



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

April-June 2019

PROGRAM UPDATE



LM Thanks
All Who
Have Served

DOE, USACE Break
Ground on New
Interpretive Center at
Weldon Spring Site

LM Participates in
STEM-Sation Day at
Ganado High School

Director's Corner



As I travel around to the nearly 100 sites that the Office of Legacy Management (LM) serves, I am reminded that the public rarely sees the incredible work of our talented and dedicated employees. Much of what we do takes place behind fences and locked gates in remote areas far from the public eye. In many cases, people in communities near our sites do not even know the sites exist, much less that there are people there committed to making sure the air they breathe, the water they drink, and their families remain safe. It is up to us to spread the message of LM and what we stand for. While we have skilled communications, outreach, and public affairs staff, the job of communicating our mission and goals is something that everyone can play a role in every day.

We need to make sure community members, other stakeholders, and policymakers understand that a commitment to stewardship is at the center of everything we do. It is the lens through which we approach long-term management of our sites. We demonstrate that commitment by working tirelessly for protection of human health and the environment at legacy sites that played a critical role in America's nuclear history. We are stewards not just of physical remedies and natural resources, but of a rich cultural and historical legacy in which the communities where our sites are located also played significant roles.

The old saying that communication is a two-way street is important to keep front and center. Just as we need to communicate our message, we also should seek to understand communities' needs and answer their questions fully.

I cannot overstate how important transparency is. Members of the public need to have access to information to be confident that their communities and families are safe from any risks present at our sites. We should clearly communicate how our long-term surveillance and maintenance works to prevent public exposure to hazardous waste. Building trust revolves around our ability to instill confidence in the communities we serve both in our expertise and in our ability to clearly and accurately communicate what we do.

LM sites are an important part of U.S. history. As former nuclear production, research, storage, and testing sites, the people who worked at their respective facilities helped win World War II and the Cold War. While we can't ignore that historical operations at our sites sometimes left a legacy of contamination, we should communicate our successes and achievements in cleaning them up. Decades of remediation work at these sites have been incredibly effective. Radiation levels at many of our sites have been reduced to a lower level than people might experience in everyday life. It is safe to visit and enjoy our public sites.

We need to look for opportunities to show what we do, whether that is at our interpretive centers in Fernald and Mound, Ohio; Grand Junction, Colorado; and Weldon Spring, Missouri, or in our daily interaction with citizens and stakeholders. When planning and taking advantage of those opportunities, we need to remain true to our three guiding principles: we should always lead with facts but don't overwhelm with science; when possible, show rather than tell while addressing site or community specific conditions by seeking to educate and explain risk; and we should always consult, listen, and seek to understand partners' and stakeholders' needs and concerns.

Above all, remember we have to remain the approachable experts committed to being responsive, relevant, and reliable to earn, and keep, the trust of all Americans.

Warm Regards,

Carmelo

Carmelo Melendez



Ken Starr (LM site manager), Carmelo Melendez (LM director), Col. Bryan Sizemore (USACE), Gwen Hooten (LM), Tania Smith Taylor (LM), Cliff Carpenter (LM), and McKelvey Elementary students and teachers all participate in the ceremonial groundbreaking at the new Weldon Spring Interpretive Center.

LM Goals



1 Protect Human Health and the Environment



2 Preserve, Protect, and Share Records and Information



3 Safeguard Former Contractor Workers Retirement Benefits



4 Sustainably Manage and Optimize the Use of Land and Assets



5 Sustain Management Excellence



6 Engage the Public, Governments, and Interested Parties

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Cover: DOE and USACE break ground on a new interpretive center at the Weldon Spring site.



LM Site Manager Delivers Atomic History Presentation to Retired Federal Employees

In April, U.S. Department of Energy (DOE) Office of Legacy Management (LM) Site Manager Jalena Dayvault attended the National Active and Retired Federal Employees (NARFE) luncheon at the Two Rivers Convention Center in Grand Junction, Colorado, and gave a presentation on the area's role in the Manhattan Project.

The presentation, "DOE Grand Junction Office Marks Contributions to Historic National Programs," displayed photos of western Colorado and its residents during World War II through the Cold War uranium boom. It also documented ongoing cleanup efforts and addressed the legacy of environmental issues associated with uranium mining and processing in the area, including the recent reuse project that transformed the site of a former uranium mill into a public park and amphitheater.

The collection of photos in the presentation was previously displayed as a poster exhibit at Colorado Mesa University earlier this year and at Grand Junction City Hall in August 2018.

Caroline Retolaza, a former federal employee whose career covered the U.S. Atomic Energy Commission, the Energy

Research and Development Administration, and DOE eras, was among those in attendance. Retolaza worked for the Oak Ridge National Lab and contributed to initial surveys investigating site cleanup. She also served as the branch chief for the Division of Security and was responsible for records on security clearances. From there, Retolaza moved to the manager's office where she had the opportunity, at age 24, to participate in the Miss Atomic Energy Pageant. The presentation included a photo of Retolaza in the pageant.

Retolaza said she and other NARFE members enjoyed the presentation. It gave them a chance to share memories from their government careers.

Following the presentation, Dayvault engaged in a lively discussion with the group. NARFE members shared their experiences and were excited at the announcement of the opening of the upcoming interpretive center at the Grand Junction Office, the Atomic Legacy Cabin. A few members recounted their memories of the historic cabin when it served as the Coloramo Federal Credit Union for site employees. ❖

Caroline Retolaza (second from left) and other contestants for the 1955 Miss Atomic Energy Pageant attend a dinner in Las Vegas, Nevada, hosted by the prospector Vernon Pick.





Students Dive into STEM at Fernald Preserve

In March 2019, Fernald Preserve, Ohio, staff hosted more than 100 high school participants for a unique science, technology, engineering, and math (STEM) learning opportunity. Sophomore honors chemistry students from Kings High School in Cincinnati, Ohio, visited Fernald as part of their research on nuclear chemistry and the question of whether the United States should pursue nuclear chemistry for power generation and other applications.

The Fernald site visit allowed the students to learn about the social, economic, and environmental impacts of America's historic nuclear weapons program. Elements of the field trip experience included:

- **Environmental sampling** – students learned about the ongoing groundwater sampling and reporting at the site. Preserve staff demonstrated wellfield infrastructure and monitoring equipment, and students learned how the program has reduced the plume of contamination in the aquifer.
- **Site history** – at the Fernald Preserve Visitors Center, students learned about the site's history of industrial work supporting America's nuclear weapons complex, as well as the factors that contributed to environmental contamination and the decisions made to move forward on a remedy and waste disposition. Students also considered Fernald Preserve's role in the community today.
- **Converted Advanced Wastewater Treatment facility** – students learned about current water treatment at the Fernald site, the evolution of water treatment technologies, site sources of water that require treatment, the disposition of treated water, and remedy progress.
- **Ecological restoration** – students learned about the establishment, maintenance, and ongoing monitoring of the site's ecologically restored habitats. Students walked through the natural areas to see the plant communities and observe wildlife.

The students' teacher, Mr. Ed Gomes, said the students wished they had more time and valued the opportunity to learn from contemporary STEM practitioners. One female student expressed appreciation for learning about water treatment from a female engineer. Another student was excited about observing a beaver in the restored habitats. Other students mentioned that they found the visitors center's history exhibits really cool. Mr. Gomes reported that the students finished their required research assignments and the results echoed society in reflecting an array of perspectives and opinions, informed by their experience at Fernald. ❖



Kings High School students watch for wildlife in the ecologically restored habitats at Fernald Preserve.



Honors chemistry students learn about water treatment technologies from Cathy Glassmeyer, Fernald Preserve's site operations manager.



An Apatite for Uranium: Taking a Bite Out of a Persistent Groundwater Contaminant

What's so special about apatite?

No, it's not your stomach growling, its apatite—specifically hydroxyapatite $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$, a naturally occurring mineral in soils, sediments, and bedrock. Apatite is important to our daily lives, as it's a critical component of fertilizers and healthy bones and teeth. Just as these last two can persist for millennia in the fossil record, so does apatite, which is highly insoluble in water and extremely stable under most environmental conditions. What makes apatite truly remarkable is its ability to incorporate more than half the periodic table into its mineralogic structure, giving rise to its nickname: the "garbage can" mineral. Because apatite can uptake and incorporate such a diversity of elements, including uranium, vanadium, molybdenum, and selenium, its potential for removing contaminants from groundwater at sites within the U.S. Department of Energy Office of Legacy Management (LM) portfolio is actively being investigated.

How can apatite be used for groundwater cleanup?

Sandia National Laboratories scientist Dr. Robert Moore began research in the early 2000s to create a permeable reactive barrier (PRB) technology that exploits apatite's ability to uptake and retain metal contaminants. PRBs are zones of reactive material placed in the subsurface to intercept dissolved contaminants while allowing groundwater to pass through unimpeded. Moore's efforts led to the invention of a novel solution-based PRB technology designed to introduce apatite directly to soils and sediments both above and below the water table. The technology uses readily available, inexpensive, and non-toxic chemicals (sodium citrate, calcium chloride, and sodium phosphate) mixed with water prior to injection into the subsurface. Calcium chloride and sodium citrate are mixed to form a calcium citrate solution, with sodium phosphate dissolved in a separate tank. The two solutions are co-injected into one or more monitoring wells that provide access to contaminated subsurface sediments and groundwater (Figure 1). Microbes naturally present in the environment degrade the citrate while releasing the calcium in a chemical form that allows it to react rapidly with phosphate to form apatite, which precipitates in pores and voids within aquifer sediments and coats mineral surfaces. As groundwater passes through these sediments, the reactive apatite removes dissolved contaminants from solution.

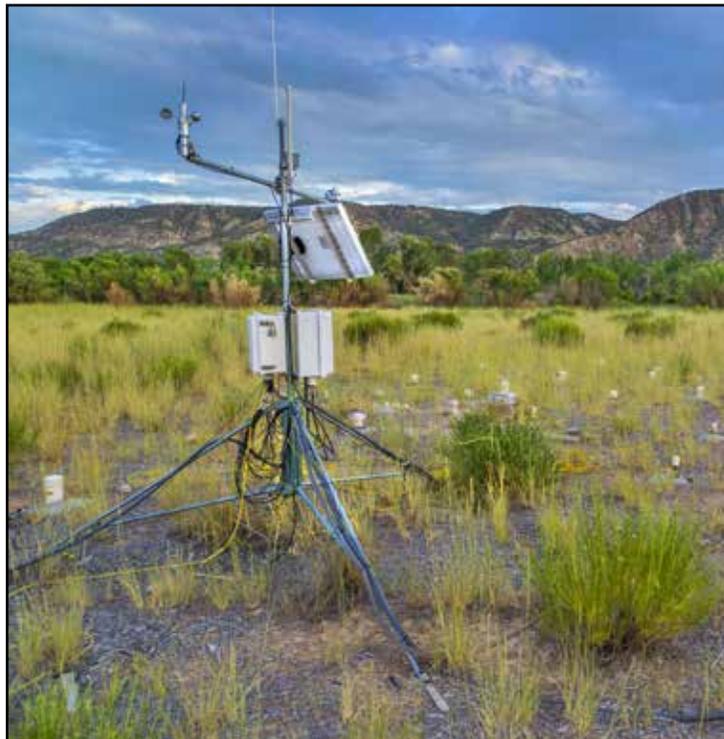


Figure 1. Well field used for the apatite field study at the Old Rifle former uranium mill site near Rifle, Colorado.

Could this technology have application at LM sites?

This is the question that researchers Dr. Mark Rigali (Sandia National Laboratories) and Dr. Kenneth Williams (Lawrence Berkeley National Laboratory) are trying to answer. With the support of LM Site Manager Tashina Jasso, Rigali and Williams are running an apatite PRB field study at the Old Rifle former uranium mill site in Rifle, Colorado. In November 2017, three single-well, single-day injections were conducted over a period of three weeks. Groundwater sampling over the past 16 months has been used to track the delivery of the apatite-forming chemicals and their impact on uranium and other metals. Prior to injection, uranium in groundwater averaged 150 parts per billion (ppb), with concentrations decreasing dramatically in all impacted wells to levels as low as a few parts per trillion.

"I've been working on field injection experiments at Old Rifle since 2004, and I've never seen something so easy and effective for removing uranium from groundwater," says Williams.

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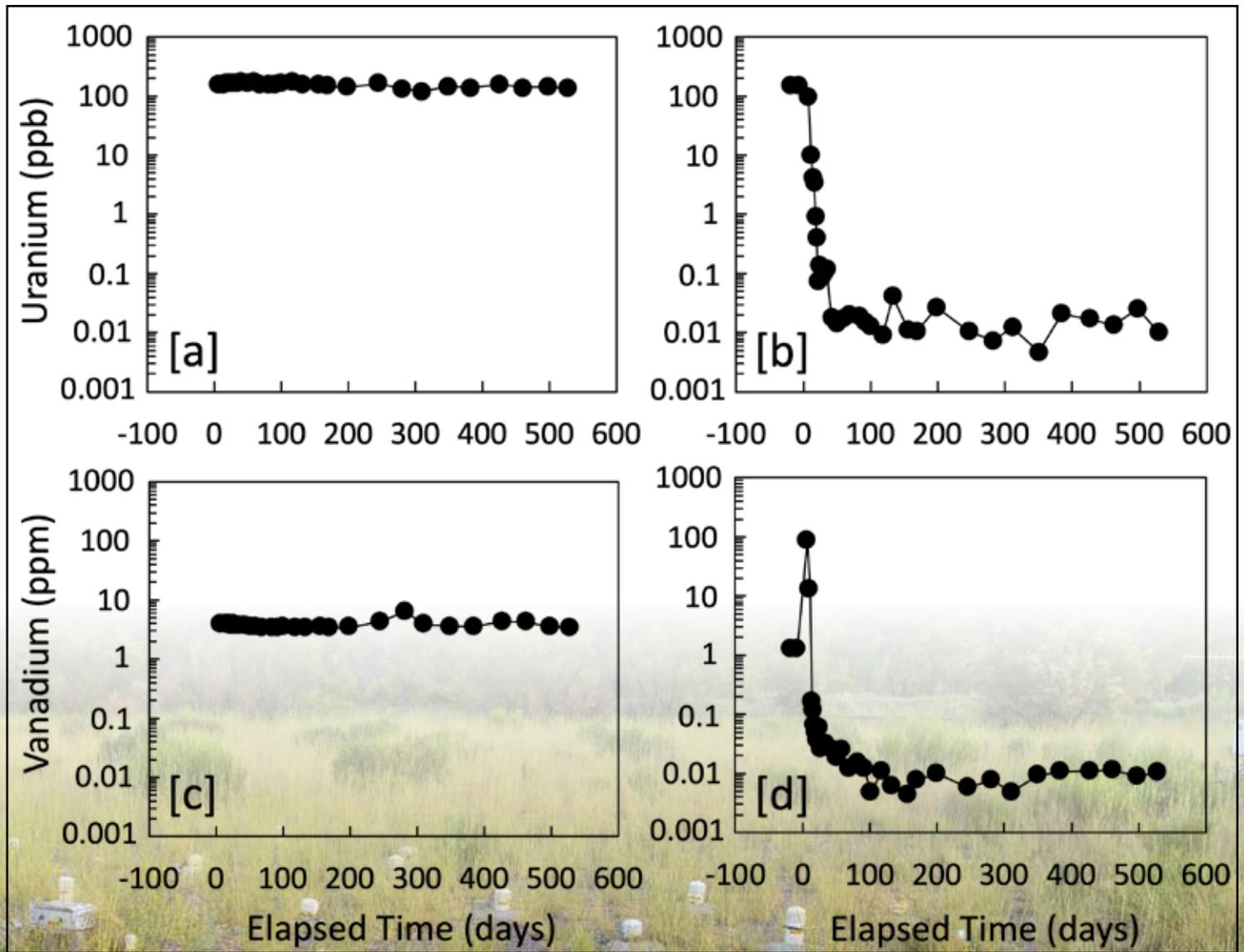
An Apatite for Uranium: Taking a Bite Out of a Persistent Groundwater Contaminant

While groundwater flowing into the treatment zone provides a persistent source of uranium, the apatite barrier has continued to remove it to levels far below the target concentration of 44 ppb for more than 500 days since the final injection (Figure 2). Monitoring of this field study continues in order to assess the

long-term ability of the barrier to remove uranium without additional intervention. The encouraging results to date suggest considerable promise for this barrier technology to remediate uranium source zones and groundwater plumes at similarly impacted LM sites across the United States. ❖

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy National Nuclear Security Administration under contract DE-NA0003525.

Figure 2. Variations in groundwater uranium and vanadium concentrations associated with the experiment—injections occurred on days 0, 7, and 21. Background concentrations (a, c) are largely stable with time in contrast to the rapid and prolonged removal of uranium (b) and vanadium (d) following injection and precipitation of hydroxyapatite, which scavenges both from solution.





Director Melendez, LM Staff Tour FUSRAP Sites in St. Louis

Carmelo Melendez, director of the U.S. Department of Energy (DOE) Office of Legacy Management (LM), and other participants attended an extensive tour of the St. Louis area Formerly Utilized Sites Remedial Action Program (FUSRAP) sites on May 8, 2019.

The St. Louis District of the U.S. Army Corps of Engineers (USACE) led the tour, and representatives from the Missouri Department of Natural Resources and the U.S. Environmental Protection Agency also participated.

“Our strong collaboration with the Corps is essential to accomplishing a smooth and efficient transition of the St. Louis area FUSRAP sites in the coming decades,” said Melendez. “This site tour gave me and the rest of the LM staff the opportunity to observe how the Corps has managed the remediation challenges at these sites, as well as the issues that will remain when we take responsibility.”

The trip included meetings and discussions of site history, remediation, and the pending site transfers of the four FUSRAP sites in the area, including: the St. Louis Airport Site (SLAPS), the St. Louis Airport Site Vicinity Properties, the Latty Avenue Properties, and the St. Louis Downtown Site.

The visit allowed for LM site managers and officials to get a firsthand look at the sites that will be transferring to LM during the next two decades. The trip was also an opportunity to build on the collaborative relationship LM has with USACE and the other agencies.

“Everyone learned a lot, and they have a new appreciation for the extent and complexities of the St. Louis FUSRAP sites,” LM Site Manager Andy Keim said. “I think this increased understanding will go a long way in helping DOE plan and prepare for its future mission in St. Louis.”

The St. Louis FUSRAP sites resulted from uranium extraction and processing by the Mallinckrodt Chemical Plant near downtown St. Louis, Missouri, from 1942 to 1957, under contract with the U.S. Army Manhattan Engineer District and the U.S. Atomic Energy Commission.

From 1946 until 1967, radioactive byproducts from Mallinckrodt were stored at SLAPS. The wastes were later purchased, moved, and stored at the Hazelwood Interim Storage Site. During this move, improper handling, transport, and storage of the materials spread contamination along haul routes and to adjacent properties, including Coldwater Creek, which further redistributed the radioactive materials.

Congress transferred responsibility for FUSRAP site characterization and remediation to USACE in 1997. USACE has removed more than a million cubic yards of contaminated material at the sites since this time, and remediation is complete or substantially complete at many of the properties. However, there is still substantial work left to do to prepare for transfer of the sites to LM.

Rebecca Roberts, LM Support FUSRAP task assignment manager, said the biggest challenges to long-term surveillance and monitoring of these sites will be maintaining any institutional controls for contaminated but inaccessible soils under utility poles and lines, roads, buildings, and railroads. Attending the tour gave her and other officials a chance to get a look at the extent of the sites and how contamination spread. She learned about ongoing groundwater monitoring and USACE’s outreach to stakeholders. Many of the sites are on private property in heavily populated areas, which creates additional communication issues that LM will have to be ready to address.

“DOE is impressed with USACE’s remediation of the St. Louis sites—given their complexity, and the Corp’s dedication to open communication with local stakeholders and regulatory agencies,” LM Site Manager Jeffrey Murl said. “As the future remedy owner, DOE appreciates and values the continued collaboration from the St. Louis District USACE and all stakeholders to ensure protection of human health and the environment.” ❖



Attendees of the St. Louis Area FUSRAP tour at the St. Louis Airport Site on May 8, 2019.



Bluewater Site Manager Inspires High School Students to Explore Science Careers



Dressed in traditional clothes, DOE Site Manager Bernadette Tsosie describes her passion for geology and helping her community.

Dressed in a traditional velveteen skirt, silver and turquoise jewelry, and moccasins, Bernadette Tsosie (Diné), the U.S. Department of Energy Office of Legacy Management (LM) site manager of the Bluewater, New Mexico, Disposal Site, spoke to high school students at the Wingate High School career fair in Fort Wingate, New Mexico, on April 17, 2019.

During her presentation, Tsosie described her humble upbringing in Tocito, near Sanostee, New Mexico, herding sheep with her grandmother and sister. Tsosie explained it was during this time in her life, she became interested in geology.

“My grandparents did not have running water, they used wood and coal for heating,” said Tsosie. She added that her grandparents did not get electricity until they were in their 80s.

“That’s when I knew I wanted to become a geologist, dealing with water issues. I knew I could make a contribution to my people,” Tsosie said.

Martha Hughes, an instructor at WHS and the coordinator for the second annual career fair, said the main focus of the event is to empower high school students to begin exploring career

options for their future. She invited Tsosie so she could share her educational and career experiences with the Wingate students.

“Students expressed that they enjoyed hearing about the different career fields and felt like they had a better idea of the options available to them in the area. They especially appreciated hands-on demonstrations and hearing real-world advice, such as what Bernadette shared during her presentation,” said Hughes.

Chrissy Largo, an LM Support contractor, also attended and engaged with students about various career options and information related to the nearby Bluewater disposal site.

The Bluewater disposal site was a uranium ore processing site addressed by Title II of the Uranium Mill Tailings Radiation Control Act. It is located in Cibola County, approximately 9 miles northwest of Grants, New Mexico, and covers 3,300 acres.

More than 18 different tribal and non-tribal organizations participated in, and more than 400 students attended this year’s career fair event. ❖

GOAL 2



Rocky Flats Records Transferred to LMBC

The U.S. Department of Energy Office of Legacy Management (LM) has completed the transfer of more than 19,000 boxes of Rocky Flats, Colorado, Site records from the Denver Federal Records Center (FRC) to the Legacy Management Business Center (LMBC) in Morgantown, West Virginia.

The Rocky Flats Plant, situated 16 miles northwest of Denver, was part of the nationwide weapons complex that manufactured nuclear weapons components. Rocky Flats records had been stored at the Denver FRC due to a litigation hold filed in 1994 that prohibited the records from leaving the state of Colorado. The litigation hold was lifted in April 2018, allowing LM to kick off the records transfer to the LMBC. A readiness review was conducted to ensure safety and training readiness before the boxes were transferred.

The records were transferred via 17 shipments. For each shipment, records personnel audited the shipment manifest against the boxes received and the LM master transfer listing to account for discrepancies. The boxes were processed into the LMBC records storage facility where they are available to fulfill stakeholder requests.

The LMBC is a National Archives and Records Administration-approved records storage facility that allows LM instant access to more than 80,000 cubic feet of long-term physical records. With the transfer of the Rocky Flats records collection completed, LM has achieved the goal of centralizing physical records into one location. An added benefit is that LM will no longer incur Denver FRC storage and retrieval fees for these records. Having the records centralized will also be beneficial to expedite processing for records request packages. ❖



An LM Support warehouse professional transports boxes via handcart at the LMBC records warehouse.

GOAL 6



LM Conducts Site Tour and Presentation to DURAC Members in Tuba City

Representatives from the U.S. Department of Energy (DOE) Office of Legacy Management (LM) attended the Diné Uranium Remediation Advisory Council (DURAC) meeting at the Tuba City Chapter House, Tuba City, Arizona, on May 16, 2019. LM officials presented a status update on long-term stewardship activities at the Uranium Mill Tailings Radiation Control Act disposal cell near Tuba City.

LM Site Manager Mark Kautsky presented to a full house of community members, and tribal and federal officials. DURAC members and the community were able to ask questions and express concerns regarding the Tuba City site.

Since 2015, LM has been conducting active remediation of groundwater at the Tuba City site under an Interim Compliance Strategy, which was developed in collaboration with the Navajo Nation and the Hopi Tribe with concurrence from the U.S. Nuclear Regulatory Commission. Under the interim strategy, LM is pumping contaminated groundwater to an evaporation pond and comparing contaminant-mass removal rates under alternative pumping strategies.

LM also conducted a site tour of the Tuba City disposal site for Navajo Nation DURAC members. LM staff and LM Support (LMS) contractors were on-site to answer any questions and concerns regarding the site. DURAC members were given information pertaining to the history of the site and current work being done.

DURAC was formed by the Navajo Nation Council (NNC) to meet in Navajo communities affected by uranium mining, milling, transportation, and contamination. The purpose of the commission is to listen to the concerns of tribal communities and to take the information back to the NNC to implement recommendations for policies, laws, and regulations.

The Tuba City site is licensed to DOE for custody and long-term care, and managed by LM. The site transitioned to DOE in 1996 and requires routine inspection and maintenance, records-related activities, and stakeholder support.

LM participates and shares information with several tribal stakeholders associated with sites located in the Navajo Nation, including those from the Navajo Nation and Hopi Tribe. ❖



Left to right: LMS Site Lead Pete Lemke, LM Public Participation Specialist Karen Edson, and LM Site Manager Mark Kautsky attend the Tuba City Chapter House's DURAC regular meeting on May 16, 2019.



Members of DURAC walk alongside the Tuba City Disposal Site evaporation pond during a site tour.



LM Site Manager Mark Kautsky presents to the DURAC members and the Tuba City community during Tuba City Chapter House's DURAC regular meeting.



Geotechnical Sampling in Mexican Hat



Core sampling of a test pit.

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) collected field samples at the Mexican Hat, Utah, Disposal Site in early April as part of an investigation into the cause of surface depressions found on the side slopes of the disposal cell.

“Legacy Management monitors these sites to address issues as they arise,” said Angelita Denny, LM site manager for the Mexican Hat site. “These depressions were observed during an annual site inspection. Since then, LM has worked to address the issue. This recent sampling event will give us the data we need to ensure the integrity of the Mexican Hat disposal cell, and whether any issues might present a hazard to the residents of the nearby communities of Halchita and Mexican Hat.”

Scientists and engineers from the Navajo Nation Department of Abandoned Mine Lands were involved in inspections as well as experts from the U.S. Nuclear Regulatory Commission, the Desert Research Institute, and Applied Soils LLC. The 68-acre cell was constructed in the early 1990s to store low-level radioactive mill tailings. These mill tailings are the byproduct of uranium ore refining and contain a percentage of leftover uranium, which emits radon gas as it decays. The disposal

cell was designed to protect human health and the environment by containing any radon emissions and ensuring contaminated material remains safely in the cell.

LM installed 18 radon gas and radiation dose monitors around the disposal cell as well as one monitor on top of the cell after the cell cover depressions were discovered. These monitors measure radon gas concentration and radiation dose over time (about every three months). So far, after more than six months of radon gas and radiation dose monitoring, these monitors have confirmed that radon gas and radiation are not being released from the disposal cell at or above regulatory limits.

Recent observations, including a careful shallow-depth excavation of a nearly 500-foot strip down the northeastern side slope of the cell, showed degradation to some of the cover components. Further work will determine what measures must be taken to modify and restore the cell.

This site is the former location of a uranium ore refining mill that was constructed by Texas Zinc Minerals Corporation

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Geotechnical Sampling in Mexican Hat

and leased from the Navajo Nation and operated from 1957 to 1963. Atlas Corporation purchased the mill in 1963 and operated it until 1965. A sulfuric acid manufacturing plant also operated at the site from 1957 to 1970. Radioactive tailings, a predominately sandy material and byproduct of the uranium ore milling process, were left behind at the site along with other contaminants after uranium milling operations ceased.

In 1995, DOE completed surface cleanup of the site. Radioactive materials from the tailings pile, demolished mill structures, and 11 vicinity properties were relocated and placed in the disposal cell.

Radioactive materials in the cell were compacted before being covered with a multicomponent system designed to encapsulate and protect the contaminated materials.



Compaction of interim radon barrier protection material.



Core sampling of a test pit.

The San Juan River is approximately 1 mile to the north and the river receives surface drainage from the site and surrounding area. Two ephemeral drainages (North Arroyo and South Arroyo) bound two sides of the site and discharge into Gypsum Creek, a tributary of the San Juan River. Although groundwater has not been contaminated by past milling operations at the site, the natural water quality near the site is unsuitable for human consumption. Nearby communities currently withdraw surface water from the San Juan River for household and other domestic uses. ❖



DOE, USACE Break Ground on New Interpretive Center at Weldon Spring Site

On May 9, 2019, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) and the U.S. Army Corps of Engineers (USACE) St. Louis District celebrated the beginning of construction on a new interpretive center and administrative office space at the Weldon Spring site in St. Charles County, Missouri.

Approximately 80 people gathered for the groundbreaking ceremony in an outdoor area located near the existing Weldon Spring Site Interpretive Center, which opened to the public in 2002.

Speakers included LM Program Office Director Carmelo Melendez, St. Louis District Commander of USACE Colonel Bryan K. Sizemore, LM Site Manager Ken Starr, and other members from the community involved with the site and its programs.

“The groundbreaking ceremony for the new Weldon Spring Site Interpretive Center signifies LM’s long-term commitment to the community through preservation of history and STEM [science, technology, engineering, and math] education for students,” said Melendez.

Melendez gave a brief overview of LM’s history and current mission. He also recognized interpretive center staff, remarking upon the way they have grown the facility from a humble site access point to the valuable community asset it is today.

He also offered his heartfelt appreciation to guest speakers that took time from their busy schedules to assist in the groundbreaking ceremony.



Ken Starr (LM site manager) shares his remarks during the groundbreaking ceremony.

Carmelo Melendez (LM director) shares his remarks during the groundbreaking ceremony.



“There is no such thing as a bystander,” Melendez said. “Stewardship is more than just responsible management conducted by one organization. We all play a role in protecting human health and environment and creating beneficial reuse at sites like Weldon Spring.”

Technical assistance with the design and construction of the new \$7.4 million facility was provided via a support agreement between LM and USACE.

Ceremony speakers (left to right): Ken Starr, Colonel Bryan Sizemore, Alice Wolf, Carmelo Melendez, and Angel Stahr.

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DOE, USACE Break Ground on New Interpretive Center at Weldon Spring Site

Melendez said this collaborative project demonstrates the federal agencies' commitment to projects that provide beneficial reuse for the public.

Colonel Sizemore called the agencies' collaboration "the right thing to do." He said Manhattan Project leaders, such as J. Robert Oppenheimer and General Leslie Groves, would agree. "We're doing the right thing across the country. We all must be stewards to take care of what we've been given," he said.

Community speakers included Alice Wolf, coordinator of events for TNT Families, Angel Stahr, a volunteer naturalist with the Missouri Department of Conservation, and second-grade teacher Melissa Young.

Approximately 60 second-grade students from McKelvey Elementary School, who were on a field trip to the site, joined the group to assist in the groundbreaking shovel commemoration.

When open to the public, the new facility will have updated exhibits, an auditorium, four student classrooms for STEM education, and office space. ❖



Kevin McCarthy (LMS interpretive center manager), Alice Wolf (community member), and Carmelo Melendez (LM director) cut cake during the reception following the groundbreaking ceremony.



Students from McKelvey Elementary joined the groundbreaking ceremony as part of their STEM field trip to the site.



Signed hardhats memorialize the planning and design team in reaching this important milestone.



WELDON SPRING SITE

A Legacy of Service



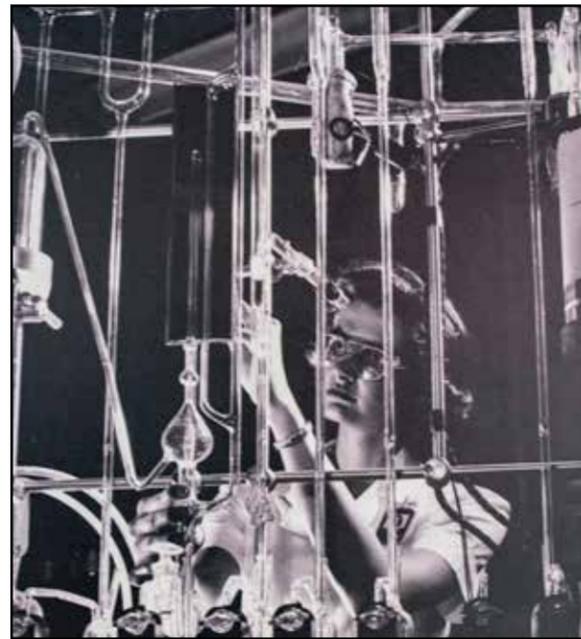
1940

17,232 Acres Originally Acquired by U.S. Army



1941-1945

TNT/DNT Processing*



1957-1966

Uranium Production



2003

Personnel and Interpretive Programs Added to Interpretive Center



2002

Interpretive Center Opening



1986-2001

Remedial Actions



2020

Anticipated Opening of New Interpretive Center



2019

New Interpretive Center Groundbreaking



2014-2015

Storm Shelters Installed

2007

Second Classroom Added to Interpretive Center

2013

Tornado

2010

Interpretive Center Display Updates

1940

1950

1960

1970

1980

1990

2000

2010

2020

* (trinitrotoluene/2,4-dinitrotoluene)



Students Explore STEM Lessons During Weldon Spring Groundbreaking

Approximately 60 second-grade students from McKelvey Elementary School in St. Charles County, Missouri, helped add some “pop” to the groundbreaking ceremony for the new interpretive center and administrative office space at the Weldon Spring site.

Before the ceremony, U.S. Department of Energy Office of Legacy Management (LM) Director Carmelo Melendez put on his safety goggles and helped a group of children learn about “Solids, Liquids, and Gases.” In a beaker, they combined a solid (baking soda) with a liquid (vinegar) to create carbon dioxide gas that was captured inside a balloon in an effort to make it pop.

“It was close to being a popper,” said Launa Danielson, an LM Support interpretive specialist at the Weldon Spring site, when she checked the group’s result. Melendez triumphantly delivered high fives to all of the members of his group.

Danielson said the “Solids, Liquids, and Gases” presentation is one of the most popular science, technology, engineering, and math (STEM) programs offered at the Weldon Spring Site Interpretive Center. “This program is everybody’s favorite because there’s a lot of hands-on stuff, and sometimes it can make a real mess,” she said.

Melendez later mentioned the experiment as a highlight of his day during his groundbreaking comments. “What a wonderful moment,” Melendez said. “When you see the second graders’ eyes light up — that’s what it’s all about.”

The Weldon Spring site offers K-12 and college-level school programming that meets Missouri Department of Elementary and Secondary Education standards. Several site programs also meet the Next Generation Science Standards, which are being adopted nationwide. Field trips and outreach programming occurs almost daily during the school year with 20 different kinds of classes available.

Plans for the new interpretive center include 4,000 square feet of classroom space and an auditorium. This new space will allow the Weldon Spring site staff to expand their educational outreach and impact with students.

Students at the groundbreaking ceremony also participated in the Butterfly Life Cycles program. As part of this program, the children scattered native plant seed pods onto Howell Prairie in the hopes of attracting monarch butterflies that migrate through the site annually.

“The staff here is amazing and they really keep the kids engaged,” said Dawn Thomas, a parent volunteer. “Every single kid is enjoying this.”

Second-grade teacher Courtney Rahn said she has been scheduling field trips to the site for her students for four years. She said she is excited that the interpretive center is expanding its classroom resources and will offer more STEM education programs to her students in the future. “Our school loves that this is a free resource that is close to our home, and often it’s a place that our students have never been to before,” she said.

During the ceremony, McKelvey students could be seen hiking to the top of the disposal cell. They finished the hike just in time to join the shovel ceremony.

“Did you enjoy your tour today?” asked LM Public Participation Specialist and Master of Ceremonies Karen Edson.

“Yea!” they replied.

“We’ll be able to continue to educate the future leaders of this nation,” Melendez said. ❖



Left to right: A solid (baking soda) is added to the beaker before the liquid (vinegar) for the chemical reaction to take place. The result is creation of a gas (carbon dioxide). LM Director Melendez helped students conduct their experiments. Students are eager to answer questions as part of the Solids, Liquids, and Gases program. Students hi-five staff as they transition between field trip activities. A collection of butterflies found at the Weldon Spring site on display during the McKelvey Elementary field trip for students to explore and learn.



Coming in 2020 – The New Weldon Spring Site Interpretive Center

Construction of a new interpretive center and administrative space began in June and will continue until 2020 at the Weldon Spring, Missouri, Site. Technical assistance with the design and construction of the \$7.4 million facility is provided via a support agreement between the U.S. Department of Energy (DOE) Office of Legacy Management and the U.S. Army Corps of Engineers. Design and construction of the facility is in accordance with the 2016 *Guiding Principles for Sustainable Federal Buildings*.



Left: Artist rendering showing the back of the interpretive center and administrative office space overlooking the native plant garden. Below: Artist rendering showing the front entrance of the new facility.



Overall Concept

A key focus in the new design is providing space for the highly diverse users and groups that visit the site regularly. On any given day, the interpretive center and administrative office space may serve school groups of 100 or more students while also providing historical/remediation tours for walk-in families and tour groups, supporting meeting room groups, hosting trail users, and providing work spaces for staff. The current interpretive center serves more than 25,000 visitors annually and the new facility will serve even more, with its dual-function classroom and meeting room spaces, an auditorium, all new exhibits, and staff offices. The new facility will serve many functions, one of which is an important Comprehensive Environmental Response, Compensation, and Liability Act requirement, as agreed upon by DOE, site regulators, and the public, during remediation.

Four Classrooms

Four classrooms will be available for educational school programs and community group meetings. Each of the new classrooms is approximately 1,000 square feet and will include an audio/visual system, tables, chairs, countertops, and sinks. The classrooms are configured in pairs with a retractable wall

separating each of the paired classrooms. When retracted, the maximized space allows for approximately 2,000 square feet of use. The site anticipates even greater capacity to serve schools and groups with the additional classroom space when compared to just two classrooms in the current interpretive center.

Auditorium and Exhibits

Visitors will be welcomed into the new exhibit hall area by first visiting the auditorium. A newly produced video will connect visitors to the site through all seasons. The auditorium can also be reserved for community events and educational programming. Upon exiting the auditorium, visitors will explore all new exhibits in the 4,000-square-foot exhibit hall. Design of the new exhibits is focused on telling a comprehensive story of the Weldon Spring site from the early 1900s, through World War II, the Cold War, remedial actions, and current site conditions. The new exhibits will immerse visitors into the lives of people living and working at the site through national defense and remedial action. The new exhibit hall culminates with large, panoramic views into the site's Howell Prairie and 41-acre disposal cell. ❖



Legacy Management Hosts National Laboratory Meeting

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) has a long history of using the resources of the DOE National Laboratories in management of its sites, and LM has recently taken steps to further strengthen that valuable relationship.

In March 2018, LM, the DOE Office of Environmental Management (EM), and Savannah River National Laboratory (SRNL) signed a Memorandum of Understanding to designate SRNL as LM's lead laboratory. SRNL had already been serving EM in this capacity. As LM's lead laboratory, SRNL is facilitating the interaction of LM with the DOE National Labs to provide technical innovations in science and technology to support LM activities for the next decade. In the first year, SRNL contributed to groundwater remediation efforts at the Mound and Fernald sites in Ohio, and offered alternatives that are being considered for groundwater management at the Tuba City, Arizona, Disposal Site.

At a meeting in Augusta, Georgia, on April 16 and 17, 2019, representatives from LM, their prime contractor, and nine of the DOE National Labs met to develop an integrated path forward for potential future support to LM. In preparation for the meeting, SRNL had worked with Debbie Barr of the LM Uranium Mine Team, and David Shafer, LM director of Site Operations, to develop "technical target" areas based

on existing or anticipated needs of LM over at least the next decade. LM Director Carmelo Melendez and SRNL Executive Vice President and Director Dr. Vahid Majidi welcomed participants to the meeting and urged them to express their ideas in addressing LM challenges and opportunities in the future.

Significant outcomes of the meeting focused on documenting high priority activities to facilitate future EM–LM collaborations, including:

- Proposed formation of small technical teams that include both National Laboratory representatives and LM subject matter experts to develop strategies that were identified in the meeting as significant. These potential technical teams will address high priority LM challenges to develop the depth, breadth, and details necessary to more fully identify technology solutions.
- Identification of near-term opportunities for technology opportunities at LM sites.
- Identification of LM sites that could be used as test beds to provide the opportunity for exploring the value of National Lab-developed technology solutions to LM.
- Expansion of successes LM has had with its Applied Studies and Technology program.

This workshop represents LM's ongoing commitment to an increased utilization of the National Laboratory resources in considering technical innovations in science and technology to support LM activities. As LM's designated lead laboratory, SRNL brings its expertise in development of best value technical solutions to the initiative. This workshop and the ongoing efforts of the developing LM National Laboratory Network will result in the advancement of LM environmental remediation efforts and monitoring technologies, resulting in efficiency, productivity, and overall success of the LM mission. ❖



LM Director Carmelo Melendez and SRNL Executive Vice President and Director Dr. Vahid Majidi welcomed the representatives from the DOE National Labs at a workshop held in Augusta, Georgia, for development of an LM National Lab Network and collaborative discussion of work to support LM's mission needs.



New Mexico Congressional Staff Tour Bluewater Site

Staff from New Mexico's U.S. Congressional delegation toured the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Bluewater, New Mexico, Disposal Site on May 15, 2019. The tour, provided by request, grew out of a successful tour of the site that LM provided to the public last fall. Participants included field representatives for Senator Martin Heinrich, Senator Tom Udall, Congresswoman Debra A. Haaland, and Congressman Ben Lujan.

The tour leaders explained to the congressional staff delegation that the cell continues to protect the public from radon from the mill tailings, the principle reason that the Bluewater cells were constructed. LM representatives also discussed providing funding to the New Mexico Environment Department to drill new monitoring wells to better define the eastern boundary of the groundwater plume.



Padraic Benson (LM program analyst) with Greg Bloom, state director for Senator Tom Udall; and Cal Curley, field representative for Senator Tom Udall.

The day began with presentations held in the nearby town of Milan. David Shafer, director of the LM Office of Site Operations, opened the event with an introduction and general overview, after which Alison Kuhlman of Navarro Research and Engineering, the Legacy Management Support (LMS) contractor, delved into site history and cleanup. LM Site Manager Bernadette Tsosie then addressed the groundwater plume beneath the site and depressions atop the main disposal cell. LM Program Analyst Padraic Benson spoke to the Office's sustained efforts at communication, education, and outreach in the community.

The presentations were followed by a visit to the site itself, during which participants viewed the site monument and walked to the top of the main disposal cell. Along the way, the group was able to meet with LMS Environmental Monitoring Operations scientists sampling one of the site's monitoring wells. They also talked to LMS Environmental Sciences ecologists about an ongoing survey of threatened, endangered, and sensitive species found on the site.

Benson said LM works to build collaborative relationships with stakeholders in the area, including community groups, local municipalities, and tribes, as well as federal and state partners. In 2017, LM started hosting annual multi-agency public meetings with the U.S. Nuclear Regulatory Commission regarding the Bluewater site. In 2018, LM began offering a public tour. LM has also provided tours and presentations to specific stakeholder groups and tribes upon request.



From left to right: Padraic Benson, LM program analyst; Alex Eubanks, field representative for Senator Martin Heinrich; Alison Kuhlman, LMS site lead; Cal Curley, field representative for Senator Tom Udall; David Shafer, director of the LM Office of Site Operations; Greg Bloom, state director for Senator Tom Udall; Joshua Sanchez, field representative for Senator Tom Udall; Brenda McKenna, field representative for Congresswoman Debra A. Haaland; Brian Lee, field representative for Congressman Ben Lujan; Bernadette Tsosie, LM site manager.

"Keeping the community informed is important at all our sites, particularly given our mission of protecting human health and the environment," Benson told the congressional staffers.

"DOE will continue to engage with the local community and address concerns," Tsosie told the group. "We're here to stay forever." ❖



Miamisburg Mayor Honored for Role in Economic Development at Mound Site



(L-R): Brady Kress, president and CEO of Dayton History; Mandy Askins, site and project manager, Mound Cold War Discovery Center; Sue Smiley, LM Mound site manager; and Dick Church, mayor of Miamisburg.

In April 2019, long-time Miamisburg Mayor, Dick Church, Jr., received the “David Hobson Dayton Region Advocate Award” from the Dayton Development Coalition (DDC), a non-profit economic development organization representing the greater Dayton, Ohio, region.

During DDC’s annual “fly-in” to Washington, D.C., the mayor and other Miamisburg officials met with U.S. Department of Energy (DOE) Office of Legacy Management (LM) Director Carmelo Melendez and Deputy Director Peter O’Konski.

“I enjoyed meeting Mayor Church and all of the representatives from Miamisburg,” Director Melendez said after the meeting. “It is important that we recognize that our collaboration with local communities and leaders is critical to the success of our mission.”

The Mound facility was operated from 1948 to 2003 by the U.S. Atomic Energy Commission and later DOE. It was built

to continue Manhattan Project work on polonium beryllium initiators for nuclear weapons, which had previously been performed in Dayton. The Mound site later expanded into an integrated research, development, and production facility with multiple DOE missions. At its peak, the facility covered 305 acres, encompassed 116 buildings, and employed more than 2,500 highly skilled workers.

When Mayor Church took office in 1991, DOE had just announced it would be closing the Mound facility. Following the announcement, the mayor was instrumental in establishing the Mound Development Corporation (MDC) to put the former DOE site to good use. The city of Miamisburg chartered MDC (formerly the Miamisburg Mound Community Improvement Corporation) to transition the site for reuse as the Mound Business Park. To date, title to approximately 92 percent of the site has been conveyed to MDC, and the remaining 8 percent is leased to them. MDC has also sold several properties to third parties.

“The Mound issue was extremely difficult and important for Miamisburg,” Mayor Church said. “When the federal government resisted our attempt to reverse their decision, we decided we were going to make that lemon into lemonade and we did it. We created a plan for reuse, we fought to get an adequate environmental cleanup for reuse, and we’ve successfully transformed the site into a business park that remains an economic asset. What this community did was unprecedented in our nation’s history.”

Not only was Mayor Church instrumental in conversion of a former DOE site into a thriving business park that has brought jobs and new businesses to Miamisburg, he is also a staunch supporter of the Mound Cold War Discovery Center. LM provided funding to Dayton History, a non-profit organization that operates a network of museums in Montgomery County, to design, build, and initiate operations at the facility. The discovery center opened in an existing Mound facility in April 2018. In the near future, Mound Cold War Discovery Center staff plans to capture Mayor Church’s long experience at the Mound site in an oral history.

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Continued from page 22

Miamisburg Mayor Honored for Role in Economic Development at Mound Site

LM Site Manager Sue Smiley recently met with Mayor Church and representatives of Dayton History to discuss ongoing activities at the Cold War Discovery Center, including collection of oral histories from former site workers, the mayor, other Miamisburg officials, and interested stakeholders.

“As a long-time resident of Miamisburg and mayor for the past 28 years, Mayor Church has a unique perspective that

spans Mound site operations during the Cold War, DOE’s announcement of site closure, stand up of the Mound Business Park, environmental cleanup, present day monitoring activities, and the new Mound Cold War Discovery Center,” Smiley said. “Capturing the mayor’s recollection of events is critical to preserving the history of the former DOE Mound site.” ❖



Ribbon cutting at the opening of the Mound Cold War Discovery Center in April 2018. (L-R) Susan Smiley, LM Mound site manager; U.S. Congressman Mike Turner; Brady Kress, president and CEO of Dayton History; Paul Lamberger, vice president of Mound Science and Energy Museum Association; Dick Church, mayor of Miamisburg, Ohio; Douglas Little, DOE deputy assistant secretary for Intergovernmental and External Affairs; Gwen Hooten, LM team leader; Mike Leesman, chair of the Board of Trustees for Dayton History; Eric Cluxton, president of Mound Development Corporation.

Be Environmentally Conscious

LM is continually seeking opportunities to protect the environment and conserve natural resources. One simple step we can take toward improving environmental consciousness is to distribute the *Program Update* newsletter by email instead of sending a printed copy.

Please send your email address and your first and last names to LM-ProgramUpdate@lm.doe.gov so that we can update our database.

Thank you for your assistance.





New Employee Bios

Kristen Holmes

Kristen Holmes joined the U.S. Department of Energy (DOE) Office of Legacy Management in April 2019 as the supervisor for the Communications, Education, and Outreach Team. She has more than 20 years of experience working in public affairs and stakeholder relations.

In 2014, Kris accepted a position with the DOE's Richland Operations Office to support public involvement as the federal coordinator for the Hanford Advisory Board. Prior to her work with the Department, Kris was the deputy chief of public affairs at the U.S. Army Corps of Engineers, Los Angeles District, and chief of public affairs for the Corps' Albuquerque District. She also worked as a community involvement coordinator for the U.S. Environmental Protection Agency at the Hudson River Superfund cleanup site in Hudson Falls, New York. And, at one time, she was the sole public affairs specialist assigned to the New York State Conservationist, a federal position with U.S. Department of Agriculture's Natural Resources Conservation Service.

Prior to working as a civilian federal employee, Kris was an enlisted medical technician in the U.S. Air Force from 1993 to 1995 and was a public affairs officer from 1997 to 2004. While in the military, she was stationed at several bases in the United States and at Lajes Field in the Azores, Portugal. She holds a bachelor's degree in comparative literature from California State University, Long Beach.

LaTerri Martin

Originally from Chicago, Illinois, LaTerri Martin graduated with a Bachelor of Science degree in accounting from Illinois State University and earned a Master of Business Administration from North Park University. Prior to entering the federal government, she worked as an accountant for a golf course management company and later was a member of the core team responsible for opening the Art Institute of Jacksonville in Jacksonville, Florida.

Her federal service began with an internship with the General Services Administration in the Accounting Development Program in Fort Worth, Texas. She then relocated to Washington, D.C., and became a budget analyst for the Smithsonian National Air and Space Museum. Prior to joining the U.S. Department of Energy (DOE) Office

of Legacy Management Financial, Audits, and Contracts Services team, she worked as a budget analyst in the DOE Office of Management (MA). In this position, she successfully managed budgetary functions for MA, the Office of the Secretary, and the Secretary of Energy Advisory Board.

In her spare time, she loves traveling, finding new places to explore, and observing/interacting with dolphins.

Brian Stewart

Brian Stewart graduated from Indiana University of Pennsylvania in 1990 with a Bachelor of Science degree in safety science. Upon graduation, Brian moved to Washington, D.C., to work for the consulting firm Pacific Environmental Services, Inc., which eventually became MACTEC, Inc. (1990-2009). In 2009, Brian accepted a contracting position with DST, Inc., a full-time position within U.S. Department of Energy (DOE) Headquarters, Office of Industrial Hygiene and Safety. In 2015, Brian was hired as a federal employee within the same office.

Brian is an accomplished professional with more than 25 years of diverse experience in industrial hygiene, safety, and occupational health, including safety and industrial hygiene program and field-level auditing experience for both government and large commercial clients.

Brian has experience conducting environmental audits for General Services Administration (GSA) facilities located in the GSA National Capitol Region. He has experience conducting industrial hygiene audits for several newly acquired General Electric Company facilities, and confined space, lock-out/tag-out, and job safety analysis audits for numerous General Dynamics Corporation facilities. He has also conducted numerous baseline industrial hygiene audits for U.S. Air Force facilities throughout the continental United States, Iceland, and Greenland.

Brian spent three years managing the air and dust sampling portion of the U.S. Environmental Protection Agency's asbestos emergency response action in Libby, Montana. He prepared project specifications, air monitoring and decontamination specifications, conducted sampling, and provided project oversight. Brian helped to develop the sampling protocols for the Phase II residential health risk assessment sampling and managed the teams in the performance of the sampling.

Continued on page 25

New Employee Bios

At DOE Headquarters, Brian managed the facility's annual Federal Employee Occupational Safety and Health inspection program. He also developed and implemented several safety programs for DOE Headquarters including confined space, lock-out/tag-out, and hazard communication programs.

He was responsible for reviewing all contractor safety and health plans in accordance with 10 CFR 851, *Worker Safety and Health Program*, and he managed the facility's indoor air quality and ergonomics programs. ❖

GOAL 6



Environmental Justice Activities

FWS Environmental Justice Advocate Receives Honorary Doctorate

On May 4, 2019, Kimberly M. Lambert, the principal representative of the U.S. Fish and Wildlife Service (FWS) to the Federal Interagency Working Group on Environmental Justice (EJ IWG), received an honorary doctorate from Morris College in Sumter, South Carolina, in recognition of her unrelenting energy, keen insights, and splendid contributions in helping young people be successful. She currently serves as the Environmental Justice program manager for the FWS in Falls Church, Virginia.

The EJ IWG provides a forum for federal agencies to collectively advance environmental justice principles. The U.S. Department of Energy joined the EJ IWG in 2011 with 16 other federal agencies.

Ms. Lambert has won many awards and accolades over the years for her work with disadvantaged populations on both a personal and professional level. In 2017, she was the first African-American woman to be awarded the U.S. Department of the Interior (DOI) Individual of the Year award, and in 2018, she was awarded the DOI Environmental Achievement award. She has personally provided national emergency aid to those in need of assistance, and she has increased federal hiring of a diverse workforce. In 2017, the National Environmental Justice Conference Board of Directors awarded her a proclamation, stating, *"we honor Kimberly M. Lambert for her Civilian Public Service, as an agent of the federal government who continues to be in the forefront, demonstrating her federal leadership, to advance environmental justice and philanthropy, using innovative and collaborative techniques and leading the way to a more just America for all communities."*



Kimberly Lambert, the Environmental Justice program manager for the U.S. Fish and Wildlife Service, receives her honorary doctorate from Dr. Leroy Staggers, president of Morris College.

In her words:

“ I've used my talents and financial resources to help disadvantaged and low-income people. My prime motivation is to touch folks in positive ways. My belief is that the best investment any of us can make is changing lives of others — enabling them to gain parity for the betterment of society drives my life's priorities. My only regret is that one person can only do so much. ❖ ”

Continued on page 26

Environmental Justice Activities

A National Dialogue on Building and Sustaining Healthy Communities



The 12th Annual National Conference on Health Disparities, “Reducing Health Disparities Through Sustaining and Strengthening Healthy Communities,” was held June 19-22, 2019, in Oakland, California. This conference builds on momentum generated in previous national conferences on health disparities by presenting the most current information on national issues. Topics included social and environmental

determinants of health and housing, access to healthcare, air and water quality, income, and education. Additional topics included behavioral health, substance abuse, sex trafficking, gun violence, health technology, and the impacts of climate change on human health.

The 2019 conference featured congressional speakers James E. Clyburn, majority whip, U.S. House of Representatives, South Carolina-6th District; Karen Bass, chair, Congressional Black Caucus, U.S. House of Representatives, California-37th District; Barbara Lee, U.S. House of Representatives, California-13th District; as well as Libby Schaaf, mayor of the city of Oakland, California. Numerous health and educational experts, community representatives, academia students, and stakeholders also spoke. The U.S. Department of Energy Environmental Justice Program Manager Melinda Downing provided opening remarks.

This conference is an important annual undertaking that continues to look at ways to reduce and eliminate health disparities in our nation. The presentations focused on policies, research interventions, and programs that address prevention, social determinants, and personal responsibility in reducing health disparities and promoting health equality. Conference participants and presenters discussed solutions, reviewed “programs that work,” and recommended policies to strengthen and enhance the current health care system through diverse, multi-disciplinary partnerships and perspectives. The conference offered participants the chance to interact in a variety of settings, including a student forum with poster presentations and panel sessions on specific topics. A conference summation

declared, “this is the time for bold action and consensus that brings together scientists, lawmakers, philanthropists, clergy, and more to find solutions to this critical issue.” ❖

DOE Mentorship for Environmental Scholars Program Orientation and Boot Camp

The U.S. Department of Energy (DOE) and Pre-College University, Inc., conducted a four-day orientation May 28-31, 2019, for students selected for the Mentorship for Environmental Scholars (MES) Program. The MES Program is an 8-10 week paid summer internship that provides exposure to laboratory research in science, technology, engineering, and math (STEM) and environmental justice to underrepresented college students. MES actively recruits qualified undergraduates from Historically Black Colleges and Universities, Tribal Colleges and Universities, Hispanic-Serving Institutions, and other minority-serving institutions for extensive training that will pilot them toward gainful employment in various STEM and management positions within DOE.

The MES program is open to STEM students who are U.S. citizens, who are members of an underrepresented group (including ethnic minorities and persons with disabilities), and who are maintaining a 3.0 grade point average.

The goal of the orientation and boot camp is to introduce the interns to the field of environmental justice; provide introductions to some of the key individuals at DOE Headquarters; and conduct professional development trainings, including team building and project management training.

The final outcome of the event was the intern presentations on their proposed research projects that they would undertake at their prospective location assignments. ❖



Classroom group photo of MES students and Mr. Clarence Brown, a training consultant with Pre-College University, Inc.



Local Elected Officials Tour the Canonsburg Site



From left to right: Cliff Carpenter (LM site manager), Dwight Shearer (Pennsylvania Department of Environmental Protection regional manager), Senator Camera Bartolotta, and Mayor David Rhome.

On May 31, 2019, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) provided a tour of the Canonsburg, Pennsylvania, Disposal Site to Pennsylvania State Senator Camera Bartolotta (46th District) and borough of Canonsburg Mayor David Rhome. Dwight Shearer, with the Pennsylvania Department of Environmental Protection (PA DEP) Bureau of Radiation Protection, also participated in the visit.

The tour began with an orientation and safety briefing, after which the group walked to the top of the disposal cell for further discussion. The senator was especially interested in learning more about the history of the site and how her office might work with LM and the borough to better inform the public about the site.

The site, which dates back to the early 1900s, processed vanadium, radium, and uranium. Because the site processed uranium, it qualified for remediation under the Uranium Mill

Tailings Radiation Control Act of 1978. Mill tailings were consolidated into an engineered disposal cell between 1983 and 1985.

Thirty-four years have passed since cell closure, and LM is looking for new opportunities to share its story with the local community.

“The tour was an excellent opportunity to transfer knowledge about the site’s history and explain how it is designed to ensure long-term protection to the next generation of community residents,” said Cliff Carpenter, the LM site manager for the Canonsburg site.

LM will continue to collaborate with Senator Bartolotta’s office, the borough of Canonsburg, PA DEP, community groups, and other stakeholders to keep the public informed about both the history of the site as well as LM’s routine maintenance activities. ❖



LM Participates in STEM-Sation Day at Ganado High School

As part of the final STEM-sation Day events of the school year, U.S. Department of Energy (DOE) Office of Legacy Management (LM) and LM Support (LMS) contractor staff engaged with high school students at Ganado High School in Ganado, Arizona, on April 26, 2019. More than 5,500 students, grades nine through 12, participated from eight different high schools within the Navajo Nation.

Navajo Nation President Jonathan Nez visited LM’s information booth and talked with students about pursuing science, technology, engineering, and math (STEM) fields of study. Nez encouraged the students to “continue their education and reminded them they could accomplish anything they set their minds to.”

Part of LM’s mission is to partner with tribal communities within the Navajo Nation and to promote STEM studies and careers.

STEM-sation Day events were coordinated and funded by Navajo Abandoned Mine Lands Reclamation/Uranium Mill Tailings Remedial Action, Navajo Transitional Energy Company. Partial funding for these events is also provided by DOE.

LM looks forward to participating in the next school year’s STEM-sation Day events. ❖



LM Site Manager Bernadette Tsosie talks to a group of high school students about her site work during the STEM-sation Day at Ganado High School.

During this event, Bernadette Tsosie, an LM site manager and geologist, provided information to students regarding the Bluewater, New Mexico, Disposal Site and hands-on materials, such as rocks representing the various geological formations within the Navajo Nation. Tsosie also stressed to the students the importance of pursuing their educational goals and encouraged them to find a career they will ultimately enjoy.

Allison Reynolds, an LMS geochemist, was also present at the event to explain to students her work at various sites within the Navajo Nation. She used a hands-on activity, the “Yo-Yo Energy” demonstration, which uses yo-yos to explain the different types of energy. Students who participated were given a wooden yo-yo with the DOE logo.



Allison Reynolds, an LMS geochemist, explains to students the “Yo-Yo Energy” hands-on demonstration during the STEM-sation event at Ganado High School.



LM Thanks All Who Have Served



Greg Cummings
U.S. Air Force (2006-2011)



Bill Frazier
U.S. Navy (1986-1992)



Jay Glascock
U.S. Air Force (1985-2009)



Kristen Holmes
U.S. Air Force (1993-1995, 1997-2004)



Traci Johnson
U.S. Navy (1988-1996)



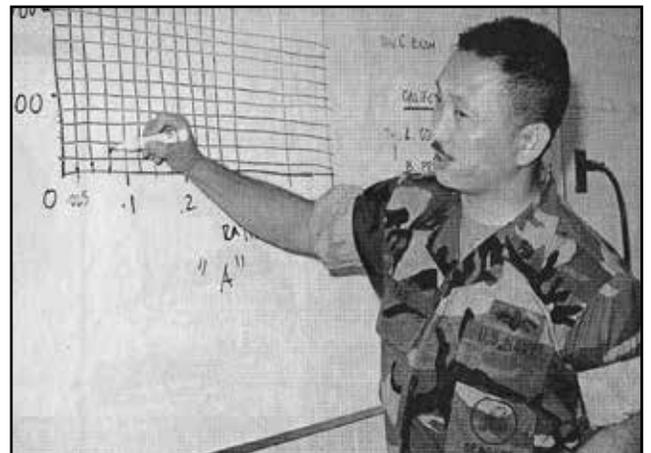
Carmelo Melendez
U.S. Navy (1986-2008)



Jeffrey Murl
U.S. Navy (2002-2011)



Edwin "Doc" Parks
U.S. Air Force (1983-2010)



Dante Tan
U.S. Navy (1983-2008)



LM NEWS Feed

Visit <https://energy.gov/lm/listings/lm-news> to access these articles in the LM NEWS Feed.

JUNE 19, 2019

LM Nurtures Relationship with Rocky Flats Stewardship Council

Rocky Flats Stewardship Council tours the Rocky Flats, Colorado, Site.

JUNE 6, 2019

LM Receives EPEAT Purchaser Award for Advancement of Sustainability

For the fifth consecutive year, the Green Electronics Council awarded its EPEAT Purchaser Award to LM.

MAY 2, 2019

New Video Tours of Manhattan Project National Historical Park Sites

The American Museum of Science and Energy offers guided video tours of the historic calutron buildings 9731 and 9204 (Beta 3) in Oak Ridge, Tennessee.

APRIL 4, 2019

Tuba City Site Hosts Tour for University of Arizona Graduate Students

Students from the Indigenous Food, Energy, and Water Security and Sovereignty program at the University of Arizona tour the Tuba City site.

APRIL 3, 2019

Math and Science Night in Grand Junction, Colorado

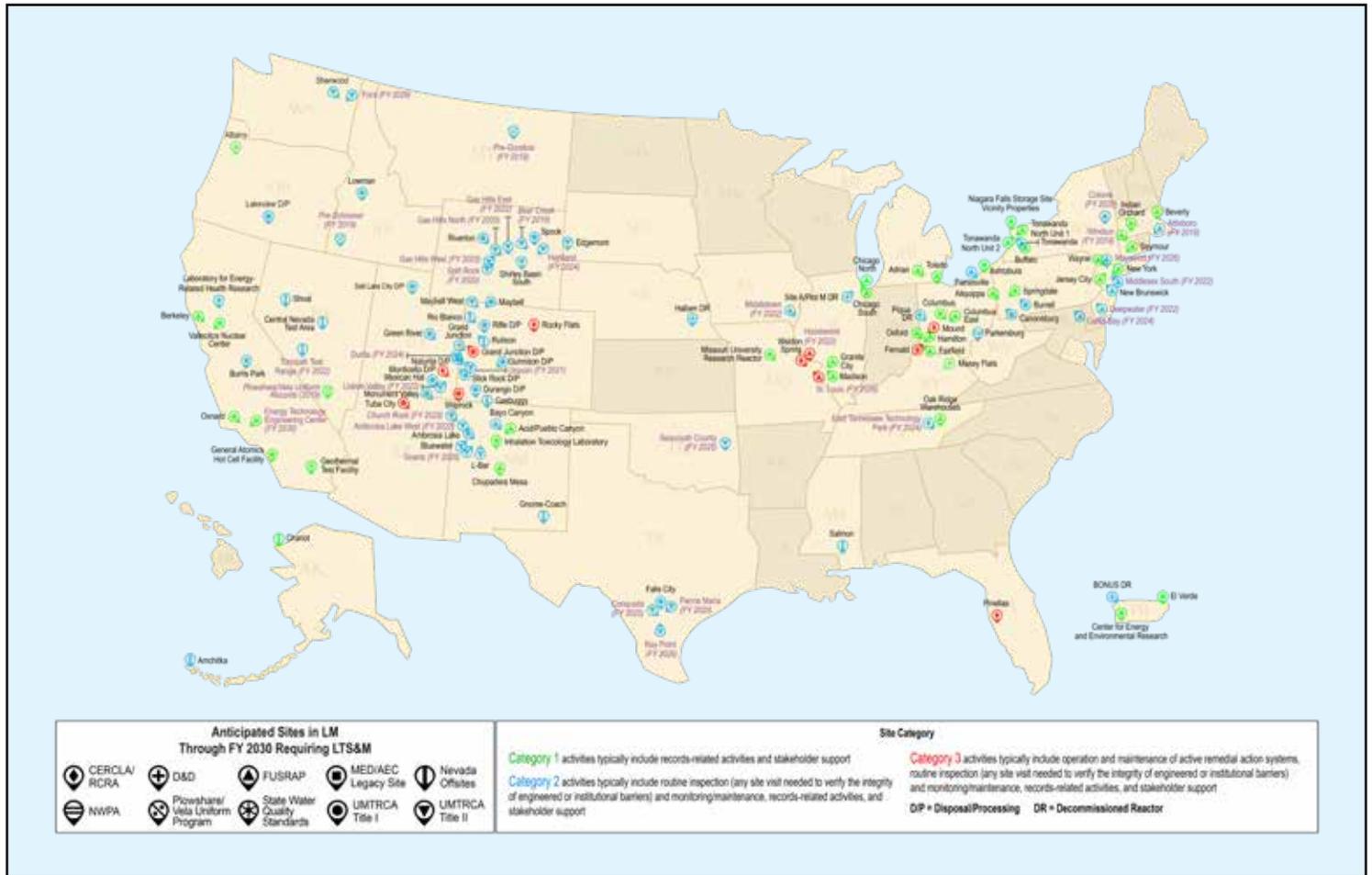
LM representatives share knowledge with students to inspire their STEM curiosities.

MARCH 19, 2019

LM Rolls Out FY 2020 Budget Request

DOE's fiscal year 2020 budget request includes approximately \$303 million for the Office of Legacy Management.

Anticipated LM Sites Through Fiscal Year 2030



IN MEMORIAM
Tony R. Carter
 1957-2019



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For up-to-date LM news, be sure to visit LM's website and LinkedIn page.



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