



*River Corridor Closure Project*

# **Recovery Act Weekly Report**

For the week ending December 20, 2009

Contract DE-AC06-05RL14655

## Overview

Background Summary of Projects that Washington Closure Hanford (WCH) will accomplish using ARRA funds (pending definitization of scope and contract modifications).

### A. The Environmental Restoration Disposal Facility (ERDF)

ERDF is the hub of the WCH scope of work and supports a major portion of other Hanford contractor (OHC) waste disposal. Wastes collected from sites around the Hanford complex are brought to ERDF for treatment and disposal. WCH operates the ERDF and is currently using ARRA funds to upgrade and expand its capabilities to meet the needs of Hanford's accelerating mission.

### B. The 618-10 Burial Grounds

The trenches at 618-10 have long been regarded as some of Hanford's worst waste sites. Using ARRA funds, WCH will characterize the site. Intrusive and non-intrusive techniques will be used, and the subsequent analysis of data will enable the project to pursue remediation of the site safely and effectively.

### C. The 618-11 Burial Grounds

Along with 618-10, the 618-11 Burial Grounds are among the biggest challenges faced by WCH using ARRA funds. The 618-11 characterization work will require special care because of its proximity to the Energy Northwest Generating Facility, north of the 300 Area.

### D. Waste Site Remediation

WCH is employing ARRA funds to clean up many failed waste sites not originally part of its contract. Sites in the 100-F and IU 2&6 segments 1&2 are proposed for waste site remediation in the two year period starting in October 2009.

### E. Confirmatory Sampling of other new sites

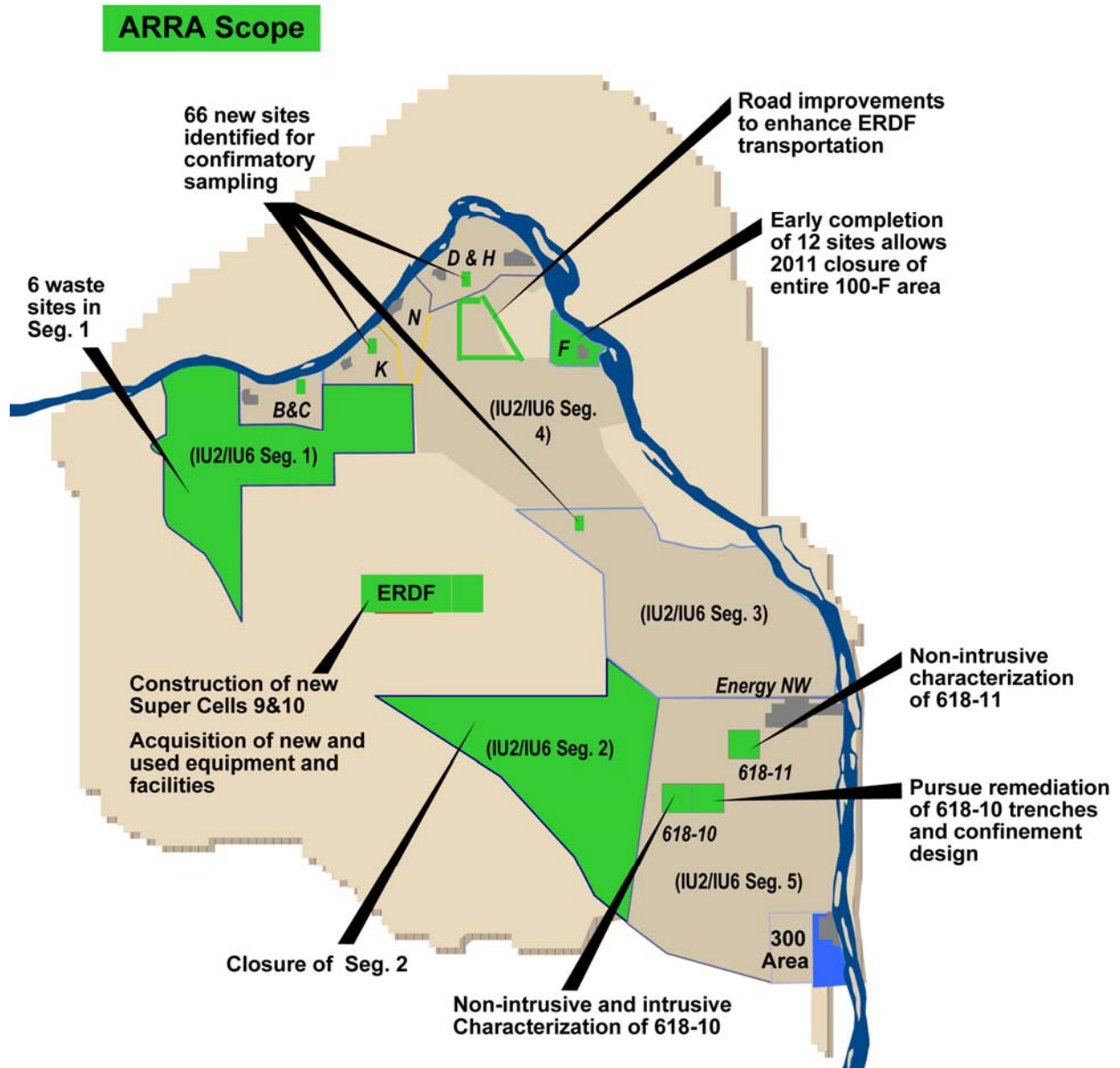
WCH is proposing to complete the early sampling process of 66 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation. Details including chemicals of potential concern, specific sample locations, frequencies, sampling protocols, and analytical methods are presented in site-specific work instructions. Samples are then collected and analyzed for radionuclide and/or non-radionuclide chemicals of potential concern to determine if the site requires remedial action.

This weekly report will provide evidence of these activities as they occur in support of ARRA.

The following figure illustrates the overall scope of WCH's ARRA projects.



# Overview (Continued)



# Safety

## Safety Accomplishments

As of November 22, 2009, WCH and its subcontractors have worked more than 97,000 hours of ARRA scope with no safety incidents.

## Hazard Reductions

Neil Brosee, WCH's Project Manager and President, sent out a Managers' Memo to all employees reinforcing the company's dedication to minimizing project impact to the environment during cleanup, and protecting Hanford's diverse natural, biological, and cultural resources.

The managers emphasized how WCH's objective not only is to safely and efficiently clean up the Columbia River Corridor, but also to safely clean up the River Corridor integrates important measures to ensure pollution prevention, waste minimization and resource conservation.

"The resources that are protected include natural, biological and cultural resources that are critical aspects of the Hanford Site's heritage," the memo stated. "Raising awareness and taking appropriate steps to lessen or prevent impacts to the environment is key to successful completion of our work."

Some examples that illustrate resource conservation and measures taken to minimize environmental impacts were:

- Hanford workers near the D Reactor rescued a fawn that had wandered into a pipeline once used to carry uncontaminated water. The top of the pipe already had been removed, but the 8-foot walls left a 6-foot wide trench. After wildlife experts determined the fawn would not last the day in 100-degree weather, the workers built an earthen ramp and the fawn climbed out on its own.
- An uncontaminated structure at F Area was discovered to be a maternity colony for more than 2,000 bats. Impacts to this important habitat, the largest colony in eastern Washington, were reduced by leaving a portion of the structure intact and installing a special hatch through which the bats could continue to access their home.

The memo also accentuated the fact that protection of culturally and historically significant resources is another important part of resource conservation. When actions to remove contamination from the River Corridor overlap areas that are identified as culturally sensitive or historically important, WCH is careful to avoid or reduce impacts. One example is:

- The recent archaeological investigation conducted at a waste site that served as a former landfill at the Hanford Construction Camp during the 1940s. The investigation helped to shed light on the life ways of the thousands of workers who moved to the Hanford Site to support the Manhattan Project.

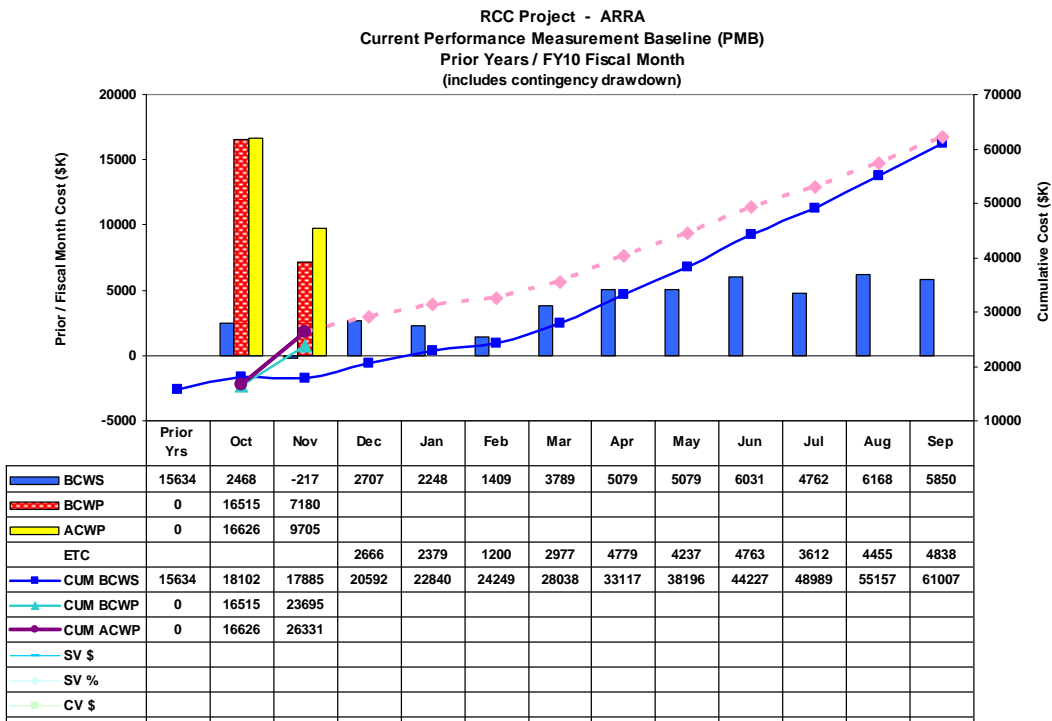
In summary, the memo stressed that "cultural and environmental resources are an important part of the Hanford Site's legacy and an important part of our mission so let's make sure that everyone on the RCC project does our best to protect and preserve them."



# Cost/Contract Status

Contract Mod #	Date	Scope	Obligated (\$M) (Inception to Date)	Not to Exceed (\$M) (Inception to Date)
099	4/9/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$28.0
105	4/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$44.5
126	7/23/09	H.37 Clause - Reporting Requirements	N/A	N/A
139	9/3/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$253.6	\$44.5
142	9/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC; Road Upgrades; Remediation of Orphan Sites	\$253.6	\$123.8

Contract Modification #142 is the definition of the Phase 1 scope of work and was incorporated into the Integrated Project Baseline (IPB) (Performance Measurement Baseline) beginning with October 2009 reporting.



ARRA Actuals (includes PMB and Proposal 2)

Apportionment Number	Apportionment Title	PMB or Balance *	November	Inception To Date
RL-0041.R1.2	ERDF Cell Expansion	PMB	8031	21226
		Balance	616	1607
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	1675	5106
		Balance	55	132
Sub Total		PMB	9705	26331
		Balance	671	1739
Fee			-896	1636
Total			9480	29707

\* PMB is the Phase 1 Performance Measurement Baseline. Balance is Proposal 2



## ERDF

### Super Cells 9 and 10 Construction

Under subcontract to WCH, DelHur Industries has excavated 1,555,917 cubic yards of material for super cell 9 (including 263,913 cubic yards of stockpile removal).



*Delhur Industries personnel work through adverse weather conditions as they excavate super cell 9 at the Environmental Restoration Disposal Facility.*

## ERDF (Continued)



*More than 80 percent of the dirt has been removed from super cell 9 at the Environmental Restoration Disposal Facility.*

## ERDF (Continued)



*Delhur Industries personnel are excavating 1.6 million cubic yards of dirt from super cell 9 at the Environmental Restoration Disposal Facility.*

DOE-RL continues to review the award package for the excavation of super cell 10 and the construction of super cells 9 and 10.

## ERDF (Continued)

### Facility and Equipment Upgrades

Work on the back road to ERDF is on hold. Because of cold weather, pavement was postponed until the spring.

Three pull boxes have been installed to run fiber optic cable for internet access from a control center to the new reader board at the third scale. This will allow for waste shipments to be entered in real-time into the Waste Management Information System. The new reader board and scale are part of the waste tracking system and accommodate traffic from the back road into ERDF. The scale is expected to be operational by mid-January.



## ERDF (Continued)



*Three pull boxes, like the one shown above, were installed to run fiber optic cable from a control center to the new scale at the Environmental Restoration Disposal Facility.*

Companies interested in expanding the truck maintenance facility, and constructing the new equipment and container maintenance facilities are being sought. Companies must be pre-

## ERDF (Continued)

qualified, via the WCH website, to be eligible to bid on the work. To pre-qualify and be eligible to receive the request for proposals, potential vendors are asked to document that they can meet the requirements to safely perform the work in a timely manner. Vendors can do so by completing a pre-qualification questionnaire.

The RFP to build a new onsite refueling station and a new septic system has been issued, and vendors are in the process of developing bids. The refueling station will service about 65 vehicles ranging from passenger vehicles to tractor-trailers.

Another haul truck was received, bringing the total received to 19 of 20. The trucks are from Peters & Keats of Lewiston, Idaho. The final truck is expected by the end of December.

### Upcoming Activities

- Continue excavation for super cell 9.
- A new water truck is scheduled to arrive.
- Evaluate bids for construction of the fueling station and septic system.

### Video

[Click here to view the video of ERDF super cell 9 excavation.](#)  
[Super cell 9 excavation is more than 80% complete.](#)



## 618-10 Burial Ground

### **618-10 Non-Intrusive Characterization/Trench Remediation Project**

Investigations continue into the circumstances surrounding the discovery of contamination inside a cone penetrometer during installation at the burial ground.

Installation of cone penetrometers was suspended Friday, December 4, when a radiological control technician (RCT) and an inclinometer technician detected contamination in one of the cone penetrometers (VPU No. 58). The technicians were using a Multi Detector Probe (MDP) test gauge, which is lowered into the bottom of the cone penetrometers to validate that the penetrometer pipe is sufficiently straight to allow the probe to move freely. When the MDP test gauge is removed from the cone penetrometer, it is smeared for contamination as a precaution, and in this case the Radiological Control Technician detected contamination. Additional surveys determined that the inclinometer technician's gloves also were contaminated.

An ALARA (as low as reasonably achievable) review of the cone penetrometer installation and process was conducted. Based on the findings, necessary revisions were made to work procedures and the Job Hazard Analysis (JHA).

A borescope inspection of the affected cone penetrometer also was conducted. A borescope is an instrument – essentially a tube with reflecting mirror and an eyepiece – used for visually inspecting materials (e.g., the interior of shafts, pipes, tubing). No structural or assembly failures were identified. All joints had full-thread engagement and were structurally sound. No apparent source of contamination was identified.



## 618-10 Burial Ground (Continued)



*A borescope was used to inspect the affected cone penetrometer at the 618-10 Burial Ground.*

A radiological survey near the perimeter of the cone penetrometers surrounding VPU No. 58 was completed. No contamination was found.

Cone penetrometers are steel cylinders into which instruments are inserted to determine the type and distribution of radioactive materials within the VPUs. During the mid-1950s and early 1960s, highly radioactive waste from Hanford's 300 Area was dumped into the VPUs, which typically consist of five bottomless 55-gallon drums welded end to end and placed vertically in the ground.

## 618-10 Burial Ground (Continued)



*This photograph from 1961 shows a cask being unloaded into a vertical pipe unit at the 618-10 Burial Ground.*

To date, 182 cone penetrometers have been installed to target depth of about 22 feet. Installation of the cone penetrometers in the VPU area is about 48 percent complete.

Preparations continue for radiological characterization activities, which are expected to begin in early January.

### **Upcoming Activities**

- Complete preparation of the records search summary report.
- Continue confinement design criteria development activities.
- Continue soil sampling project startup review development activities.

## Profile

George Toolson, who goes by Pete, was lured back to the Hanford Site by a new job at an old burial ground.

Toolson lived in the Tri-Cities from 1980 to 2003. He was hired by WCH in June as a Quality Assurance Engineer at the 618-10 Burial Ground. His job, which is funded by Recovery Act dollars, is to ensure that all items affecting quality are followed and standards are met during all activities at 618-10.

The 618-10 Burial Ground is the most hazardous waste site WCH has tackled to date. It operated from 1954 through 1963, receiving waste from nuclear fuels development work and laboratories in the 300 Area.

Toolson is working closely with WCH subcontractor North Wind Inc., which is installing cone penetrometers around 94 vertical pipe units and selected trench locations. Vertical pipe units, or VPUs, are five bottomless 55-gallon drums tack-welded together that contain the high activity waste.



*Pete Toolson's job as a Quality Assurance Engineer at the 618-10 Burial Ground was created by Recovery Act dollars.*

## Profile (Continued)

Toolson has also used his quality assurance, regulatory compliance, and safety background in counterterrorism, transportation, and other highly sensitive, visible, and high consequence projects during his 30-year professional career. But he said his new job at WCH is as challenging and gratifying as they come.

“I like the challenge of working on such an important project,” Toolson said. “It’s very rewarding to know you are helping to protect the environment and keep everybody safe.”

Toolson is a native of Garden Grove, California. He first came to the Tri-Cities to help start Ben Franklin Transit (BFT) and served as the fleet and facilities maintenance manager for BFT, which began operations in 1981.

In 1989, Toolson moved to Westinghouse Hanford as a senior transportation specialist. He also served as an instructor for the DOE National Transportation Safety Program and associate instructor for the Department of Transportation’s (DOT) Transportation Safety Institute (TSI) in Oklahoma City. Toolson later spent three years working for Fluor at Hanford’s K Basins.

Toolson took on a new challenge in 2003 when he accepted a job as a QA engineer for the National Nuclear Security Administration and the Department of Homeland Security in Las Vegas. He received training as an explosives technician, firearms instructor, and other fields.

When the QA position at 618-10 was posted last year, Toolson jumped at the opportunity. He spent much of his career travelling – up to 40 weeks a year on the road and visiting more than 100 DOE sites – and welcomed the chance to return to the Pacific Northwest.

“We’ve raised three daughters in the Tri-Cities, so it’s a special place for my family,” Toolson said. “I enjoy the people I work with at WCH. ARRA is a great deal for me.”

Toolson earned a degree in diesel technology and engineering at Rancho Santiago Community College in Santa Ana, California, then studied industrial education at Brigham Young University. He later participated in a Masters Program at the University of Nevada, Las Vegas, in crisis and emergency management as it relates to events of national significance (e.g., radiological, chemical, and biological weapons of mass destruction).



## 100-F Area

WCH continues to prepare design drawings for the waste sites at F Area following a walkdown of the sites with the U.S. Environmental Protection Agency. The walkdown, which was conducted last month, was to develop a common understanding of the remediation scope of work for the sites and to begin identifying potential cultural and ecological limitations. Ecological and cultural resource reviews continue in support of the remediation design.

## IU 2 & 6 Segment 1

Sampling was conducted at six waste sites to establish profiles for disposal of the eventual remediation waste to the Environmental Restoration Disposal Facility. Work to obtain excavation permits continues. A review of the fire protection plan has begun.



*Toni Welch-Koelling of FE&C samples ash material at the 600-343 waste site*

## Confirmatory Sampling

Drafting sampling instructions for waste sites at the D and K Areas continues. The work includes reviewing historical and regulatory documents, developing a list of contaminants of potential concern to be sampled, and determining potential sample locations for review by DOE and Hanford Site regulators.

Development is underway of draft recommendations to remove, treat, and dispose of waste material from four K Area sites. There is sufficient existing information for these sites to warrant remediation without further confirmatory sampling. For example, one of the sites is a degraded piece of asbestos pipe lying on the ground.

Planning for D Area pipeline waste sites continues. The sites contain many pipe segments not related to one another, and pipeline sites are usually broken into smaller, more manageable subsites based on usage, location, and relationship to other waste sites. The team is finalizing subsite delineations, and has begun drafting sampling instructions or remove, treat, and dispose recommendations for each subsite, as appropriate.

As specific excavation and sampling details are finalized, a wide range of readiness checks will be done to ensure that all field work will be performed in compliance with environmental and safety rules, regulations, DOE directives, and best work practices. Most of the readiness reviews require the process to be further along, but planning has started with the various subject matter experts who will support the work, particularly ecological and cultural resources specialists. The cultural and ecological resource review and approval process can be lengthy if sites are near sensitive areas. However, much can be accomplished before specific sampling details are finalized just by knowing where the sites are.

Work also continues on developing procurement documentation. In early 2010, WCH will issue a request for proposals for a company to provide excavation and sampling support for all 66 waste sites. Waste sites that pass the confirmatory sampling process will be closed out and no further action will be required under the existing interim record of decision. Waste sites that fail will be recommended for cleanup to meet regulatory standards.

Sampling of the sites is expected to begin in spring 2010.



## General

### **Mentoring/Training**

No significant activities this week.

### **Media, Visits, Press Releases**

No significant activities this week.

### **Contracting Actions**

No significant activities this week.

