



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending October 15, 2010

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

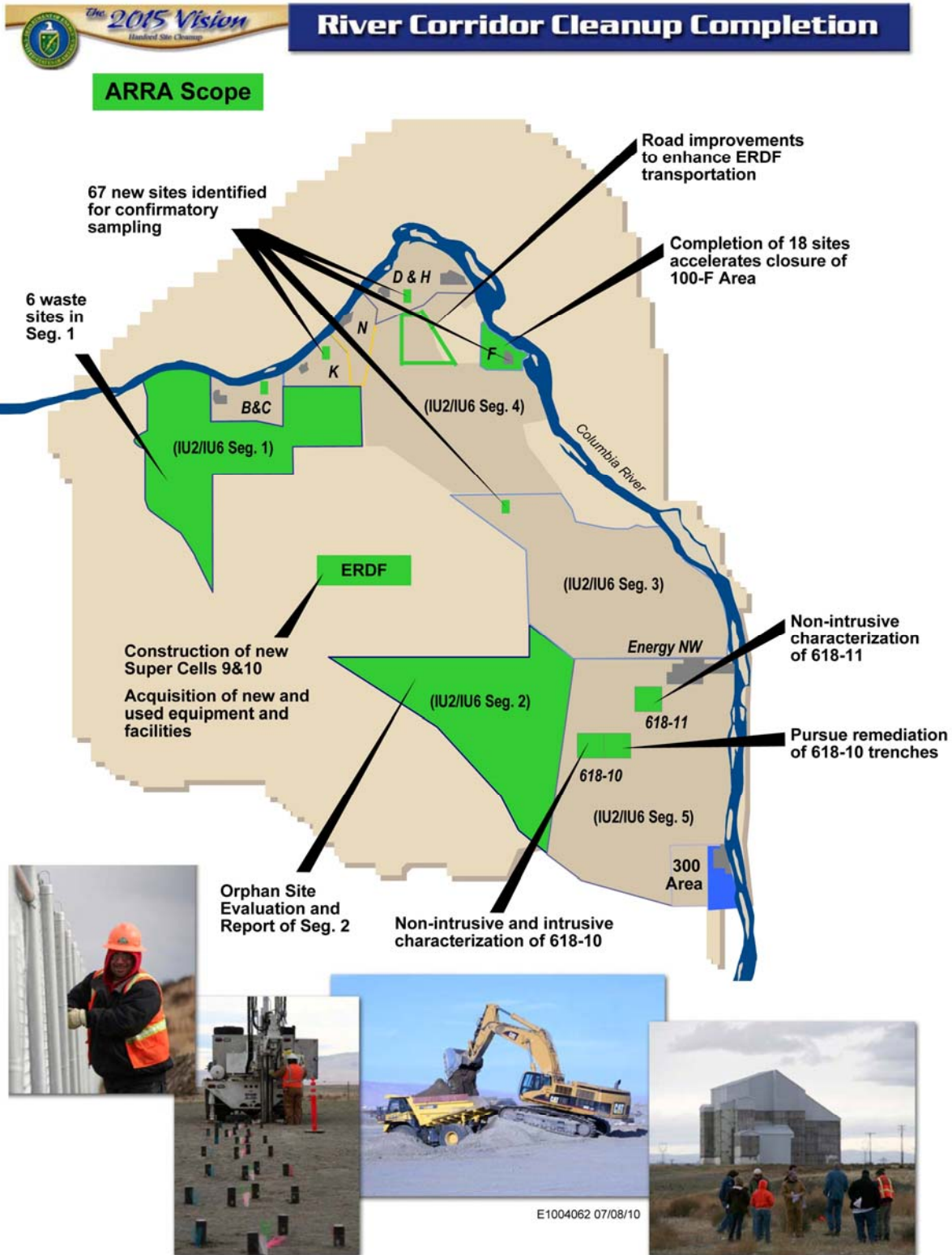
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 September 30, 2010, WCH and its subcontractors have worked 285,488 hours of ARRA scope with no safety incidents.

Hazard Reductions

The "Weekly Safety Topic" is shared with all WCH employees. Last week's topic was bungee cord safety.

There have been several injuries in the past related to securing the bungee cords on roll-on/roll-off containers. In an effort to prevent these from occurring, a study was conducted to evaluate the bungee tension on the containers. There are many different series of roll-on/roll-off containers with different manufacturers and some differences in the design. All active series of containers were evaluated and found to be in many different configurations (i.e., new tarps/new bungees, old tarps/new bungees, old bungees/new tarps, tests 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. The fact that if the "D" rings turn, they can impinge on the bungee cord and hinder tension equalization was also noted.

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 to note include the following:

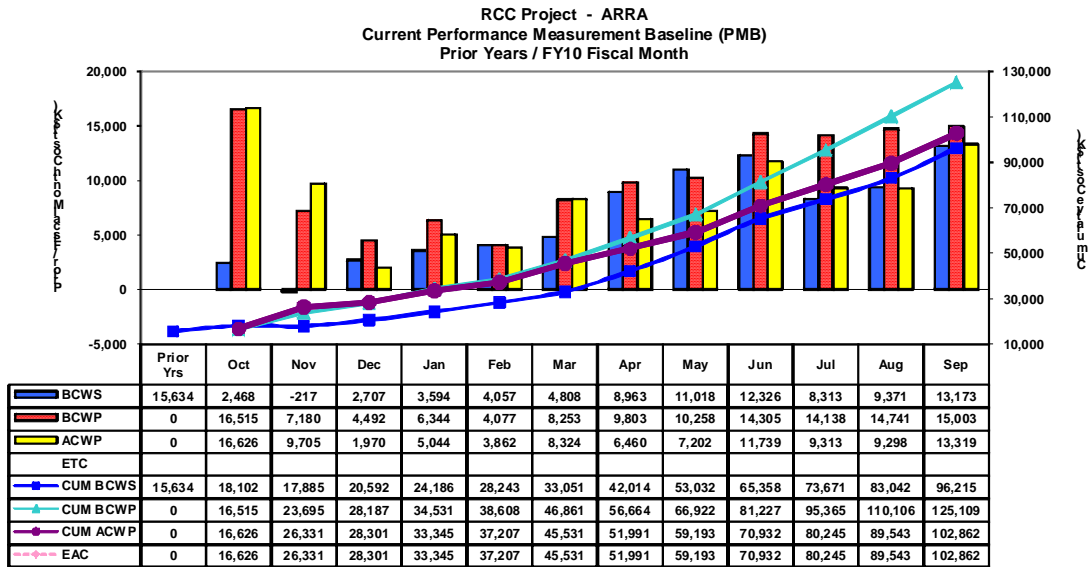
- When the tarp is installed it is important to equalize the tension around the container.
- If a bungee is doubled it can cause the tension to exceed 100 pounds.
- The bungee should be installed from the front of the container and work toward the back leaving the last hook on each side undone until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



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

River Corridor Closure Project - ARRA



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

Apportionment Number	Apportionment Title		September 2010	Inception To Date	Cost Authority
RL-0041.R1.2	ERDF Cell Expansion	PMB	9,645	74,603	139,072
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	3,673	28,259	38,907
Sub Total		PMB	13,318	102,862	177,979
Fee			1,137	10,633	
Total			14,455	113,495	

* PMB = Performance Measurement Baseline.



ERDF

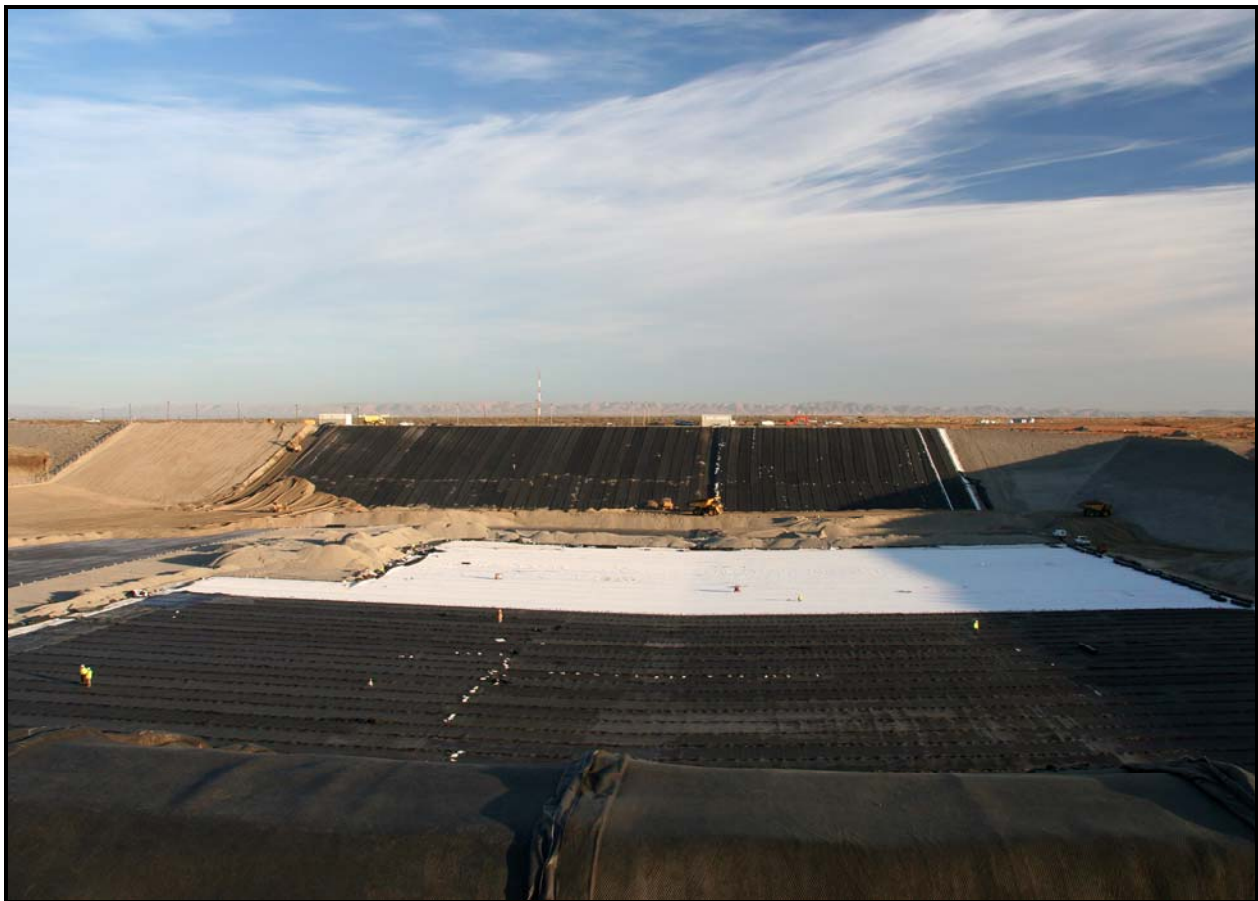
Super Cells 9 and 10 Construction

WCH continues to make significant progress with the construction of the liner and leachate collection systems for super cells 9 and 10.

The liner system consists of a 3-foot layer of admix, two layers of high-density polyethylene (HDPE), a 1-foot layer of gravel with a 12-inch perforated leachate collection pipe, a geocomposite layer, and two geotextile layers. Admix is a 3-foot low-permeability compacted soil layer of the liner system that is manufactured by mixing excavated soil with bentonite.

In super cell 9, the project team installed the primary riser pipes from the sump to the crest pad building and continues to place the operations layer (3 feet of soil). About 60% of the operations layer is complete. In super cell 10, the project team continues to install the geocomposite layer (about 95% complete) and the primary liner (about 65% complete).

Work also continues to install the electrical and mechanical in the crest pad buildings for super cells 9 and 10.



A view from the south side of super cell 10 at the Environmental Restoration Disposal Facility. (Photo 1)

ERDF (Continued)



The secondary riser pipes from the sump to the crest pad building were installed in super cell 9 at the Environmental Restoration Disposal Facility. (Photo 2)

Progress also continues on ERDF's two new leachate holding tanks. Tank Nos. 3 and 4 will replace the facility's two original holding tanks – Nos. 1 and 2. The project team began erecting the sidewalls of No. 3 and backfilled around the recently poured foundation of tank No. 4.

ERDF (Continued)

Removal of tank No. 1 was completed in September, and tank No. 2 will be removed when the two 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.



The project team completed backfill work around the foundation of leachate holding tank No. 4 at the Environmental Restoration Disposal Facility. Tank No. 2 (background) will be removed early next year. (Photo 3)

Facility and Equipment Upgrades

WCH subcontractor ELRFowler continues to make progress with the construction of ERDF's new waste container maintenance facility. Fowler is working on the underslab, installing electrical and plumbing. The container maintenance facility will include a large container repair line, a maintenance shop, and a weld area.

ELRFowler also poured the foundation of the heavy equipment facility and the adjoining operations center. The new equipment maintenance facility will include two service lines, an operational storage facility, a large concrete pad, and an exterior awning over a smaller

ERDF (Continued)

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

Pacific Northwest National Laboratory (PNNL) continues work on a new waste container tracking system for ERDF. The system will accurately track waste shipments and equipment, and generate real-time reports. PNNL has begun electrical and reader software development.

WCH issued a notice to proceed to DelHur Industries to purchase a new batch plant for ERDF. 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.

WCH received Washington State Department of Health approval of the design of ERDF’s new septic system. The septic system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington. Vendors are developing bids.

Mission Support Alliance subcontractor Fowler General Construction continues repair work on three Hanford Site roads used to transport waste material for disposal at ERDF. Route 1 is open, and shoulder work continues on Routes 2 and 4.

WCH approved Vista Engineering’s preliminary design of weather enclosures for crest pad buildings 1 and 2. Vista Engineering is a local company and subcontractor of DelHur. Final design is due October 25.

Upcoming Activities

- Continue construction of the liner and leachate collection systems for super cells 9 and 10.
- Continue construction of leachate holding tanks Nos. 3 and 4.
- Continue construction of container maintenance facility.
- Continue construction of equipment/operations center.

Video

[Click here to view a video on record-setting waste disposal at ERDF.](#)



618-10 Burial Ground

618-10 Intrusive and Non-Intrusive Characterization

WCH awarded two subcontracts totaling nearly \$2.1 million for lease of heavy equipment for the 618-10 Burial Ground trench remediation project.

CWR Enterprises of Rathdrum, Idaho, partnered with Rowand Machinery of Spokane, Washington, for a \$1,378,000 subcontract. Acquisition Business Consultants of Richland, Washington, partnered with Peters & Keatts of Lewiston, Idaho, for a \$718,000 subcontract. Both companies meet small business procurement requirements and are designated as historically underutilized businesses, or HUB zone businesses.

WCH subcontractor White Shield/Apollo continues earthwork construction of site upgrades at the 618-10 Burial Ground. Constructing sites for the trailer complex and the waste container transfer area is in progress.



Washington Closure subcontractor White Shield/Apollo continues work on the new trailer complex site at the 618-10 Burial Ground. (Photo 4)

618-10 Burial Ground (Continued)



White Shield/Apollo began infrastructure work at the 618-10 Burial Ground last month and is scheduled to complete the project by February 2011. (Photo 5)

In early July, WCH awarded White Shield/Apollo a subcontract worth nearly \$3.7 million to install water, electricity, roads, office trailers, and a waste container transfer area for remediation at the burial ground. White Shield/Apollo is a small, disadvantaged joint venture between White Shield Inc. of Pasco, Washington, and Apollo Inc. of Kennewick, Washington. White Shield/Apollo is scheduled to complete infrastructure work by February 2011.

Intrusive characterization field operations were completed in early September. Cross-trenching involved digging test pits 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 are believed to contain depleted uranium and uranium oxide. In addition, “concreted” 55-gallon drums, which could possibly contain 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

618-10 Burial Ground (Continued)

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.

Before being removed from the trench, the drums were observed for any reactions, and radiological surveys were conducted with instrumentation mounted on the excavator. The temperature of the drums also is checked using an infrared thermometer. Once the exposed drums were cleared, they were removed from the excavation face, placed in salvage containers (85-gallon drums), and moved to a drum inspection area.

All exhumed drums pass through a characterization process. Radiological surveys are performed on the drums with a gamma spectrometer and a neutron detector before being moved to a storage area on site.

Solid waste will be disposed at ERDF. Drums containing oil and depleted uranium chips will likely be shipped to an offsite treatment facility where the oil, which may contain heavy metals and PCBs, will be drained and incinerated. The shavings will be stabilized and sent to ERDF for disposal.

WCH, along with DOE and Hanford Site regulators, will use the information obtained during intrusive characterization to help determine the safest and most efficient way to clean up the burial ground including how to safely dispose of the high-dose-rate waste in the concreted drums. Full-scale remediation of the 618-10 Burial Ground trenches is scheduled to start in spring 2011.

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 of cardboard boxes of low-level waste and miscellaneous laboratory debris including bottles, boxes, filters, aluminum cuttings, spent fuel fragments in small juice cans, radiologically contaminated equipment and laboratory instruments, and high-level liquid waste sealed in drums.

Work also continues in developing the non-intrusive characterization report. The scope of activities carried out as part of non-intrusive 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. Data collected during non-intrusive characterization activities will be used to evaluate safe and effective strategies for remediation.



618-10 Burial Ground (Continued)

A technology review workshop was hosted by WCH and attended by DOE and EPA last month. During the workshop, a five-person decision support board reviewed six candidate technologies for remediation of the VPUs at the 618-10 Burial Ground and recommended three for further development and demonstration.

Upcoming Activities

- Continue procurement process for various subcontracts.
- Continue with construction of site upgrades.
- Continue development of non-intrusive characterization report.



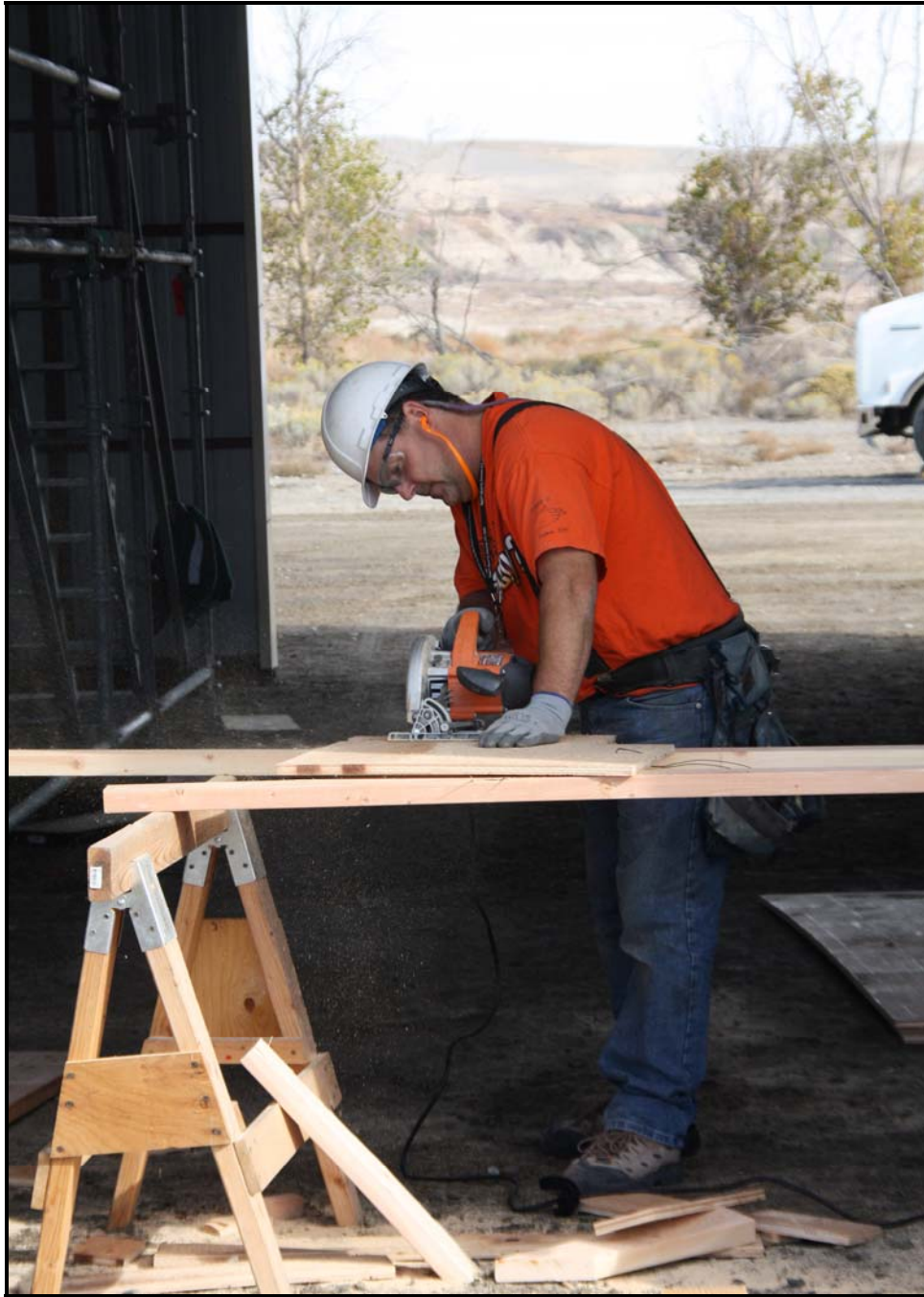
100-F Area

WCH and subcontractor Ojeda Business Ventures continued remediation activities at 18 waste sites in 100-F Area. The project team completed pothole sampling activities in support of waste profile development, continued excavation and loadout at 100-F-48, and began overburden removal at 100-F-26:24. The subcontractor survey structure and scaffolding also was completed.



Washington Closure Hanford subcontractor Ojeda Business Ventures conducts potholing activities at 100-F-55. (Photo 6)

100-F Area (Continued)



*Construction of the subcontractor survey structure was completed at 100-F Area.
(Photo 7)*

In June, WCH awarded Ojeda a subcontract worth \$3.8 million to remediate the 18 waste sites. Ojeda is a small disadvantaged business based in Richland, Washington, that specializes in

100-F Area (Continued)

construction, renovation, and construction management of federal government projects. Remediation of the wastes sites is scheduled to be completed by spring 2011.

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, 18 additional waste sites were discovered. The 18 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).

Upcoming Activities

- Complete overburden removal at 100-F-26:4.
- Continue excavation and loadout at 100-F-48.
- Receive occupancy permit for subcontractor survey structure and scaffolding.
- Continue stripping overburden from waste stockpile areas.



IU 2 & 6 Segment 1

Remaining work instructions for waste site-specific verification closeout sample plans have been reviewed and approved by the U.S. Department of Energy, Richland Operations Office (RL) and the U.S. Environmental Protection Agency. Verification closeout samples for sites 600-341 and 600-344 have been collected for laboratory analysis.

Additional remediation of the southeast quadrant of waste site 600-345 was performed in early August in order to remove the remaining TPH contaminated soil. Closeout samples were 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 northwestern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. Segment 1 sites were unique because they were primarily used for housing and support areas.



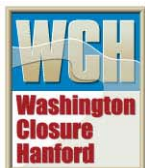
Confirmatory Sampling

The confirmatory sampling campaign is scheduled to continue over the next three months and will be performed in the 100-D, 100-K, and 100-IU Areas of the Hanford Site.

More than 30% of the ARRA confirmatory sampling campaign is complete. Sampling at 100-F was completed in mid-September. WCH is preparing to perform sampling at IU 2 & 6 later this month.

Sample results from 100-D sampling campaign are being evaluated to determine whether the sites will require remediation under the existing interim record of decision. Sites where the sample results show contamination below the clean-up standards are being recommended for closeout with no further action.

Sampling is being 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 based in Irving, Texas, with an office in Richland, Washington. It provides environmental remediation and compliance, radiological waste management, engineering design, and construction management.



General

Mentoring/Training

No significant mentoring/training events this week.

Media, Visits, Press Releases

No significant media events this week.

Contracting Actions

No significant contracting actions this week.

