

Times Tailings



The Long, Cold Winter

Last fall, the Moab Uranium Mill Tailings Remedial Action (UMTRA) Project was prepared for historically “normal” winter weather with high temperatures near 40 degrees Fahrenheit (°F) and lows near 20°F. What southeastern Utah experienced, however, was one of the coldest winters on record, which dates back to the 1870s. The temperatures averaged 25°F below normal, and included a stretch of 7 weeks of below-freezing weather with high temperatures of 10° to 15°F and lows reaching to 15 degrees below zero.

Operational Challenges

The extreme cold weather affected Moab Project operations in numerous ways. The project solicited input from the employees and brought in experts, as needed, to resolve or at least alleviate the issues. For example, when the containers that hold the uranium mill tailings arrive in Crescent Junction by train, they are placed on a haul truck and driven to the disposal cell. The material is dumped through an end gate on the container that opens and closes via a latch mechanism that is controlled by a switch inside the truck. The latch position sensors on the truck beds became coated with ice, affecting the sensors’ proper detection of the position of the latch mechanism. As a result, the end gates were occasionally incorrectly determined to be latched. In response, project personnel manually verified that the end gates were completely closed and latched, and that the truck sensors were clear of ice.

Last summer and fall, the project experienced some difficulties with the tailings material being retained inside the container during the dumping process. Various methods were tested to ensure a complete dump, such as lining the containers

Continued on page 3

Workers on the Moab Project continued operations as much as possible even in wintry conditions like these.

Contractors on the Moab Project

In June 2007, DOE awarded two contracts to perform the Moab Project scope.

The **Remedial Action Contract (RAC)** was awarded to EnergySolutions Federal Services, Inc., to finalize the design of how to move the mill tailings from the Moab site to the Crescent Junction disposal site, develop the tailings removal system, build the initial portion of the disposal cell, begin transport of the tailings, and handle day-to-day maintenance and operations at the Moab and Crescent Junction sites. Envirocon, Inc., Nielson Construction, Inc., and Jacobs Engineering Group, Inc., are teaming partners. EnergySolutions contracted with Union Pacific Railroad to transport the tailings.

The **Technical Assistance Contract (TAC)** was awarded to S&K Aerospace, LLC, to provide technical and administrative support services to DOE, perform ground water remediation, and conduct radiological surveys of vicinity properties in the Moab area. S&K teamed with Professional Project Services, Inc. 



Message From the Federal Project Director

The long, cold winter appears to have finally given way to spring. At last! With the warmer weather comes renewed optimism in what we can accomplish on the Moab Project. I am so proud of each and every worker who relentlessly pushed through the less-than-ideal conditions these last few months to help us achieve the milestones discussed in the lead article.

One more date to mention is April 20, which will mark the 1-year anniversary of when we began shipping the mill tailings to Crescent Junction. It's hard to believe we have been moving tailings for almost a year.

This edition of *Tailings Times* highlights some of the other efforts in support of moving tailings, such as finding efficiencies in our operations, using employee feedback to strengthen our safety program, excavating the next

phase of the disposal cell, and conducting surveys to confirm our tailings volume calculations. In addition, we have enlisted the support of a nearby college to evaluate wildlife at the Moab site and to conduct bench-scale ground water tests.



Donald Metzler, Federal Project Director

Speaking of colleges, many of you know I have a soft spot for schools of higher learning that express interest in our project. Springtime brings numerous requests by professors and graduate students eager for site tours. A couple of years ago I started a "price of admission" of a school banner for these tours. As you can see from the photograph, we now have quite a collection of banners that we proudly display on a wall in the conference trailer at the Moab site. Banners from the University of Utah and Stanford University are the most recent additions. We also strive to assist professors who want to show their students the interesting geologic features of the hillside above our rail load out area.

We appreciate the cooperative relationship we have developed with Union Pacific (UP) Railroad. In March,

Continued on page 11



School banners are displayed on a wall in the Moab conference trailer.

What's In This Issue?

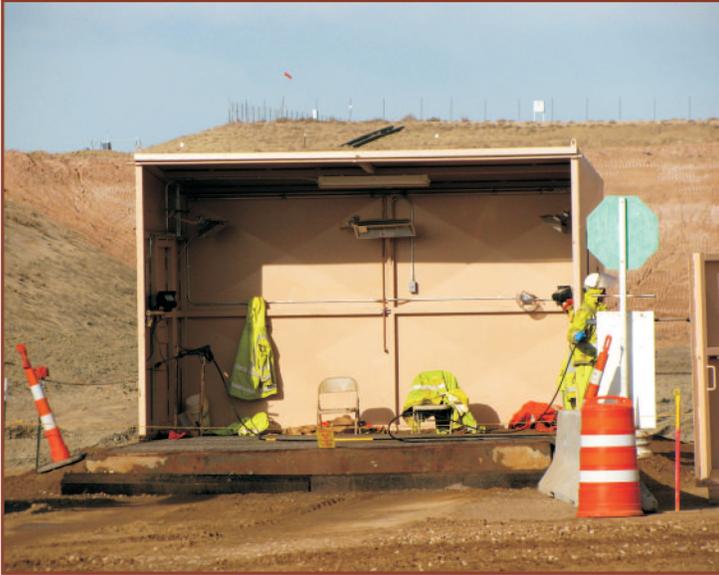
The Long, Cold Winter	1
Activities at the Disposal Site	5
Non-Pile Soils and Ground Water Remediation	6
Process Improvement Teams Implemented on the Moab Project	7
Using Surveying Technology to Create 3-D Models	8
Making the Moab Site Attractive to Wildlife	9
Survey Results Spur Safety Actions	10
Private Business Spins Off From Project Work	12
How Do I Get Information About the Project?	13

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The Long, Cold Winter (continued from page 1)



Shelters like this one shielded workers from the cold.

with single-use plastic sheets, installing a hard plastic liner in the container bottom and a portion of the sides, hand-spraying a release agent, and applying a sprayed-on coating.

The material retention issue was exacerbated by the cold temperatures, which caused the tailings material to become frozen inside the containers and be retained during dumping. Multiple methods described above were employed to resolve this issue; however, when temperatures remained below 10°F for an extended period, there was still some material retention. The affected containers were set aside in the sun or inside the maintenance facility at the Crescent Junction site to thaw the material before dumping. During warm weather, the sprayed-on coating seems to best facilitate a complete dump.

Many site personnel, especially those working at the decontamination stations at both the Moab and Crescent Junction sites, were exposed to the cold air for most of their shift. Electric heaters were placed near the stations to help warm the work area. Some of these were later replaced with three-sided shelters with propane heaters, to shield the workers from the elements.

Underpass Construction Completed

Although the cold weather slowed the construction of the underpass of State Route 279, it was successfully completed in December 2009.

Previously, haul trucks carrying tailings containers had to cross the highway, which transects a portion of the Moab Project site, to reach the rail load out area. The trucks had to stop at the crossing every time they headed to the rail line and again on the return trip, increasing the time per trip and wear on the vehicles.

The trucks and other project vehicles now use the underpass and thus avoid more than 500 potential interactions with public traffic on the highway each day. The underpass is a significant safety enhancement to the Moab Project and was funded through the American Recovery and Reinvestment Act (ARRA).

The underpass was built northeast of the previous road crossing and accommodates two-way haul traffic with a divider to separate the lanes. You may notice in the photograph that we use a left-hand traffic pattern on this portion of the haul road, similar to many mine sites. The haul road was realigned to meet the underpass. The haul road approaching the underpass on both sides and the section of State Route 279 that was removed during construction will be paved in April.

Milestones Reached

Also despite the extended cold temperatures, the project shipped a trainload on January 7 carrying 136 containers of tailings—the maximum number of containers that can be shipped in a single train with the existing infrastructure. The loading of the train was accomplished in one work shift. “This was a key marker in our effort to

Continued on page 4



Haul trucks carrying containers pass through the underpass.

The Long, Cold Winter (continued from page 3)

maintain safe, sustained shipments at this level," said Moab Federal Project Director Donald Metzler. The project began consistently shipping the maximum trains within weeks of this first milestone.

To recognize his crews' efforts to ship full loads, Larry Brede, Project Manager for the RAC, ran the 30 miles from the Crescent Junction site to the Moab site on March 1. It took Larry, a long-distance runner, about 4 hours and 10 minutes to reach the site entrance, where he broke through the "finish line" and was greeted by a small crowd of employees who had gathered to congratulate him. "I wasn't expecting such a nice ending to my run," expressed Larry. "In my expression of appreciation, I told everyone that I ran the distance at a nice, steady pace,

not a sprint or a stop-and-go, just like we should do in loading each train."

Two days later, on March 3, the project reached another significant milestone—shipping the one millionth ton of tailings to Crescent Junction. In less than 11 months since beginning rail shipments on April 20, 2009, the first million of 16 million tons total had been removed from the Moab site. This quantity was shipped

in 317 trainloads that carried a total of 29,180 containers. One million tons would fill 30 floors of the Willis Tower (formerly Sears Tower) in Chicago.

Almost half of the 1 million tons, or 490,000 tons, was shipped using ARRA funding. ARRA shipments began augmenting the regular shipments in June 2009.



RAC Project Manager Larry Brede reaches the finish line at the Moab site on his run between the project sites.



TAC Public Affairs Manager Wendee Ryan and Grand County Council Chair Audrey Graham held plaques as Federal Project Director Donald Metzler demonstrated "moving" the first million tons of tailings.

Presentation of two plaques in recognition of reaching this milestone was given by Donald Metzler at the Grand County Council meeting that was held on March 16 in Moab. One plaque portrays the tailings pile and the other the disposal cell. The "pile" is made up of 16 movable pieces, each representing 1 million tons. Donald demonstrated the relocation of the first piece, engraved with "1M tons, 3-3-10," by moving the piece from the pile plaque to the disposal cell plaque. The plaques will be displayed in the Council Chambers. 🌊



Workers on the night shift at the Moab site gather in front of the container carrying the one millionth ton.

Activities at the Disposal Site

A couple of activities at the Crescent Junction disposal site are being conducted using Recovery Act funding. In January, the RAC began excavating the second phase of the disposal cell where mill tailings from the Moab site are shipped. This phase of the cell will extend east from where the first phase ended, and will occupy about 45 acres. The soil will be excavated 25 feet below ground and tailings will be filled 20 feet above ground, for a total thickness of about 45 feet. Excavation of the second phase is anticipated to be completed by the end of September 2011.

In addition, rock for the cover of the disposal cell is being quarried at Fremont Junction, Utah, size-sorted to meet project specifications, and trucked the 80 miles to the Crescent Junction site where it is being stockpiled for use beginning this summer. The size of the rock needed for our cell varies from 2 to 12 inches, depending on the layer of the cover for which it will be used. For example, the cell top cover and biointrusion layer will be of rock with an average diameter of 2 inches. The rock must also meet degradation specifications required by the U.S. Nuclear Regulatory Commission. Some of the material excavated to construct the cell is being used as interim cover material. 

Scrapers excavate the second phase of the Crescent Junction disposal cell.



Cover rock from Fremont Junction is being stockpiled at the Crescent Junction site.



Looking northwest at the disposal cell. The reddish soil is the tailings.

Non-Pile Soils and Ground Water Remediation

Non-Pile Remediation

In addition to removing the tailings pile, DOE has cleaned up 106 acres of non-pile (or off-pile) soils at the Moab site over the past 7 years in an effort to reduce the overall contaminated footprint. Last fall and winter, 26 acres was remediated between the tailings pile and the Colorado River in preparation for expansion of the ground water interim action well field. About 4 feet of soil was removed in much of the area.

The remediated area was recontoured and bermed in preparation for creating 15 revegetation plots, each about 2 acres in size. Roughly 3,000 feet of irrigation line is being installed that will supply water to the flood plots, which will be seeded with native grass species and supplemented with cottonwood and willow trees.



A 26-acre area west of the tailings pile was cleaned up last fall.

Well Field Expansion

The well field lies between the base of the tailings pile and the Colorado River. The wells are designed to remove contaminant mass (mostly ammonia and uranium) before it discharges to the river and to protect the surface water habitat areas, which form along the riverbank, from exposure to ammonia. To date, more than 150 million gallons of ground water has been extracted through the interim action system, including 627,000 pounds of ammonia and 2,753 pounds of uranium.

The existing wells along the riverbank were augmented with the installation of seven wells closer to the tailings pile to more efficiently extract contaminants. A road was constructed to access the new wells. Four wells in the existing well field also were replaced to improve ground water extraction and freshwater injection. There are now 42 wells in the interim action system.

A drill rig installs a new ground water extraction well.



Bench-Scale Ammonia Tests

The long-term ground water remediation strategy to be developed for the Moab site will need to address an effective way to treat and dispose of water that is extracted through the wells. Because the evaporation pond to which extracted ground water is currently pumped will be eliminated at some point during the removal of the tailings pile, the TAC is evaluating other options for dealing with the extracted ground water. One alternative to evaporation that is being considered is to install a treatment system, and then reinject the treated water into the ground water system.

Last fall, the TAC subcontracted with Russ Walker at Mesa State College in Grand Junction, Colorado, to conduct a bench-scale treatability study. The study was designed to evaluate whether raising the temperature and/or pH in ground water samples collected from the Moab site would reduce the ammonia concentration. "Because the ammonia concentration decreased significantly when both temperature and pH were raised, we learned that we may not require an elaborate treatment system," said Ken Pill, TAC Ground Water Manager.

We are currently evaluating ground water treatment technologies and will conduct further bench tests to determine the most effective method to reduce uranium concentrations in ground water. A feasibility study and pre-design engineering will determine if and how the treated water can be delivered back to the ground water system. 

Process Improvement Teams Implemented on the Moab Project

In the October 2009 edition of *Tailings Times*, we published an article about the Continuous Improvement Team implemented on the Moab Project to identify inefficiencies in time and effort. With the current schedule of shipping two trainloads in a 24-hour period, each work shift has only 6 hours to prepare the maximum trainload of 136 containers. Similarly, Union Pacific (UP) Railroad has only 6 hours to transport the train to Crescent Junction and return another train to the Moab site. To tackle issues associated with these time constraints, the project assembled five Process Improvement Teams, or "PIT Crews" as they are called, consisting of RAC and UP workers that are led by a supervisor who acts as Crew Captain. Each crew concentrates on one of five critical areas: tailings pile excavation, radiological control, train loading and unloading, train transportation, or disposal cell operations.

Under the guidance of Craig Niemeyer, RAC Project Coordinator, and Tom Rasmussen, UP Continuous Improvement General Director, the PIT Crews are applying established principles of efficiency to project operations. Since last August, PIT Crews have been meeting twice a month. Initially they focused on identifying additional equipment and materials needed to ramp up to shipping full trainloads, including haul trucks, reach stackers, shipping containers, and a dozer and compactor in the disposal cell. The PIT Crews also identified personnel needed to efficiently prepare the trainloads, such as truck drivers, laborers, equipment operators, and radiological control technicians.

In addition, the PIT Crews evaluated the traffic flow in the Support Area where containers are transferred across the radiological boundary to minimize the amount of backtracking by the reach stackers. At the Crescent Junction site, a PIT Crew evaluated relocating the ramps that are used to assist in dumping the container contents into the disposal cell closer to the decontamination station and radiological survey area.



The exterior of a container is rinsed as it is driven through the new wash facility at the Moab site.

Now that the ramp-up is complete and full trains are being routinely shipped, the PIT Crews are concentrating on how to optimize the tailings excavation, loading, transport, and disposal processes. For example, although constructing the underpass of State Route 279 was planned as an ARRA activity to eliminate interactions with public traffic, the PIT Crews directed their attention to the efficiencies that are gained because the haul trucks no longer have to stop at the highway crossing.

The gantry crane at the Moab rail load out area ideally receives a container at a consistent and steady pace, which eliminates wait time for the operator. The gantry crane was identified as a "single point of failure" that could potentially shut down loading operations for days while parts were being replaced or repaired. A second gantry crane is on order and should be operational by early May. Both cranes will then be used to more efficiently load and unload containers from the railcars. If one crane is down for maintenance, the other one will still be available to keep operations running.

Previously, two locomotives pulled the train and one locomotive was at the end to assist with getting the train up hills and to maintain optimum speed during the 30-mile trek to and from Crescent Junction. Although the three locomotives have sufficient power, a fourth locomotive was added at the end of the train beginning in March to facilitate UP in meeting the transportation schedule. Engine refueling is generally timed to occur on weekends when the project does not ship a train. Occasionally, mid-week engine swaps are necessary; however, they add to the transit time. The fourth locomotive reduces the potential for these mid-week swaps to disrupt our shipments.

The Support Area at the Moab site is where containers are prepared for transport off-site. Each lidded container is placed on a survey rack and visually inspected to ensure no contamination is present on the exterior before it is released from the Controlled Area. A swipe with a cloth is

Continued on page 12

Using Surveying Technology to Create 3-D Models

The volume of tailings in the unexcavated pile was estimated in the project's Remedial Action Plan at 12 million cubic yards (with a weight of 16 million tons). Last fall, the TAC subcontracted with Earth Analytic, Inc., to begin collecting data of the tailings pile and the Crescent Junction disposal cell and periodically produce elevation maps and volumetric calculations to validate the original estimate.

LIDAR (Light Detection and Ranging) is an imaging and mapping technology that works by using a laser sensor. The sensor records the difference in time between the signal being emitted and being received from a given point, similar to a traditional optical survey instrument. More than 100,000 positions can be captured every second. The LIDAR data is coupled with a global positioning system to produce an accurate three-dimensional (3-D) position of every point scanned.

The processed survey data allow the TAC to create complex 3-D models of an area. For the Moab Project, the data are used to calculate the volume of remaining material in the tailings pile as the removal process continues, and to determine the volume of material placed in the disposal cell at Crescent Junction. Adjustments are made for the amount of interim cell cover material that is placed on top of the compacted tailings, and design drawings for the cell are used to assess the base of the tailings to calculate the volume.

A second LIDAR assessment of the Moab and Crescent Junction sites was performed in March 2010 when the snow that had covered the ground for most of the winter finally melted. Snow cover presents a couple of issues for data collection, including potentially distorting the volume estimates and reducing the instrument scanner's effective range.



Surveyors use LIDAR technology to collect data of the tailings pile.

In addition to the surveys of the tailings pile and cell, LIDAR surveys were performed at the Moab site of the 26 acres recently remediated between the tailings pile and the Colorado River and of a portion of the hillside above the rail bench to obtain a baseline for measuring changes in the hillside surface. If a landslide occurs, a subsequent survey could be used to measure the volume of the slide material.

As the tailings removal continues, volume calculations based on data collected from subsequent surveys will allow the project to determine if any adjustments in the final disposal cell dimensions are needed. 🌊



A model of the Moab tailings pile created using LIDAR technology.

Making the Moab Site Attractive to Wildlife

As we have cleaned up non-pile areas of the Moab site, we have been revegetating them with a variety of native plant species. In addition, we have removed unwanted plants, such as tamarisk trees, in some uncontaminated areas of the site, and replaced them with desirable vegetation. Some of these revegetated areas have become conducive to wildlife, and each year project staff notice an increased number and variety of animals, or fauna, characteristic of the area.

The project contracted with biologists at Mesa State College (MSC) to perform a fauna survey to identify what species are currently using the Moab site and to gain information about what animals should be encouraged to visit and those that may reenter the area after the project is completed.

“Habitat restoration and wildlife management go hand-in-hand with our site cleanup,” said Katherine McGill, TAC Revegetation Technician. The challenge for project staff is to create a balanced ecosystem that can sustain and support the widest possible spectrum of desirable plants and animals while discouraging undesirable species. MSC lead investigator Dr. Richard Dujay said, “The welfare of wildlife populations and their viability as a sustainable resource depend foremost on conserving habitats and enhancing their suitability.”

The initial fauna assessment is needed to construct a plan to monitor presence on the property of native and/or migrating species, including birds, mammals, amphibians, reptiles, and fish. The MSC staff will employ several models to determine how wildlife populations respond to natural and human-induced habitat changes.

MSC staff, in cooperation with TAC staff, identified several habitats to study so that data gained may be extrapolated to larger areas of the site, including contaminated areas. MSC staff will set “camera” traps that will capture digital photographs of animal visitors, and physical traps that will safely capture an animal so that staff can log its presence and identity before releasing it unharmed.

Wild turkeys are among the wildlife present at the Moab site.



Camera traps capture photographs of animals.

Fauna observations will be integrated into the project’s geographical information system to tie them to historical and existing site features. The goal is to develop a predictive model of wildlife habitat relationships that can be employed in effective land use planning and the mitigation of habitat loss.

Once the initial survey is completed, the fauna will be monitored periodically to assess and account for changes in wildlife communities. 

Survey Results Spur Safety Actions

Last fall, the RAC offered a safety survey to all DOE, RAC, and TAC employees that asked more than 30 questions aimed at receiving confidential feedback to improve the safety performance on the Moab Project. Comments were also solicited following a safety incident involving a truck rollover that occurred last October. In addition, employees are encouraged to submit suggestions at any time.

More than 200 comments and suggestions were received initially, some of which could be implemented immediately, while others have taken more time to evaluate before putting into practice. All of the suggestions are logged so that corrective actions can be tracked. To assist in tracking suggestions and implementing corrective actions specifically associated with safety, the RAC created a Safety Action Lead position and promoted Travis Blake in November 2009 to assume this role.



Travis Blake was promoted to Safety Action Lead.

Safety Action Team

Travis was selected as the Safety Action Lead partly because he is well-respected by his peers. RAC management's desire was to select someone from the "ranks" who could demonstrate action in the field to workers' suggestions. "Travis jumped into his new position with both feet and really takes his role seriously," said his supervisor, Craig Niemeyer, who is also the Safety Action Coordinator. "We feel that we chose the best person to do this job."

Travis joined the project in 2006 as a Field Technician under the previous contractor. He has been a foreman and performed a variety of tasks for the Moab Project, including operating heavy equipment, working on construction projects, general maintenance, and preparing containers for shipment. "I like to get out and talk to people and attend the Plan of the Day meetings to learn about problems that I may be able to help solve," said Travis.

Travis works with the Safety Action Team, which was also initiated in response to the survey. The Safety Action Team's charge is "find it and fix it." The team acts in a support role to, but is separate from, the project safety

program, which sets contractor safety policy for the project. On a weekly basis, Sherry Magnusson, the Safety Action Administrator, updates the status of action items on the tracking list and adds new items. New items come from daily safety meetings, suggestion boxes, assessments of "near miss" incidents, Task Analysis Safety Cards, employee safety committee meetings, and weekly management field walk downs that are performed alternately at the Moab and Crescent Junction sites and on alternate shifts to assess different aspects of the operations. Since the list was initially prepared about 6 months ago, the number of action items has doubled to almost 400; however, more than 250 of these items have been completed. An updated list is posted on the safety bulletin boards at each site so that employees can see the progress being made.

Craig coordinates with project management to determine the priority of action items to ensure the proper level of attention is provided and to coordinate any necessary labor and associated costs. "The action items on this list don't warrant formal tracking; however, we wanted to monitor preventative actions to ensure the project continues its path forward in making safety improvements and enhancements," said Craig.

Examples of safety measures that have been implemented range from adding guardrails along the haul roads and supplementing lighting to increase visibility of work areas during the night shift, to removing tripping hazards and

Continued on page 11



A runaway truck ramp was constructed off the downhill haul road.

Survey Results Spur Safety Actions (continued from page 10)

adding signage. In response to a rash of vehicle backing incidents, a policy was developed and implemented that involves installing backing alarms, honking twice before backing, and using spotters to guide the driver when visibility is poor.

When the downhill haul road from the rail load out area was initially constructed, it did not include a truck runaway ramp. Although not required, the project decided that installing one would be a good management practice, especially because a portion of this road is at a 12-percent grade. The 14-foot-wide ramp veers off from the left side of the haul road and extends 250 feet toward, but well short of, U.S. Highway 191. It is constructed of soil built up 10 feet to match the elevation of the haul road. The ramp includes a 6-foot-thick, rounded gravel arrester bed to safely stop the vehicle.

Safety Personnel Recognized

In March, Kris Brey, RAC Health and Safety Supervisor, joined an elite group of safety professionals by attaining her Certified Safety Professional (CSP) designation. This

designation is one of the highest certifications one can receive as a safety professional. CSP qualification requires years of safety-related work experience, academic achievement (at least a bachelor's degree), and passing the prerequisite 5-hour-long, 200-question safety fundamentals examination (or receiving a waiver because of other qualifying credentials). Eligible candidates must then pass the comprehensive practice exam to become a CSP. "What may be most impressive is that Kris achieved the CSP designation while working full-time on the night shift since last August," said Woody Stelly, RAC Health and Safety Manager.

Dennis Allen, TAC Safety Specialist, has been with the Moab Project since last August. He is a Certified Industrial Hygienist and a CSP. In February, Dennis was selected by the DOE Health and Safety community to serve a 3-year term on the Industrial Hygiene/Occupational Safety Special Interest Group (SIG) Steering Committee. The committee meets every 6 weeks via teleconference to discuss health and safety topics, safety and protection standards, and availability of resources. 

Message From the Federal Project Director (continued from page 2)

executives from UP's corporate office in Omaha, Nebraska, visited the Moab and Crescent Junction sites to see the project operations and ride the hy-rail vehicle between the sites. We share a common goal to continually improve our shipping operations.

Quality is important to the Moab Project and I want to recognize a member of my DOE staff, Bonni Wethington, for her recent accomplishment of passing the American Society of Mechanical Engineers Nuclear Quality Assurance-1 and American National Standards Institute N45.2 Lead Auditor examination. By passing this arduous exam, Bonni will help ensure that the project is following industry standards with regard to conducting quality control and quality assurance programs. Art Murphy, the DOE Moab Project Environmental Safety and Health and Quality Assurance Manager, successfully completed the SAF-220 Senior Technical Safety Manager Overview training course. This week-long course emphasizes applying "best practices" to conducting operations and field oversight functions.

This and previous editions of the newsletter can be found on our website at www.gjem.energy.gov/moab under the General bullet.



L to R: Dennis Duffy, UP Vice Chairman of Operations; Donald Metzler; Larry Brede; and Lance Fritz, UP Vice President of Operations.

Private Business Spins Off From Project Work

The Grand County, Utah, economy has been affected in indirect ways by the startup of moving the tailings pile. One effect is the reopening of a convenience store and gas station named Papa Joe's near the Crescent Junction site at the intersection of U.S. Highway 191 and Interstate 70. Owner Joe Downard decided in the fall of 2008 that with the Moab Project ramping up, it would be a good business opportunity to open the store and four gas pumps.

In the 1,200-square-foot store, they offer the usual snack food and convenience items, but they also provide a lunch service, including such fare as hamburgers, chicken sandwiches, salads, and chicken wraps, to the project employees who work at the Crescent Junction site. Each weekday morning, a lunch order from the site is called in and at about noon, someone from Papa Joe's delivers the order. Employees who show their project identification badge in the store are also given a 15-percent discount. When the project hired additional employees for the second shift that began in August 2009, sales at Papa Joe's had a corresponding increase. Joe estimates that the project now accounts for at least 20 percent of his business.

During all but the coldest months, they set tables and chairs outside, but the near-constant breeze makes it difficult to enjoy, at times. Joe has future plans to reopen the former restaurant that is adjacent to the store. "It



Moab Project activities spurred the reopening of the convenience store and gas station near the Crescent Junction site.

would give patrons a place to sit down out of the weather," said Joe, who envisions a roadside diner, serving hamburgers and root beer floats.

Joe is appreciative of Lani Asay and the Wimmer and Lang families who homesteaded the land where Papa Joe's now sits. He said, "A lot of people were interested in buying the property to bulldoze it and perhaps put in a truck stop, but they took a chance on me to make a go of it using the existing buildings, which sat empty for several years." So far, it looks like they made a good decision. ❧

Process Improvement Teams Implemented on the Moab Project (continued from page 7)

taken and the radioactivity is counted of any areas visually identified as removable contamination. Otherwise, random swipes are taken and counted on all sides of every container.

When the number of containers to be prepared for shipping during each shift increased from 88 to 136, this created a bottleneck on the survey racks to perform these time-consuming swipes. A wash facility was constructed to remove any loose contamination prior to the container being placed on a survey rack for inspection. Wastewater from the wash facility will run eastward into evaporation ponds.

The project completed a statistical analysis, supported with field measurements, which allows a substantial reduction in the frequency of swipes if no potential contamination is identified on the containers. The wash

facility will be operational later this month and when a container reaches the survey rack, it will be swiped if any potential contamination is visually identified. A small percentage of containers during each shift will be swiped regardless of the visual results. The reduction in swipes will increase the efficiency in releasing containers for transport to Crescent Junction.

A separate gamma radiation survey is, and will continue to be, conducted of the exterior of each container to ensure the container contents do not exceed allowable limits.

"PIT Crew members have really embraced the process improvement principles and provided invaluable input that we would not likely have received otherwise. They are able to implement new ideas immediately," acknowledged Craig. ❧



How Do I Get Information About the Project?

For more information about the Moab UMTRA Project, contact
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You may also call our toll-free hotline at 1-800-637-4575 or send us an email at moabcomments@gjem.doe.gov. Moab Project information and documents are available on the DOE website at www.gjem.energy.gov/moab and at the following public reading room location:

Grand County Library

257 East Center Street
Moab, Utah
(435) 259-5421

Library hours:

9:00 a.m. to 8:00 p.m. Monday through Friday
9:00 a.m. to 5:00 p.m. Saturday
Closed Sunday

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