



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending March 18, 2011

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

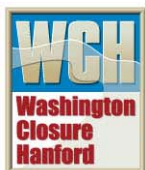
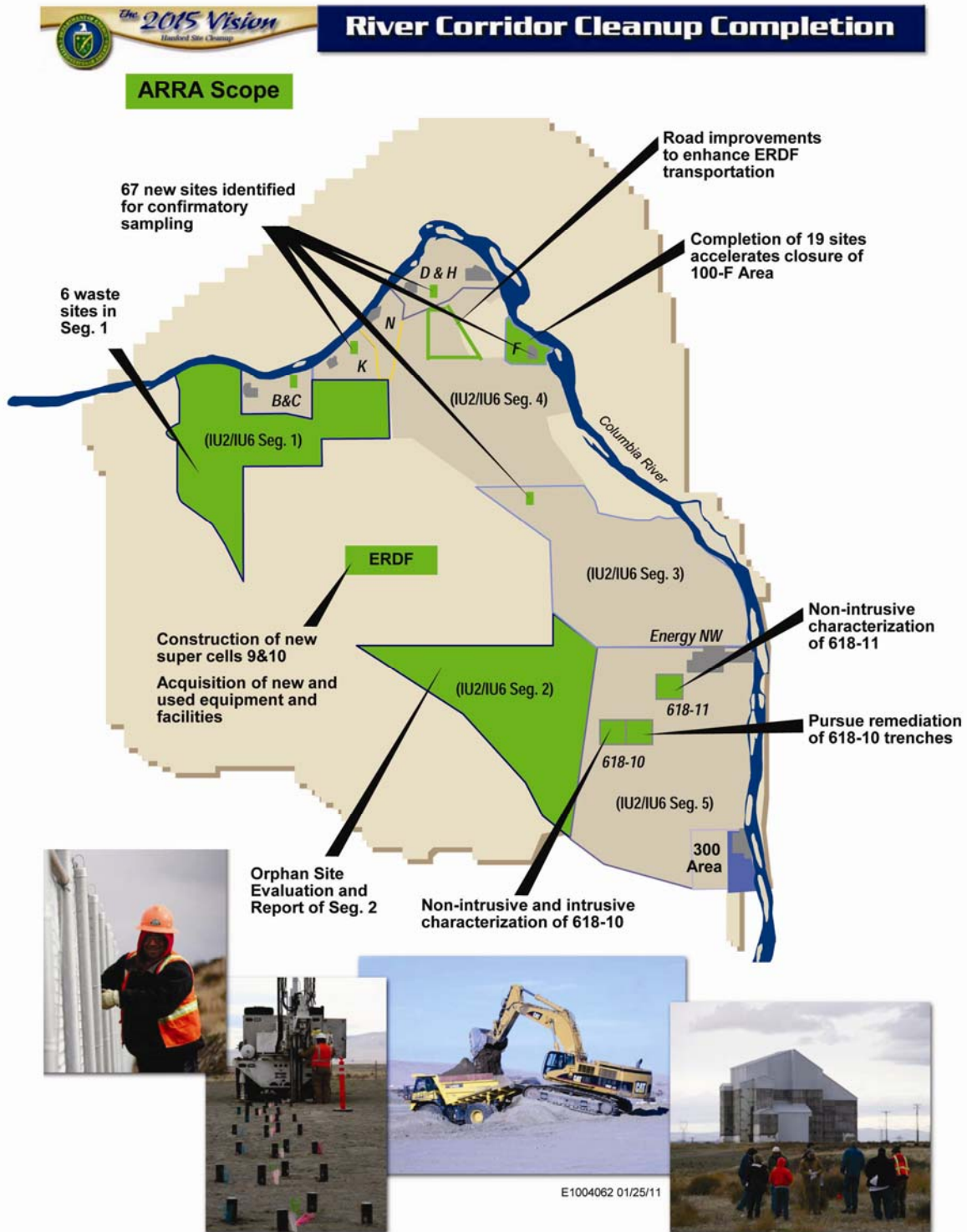
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 February 20, 2011, WCH and its subcontractors have worked 392,017 hours of ARRA scope with no safety incidents.

Hazard Reductions

The River Corridor Closure Project's "Weekly Roundup" focuses on safety topics that affect Hanford Site workers. A recent issue of "Safety Awareness" highlighted eye emergencies. Knowing what to do for an eye emergency can save valuable time and possibly prevent vision loss. Below are some basic instructions for basic eye injury first aid.

Be Prepared

- Wear eye protection for all hazardous activities and sports at school, home, and on the job.
- Make frequent checks of eyewash stations to ensure they are in proper working order. Stock first aid kits with a rigid eye shield and commercial eyewash before an eye injury happens.
- Do not assume that any eye injury is harmless. When in doubt, see a doctor immediately.

Chemical Burns to the Eye

- In all cases of eye contact with chemicals:
- Immediately flush the eye with water or any other drinkable liquid.
- Hold the eye under a faucet or shower and pour water into the eye using a clean container. Keep the eye open and as wide as possible while flushing. Continue flushing for at least 15 minutes.
- Do not use an eyecup.
- If a contact lens is in the eye, begin flushing over the lens immediately. This may wash away the lens.
- Do not bandage the eye.
- Seek immediate medical treatment after flushing the eye.

Specks in the Eye

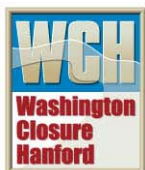
- Do not rub the eye.
- Try to let tears wash the speck out or use an eyewash.
- Try lifting the upper eyelid outward and down over the lower lid.
- If the speck does not wash out, keep the eye closed, bandage it lightly, and see a doctor.

Blows to the Eye

- Apply a cold compress without putting pressure on the eye.
- Crushed ice in a plastic bag can be taped to the forehead to rest gently on the injured eye.
- In case of pain, reduced vision, or discoloration (black eye), seek emergency medical care. Any of these symptoms could mean internal eye damage.

Cuts and Punctures of the Eye or Eyelid

- Do not wash out the eye with water or any other liquid.
- Do not try to remove an object that is stuck in the eye.



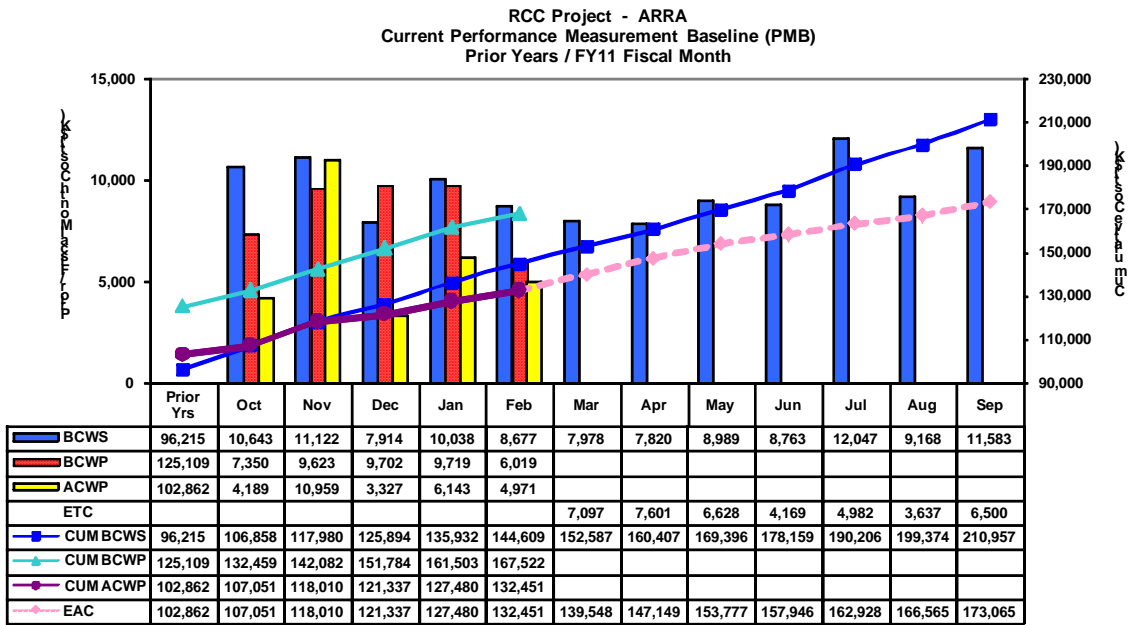
Safety (Continued)

- Cover the eye with a rigid shield without applying pressure. The bottom half of a paper cup can be used.
- See a doctor at once.



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 Definition	\$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



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

Apportionment Number	Apportionment Title		February 2011	Inception To Date	Cost Authority
RL-0041.R1	ERDF Cell Expansion	PMB	3,125	93,732	156,847
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	1,847	38,719	57,566
Sub Total		PMB	4,972	132,451	214,413
Fee			580	13,355	
Total			5,552	145,806	

* PMB = Performance Measurement Baseline.



ERDF

Super Cells 9 and 10 Construction

WCH is incorporating comments from the U.S. Environmental Protection Agency (EPA) on the final *Construction Quality Assurance (CQA) Report for Super Cell 10*. WCH will officially submit the report next week to the U.S. Department of Energy, Richland Operations Office and the EPA.

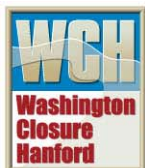
One of ERDF's two new leachate storage tanks – LST 4 – was placed into service. The facility's other new leachate storage tank – LST 3 – is expected to be authorized for use next month. The new tanks measure 100 feet in diameter with a 425,000-gallon capacity. Dome covers were placed on the tanks earlier this month.

Facility and Equipment Upgrades

WCH continues with construction of ERDF's new maintenance facilities. The project team poured the concrete footings for the additions on both the east and west sides of the existing transportation maintenance facility. Roofing and siding installation continued at the equipment maintenance facility/operations center, and work continued to prepare drywall for painting at the container 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.



ERDF (Continued)



An employee with Washington Closure Hanford subcontractor ELRFowler constructs forms used to pour concrete footers at the transportation maintenance facility. (Photo 1)

ERDF (Continued)

Pacific Northwest National Laboratory (PNNL) continues to produce radio-frequency identification tags for a new waste container tracking system at ERDF. The system will accurately track waste shipments and equipment, and generate real-time reports.

WCH subcontractor DelHur Industries continues electrical work at 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. The system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

TradeWind continues to construct the foundations of the weather enclosures for the crest pads associated with cells 1 and 2. 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

Trench Remediation Project

WCH held a project startup review meeting for surge trench excavation at the 618-10 Burial Ground. Surge trenches are excavated in clean soil adjacent to the trench areas, providing a below-ground area to hold material excavated during the trench remediation process. Surge trench excavation is expected to begin next week.

The project team continued with training and mockup exercises, and is working to install wells and water tanks for fire control and dust suppression. Work to install electricity, roads, office trailers, and waste container transfer areas is complete.



Washington Closure Hanford is preparing to begin excavating surge trenches next week at the 618-10 Burial Ground. (Photo 2)

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.

618-10 Burial Ground (Continued)

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.

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

- Begin excavation of surge trenches.
- Continue with construction of site upgrades.
- Continue with training and mockups.



618-11 Burial Ground

WCH began nonintrusive characterization field activities at the 618-11 Burial Ground by initiating geophysical delineation. Previously, WCH completed the geophysics delineation project startup review and site preparations.

The purpose of nonintrusive characterization is to characterize the burial ground's contents without opening or exposing them to workers or the surface environment. Nonintrusive characterization will provide data and information for planning remediation strategies. The scope of work includes geophysical delineation and in situ radiological characterization using a gross gamma activity logging instrument.

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.

Geophysical delineation will help locate each of the VPUs and caissons. The delineation is determined using reconnaissance-level magnetic field survey, detailed level magnetic and time domain electromagnetic induction (TDEMI) survey, and ground-penetrating radar (GPR) survey.



618-11 Burial Ground (Continued)



Washington Closure Hanford subcontractor Sage Earth Science of Idaho Falls, Idaho, performs geophysical delineation at the 618-11 Burial Ground. (Photo 3)

Beginning next month, the project team will use data gathered during geophysical delineation to install cone penetrometers (narrow steel tubes) about 6 to 8 inches around each VPU and to an approximate depth of 6 feet below the VPU. A gamma logging probe will then be inserted into the cone penetrometers to identify the location of radioactive materials within the VPUs.

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 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-foot diameter, 10-foot long), with the top of the caisson 15 feet below grade and connected to the surface by an offset pipe (3-foot diameter) with a dome-type cap. The trenches are 900 feet long by 500 feet wide and 25 feet deep.

618-11 Burial Ground (Continued)

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.

Upcoming Activities

- Continue surface geophysics activities.
- Conduct mobilization project startup review.
- Initiate mobilization activities.
- Initiate characterization project startup review activities.



100-F Area

WCH and subcontractor Ojeda Business Ventures continued 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.

The project team began excavation and loadout from 100-F-45 last week. The site is located on the bank of the Columbia River and contains dislodged and re-buried sections of river outfall pipelines.



Washington Closure Hanford subcontractor Ojeda Business Ventures begins excavation and loadout at waste site 100-F-45. The site is located on the bank of the Columbia River. (Photo 4)

100-F Area (Continued)



An excavator scoops out a section of river outfall pipeline at 100-F-45. The pipeline was used to discharge effluent into the Columbia River. (Photo 5)

Laboratory data has been received from the test pit campaign at 100-F-57 where stained concrete and soil were found and the presence of hexavalent chromium was confirmed. Three more test pits are being excavated and the project team is planning to dig deeper at the site.

The project team is awaiting sample results from 100-F-26:7. Last month, Mission Support Alliance deactivated power lines to allow the project team to remove the final sections of pipe at the site. Before removing the pipelines, 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 sampled and waste profiles are being developed.

The project team also is awaiting sample results from 100-F-49 (old maintenance garage lube pit foundation, pipelines, and drywells).

100-F Area (Continued)

The following sites have had the soil excavated and loaded out:

- 100-F-26:4 (process sewer pipeline section)
- 100-F-44:8 (fuel oil pipelines)
- 100-F-44:9 (process sewer pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal-pit debris)
- 100-F-51 (fish laboratory footprint, pipelines)
- 100-F-55 (contaminated ash layer)
- 100-F-58 (asbestos-containing surface debris)
- 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)

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.

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, the 19 additional waste sites were discovered.



100-F Area (Continued)

Upcoming Activities

- Continue excavation and loadout of 600-351.
- Continue pipe size reduction and loadout of stockpiled waste from 100-F-45.
- Begin anomaly sampling campaign.

Video

[Click here to view the video showing removal of buried pipeline near 100-F Reactor.](#)



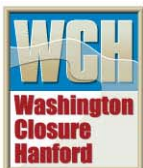
IU 2 & 6 Segment 1

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 in the review and approval process.



General

Media, Visits, Press Releases

- Ken Murphy, the new Director for Region 10 of the Federal Emergency Management Agency, visited the 618-10 Burial Ground as part of a Hanford tour. Murphy was briefed at 618-10 by WCH's project manager for trench remediation.

Contracting Actions

No significant contracting actions this week.

