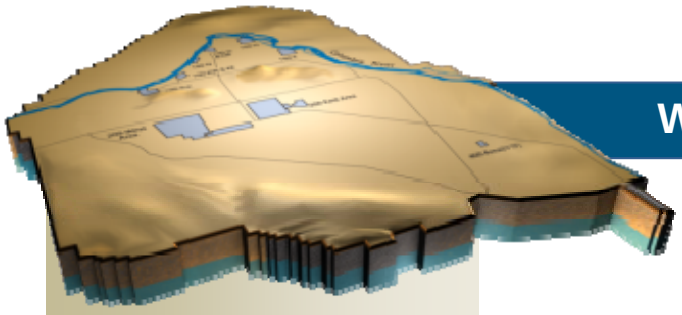
CH2MHILL
Plateau Remediation Company

ARRA Weekly Report



Week Ending January 22, 2010

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Contents

OVERVIEW

CH2M HILL Plateau Remediation Company (CHPRC) is using funds from the American Recovery and Reinvestment Act (Recovery Act) to accelerate cleanup and demolition efforts across the Central Plateau and along the river corridor to help pursue the U.S. Department of Energy (DOE) 2015 vision and shrink the Hanford Site cleanup footprint.

RL-0011 Nuclear Materials Stabilization & Disposition

CHPRC is accelerating critical decontamination and decommissioning (D&D) work that will help prepare the Plutonium Finishing Plant (PFP) for demolition to slab-on-grade three years ahead of the Tri-Party Agreement Milestone of September 2016. The highest priority scope includes removing over 170 glove boxes/laboratory hoods and other highly contaminated equipment from the 234-5Z building, the largest facility at Hanford for plutonium production and processing.

RL-0013 Solid Waste Stabilization & Disposition

Recovery Act funds are allowing CHPRC to accelerate retrieval of 2,500 m^3 of suspect transuranic (TRU) waste, eliminate 1,800 m^3 of mixed low-level and low-level waste (MLLW and LLW), and accelerate the overall cleanup of legacy waste and fuels on the Hanford Site.

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone

In the ongoing effort to protect the Columbia River, CHPRC is using Recovery Act funding to construct two groundwater treatment facilities and drill 344 wells that will be used for monitoring, extracting, and remediating groundwater.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

Across the Central Plateau and along the outer zone of the Hanford Site, CHPRC is accelerating the demolition of facilities to reduce mortgage costs on buildings that are no longer of service and provide access to waste sites located underneath.

RL-0041 Nuclear Facility D&D – River Corridor Closure Project

In the 100K Area along the Columbia River, CHPRC is demolishing 12 buildings and remediating 49 wastes sites to clear the area and prepare for the disposition of two reactors, K East and K West.

ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

RL-0011.R1: Plutonium Finishing Plant D&D

Cleanout and decontamination of former process and laboratory glove boxes and hoods continues throughout the 234-5Z building:

- *Analytical Laboratory* - D&D crews continued size reduction and removal of laboratory equipment inside three glove boxes in room 136, which included installing a sheet metal covering on the outside of the box to facilitate removal of the final piece of equipment. The crews also continued preparations for removing equipment from glove boxes/hoods in room 149 and removed sheet metal covers on hoods in room 144 in preparation for packaging and disposal of excess chemical items and sampling of others with undocumented contents.

- *Standards Laboratory* - Service piping to lab benches in rooms 221C and 221D was isolated to allow for the removal of the benches and make space for future removal of glove boxes/hoods from these areas.

- *Former plutonium processing areas* - Process equipment removal is under way on multi-story glove boxes HA-19B1 and B2. Chemical decontamination continued on glove box HC-60, and Surface Contaminated Object survey results are being analyzed for glove box HC-230C-3 to determine whether additional work will be needed for the glove box to meet LLW criteria. Preparations continued for isolation and cleanout of glove boxes HC-227S in room 227, HA-46 in room 232, and GB400 in the former Radioactive Acid Digestion Test Unit area of room 235D.

Work to deactivate, drain, and remove excess safety showers and eyewash stations is continuing throughout the 234-5Z building. Eyewash stations were removed from rooms 221C and 221D in the Standards Laboratory, and the supply lines to a sink in room 159 of the Analytical Laboratory were also isolated, tapped, and drained.

Insulators have been unable to remove asbestos from radiologically controlled areas of the building due to a shortage of radiological control technicians and they have been temporarily reassigned to other work. The shortage also slowed preparations for initiating removal of the process vacuum system, which includes more than 5,000 feet of heavily contaminated lines throughout the facility. Development of the Automated Job Hazards Analysis (AJHA) continued and field walk downs were performed for the work planned during the early phases of the project, now scheduled to begin in late February.

The Solid Waste Operations staff, with support from the Waste and Fuels Management Project, continued preparations for packaging and shipping three hoods using the Contaminated Equipment–Special Package Authorization (CE-SPA) process for the first time on glove boxes/hoods. The process is an alternative method for characterizing and authorizing onsite transportation of LLW.

Photo 1

Process equipment removal continues on glove box HA-19 in the 234-5Z building. Before a glove box can be removed, workers "strip out" the glove boxes, which includes removing process equipment and decontaminating the interior.

Photo 2
Process equipment removal continues on glove box HA-19. Multiple-level glove boxes like HA-19 pose ergonomic challenges to workers because they often contain more equipment and surface area to decontaminate and the glove boxes must undergo significant size reduction before they can be removed from the building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

Of the 1,800 m³ of MLLW and LLW planned for treatment and disposal under the Recovery Act:

- 761 m³ of MLLW and LLW have been shipped to date including:
  - 298 m³ that have been treated and disposed.

- 463 m³ at off-site treatment facilities awaiting processing. Treatment is scheduled for FY10.

Two shipments of waste were sent out for treatment this week. Eighty-six drums (18 m³) of LLW debris were shipped from the Central Waste Complex (CWC) to Perma-Fix Northwest (PFNW) on Jan. 19. The waste will be volume-reduced, stabilized, and packaged for disposal in Hanford's Mixed Waste Disposal Units. The second shipment, containing 21 drums (5.2 m³) of MLLW debris previously classified as TRU waste, was also sent to PFNW. The waste was shipped from the Waste Receiving and Processing Facility (WRAP) on Jan. 20 and will be undergo macro-encapsulation.

Photo 3

A worker loads 21 drums of mixed low-level waste debris for shipment to Perma-Fix Northwest. The waste was previously classified as suspect transuranic waste. The waste was reclassified based on assay results and can now be processed for onsite disposal.

Environmental Restoration Disposal Facility "Self Perform"

Building materials were delivered for the Container Maintenance Facility and workers began framing the building. Site preparations were made on the north side in anticipation of the concrete pad pour. Electrical and mechanical drawings were finalized, stamped, and released. Three of the 14 new trucks for transporting roll-on/roll-off containers arrived on site. The Department of Transportation vehicle inspections were completed on the new trucks. The vendor for the facility fork lift was selected and the expected delivery date is April 26.

Photo 4

Construction of the steel roof for the Container Maintenance Facility. This facility is being constructed using Recovery Act funds to serve as the central storage and maintenance facility for CHPRC's roll-on/roll-off containers.

RL-0013C:R1.2: TRU Waste

Of the 2,500 m³ of suspect TRU waste planned for retrieval under the Recovery Act:

- 17.1 m³ are staged, pending shipment.
- 428.6 m³ have been shipped to a treatment, storage, or disposal facility.

Removal activities continued in 3A Trench 17 where workers removed waste and debris from Box 82. An enhanced work planning and AJHA meeting was conducted for the repackaging of Boxes 80 and 82. Carpenters also completed the shoring walls for Box 8. Work continued in other burial grounds as well: A geophysical field data survey was performed in 3A Trench 8, the restricted area around 4B Trench 10 was reduced, and housekeeping and staging preparations began for the future resumption of removal activities in Trench 11. Workers also began installing a new mask station container for respirator equipment storage and began to set up a new Mobile Decontamination Unit (MDU) trailer.

Photo 5

Using long-reach tools, workers remove waste and debris from Box 82, which collapsed due to the deterioration of the wood and the weight of the soil. Damaged boxes require special care and equipment to be disassembled and removed from the trenches.

Alpha Caisson Retrieval Project

CHPRC continued development of the Alpha Caisson Retrieval Project Management group's conceptual design report (CDR). The Waste Retrieval System group completed formatting estimates and both this group and the Waste Processing System group are incorporating comments into their CDR sections.

TRU Project Drum Repackaging

Of the 850 m³ planned to be characterized and repackaged under the Recovery Act:

- 650 drums (135.3 m³) were repackaged.
- 986 drums (205.1 m³) have been quick-scanned to date.
- Repack instructions (corrective actions) for 1,156 drums (240.4 m³) have been developed.

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone

RL-0030.R1: Central Plateau Soil & Groundwater

Recent drilling progress includes (listed by operable unit):

- *100-NR-2* – Drilling on 171 wells to expand the apatite barrier continued with 68 wells in progress, 66 wells drilled to total depth, and 24 wells constructed and developed.

- *100-HR-3* – In the D Area, a total of 14 wells will be drilled to support the new DX Groundwater Treatment Facility. To date, 11 wells are in progress, of which 10 wells are drilled to total depth and seven wells are constructed and developed. The remaining well locations are being prepared.
- *200-BP-5* – Drilling on the three planned wells continued last week. Currently, one of the three wells has been drilled to total depth, and the other two wells are at depths of 345 and 85 feet.
- *200-ZP-1 Expansion* – Drilling operations continued on 17 wells in support of the new 200 West Groundwater Treatment Facility. Of the eight wells in process, five wells have been drilled to total depth and two have been constructed and developed.
- *100-BC-5* – Drilling continued on all four of the four wells planned for this site. Two wells have been drilled to total depth, and the other two wells are at depths of 45 and 172 feet.

In the 100-HR-3 D Area, construction of the new DX Groundwater Treatment Facility is in progress. CHPRC is constructing the facility with $20 million of Recovery Act funds to treat hexavalent chromium contamination in the groundwater and protect the Columbia River. The construction of the outer steel shell of the main process building and two transfer buildings, as well as the installation of the doors, hardware, and building lining and insulation are complete.

Photo 6

A nuclear chemical operator for the Soil and Groundwater Remediation Project prepares a split spoon sampler to obtain a soil sample within a well being drilled at the 100-BC-5 site. The soil sample will be packaged and analyzed to determine the initial characteristics of the soil at various depths within the well. The data obtained from the soil samples help to determine the type and extent of contamination within the 100-BC-5 site.

Photo 7
A nuclear chemical operator for the Soil and Groundwater Remediation Project takes a sample from a well at the 100-BC-5 site to determine the characteristics of the groundwater. The well is one of four at the site that is being drilled by CHPRC with Recovery Act funds to track the progress of the remedial actions at the 100-BC-5 site over time.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

U Canyon

Placement and size reduction of equipment continued in the U Canyon. Nine cells have been completed with 62 percent of the large mapped items placed. Equipment placement is being accomplished more

efficiently than expected, which may result in fewer cells needing to be opened. Five bids on the grout conveyance process are under evaluation. Also within U Canyon, re-grading of the access road to the railroad tunnel resumed and should be complete next week. Disposition of the D-10 tank in Cell 30 is being evaluated and a plan for disposition of chemicals in the canyon is being prepared.

U Plant Ancillary Facilities
Asbestos abatement work continued at the 224-U and 224-UA buildings to prepare them for demolition later this fiscal year. At 224-UA, work is currently concentrated on asbestos removal from the calciner area. At 224-U, asbestos abatement glove bag installation and asbestos removal continued. Asbestos removal was completed in C Cell and glove bag work was completed on the south-side piping.

200 East Core Industrial Area
Walk downs and engineering continued to support work planning for cold and dark isolation of the nine buildings to be demolished in the 200 East core industrial area during FY 2010. Mobilization of power supplies and asbestos abatement equipment for the 272E building are complete. The work document for asbestos removal is ready and work can begin. Walk downs and sampling for industrial and health hazards are ongoing in the 284E building. Initial beryllium sampling of the building is complete.

209-E Criticality Mass Laboratory
The mock-up tanks that will be used to train personnel and to evaluate different equipment options for size reduction of the slab tanks within the 209-E facility were completed. Other key activities include:

- Completion of the radiological technical evaluation to support entry activities
- Development of the work document for miscellaneous housekeeping
- Radiological survey of pipes and miscellaneous equipment.

The design for the containment structure was reviewed and modified by Engineering, Operations, and Radiological Protection personnel and is in the final stages of completion, which will allow procurement to begin. The critical safety evaluation report was initiated for the project and the safety basis and environmental documentation are in the initial phases of development.

Heavy Equipment Procurements
A total of 38 pieces of heavy equipment have been procured and received in addition to the equipment recently received from the Yucca Mountain site. A high-reach demolition excavator and heavy haul truck are among the pieces of equipment remaining to be received. Scheduled delivery varies but is expected to be complete in March 2010.

Photo 8

Workers observe as the U Canyon crane lifts large equipment for relocation into Cell 2 beneath the canyon deck. As of Jan. 22, approximately 62 percent of the large mapped items have been placed and nine cells have been filled.

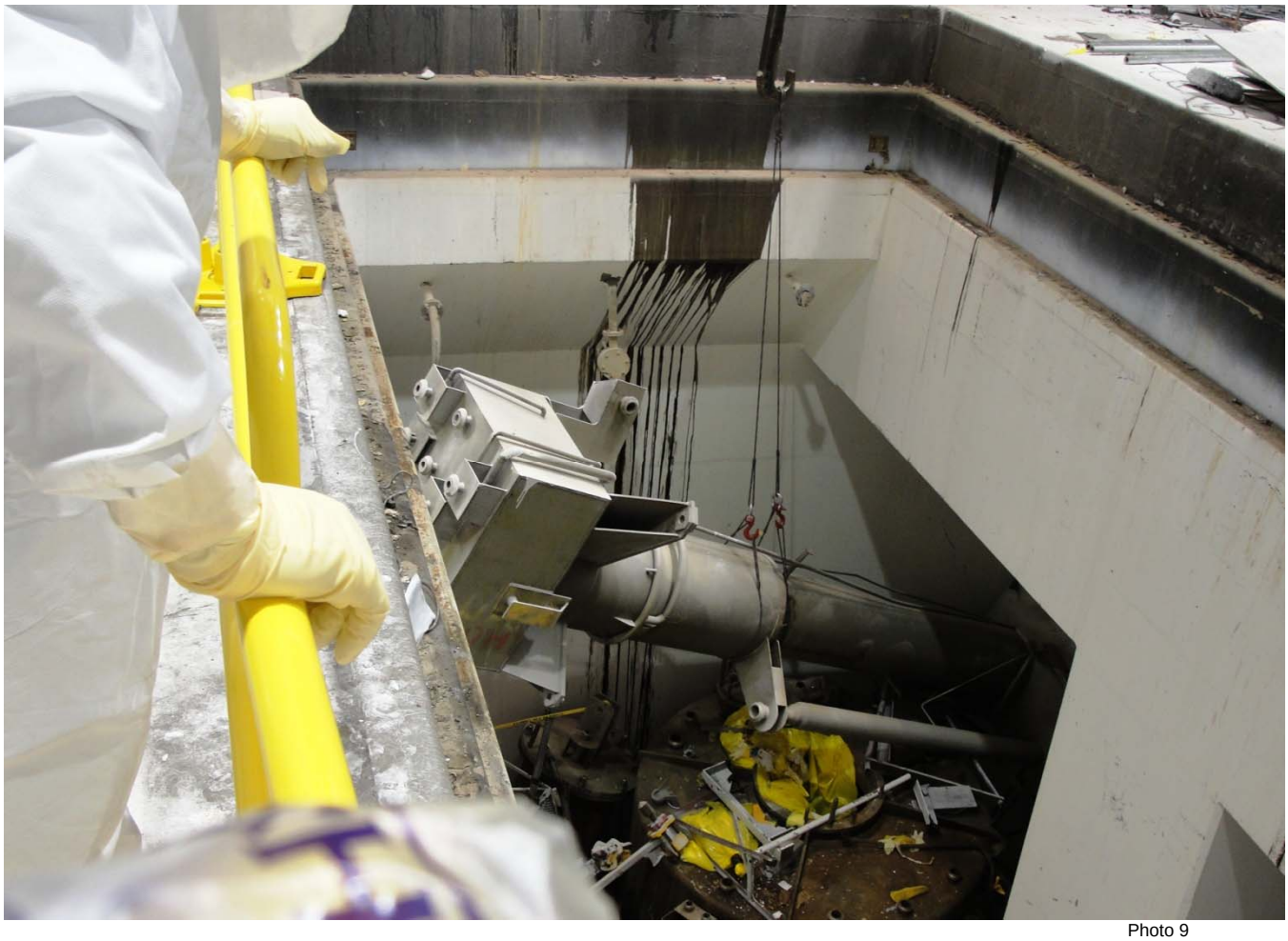

Photo 9

A piece of equipment is loaded into Cell 2 beneath the U Canyon deck, where it will eventually be grouted into place with other equipment and left for long-term disposal.

RL-0040.R1.2: Outer Zone D&D/Waste Sites

Facility D&D

Recovery Act dollars are at work throughout the outer zone of the Hanford Site. Environmental media samples analysis is ongoing in the former sites of the 200 North Area buildings, 212-N, -P, and -R. Meanwhile at the Arid Lands Ecology (ALE) Reserve on Rattlesnake Mountain, demolition preparation and asbestos abatement activities were completed on the lower structures and demolition activities have begun. Buildings 6652-S and 6652-R were demolished last week. Cold and dark isolation activities of the structures on the upper ALE sites are ongoing. Cleanup of over 168 debris sites located throughout the ALE reserve is ongoing.

Photo 10
The 6652-S building on the lower Arid Lands Ecology Reserve before demolition. The building served as a guard house when the site was in operation by the U.S. government as a buffer zone for anti-aircraft defense missions.

Photo 11

The 6652-S building during demolition. The building is one of 14 on the Arid Lands Ecology Reserve that CHPRC is demolishing with support from Recovery Act funding.

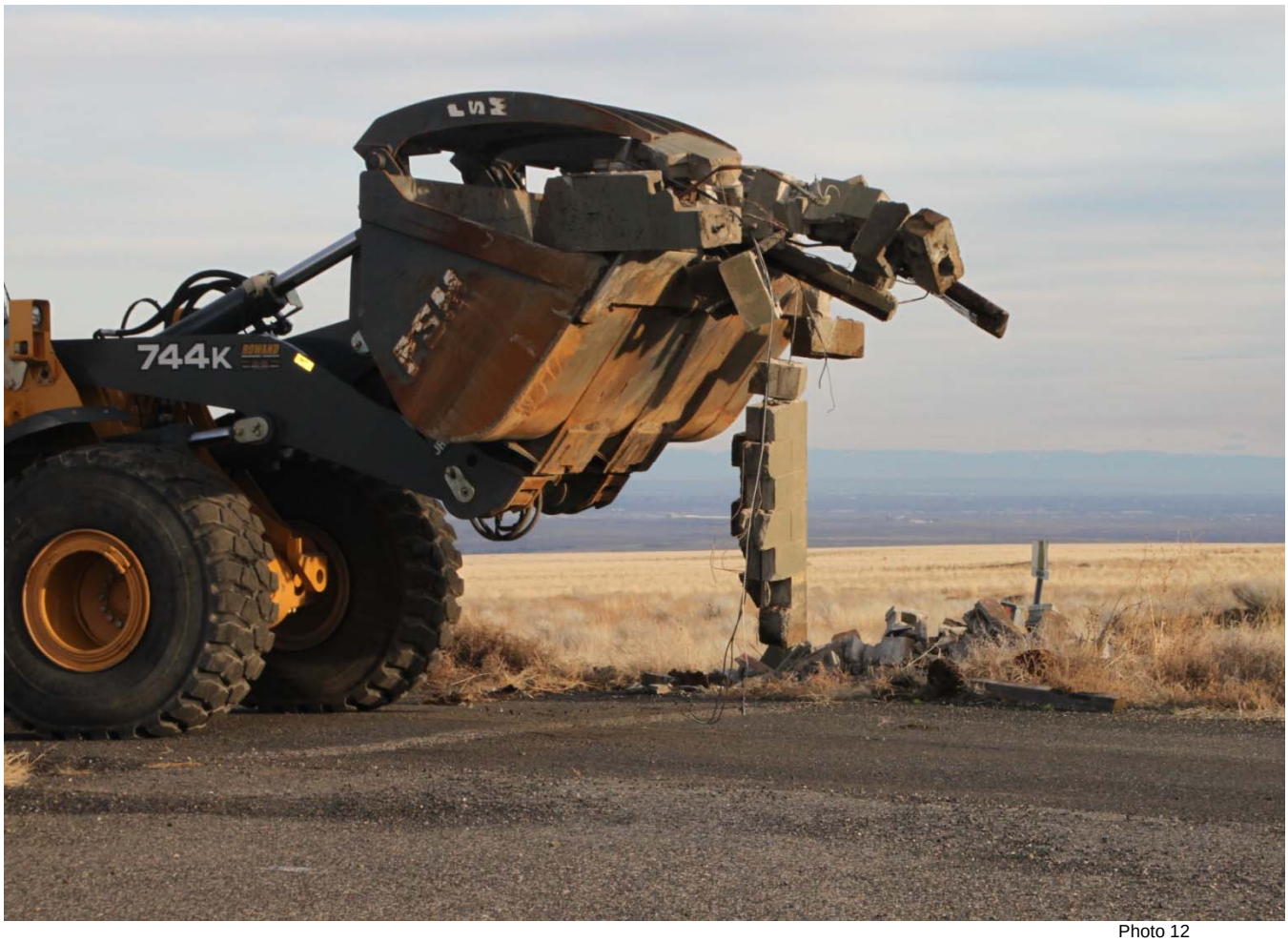

Photo 12

A front-end loader removes debris from the former site of the 6652-S building on the lower Arid Lands Ecology Reserve. The debris was loaded into a roll-on/roll-off container for disposal. During the week ending Jan. 22, CHPRC demolished 6652-S as well as 6652-R, which is another small facility on the lower reserve.

Waste Sites

Recent progress in remediation of the outer zone waste sites includes (listed by operable unit or site):

- *200-MG-1* – Remediation of the 600-36 waste site was initiated. Approximately 300 tons of contaminated soil were delivered to ERDF. Preparations and field remediation continued on waste sites 600-218, 600-38, 600-275, and 600-40. Development and processing of the Response Action Completion Reports for closing waste sites 200-E-110, 600-21, and 600-51 continued.
- *200-CW-3* – Remediation of the 216-N-1 waste site was completed, pending sampling results. Remediation continued at the 216-N-4 waste site with approximately 1,500 tons of contaminated soil shipped to ERDF. Waste sites 216-N-1 and 216-N-4 are two of three ponds that are contaminated due to previous releases from the former 212-NPR interim fuel storage buildings. Super dump trucks are being utilized to transport the contaminated soil to ERDF. An additional super dump truck was recently procured and put into service at the site.
- *BC Control Area* – Remediation continued with approximately 25,700 tons of contaminated soil having been shipped to ERDF. An additional super dump truck is now on site and will be utilized at the BC Control Area.

Photo 13

An excavator begins remediation of the 600-36 waste site in the outer zone of the Hanford Site. The results of previous sampling indicated that values exceeded the remedial action levels. The elevated levels were in areas that included a burn pit at the west end of the site and several locations where oil had previously spilled. CHPRC is using Recovery Act funding to remediate this waste site and several others throughout the Central Plateau to help reduce the cleanup footprint of the Hanford Site.

Photo 14

An excavator loads a super dump truck with contaminated soil from the 600-36 waste site. Approximately, 300 tons of contaminated soil from the waste site have been remediated and delivered to the Environmental Restoration Disposal Facility.

RL-0041 Nuclear Facility D&D – River Corridor Closure Project

RL-0041.R1.1: 100K Area Remediation

Facility D&D

Demolition continued on the 183.2KW Sedimentation Basin. Most of the internal structures have been demolished. Work is now focused on the west and east exterior walls of the structure. Asbestos removal continued in the 183.7KW Pipe Tunnel and demolition preparations for 183.1KW continued with asbestos abatement and air gapping of pipes. Also in the K West area, removal and packaging of debris from the 105KW Basin continued with 13 debris units removed during this reporting period.

Electrical circuit tracing is ongoing to complete isolation of the 105KE Reactor building. When the electrical isolation is complete, the building can be declared cold and dark. Evaluation of the 105KE circuitry indicates that an electrical outage will be necessary to complete the electrical isolation. The outage will complete the cold and dark activities for 105KE, 116KE, and 117KE. The outage was re-scheduled for Feb. 12, 2010.

Asbestos abatement preparations are also ongoing in the 115KE building. Asbestos removal preparations are ongoing for the below-grade structures of 1706KE.

Additional characterization sampling of the 117KE filters was performed and the analysis results will be used to determine worker protection controls needed during demolition.

Preliminary Design activities for the disposition of the 105KE Reactor core continued. The test report is being independently reviewed. Mock-ups of glove bags needed for the next phase of sampling have been built and dry runs are scheduled for the week of Feb. 8, 2010.

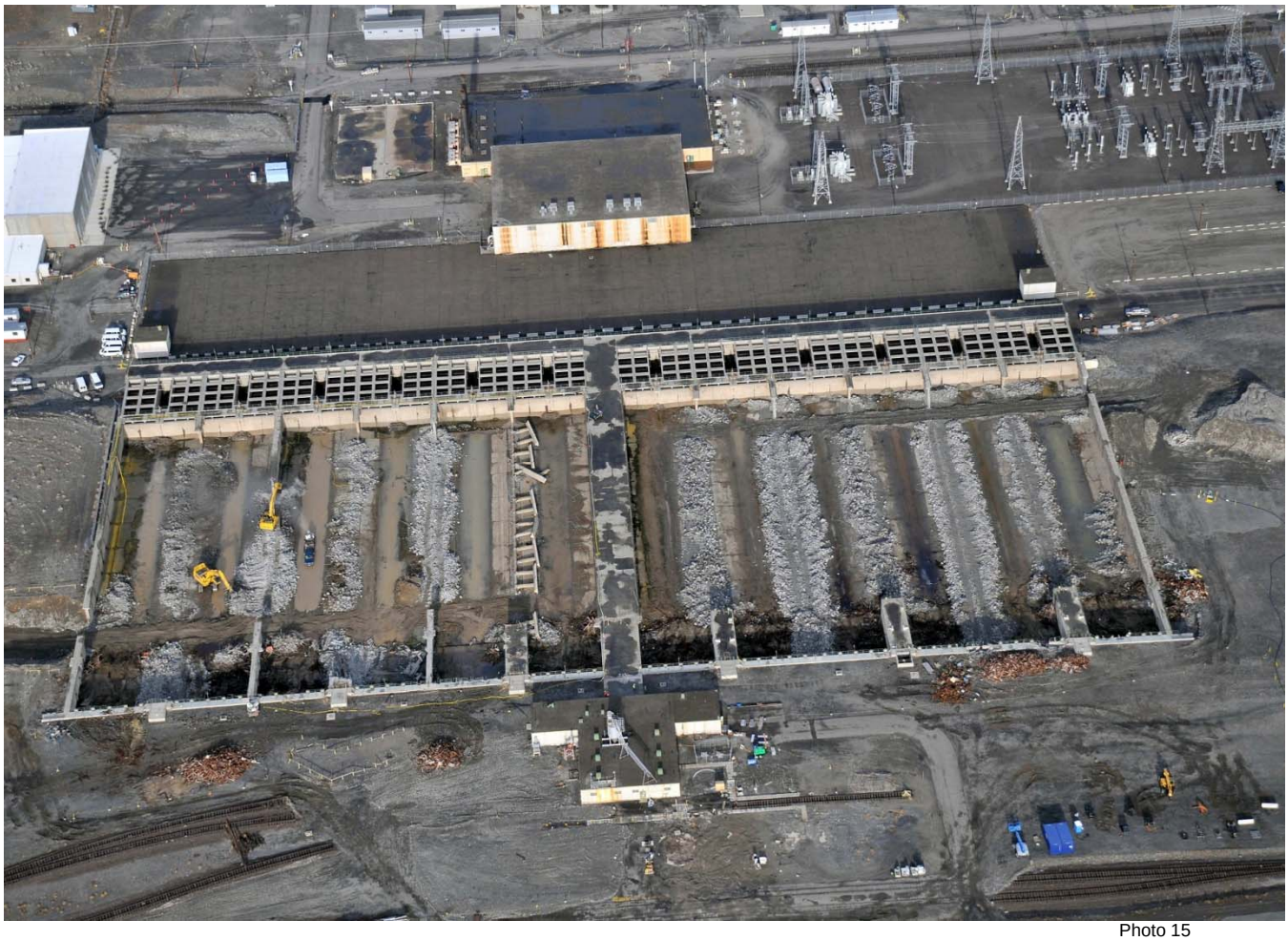

Photo 15

The interior of the 183.2KW Sedimentation Basin. Previously, large concrete structures separated six bays. With most of the internal structures demolished, work is now focused on the west and east exterior walls of the basin.

Waste Sites

Recent progress in remediation of 100K Area waste sites includes (listed by waste site):

- *UPR-100-K-1* – Remediation of the upper surface of the basin continued last week to increase the accessible area around the fuel storage basin. Results from the laboratory samples are not yet available to determine the contamination levels.
- *100-K-56, 100-K-3, and 100-K-47 Pipelines* – Work continued on removal of overburden to truncate lines that potentially feed the 100K outfall from the 105KE area. Removing the overburden will continue and ultimately the pipelines will be removed.

- *100-K-63 and 100-K-64* – Results from the soil samples indicated the values exceeded the cleanup standards for the 100-K-64 waste site (eastern flood plain). The results will be documented and provided to DOE for evaluation to determine the appropriate remediation technique. Results from the laboratory samples are not yet available for the 100-K-63 waste site (western flood plain).

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

RL-0011.R1: Plutonium Finishing Plant D&D

- Complete process equipment removal from three glove boxes in room 136 and initiate chemical decontamination.
- Complete process equipment removal on glove boxes HA-19B1 and HA-19B2.
- Initiate process equipment removal from glove boxes HA-46, HC-227S, and GB400.
- Load and ship three glove boxes previously removed from room 131 of the Analytical Laboratory to ERDF, using the CE-SPA process.
- Assess the radiological status of and determine a disposition path for decontaminated glove box HC-230C-3 in room 230C and three additional glove boxes previously removed from room 137 of the Analytical Laboratory.
- Complete deactivation and isolation of excess safety showers, eyewash stations, and lights.
- Complete electrical and mechanical isolation and remove the storage tank on the 2731-ZA nitrogen generator facility.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 18.3 m^3 (88 drums) of LLW debris on Jan. 26 from the CWC to PFNW.
- Planned shipment of 2.5 m^3 (17 drums) of LLW debris on Jan. 28 from WRAP to PFNW.
- ERDF “Self Perform”:
    - Container Maintenance Facility:
        - Begin roofing and sheeting on the building.
        - Lay out lighting poles.
        - Begin the first of five concrete pours for the outside concrete pad.
        - Issue road drawings for the new access road.

RL-0013C:R1.2: TRU Waste

- Receive 3A Trench 8 geophysical survey results.
- Continue removal activities for Boxes 3 and 82 in 3A Trench 17.
- Remove old 4B/4C area restroom trailer and prepare to receive a replacement restroom trailer.
- Continue planning, staging, and preparations to support resumption of activities in 4B Trench 11.
- Continue installation of a new mask station storage container.
- Continue setup of MDU.
- Alpha Caisson Retrieval:
    - Resolve and incorporate review comments on the CDR by Jan. 26.
    - Finalize cost and schedule rollups by Jan. 28.
    - Finalize CDR and release documents by Jan. 31.

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the DX Pump-and-Treat Facility.
- Continue drilling at 200-ZP-1, 100-HR-3-H, 100-HR-3-D, 100-BC-5, and 100-NR-2.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

- Receive delivery of the remaining D&D heavy equipment being procured.
- Continue asbestos abatement and demolition preparations for U Plant ancillary facilities.
- Continue relocating equipment from the canyon deck into the cells.
- Complete radiological surveys and initiate cold and dark isolation of the nine 200 East Area core industrial complex buildings.
- Enter the 209-E facility to support final planning and development of the information necessary to complete the safety basis, environmental, and waste documentation.

RL-0040.R1.2: Outer Zone D&D/Waste Sites

- Backfill the former 212-NPR building sites and re-vegetate the areas.
- Continue demolition of the lower ALE facilities.
- Continue removal of debris sites.
- Continue cold and dark isolations of upper ALE facilities.
- Continue remediation at the BC Control Area, 200-CW-3, and 200-MG-1 waste sites.

RL-0041 Nuclear Facility D&D – River Corridor Closure Project

RL-0041.R1.1: 100K Area Remediation

- Continue demolition of the 183.2KW Sedimentation Basin.
- Begin demolition of the 183.1KW Headhouse.
- Continue tooling and debris removal from the KW basin.
- Continue Preliminary Design activities for the disposition of the 105KE Reactor core.
- Perform the first formal KE reactor characterization efforts.
- Finalize the reactor graphite tumble test report.
- Continue remediation of the soils beneath the former K East Fuel Storage Basin and the pipeline waste sites (100-K-47, 100-K-56, and 100-K-3).