



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending February 11, 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

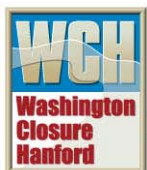
WCH is employing ARRA funds to clean up many failed waste sites not originally part of its contract. Sites in the 100-F and IU 2&6 segments 1&2 are proposed for waste site remediation in the two year period starting in October 2009.

E. Confirmatory Sampling of other new sites

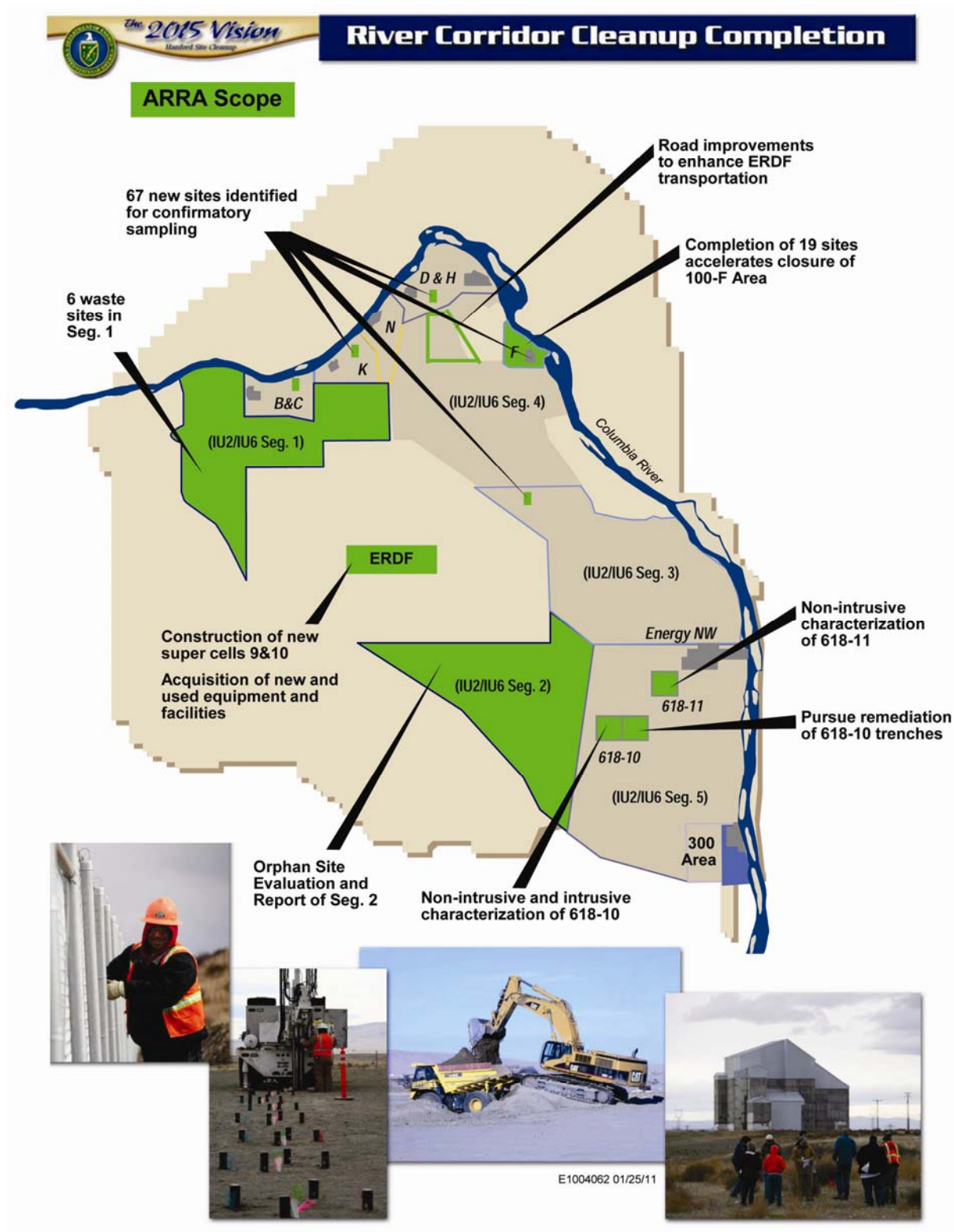
WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

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 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's "Safety Awareness" is used to share safety information with all WCH employees. Last week's edition was titled "Safety Doesn't Happen by Accident," and highlights effective housekeeping.

Employees are asked to take a few minutes and look around the work area. They should focus on the overall housekeeping of their space and mitigate the hazards using a graded approach:

Engineer the hazard out if possible

- Example – if oily rags are laying in a tool shed on the work bench dispose of them properly.

Control the hazard administratively

- Example – If a hammer is being used on an excavator put up 100-foot boundaries and the appropriate signage.

Personal Protective Equipment (PPE)

- Example – overhead hazards that can't be eliminated exist on WCH worksites so hardhats are required.

Employees should ask themselves, "What are some of the ways we have mitigated site hazards using engineering, administrative, and PPE controls?"

Effective housekeeping can eliminate some workplace hazards and help get a job done safely and properly. Poor housekeeping can frequently contribute to accidents by hiding hazards that cause injuries. If the sight of paper, debris, clutter, and spills is accepted as normal, then other more serious health and safety hazards may be taken for granted.

Housekeeping is not just cleanliness, it includes keeping work areas neat and orderly, free of slipping and tripping hazards, and removing waste materials from work areas. It also requires paying attention to important details such as the layout of the whole workplace, the adequacy of storage facilities, and maintenance. Good housekeeping is also a basic part of accident and fire prevention.

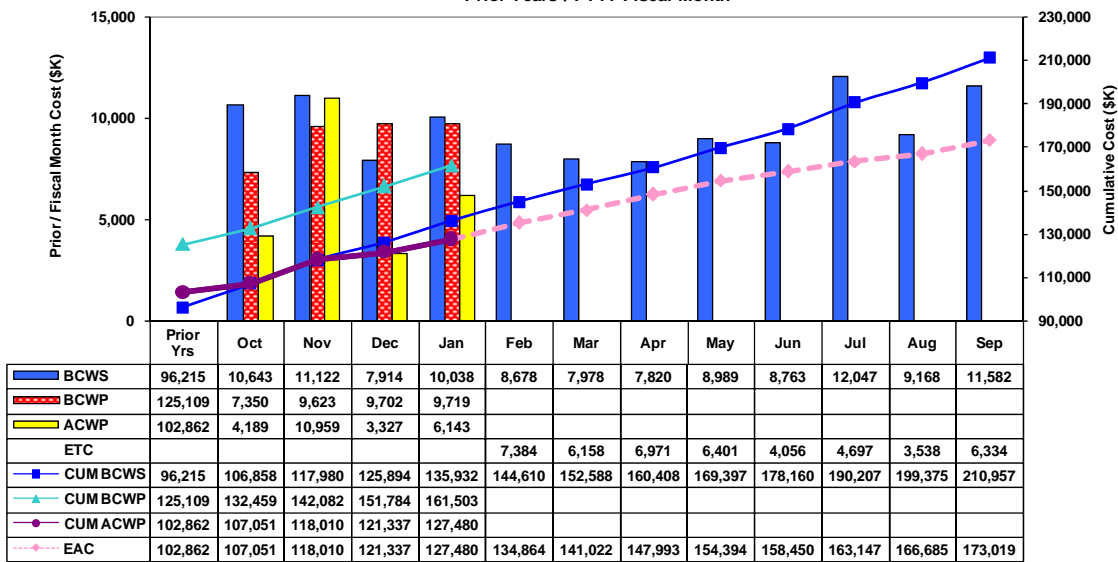
Effective housekeeping is an ongoing operation, it is not a hit-and-miss cleanup done occasionally. Periodic "panic" cleanups are costly and ineffective in reducing accidents.



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

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	PMB	3,340	90,607	156,847
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	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

The U.S. Department of Energy (DOE) Richland Operations Office (RL) approved the *Final Report Construction Quality Assurance (CQA) Environmental Restoration Disposal Facility Super Cell 9* to introduce waste into the super cell. The U.S. Environmental Protection Agency (EPA) approved the report in late January. WCH also completed a Project Start-Up Review to ensure operational readiness. Super cell 9 is scheduled to begin receiving waste next week.

Earlier this month, WCH subcontractor TradeWind Services conducted final acceptance testing for super cell 10 with RL and EPA. Super cell 10 is scheduled to begin accepting waste in March. TradeWind also conducted final acceptance testing for Leachate Storage Tank (LST) No. 3. The majority of testing was completed, but the project team encountered a minor valve problem. Parts are on order, and testing will be completed by March.

TradeWind also began constructing the dome cover for LST No. 4 at ERDF. When construction of the dome cover for LST4 is complete and has been set on the tank, construction of the dome cover for LST3 will begin.

Facility and Equipment Upgrades

WCH subcontractor ELRFowler continues to make progress with construction of the new maintenance facilities. The project team began placing the concrete floor and installing siding at the equipment maintenance facility/operations center. At the container maintenance facility, the project team completed electrical and plumbing rough-in, began installing fire sprinklers and HVAC ducting, and continued to construct the interior walls.

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.

ELRFowler also is constructing an upgraded transportation truck maintenance facility. The 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.

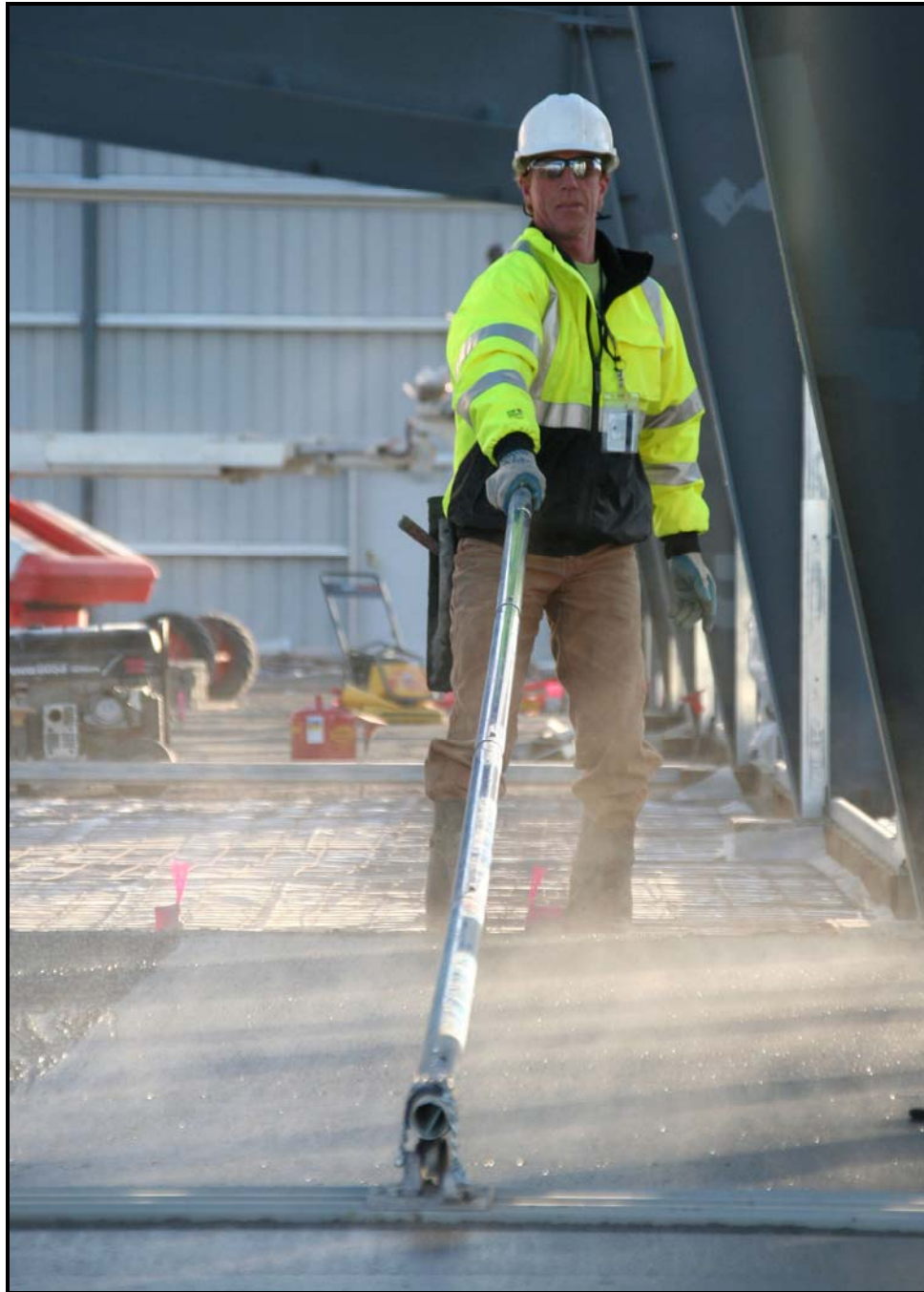


ERDF (Continued)



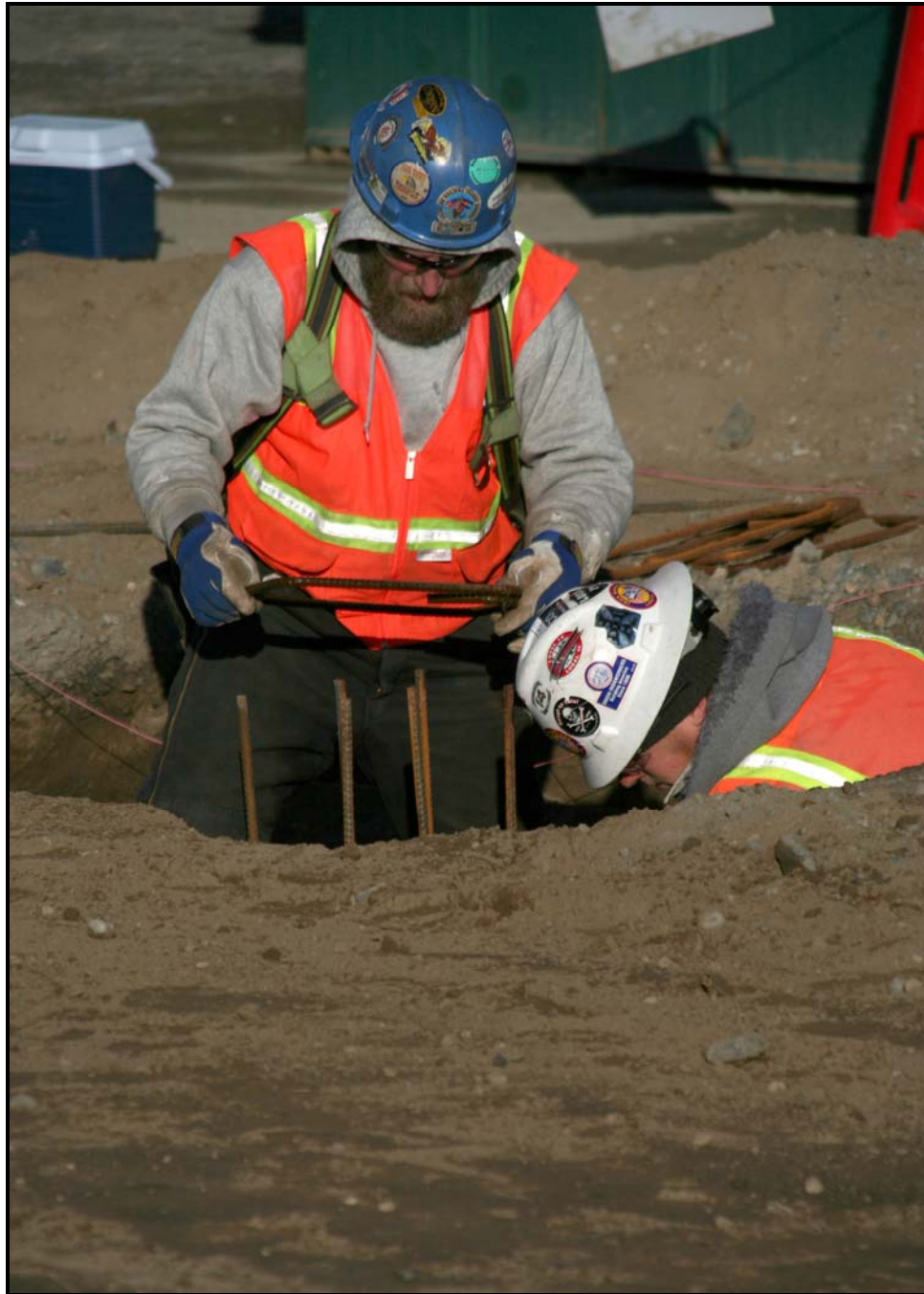
Washington Closure Hanford subcontractor ELRFowler began pouring concrete at ERDF's equipment maintenance facility/operations center. The project team also began installing the siding on the east side of the building. (Photo 1)

ERDF (Continued)



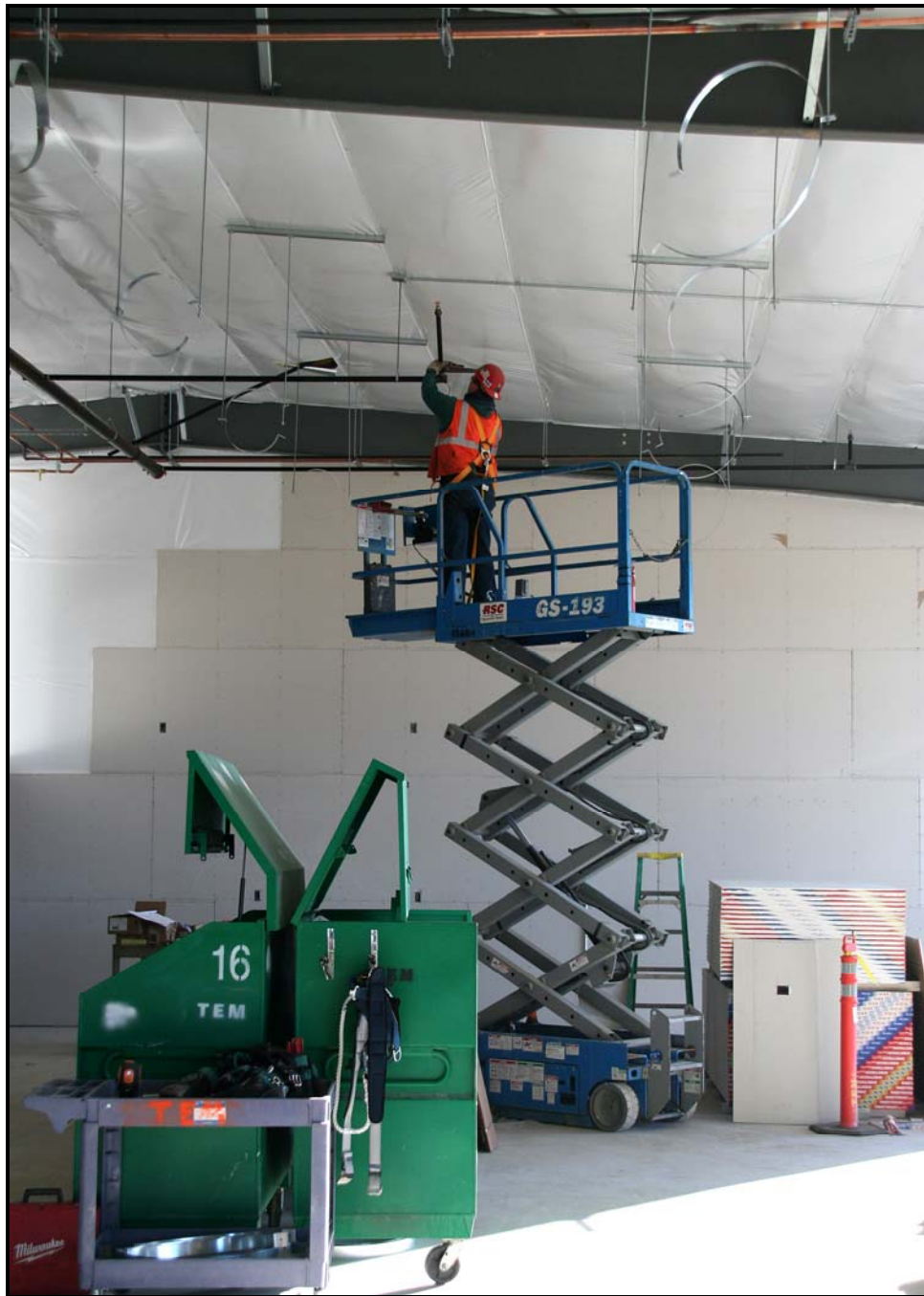
An ELRFowler employee smooths recently poured concrete at ERDF's equipment maintenance facility/operations center. (Photo 2)

ERDF (Continued)



ELRFowler employees construct forms in preparation for pouring footers at ERDF's transportation maintenance facility. (Photo 3)

ERDF (Continued)



An ELRFowler employee installs fire sprinklers at ERDF's container maintenance facility. (Photo 4)

ERDF (Continued)

Pacific Northwest National Laboratory (PNNL) completed software development of a new waste container tracking system for ERDF. PNNL is 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.

ELRFowler is installing the pumps and valves for ERDF's new septic system. The system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

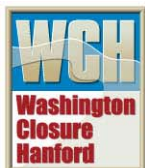
The weather enclosures for crest pad buildings 1 and 2 have been ordered and are expected to arrive on site this month. Excavation for the building foundations is under way. The enclosures were designed by Vista Engineering, a local company.

Upcoming Activities

- Begin placing waste in super cell 9.
- Continue construction of the container maintenance facility.
- Continue construction of the equipment maintenance facility/operations center.
- Continue construction of the transportation maintenance facility.

Video

[*Click here to view the video of concrete being placed at ERDF's equipment maintenance facility/operations center.*](#)



618-10 Burial Ground

Trench Remediation Project

WCH awarded subcontracts worth \$8 million to three small businesses to provide labor and equipment for cleanup of the 618-10 Burial Ground.

Two subcontracts totaling nearly \$2.1 million were awarded for lease of heavy equipment. CWR Enterprises of Rathdrum, Idaho, partnered with Rowand Machinery of Pasco, Washington, for a \$1,378,000 subcontract to provide construction heavy equipment.

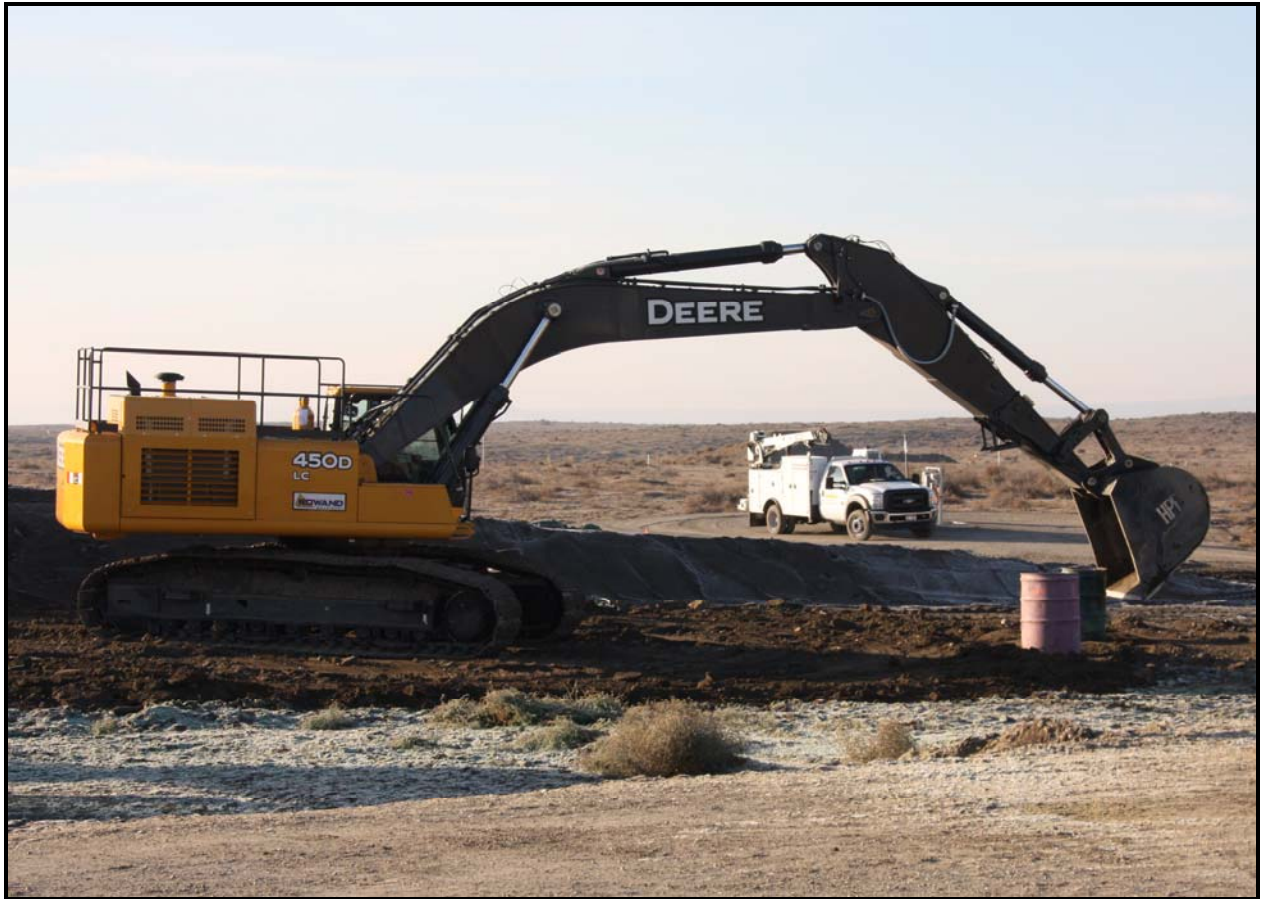
Also providing construction heavy equipment under a \$718,000 subcontract is Acquisition Business Consultants of Richland, Washington, which partnered with Peters & Keatts of Lewiston, Idaho. Phoenix Enterprises NW of Richland was awarded a subcontract worth nearly \$6 million to provide craft and other non-manual labor.

The 618-10 Burial Ground is the most hazardous site yet to be encountered and is expected to contain significant unknowns. As a result, WCH elected to self-perform the direct management of the cleanup effort using subcontracted labor and equipment.

Meanwhile, WCH subcontractor White Shield/Apollo is close to completing the installation of utilities for trench remediation activities. The project team continues to install the electrical system and building site roads in preparation for full-scale remediation to begin in March. Full-scale mock-up training for personnel also is under way.



618-10 Burial Ground (Continued)



Full-scale mock-up training began at the 618-10 Burial Ground. Remediation of the burial ground trenches is scheduled to start in March. (Photo 5)

618-10 Burial Ground (Continued)



An excavator and telehandler perform mock-up exercises at the 618-10 Burial Ground. (Photo 6)

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, which contained 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 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.

618-10 Burial Ground (Continued)

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.

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.

Upcoming Activities

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



618-11 Burial Ground

Nonintrusive Characterization Project

WCH is preparing 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.

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 later this month. 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 6 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.

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.



618-11 Burial Ground (Continued)



In this July 1998 photo, the green rectangle is the 618-11 Burial Ground. The site is adjacent to the Columbia Generating Station, a commercial nuclear plant. (Photo 7)

618-11 Burial Ground (Continued)



This August 1964 photo shows an open trench at the 618-11 Burial Ground. Caissons are visible in the lower right corner and right side of the photo. (Photo 8)

618-11 Burial Ground (Continued)



This photo from April 1967 shows delivery of waste to the 618-11 Burial Ground. One worker opens the cask that opens the cask cover allowing the waste to drop into a caisson. The other worker checks radiation levels. A water spray keeps dust particles from dispersing into the environment. (Photo 9)

100-F Area

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

Ojeda continued a test pit campaign at 100-F-57, where stained concrete and soil containing hexavalent chromium was discovered. The test pit campaign involves digging 10 potholes. Excavation and loadout of asbestos waste from 100-F-57 continued.

The project team also continued to remove pipes and drain liquids at 100-F-26:7 (sodium dichromate and sodium silicate pipelines) and stockpile waste at 100-F-49 (old maintenance garage lube pit foundation, pipelines, and drywells). Excavation and loadout from 100-F-61 (stained soil) also is under way.



A Washington Closure Hanford subcontractor takes samples at 100-F-57, where stained concrete and soil containing hexavalent chromium was found. (Photo 10)

100-F Area (Continued)



Washington Closure Hanford subcontractor Ojeda Business Ventures loads out old pipe cradle rubble from 100-F-57. (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.
- Complete test pit campaign at 100-F-57.
- Complete draining liquids from pipes at 100-F-26:7.
- Continue pipe removal at 100-F-26:7.
- Continue excavation and stockpiling at 100-F-61.
- Pump waste oil from tanks at 100-F-49.
- Continue excavation and loadout at 100-F-49.
- Collect grab 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 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

No significant media events this week.

Contracting Actions

No significant contracting actions this week.

