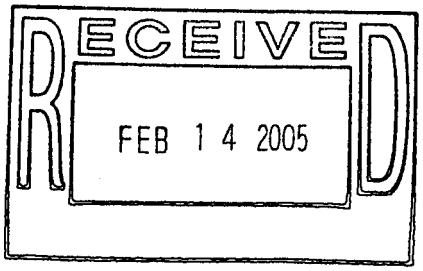
QUARTERLY STATUS REPORT

ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

FIRST QUARTER FISCAL YEAR 2005



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1.0 Introduction

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L.L.C. (Kaiser-Hill).

This report describes activities that occurred from October 2004 through December 2004 (referred to as the first quarter of fiscal year [FY] 05). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting RFETS Closure; (3) RFETS Closure Projects; (4) Water Management; and (5) List of Approved Decision Documents.

2.0 Site-wide Activities Implementing RFCA and Supporting RFETS Closure

2.1 Integrated Monitoring Plan Update

During the first quarter of FY05, the Integrated Monitoring Plan (IMP) Working Group focused on development of monitoring systems that would be required to perform long-term monitoring at RFETS. This is the most comprehensive review of monitoring systems since the IMP was first implemented in 1997. Systems that will remain after Kaiser-Hill completes its work have been identified and data quality objectives (DQOs) have been revised to reflect the appropriate use of the data now that operations at RFETS are being terminated. The document will be published in January, 2006.

Existing surface water and air monitoring systems will continue in place until late FY05 or early FY06. As Kaiser-Hill finalizes the accelerated actions, unnecessary systems will be removed and proposed long-term systems will be relocated as needed. Groundwater monitoring systems will be removed throughout the year, with the goal of achieving the proposed long-term monitoring configuration by the end of FY05.

As noted last quarter, the most significant change in the groundwater monitoring approach is to classify the wells in terms of their functional locations with respect to the plume pathways and impacts to surface water rather than in terms of specific functions for the use of data from the well. This approach has clarified and simplified discussions of how the groundwater data would satisfy long-term monitoring requirements and commitments.

Few additional changes are expected for the IMP in FY05 other than to update progress toward achieving the proposed monitoring system configuration. Once decisions are

made regarding monitoring of landfills, the resulting monitoring configurations will be integrated into the IMP to assure the required monitoring is implemented as intended.

2.2 Draft Remedial Investigation and Feasibility Study

RFCA paragraph 83 states "[f]ollowing implementation of all planned accelerated actions, CDPHE and EPA shall evaluate the Site conditions and render final remedial/corrective action decision for each operable unit." The RFCA Parties have stated that final remedial/corrective action decisions will be made in a final Corrective Action Decision/Record of Decision (CAD/ROD). To complete this process, the RFCA Parties developed a *Final Work Plan for the Development of the Remedial Investigation and Feasibility Study Report* (Work Plan) in March 2002. The work plan contains 15 tasks. Through December 2004, five tasks are complete; two task work products are under regulator review. The remaining tasks are under various stages of development. When approved by the regulators, the Remedial Investigation/Feasibility Study Report (RI/FS Report) will be the basis for development of a Proposed Plan that describes the preferred proposed final remedy for the Site. The Proposed Plan is the basis for the final CAD/ROD.

The RI/FS Report will present the findings of the field investigations, including the nature and extent of contamination, contaminant fate and transport, the comprehensive risk assessment results, the final remedial action objectives and supports the development, screening and detailed analysis of remedial alternatives after the completion of the planned accelerated actions. Because remedial activities at RFETS are also being conducted under the Resource Conservation and Recovery Act (RCRA) and the Colorado Hazardous Waste Act (CHWA), the RI/FS Report will also meet the RCRA/CHWA requirements for a RCRA Facility Investigation/Corrective Measures Study report.

A significant step in completing the RI/FS was the development and approval of the *Final Comprehensive Risk Assessment Work Plan and Methodology* by the RFCA Parties in September 2004. The purpose of the comprehensive risk assessment is to assess human health and ecological risks posed by chemicals, metals, and radionuclides remaining at Rocky Flats following accelerated actions.

3.0 RFETS Closure Projects

RFETS closure activities conducted during the first quarter of FY05 included: (1) Industrial Area Operable Unit, Building (B) 771; (2) Industrial Area Operable Unit, B776/777; (3) Industrial Area Operable Unit, B371/374; (4) Industrial Area Operable Unit, B707; and (5) Remediation, Industrial & Site Services Project (RISS).

3.1 Industrial Area Operable Unit, B771 Closure Project

The B771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999. As of December 31, 2004, seven modifications to the DOP

have been approved. During the first quarter of FY05, the B771 Closure Project Team conducted the following activities:

1. Completed demolition of B771.
2. Completed grading and topsoil placement in the former B771 area.
3. Completed seeding in the former B771 area.
4. Completed demobilization of subcontractors and associated trailers.

3.2 Industrial Area Operable Unit, B776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. As of December 31, 2004, eleven minor modifications and one major modification to the DOP have been approved. The Demolition Plan was a major modification; it was approved on July 1, 2003. Minor Modification #11 to the B776/777 DOP was approved on August 12, 2004. This modification re-typed B701 from a Type 1 to a Type 2 facility and included this building within the scope of the DOP. During the first quarter of FY05, the B776/777 Closure Project Team conducted the following activities:

1. Completed decontamination, final surveys and encapsulation in eight out of thirteen survey units on the second floor. The remaining five survey units are in progress.
2. Initiated removal of floors in Rooms 127 and 134E. Shaving and hotspot removal have proven insufficient to reduce the contamination to acceptable levels for demolition.
3. Completed RCRA closure activities for all of B776/777 except Room 131. Room 131 closure will be completed during the second quarter of FY05.
4. Construction began on the B776 water retention basin to be used for collection of contaminated dust suppression water and precipitation during demolition.
5. Completed demolition of the B730 underground storage tank north of B776. This completes Set 76, which also included Buildings 701 and 710.

There are a total of 84 work sets in the B776/777 Project; 81 sets have been completed to date.

Activities planned for the second quarter of FY05 include:

1. Complete decontamination and encapsulation of the first and second floors.
2. Complete Pre-Demolition Survey Report.
3. Initiate demolition of facility.

3.3 Industrial Area Operable Unit, B371/374 Closure Project

The B371/374 Closure Project DOP was approved by CDPHE on March 29, 2001. As of December 31, 2004, five field modifications to the DOP have been approved. During the first quarter of FY05, the B371/374 Closure Project Team conducted the following activities:

1. Continued dismantlement activities in the B371 canyons. To date 12 of 12 of the highly contaminated rooms have been dismantled and stabilized. Preliminary dry decontamination is complete in 9 of 9 canyons.
2. Completed dismantlement in the Central Storage Vault. Both stacker/retriever vehicles and 1,428 of 1,428 storage racks have been disassembled and packaged.
3. Initiated decontamination of the Central Storage Vault.
4. Removed 24 of 24 of the largest tanks from B374 through openings in the roof and south side. The largest three of these tanks weigh 41,000 pounds each and are 18 feet in diameter. All are being shipped whole as low-level waste to Envirocare.
5. Declared B371 criticality incredible and B374 operationally clean.
6. Completed seven sets (6, 9, 10, 19, 38, 40, and 52). This completes all of the Set scope in B371/374. In addition, the first Area was completed (Area AN – B374 Dismantlement).
7. CDPHE approved Modification #5 to the 371 DOP. The minor modification replaced the use of explosives with conventional demolition techniques. The modification also identified portions of the building that may be dispositioned as low-level waste.

There are a total of 45 dismantlement work sets in the B371/374 Project; all 45 have been completed to date. The B371/374 Closure Project Team has removed 428 of 428 glovebox equivalents and 373 of 375 tanks.

Activities planned for the second quarter of FY05 include the continued strip-out of Zone 1/1A and Zone 2 ducting. Structural decontamination and trades dismantlement activities will continue with a goal of completing the final survey of B374 in preparation for January 2005 demolition.

3.4 Industrial Area Operable Unit, B707 Closure Project

The B707 Closure Project DOP was approved by CDPHE on January 18, 2001. As of December 31, 2004, three minor modifications to the DOP have been approved. A minor modification was completed on November 2, 2004. This modification included (1) changing references to "3 feet below grade" to "3 feet below final grade" for consistency; (2) clarifying that contaminated portions of the building shell could be removed before or after demolition; and (3) revising the environmental restoration interface section to specify criteria for removing or leaving the process waste lines beneath the slab.

During the first quarter of FY05, the B707 Closure Project Team conducted the following activities:

1. Completed decontamination and component removal activities.
2. Completed the final survey and initiated the demolition final surveys for B707. The demolition final surveys were completed in phases: the second floor and the exterior of B707 were included in the Pre-Demolition Survey Report dated October 20, 2004, which was approved by CDPHE on November 2, 2004 and the first floor of B707 was included in the Pre-Demolition Survey Report dated November 11, 2004, which was approved by CDPHE on December 7, 2004.

3. Completed B708 demolition (sets Y2 and U3).
4. Initiated demolition of B707 on December 7, 2004.
5. Initiated B732 and B778 demolition in December 2004.

Activities planned for the second quarter of FY05 include the completion of demolition and size reduction and removal of building debris for Buildings 707, 731, and 732.

3.5 Remediation, Industrial & Site Services Project

RISS activities supporting RFETS closure during the first quarter of FY05 include decontamination and decommissioning (D&D) as well as environmental restoration (ER).

3.5.1 Decontamination and Decommissioning

During the first quarter of FY05, the RISS Closure Project Team conducted the following activities:

1. Demolished 31 facilities including Buildings 447, 448, 451, 564, 664, 708, 732, 778, T130I, T664A, T706A, and T891B.
2. Demolished 990/990A, and EC-1, 2, 3 (Sewage Treatment Complex).
3. Demolished the North Firing Range (B308).
4. Completed the back fill, final grade, and re-vegetation of B881 utilizing the 980 rubble pile and 371 borrow area.
5. Completed equipment removal in B883.
6. Completed 25% of the demolition of B883 (G6) with removal and load out of the Annex and C-side.
7. Initiated the removal of exterior transite on B883.
8. Continued the B444 complex decommissioning. As of December 31, 2004, 72% of the Pre-Demolition Survey is complete; 28% of decontamination activities are complete; and 99% of dismantlement activities are complete.
9. Completed the B559 Complex asbestos abatement.
10. Completed Contaminated Area interior wall demolition in B559.
11. Initiated demolition of B995 (Sewer Treatment Plant)
12. Removed 290 feet of above ground steam lines (19,140 feet of 20,150 feet) with the remainder on buildings or under power lines.
13. Terminated all water plant operations, including B060.
14. Removed/closed 37,141 feet of water distribution system for a total of 37,141 of 84,412 total feet.
15. Removed/closed 159 of 180 manholes.
16. Removed 13,319 feet of the 13.8 kv electrical distribution system for a total of 15,195 of 56,215 total feet.
17. Removed 470,635 square feet of RFETS asphalt for a total of 2,288,596 of 6,720,797 total square feet.
18. Completed pot holing of the Natural Gas and Nitrogen distribution systems in support of sector closure verification planning.

Demolition of Buildings 124, 439, 444, 559, 883, and 906 is planned to commence during the second quarter of FY05. Aqueous Waste Treatment Systems shipments will resume during the second quarter of FY05

3.5.2 Environmental Restoration

ER activities implementing RFCA and supporting closure during the first quarter of FY05 included: (1) Industrial Area (IA) Operable Unit (OU), Individual Hazardous Substance Site (IHSS) Group 100-1; (2) IA OU, IHSS Group 300-2; (3) IA OU, IHSS Group 400-5; (4) IA OU, IHSS Group 600-4; (5) IA OU, IHSS Group 700-8; (6) BZ OU, IHSS Group 900-11; (7) Group 000-5 (Present Landfill) and Group SW-2 (Original Landfill); (8) Buffer Zone (BZ) OU, B-series Ponds; and (9) the Groundwater Interim Measure/Interim Remedial Action decision document.

3.5.2.1 IA OU, IHSS Group 100-1 (Under Building Contamination (UBC) 122 – Medical Facility and Tank 1 – Original Process Waste Lines (OPWL) – Underground Stainless Steel Waste Storage Tank)

IHSS Group 100-1 consists of UBC 122, which underlies the southern two-thirds of B122, and IHSS 000-121 Tank T-1, which was originally located just outside the southeastern corner of B122. B122 housed (until September 2004) the on-site medical facilities of RFETS and the occupational health and internal dosimetry organizations. Emergency medical services, diagnosis, decontamination, first aid, x-ray, minor surgical treatment, and ambulatory activities were carried out in this building. The building also contained clinical facilities to support routine employee and subcontractor physical examinations. Body counting, to measure radioactive material in the body, was also conducted. The facility contained three general areas: administration, internal dosimetry, and medical/health.

Tank T-1 was an 800-gallon stainless-steel storage tank used to collect wastewater streams from B122. The Historical Site Assessment (DOE 2003c) states that the tank was located above ground. Other reports and available diagrams indicate it was located below ground (DOE 1992, 1994; Dow 1959). Waste drained from the building to the tank. When the tank was full, waste was pumped out to a tank truck and then discharged to the OPWL system. The waste included trace radionuclides, bleach, soap, blood, and hydrogen peroxide.

The accelerated action characterization included eight sampling locations totaling 31 radionuclide and 31 metals analyses. The Final Data Summary Report for IHSS Group 100-1 was approved by CDPHE on December 13, 2004.

3.5.2.2 IA OU, IHSS Group 300-2 (UBC 331 – Maintenance and Lithium Metal Destruction Site)

IHSS Group 300-2 consists of UBC 331, which underlies the northeastern side of the north wing of B331, and IHSS 300-134S, which extends east and north of B331.

B331, originally constructed in 1953, was designed and used as a warehouse. When the building became too small for parts storage, a new warehouse was constructed at another RFETS location, and B331 then became the RFETS maintenance garage. Additions to the structure, including the Fire Department structure (the east-west wing of B331 south of IHSS 300-134[S]), were completed in 1967.

At one time, the northeastern corner of the vehicle maintenance garage (the north-south section of B331 west of IHSS 300-134[S]) housed technical staff and a uranium research and development laboratory. Rolling of enriched uranium foil was conducted there in 1964. This area may also have been used for the depleted uranium coating studies. After B865 came on line in 1970, the area was converted for the development of remote handling techniques such as robotics and remote manipulator arms.

Reactive metal disposal was conducted in two locations north of B331. The first location coincides with IHSS 300-134(N). The second location, IHSS 300-134(S), is adjacent to the northern side of B331 and includes a portion of the roof and adjacent parking lot. It was in the L-shaped corner of the building and the parking lot to the north that RFETS Fire Department personnel indicated lithium destruction took place. The exact amounts of lithium destroyed in this area are not documented; however, it is known that by 1970 approximately 400 to 500 pounds of metallic lithium were destroyed and the residues were buried. These amounts are thought to be a combination of lithium destruction from this area and from the 903 Pad area in the southeastern part of RFETS. The waste lithium originated from Buildings 444 and 881 and was not radioactively contaminated.

All contaminant of concern (COC) concentrations in IHSS Group 300-2 were less than their wildlife refuge worker action levels (WRW ALs), with four surface soil exceptions. The concentrations of benzo(a)pyrene and dibenz(a,h)anthracene at location BW40-002 (between 0.0-0.5 foot [ft] in depth) exceeded WRW ALs. The concentrations of benzo(a)pyrene at locations BW40-024 and BW40-025 also exceeded the WRW AL.

In accordance with the Industrial Area Buffer Zone Sampling and Analysis Plan (IABZSAP), the 95 percent upper confidence limit was calculated for benzo(a)pyrene in surface soil and compared to the WRW AL. The result of this calculation was 0.68, indicating that no further evaluation or action is required.

A hotspot evaluation of the three locations containing benzo(a)pyrene was performed based on the procedure outlined in the IABZSAP. The collocated dibenz(a,h)anthracene detection was therefore considered by default. The Elevated Measurement Comparison (EMC) calculation used to evaluate hotspots gave a result less than one, which indicates remediation is not required in this case.

Six inches of soil will be removed in this area during the asphalt removal. Three samples will be taken in the sidewalls of the excavation after the soil removal. The analytical results from these samples will be included in the 331 Closeout Report and will be added to the data set used in the RI/FS Report. Based on the Subsurface Soil Risk Screen (SSRS) and the hotspot evaluation, soil from IHSS Group 300-2 was not remediated and

the Data Summary Report was approved by the CDPHE on December 17, 2004. Waste storage began on November 18, 1986. In 1986, prior to start of waste storage, 142,000 square feet (ft^2) of the 750 Pad was covered with Petromat and 3 inches of asphalt, and 8-inch-high asphalt berms were constructed along the east and portions of the northern and southern sides of the pad.

3.5.2.3 IA OU, IHSS Group 400-5 (Sump #3 Acid Site, RCRA Tank Leak in B460, and RCRA Tank Leak in B460)

IHSS Group 400-5 includes IHSS 400-205 (acid dumpster site on the east side of B460), and potential area of concern (PAC) 400-813 and 400-815 (RCRA tank leaks inside B460). These locations were identified during an August 25, 2004 walkdown based on their descriptions in the Historical Release Report and the knowledge of building personnel. Accelerated action sampling took place between September 2 and September 9, 2004. All sampling results were below RFCA WRW ALs, but some inorganics were detected above background levels. At PAC 400-815 incidental groundwater had to be collected in lieu of a soil sample. Results for the groundwater sample were below RFCA groundwater ALs. The IHSS Group 400-5 Data Summary and no further accelerated action (NFAA) designations were approved by CDPHE on December 7, 2004.

3.5.2.4 IA OU, IHSS Group 600-4 (Radioactive Site B444 Parking Lot)

IHSS Group 600-4 consists of IHSS 600-160, B444 parking lot and a section of Seventh Avenue just east of the parking lot. The area was previously used as an unpaved storage area for drummed and boxed wastes including uranium- and plutonium-contaminated oils and coolants and waste from the May 1969 fire. Leaks were observed and decontamination activities took place in the early 1970s. Surface soil samples were collected in the area under OU14 and one sample had plutonium at three times the WRW AL. Accelerated action characterization sampling took place between July 8 and August 24, 2004. One surface soil sample had plutonium at greater than three times the WRW AL. Two subsurface soil samples had arsenic concentrations slightly above the WRW AL.

The two arsenic exceedances did not require remediation based on the SSRS, but the two plutonium hotspots did require remediation. Remediation at the first hotspot, CA37-013, took place October 14, 15, and 18, 2004. Remediation at the second hotspot, SS221494, took place November 16 and December 8, 2004. Six confirmation samples were collected from each excavation and all results were below the WRW AL. The IHSS Group 600-4 Closeout Report was approved by CDPHE on December 23, 2004.

3.5.2.5 IA OU, IHSS Group 700-8 (750 Pad-Pondcrete/Saltcrete Storage)

The 750 Pad was constructed in 1969 and was initially used as a parking lot for B750. The pad is located approximately at grade, and slopes two percent to the east. Of the original 220,000 ft^2, 104,000 ft^2 are or have been used for waste storage.

Pondcrete and saltcrete were stored within the bermed area of the 750 Pad. Pondcrete was a low-level mixed waste composed of sludge or sediment from the Solar Evaporation Ponds (SEP) mixed with Portland cement. Saltcrete was a low-level mixed waste composed of process waste from B374 mixed with Portland cement. The material was placed in polyethylene-lined, 3/4-inch plywood boxes measuring 4 feet (ft) by 2.5 ft by 7 ft, and stacked three high on the pad. Metal boxes measuring 4 ft by 4 ft by 7 ft were also used.

Between November 1, 1988, and July 25, 1989, a total of 64 saltcrete boxes were identified as leaking during routine inspections. Approximately 113 pounds of saltcrete leaked or spilled on to the 750 Pad. The spill locations were cleaned by vacuuming until radiation levels measured below detection limits on the instruments being used for the cleanup. The quantity of saltcrete that was retrieved is unknown.

From November 18, 1986, to September 1, 1989, two spills of pondcrete occurred. The spills were released to the asphalt pad. Both spills consisted of unhardened SEP sludge and cement. Following each incident, the entire contents of the failed container and spilled pondcrete were transferred to metal boxes. The spill locations were then cleaned using water and brooms to scrub the 750 Pad surface. The brooms were used to remove pondcrete from the crevices in the asphalt. Water was collected using wet vacuums. Cleaning continued until radiation levels measured below detection limits on the instruments being used for the cleanup.

Surface and subsurface soil samples were collected from 55 locations (statistical and biased). Statistical sampling locations were selected using a 22-meter sampling grid, and biased sampling locations targeted known spill areas, paved areas where the asphalt was cracked or failing, and paved areas that had been patched or repaired. Sediment samples were collected from the seven storm drain inlets located along the eastern perimeter of the 750 Pad. A total of 117 soil samples (55 surface, 55 subsurface, and 7 sediment) were analyzed for radionuclides, metals (including beryllium and lithium), polychlorinated biphenyls (PCBs), and semivolatile organic compounds (SVOCs). In addition, the 55 subsurface soil samples were analyzed for volatile organic compounds (VOCs).

Results of the accelerated action characterization supported the determination of IHSS Group 700-8 as NFAA, and it was approved by CDPHE on December 17, 2004.

3.5.2.6 BZ OU, IHSS Group 900-11 (903 Pad, Hazardous Disposal Area, 903 Lip Area [inner], 903 Lip Area [outer] and East Firing Range and Target Area)

A component of IHSS Group 900-11 (903 Pad and Lip areas) is the East Firing Range, PAC SE-1602. The East Firing Range was used for security officer training and qualification between 1951 and 1986. The East Firing Range consists of a parking area, small arms range, and backstop berm in the north and target rows and bullet impact areas to the south. Pistols and shotguns were fired from west to east at targets planted in front of the berm. Rifles and machine guns were fired from the southern lip of the small arms range toward targets on the north and south slopes of Woman Creek.

Analytical results from accelerated action characterization sampling at 111 locations collected between June 16 and September 13, 2004 indicated the presence of lead and arsenic in surface and subsurface soil. Remediation of the range consisted of soil removal over about 1.2 acres in three different areas. Soil was removed from the berm, a group of 6 trenches south of the small arms range that were created due to bullet impact, and an area on the south slope of Woman Creek which was the impact area for bullets fired at targets on the north slope and also containing its own set of targets. The trench area was backfilled with clean soil and the berm and south area were graded to match the existing slope. Sixty confirmation samples were collected between November 15 and December 13, 2004 to document the efficacy of the remediation. There is residual arsenic in the berm area between the WRW AL of 22.2 mg/kg and at agreed upon remedial action objective of 35 mg/kg. These results are based on the EPA SW-846 6200 analytical method. In the south area one subsurface lead WRW AL exceedance was partially remediated when the top six inches of the sample interval (originally 0.5 to 2.0 ft.) was excavated. Three surrounding confirmation samples within 17 ft. of the contaminated sample do not exhibit lead exceedances. A draft Closeout Report was submitted to the agencies on December 16, 2004 and was discussed on January 6, 2005.

3.5.2.7 Group 000-5 (Present Landfill) and Group SW-2 (Original Landfill)

Group 000-5 (Present Landfill)

The Present Landfill Interim Measure/Interim Remedial Action (IM/IRA) decision document was approved by CDPHE and EPA on August 23, 2004. Field activities are ongoing and expected to last through the second quarter of FY05.

Group SW-2 (Original Landfill)

The draft Original Landfill IM/IRA was released for a 45-day public review and comment period on December 6, 2004. Field activities related to the design of the proposed action began in the third quarter of FY04. Construction of the proposed action is scheduled for FY05 after the approval of the IM/IRA.

3.5.2.8 BZ OU, B-Ponds Remediation

Ponds B-1, B-2 and B-3 are being remediated in accordance with ER RSOP Notification#04-11. Pond sediments will be removed, dewatered, and packaged for disposal. Confirmation samples will be collected from each of the ponds to determine that remediation goals are met. It is anticipated that remediation will be completed during the second quarter of FY05.

3.5.2.9 Groundwater Interim Measure/Interim Remedial Action

The purpose of the Groundwater IM/IRA is to identify accelerated actions for remediation of shallow groundwater contamination at RFETS. Although the shallow groundwater at RFETS, which constitutes the upper hydrostratigraphic unit (UHSU) at RFETS, is not

utilized as a source of drinking water, it can present a potential exposure pathway to the ground surface via seeps and groundwater discharge to surface water. The majority of UHSU groundwater is not contaminated, nor do areas of groundwater contamination extend to the RFETS boundary. However, there are areas within the IA OU with measured elevated concentrations of groundwater contaminants. These areas are the subject of accelerated actions proposed in the IM/IRA. The 45-day public review and comment period started on December 13, 2004. DOE had granted an extension to the comment period; the comment period is scheduled to close on February 10, 2005.

3.5.2.10 Status of ER Documents

Table 1 lists the status of ER Documents from October 1, 2004 through December 31, 2004.

Table 1. Status of ER Documents

IHSS Groups	Status	Date to Agencies	Approval Date
Closeout Reports			
400-7 – UBC 442 – Filter Test Facility, IHSS 157.1 – Radioactive Site North, IHSS 129 – Building 443 Oil Leak, IHSS 187 – Sulfuric Acid Spill Building 443	Approval Pending	12/13/04	
600-4 Radioactive Site Building 444 Parking Lot	Received Approval	12/14/04	12/23/04
700-11 – PAC 700-1108 – Bowman's Pond, IHSS 139.1(N)(a)	Approval Pending	12/16/04	
900-11 – IHSS 112, 903 Pad	Approval Pending	10/18/04	
900-11 – IHSS 155 903 Lip Area, IHSS 140 Hazardous Disposal Area	Approval Pending	12/2/04	
900-11 – PAC SE-1602 East Firing Range and Target Area	Approval Pending	12/20/04	
Data Summary Reports			
100-1 – UBC 122 – Medical Facility and Tank 1 OPWL Underground Stainless Steel Waste Storage Tanks	Received Approval	12/7/04	12/13/04
300-2 – UBC 331- Maintenance, IHSS 134(S) Lithium Metal Destruction Site	Received Approval	11/11/04	12/17/04
400-5 – IHSS 205 - Sump #3 Acid Site, PAC 400-813 – RCRA Tank Leak in Building 460, PAC 400-815 – RCRA Tank Leak in Building 460	Received Approval	10/28/04	12/7/04
700-8 – IHSS 214 – 750 Pad, Ponderete/Saltcrete Storage	Received Approval	11/23/04	12/17/04
NFAA Summaries			
PAC 000-505 – Storm Drains	Submitted to Agencies for Review	11/4/04	
PAC 000-500 – Sanitary Sewers	Submitted to Agencies for Review	12/9/04	
Sampling and Analysis Plan Addenda			
CRA SAP Addenda 05-01	Received Approval	11/16/04	12/2/04
ER RFCA Standard Operating Protocol Notification			
05-02 – 500-3 (UBC 559)	Submitted to Agencies for Review		
05-03 – 900-2 (IHSS 154 and IHSS 153	Developing		
05-04 – 800-3 (UBC 883)	Submitted to Agencies for Review		
OTHER			
Original Landfill IM/IRA	Public Comment		
Groundwater IM/IRA	Public Comment		

4.0 Water Management

Water management activities during the first quarter of FY05 included: (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; and (4) Groundwater Monitoring.

4.1 Watershed Improvements

Dam activities completed during the first quarter of FY05 included video inspection of the C-2 outlet pipe and submission of plans for C-2 outlet modifications to the State

Engineer's Office for review in preparation for completing improvements if found necessary by the outlet inspection. In addition, drawings and specifications were completed for modifications to C-1 dam to breach and install stop log weir structures. Drawings and specifications were begun for modifications to the A- and B- series dams. Inclinometer monitoring was performed in December 2004; results will be evaluated during the second quarter of FY05. Inspection and maintenance of the B-5 upstream outlet gate was performed.

Storm water pollution prevention practices (silt fences, straw bales, mats, wattles, recontouring patterns, etc.) were implemented for various RFETS demolition projects to minimize storm water runoff, erosion, and sediment transport into the drainage system. In accordance with the Storm Water Pollution Prevention Plan, the annual Comprehensive Site Compliance Evaluation report was issued on October 27, 2004 and will be retained as part of the Storm Water Pollution Prevention Plan (per the RFETS National Pollutant Discharge Elimination System Permit).

Field inspections of storm water culverts and structures continued. As in previous years, the closure activities have resulted in some existing structures being removed, and some new culverts installed due to the addition of temporary roads and new facilities. Where appropriate, storm water culverts are being identified for future removal.

4.2 Surface Water Management

During the first quarter of FY05, Kaiser-Hill completed the following pond water transfers and discharges totaling 20.64 Million Gallons (MG), an increase of 45% compared to the first quarter of FY04 (15.60 MG).

Pond A-3 activity included one outlet-valve direct discharge to Pond A-4 totaling 5.13 MG occurring during the period of October 4 through 21, 2004.

There were no discharges from Pond A-4.

Pond B-5 activity included a continuation of a fourth quarter FY04 outlet-valve direct discharge to South Walnut Creek (SWC) totaling 4.08 MG in the first quarter of FY05. In addition, a pumped transfer of 2.31 MG to A-4 was performed from October 7 through 25, 2004 to allow maintenance and inspection of the upstream gate. Water-quality samples were collected and analyzed. Water-quality data met all requirements and all approvals; notifications were performed prior to the discharge to SWC. The City of Broomfield opted to impound this Pond B-5 discharge within Great Western Reservoir.

Pond C-2 was pump discharged to Woman Creek (WMC) during the first quarter of FY05 from November 8 to December 2, 2004 to approximately the 10% level. The remainder of the volume of water in the pond, 2.45 MG, was discharged through the outlet to WMC from December 13 through 22, 2004, to enable video inspection of the outlet pipe, for a total of 8.23 MG. Water-quality samples were collected and analyzed. Water-quality data met all requirements, with the exception of the State's gross beta

results, and all approvals and notifications were performed prior to the discharge to WMC. The State's gross beta results indicated levels slightly above discharge standards, while the site's indicated it was within the discharge standard limits. Further analyses of the gross beta results indicated that a large part was attributable to potassium-40. Additional water quality samples were taken prior to the outlet works discharge and analyzed for uranium, plutonium, and americium and were found to meet water quality requirements.

There were Pond A-1, A-2, B-1, B-2, B-3, and Landfill Pond transfers during the first quarter of FY05 for a total of 7.02 MG to support dam modification and sediment removal projects. Pond A-1 was pumped to Pond A-3 from November 23 to December 1, 2004 for a total of 0.16 MG. A total of 0.16 MG was pumped from Pond A-2 to Pond A-3 from October 28 to November 3, 2004 and additional 0.04 MG again from December 21 to December 22, 2004 for a total of 0.20 MG. Pond B-1 was pumped to Pond B-2 from October 18 to 19, 2004 for a total of 0.02 MG. Pond B-2 was pumped to Pond A-2 from October 25 to 26, 2004 for a total of 0.07 MG. Approximately 0.20 MG was pumped from Pond B-3 to Pond B-4 on November 10, 2004. The East Landfill Pond was pumped to Pond A-3 from November 2 to 9, 2004 for a total of 0.21 MG, and an additional 0.03 MG pumped to Pond A-3 from December 13 to 16, 2004, for a total of 0.24 MG.

Transfers and discharges from the RFETS ponds during the first quarter of FY05 are summarized in Table 2.

Table 2. RFETS Pond Water Transfers and Discharges - First Quarter of FY05

Dates	Pond Activity	Total MG	Mode
10/1 to 10/6	B-5 to SWC	4.08	Outlet valve direct discharge
10/4 to 10/21	A-3 to A-4	5.13	Outlet-valve direct discharge
10/7 to 10/25	B-5 to A-4	2.31	Pump transfer
10/18 to 10/19	B-1 to B-2	0.02	Pump transfer
10/25 to 10/26	B-2 to A-2	0.07	Pump transfer
10/28 to 11/03	A2 to A-3	0.16	Pump transfer
11/2 to 11/9	Landfill to A-3	0.21	Pump transfer
11/8 to 12/02	C-2 to WMC	5.78	Pump transfer
11/10 to 11/10	B-3	0.20	Pump transfer
11/23 to 10/01	A-1 to A-3	0.16	Pump transfer
12/13 to 12/16	Landfill to A-3	0.03	Pump transfer
12/13 to 12/22	C-2 to WMC	2.45	Outlet valve direct discharge
12/21 to 12/22	A-2 to A-3	0.04	Pump transfer
	Total for Quarter	**20.64 MG**	

4.3 Surface Water Monitoring

During the first quarter of FY05, 88 composite samples were collected by the RFCA automated monitoring network and submitted for analysis. This level of sampling activity is 238% of anticipated (37 samples expected) for the current monitoring network and 91% greater than the average (46 samples) for the same period during the prior seven years of RFCA sampling (1Quarter[Q])FY04: 43 samples, 1QFY03: 55 samples,

1QFY02: 35 samples, 1QFY01: 44 samples, 1QFY00: 54 samples, 1QFY99: 46 samples, 1QFY98: 64 samples, and 1QFY97: 23 samples). This increased number of samples is due to a larger network and higher than average flows for the period.

Reportable 30-day average values for plutonium were observed at RFCA point of evaluation (POE) SW093 for the period from April 11 through October 12, 2004 using validated data. Reportable 30-day average values for americium were also observed for the period from July 22 through October 12, 2004 using validated data. Additional data are being validated. The end of the reportable period will be determined when Kaiser-Hill receives subsequent validated analytical results.

Water flowing through SW093 also passes through the lower A-series ponds (Ponds A-3 and A-4) and North Walnut Creek before leaving RFETS. RFCA Points of Compliance (POCs) GS11 (Pond A-4 outlet) and GS03 (Walnut Creek at Indiana Street) again monitor this water. SW093 analytical results and the reportable 30-day average values were compared with those for pre-discharge samples collected from Pond A-4 prior to the May and August 2004 A-4 direct discharge and from RFCA POC monitoring stations GS11 and GS03 for those discharges (May 17 – May 27, 2004 and August 11 – August 23, 2004). Monitoring results from Pond A-4 (both predischarge samples), all discharge GS11 composite samples, and all discharge composite samples from POC GS03 met stream standards and were below reporting thresholds for the same period. Pond A-4 predischarge samples collected prior to the planned November 2004 direct discharge showed unacceptable Am levels. As such, any Pond A-4 discharge is pending.

Reportable 30-day average values for Pu were observed at POE SW027 for the period from June 22, 2004 through October 12, 2004 using validated data. Reportable 30-day average values for Am were also observed for the period from June 27 through October 11, 2004 using validated data. Additional data are being validated. The end of the reportable period will be determined when Kaiser-Hill receives subsequent validated analytical results.

Water flowing through SW027 also passes through Pond C-2 before leaving RFETS. POCs GS31 (Pond C-2 outlet) and GS01 (Woman Creek at Indiana Street) again monitor this water. SW027 analytical results and the reportable 30-day average values were compared with those for pre-discharge samples collected from Pond C-2 prior to the November 2004 C-2 direct discharge and from RFCA POC monitoring station GS01 for that discharge (November 8 – December 22, 2004). Monitoring results from Pond C-2 (predischarge sample) met stream standards prior to the initiation of discharge on November 8. Analytical data for discharge composite samples from both GS31 and GS01 had not been received by the Site as of December 28, 2004.

Kaiser-Hill and DOE have completed the water year (WY) 2004 source evaluation reports for POEs GS10, SW027, and SW093 in response to WY 2004 reportable values. These source evaluations are included in the WY 2003 Automated Surface-Water Monitoring Report, completed in December 2004. A key indicator of the elevated levels has been a significant increase in total suspended solids. Kaiser-Hill has issued a Management

Directive (Kaiser-Hill Directive NRT-011-04) enhancing the guidance for implementing comprehensive erosion control measures at RFETS.

A review of all analytical data available for the quarter as of December 28, 2004 showed that the 30-day moving average values for all other POE and POC locations were under the RFCA action levels and standards framework for all monitored analytes.

4.4 Groundwater Monitoring

Highlights from the Third (calendar) Quarter 2004 RFCA Groundwater Monitoring Report were presented at the Quarterly Information Exchange Meetings on December 14, 2004. Other activities completed during the fourth quarter of FY04 included:

1. Sampled 60 IMP wells, 3 Well Abandonment and Replacement Program wells and 4 other groundwater monitoring wells. One hundred forty-eight groundwater samples were shipped to off-site laboratories for analysis. Sampling of 11 additional wells was attempted but the wells were dry. Measured water levels at 90 wells during the first 10 days of October 2004.
2. The Well Abandonment and Replacement Program abandoned 106 wells. No new wells were installed during the quarter. Completed and controlled the calendar year 2004 Well Replacement Work Plan to install 4 wells in January 2005.
3. The Site met with the IMP groundwater working group on October 14 and 25, November 9 and 15, and December 14, 2004 to discuss the proposed long-term groundwater monitoring networks and the FY05 IMP groundwater DQOs.
4. Completed the Final 2003 Annual RFCA Groundwater Monitoring Report and submitted it to DOE, CDPHE, and EPA.

5.0 Approved Decision Documents

There were no decision documents approved during the first quarter of FY05 that require an update to RFCA Attachment 12 in accordance with RFCA paragraph 122.

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