



*River Corridor Closure Project*

# **Recovery Act Weekly Report**

For the week ending December 10, 2010

Contract DE-AC06-05RL14655

*Protecting the Columbia River*

## 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

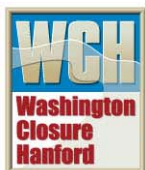
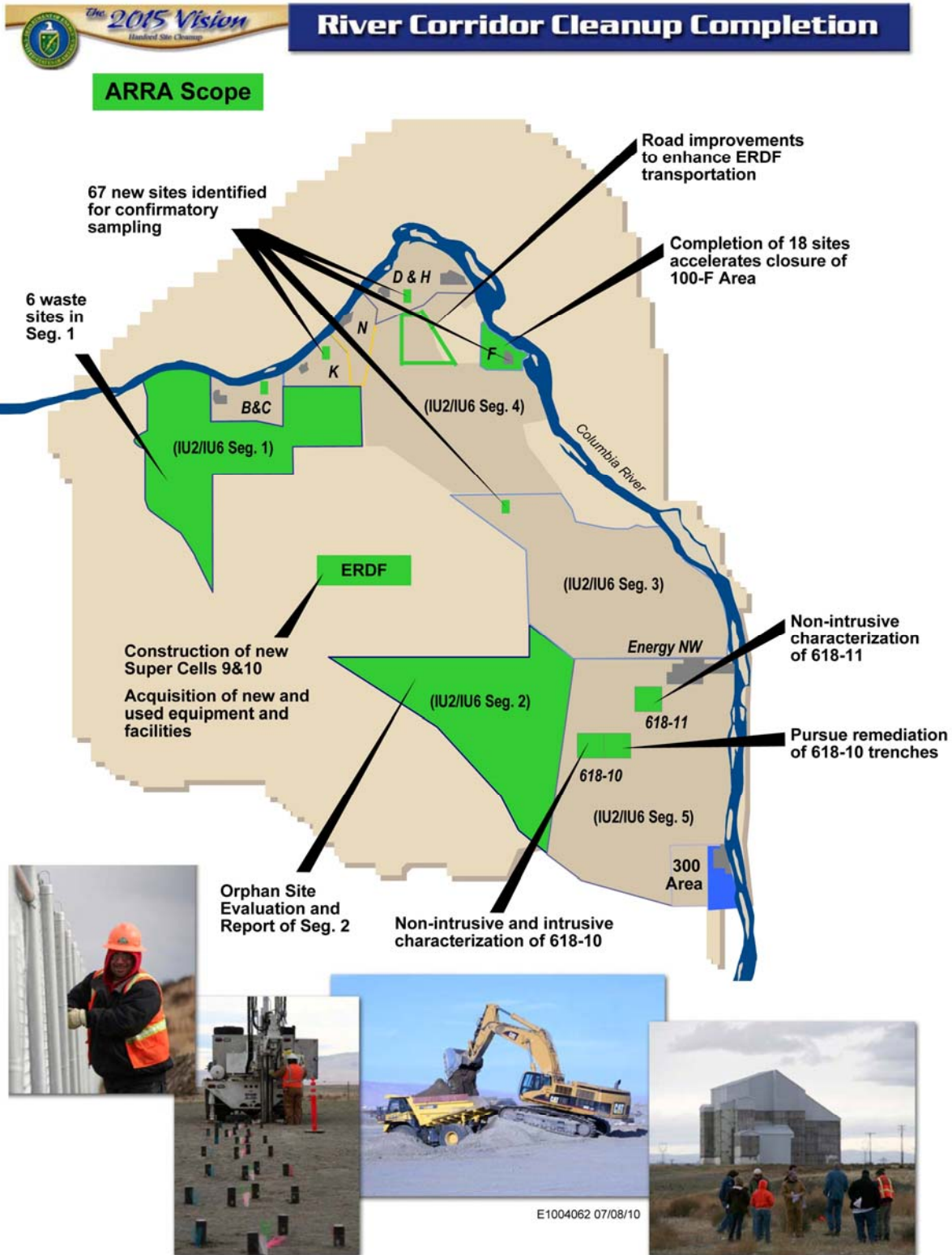
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 21, 2010, WCH and its subcontractors have worked 320,239 hours of ARRA scope with no safety incidents.

## Hazard Reductions

The River Corridor Closure Project's "Safety Awareness" is used to share safety information with all WCH employees. Last week's edition highlighted "Effective Work Control and Planning."

As a team of well-trained, educated, and skilled professionals, WCH employees take pride in working for a highly awarded and recognized leader in safety. An important component of their success is effective work control and planning work process, and safety programs such as ISMS/VPP to support WCH's primary goal of a safe and injury-free work place. In addition to safety, effective planning also plays an important role in keeping projects on schedule by avoiding unnecessary, unforeseen barriers to timely job completion.

WCH employees were asked, "Where do you fit into the process and how can you be a part of the company's continued success and improvement?"

Craft and other workers were reminded to:

- Make sure you have all the necessary PPE and that your gear is in optimal working condition.
- Perform all necessary pre-job checks and report hazards or concerns to your supervisor immediately.
- Use your stop work authority if necessary.
- Apply CONOPS practices and adhere to all procedures and work documentation.

Work supervisors & project safety representatives were reminded to:

- Effectively communicate the scope of work and responsibilities to craft workers via plan-of-the-day meetings and Pre-Evolution meetings.
- Ensure work boundaries are established and understood.

Planners were reminded to:

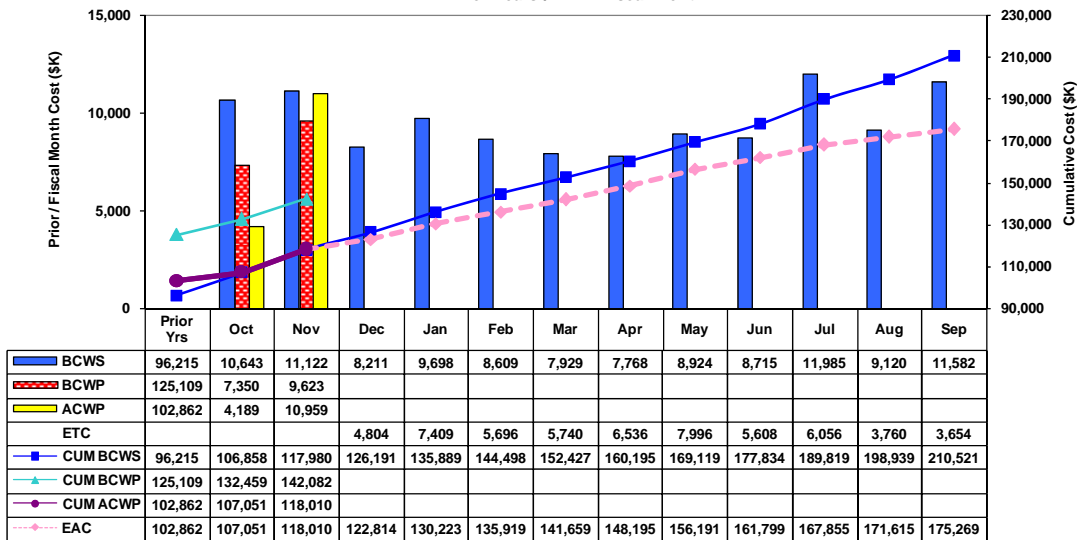
- Use the new features WCH now has access to, the latest version of the Hills Database. Hills is a site-wide database of Lessons Learned that compiles a variety of communications from across the Hanford complex and other DOE sites
- Use subject matter experts to review draft task instructions to ensure that the hazard controls from the job hazard analysis have been incorporated into the work packages instructions consistent with their knowledge of the subject matter.



# 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; Phase 2 Scope	\$253.6	\$123.8
174	2/22/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$123.8
182	3/25/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$155.8
185	4/19/10	Phase 1 and Phase 2 Scope	\$248.2	\$178.0
192	4/27/10	Phase 1 and Phase 2 Scope	\$253.6	\$178.0
205	5/26/10	Reallocate Funds for Equipment and GPPs	\$253.6	\$178.0
210	6/23/10	Funding deobligation	\$229.3	\$178.0
217	8/4/10	Funding re-obligation	\$233.6	\$178.0
230	9/24/10	Phase 3 Definitization	\$233.6	\$178.0
241	11/22/10	Reallocate Funds for Equipment	\$233.6	\$178.0
242	12/1/10	Increase the Cost Authority on RL-0041.R2	\$233.6	\$196.6

RCC Project - ARRA  
Current Performance Measurement Baseline (PMB)  
Prior Years / FY11 Fiscal Month



ARRA Proposals 1, 2 and 3 Actuals (\$K)

Apportionment Number	Apportionment Title		November 2010	Inception To Date	Cost Authority
RL-0041.R1	ERDF Cell Expansion	PMB	8,902	86,469	139,072
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	2,057	31,541	57,566
<b>Sub Total</b>		<b>PMB</b>	<b>10,959</b>	<b>118,010</b>	<b>196,638</b>
<b>Fee</b>			<b>586</b>	<b>11,714</b>	
<b>Total</b>			<b>11,545</b>	<b>129,724</b>	

\* PMB = Performance Measurement Baseline.



## ERDF

### **Super Cells 9 and 10 Construction**

WCH and subcontractor TradeWind Services are preparing to conduct acceptance tests with the U.S. Environmental Protection Agency (EPA) for super cells 9 and 10, the leachate transmission line and one of ERDF's two new leachate storage tanks. Testing is scheduled to begin December 13.

Super cell 9 is expected to be approved for service by the U.S. Department of Energy and EPA by February. Super cell 10 and the second new leachate storage tank are expected to be approved for service by March. Construction of the super cells, which will increase ERDF's capacity by 5.6 million tons to a total of 16.4 million tons, was completed in late November.

WCH and subcontractor DelHur Industries continued with construction of the new leachate storage tanks (Nos. 3 and 4), which will replace the facility's two original storage tanks (Nos. 1 and 2). The secondary liner has been installed in both new tanks, and work is now focused on the primary liners. Because of weather conditions, a temporary enclosure was constructed over tank No. 3 to allow work to begin on the primary liner. The same will be done with tank No. 4.

Removal of tank No. 1 was completed in September, and tank No. 2 will be removed when the replacement tanks are in service. Each of the original tanks measured 80 feet in diameter and had a capacity of 275,000 gallons. Each replacement tank will measure 100 feet in diameter with a 425,000-gallon capacity.

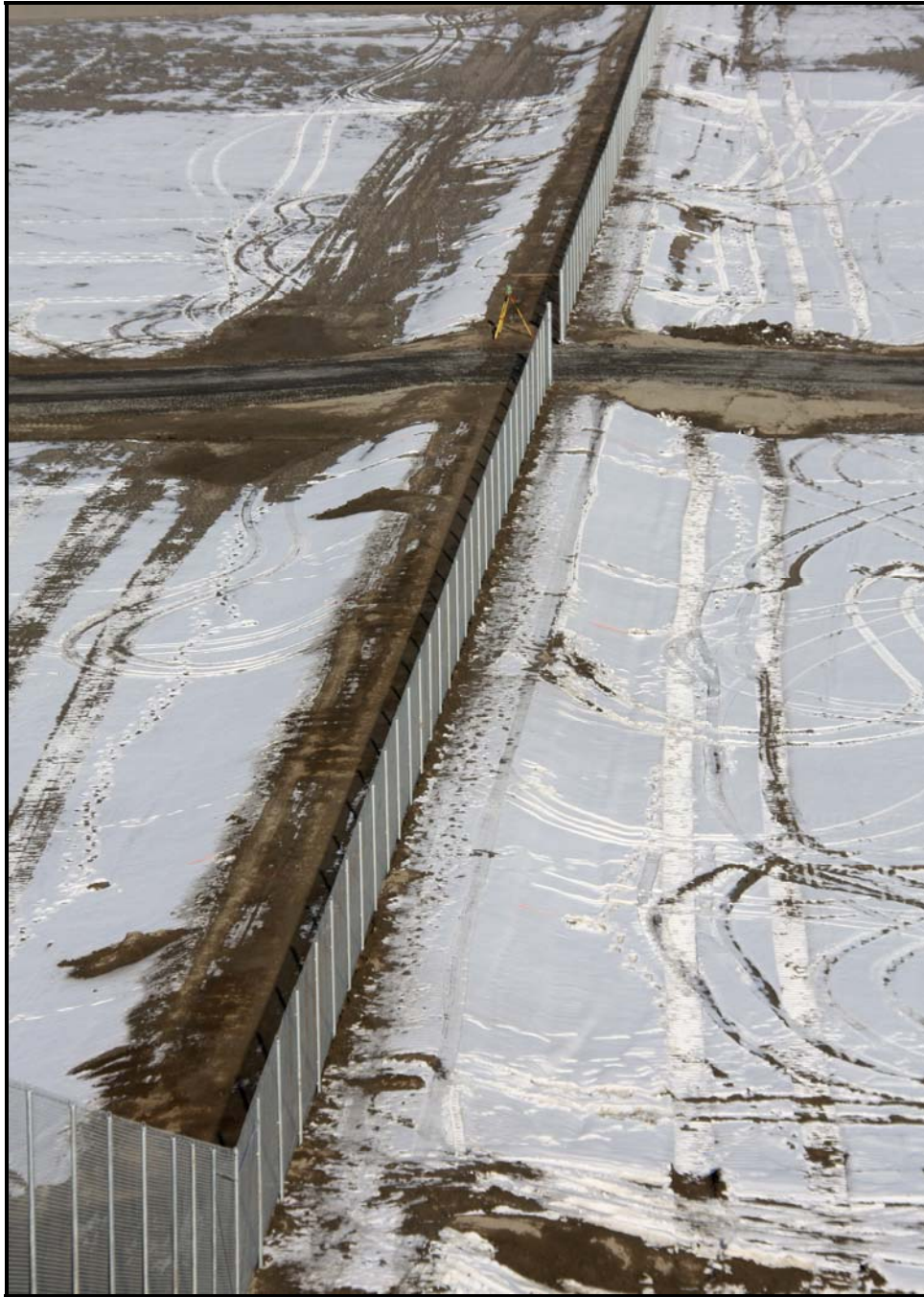


## ERDF (Continued)



*Work continues on the new leachate storage tanks at the Environmental Restoration Disposal Facility. A weather enclosure was constructed to allow liner construction to resume in leachate storage tank No. 3. (Photo 1)*

## ERDF (Continued)



*DelHur Industries installed the fence between super cells 9 and 10 at the Environmental Restoration Disposal Facility. (Photo 2)*



## ERDF (Continued)

### Facility and Equipment Upgrades

WCH subcontractor Fowler General Construction continued to make progress with construction of ERDF's new maintenance facilities. The project team installed the siding of the container maintenance facility and is working on the roof. The underground utilities have been installed at the equipment maintenance facility/operations center and the concrete slab is scheduled to be poured next week, weather permitting.

The container maintenance facility will include a large container repair line, a maintenance shop, and a weld area. The equipment maintenance facility will include two service lines, an operational storage facility, a large concrete pad, and an exterior awning over a smaller concrete pad. The new operations center will help alleviate severe overcrowding of personnel and also accommodate new employees hired to handle the increasing waste volumes.

ELRFowler, a joint venture between local companies ELR Consulting and Fowler General Construction, also will construct an upgraded transportation truck maintenance facility. The facility will include two additional truck bays, a large concrete pad, an exterior awning that will cover two smaller concrete pads, and a conference room.



Washington Closure Hanford subcontractor Fowler General Construction employees work to construct the roof at ERDF's container maintenance facility. (Photo 3)

## ERDF (Continued)



*DelHur Industries personnel work on the site of the expanded container transfer area at the Environmental Restoration Disposal Facility. (Photo 4)*

Pacific Northwest National Laboratory (PNNL) continues to develop the hardware and software for a new waste container tracking system for ERDF. The system will accurately track waste shipments and equipment, and generate real-time reports.

WCH subcontractor DelHur Industries continues to install the electrical for ERDF's new batch plant and is constructing a ramp to the feeder. Operational testing is scheduled for December 20 through 28. The batch plant will produce "flow fill" concrete used to mix with debris, ensuring no void space during disposal operations. In support of the batch plant, WCH purchased two concrete mixer trucks and a pump truck from Peters and Keatts Equipment Inc. Peters and Keatts is based in Lewiston, Idaho.

Trench work for the installation of septic transmission lines was delayed because of weather conditions. Work is scheduled to resume next week. ERDF's new septic system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

## ERDF (Continued)

DelHur Industries began civil work at the expanded container transfer area (CTA). The existing CTA will be expanded 600 feet, providing additional storage for about 300 waste containers. The wireless system also was installed and is operational.

WCH is awaiting a re-issued bid from DelHur to construct weather enclosures for crest pad buildings 1 and 2. The enclosures were designed by Vista Engineering, a local company and subcontractor of DelHur.



## 618-10 Burial Ground

### **Trench Remediation Project**

WCH and subcontractor White Shield/Apollo continued to build the infrastructure at the 618-10 Burial Ground. The project team is installing water, electricity, roads, office trailers, and a waste container transfer area for remediation. The infrastructure work is scheduled to be completed in February, with full-scale remediation of the burial ground trenches scheduled to begin in March.



## 618-10 Burial Ground (Continued)



*Washington Closure Hanford subcontractor White Shield/Apollo workers install electrical conduit at the 618-10 Burial Ground. (Photo 5)*

## 618-10 Burial Ground (Continued)



*White Shield/Apollo workers use an auger to bore a hole for a power pole at the 618-10 Burial Ground. (Photo 6)*

## 618-10 Burial Ground (Continued)



White Shield/Apollo workers prepare a power pole for installation at the 618-10 Burial Ground. (Photo 7)

Intrusive characterization field operations at the burial ground were completed in early September. Test pits were dug through a subset of disposal trenches and unearthing a limited number of drums to verify the condition and types of wastes that were disposed.

Several drums containing radioactive waste, a shipping cask, and miscellaneous waste were discovered during the intrusive trench characterization activities. The drums contained depleted uranium and uranium oxide. In addition, “concreted” 55-gallon drums, which contained liquid radioactive waste, also were discovered.

Based on the records research and the finds during intrusive characterization, the number of drums the burial ground may contain is estimated to be as many as 4,000. That includes an estimated 800 concreted drums that were used to dispose of highly radioactive waste nested inside a pipe surrounded by concrete. The pipe contains the waste and the concrete provides radiation shielding for its contents. Workers also found a cask with unknown contents, bollards, bottles, metal pieces, and other miscellaneous debris.

## 618-10 Burial Ground (Continued)

Nonintrusive characterization field activities were completed in May. The scope of activities carried out as part of nonintrusive characterization included geophysical delineation, in situ characterization using a multi-detector probe, and soil sampling from below a selection of 10 VPUs. During in situ characterization, measurements were collected for 100 cone penetrometers in the trench area and 375 cone penetrometers in the VPU area.

WCH is using the information obtained during nonintrusive and intrusive characterization to provide information needed to develop remediation strategies in support of future burial ground cleanup, including waste disposition.

The 618-10 Burial Ground operated from 1954 to 1963, receiving low- and high-level radioactive waste from 300 Area laboratories and fuel development facilities. Low-activity wastes were primarily disposed in 23 trenches, while the moderate- and high-activity wastes were disposed in 94 VPUs. The VPUs were constructed by welding five bottomless drums together and buried vertically about 10 feet apart.

### Upcoming Activities

- Continue procurement process for various subcontracts.
- Continue with construction of site upgrades.

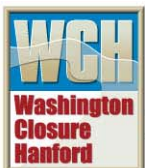




## 100-F Area

WCH and subcontractor Ojeda Business Ventures continued remediation activities at three of the 19 waste sites in 100-F Area. Remediation began in September and will conclude this spring. The project team is currently working at sites 100-F-47 (electrical substation foundation), 100-F-48 (coal pit debris), and 100-F-57 (buried pipeline cradle debris).

While performing excavation and loadout activities at 100-F-48, two leaking drums were discovered. Established safety procedures were followed and remediation activities resumed.



## 100-F Area (Continued)



*Washington Closure Hanford subcontractor Ojeda Business Ventures performs remediation activities at 100-F-57, the former site of a water treatment plant with buried pipeline and cradles. (Photo 8)*

## 100-F Area (Continued)



*Ojeda Business Ventures continues excavation and loadout activities at 100-F-48, which contains coal pit debris. (Photo 9)*

F Reactor operated from 1945 to 1965 as one of Hanford's nine surplus plutonium production reactors for the nation's nuclear weapons program. The reactor was cocooned in 2003. During

## 100-F Area (Continued)

reactor construction and operations, waste was disposed in unlined pits and trenches throughout the site.

The 100-F Area also was the home of the experimental animal farm (EAF), which from 1945 to 1976 operated adjacent to the reactor site. The EAF used animals for studying the potential effects of ionizing radiation exposure to humans in the occupational setting. Reactor and EAF sites in the 100-F Area contributed to the discharge of contaminated cooling water, other liquids, and solid wastes.

WCH completed cleanup of 53 waste sites at F Area in 2008, loading out more than 408,000 tons of waste. However, during the course of cleanup, 19 additional waste sites were discovered. The 19 sites that require remediation are:

- 100-F-26:4 (process sewer pipeline section)
- 100-F-26:7 (sodium dichromate and sodium silicate pipelines)
- 100-F-44:8 (fuel oil pipelines)
- 100-F-44:9 (process sewer pipeline)
- 100-F-45 (buried riverbank effluent pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal-pit debris)
- 100-F-49 (maintenance garage lube pit foundation, pipelines, drywells)
- 100-F-51 (fish laboratory footprint, pipelines)
- 100-F-55 (contaminated ash layer)
- 100-F-56 (scattered surface debris, stains)
- 100-F-57 (buried pipeline cradle debris)
- 100-F-58 (asbestos-containing surface debris)
- 100-F-60 (pipeline)
- 100-F-61 (stained soil site)
- 100-F-8 (French drains)
- 100-F-62 (animal farm septic lines)
- 100-F-63 (animal farm radioactive effluent lines)
- 600-351 (stained oil areas).

### Upcoming Activities

- Continue excavation and loadout from 100-F-48.
- Continue excavation and loadout from 100-F-47.
- Continue stockpiling material from 100-F-47.
- Continue preparatory work at 100-F-45.

### Video

[Click here to view the video showing remediation activities at 100-F Area.](#)



## IU 2 & 6 Segment 1

WCH completed revegetation of the five IU 2&6 waste sites on November 30. Segment 1 encompasses about 23 square miles of the northwestern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. The waste sites were unique because they were primarily used for housing and support areas.

The remediation sites were:

- 600-341 (four areas that contained dry cell battery remnants and/or battery debris)
- 600-343 (residual ash from burned material and dumped asphalt in excavation trench)
- 600-344 (stained area)
- 600-345 (stained area with oil filters)
- 600-346 (four small fly-ash dump areas with metal debris).

Earlier this year a global positioning environmental radiological survey indicated that an additional site, 600-342, did not require additional remediation.



## Confirmatory Sampling

WCH completed confirmatory sampling at 40 of the 41 sites. Sampling was performed by WCH subcontractor TerranearPMC (TPMC) in accordance with the regulator approved work instructions that were completed earlier this year. TPMC is a small disadvantaged business with an office in Richland, Washington.

Remove, treat, and dispose reports and closeout documentation are being prepared for the sites that were sampled at 100-D, 100-K, and 100-F Areas. The documents will be submitted to DOE and the regulatory agencies for review and approval. Sites where the sample results show contamination below the clean up standards are being recommended for closeout with no further action.



## General

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

No significant activities this week.

### **Contracting Actions**

No significant contracting actions this week.

