastern New Mexico University intern	6
Northeast Church Rock Mine	Native American on-site field workers	14
<b>Community Outreach</b>	Professional services to obtain access	3
Ruby Mines	Field technician	1
El Paso Natural Gas Mines	Professional services to obtain access	1
Northern Arizona University Institute of Tribal Environmental Professionals	Various environmental field jobs	18
<b>Total</b>		73

*Bold indicates jobs directly related to Tronox Mines*

- We are anticipating an 8(a) sole source award to Arrow Indian Contractors Inc., a Navajo Priority 1 Business, for the interim removal at the Quivira vent holes, which will also include bridge restoration required to access the site. The total for this award is expected to be between \$1.5 - \$2.5 million.
- In FY2016, USEPA anticipates awarding approximately \$104,000 to Navajo Nation Abandoned Mines Land (AML) using funds from the Tronox Settlement.

## 4.0 Contracting Overview

USEPA's contracting strategy includes promoting the use of Navajo-owned contractors and/or local resources when possible; identifying ideal contract types based on products and services; identifying appropriate outreach mechanisms to notify companies of contracting opportunities; and identifying training needs/opportunities for Navajo and Tribal owned businesses.

On September 11, 2015, USEPA issued a Request for Information (RFI) for an upcoming Navajo Area Uranium Mines (NAUM) Response, Assessment, and Evaluation Services Contract, a vital step in the Agency's long-term strategy to clean up abandoned mines on the Navajo Nation. The purpose of the RFI was to gain information about capability and industry best practices, and to identify small and Tribal-owned businesses qualified to conduct and/or participate in technical assessments.

On September 16 and 17, 2015, USEPA held in an NAUM industry workshops in Albuquerque, NM and Window Rock, AZ. The purpose of these workshops was to increase the awareness and participation from tribal-owned businesses, and to provide them with the information and tools necessary to do business with the federal government. Between the two events, twenty-four Navajo businesses participated.

In addition to the industry workshops, USEPA representatives participated in other outreach events in an effort to further increase awareness among local small businesses about the upcoming contract opportunities associated with the Tronox Settlement. Events included two industry days sponsored by the Bureau of Reclamation (BOR) in Albuquerque and Gallup, NM; Reservation Economic Summit (RES) conference in Santa Fe, NM; and the Navajo Nation Economic Summit at Twin Arrows Casino, AZ.



September 2015 Industry Days - Window Rock



September 2015 Industry Days - Albuquerque

## Outreach to Navajo Businesses

Date	Event	Location	Participants
9/16/2015	Industry Days	Central New Mexico Workforce Training Center, Albuquerque, NM	8 Navajo businesses
9/17/2015	Industry Days	Quality Inn Navajo Nation Capital, Window Rock, AZ	17 Navajo businesses as well as representatives from: Navajo Technical University, National Center for American Indian Procurement Technical Assistance Center, Navajo Nation Division of Economic Development, American Indian Chamber Education Fund and members of the Navajo Nation Council.
4/2011-14/2016	Navajo Nation Economic Summit	Twin Arrows	14 Navajo Businesses

## Anticipated Contracting Events

Date	Event
Summer 2016	Release of Navajo Area Uranium Mines - Response, Assessment and Evaluation Services (RAES) Request for Proposals (RFP)
Summer 2016	Release of Remediation/Construction Contract Request for Information (RFI)
Summer 2016 (Approximately 2 weeks after RFP & RFI Release)	Industry Days

## 5.0 Report on Individual Mine Area Response Actions

Through informal and formal consultation, USEPA and Navajo Nation EPA will continue the ongoing process of prioritizing response actions for the Tronox NAUM sites and determine lead responsibility for response action(s) at each site. This section describes US EPA Region 6 activities in New Mexico that may impact the Navajo Nation and USEPA Region 9 work on the Navajo Nation.

### 5.1 USEPA Region 6

#### **Tronox NAUM East Geographic Sub-Area (aka Section 35/36 mines)**

USEPA Region 6 efforts are focused on mines within the Region 6 area of jurisdiction or co-jurisdiction with Region 9. These mines are part of the 50 mines designated within the Tronox Settlement as beneficial to the Navajo Nation for evaluation and remediation, if necessary, to abate actual or potential threats to the public or the environment posed by a site.

In FY2015 Region 6 focused on the East Geographic Sub-Area “East Sub-Area” (Section 35 and 36 mines). Mining activities began in the East Sub-Area in 1958 and ceased in 2005, with approximately 2.5 million tons of uranium ore produced. Since the uranium-containing ore body is approximately 700 feet below ground surface, millions of gallons of groundwater were pumped from the mine shafts and discharged to arroyos and

streams, thus increasing the acreage affected by mining activities. The total affected area impacted at the East Sub-Area site is in excess of 1000 acres, and radiation has been measured at more than 100 times site specific background levels. The background was determined through standard USPEA Region 6 procedures.

USEPA Region 6 awarded two task orders in FY2015 to the existing Superfund Technical Assessment and Response Team contractor for the East Sub-Area site. This existing contract mechanism includes goals and incentives for the inclusion of small and tribal-owned business participation as subcontractors and vendors for goods and services, as applicable, throughout the contract tasking. The task orders cover logistics/general support for field operations related to the Tronox Navajo Area Uranium Mines identified by the Tronox Settlement within the Region 6 area of jurisdiction adjacent to

the Baca-Prewitt Chapter, Eastern Agency of the Navajo Nation, and for the removal site evaluation (extent of contamination) and Engineering Evaluation/Cost Analysis for mines associated with the East Sub-Area.

Field staff have begun the removal site evaluation to determine the radiological extent of contamination associated with the East Sub-Area mines in preparation for conducting an Engineering Evaluation/Cost Analysis. The Engineering Evaluation/Cost Analysis will evaluate the removal site evaluation data and provide recommendations and cost analysis of potential remediation (removal) options for the aforementioned mines in the East Sub-Area.

#### **Next Steps**

- Complete draft Engineering Evaluation/Cost Analysis
- Continue community involvement outreach



USEPA Conducting Soil and Groundwater Sampling Activities

### **San Mateo Creek Basin and Tronox NAUM Ambrosia Lake Impact Area Ground Water Investigation**

USEPA Region 6 conducted Phase 2 of the ground water investigation within the San Mateo Creek Basin, including the Tronox NAUM Ambrosia Lake Impact Area, in 2015. Phase 2 focused on further delineation of mine discharge waters from the Tronox NAUM Ambrosia Lake Impact Area to the central part of the San Mateo Creek Basin and to investigate the extent of impacts

of Tronox NAUM Ambrosia Lake mines to the Dakota Sandstone formation. This work supplements the work of Phase 1 which was completed in the Spring of 2015. Fourteen shallow boreholes were drilled in the Alluvium of the central portion of the San Mateo Creek Basin. Ground water was encountered in four of the boreholes and monitoring wells were constructed. Five deeper bedrock boreholes were drilled/cored into the Dakota Sandstone Formation in the Ambrosia Lake area. Ground water was encountered

in only one borehole and a monitoring well was constructed. A deep borehole was also drilled in the central portion of the basin and a monitoring well was constructed in a Chinle Sandstone at a depth of about 700 feet. Ground water samples were collected from all the monitoring wells and sent to a laboratory for analysis for various chemicals that are associated with historical mining and milling operations and special analyses for isotopes to help characterize the different types of water contamination.

The dry Dakota boreholes have shown the ground water to be drained out of the Formation in the area of the Ambrosia Lake uranium mines. This is likely the result of the numerous mining shafts and vent holes that were constructed during mining operations. The extent of dewatering of the Dakota aquifer to the west of the Ambrosia Lake area on the Navajo Nation is not known at this time. The extent of ground water contamination in the Dakota and other bedrock formations to the west of the Ambrosia Lake area is also not known at this time.

#### **Next Steps**

- Combine Phase 1 and Phase 2 results and other data to develop initial basin wide conceptual site model (CSM).
- Continue to assess data gaps to complete the investigation and refine the CSM.

## 5.2 USEPA Region 9

### Cove Wash Watershed Assessment

In FY2015, the USEPA, in coordination with Navajo Nation EPA (NNEPA) and the Diné College Environmental Institute, sampled soil, sediment and water across the Cove Wash Watershed. In addition to the above activities, an inventory of traditional and cultural use plants, and informal consultation for



USEPA Conducting Cove Wash Sampling

endangered species with federal and Navajo agencies, were initiated. The goal was to identify potential areas of concern and sources of contamination. These areas are locations of historical uranium mining activities and have elevated uranium concentrations in surface water and ground water. The Cove Wash watershed is approximately 47 square miles, and includes 50 of the 70 AUMs within the Lukachukai Mountains. Year-round water is found in peaks and canyons above 7000' elevation, where springs and seeps emerge.



Training on Cove and Lukachukai geology, species endemism, rare and traditional use plants.

Developed springs and wells are also part of the watershed assessment.

### Significant Accomplishments

- Identified priority areas for further investigation, supporting a watershed-based approach;
- Confirmed existing priority areas: Mesa 1 and 2-1/2; and
- Identified additional areas for assessment: Mesa 4, 4-1/2, and 5.

### Created local opportunities

- 3 Dine College Shiprock internships completed; and
- 2 long-term local jobs created.

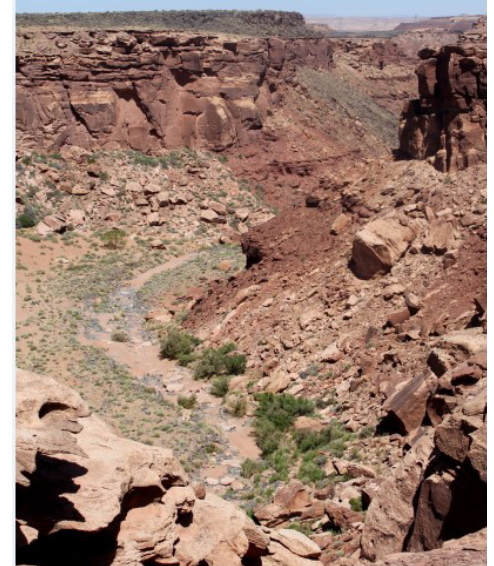
### Improved Community Engagement

- Drafted Community Involvement Plan;
- Provided community HAZWOPER training;

- Held 7 public meetings, which formed the basis of site assessment priorities; and
- Developed 6 fact sheets based on community meetings.

### Next Steps

- Snowmelt surface water and sediment sampling;
- Installing signage at unregulated wells;
- Complete funding agreements with USGS, Cove Chapter, and Dine College;
- Conduct biological and cultural resource surveys;



USEPA Assessing Mines in the Cove Areas



Testing the Red Water Pond Road Bridge near the Quivira Mine Site

- Initiate irrigation system study and summer internships; and
- Low flow surface water and sediment sampling.

### Northeast Church Rock Quivira Mines

In 2015, the community and USEPA worked together to explore options for voluntary alternative housing during the several years of construction during the final removal action. Several community members flew to Washington DC to meet with Matthew Tejada, director of the USEPA Office of Environmental Justice. While the final removal action is several years away, we need to plan ahead to work through the approval processes of the various Navajo government agencies and companies who will be involved in housing decisions. USEPA completed field work to delineate the extent of contamination around four mine vent holes located in the

community in preparation for a removal action in 2016. USEPA completed all the inspections and testing necessary to complete a design to repair a bridge on the main road through the community. USEPA will use that bridge for access to the mine sites during the final removal action. Finally, USEPA drilled six additional boreholes to provide additional data to complete the volume calculations for the Engineering Evaluation/Cost Analysis.

### Significant Accomplishments

- Regraded and repaired the cap cover;
- Fenced the main waste pile areas;
- Completed removal action to excavate 15,000 cubic yards of contaminated soil along nearly one-mile of the local road;
- Completed the Removal Site Evaluation;
- Held monthly meetings with the local community; and
- Draft community involvement plan completed.

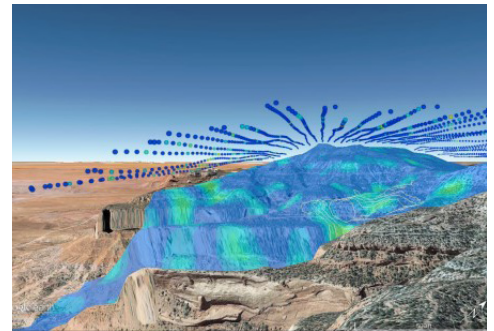
### Next Steps

- USEPA plans to release the Engineering Evaluation/Cost Analysis in 2016;
- USEPA worked with NNEPA to interview local residents and chapter officials to gather the information necessary to write a Community Involvement Plan;
- Discuss removal options with Navajo Nation, community members, and other stakeholders;

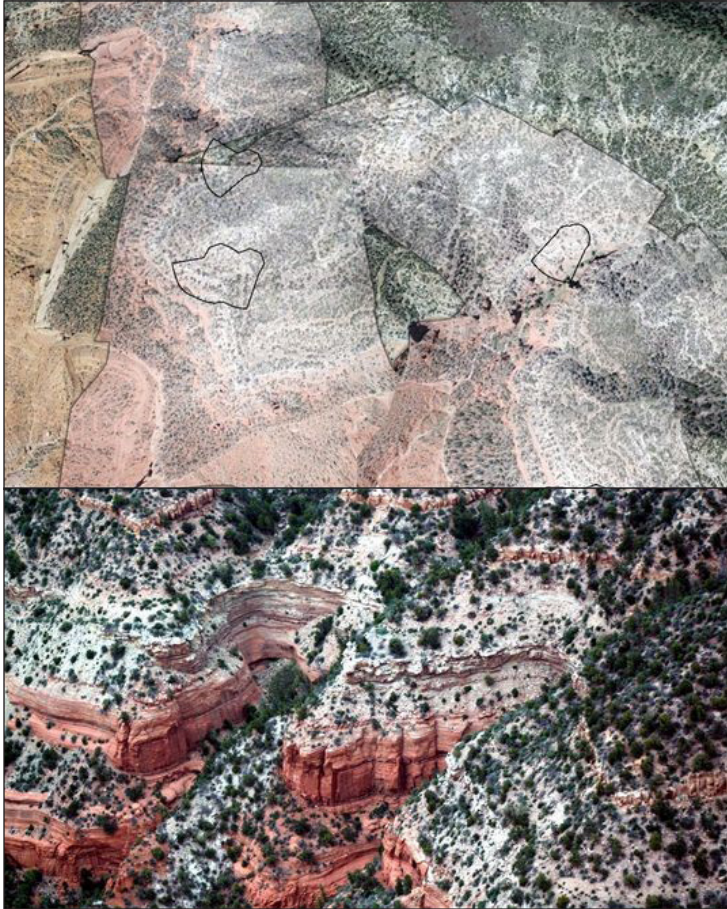
- Repair roads and bridges to allow access to removal sites; and
- Interim action to move 6,000 cubic yards of mine waste from areas in the community to the mine waste pile.

### ASPECT Aerial Radiological Survey

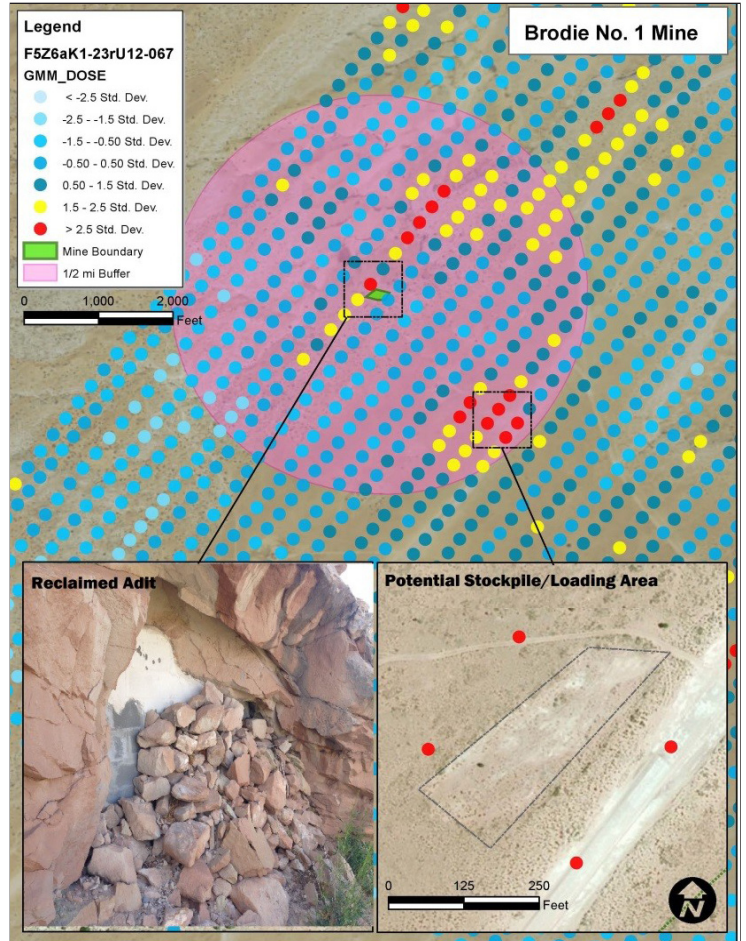
In December 2014 and May 2015, the USEPA Airborne Spectral Photometric Environmental Collection Technology (ASPECT) Program conducted an aerial radiological survey in the Navajo Nation to support USEPA Region 9. The purpose was to identify areas where uranium radioactivity is out of balance with radioactivity from other naturally occurring isotopes, and identify areas of concern in need of further assessment to determine if the sources are attributable to the historic mining operations conducted throughout the vicinity.



ASPECT 3D flight path and the rough terrain of the survey area



Aerial and Oblique Photography taken during the ASPECT Survey



Example of ASPECT results identifying areas concern outside of the AUM boundaries needing additional evaluation





The surveys covered nearly 180 square miles of land, and collected over 70,000 one-second spectra. In addition, a ground-based characterization effort was organized to collect in-situ gamma spectroscopy measurements at select locations to develop flight-specific sensitivity coefficients to convert ASPECT net eU count-rates to uranium soil concentrations when possible. Finally, approximately 600 high resolution digital aerial photographs were taken over the survey areas, and approximately 450 oblique photographs were taken surrounding the AUMs.

It was determined that approximately 2 percent of the surveyed area contains potentially elevated uranium concentrations. The findings of the survey have led to the development of the Mine Category Assessment Protocol project target list in which Tronox AUMs and areas of concern identified by the ASPECT findings will be evaluated. The purpose of the assessment is to develop and implement a systematic method for assessing and surveying abandoned uranium mine sites and other potential contributions of uranium material areas to determine and evaluate removal factors impacting future site work, and to develop ranking system for prioritizing upcoming Removal Site Evaluations.



## Increased Transparency Through the Tribal Lands Cleanup Portal

### **Tribal Lands Cleanup Portal Significant Accomplishments**

The Tribal Lands Cleanup Portal is intended to provide complete transparency into the data and documentation collected in support of the overall Tribal Lands Cleanup activities. It is also intended to facilitate communication and collaboration between the various project stakeholders. During the process USEPA has maintained consistent and transparent communication among all of the project stakeholders to ensure that each agencies requirements are met. During the 2015 reporting period the following activities were conducted for the Tribal Lands Cleanup Portal.

### **Coordination & Communication**

Project Coordination calls were held monthly on the 3rd Wednesday of every month including personnel from USEPA Region 6, USEPA Region 9, State of New Mexico ED, and MMD, Navajo, DOJ, and associated support personnel.

Project Stakeholder interviews were conducted specifically related to the data discovery phase of the project and the creation of the TLC Portal Data Management Plan. The outline of the DMP was distributed to project stakeholders along with questions related to the data discovery process. Calls were scheduled with all of the project stakeholder

The screenshot shows the EPA OSC On-Scene Coordinator Tronox Portal. The page has a green header with the OSC logo and 'ON-SCENE COORDINATOR' text. Below the header is a navigation menu with links for Profile, Notices, Images, Documents, Contacts, Links, and Logout. The main content area is titled 'TRONOX PORTAL' and features a sidebar with categories like All Documents, Data, Diagrams, Meeting Minutes, Presentation, Prototypes, Requirements, Tables, and Use Cases. The main table lists documents with the following data:

File Name	Description	Category	Uploaded	Size	Download	Security	Seq	Select
Tronox - Portal.pptx	Portal presentation - Status update for March 2016	Presentation	3/15/2016	7131 KB	Download	Public	0	Edit
TLC Portal Prototypes Presentation.pptx	Tribal Lands Cleanup Portal User Experience (UX) Prototypes Presentation	Presentation	3/8/2016	22752 KB	Download	Private	0	Edit
TLC Meeting Notes February.docx	TLC Portal monthly coordination call meeting notes and action items February 2016	Meeting Minutes	2/18/2016	12 KB	Download	Private	0	Edit
TLC_PortalERDv5.docx	Entity Relationship Diagram for the TLC Portal Data Warehouse	Diagrams	1/21/2016	1217 KB	Download	Private	0	Edit
Tribal Lands Cleanup Portal Meeting Notes_011316.docx	TLC Portal Monthly coordination call meeting notes and action items from January 2016	Meeting Minutes	1/13/2016	14 KB	Download	Private	0	Edit

## USEPA/OSC.ORG Web Site

groups to gather specific requirements from each agency as it pertains to existing data and how to incorporate into the Data Management Plan.

Quarterly summaries were presented at the Tronox Meetings in Albuquerque, NM including overall project goals and detailed information about the process for developing the portal and specific opportunities for stakeholder input.

### Technical Milestones

- Created the TLC Portal Data Management Plan based on user interviews

- Created a list of data to be supported by the TLC Portal based on the data discovery process
- Created Functional Requirements for TLC Portal
- Created a presentation demonstrating all of the technical documentation that had been produced in support of the design phase of the TLC Project. This documentation was put onto an EPAOSC.ORG site dedicated to the TLC Portal design and implementation process and was organized for all of the stakeholders to be able to easily access.
- Created the physical architecture of the data warehouse along with the Entity

- Relationship Diagrams – Physical Database Objects documentation and actual database and data warehouse elements.
- Moved all of the historical data, geospatial data, and documents from the USEPA Region 9 atlas, USEPA Region 6 and 9 historical systems (ULEP) onto the servers housing the TLC Portal Architecture.
- Created a presentation detailing the physical database design and architecture process along with a rough schedule of completion for Amendment B phase of project.
- Worked closely with ERT to finalize the plan for TLC.NET Clone of EPAOSC.ORG to be incorporated into the TLC Portal.

### Next Steps

The major tasks remaining are creating the Data Access Layer, Web and GIS Portal User Interface, importing Data and Documents, reports generation, beta and final testing. The portal security will also have to be established in conjunction with specific use cases. During the first quarter of 2016 the Database Design was finalized and was presented to the project stakeholders for review and comment. The data access layer was generated and prototypes of the User Interface were created and presented at the Tronox meeting.

## 6.0 Financials (Annual FY2015)

The approximately \$1 billion in funds USEPA received for the cleanups at over 50 Tronox Navajo Area Uranium Mines has been deposited into a USEPA Superfund Special Account. In accordance with Section 122(b)(3) of CERCLA, the Agency may establish a special account when USEPA receives funds pursuant to an agreement with a PRP. Special accounts are site-specific, interest-bearing sub-accounts housed within USEPA's Hazardous Substances Superfund (Superfund Trust Fund). Charges to a special account must be consistent with the terms of the settlement pursuant to which the funds are received. Special account funds may be used for a wide range of site-specific CERCLA response actions. USEPA Tronox funds can be used to support activities related to the assessment and clean up of the approximately 50 Tronox mines and contamination caused by the mines. Examples of these activities include:

- Inform and involve the community in the CERCLA response
- Investigate radiation levels in water, soil, sediment, and air
- Put up fences and signs to warn people about dangerous areas
- Protect cultural and biological resources in the mine areas
- Construct access roads to the mines for clean-up operations
- Close mine openings and address other physical hazards
- Conduct removal and clean-up activities

USEPA Tronox funds cannot be used for the following activities:

- Pay people who worked at the mines or lived nearby (some compensation for mine workers is available through the Radiation Exposure Compensation Act of 1990)
- Construct projects not related to Tronox mine clean up or mine impacts

Summarized in this section are an accounting of the expenditures of the Tronox funding to date. The expenditures are broken out into the following direct categories.

**Labor:** Direct labor cost associated with the assessment and clean-up of the mine/mine areas specified in the Tronox Settlement.

- On Scene Coordinator – directing cleanup contractors
- Remediation Project Manager - overseeing cleanup
- Legal – reviewing documents and attending meetings
- Technical Enforcement – PRP search activities
- Community Involvement – fact sheets; CIP; public meetings
- Finance – contracts and developing cost packages
- Administrative Assistant – site related travel; mailings; meetings coordination
- Management – conducting meetings with counsel, program, enforcement, community relations, contracts, and/or finance; reviewing site related documents; management briefings

**Travel:** Direct travel cost associated with the assessment and clean-up of the mine/mine areas specified in the Tronox Settlement.

**Contracts:** Direct contracting costs associated with the assessment and clean-up of the mine/mine areas specified in the Tronox Settlement.

**Expenses:** Direct expense costs for equipment, property, supplies, and materials associated with the assessment and clean-up of the mine/mine areas specified in the Tronox Settlement.

**Grants:** Direct grants associated with the assessment and clean-up of the mine/mine areas specified in the Tronox Settlement.

# USEPA Tronox/Anadarko Settlement Funds for Navajo Area Uranium Mines (NAUM) and Quivira Mine Site as of 2nd Quarter FY2016

## FY2016 Special Account Activity for Tronox/Anadarko Funds for NAUM and Quivira Mine Site

Region	Special Account	Special Account Name	Beginning FY2016 Available to Spend	FY2016 Budget Increase/Decrease	FY2016 Spent			Available to Spend (as of 4/1/16)
					1st Quarter	2nd Quarter	Total FY2016	
<b>Region 6 NAUM Special Accounts</b>								
06	A6FK	Tronox NAUM SEC 35/36	\$0.5	\$0.2	\$0.1	\$0.1	\$0.1	\$0.6
06	A6FP	Tronox NAUM West S 10	\$0.0	\$1.9	\$0.0	\$1.5	\$1.5	\$0.4
06	A6KZ	Tronox NAUM	\$0.5	\$1.9	\$0.0	\$0.4	\$0.5	\$1.9
<i>Subtotal Region 6 NAUM Special Accounts</i>			<i>\$1.0</i>	<i>\$4.0</i>	<i>\$0.1</i>	<i>\$2.0</i>	<i>\$2.1</i>	<i>\$2.9</i>
<b>Region 9 NAUM Special Accounts</b>								
09	099R	Abandoned Uranium Mines on the Navajo Nation	\$141.1	(\$141.1)	\$0.0	\$0.0	\$0.0	\$0.0
09	09XL	Cove Transfer Station - Tronox	\$0.6	(\$0.3)	\$0.0	\$0.0	\$0.0	\$0.3
09	09XM	Mesa I Mines - Tronox	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
09	09XN	Section 32 AUM Site - Tronox	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0
09	09XP	Section 33 AUM Site - Tronox	\$0.0	(\$0.0)	\$0.0	\$0.0	\$0.0	\$0.0
09	A979	Tronox NAUM Cove Wash Regional Assessment	\$0.5	\$2.1	\$0.0	\$1.6	\$1.6	\$0.9
09	A982	Tronox Navajo Area Uranium Mines	\$762.1	\$137.1	\$0.1	\$0.2	\$0.3	\$898.9
<i>Subtotal Region 9 NAUM Special Accounts</i>			<i>\$904.3</i>	<i>(\$2.2)</i>	<i>\$0.1</i>	<i>\$1.8</i>	<i>\$2.0</i>	<i>\$900.2</i>
<i>Subtotal All NAUM Special Accounts</i>			<i>\$905.4</i>	<i>\$1.7</i>	<i>\$0.2</i>	<i>\$3.8</i>	<i>\$4.0</i>	<i>\$903.1</i>
<b>Quivira Mine Special Account</b>								
09	09QM	NE Churchrock Quivira Mines	\$90.3	\$0.1	\$0.8	\$0.1	\$0.9	\$89.4
<b>Total All Special Accounts</b>			<b>\$995.7</b>	<b>\$1.8</b>	<b>\$1.1</b>	<b>\$3.9</b>	<b>\$5.0</b>	<b>\$992.5</b>

- Negative amounts in the budget increase/decrease column are a result of receipts moved between accounts.

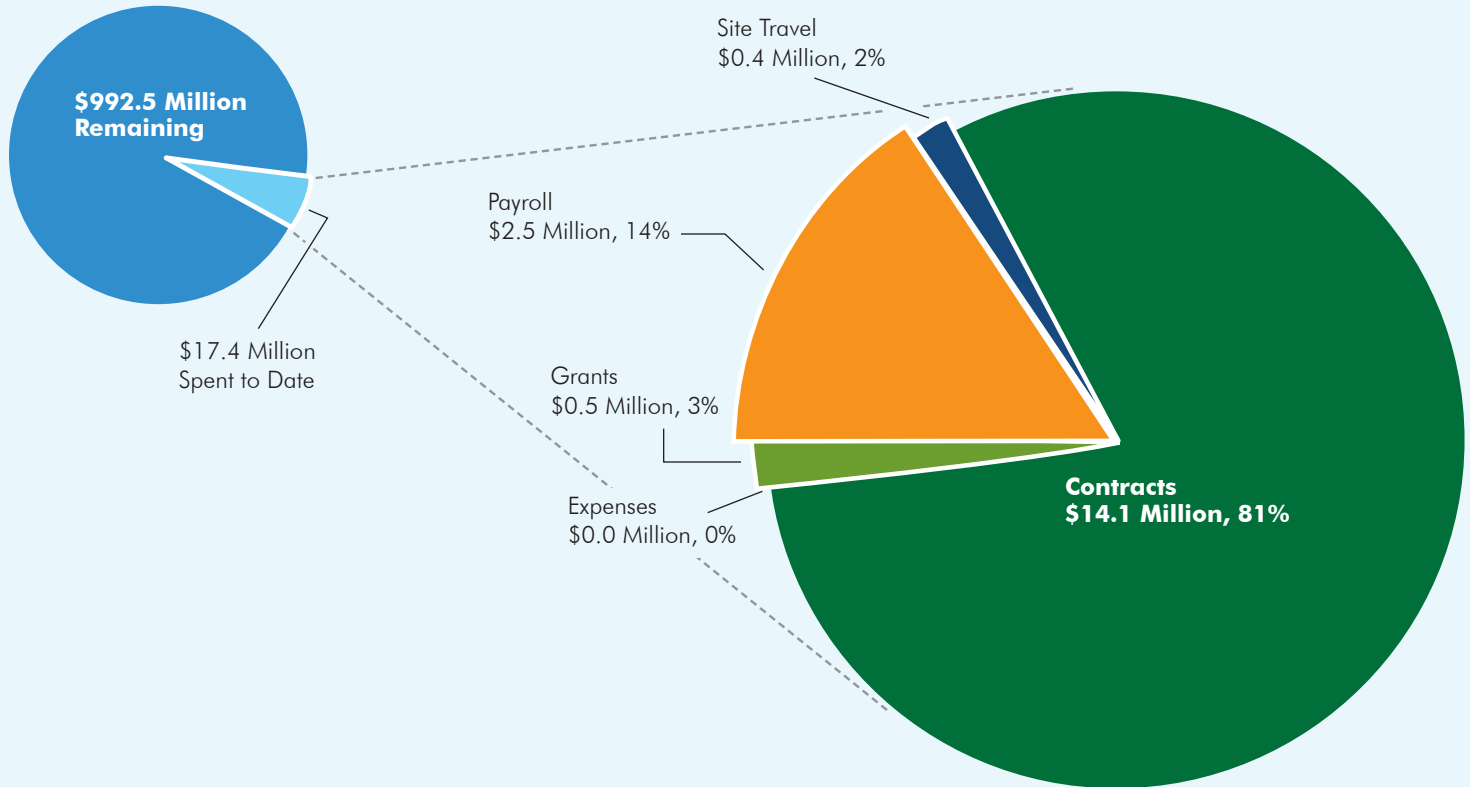
- Net deobligations of funds are included in the budget increase/decrease column as they increase the amount available to spend from an account. Net deobligations are not included in the FY2016 spent columns.

- Totals are rounded to the nearest million.

- Values are in millions.

## Total Settlement Expenditures (\$17.4 Million) by Category

Total Settlement Expenditures (\$17.4 Million) by Category  
\$ in Millions



## 7.0

# Ensuring Financial and Performance Accountability

In addition to this report, USEPA prepares financial and performance reports to satisfy legislative requirements. The management of funds in special accounts are included in the scope of the following legislation, reports, and financial audits. The following pieces of legislation aim to ensure proper stewardship of federal resources.

- Chief Financial Officer Act of 1990 establishes the Chief Financial Officers in executive agencies to provide for long-range planning, requires audited financial statements and strengthens accountability reporting;
- Federal Managers' Financial Integrity Act establishes internal control requirements including ongoing evaluations and reports of the adequacy of the systems of internal accounting and administrative control of each executive agency, and for other purposes; and
- Government Performance and Results Act of 1993 requires federal agencies to develop strategic plans, prepare annual performance plans as part of the budget and review process that establishes the performance goals for the fiscal year, and prepare annual performance reports that review the agency's success or failure in meeting its targeted performance goals.

USEPA's reports also adhere to Office of Management and Budget (OMB) guidance, including:

- OMB Circular A-136, Financial Reporting Requirements: to promote stronger connections between performance and budget planning;
- OMB Circular A-123, Management's Responsibility for Internal Controls: to report annually to the President on the effectiveness

- of USEPA's internal controls and the adequacy of the Agency's internal controls over financial systems and activities; and
- OMB Circular A-11, Preparation, Execution and Submission of the Budget: to prepare and submit the agency's strategic plan, annual budget, and annual performance report.

USEPA's Office of Inspector General performs financial statement audits for USEPA in accordance with the following:

- Inspector General Act of 1978, as amended, establishes the independent responsibilities and duties of Inspectors General in executive agencies. The Act requires that agency IGs submit semiannual reports to Congress summarizing their activities. The Act also authorizes the OIG to have access to all records, reports, audits, reviews, documents, papers, recommendations or other material available to the federal agencies with respect to OIG's responsibilities under the Act; and
- Government Auditing Standards (referred to as the Yellow Book), establishes the Generally Accepted Government Auditing Standards by the Comptroller General of the United States, which are the professional criteria by which government audits are conducted to ensure their integrity and quality.

The most recent Office of Inspector General reports are:

**Full Report about Audit of USEPA's Fiscal Years 2014 and 2013 (Restated) Consolidated Financial Statements:** <http://www2.epa.gov/sites/production/files/2015-09/documents/20141117-15-1-0021.pdf>

The USEPA FY2015 Agency financial report is available online: <https://www.epa.gov/planandbudget/results>



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## For More Information (USEPA Contacts)

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