

# ROCKY FLATS STEWARDSHIP COUNCIL

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League of Women Voters -- Rocky Flats Cold War Museum -- Rocky Flats Homesteaders  
Nancy Newell

## Monthly Status Report – June 2015

### Board meeting summary

#### *2014 Stewardship Council audit*

The auditor did not find any material deficiencies and issued a clean audit. The Board voted to accept the audit.

#### *DOE Annual Meeting*

The Stewardship Council hosted DOE's annual update for 2014. Updates included:

- groundwater monitoring;
- surface water monitoring;
- ecological monitoring; and,
- surveillance, maintenance and site operations.

Some of the highlights included:

- Wright Water Engineers briefed on its report evaluating uranium movement at Rocky Flats. The report can be found at: [http://www.lm.doe.gov/Rocky\\_Flats/Documents.aspx](http://www.lm.doe.gov/Rocky_Flats/Documents.aspx) (see "Rocky Flats evaluation of water quality variability: April 2015").
- Over the last few years uranium (U) concentrations in surface water along Walnut Creek have been increasing and then subsequently decreasing in a cyclical fashion on an annual basis. The point of compliance (POC) for Walnut Creek is WALPOC; it is located near the DOE-refuge boundary. During 2014, U concentrations at WALPOC exceeded the regulatory standard of 16.8 micrograms of U per liter of water (the reportable value was 17.0 ug/l).
- All other contaminants of concern remained below regulatory standards at the two points of compliance (POCs), WALPOC and the Woman Creek POC (WOMPOC).
- During the first half of 2014 at water monitoring station GS-10, a water quality point of evaluation (POE) located upstream of former Pond B-1 on South Walnut Creek, reportable conditions for plutonium and americium were observed. The standards for both are 0.15 pCi/l. For the last half of the year these values dropped below the standard. To place 0.15 pCi/l in context, the federal drinking water standard for gross alpha is 15 pCi/l, 100 times greater (less protective) than the Rocky Flats standard.
- Major changes were made at the East Trenches Plume Treatment System where groundwater contaminated with volatile organic compounds (VOCs, solvents) is treated. The original treatment process was deemed not efficient and replaced with a new process

which utilizes a commercial air stripper to effectively remove the VOCs from the groundwater.

- The Solar Ponds Plume Treatment System was the focus of continued study in an effort to improve cost and treatment effectiveness. A pilot-scale project using small containers (“microcells”) of various forms of treatment media—on the order of 1 to 2 gallons—continued being tested to treat uranium. Both of these approaches are being optimized for potential full-scale implementation.

Note: CDPHE’s briefing on cleanup levels at Rocky Flats was postponed until the September 14<sup>th</sup> meeting.

## Legacy Management monthly site inspection summary

DOE reports that in addition to routine monitoring and maintenance activities, site personnel conducted the following activities in May.

### *Groundwater Treatment Systems*

- Mound Site Plume Treatment System (MSPTS): DOE reports the system is functioning normally. Heavy precipitation in May continued to affect the system via high flows and water levels. There were no problems processing the extra water.
- East Trenches Plume Treatment System (ETPTS): DOE reports they collected RFLMA-required semi-annual samples. The heavy precipitation over several weeks led to comparatively high flows through the system. The high flows, well above ETPTS history-based design parameters, resulted in untreated influent occasionally going to the designed overflow bypass (routes to effluent manhole and discharge gallery). The combination of continuously operating effluent pump and lack of sunshine depleted the batteries (low voltage remaining). Staff connected a generator to the solar battery system, as provided for in the reconfiguration design, and topped off the batteries. DOE is also using a sump pump to augment the pump in the effluent tank.
- Solar Ponds Plume Treatment System (SPPTS): DOE reports the system continues to experience clogging due to biomass buildup in the “big box”. The high flows through the system because of the prolonged heavy precipitation led to water backing up in the effluent manhole, which is evidence that the discharge gallery or downstream plumbing has reached its flow-rate limit. Flow data suggest this limit, at least for long-term flows, is on the order of 4 gallons per minutes (gpm). System was flowing at or above that for well over a week, and over 3 gpm for several weeks. DOE also reports staff observed evidence of a single potential big box overflow (algae on top of wall), but no ponded water or flow patterns were observed on the ground outside the system. Shallow groundwater entered the instrument vault and contacted electronic components. The system was shut down temporarily to allow components to dry. Staff ordered a replacement dosing pump and flow meter; other parts appeared unaffected.

### *Surface water and groundwater monitoring*

- Continued 2<sup>nd</sup> quarter 2015 groundwater sampling: wells in area of former buildings 371, 771, ETPTS, SPPTS, Present Landfill, Original Landfill, and near Oil Burn Pit #1.
- Collected sample from the Present Landfill Treatment System effluent.

### *Ecology*

- Conducted quarterly COU sign inspection. No problems were noted.
- Received 45 potted woody plants for the 2015 Habitat Enhancement project.
- Seeded volunteer-collected forb seed into selected Original Landfill soil placement revegetation areas.
- Began wetland delineation/mapping project.
- Began commercial herbicide applications and spot-sprayed to control selected noxious weeds.

### *Miscellaneous*

- Hillside slumping east of the interceptor trench for the SPPTS has started to impact the road. The road has been closed to vehicle traffic until the area dries out and can be repaired. Staff walked the slump trace right after closure, and has revisited it several times since. Institutional knowledge indicates that the slump has been there since the 1990s. The current condition shows a relatively large amount of movement since the last walk-down.
- Completed filling the subsidence holes at former B881 and at former B771.

### *Landfills*

- Conducted routine and weather related inspections of the Present Landfill (PLF) and Original Landfill (OLF). No damage was found at the PLF.
- At the OLF, DOE reports the following:
  - DOE noted significant additional movement on the east side of the landfill cover and in the east perimeter channel following the heavy rains throughout May. Cracking was also observed in the Berm 1 area in the same location as in 2007 and 2010. Smaller cracks were filled where possible using hand tools and the ToolCat.
  - The slumping cut off some existing surface flow channels, causing water to pond. An excavator was used in areas where soil was sufficiently stable to cut small drainage channels. Staff also installed 4-inch flexible piping in some areas on the east edge of the landfill cover to drain water off the cover more effectively and reduce the potential for ponding. Additional short-term responses to the movement, cracking and subsidence are being evaluated.
  - On May 12, the SN3 (formerly Stoller) engineer and the subcontracted geotechnical engineer inspected the OLF. On May 14, CDPHE and the DOE inspected the OLF. On May 20, after significant additional movement occurred during the heavy precipitation event on May 18 and 19, DOE, CDPHE, the geotechnical engineer, and several SN3 staff visited the landfill to discuss additional short-term responses to the movement, cracking, and subsidence.

### Reportable Condition at SW027

SW027 is a surface water monitoring point on the southeastern portion of the Central Operable Unit (COU; DOE-managed lands). It lies below the former 903 pad.

On June 18<sup>th</sup>, DOE issued the following notice:

## NOTIFICATION OF A REPORTABLE CONDITION UNDER RFLMA ATTACHMENT 2, SECTION 6.0, ACTION DETERMINATIONS

This notification is to inform you of a reportable condition under RFLMA Attachment 2, Section 6.0, Action Determinations, at the RFLMA Point of Evaluation, SW027. RFLMA Attachment 2 Section 6 or Figure 6 require informing regulators and the listed stakeholders within 15 days of receipt of validated data, and providing to CDPHE and EPA within 30 days a plan and schedule for an evaluation to address the condition. Although informal notification has already been made to CDPHE and EPA, this e-mail serves as the formal notification.

A reportable condition was determined on June 11, 2015 based on evaluation of recently available validated analytical results for plutonium (Pu-239,240) from the composite samples collected during the period 5/7/14 - 5/8/15. Americium (Am-241) is not reportable at this time. Following is a synopsis of the data:

No samples collected 5/7/14 – 3/8/15 due to lack of flow  
Composite 3/9 – 3/11/15; Pu = 0.116 pCi/L, Am = 0.030 pCi/L  
Composite 3/11 – 4/17/15; Pu = 0.139 pCi/L, Am = 0.030 pCi/L  
Composite 4/17 – 5/6/15; Pu = 0.251 pCi/L, Am = 0.040 pCi/L  
Composite 5/6 – 5/9/15; Pu = 1.02 (duplicate 0.754) pCi/L, Am = 0.18 (duplicate 0.157) pCi/L

The evaluation was performed in accordance with RFLMA Attachment 2, Figure 6, Points of Evaluation, which resulted in 12-month rolling average values for Am of 0.037 pCi/L and Pu of 0.22 pCi/L on 4/30/15. The applicable RFLMA Table 1 Standard for Am and Pu is 0.15 pCi/L.

Flow-through operations at Pond C-2 were initiated on 11/7/11. The recent Pu and Am results from downstream location GS31 (Pond C-2 outlet) are higher than normal. Results from the downstream Point of Compliance WOMPOC (Woman Cr. at COU boundary) have been received through 5/17/15; all results were below RFLMA Table 1 Standard of 0.15 pCi/L and in fact below 0.09 pCi/L.

While the 12-month rolling average for Am is not reportable, the evaluation of the reportable Pu values will include consideration of the Am results.

Pursuant to RFLMA Attachment 2, Section 6.0, Action Determinations, for a reportable condition:

- \* DOE must submit a plan and schedule for an evaluation to address the condition within 30 days of receiving the validated data for the reportable condition.
- \* DOE will consult with CDPHE and EPA to determine if mitigating actions are necessary.
- \* The objective of consultation will be to determine a course of action (if determined necessary) to address the reportable condition and to ensure the remedy remains protective.
- \* Results of consultation will be documented in contact records and/or written correspondence.

Although further evaluation and consultation is required, some preliminary steps will be taken to inform the evaluation. Rocky Flats staff walked down the SW027 drainage on 6/17/15 to inspect for any obvious conditions promoting potential soil erosion. The personnel identified a few areas where additional revegetation could improve soil cover, and where wattles along with products such as GeoRidges could reduce erosion. A consultation with the RFLMA parties is scheduled for June 23, 2015.

DOE later issued the following meeting notice:

The U.S. Department of Energy invites you to attend a Rocky Flats Adaptive Management Plan (AMP) meeting on Wednesday, July 22, 2015 from 10 a.m. – 12:30 p.m. at the DOE Office of Legacy Management Westminster office, 11025 Dover St., Suite 1000, Westminster, CO, 80221. The purpose for this meeting is to provide an opportunity for DOE to discuss and answer questions concerning the reportable condition determined on June 11, 2015 based on results for plutonium (Pu-239,240) from the composite samples collected during the period 5/7/14 - 5/8/15 at Point of Evaluation SW027.

Please respond with your intention to attend or if you have any questions to: *Bob Darr, DOE Legacy Management Support Contractor, 720-377-9672, [bob.darr@lm.doe.gov](mailto:bob.darr@lm.doe.gov)*

## Stewardship Council update

Next meetings:

September 14, October 26