



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending February 25, 2011

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

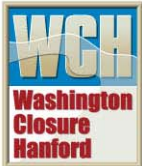
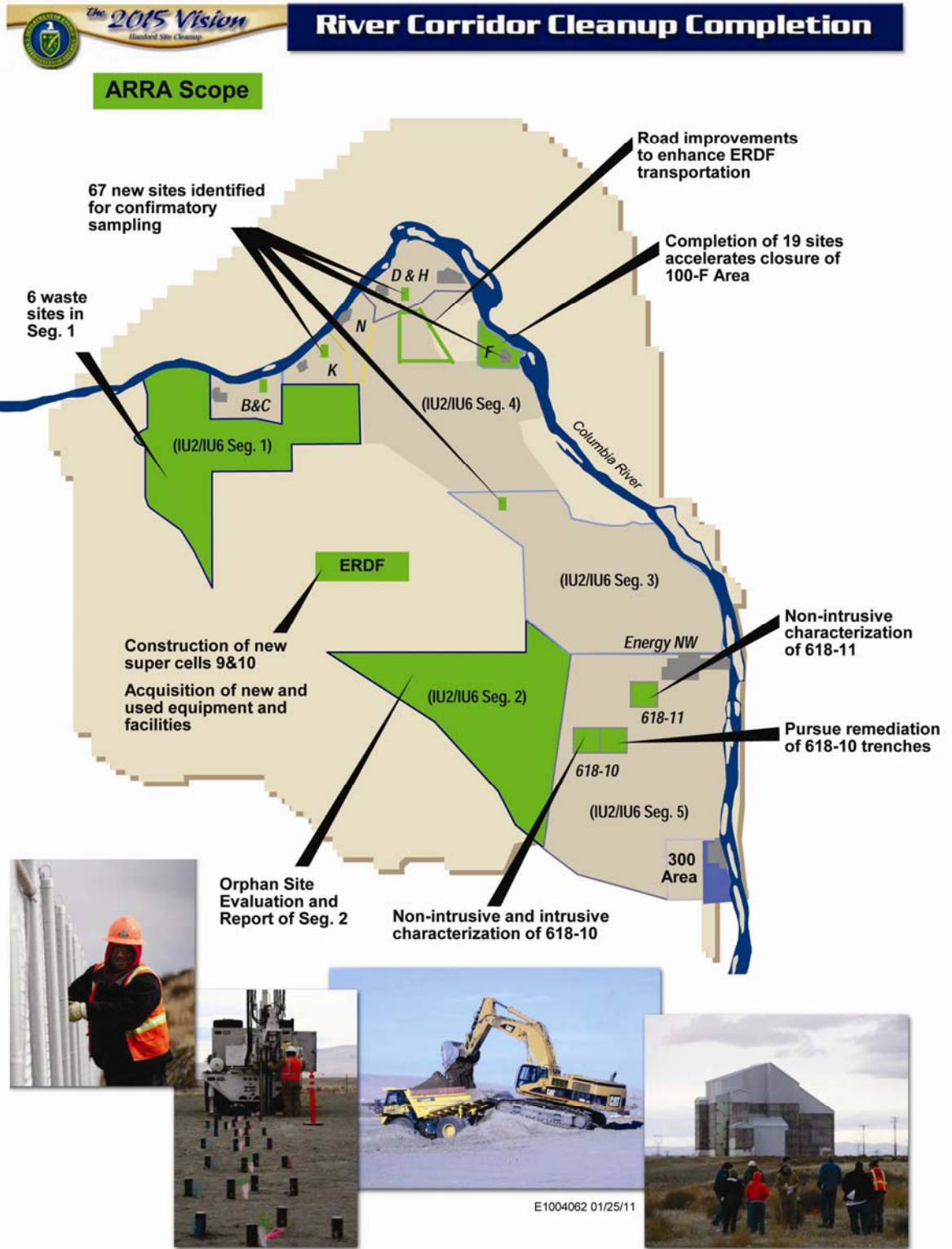
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 January 23, 2011, WCH and its subcontractors have worked 365,552 hours of ARRA scope with no safety incidents.

Hazard Reductions

The River Corridor Closure Project provides a “Weekly Roundup” focusing on safety topics that affect Hanford Site workers. This week’s “Safety Awareness” focused on preparing your vehicle for springtime. After battling months of cold weather, snow, and icy roads, most vehicles are in need of serious care. Workers are advised to follow the checklist below.

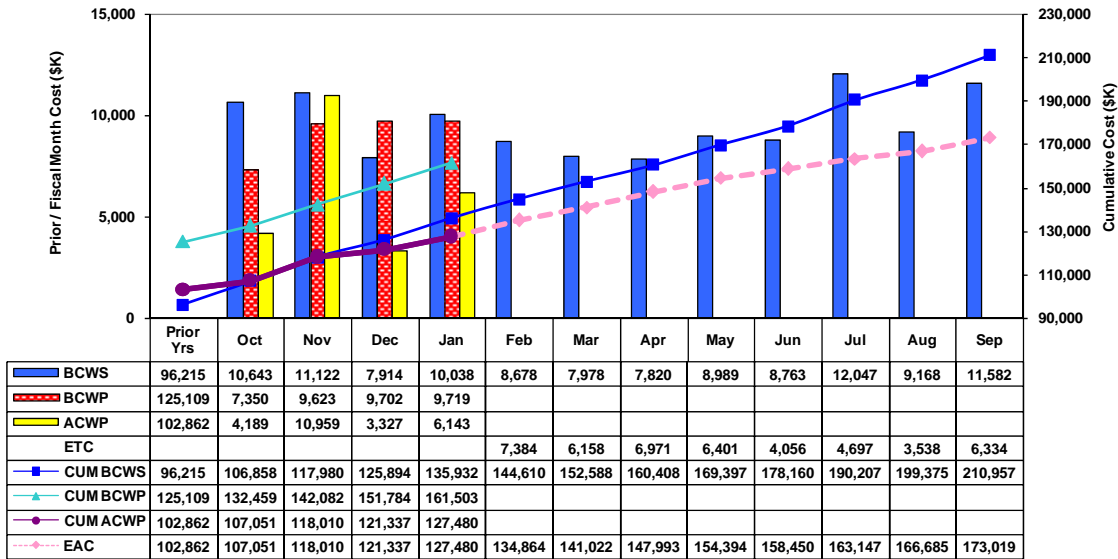
- Tire check – Remove your winter tires and rotate all-season radials. If you have winter tires it is time to store them away. If you don’t have winter tires, it’s equally important to have all-season tires rotated or switched out for new ones.
- Brake check – After a blistering winter be sure to check your brakes. Warning signs include excessive grinding, squealing, screeching, or chatter.
- Wiper blades check – Wipers work hard over the winter months wiping away dirt and debris on your windshield. Replace them in the spring before April showers make it difficult to see.
- Clean the underbody – In addition to washing the exterior, be sure to spray the underbody of your vehicle and underneath the rear and front bumper to rinse away any salt build that can lead to erosion or rusting. Use a high-pressure sprayer or garden hose for best results.
- Apply a protective coating – Any vinyl surface, such as the seats and the steering wheel, is susceptible to cracking, sun damage, and fading so be sure to apply a protective coating at the beginning of the season and touch-up regularly.
- Change your oil – Give some thought to the kind of motor oil you have in your engine. Fully synthetic oils are specifically designed to protect your engine in hot weather.
- Check all fluids – In the winter months fluids are easily depleted as your engine works harder in the colder weather. Make sure to check, top off, or replace all fluids including brake, transmission, coolant, power steering, and windshield washer fluids.
- Pressure test – Assess the pressure of the cooling system and examine belts and hoses for wear and deterioration.



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
247	12/16/10	Reallocate Funds for Capital Expenditures	\$233.6	\$196.6
253	1/18/11	Increase 41.R1 Cost Authority and reallocate funds for capital	\$233.6	\$214.4
266	2/17/10	Reallocate Funds for Capital Expenditures	\$233.6	\$214.4

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		January 2011	Inception To Date	Cost Authority
RL-0041.R1	ERDF Cell Expansion River Corridor Soil & Groundwater (618-10)	PMB	3,340	90,607	156,847
RL-0041.R2		PMB	2,803	36,872	57,566
Sub Total		PMB	6,143	127,479	214,413
Fee			581	12,774	
Total			6,724	140,253	

* PMB = Performance Measurement Baseline.



ERDF

Super Cells 9 and 10 Construction

WCH continued to introduce waste in super cell 9, which was placed into service in mid-February. WCH and subcontractors TradeWind Services and DelHur Industries completed construction of the super cell with “zero” recordable injuries, 10 weeks ahead of schedule, and approximately \$6 million under budget.

In early February, TradeWind conducted final acceptance testing for super cell 10 with the U.S. Department of Energy (DOE), Richland Operations Office (RL) and the U.S. Environmental Protection Agency (EPA). Super cell 10, which was completed 7 months ahead of schedule, will be placed into service in March.

TradeWind also completed final acceptance testing for the second of ERDF’s two new leachate storage tanks – LST 3. LST 4 was placed into service earlier this month. Meanwhile, DelHur Industries continued with construction of the dome covers for the new storage tanks. The project team assembled the dome frames for both tanks and is now placing the decking. The 13-foot-high domes are scheduled to be set on the tanks in early March. Each new tank measures 100 feet in diameter and has a 425,000-gallon capacity.



Washington Closure Hanford subcontractor TradeWind Services installs the decking panels on the dome cover for one of ERDF’s new leachate storage tanks. (Photo 1)

ERDF (Continued)

Facility and Equipment Upgrades

WCH continued with construction of ERDF's new maintenance facilities. The project team poured the second section of the concrete floor of the container maintenance facility/operations center. Work continues at the container maintenance facility installing the fire sprinkler system and the HVAC, and constructing the interior walls. The stem walls were poured at the transportation maintenance facility.

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.

The expanded transportation 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 project began pouring the concrete footers on the east side of the building.



Washington Closure Hanford subcontractor ELRFowler places the second section of the concrete floor at ERDF's equipment maintenance facility/operations center. (Photo 2)

ERDF (Continued)



*An ELRFowler employee installs siding along the north side of ERDF's container maintenance facility.
(Photo 3)*

ERDF (Continued)



A Washington Closure Hanford subcontractor prepares to pour the concrete footers at ERDF's transportation maintenance facility. (Photo 4)

ERDF (Continued)

Pacific Northwest National Laboratory (PNNL) completed software development of a new waste container tracking system for ERDF. PNNL completed testing the prototype and producing radio-frequency identification tags. The system will accurately track waste shipments and equipment, and generate real-time reports.

WCH subcontractor DelHur Industries continues to work on the electrical installation for ERDF's new batch plant. 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.

Electrical work for ERDF's new septic system has been completed. Final grading work of the site remains. The system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

TradeWind continues with construction of the weather enclosures for the crest pads associated with cells 1 and 2. The project team is constructing the footers and installing the underground electrical. The enclosures were designed by Vista Engineering, a local company.

Upcoming Activities

- Continue construction of the container maintenance facility.
- Continue construction of the equipment maintenance facility/operations center.
- Continue construction of the transportation maintenance facility.



618-10 Burial Ground

618-10 Trench Remediation Project

WCH is making final preparations before beginning full-scale remediation of the 618-10 Burial Ground, one of the most hazardous and complex cleanup sites on the Hanford Site. The project team continues to conduct training and full-scale mock-up exercises to prepare for remediation, which is scheduled to begin in March.



Remediation mock-up exercises continue at the 618-10 Burial Ground. Full-scale remediation is scheduled to begin in March. (Photo 5)

618-10 Burial Ground (Continued)



A telehandler transports a salvage container with a concreted drum during remediation mock-up exercises at the 618-10 Burial Ground. (Photo 6)

WCH subcontractor White Shield/Apollo also is close to completing infrastructure work at the burial ground. The project team is installing water tanks and setting up the drum-punch area.

In February, WCH awarded subcontracts worth \$8 million to three small businesses to provide labor and equipment for remediation.

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.

In early September, WCH completed intrusive characterization field operations at the burial ground. 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.

618-10 Burial Ground (Continued)

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 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.

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.

Upcoming Activities

- Continue with construction site upgrades.
- Continue with training and mockups.

Video

[Click here to view mock-ups for full-scale remediation at the 618-10 Burial Ground.](#)



618-11 Burial Ground

Nonintrusive Characterization Project

WCH continues to prepare for nonintrusive characterization field activities at the 618-11 Burial Ground. The purpose of nonintrusive characterization is to characterize the burial ground's contents without opening or exposing them to workers or the surface environment.

Similar to the 618-10 Burial Ground, 618-11 is one of WCH's most hazardous and complex cleanup projects. The site is located in the 300 Area, adjacent to Energy Northwest's commercial nuclear power plant (Columbia Generating Station) and near the Columbia River.

The 618-11 Burial Ground operated from March 1962 to December 1967 and contains three slope-sided trenches, five large caissons, and 50 vertical pipe units (VPUs). It received low- to high-activity waste from 300 Area laboratories and fuel development facilities.



One of the three slope-sided trenches at the 618-11 Burial Ground. (Photo 7)

618-11 Burial Ground (Continued)



This April 1967 photo shows Workers placing the cover over a caisson at the 618-11 Burial Ground. (Photo 8)

Nonintrusive characterization activities will provide data and information for planning remediation strategies for the VPUs, caissons, and trenches. The scope of work includes geophysical delineation and in situ radiological characterization using a gross gamma activity logging instrument.

The project team is scheduled to start geophysical delineation of the burial ground next week. Geophysical delineation will help locate each of the VPUs and caissons. The delineation will be determined using reconnaissance-level magnetic field survey, detailed level magnetic and time domain electromagnetic induction (TDEMI) survey, and ground-penetrating radar (GPR) survey.

Based on geophysical delineation results, the project team will drive two narrow steel cylinders called cone penetrometers around each VPU and to an approximate depth of six feet below each VPU. The gamma logging probe will be inserted into the cone penetrometers to identify the location of radioactive materials within the VPUs. The project team is scheduled to begin installing cone penetrometers this spring.

618-11 Burial Ground (Continued)

The VPUs at the 618-11 Burial Ground are similar to those at 618-10. They typically were constructed by welding five, 55-gallon bottomless drums end to end. The caissons were constructed of corrugated metal pipe (8 feet in diameter, 10 feet long), with the top of the caisson 15 feet below grade and connected to the surface by an offset pipe (3 feet in diameter) with a dome-type cap. The trenches are 900 feet long by 500 feet wide and 25 feet deep.

Low- to moderate-activity waste typically was disposed in the trenches, and moderate- to high-activity waste was disposed in the VPUs and caissons. Some high-activity waste placed inside concreted-sealed drums and disposed in the trenches.

100-F Area

WCH and subcontractor Ojeda Business Ventures continue to make significant progress with the remediation of 19 waste sites at 100-F Area. Field work began in September and will conclude this spring.

Hanford subcontractor Mission Support Alliance deactivated power lines to allow the project team to remove the final sections of pipe at 100-F-26:7. Earlier, the project team safely and efficiently secured approximately 200 gallons of sodium dichromate from pipelines, preventing potential leaking and groundwater contamination. The liquid has been containerized and sampled. Once sample results are received, the liquid will be sent to an approved waste disposal facility.



Washington Closure Hanford subcontractor Ojeda Business Ventures removes the final sections of pipe at 100-F-26:7 after Hanford subcontractor Mission Support Alliance deactivated power lines. (Photo 9)

100-F Area (Continued)



Ojeda Business Ventures backfills a trench after removing the final sections of pipe at 100-F-26:7. Last week, Washington Closure Hanford safely secured 200 gallons of sodium dichromate from pipelines at the site. (Photo 10)

The project team also completed a test pit campaign at 100-F-57, where stained concrete and soil were found and the presence of hexavalent chromium was confirmed. WCH continues to receive sample data that will help determine the extent of hexavalent chromium at the site.

Excavation and loadout continued at 100-F-49 (old maintenance garage lube pit foundation, pipelines, and drywells) and began at 100-F-8 (underground injection control well). Excavation and stockpiling also continued at 100-F-61 (stained soil).

100-F Area (Continued)



Ojeda began excavation and loadout activities at 100-F-8, a site that contains an underground injection control well. (Photo 11)

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.

100-F Area (Continued)

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 sites 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 of asbestos waste at 100-F-57.
- Continue receiving lab data from test pit campaign at 100-F-57.
- Continue excavation and stockpiling at 100-F-61.
- Continue excavation and stockpiling at 100-F-8.
- Continue excavation and loadout at 100-F-49.
- Begin excavation and loadout of 100-F-45, 100-F-56, and 100-F-58.



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 sampling of ARRA confirmatory sites. Sampling was performed at 41 sites in accordance with the regulator approved work instructions that were completed earlier this year. Based on the sampling results, documentation is being prepared to recommend whether the sites require remediation. This documentation is then submitted to the DOE and the regulatory agencies for review and approval. The recommendations have been approved for more than 75% of the sites, and the remaining documents are under development or in the review and approval process.



General

Media, Visits, Press Releases

- RL and WCH hosted local newspaper and TV reporters at a media event highlighting the construction of super cells 9 and 10 at the Environmental Restoration Disposal Facility (ERDF). The construction of the super cells, which increased ERDF's capacity by 50 percent to 16.4 million tons, was funded by the *American Recovery and Reinvestment Act* (ARRA). Construction was completed with “zero” recordable injuries, months ahead of schedule, and more than \$16 million under budget.
- Scott Van Camp, the new DOE-Headquarters Senior Site Program Manager for Hanford, visited ERDF. He was briefed on ERDF operations and procedures by Bruce Covert, Director of Waste Operations.
- A group of students and faculty from Walla Walla University visited ERDF for the second consecutive year. The group was briefed on facility operations and procedures and interacted with three Washington Closure Hanford employees who are recent college graduates.

Contracting Actions

No significant contracting actions this week.

