
Overview of the Second Quarter 2012 Surveillance and Maintenance Report for the LM Rocky Flats Site

April–June 2012



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Surface Water Monitoring and Operations



Pond Operations – Second Quarter 2012

- Terminal Pond Discharges:
 - Valves at A-4, B-5, and C-2 were opened in 2011; all Terminal Ponds are now operated in a flow-through mode
- Pond Levels:
 - As of June 30, 2012, the Terminal Ponds were holding approximately 5.0 MG (6.4 percent of capacity)

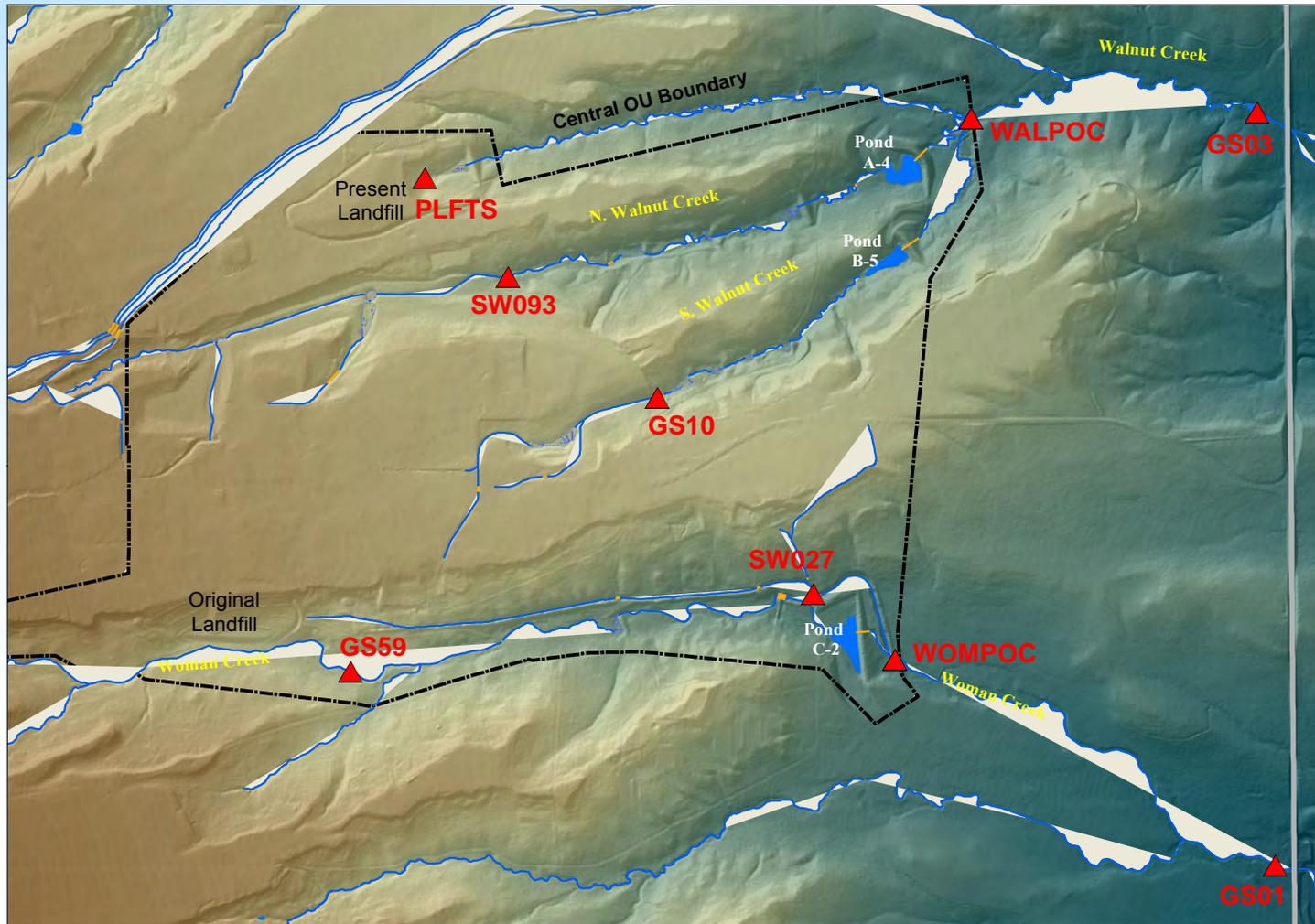


October 15, 2012, Pond Levels

- A-4 (4.8 percent)
- B-5 (6.6 percent)
- C-2 (0.9 percent)

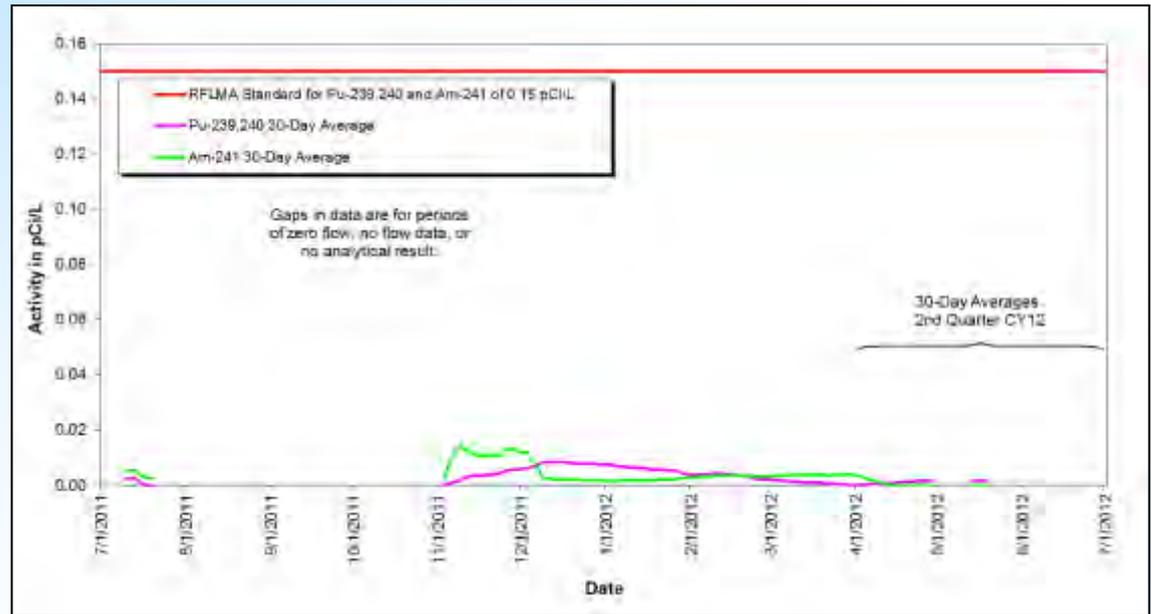


Selected Surface Water Monitoring Locations

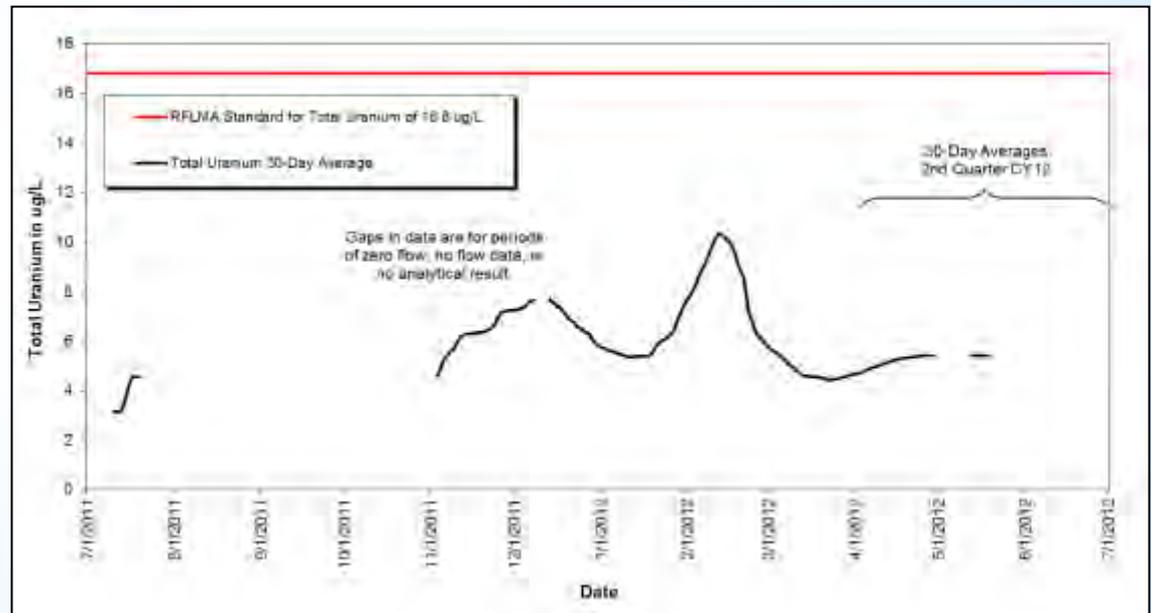


POC GS01

- Plutonium and Americium

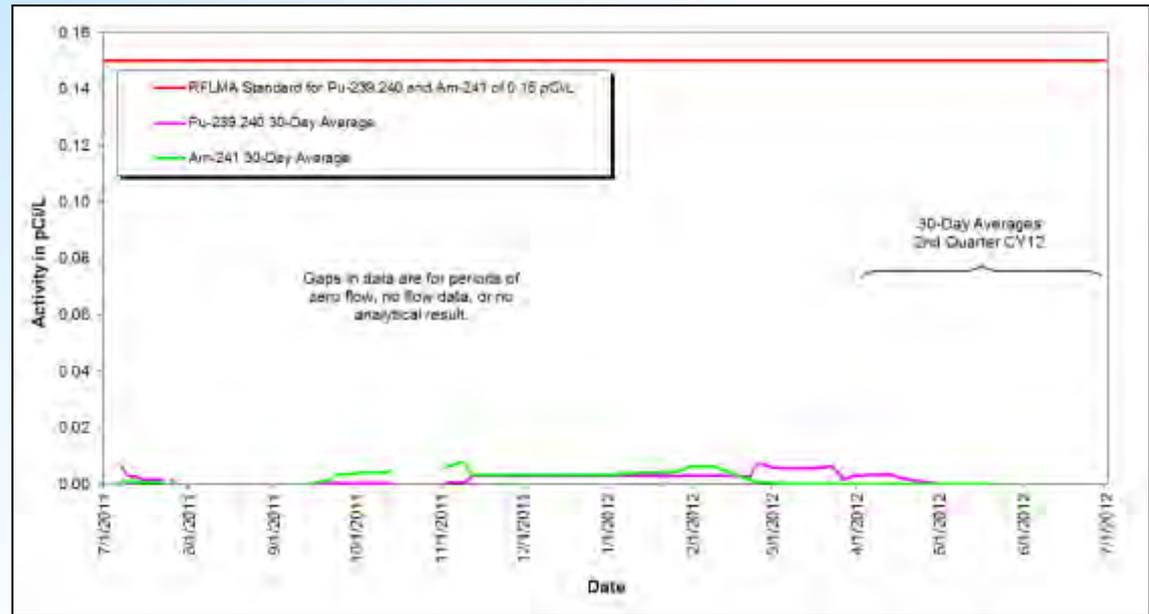


- Total Uranium

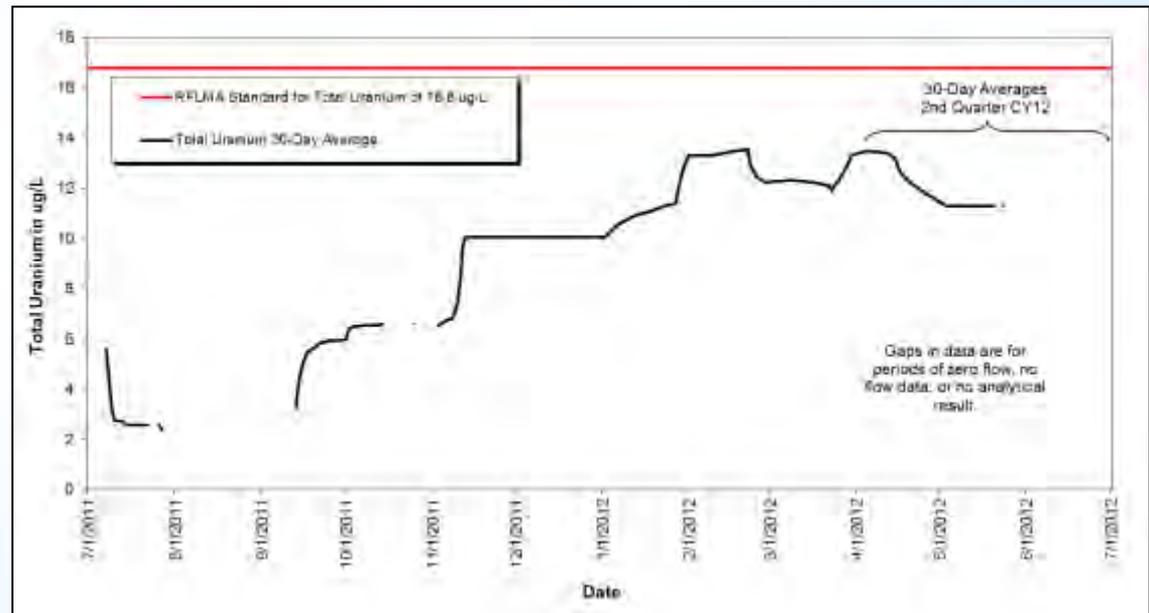


POC GS03

- Plutonium and Americium

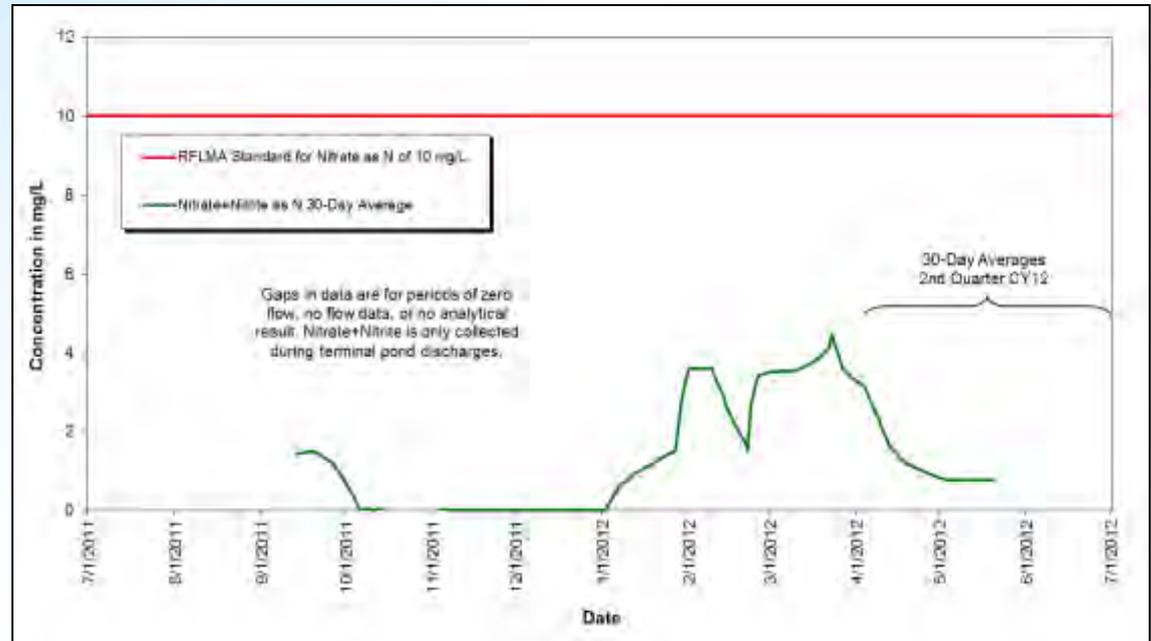


- Total Uranium



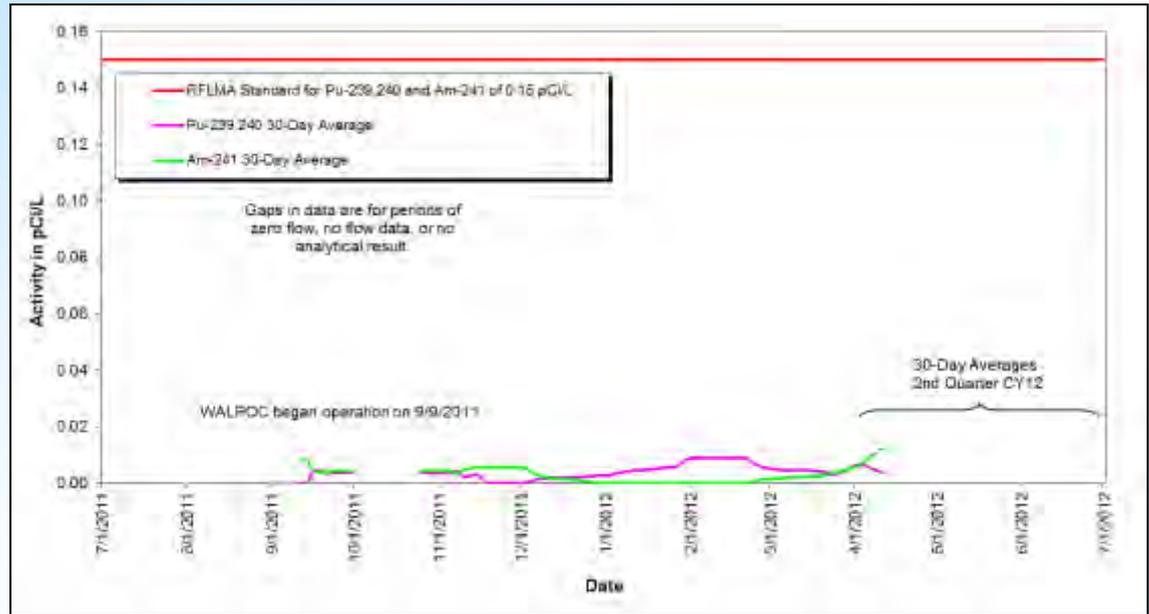
POC GS03

- Nitrate + Nitrite as Nitrogen

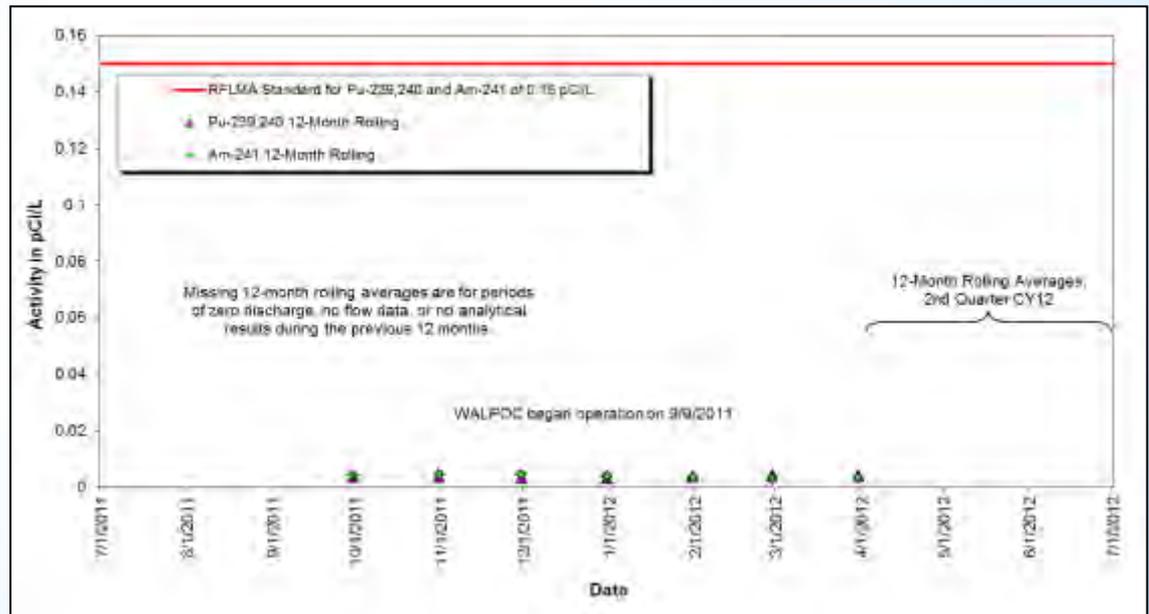


WALPOC

- Plutonium and Americium (30-Day Average)

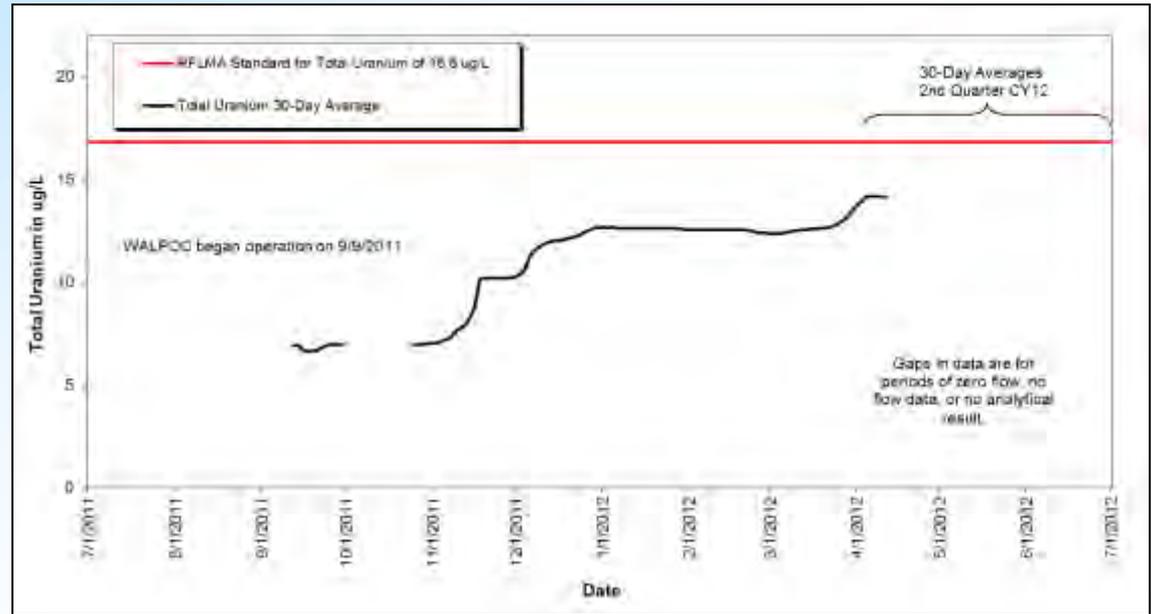


- Plutonium and Americium (12-Month Rolling Average)

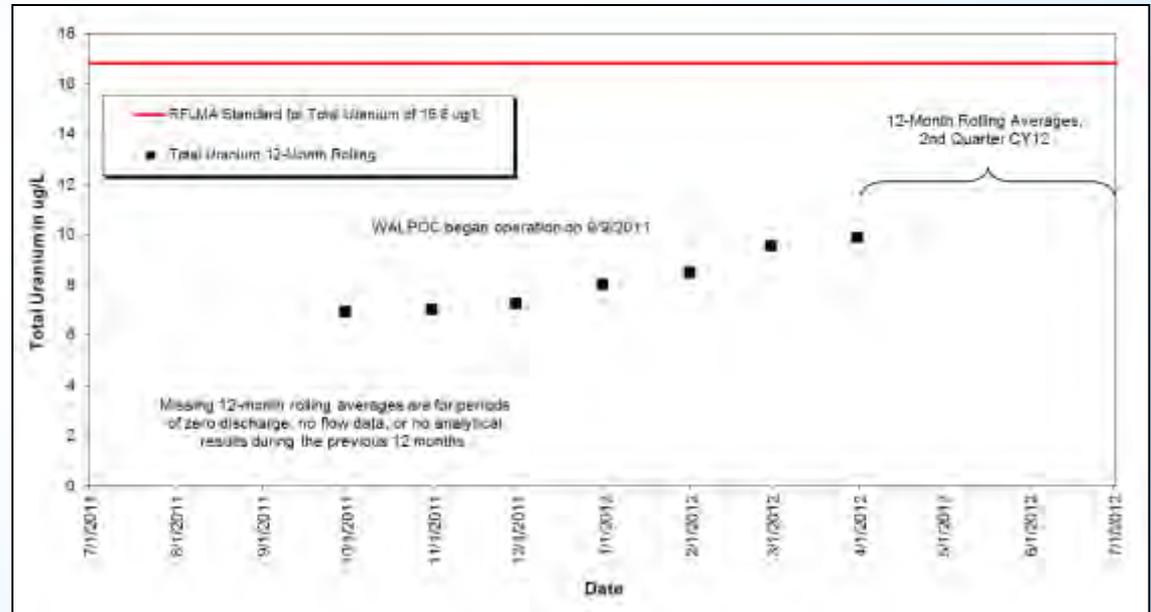


WALPOC

■ Uranium (30-Day Average)

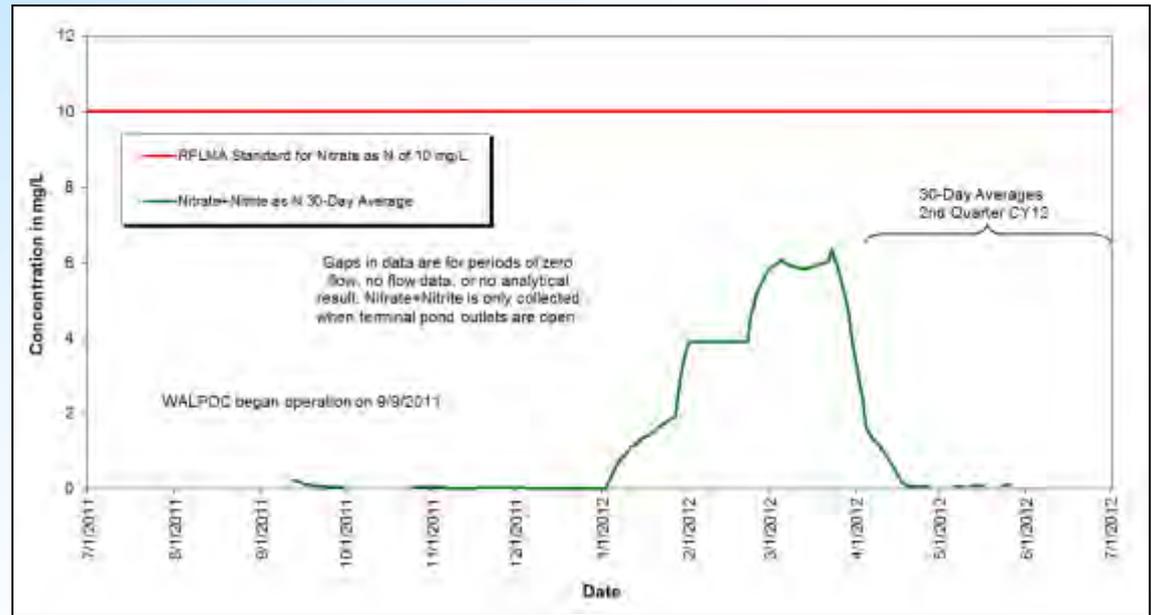


■ Uranium (12-Month Rolling Average)

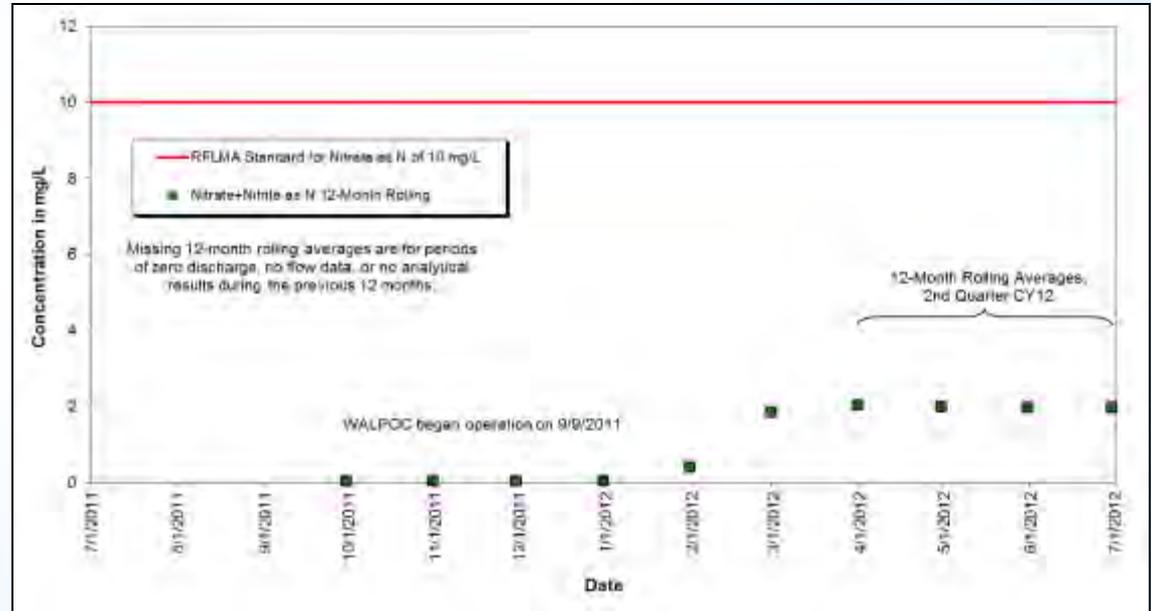


WALPOC

- Nitrate + Nitrite as Nitrogen (30-Day Average)

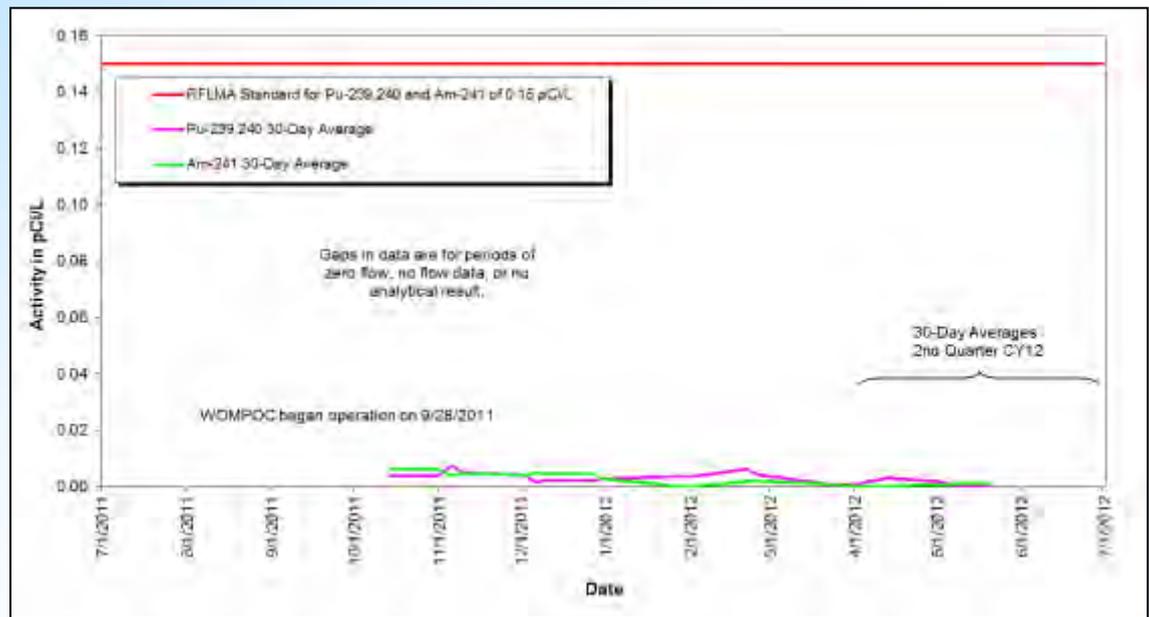


- Nitrate + Nitrite as Nitrogen (12-Month Rolling Average)

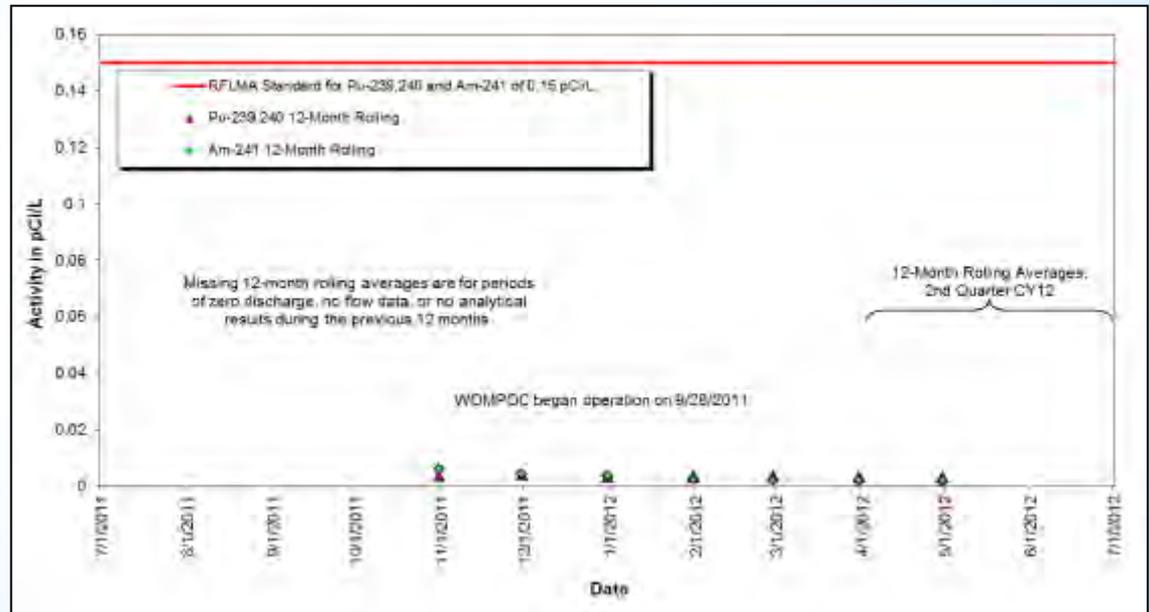


WOMPOC

- Plutonium and Americium (30-Day Average)

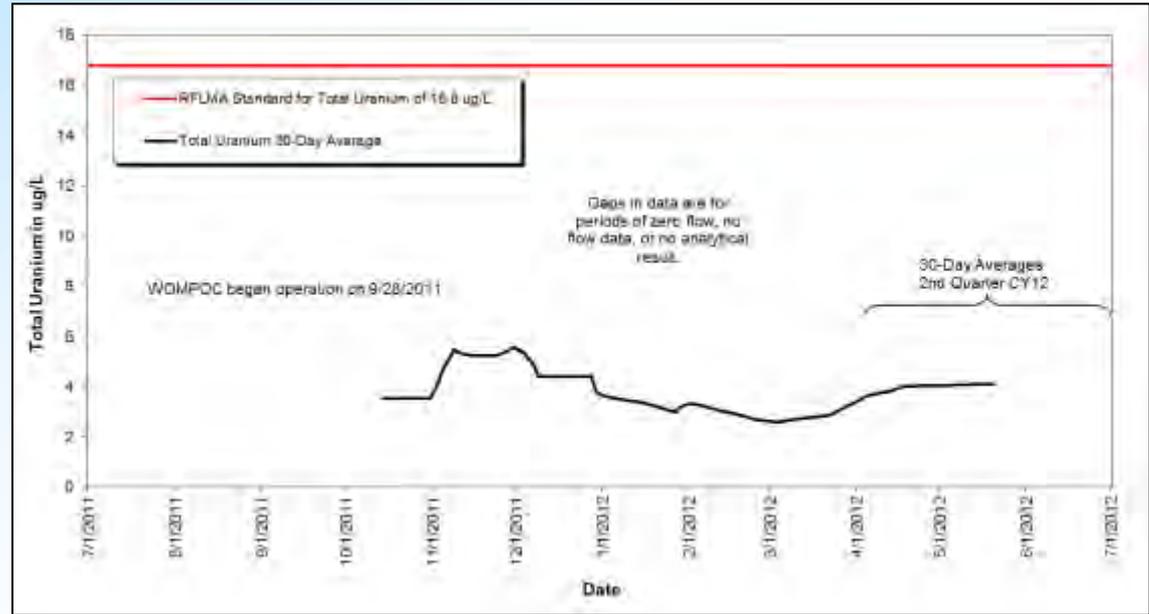


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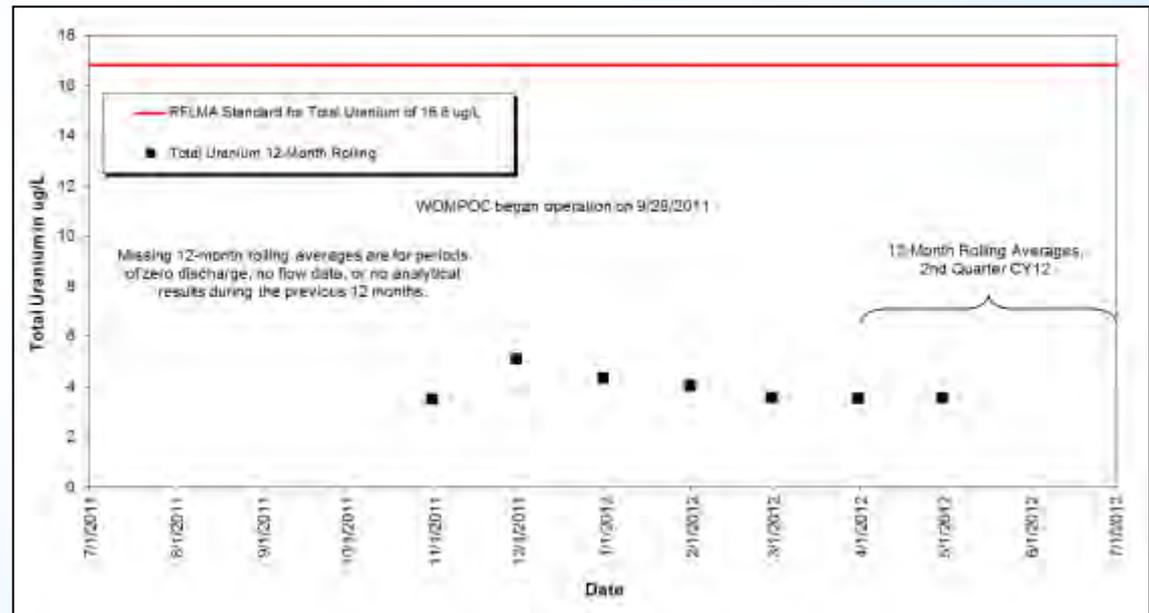


WOMPOC

■ Uranium (30-Day Average)



■ Uranium (12-Month Rolling Average)



Performance Monitoring – Second Quarter 2012 Original and Present Landfills

■ Original Landfill (OLF):

- Surface water quality results were all below standards for the quarter

■ Present Landfill (PLF):

- The selenium concentration was preliminarily reported as above the standard in the sample collected on April 19, 2012, from location PLFSYSEFF, triggering monthly sampling. Subsequent data validation determined that selenium was not detected.
- The selenium concentration was below the standard in the first monthly sample collected on May 23, 2012, resulting in the discontinuation of monthly sampling (this sample was collected prior to data validation for the routine quarterly sample).

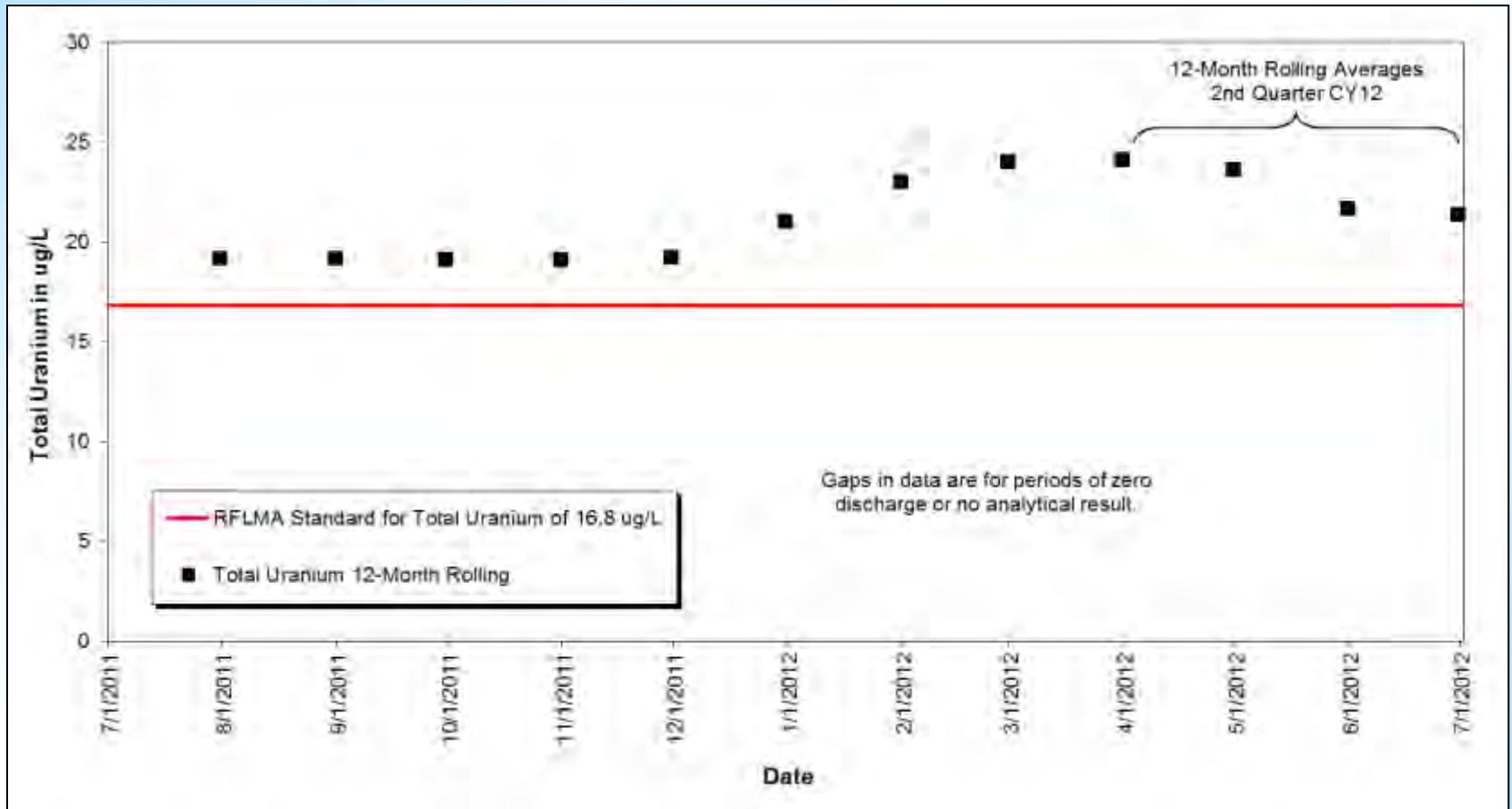


Point of Evaluation (POE) Monitoring – GS10 Second Quarter 2012

- Reportable 12-month rolling average values for uranium at GS10 continued to be observed through the quarter
- Additional sampling is being conducted both upstream of and downstream of GS10
- Contact Records 2011-04 and 2011-05 can be found on the Rocky Flats website



POE Monitoring – Uranium at POE GS10



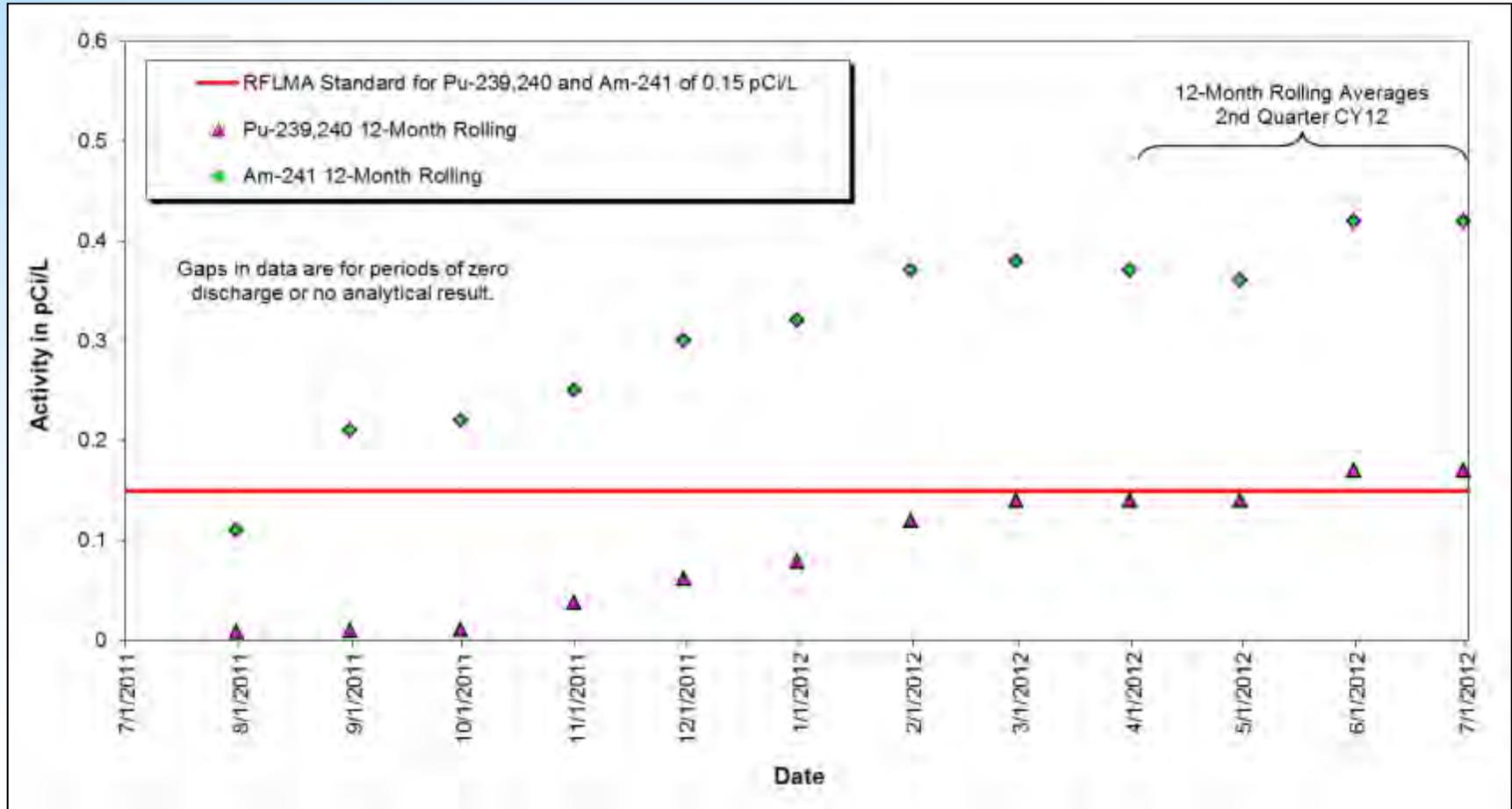
POE Monitoring – GS10

Second Quarter 2012

- Reportable 12-month rolling average values for americium at GS10 continued to be observed through the quarter.
- Reportable 12-month rolling average values for plutonium at GS10 were observed starting on May 31, 2012. Notification was made on July 24, 2012.
- Additional sampling is being conducted both upstream of and downstream of GS10.
- Contact Record 2011-08 can be found on the Rocky Flats website.



POE Monitoring – Pu and Am at POE GS10



Questions?



Groundwater Monitoring and Operations



Second Quarter 2012



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RFLMA Monitoring

- Second quarter (April through June) is a heavy sampling quarter, especially in even-numbered years
 - All RCRA wells (OLF, PLF)
 - All AOC wells
 - All Sentinel wells
 - One well was dry
 - All Evaluation wells (only in even-numbered years)
 - Surface Water Support location
 - All RFLMA Treatment System locations



RFLMA Monitoring (continued)

- Analytical results reviewed in accordance with the RFLMA Attachment 2 decision flowcharts
 - Overall, results consistent with previous
 - No new reportable conditions indicated
- Results will be discussed and evaluated in the 2012 Annual Report



Additional (Non-RFLMA) Activities

■ MSPTS

- Maintenance and optimization of pilot air stripper
 - No freezing observed
 - Reduced solar availability reduced power available, causing pump to stop
 - Resolved power issues
 - Added second pump to test higher flow through nozzles
 - Preparations to install powered ventilation fan (completed in July)



Additional (Non-RFLMA) Activities

■ ETPTS

- Began planning for air stripper at influent manhole
- Differs from unit at MSPTS, which polishes ZVI-treated effluent



Additional (Non-RFLMA) Activities

■ SPPTS

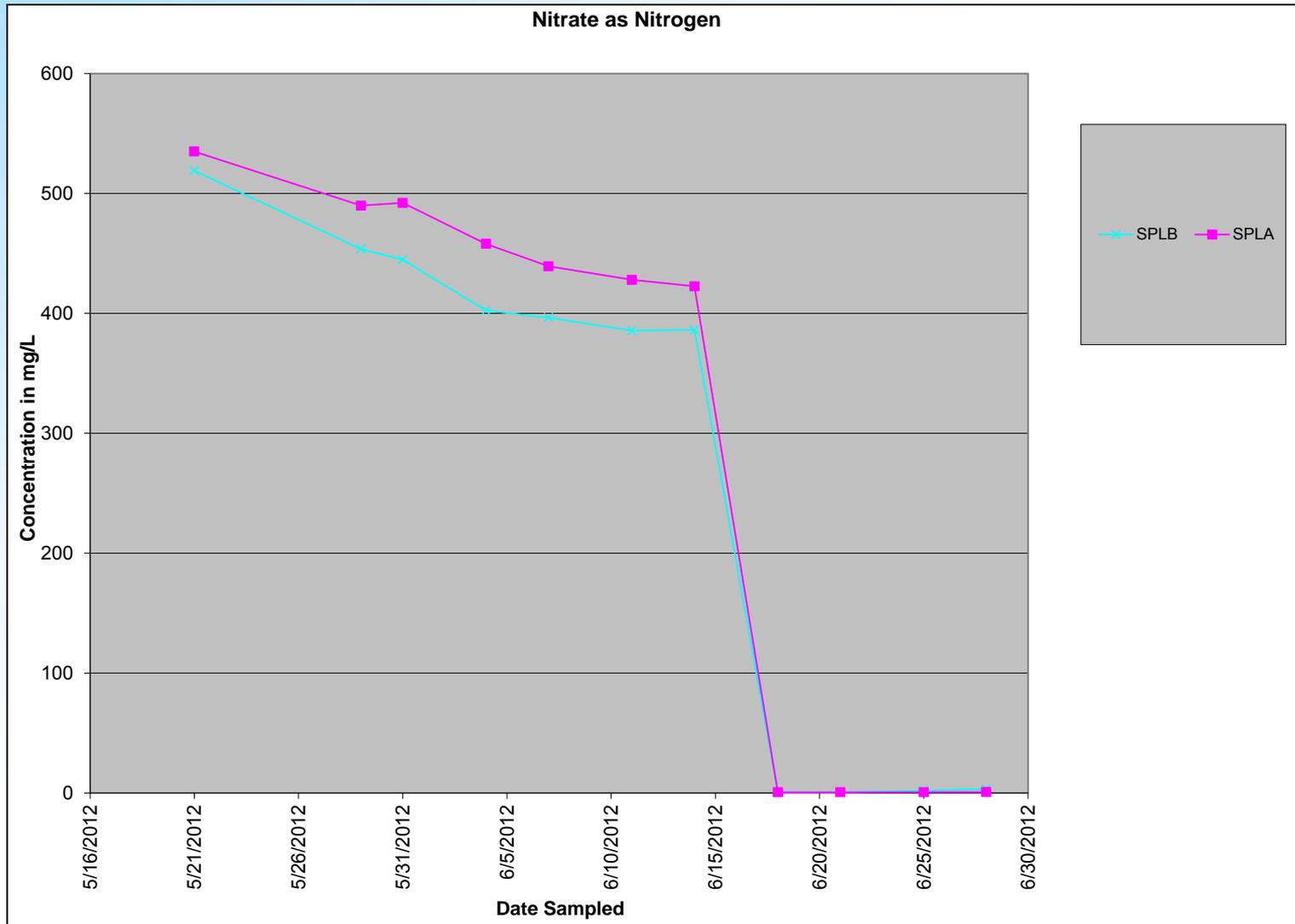
- Microcell (small media-filled containers) testing to treat uranium continued
 - Automated sampling (most often, every 12 hours)
 - ZVI and ion-exchange resins tested
 - Early results: ZVI provided better treatment than resins
- Bench-scale testing of lagoons to treat nitrate began
 - Trash cans filled with carbon-dosed influent and small amount of inoculum
 - One was periodically agitated, second was left stagnant
 - Early results: nitrate successfully removed via lagoon-style treatment



SPPTS Microcell vs. Phase II Cell



SPPTS Lagoon Tests



Treatment Systems: Current Status

■ MSPTS

- Beginning expansion of solar-powered air stripper present on effluent manhole

■ ETPTS

- Beginning design of solar-powered air stripper to be installed on influent manhole

■ SPPTS

- Continuing optimization of ZVI-filled microcells
- Moving toward implementation of microcells
- Completed third round of bench-scale lagoon tests
- Beginning pilot-scale lagoon tests in Phase III Cells A and B



Additional (Non-RFLMA) Activities

- LANL samples



Questions?



Site Operations

Second Quarter CY 2012

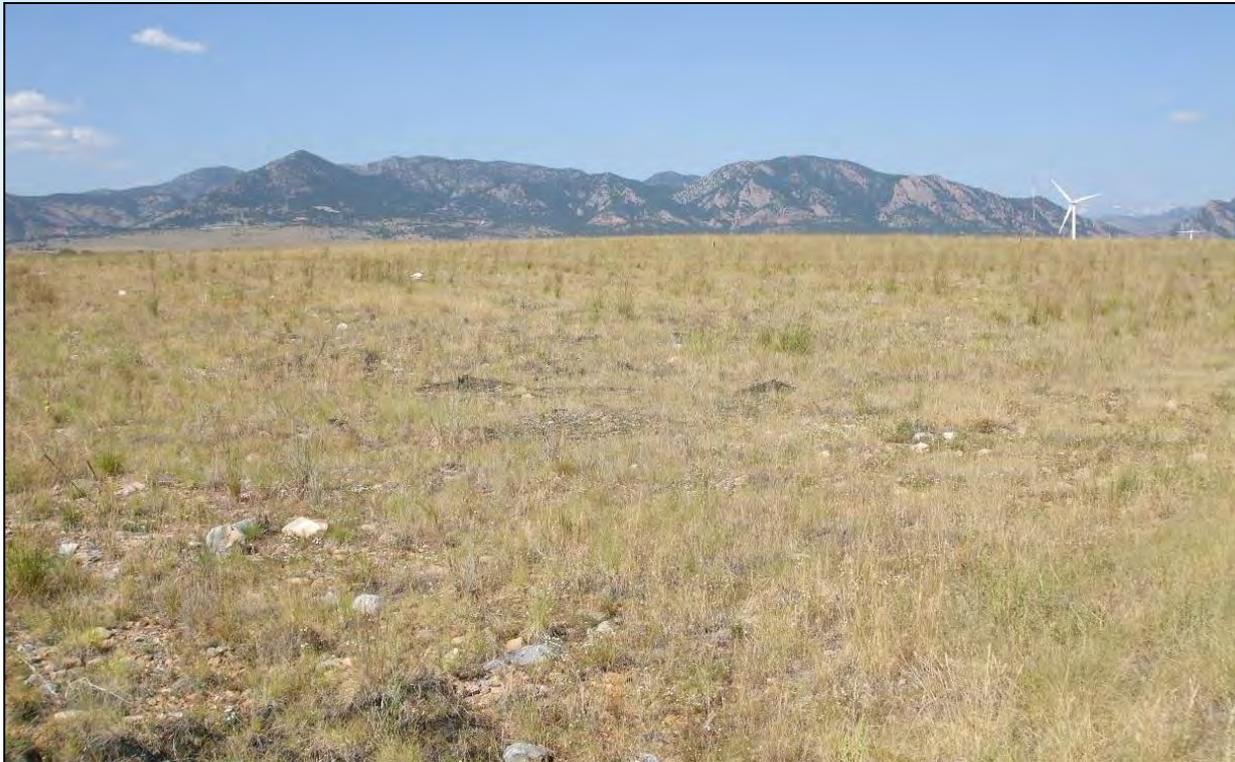


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PLF Inspections and Surveys

- The quarterly inspection was completed on May 30
- No areas of concern were observed



OLF Inspections

- Monthly inspections at the OLF were completed on April 30, May 30, and June 28, 2012



OLF Features



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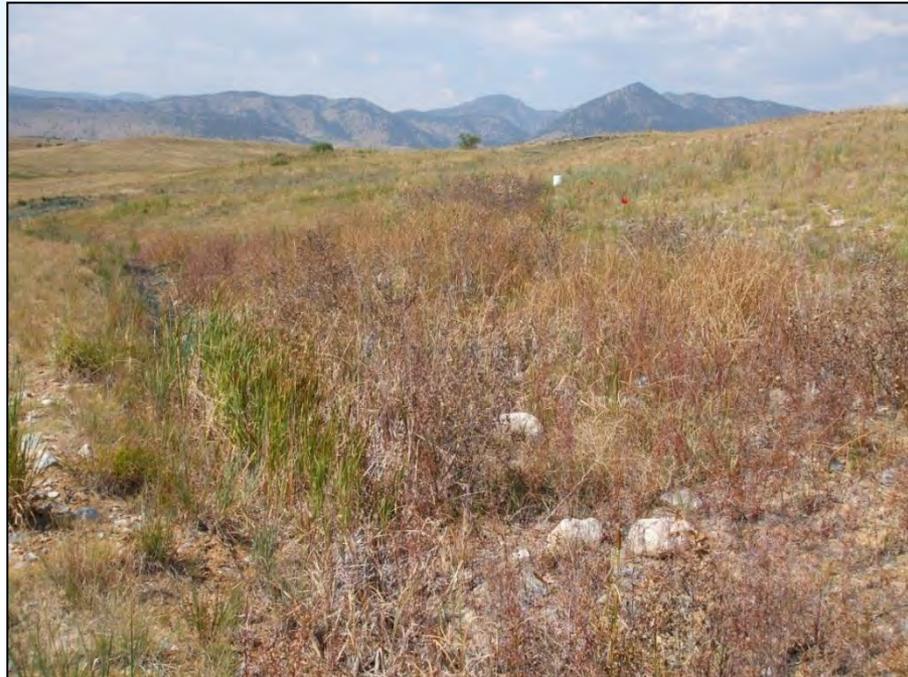


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OLF Seeps

- Seep locations were active throughout the second quarter
- Wetland vegetation had proficient growth
- Woody vegetation was sprayed on June 27 with “Garlon A”



OLF Settlement Monuments

- Settlement monuments were surveyed on June 21, 2012; data are within the expected range per the *Original Landfill Monitoring and Maintenance Plan*



OLF Inclinometers

- Inclinometers were measured April 30, May 31, and June 27, 2012
- No noticeable deflection in the second quarter (and last 2 years)
- Previous work to improve drainage and regrade west channel, along with routine maintenance, seems effective in mitigating localized instability



Questions?



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Ecological Monitoring



Eco Monitoring Conducted During Second Quarter 2012

- Weed mapping
- PLF/OLF quarterly vegetation surveys
- Nest box monitoring
- Prairie dog surveys
- Wetland water level
- Wetland weed surveys
- Preparations under way for revegetation monitoring, PMJM and wetland mitigation monitoring



Eco Activities Conducted During Second Quarter 2012

- Spring herbicide applications made (approximately 167 acres treated in COU)
- Seeded ridge top road from A-3 to PLF and installed erosion controls



Questions?



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