



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending May 8, 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

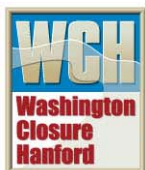
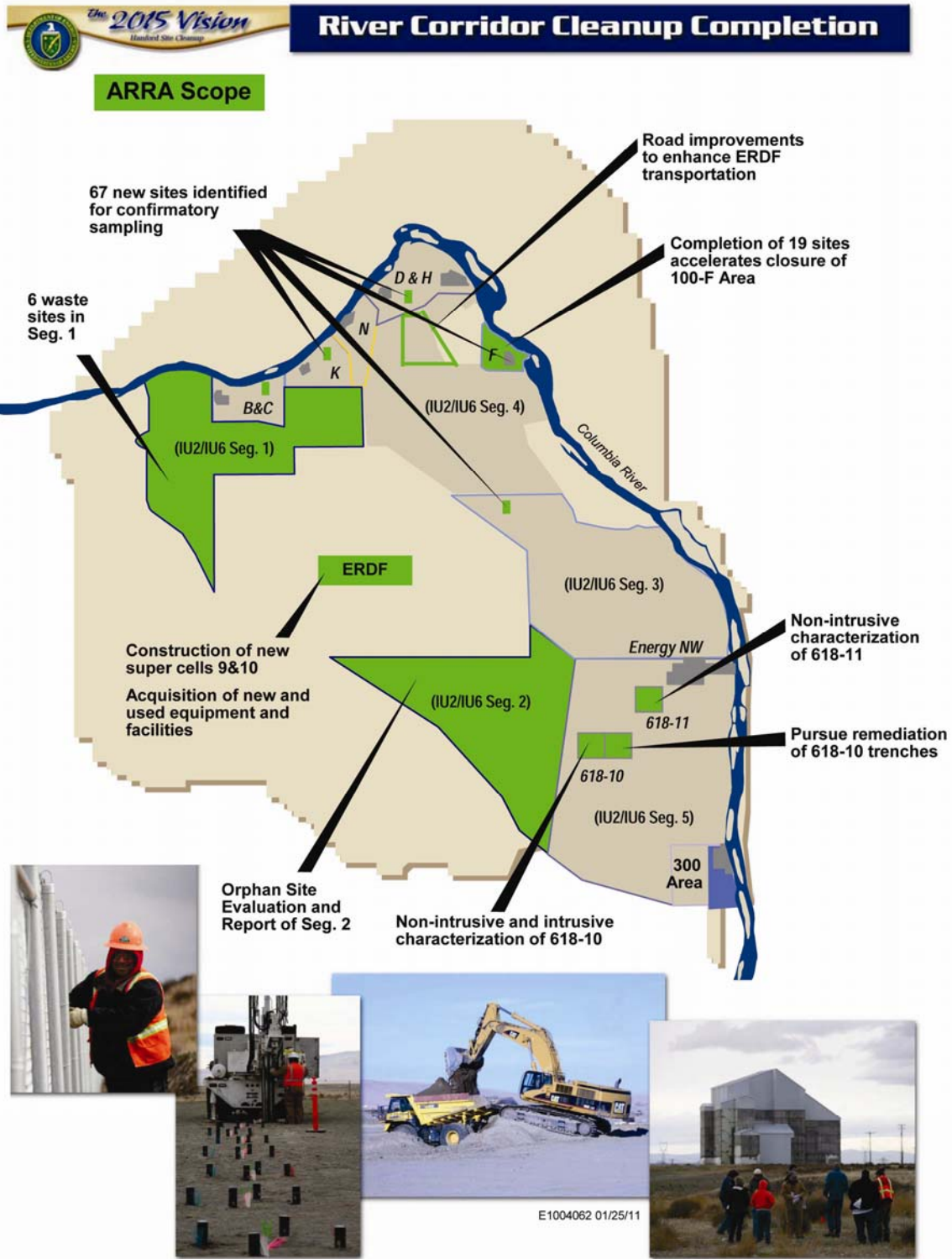
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 March 20, 2011, WCH and its subcontractors have worked 423,305 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. This week's topic was on bungee cord safety.

A study was conducted to evaluate the bungee tension on the roll-on/roll-off waste containers. There are many different series of containers with different manufacturers and some differences in the design. All active series of containers were evaluated and in many different configurations (i.e., new tarps/new bungees, old tarps/new bungees, old bungees/new tarps, test performed in freezing weather, tests performed in hot weather, tests performed after the tarps have set with water on top of them, various lengths of bungee cord).

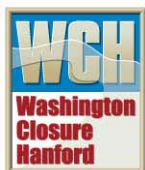
Because of the variation in the containers and the tarps, it was determined that coming up with an absolute weight of pull for the bungees would not be possible. Instead an acceptable range of bungee tension was determined. The bungee tension was measured using a calibrated push/pull dynamometer. It was determined that for the various containers a bungee length of 75 feet would yield a tension in the 30- to 50-pound range. It was additionally noted that if the "D" rings turn, they can impinge on the bungee cord and hinder tension equalization. Ten-foot sections of red bungee cord were added to the existing cords of 65 feet. New bungee cords are red and 75 feet in length.

Important items of note include:

- When the tarp is installed it is important to equalize the tension around the container.
- If a bungee is doubled, it can cause the tension to exceed 100 pounds.
- The bungee should be installed from the front of the container and working towards the back, leaving the last hook on each side undone until after the bungee is attached at the back of the container.

The following is additional Information added on May 5, 2011, on proper packing of a load:

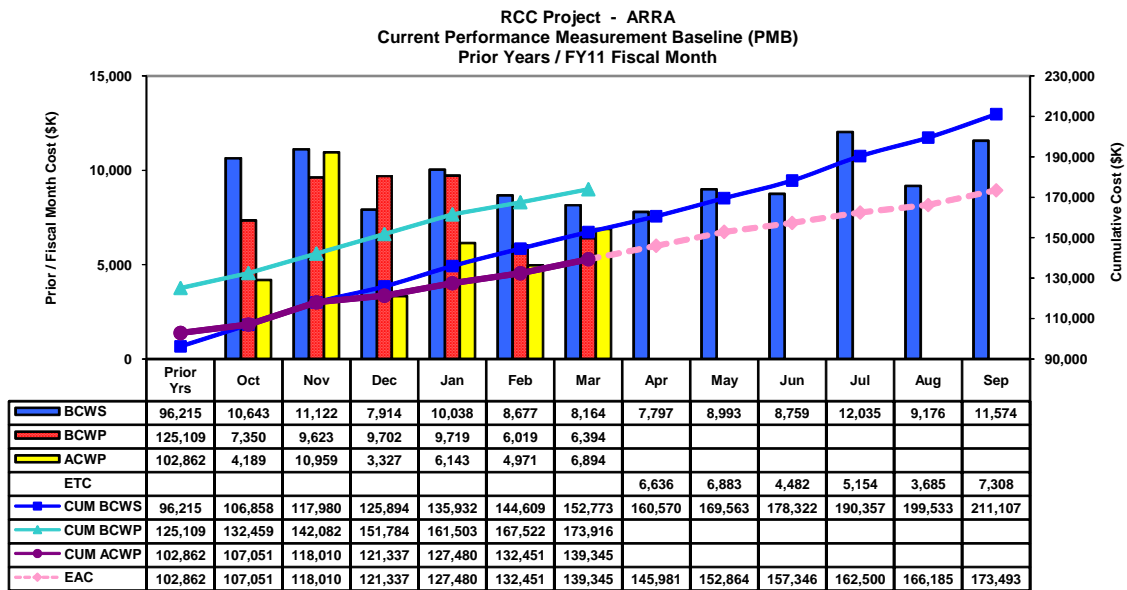
Vehicles/trailers should always be loaded with heavier items on the bottom and adequately secured to prevent shifting while traveling. If there are lighter items that could fall out while in motion, they should be secured around or inside the heavier items as needed. The use of ropes, netting, bungees, and tarps should also be used with caution. The breaking strengths need to be considered when selecting tarps, rope, bungees, and nets. While in motion, air flowing underneath tarps can increase the strain on bungees and nets enough to break them or pull away from the load causing the load to move or shift.



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	2/17/11	Reallocate Funds for Capital Expenditures	\$233.6	\$214.4
281	4/5/11	Increase Cost Authority on RL-0041.R2	\$233.6	\$233.6
284	4/14/11	Reallocate Funds for Capital Expenditures	\$233.6	\$233.6
290	5/4/11	Authorization to charge ERDF operations to ARRA	\$233.6	\$233.6

River Corridor Closure Project - ARRA



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

Apportionment Number	Apportionment Title		March 2011	Inception To Date	Cost Authority
RL-0041.R1	ERDF Cell Expansion	PMB	3,973	97,705	156,847
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	2,921	41,640	57,566
Sub Total		PMB	6,894	139,345	214,413
Fee			460	13,814	
Total			7,354	153,159	

* PMB = Performance Measurement Baseline.



ERDF

Super Cells 9 and 10 Construction

WCH is awaiting approval of the final Construction Quality Assurance (CQA) Report for Super Cell 10 and Leachate Storage Tank No. 3. The report was submitted earlier this month to the U.S. Department of Energy, Richland Operations Office and the U.S. Environmental Protection Agency.

Super cell 9 was placed into service in mid-February. WCH and subcontractors TradeWind Services and DelHur Industries completed construction of both super cells with no recordable injuries, months ahead of schedule, and more than \$16 million under budget.



About 65,000 railroad ties from the Hanford Site are being disposed in super cell 9 at the Environmental Restoration Disposal Facility. (Photo 1)

Facility and Equipment Upgrades

WCH continues to make progress with construction of the new maintenance facilities at ERDF. The project team completed siding and roofing installation on the west addition of the transportation maintenance facility and poured the concrete slab outside the east addition. Rough-in electrical work also continued. At the equipment maintenance facility/operations

ERDF (Continued)

center, electrical and plumbing work continued. The project team also poured exterior concrete and sidewalks at the container maintenance facility and continued with finish work.

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.



An ELRFowler employee uses a power trowel on recently poured concrete at the east side of ERDF's transportation maintenance facility. (Photo 2)

ERDF (Continued)



An employee with Sun River Electric Service works on an air conditioning unit at ERDF's new equipment maintenance facility/operations center. (Photo 3)

ERDF (Continued)



An ELRFowler employee installs a garage door opener in ERDF's new equipment maintenance facility/operations center. (Photo 4)

WCH began installing the Global Positioning System and wireless equipment for ERDF's new waste container tracking system. The system, designed by Pacific Northwest National Laboratory, will provide status reports at waste generation sites, which will assist management in making daily assignments. Testing is scheduled for later this month.

WCH subcontractor DelHur Industries completed operational testing of the soil-screen plant for ERDF's new batch plant. Safety guards are being installed at the batch plant, and an operations test is scheduled for later this month. The batch plant will produce concrete used to mix with debris, ensuring no void space during disposal operations.

ERDF (Continued)



Washington Closure Hanford subcontractor DelHur Industries tests a soil screen plant set up in support of ERDF's new batch plant. (Photo 5)

The final report for ERDF's new septic system has been submitted to the Washington State Department of Health. The septic system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

WCH subcontractor TradeWind Services continues electrical and interior work in 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.
- Continue construction of the crest pad buildings associated with cells 1 and 2.

618-10 Burial Ground

Trench Remediation Project

WCH continued trench excavation at 618-10 Burial Ground. The project team is working on the north and south sides of the burial ground and has excavated 13,650 bank cubic meters.

The project team set the final water storage tank and connected it to the piping system. A second drum penetration facility also was delivered to the site. The drum penetration facility will be set up next week.



Washington Closure Hanford continues trench excavation on the north side of the burial ground. (Photo 6)

618-10 Burial Ground (Continued)



Washington Closure received a second drum penetration facility at the 618-10 Burial Ground. (Photo 7)

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 12 trenches, while the moderate- and high-activity wastes were disposed

618-10 Burial Ground (Continued)

in 94 vertical pipe units (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, 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.

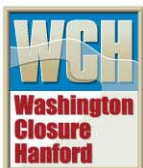
Nonintrusive characterization field activities were completed in May. The scope of activities carried out as part of nonintrusive characterization included geophysical delineation, in situ characterization using a multi-detector probe, and soil sampling from below a selection of 10 VPUs. During in situ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

Upcoming Activities

- Continue trench excavation
- Begin final testing of water system.

Video

[Click here to view trench excavation activities at the 618-10 Burial Ground.](#)



618-11 Burial Ground

WCH and subcontractor North Wind Inc. completed installation of cone penetrometers in support of nonintrusive characterization of the 618-11 Burial Ground.

The purpose of nonintrusive characterization is to determine the burial ground's contents without opening or exposing them to workers or the surface environment. The data collected will be used to help plan remediation strategies.

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

North Wind installed two cone penetrometers (narrow steel tubes) about 6 to 8 inches from the exterior of each VPU and to an approximate depth of 6 feet below the VPU. A gamma-logging probe will now be inserted into the cone penetrometers to identify the location of radioactive materials within the VPUs.



Washington Closure Hanford subcontractor North Wind installing cone penetrometers at the 618-11 Burial Ground. (Photo 8)

618-11 Burial Ground (Continued)



Cone penetrometers are installed to a depth of approximately 24 feet. (Photo 9)

618-11 Burial Ground (Continued)



The cone penetrometers are narrow steel tubes that will house instrumentation to identify the location of radioactive materials within the vertical pipe units at the 618-11 Burial Ground. (Photo 10)

Before beginning installation of the cone penetrometers, WCH conducted geophysical delineation to help locate each of the burial ground's VPUs and caissons. The delineation was determined using reconnaissance-level magnetic field survey, detailed-level magnetic and time-domain electromagnetic induction (TDEMI) survey, and ground-penetrating radar (GPR) survey.

The VPUs 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). The top of the caisson was 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.

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 was placed inside concreted-sealed drums and disposed in the trenches.

618-11 Burial Ground (Continued)

The 618-11 Burial Ground is located in the 300 Area, adjacent to Energy Northwest's commercial nuclear power plant (Columbia Generating Station) and close to the Columbia River.

Upcoming Activities

- Complete cone penetrometer installation activities.
- Complete caisson geophysics data analysis.
- Complete characterization system training.
- Complete characterization project startup review activities.

100-F Area

WCH and subcontractor Ojeda Business Ventures continued with the remediation of 19 waste sites at 100-F Area. The project team is demolishing concrete at 100-F-57 and loading out concrete and underlying soil. The site consists of stained concrete and soil containing hexavalent chromium. Closeout samples also were collected from 100-F-44:9 (steel pipeline).



Washington Closure Hanford subcontractor Ojeda Business Ventures loads out rubble from 100-F-57. (Photo 11)

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-45 (river bank pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal-pit debris)
- 100-F-49 (maintenance garage lube pit foundation)
- 100-F-51 (fish laboratory footprint, pipelines)

100-F Area (Continued)

- 100-F-55 (contaminated ash layer)
- 100-F-58 (asbestos-containing surface debris)
- 100-F-8 (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, 19 additional waste sites were discovered.

Upcoming Activities

- Begin excavating western portion of 100-F-57 to 15 feet.
- Collect closeout samples from 100-F-47.



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; the remaining documents are in the review and approval process.



General

Media, Visits, Press Releases

There were no significant media events this week.

Contracting Actions

There were no significant contracting actions this week.

