



*River Corridor Closure Project*

# **Recovery Act Weekly Report**

For the week ending June 20, 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 66 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.

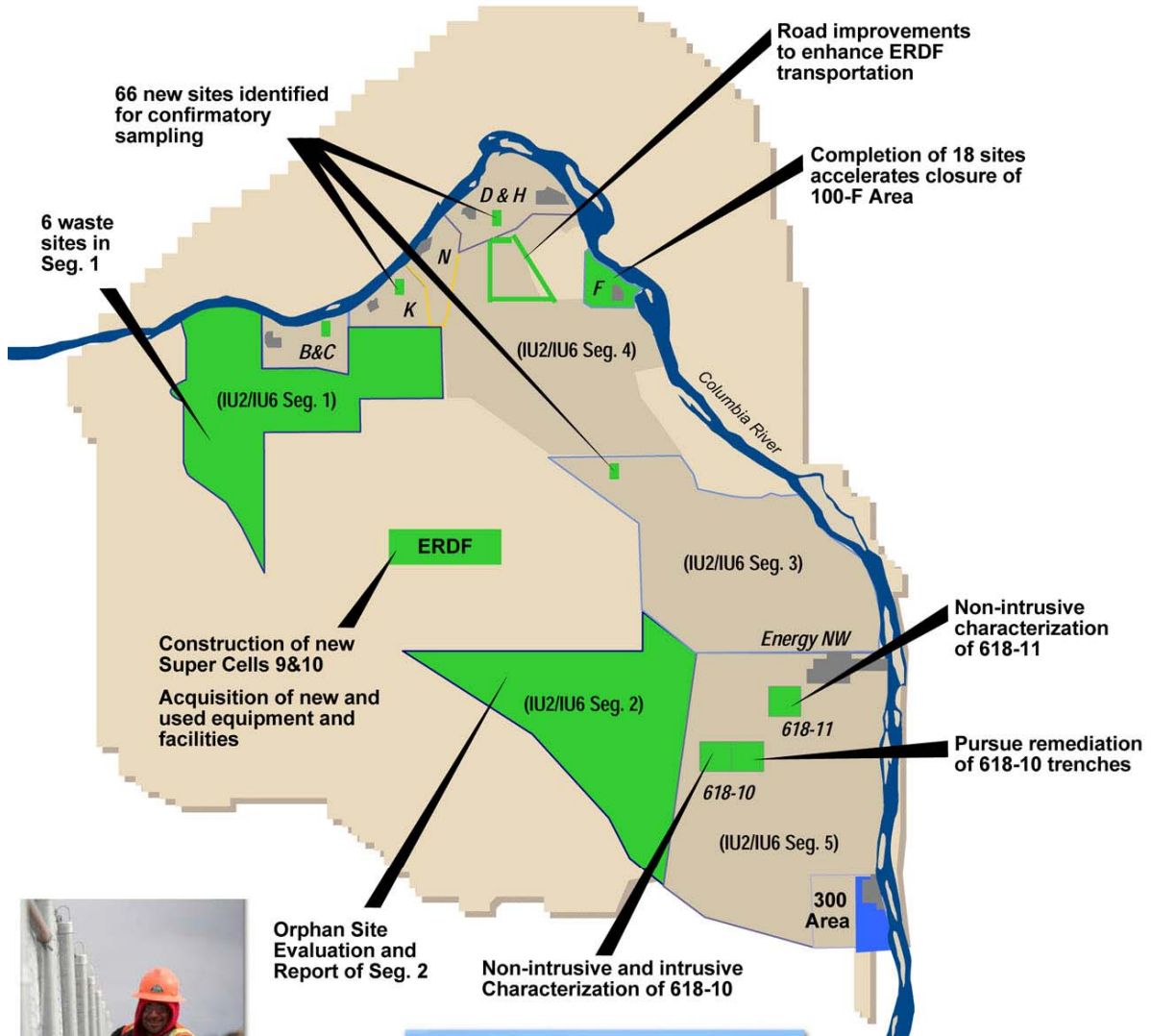


# Overview (Continued)



## River Corridor Cleanup Completion

### ARRA Scope



E1004062 06/15/10



# Safety

## Safety Accomplishments

As of May 23, 2010, WCH and its subcontractors have worked 207,291 hours of ARRA scope with no safety incidents.

## Hazard Reductions

The River Corridor Closure Project's Safety and Health Improvement Plan (SHIP) has recently highlighted topics in the following areas:

### *Working Toward an Injury-Free Workplace*

- Launched the electrical safety initiative with activities for employees to perform and an update to the Electrical Safety Committee website. An electrical safety checklist for both work and home also was issued.
- Participated and helped coordinate the Hanford Safety Expo with the theme, "Safety is Not Alien to WCH."
- Issued a "Hot Topic" on the Human Performance Initiative (HPI) and how employees should apply HPI principles during daily activities.

### *Incident Severity Reduction*

- Completed the actions and provided a briefing and evidence to DOE on the beryllium 30-day action items in response to the U.S. Department of Energy (DOE) Office of Health, Safety, and Security (HSS) Hanford site-wide assessment.
- Provided an overview of the site-wide beryllium program as a "Hot Topic" to all WCH employees describing program requirements, signs, and implementation strategies.
- Issued a "Take 5" topic on excavations detailing the hazards, precautions, and requirements.
- Issued a "Hot Topic" on the importance and relevance of reporting near-miss incidents.

### *Training Requirements*

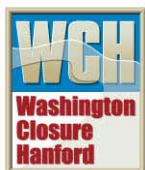
- Evaluated the fall protection training to ensure that the training equipment is adequate for all personnel size and height.
- Conducted a review of all WCH beryllium-affected workers to ensure that all had been provided the appropriate site-wide and gap training.

### *Elevated Work Practice improvements*

- Completed end-point assessment verification by WCH with observations and presentation provided to DOE. Effectiveness was confirmed on the corrective actions as outlined in the Fall Event Corrective Action Plan (CAP).
- Continued supporting the site-wide fall protection program committee with comments on the second draft of the program.

### *Heat Stress*

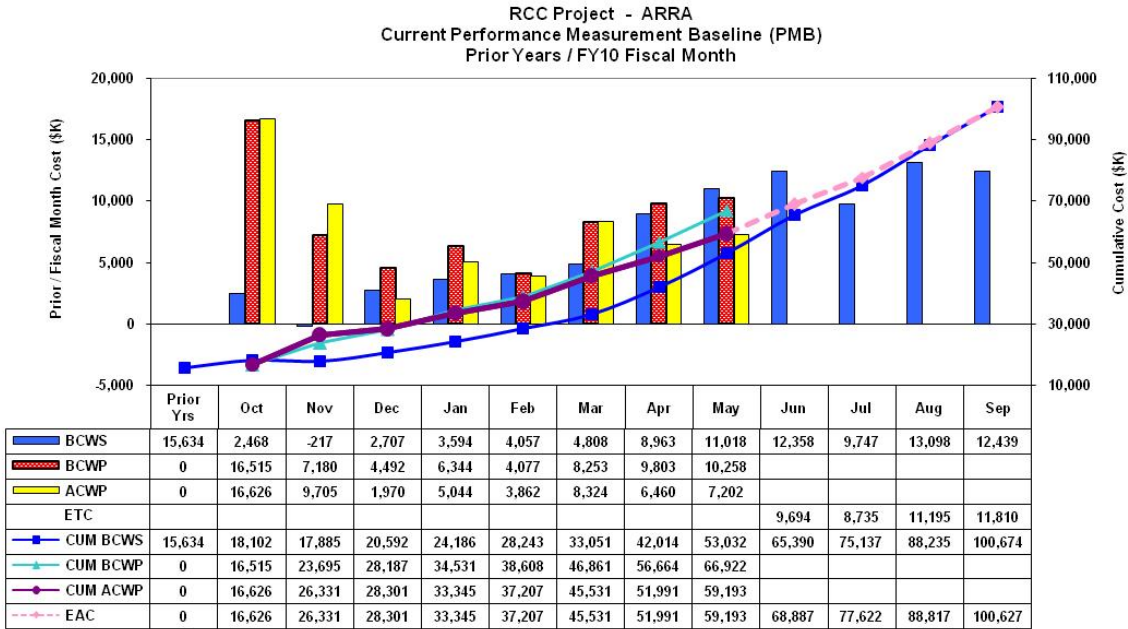
- Completed the self-assessment of the WCH heat stress program. All active sites participated in the assessment with a follow-up review in July.
  - Assessment confirmed the actions committed to in the CAP were effectively implemented.





# 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



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

Apportionment Number	Apportionment Title		May 2010	Inception To Date	Cost Authority
RL-0041.R1.2	ERDF Cell Expansion	PMB	5,104	42,217	139,072
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	2,098	16,976	38,907
<b>Sub Total</b>		<b>PMB</b>	<b>7,202</b>	<b>59,193</b>	<b>177,979</b>
<b>Fee</b>			<b>3,207</b>	<b>5,865</b>	
<b>Total</b>			<b>10,409</b>	<b>65,058</b>	

\* PMB is the Performance Measurement Baseline.



## ERDF

### Super Cells 9 and 10 Construction

WCH subcontractor TradeWind Services and its subcontractor, DelHur Industries, continue to install the liner and leachate collection system for super cell 9. The system collects and removes liquid, or leachate, as it drains through the waste materials.

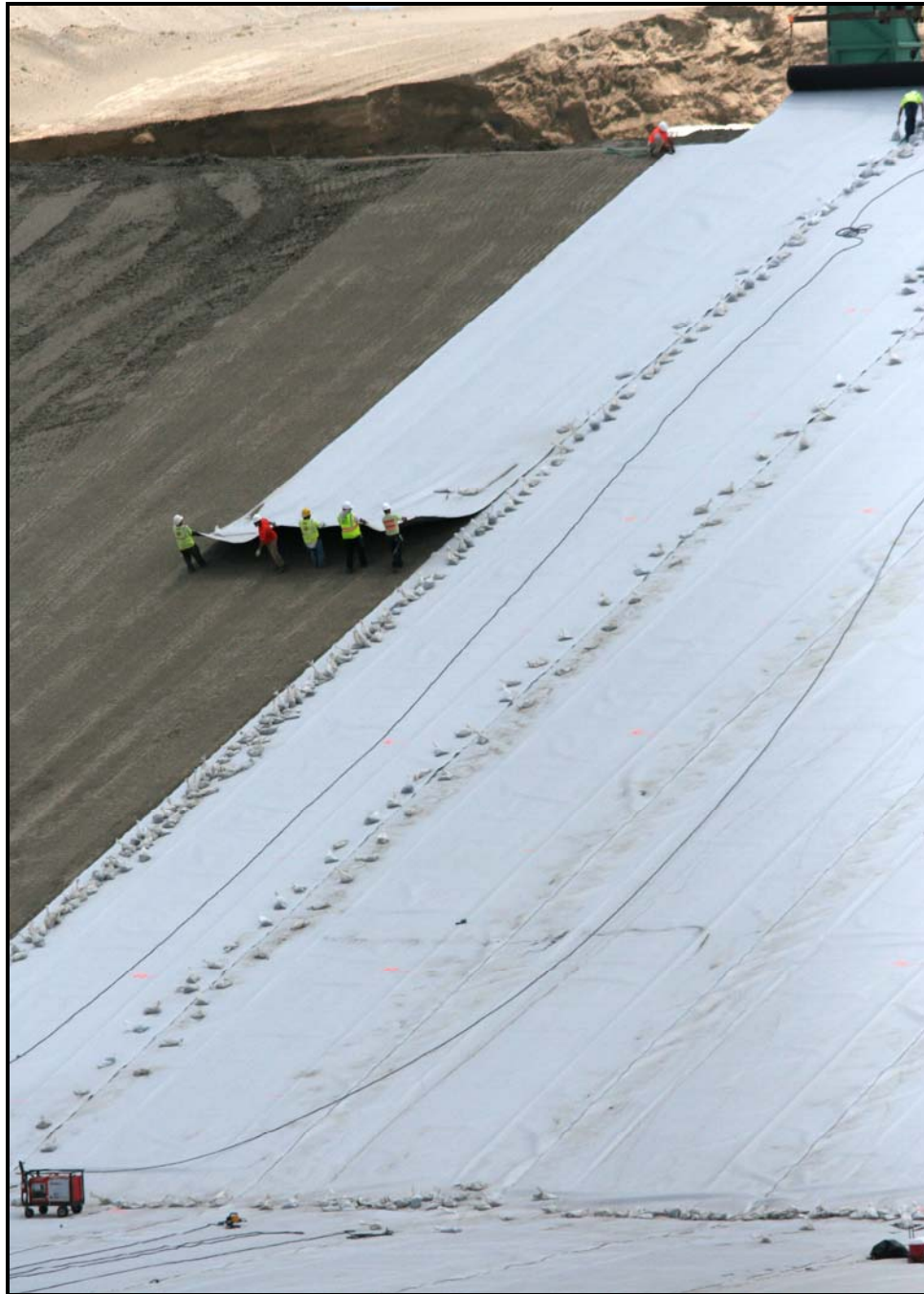
The liner consists of a low-permeability compacted soil layer, two layers of high-density polyethylene (HDPE), a 1-foot layer of gravel with a 12-inch perforated drainage pipe, a geocomposite layer, and two geotextile layers. A 3-foot protective soil layer covers the liner system.

Placement of the low permeability compacted soil layer, called the admix layer, is about 70% complete. Admix is manufactured by mixing excavated soil with imported bentonite in an onsite pugmill. The project team also is making significant progress installing the secondary HDPE layer and has begun installing the geocomposite layer on the south slope. Construction of the liner for the collection sump also is underway.



*Rolls of high-density polyethylene (HDPE) arrive at the Environmental Restoration Disposal Facility. The HDPE is used in the liner system being installed in super cell 9. The material is installed in 540- by 22-foot sections and heat-welded together.*

## ERDF (Continued)



*Workers for TradeWind Services/DelHur Industries install high-density polyethylene on the south slope of super cell 9 at the Environmental Restoration Disposal Facility.*



## ERDF (Continued)



*A view from the north side of super cell 9 at the Environmental Restoration Disposal Facility shows the installation of high-density polyethylene and the placement of admix.*

The project team continues with the installation of the leachate transfer pipe from super cell 9 to a new leachate holding tank. Five of the six sections of transfer pipe have been installed and construction of a new leachate holding tank has begun. The new holding tank will accommodate leachate from super cells 9 and 10.

An onsite screening plant also has been erected. The raw material used for the gravel drainage layer is screened before placement. Work also continues on the crest pad buildings for super cells 9 and 10.



## ERDF (Continued)



*Construction of a new leachate holding tank begins at the Environmental Restoration Disposal Facility. The holding tank will accommodate leachate from super cells 9 and 10.*

### **Facility and Equipment Upgrades**

WCH is preparing to issue a work order to Pacific Northwest National Laboratory (PNNL) for the new waste container tracking system PNNL designed for ERDF. PNNL is expected to start work on the project in mid-July. The system will accurately track waste shipments and equipment, and generate real-time reports. PNNL conducted a proof-of-concept demonstration of its system in April. As part of the demonstration, Radio Frequency Identification and global positioning system tags were attached to waste containers to show how accurately the system tracks waste shipments and container location, as well as generate maintenance reports.

ELRFowler, a joint venture between local companies ELR Consulting and Fowler General Construction, will submit its 90% design of ERDF's new maintenance facilities and operation's center in mid-July. The upgraded transportation truck maintenance 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. The new container maintenance facility will include a large container repair line, a maintenance shop, a weld area, a lunch area, and an exterior awning over a concrete pad. The new equipment maintenance facility will include two service

## ERDF (Continued)

lines, an operational storage facility, a large concrete pad, and an exterior awning over a smaller concrete pad.

WCH subcontractor George A. Grant is preparing to begin construction of a new lighting system at ERDF's transportation yard. Construction is scheduled to start next week. The transportation yard is used for truck-and-trailer combinations and other equipment.

WCH is preparing comments to Columbia Engineers and Constructors on its final design of ERDF's new septic system. Columbia Engineers and Constructors is a small business based in Richland, Washington.

WCH awarded a contract to Indian Eyes, LLC, for a Cat 770 off-highway truck and another contract to Powers Equipment Company for two Genie articulating boom manlifts. Both are small local businesses. The equipment is scheduled to be delivered to ERDF in mid-July.

Hanford Site contractor Mission Support Alliance (MSA) is preparing to conduct repair work on three Hanford Site roads. Design work has been completed for Routes 1 and 2, and continues for Route 4. A request for bids has been issued for construction work on Route 1. The roads are used to transport waste material to ERDF.

WCH awarded a subcontract to Peters and Keatts Equipment Inc. for two concrete mixer trucks in support of a new batch plant. The batch plant will manufacture concrete used to mix with debris, ensuring no void space during disposal operations. Peters and Keatts is based in Lewiston, Idaho.

Construction of a fueling station, designed by Sage Tech and WHPacific, is scheduled to begin mid- to late summer. Sage Tech is based in Richland, Washington.

A change notice has been issued to TradeWind Services for the construction of weather enclosures for crest pad buildings 1 and 2.

### Upcoming Activities

- Continue to manufacture admix and place in super cell 9.
- Continue construction of the liner and leachate collection system for super cell 9.
- Continue work on the crest pad buildings for super cells 9 and 10.
- Issue work order to PNNL for new container tracking system.

### Video

[\*Super Cell construction continues at the Environmental Restoration Disposal Facility\*](#)



## 618-10 Burial Ground

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

Preparations continue for intrusive characterization at the 618-10 Burial Ground. Field operations are scheduled to begin in July.

Intrusive characterization will provide information about the types and quantities of wastes, and the level of contamination. During field operations, test pits will be excavated through a series of burial trenches.

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 vertical pipe units (VPUs). The VPUs were constructed by welding five bottomless drums together and buried vertically about 10 feet apart.

Available records indicate that the burial ground was used to dispose cardboard boxes of low-level waste and miscellaneous laboratory debris including bottles, boxes, filters, and aluminum cuttings; spent fuel fragments in small juice cans; radiologically contaminated equipment and laboratory instruments; and high-level liquid waste sealed in drums.

A nonintrusive characterization report is being developed and is scheduled to be issued in mid-August. Nonintrusive characterization field activities were completed May 20. 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. The data collected during nonintrusive characterization activities are being used to develop and evaluate safe and effective strategies for intrusive characterization and remediation.





## 618-10 Burial Ground (Continued)



*Mock-up drills for intrusive characterization continue at the 618-10 Burial Ground.*

### **Upcoming Activities**

- Continue work on procurement packages for trench remediation labor and equipment.
- Complete project start-up for intrusive characterization.
- Continue development of nonintrusive characterization report.



## 100-F Area

WCH has awarded a subcontract to Ojeda Business Ventures for the remediation of 18 waste sites at 100-F Area. Ojeda Business Ventures is a small disadvantaged business based in Richland, Washington. It specializes in construction, renovation, and construction management of federal government projects. Subcontractor mobilization will begin in July, with remediation scheduled for August.

A meeting was held with DOE-Richland Operations Office, the U.S. Environmental Protection Agency, and the Washington State Department of Health to discuss the air monitoring plan. Comments to the air monitoring plan have been resolved and the plan will be sent out for approvals next week. The integrated hazard evaluation was completed and is in the approval cycle.

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 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.

Most of the cleanup work at F Area was completed in 2008. WCH remediated 53 waste sites near the Columbia River. However, during the course of cleanup 18 additional waste sites were discovered.

The 18 sites that require remediation are as follows:

- 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).



## 100-F Area (Continued)



*Washington Closure subcontractor Northpoint Electrical completed electrical installations to the mobile trailers at 100-F Area.*

## IU 2 & 6 Segment 1

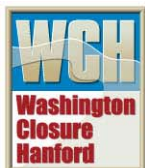
Work continues on waste site-specific verification closeout sample plans to determine the number and location of waste site closeout samples including field quality control samples, sampling methodologies, analyte lists, and analytical methods. Once the work instructions are reviewed and approved by the DOE-Richland Operations Office and the U.S. Environmental Protection Agency, verification closeout samples will be collected for laboratory analysis.

Remediation of five IU 2 & 6 Segment 1 waste sites discovered during the 2008 orphan site evaluation was completed in April. The remediation sites are as follows:

- 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.

IU 2 & 6 Segment 1 encompasses about 23 square miles of the northeastern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. Segment 1 sites were unique in the fact they were used primarily for housing and support areas. The sites were small and contained mostly surface debris.

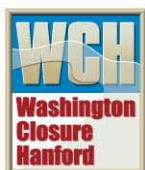


## Confirmatory Sampling

WCH has issued the confirmatory sampling work instructions and remove, treat, and dispose memos for 62 of the 66 sites for the 100-D, 100-K, and 100-IU 2/6. In addition, the sampling instruction for 100-F Area that was added to the confirmatory scope also was approved. The remaining four 100-D Area sampling instructions have been sent to DOE and the regulatory agencies for review or comment resolution.

Last week, WCH awarded a subcontract to TerranearPMC to perform the confirmatory sampling. TerranearPMC is a small disadvantaged business based in Irving, Texas, with an office in Richland, Washington. It provides environmental remediation and compliance, radiological waste management, engineering design, and construction management. Subcontractor mobilization will begin later this month, with sampling in the 100-K Area beginning in July.

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. Those that fail will be recommended for remediation to meet regulatory standards.





## General

### **Mentoring/Training**

No significant mentoring/training events this week.

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

Staff from the human resources departments at the DOE-Richland Operations Office and the DOE-Office of River Protection visited ERDF as part of a Hanford Site tour. The visitors were briefed on the facility by the ERDF operations manager.

### **Contracting Actions**

No significant contracting actions this week.

