



*River Corridor Closure Project*

# **Recovery Act Weekly Report**

For the week ending July 4, 2010

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 66 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.

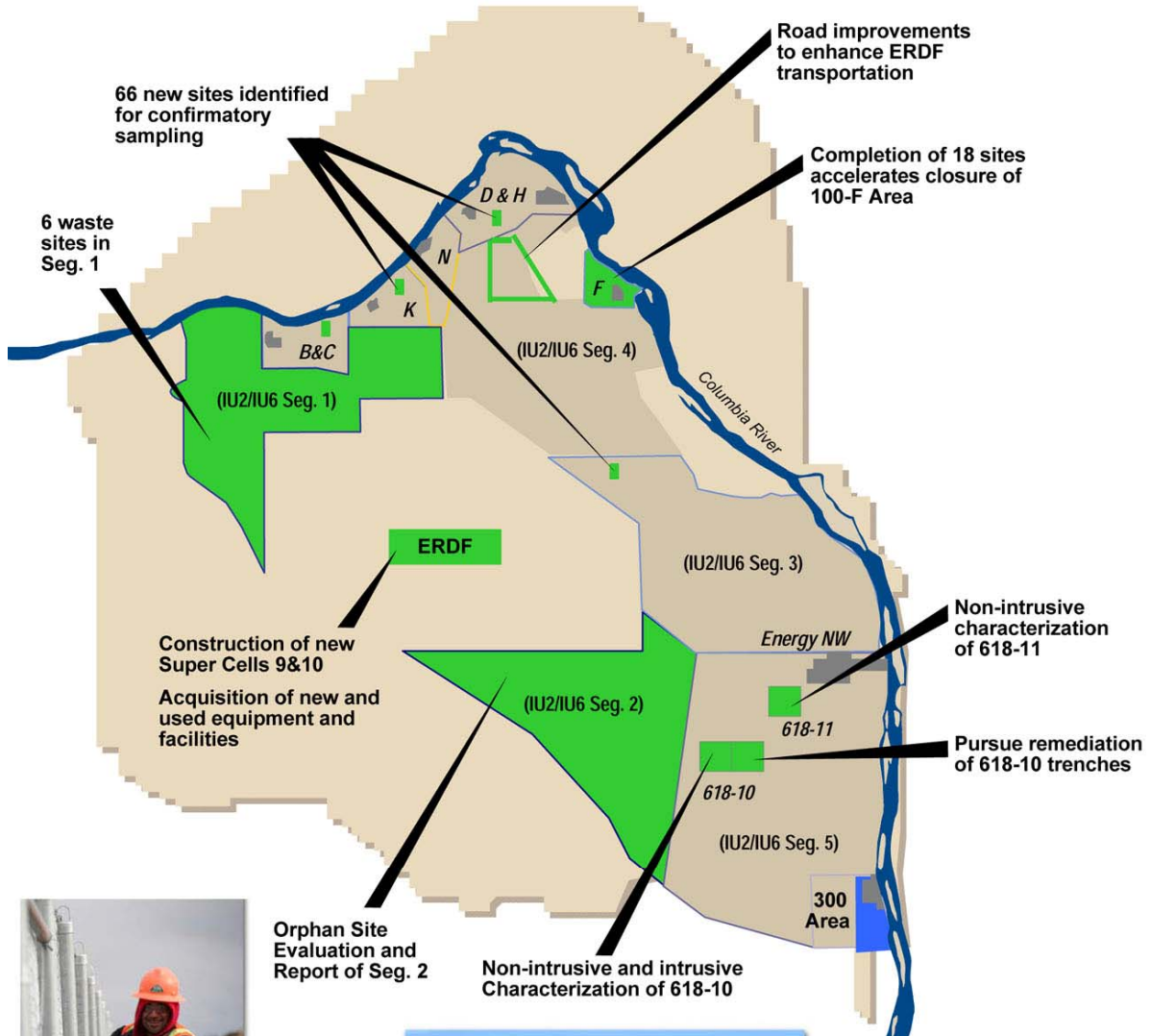


# Overview (Continued)



## River Corridor Cleanup Completion

### ARRA Scope



E1004062 06/15/10



# Safety

## Safety Accomplishments

As of May 23, 2010, WCH and its subcontractors have worked 207,291 hours of ARRA scope with no safety incidents.

## Hazard Reductions

WCH's Safety, Health and Quality Director issued a safety alert regarding "Management Expectations for Energized Power Lines and Equipment." The message read as follows:

Prior to operating equipment near overhead energized electrical power lines, management will ensure that the electrical program requirements for working near overhead energized electrical lines are implemented and communicated to affected employees. Supervisors will implement/coordinate the applicable requirements in PAS-1-2.4, "Operation of Equipment Near Overhead Energized Electrical Power Lines." During the work planning process, the supervisor shall identify any work to be done near overhead energized electrical power lines. Operators of equipment and/or workers assigned to work near overhead energized electrical power lines will be briefed on the electrical hazards and clearance requirements prior to start of work. Should contact be made with an energized electrical line, employees should exercise the following caution:

- Do not touch the equipment or any persons in contact with the suspected energized equipment.
- Always assume that electrical lines are energized. Even if it appears to be deenergized, use caution and act as though it was energized.
- If safe to do so, de-energize the power source (fuse box, circuit breaker, etc.).
- Do not approach within 30 feet of the energized line or equipment and make efforts to prevent others from approaching.
- If you are in a vehicle near an energized electrical line, stay in the vehicle.
- If you must exit the vehicle (due to a greater hazard/risk impact), keep both feet together and shuffle away from the vehicle. DO NOT take big steps or lift either foot off the ground. Rational: as voltage enters the ground, it spreads out and dissipates. Very high voltages can be lethal to a person several feet from its entry point.

Follow up actions include:

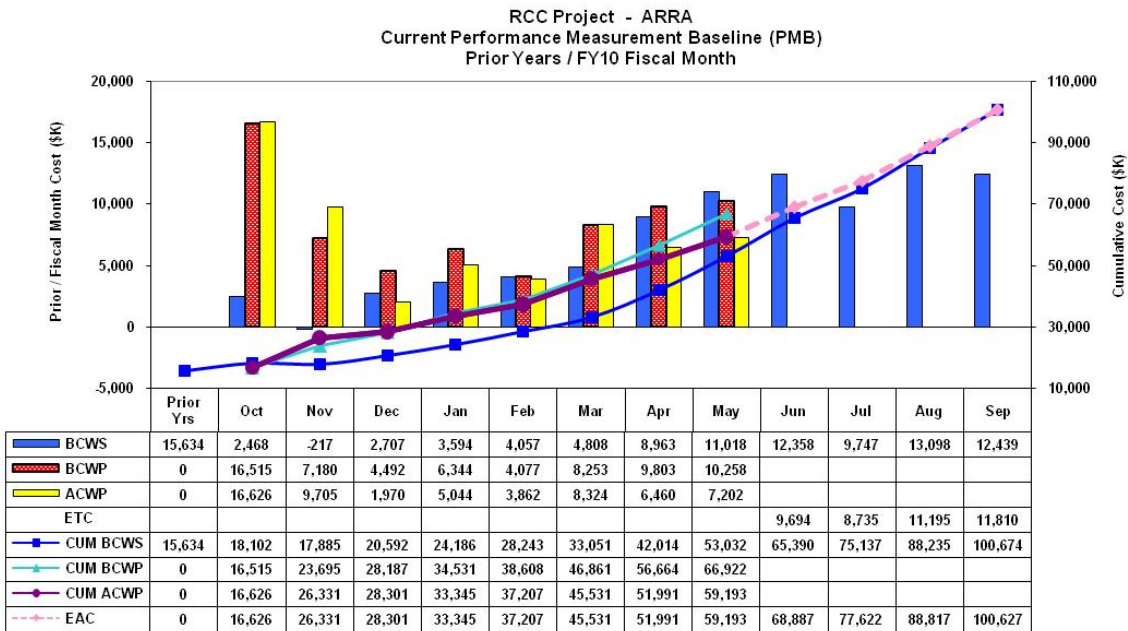
- Contact the operator of the piece of equipment via radio, cell phone, or hand signals to confirm contact and status of employee.
- If necessary, contact assistance (509-373-0911) to summon emergency response personnel.
- If it is safe to do so and you are trained and comfortable, render first aid to any injured employee.
- Notify your project safety representative and supervision immediately of the event.





# 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



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

Apportionment Number	Apportionment Title		May 2010	Inception To Date	Cost Authority
RL-0041.R1.2	ERDF Cell Expansion	PMB	5,104	42,217	139,072
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	2,098	16,976	38,907
<b>Sub Total</b>		<b>PMB</b>	<b>7,202</b>	<b>59,193</b>	<b>177,979</b>
<b>Fee</b>			<b>3,207</b>	<b>5,865</b>	
<b>Total</b>			<b>10,409</b>	<b>65,058</b>	

\* PMB is the Performance Measurement Baseline.



## ERDF

### Super Cells 9 and 10 Construction

WCH subcontractor TradeWind Services and its subcontractor, DelHur Industries, continue to install the liner and leachate collection system for super cell 9. The system collects and removes liquid, or leachate, as it drains through the waste materials.

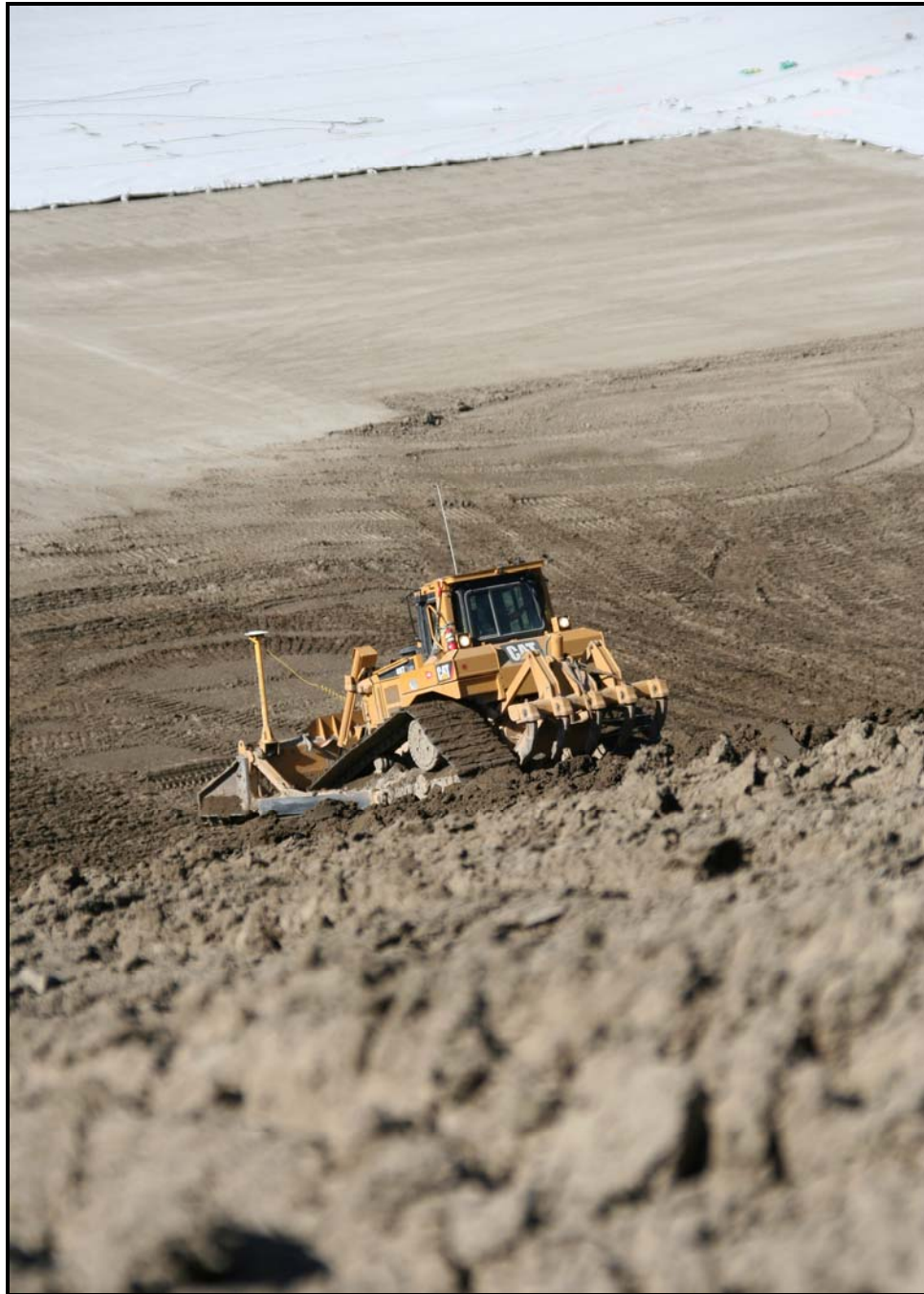
The liner consists of a low-permeability compacted soil layer, two layers of high-density polyethylene (HDPE), a 1-foot layer of gravel with a 12-inch perforated drainage pipe, a geocomposite layer, and two geotextile layers. A 3-foot protective soil layer covers the liner system.

TradeWind/DelHur has placed about 95% of the low-permeability compacted soil layer, which is called admix. Admix is manufactured by mixing excavated soil with imported bentonite in an onsite pugmill. The project team also has installed about 75% of the secondary HDPE layer and is in the early stages of installing the primary HDPE liner. Roughly 35% of the geocomposite layer has been installed.



*TradeWind Services/DelHur Industries personnel continue to install high-density polyethylene liner in super cell 9 at the Environmental Restoration Disposal Facility.*

## ERDF (Continued)



*TradeWind Services/DelHur Industries personnel place admix on the north slope of super cell 9 at the Environmental Restoration Disposal Facility.*



## ERDF (Continued)

The onsite screening plant also is operational. The screening plant is used to prepare the material for the gravel drainage layer. About 20,000 cubic yards of gravel will be manufactured for super cell 9.



*The screening plant is up and running at the Environmental Restoration Disposal Facility. The plant is used to prepare gravel to be used in the liner and leachate collection systems in super cells 9 and 10.*



## ERDF (Continued)



*The liner and leachate collection systems for super cells 9 and 10 at the Environmental Restoration Disposal Facility will require 40,000 cubic yards of gravel.*

## ERDF (Continued)

The project team continues with construction of the new leachate holding tank that will accommodate the leachate from super cells 9 and 10. The new holding tank will measure 100 feet in diameter and have a capacity of 425,000 gallons. Each of ERDF's two existing holding tanks measures 80 feet in diameter with a capacity of 275,000 gallons. Work also continues on the leachate transmission pipe from super cells 9 and 10 to the new leachate holding tank. Five of the six sections of pipe have been installed.

### Facility and Equipment Upgrades

ELRFowler, a joint venture between local companies ELR Consulting and Fowler General Construction, continues work on the design of ERDF's new maintenance facilities and operations center. The 90% design is due in mid-July. The upgraded transportation truck 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 new container maintenance facility will include a large container repair line, a maintenance shop, a weld area, a lunch area, and an exterior awning over a concrete pad. 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 concrete pad.

WCH is preparing to issue a work order to Pacific Northwest National Laboratory (PNNL) for the new waste container tracking system PNNL designed for ERDF. PNNL is expected to start work on the project in mid-July. The system will accurately track waste shipments and equipment, and generate real-time reports. PNNL conducted a proof-of-concept demonstration of its system in April. As part of the demonstration, Radio Frequency Identification and global positioning system tags were attached to waste containers to show how accurately the system tracks waste shipments and container locations, as well as generates maintenance reports.

WCH has provided comments to Columbia Engineers and Constructors on its final design of ERDF's new septic system. Columbia Engineers and Constructors is a small business based in Richland, Washington.

WCH received a new Cat 770 off-highway truck from Indian Eyes, a local small business. The Cat 770 can transport up to 40 tons of soil used in daily operations. Last week, WCH awarded a subcontract to Powers Equipment Company for two Genie articulating boom man lifts. The man lifts will be used for elevated work such as installing rigging, washing out hazardous waste containers, applying fixatives, and adjusting lights. They are scheduled to be delivered in mid-July.



## ERDF (Continued)



*Washington Closure Hanford's new Cat 770 off-highway truck will be used to move soil for daily operations at the Environmental Restoration Disposal Facility.*

Hanford Site contractor Mission Support Alliance (MSA) is preparing to conduct repair work on three Hanford Site roads. Design work has been completed for Routes 1, 2, and 4; these routes are used to transport waste material for disposal at ERDF. A request for bids has been issued for construction work on Route 1.

WCH subcontractor George A. Grant began construction of a new lighting system at ERDF's transportation yard. The transportation yard is used for truck-and-trailer combinations and other equipment. The truck-and-trailer combinations are used to transport non-regulated soil for disposal at ERDF.



## ERDF (Continued)



*Washington Closure Hanford subcontractor George A. Grant began installing lighting at the Environmental Restoration Disposal Facility's transportation yard. The transportation yard is used for truck-and-trailer combinations (above) and other equipment.*

WCH awarded a subcontract to Peters and Keatts Equipment Inc. for two concrete mixer trucks in support of a new batch plant. The batch plant will manufacture concrete used to mix with debris, ensuring no void space during disposal operations. Peters and Keatts is based in Lewiston, Idaho. The mixer trucks are scheduled to be delivered by late July.

Construction of an onsite fueling station, designed by Sage Tech and WHPacific, is scheduled to begin mid- to late summer. Currently, disposal equipment is fueled by a subcontractor that makes daily deliveries, and transportation uses the 200 East fuel station. Sage Tech is based in Richland, Washington. WHPacific is an Alaska-based company with an office in Richland, Washington. It specializes in all facets of building engineering, land development, water resources, survey, architecture, and transportation.

WCH awarded a subcontract to Sage Tech and WHPacific to develop a design basis for a new batch plant. The batch plant will manufacture concrete used to mix with debris, ensuring no void space during disposal operations.

## ERDF (Continued)

Bids for a new pump truck are being evaluated. A change notice has been issued to TradeWind Services for the construction of weather enclosures for the crest pad buildings associated with cells 1 and 2.

### Upcoming Activities

- Continue to manufacture admix and place in super cell 9.
- Continue construction of the liner and leachate collection system for super cell 9.
- Continue work on the crest pad buildings for super cells 9 and 10.
- Issue work order to PNNL for new container tracking system.

### Video

[\*Progress continues with the expansion of the Environmental Restoration Disposal Facility.\*](#)



## 618-10 Burial Ground

### **618-10 Non-Intrusive Characterization/Trench Remediation Project**

WCH has awarded a subcontract worth nearly \$3.7 million to install infrastructure – water, electricity, roads, office trailers, and waste container transfer areas – at the 618-10 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 will begin work at the burial ground this fall and is scheduled to complete infrastructure work by February 2011.

WCH continues to prepare for intrusive characterization at the burial ground. Field operations are scheduled to begin later this month. They will involve digging test pits in several disposal trenches to verify the condition and types of waste that were disposed. The trenches were selected based on previous geophysical studies and readings from non-intrusive characterization activities.

The project team continues mock-ups for intrusive characterization, using the techniques, instrumentation, and procedure steps required in the work packages. The development of procurement packages for trench remediation labor and equipment also continues, as does work to prepare for the flaring of a propane tank discovered outside the site fence in late March.

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.

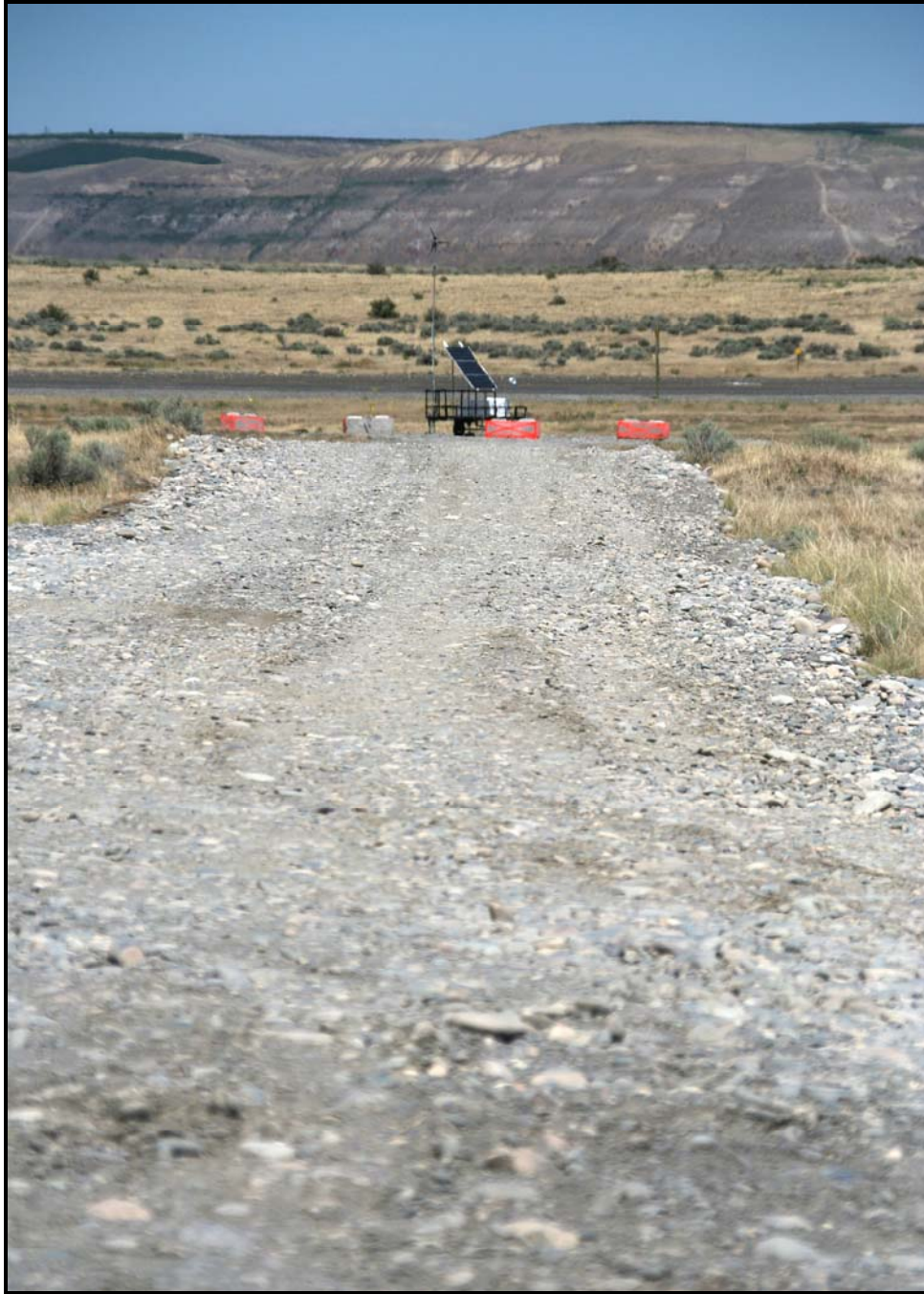
A non-intrusive characterization report is being developed and is scheduled to be issued in mid-August. Non-intrusive characterization field activities were completed May 20. The scope of activities carried out as part of non-intrusive characterization included geophysical delineation, in situ characterization 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. The data collected during non-intrusive characterization activities are being used to develop and evaluate safe and effective strategies for intrusive characterization and remediation.





## 618-10 Burial Ground (Continued)



*The project team at the 618-10 Burial Ground constructed a gravel road that leads to an event air monitor. Preparations continue for intrusive characterization, which is scheduled to begin later this month.*

## 618-10 Burial Ground (Continued)

### Upcoming Activities

- Continue work on procurement packages for trench remediation labor and equipment.
- Complete mock-ups with full-dress personal protection equipment for intrusive characterization.
- Continue development of non-intrusive characterization report.

## 100-F Area

WCH continues to prepare for cleanup work at 100-F Area. Last month, WCH awarded a subcontract worth \$3.8 million to Ojeda Business Ventures to remediate 18 waste sites, which are contaminated with radioactive and hazardous materials.

Ojeda is a small disadvantaged business based in Richland, Washington, that specializes in construction, renovation, and construction management of federal government projects. Ojeda is scheduled to mobilize later this month and begin remediation in August.

WCH completed mobilization of its office trailers. A pre-construction meeting has been scheduled for next week. The meeting agenda includes an overview of roles and responsibilities, and briefings by subject matter experts (e.g., safety and health, security, environmental issues, radiological control, construction).

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 the remediation of 53 waste sites at F Area in 2008. 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)



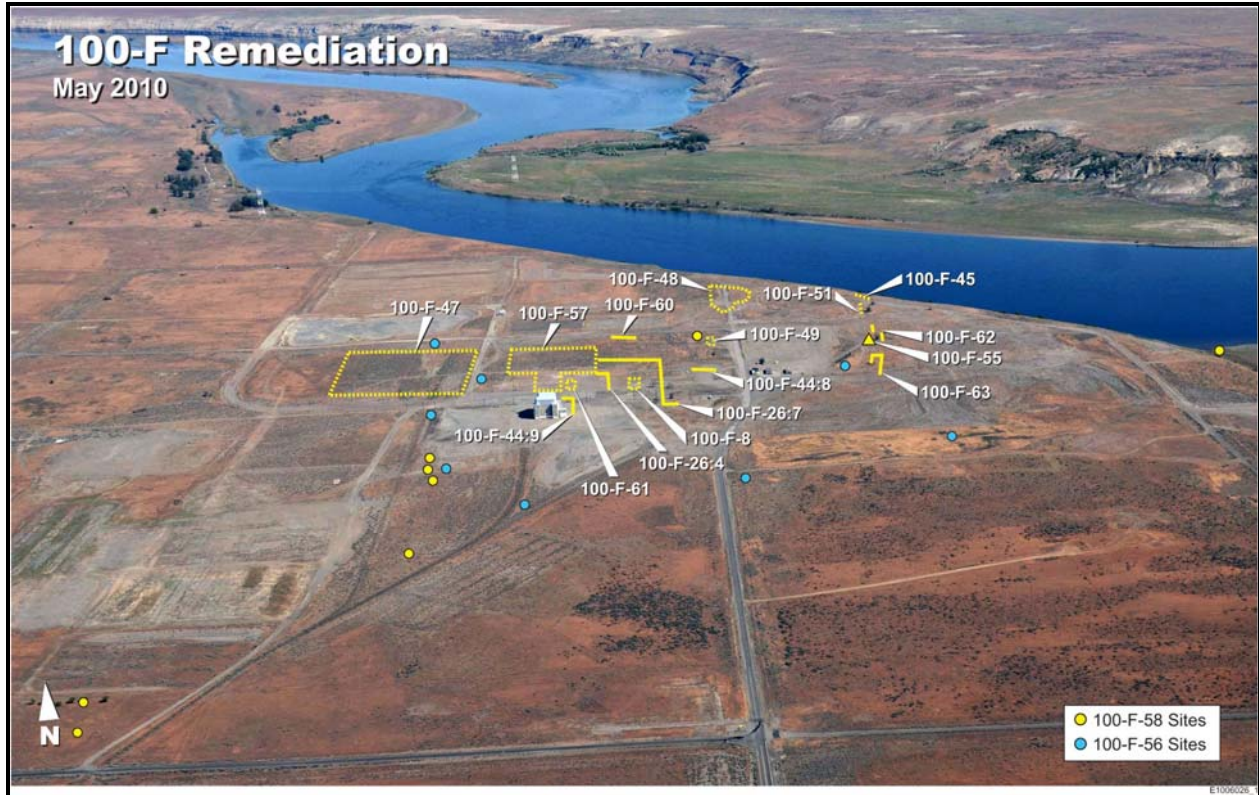


## 100-F Area (Continued)

- 100-F-62 (animal farm septic lines)
- 100-F-63 (animal farm radioactive effluent lines).

### Upcoming Activities

- Begin the project startup review process.
- Begin receiving subcontractor submittals.



An aerial view shows the locations of the 18 waste sites at 100-F Area. Remediation is scheduled to begin in August.

## IU 2 & 6 Segment 1

Work continues on waste site-specific verification closeout sample plans to determine the number and location of waste site closeout samples including field quality control samples, sampling methodologies, analyte lists, and analytical methods. Once the work instructions are reviewed and approved by the U.S. Department of Energy Richland Operations Office (DOE-RL) and the U.S. Environmental Protection Agency, verification closeout samples will be 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 northeastern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. Segment 1 sites were unique in the fact they were used primarily for housing and support areas.

Remediation of these waste sites will contribute to DOE-RL's Vision 2015 goal of completing regulatory closure work in IU 2 & 6 Segment 1 by the end of calendar year 2010.



## Confirmatory Sampling

In the 1980s and 1990s, an extensive effort was conducted to catalog all of Hanford's known wastes sites and burial grounds. Those sites were included in cleanup agreements between the U.S. Department of Energy and its regulators, as well as in the scope of work for Hanford's cleanup contractors.

However, as cleanup progressed across the Hanford Site, 66 sites were discovered that required further investigation to determine if they met cleanup standards. The process of making that determination is called confirmatory sampling.

Of the 66 sites originally earmarked for confirmatory sampling at 100-D, 100-K, and 100-IU 2/6, 26 have been recommended to remove, treat, and dispose, which means they will not undergo the sampling process. In addition, the sampling instruction for 100-F Area that was added to the confirmatory scope also was approved.

Late last month, WCH awarded a subcontract to TerranearPMC (TPMC) to perform the confirmatory sampling of waste sites. TPMC is a small disadvantaged business based in Irving, Texas, with an office in Richland, Washington. TPMC is scheduled to begin confirmatory sampling of the 100-K Area in July.

Sites that pass the confirmatory sampling process will be closed out and no further action will be required under the existing interim record of decision. Those that fail will be recommended for remediation to meet regulatory standards.





## Profile

Washington Closure Hanford (WCH) is teaming up with a familiar partner to tackle another project that will help protect the Columbia River.

Earlier this month, WCH awarded a subcontract to TerranearPMC (TPMC) to perform the confirmatory sampling of 66 waste sites in the 100-D, 100-K, 100-F, and 100-IU 2 & 6 Areas. The sampling work is funded by the American Recovery and Reinvestment Act.

“Confirmatory sampling will provide the information we need to determine if the sites need to be remediated,” said Al Funk. Funk is a program manager at TPMC and will manage the confirmatory sampling project.

TPMC is a small disadvantaged business based in Irving, Texas, with an office in Richland, Washington. It was founded in 2002 under the name of Terranear Technologies Group LLC. In 2004, Terranear merged with PMC Environmental Inc. to create TPMC. The company, with a total staff of about 75, specializes in environmental remediation and compliance, radiological waste management, engineering design, and construction management.

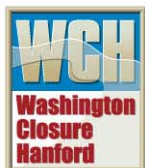
TPMC was recognized by the U.S. Department of Energy (DOE) as its Protégé of the Year in 2007 and has a Mentor-Protégé Agreement with WCH. DOE established the program to encourage subcontracting opportunities for small and disadvantaged businesses by coupling them with DOE prime subcontractors. The program was designed to promote economic and technological growth, promote and foster long-term business relationships, and increase the number of small disadvantaged businesses that receive DOE, other federal agency, and commercial contracts.

TPMC has worked with WCH on several projects since WCH assumed control of the River Corridor Closure project in August 2005. From 1960 to 1973, the 618-7 Burial Ground received waste from fuel fabrication facilities and laboratories in Hanford’s 300 Area. In 2008, TPMC helped to safely clean up the 618-7 Burial Ground, which was one of the most challenging cleanup projects to date. As a result, WCH changed its whole approach to burial ground remediation at Hanford.

TPMC also has performed work at the 618-1 Burial Ground and is now working to remove cement slabs and clean up spills, leaking pipes, and contaminated material within Hanford’s 300 Area. The 618-1 Burial Ground operated from 1945-1951 and received materials from the earliest Hanford laboratory and fuel fabrication facilities.

Confirmatory sampling field activities are scheduled to begin later this month at 100-K. Funk said it won’t be a big operation.

“We’ll have one rubber-tire backhoe, a water truck, and a small crew, and we’ll move quickly from site to site,” he said. “We’ll leave a small footprint.”



## General

### **Mentoring/Training**

No significant mentoring/training events this week.

### **Media, Visits, Press Releases**

No significant media events this week.

### **Contracting Actions**

- Awarded purchases for concrete mixer and concrete pump trucks.
- Litter fencing out for bid. Litter fence is a movable fence that can be placed with a bulldozer and is used to trap litter that blows around.
- Cat 770 Off-Highway Truck delivered.
- Received proposal for 618-10 Non-destructive Examination/Real-Time Radiography testing.

