

ROCKY FLATS STEWARDSHIP COUNCIL

P.O. Box 17670
Boulder, CO 80308-0670
www.rockyflatssc.org

(303) 412-1200

Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

Board of Directors Meeting – Agenda

Monday, February 4, 2019, 8:30 – 11:00 AM

**Rocky Mountain Metropolitan Airport, Terminal Building, Mount Evans Room
11755 Airport Way, Broomfield, Colorado**

- 8:30 AM Convene/Introductions/Agenda Review
- 8:35 AM Chairman's Review of January 7th Executive Committee meeting
- 8:40 AM Public Comment: Comments are limited to the Consent Agenda and non-agenda items
- 8:50 AM Business Items (briefing memo attached)
1. Elect Stewardship Council Officers for 2019
Action Item: Elect Officers
 2. Adopt 2019 Meeting Schedule and Notice Provisions Resolution
Action item: Adopt Resolution
 3. Adopt Policy Regarding Disposal of Personal Information
Action item: Adopt Resolution
 4. Adopt Letter to DOE re: Original Landfill
Action Item: Approve Letter
 5. Consent Agenda: Approve meeting minutes and checks
 6. Executive Director's Report

- 9:10 AM Host DOE Quarterly Meeting (briefing memo attached)
- DOE will brief on site activities for the third quarter of 2018 (July – September).
 - Activities include surface water monitoring, groundwater monitoring, ecological monitoring, and site operations (inspections, maintenance, etc.).

Public Comment on DOE's Quarterly Report: Comments must focus on DOE's Quarterly Report.

- 10:30 AM Board Roundtable – Big Picture/Additional Questions/Issue Identification
Adjourn

Upcoming Meetings: All dates are proposed and will be set at this meeting

April 1
June 3
September 9
October 28

Business Items

- Cover memo
- 2019 meeting dates resolution and notice provisions
- Resolution regarding personal information
- Memo from Barb Vander Wall regarding personal information resolution
- Letter to DOE re: Original Landfill
- October 29, 2018, draft board meeting minutes
- List of Stewardship Council checks

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MEMORANDUM

TO: Board
FROM: David Abelson
SUBJECT: Business Items
DATE: January 20, 2019

As provided in the agenda, there are a number of actions the Board must take.

1. Elect Stewardship Council officers for 2019
2. Adopt 2019 Meeting Schedule and Notice Provisions Resolution
3. Adopt Policy Regarding Disposal of Personal Information
4. Approve Letter to DOE re: Original Landfill
5. Consent Agenda – Approve Minutes and checks

Each item, with the exception of the consent agenda, is discussed below.

Election of officers

In accordance with the Stewardship Council bylaws, “the Chair, Vice Chair, and Secretary/Treasurer shall be elected annually by the Board of Directors.” The terms commence at this meeting, and there are no limitations as to the number of terms one can serve. The following people have expressed interest in serving:

Joyce Downing (Northglenn) – Chair
Jan Kulmann (Thornton) – Vice Chair
Jeannette Hillery (League of Women Voters) – Secretary/Treasurer

If you are interested in serving, please let me know. Additional names can be added for consideration at the meeting.

ACTION ITEM: Elect the officers for 2019

Resolution Re: 2019 Meeting Schedule and Notice Provisions

Each year, the Board adopts a resolution establishing the meeting dates for the year. The proposed meeting calendar tracks the schedule the Board has followed for a number of years.

February 4 (first Monday of the month)
April 1 (first Monday of the month)

June 3 (first Monday of the month)
September 9 (second Monday of the month)
October 28 (fourth Monday of the month)

The attached notice provisions track the Stewardship Council's bylaws.

ACTION ITEM: Adopt the meeting schedule and notice resolution

Adopt Policy Regarding Disposal of Personal Information

A new Colorado law requires public and private entities to establish requirements for the disposal of personal identifying information. For more information about the law, see Barb Vander Wall's memo to me dated November 2, 2018.

To be in compliance with the law, the Board must adopt the attached resolution.

ACTION ITEM: Adopt the resolution on personal information

Approve Letter to DOE re: Original Landfill

At the October 29, 2018, meeting, Jefferson County, Boulder County, City and County of Broomfield, City of Arvada, City of Boulder, City of Golden, City of Northglenn, City of Thornton, City of Westminster, Town of Superior, League of Women Voters, Rocky Flats Cold War Museum, Rocky Flats Homesteaders, and Kim Griffiths expressed concern with DOE's management of the Original Landfill (specifically, the agency's current policy of not collecting water quality data at or around the downstream terminus of the subsurface storm drains and associated features). These parties are also concerned that DOE has not conducted a chemical analysis on borings it collected at the Original Landfill. These parties requested that the Stewardship Council, as the DOE-designated Local Stakeholder Organization for Rocky Flats, forward their concerns to DOE.

The letter has been vetted with the parties and captures their overarching concerns.

ACTION ITEM: Approve the letter to DOE

**RESOLUTION
OF THE
BOARD OF DIRECTORS
OF
ROCKY FLATS STEWARDSHIP COUNCIL**

regarding

2019 MEETING SCHEDULE AND NOTICE PROVISIONS

WHEREAS, pursuant to an Intergovernmental Agreement dated as of February 13, 2006, and as amended thereafter, (the “IGA”), the Rocky Flats Stewardship Council (“Stewardship Council”) was established; and

WHEREAS, the Stewardship Council was created to allow local governments to work together on the continuing local oversight of the activities occurring on the Rocky Flats site to ensure that government and community interests are met with regards to long term stewardship of residual contamination and refuge management; and

WHEREAS, the Board of Directors of the Stewardship Council has a duty to perform certain obligations in order to assure the efficient operation of the Stewardship Council; and

WHEREAS, on March 6, 2006, the Board of Directors of the Stewardship Council adopted Bylaws regarding the operations of the Stewardship Council, governing, *inter alia*, meeting and notice requirements; and

WHEREAS, § 24-6-402, C.R.S., of the Colorado Sunshine Law, specifies the duty of the Board of Directors at its first regular meeting of the calendar year to designate a public posting place within the boundaries of the Stewardship Council for notices of meetings, in addition to any other means of notice; and

WHEREAS, pursuant to its Bylaws and Colorado laws, the Stewardship Council desires to establish its regular meeting schedule and location, and to designate its public posting place(s) for 2019.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE ROCKY FLATS STEWARDSHIP COUNCIL THAT:

1. Meeting Schedule/Location. The Board of Directors determines to hold regular meetings the **first Monday of February, April and June, the second Monday of September, and the fourth Monday of October at 8:30 AM** at the Rocky Mountain Metropolitan Airport Terminal Building, 11755 Airport Way, Broomfield, Colorado; and to hold special meetings as may be necessary, in accordance with the Bylaws of the Stewardship Council.

2. Regular Meeting Notice. The Board of Directors determines to annually post its regular meeting schedule at the Clerk and Recorder’s office of the following counties: Jefferson, Boulder, Broomfield, Adams and Weld; and at the City or Town Clerk’s Office of the following cities and/or towns: Arvada, Boulder, Broomfield, Westminster, Golden, Superior, Thornton, and Northglenn, for posting in a public place. In addition, the Board shall post its regular meeting schedule on the website established for the Stewardship Council. These notices shall remain posted throughout the year. At least seven (7) days advance notice of the regular meeting time, place and date shall be provided to the

directors and alternate directors, and to those members of the public who so request. The general nature of the business proposed to be transacted or the purpose of any meeting of the Board of Directors shall be specified in the notices of such meeting where possible.

3. Special Meeting Notice. In the event of a special meeting, a notice of such special meeting shall be posted at least seventy-two (72) hours in advance at the clerks' offices of the counties, cities and towns indicated above, for posting in a public place. At least seventy-two (72) hours advance notice of the special meeting time, place and date shall be provided to the directors and alternate directors, and to those members of the public who so request. The general nature of the business proposed to be transacted at or the purpose of any meeting of the Board of Directors shall be specified in the notices of such meeting where possible. The Board of Directors' ability to act on matters brought before it at a special meeting is restricted to those items specified in the notice.

4. Emergency Meeting Notice. Should the Board of Directors determine an emergency special meeting is necessary, a notice of such emergency meeting shall be posted at least twenty-four (24) hours in advance at the clerks' offices of the counties, cities and towns indicated above in accordance with the Colorado Open Meetings Act. The general nature of the business proposed to be transacted at, or the purpose of, any meeting of the Board of Directors shall be specified in the notices of such meeting where possible. The Board of Directors' ability to act on matters brought before it at a special meeting is restricted to those items specified in the notice.

5. Additional Notification. The Stewardship Council shall maintain a list of persons who, within the previous two years, have requested notification of all meetings, or of meetings with discussions of certain specified policies, and shall provide reasonable advance notification of such meetings to the individuals.

APPROVED AND ADOPTED THIS 4TH DAY OF FEBRUARY, 2019.

(SEAL)

ROCKY FLATS STEWARDSHIP COUNCIL

By: _____
Chair

ATTEST:

By: _____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE
ROCKY FLATS STEWARDSHIP COUNCIL**

Disposal of Personal Identifying Information

WHEREAS, the Rocky Flats Stewardship Council (“Stewardship Council”) was established pursuant to an Intergovernmental Agreement dated as of February 13, 2006, and amended thereafter, as a separate legal public entity and a political subdivision of the state of Colorado, as permitted by Colo. Const. Art. XIV, section 18(2), and part 2 of article 1, title 29, C.R.S.; and

WHEREAS, as a government entity and political subdivision of the State of Colorado, the Stewardship Council is subject to and required to comply with Colorado Revised Statutes, Section 24-73-101 (“**Personal Information Statute**”); and

WHEREAS, the Personal Information Statute requires the adoption of a written policy explaining the Stewardship Council’s disposal practices for documents containing personal identifying information of citizens of the State of Colorado; and

NOW THEREFORE, be it resolved by the Board of Directors for the Rocky Flats Stewardship Council that the “Policy Regarding Disposal of Data Containing Personal Identifying Information” attached as **Exhibit A** to this resolution (“**PII Data Disposal Policy**”), is approved.

Dated the ____ day of _____, 2019.

ROCKY FLATS STEWARDSHIP COUNCIL

President

Attest:

Secretary

Exhibit A

POLICY REGARDING DISPOSAL OF DATA CONTAINING PERSONAL IDENTIFYING INFORMATION

During the course of its activities, the Stewardship Council may receive personal identifying information. Personal identifying information is classified under the Colorado Revised Statutes, Section 24-73-101(4)(b) as the following:

- Social security number;
- Personal identification number;
- Passwords;
- Passcodes;
- Official state or government-issued driver's license or identification card number;
- Government passport number;
- Biometric data (i.e. finger print or retina scan);
- Employer, student, or military identification number;
- Financial transaction devices (i.e. credit cards, debit cards, banking cards, electronic fund transfer cards, guaranteed check cards, and financial account numbers).

When paper or electronic documentation containing personal identifying information is no longer needed, the District shall destroy or arrange for the destruction of such paper and electronic documents within its custody or control that contain personal identifying information by shredding, erasing, or otherwise modifying the personal identifying information in the paper or electronic documents to make the personal identifying information unreadable or indecipherable through any means.

MEMORANDUM

TO: David Abelson, Executive Director / Rocky Flats Stewardship Council

FROM: Seter & Vander Wall, P.C.

DATE: November 2, 2018

RE: HB18-1128 / Personal Identifying Information Statute

The Colorado legislature passed HB 18-1128 in June 2018, with an effective date of September 1, 2018. The new law applies to both public and private entities and establishes requirements for the disposal, maintenance and breach notification of “personal identifying information” (“PII”).

The following are the important items to know regarding the new law.

1. **Who does this apply to?**

- a. § 6-1-713, C.R.S., applies to “covered entities” which are defined as any person (individual, corporation, business trust, estate, trust, partnership, unincorporated association, or two or more thereof having a joint or common interest, or any other legal or commercial entity) that maintains, owns, or licenses personal identifying information in the course of the person’s business, vocation, or occupation.
- b. §§ 24-73-101, *et seq.*, C.R.S., is intended to apply to all governmental entities (i.e. political subdivisions of the state of Colorado).

2. **What does this statute require one to do?** The obligations are divided into three parts:

- a. Establish a written PII document disposal policy for when the entity no longer needs the paper or electronic PII documents. Attached is a proposed policy that we are recommending our governmental clients pass at a Board meeting, which includes the language for disposal required in C.R.S. § 24-73-101.
- b. A governmental entity that maintains, owns, or licenses PII shall implement and **maintain reasonable security procedures and practices** that are appropriate to the nature of the PII and the nature and size of the governmental entity. When working with third party service providers the government must require that the service provider implement its own reasonable security procedures. This provision of the law does not require the implementation of any written policies.

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It would be appropriate for each covered entity to review its security procedures regarding PII and identify and implement any necessary changes.

- c. C.R.S. § 24-73-103 provides the requirements for notification of the affected residents and public disclosure in the event of a breach of PII.

3. What is Personal Identifying Information? These statutes define PII a little differently for the purposes of data destruction and reporting breaches of PII security. PII requiring a destruction policy is defined in the C.R.S. § 24-73-101(4)(b) as the following:

- Social security number;
- Personal identification number;
- Passwords;
- Passcodes;
- Official state or government-issued driver's license or identification card number;
- Government passport number;
- Biometric data (i.e. finger print or retina scan);
- Employer, student, or military identification number;
- Financial transaction devices (i.e. credit cards, debit cards, banking cards, electronic fund transfer cards, guaranteed check cards, and financial account numbers).

However, government entities (and other covered entities) are required to notify the affected party of a breach of the following types of PII (defined by § 24-73-103(1)(g)(I)(A), C.R.S.): a Colorado resident's first name or first initial and last name in combination with any one or more of the following data elements (when not encrypted):

- Social security number;
- Personal identification number;
- Student, military or passport identification number;
- Medical information;
- Health insurance identification number;
- Biometric data;
- Colorado resident's username or email address, in combination with a password or security questions and answers that would permit access to an online account;
- Account number or credit or debit card number in combination with any required security code, access code, or password that would permit access to that account.

4. **How is the new law enforced?** The Attorney General may bring an action for injunctive relief for enforcement.

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League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

February ____, 2019

Mr. Scott Surovchak
Manager, Rocky Flats Site
United States Department of Energy
11035 Dover Street, Suite 600
Westminster, CO 80021

Dear Mr. Surovchak,

As the Department of Energy (DOE)-designated Local Stakeholder Organization for Rocky Flats (LSO), the Board of Directors of the Rocky Flats Stewardship Council is forwarding to you concerns that have been brought forth by Jefferson County, Boulder County, City and County of Broomfield, Arvada, Boulder, Golden, Northglenn, Thornton, Westminster, Superior, League of Women Voters, Rocky Flats Cold War Museum, Rocky Flats Homesteaders, and Kim Griffiths (hereafter "Parties"). While there is a range in the depth the Parties' concerns, the following represents their shared perspective. We ask that you respond to their concerns in writing.

Local governments and community organizations have closely tracked management activities at the Original Landfill (OLF), an old waste dump situated on a steep hillside above Woman Creek. Public concern with the OLF has increased in recent years as a result of slumping. The majority of Stewardship Council meetings include some discussion by DOE and/or the Colorado Department of Public Health and Environment (CDPHE) of the OLF and ongoing steps to evaluate subsurface hydrology and the source of slumping, and to develop remedial actions.

Since the completion of cleanup activities in October 2005, DOE's understanding of Rocky Flats and the long-term effectiveness of the cleanup remedies has increased—and based on that increased understating, DOE, working with CDPHE and the Environmental Protection Agency (EPA), has made a number of important changes to the monitoring program. That ability to adapt has proven invaluable in managing a site that is not static.

The Parties commend DOE for the focus and attention it has placed in expanding its understanding of the subsurface hydrology and the unintended consequences of leaving in place at the OLF subsurface drains and associated features. All of us, DOE included, now know that groundwater movement through the OLF is more complex than previously thought, with approximately 500,000 gallons of water moving through the subsurface storm drains and associated features toward the OLF over a three-month period.

That pathway changes our collective understanding of water movement and potential contaminant migration through the OLF.

Accordingly, the Parties request that DOE collect water quality data at or around the downstream terminus of the subsurface storm drains and associated features, prior to pumping and discharging the water to a downstream location. DOE currently collects downstream water at two surface water monitoring locations, GS-59 and WOMPOC. These two locations are critical in identifying the potential impact of the OLF on water quality. However, with the change in DOE's understanding of the subsurface hydrology and groundwater movement upstream of the OLF, additional data is needed to confirm the nature and concentrations of contaminants that might be moving via the newly discovered subsurface pathway. This request for additional data is consistent with the RFLMA water quality testing protocols, which are, by design, complementary and redundant.

Additionally, the Parties are concerned that DOE has taken boreholes at the OLF but has not conducted a chemical analysis on those soils. The decision to not test these soils leaves the Parties believing that there is a general lack of inquisitiveness on DOE's part. DOE has confirmed that it retains those boreholes, making chemical testing possible. The Parties therefore request that DOE conduct a chemical analysis on the boreholes and make the results available to the public.

In both cases, if the data from both requests confirm what DOE, CDPHE and EPA currently know, that data is helpful. Likewise, if the data provides new information, it could prove helpful in developing and implementing future management decisions.

We look forward to your response.

Regards,

Joyce Downing
Chair

Cc: Lindsay Masters, CDPHE
Vera Moritz, EPA

ROCKY FLATS STEWARDSHIP COUNCIL
Monday, October 29, 2018, 8:30 – 10:55 a.m.
Rocky Mountain Metropolitan Airport, Terminal Building, Mount Evans Room
11755 Airport Way, Broomfield, Colorado

Board members: Mark McGoff (Director, Arvada), Sandra McDonald (Alternate, Arvada) Cindy Domenico (Director, Boulder County), Summer Laws (Alternate, Boulder County), Lisa Morzel (Director, Boulder), Kim Groom (Alternate, Broomfield), David Allen (Alternate, Broomfield), Pat O'Connell (Alternate, Jefferson County), Joyce Downing (Director, Northglenn), Shelley Stanley (Alternate, Northglenn), Sandy Pennington (Alternate, Superior), Jan Kulmann (Director, Thornton), Emily Hunt (Alternate, Thornton), Cathy Shugarts (Alternate, Westminster), Jeannette Hillery (Director, League of Women Voters), Linda Porter (Alternate, League of Women Voters), Murph Widdowfield (Director, Rocky Flats Cold War Museum), Ken Freiberg (Alternate, Rocky Flats Cold War Museum), Roman Kohler (Director, Rocky Flats Homesteaders), Kathleen Bacheller (Alternate, Rocky Flats Homesteaders), Kim Griffiths

Stewardship Council staff and consultants: David Abelson (Executive Director), Barb Vander Wall (Seter & Vander Wall, P.C.), Rik Getty (Technical Program Manager), Sandy Thomas

Attendees: Ryan Hanson (Sen. Gardner), Gwen Hooten (DOE-LM), Vera Moritz (EPA), Lindsay Masters (CDPHE), George Squibb (Navarro), John Boylan (Navarro), Jody Nelson (Navarro), Bob Darr (Navarro), Jeremy Wehner (Navarro), Noelle Michel (Navarro), Laura Hubbard (Broomfield), Lindie Aragon (Westminster), Sophie Porcelli (Northglenn), Christine Hawley (WCRA), Carl Spreng, Bonnie Graham-Reed, John Reed, Marion Whitney, Lynn Segal, Linda Hladik, Carl Eklund, Sasha Stiles.

Convene/Agenda Review: Chair Joyce Downing opened the meeting at 8:30 a.m.

Public comment on Consent Agenda and Non-Agenda Items: None

Business Items:

Consent Agenda: Approval of Minutes, Checks and Contract Amendment: Jeannette Hillery moved to approve the minutes, checks, and contract amendment; Kim Griffiths seconded the motion. David Allen referred to the minutes regarding the soil samples on page 5. He requested that the term "geotechnical" replace the term "chemical.". The motion to approve the checks and contract amendment was 13-0 as presented. The minutes were approved 13-0 as amended.

Executive Director's Report: David Abelson started by discussing DOE's 2019 budget. He said that DOE's Office of Legacy Management, the program office that manages Rocky Flats, received \$158,877,000 for fiscal year 2019. That amount matches the Administration's request to Congress. By comparison, for fiscal year 2018 the Administration requested and Congress funded LM at \$154,606,000.

He next discussed the upcoming election, and the changes with Colorado Governor and Representative for the 2nd Congressional District. He does not know whether the changes in elected officials will affect current policy or politics, but over the next 6-9 months he will be watching that question closely for signs of change. He noted there will also be changes at the local government level that will change some of the designated elected officials at the Stewardship Council. He noted that Chris Hanson, Sandy Pennington and Cindy Domenico are term-limited.

Council Approval of 2019 Work Plan: The 2019 Work Plan was reviewed at the September 17, 2018, Stewardship Council meeting. Jeannette Hillery made a motion to accept the proposed 2019 Work Plan; Kim Griffiths seconded the motion. The motion was approved 13-0.

Council Approval of 2019 Budget: The 2019 budget was reviewed at the September 17, 2018, Board meeting. No changes were offered at that meeting. David Abelson explained that as part of the forthcoming change from Rik Getty to Melissa Weakley and the one-month overlap between the two, the budget contains an additional month of services for the Technical Program Manager.

Barb Vander Wall explained the budget review process. Prior to finalizing the budget, the Stewardship Council must hold a budget hearing and allow time for public comment. Following the public hearing, the Stewardship Council must approve the budget resolution, and approval must occur before the end of each year. She also noted that after the budget is approved, it is filed with the Division of Local Governments by the end of January. Barb reminded those in attendance that notice of the 2019 budget hearing was published in advance of this meeting, and that an official public hearing must be held before approval.

Joyce Downing officially opened the hearing for the 2019 budget. She asked for public comments. There being no public comments, the budget hearing was then closed. Jeannette Hillery made a motion to accept the 2019 budget. The motion was seconded by Cindy Domenico. The motion to approve the 2019 budget, appropriate the funds, and adopt the budget resolution was approved 13-0.

DOE Quarterly Report: This report is for the second quarter 2018.

Surface Water, John Boylan (substituting for George Squibb)

John reported that routine surface water sampling in Woman Creek at GS59, downstream of the Original Landfill (OLF), showed mean concentrations for all analytes below applicable RFLMA water-quality standards. The Present Landfill (PLF) also showed concentrations for all analytes were below applicable RFLMA water-quality standards for the second quarter sampling. No RFLMA Point of Evaluation analyte concentrations were reportable during the second quarter of 2018. At the Point of Compliance monitoring, reportable 30-day average uranium concentrations were observed at WALPOC. The concentrations were reportable for February 11, 2018 through April 19, 2018 during winter/spring baseflow conditions. The 12-month rolling average uranium concentration has remained below the reportable level. All other RFLMA point of compliance analyte concentrations remained below reportable levels during the second quarter of 2018.

Shelley Stanley asked if a larger flume was put in place at GS59. George responded that the flume is the exact same size at 3-feet deep with an 18-inch throat. GS59 has been dry for the last month and a half.

Public Comment: None

Groundwater Monitoring and Operations, John Boylan

John provided an overview of the groundwater monitoring system. The ten Resource Conservation and Recovery Act (RCRA) wells are monitored quarterly to evaluate potential impacts from the OLF and PLF. Nine Area of Concern (AOC) wells and one Surface Water Support location are monitored semiannually.

The AOC wells are located in drainages downstream of contaminant plumes and are evaluated for plumes discharging to surface water. Twenty-seven Sentinel wells are monitored semiannually; these wells are located downgradient of treatment systems, near edges of plumes, and in drainages to look for plumes migrating to surface water and treatment system problems. Forty-two Evaluation wells are monitored biennially within plumes, near source areas, and interior of Central Operable Unit (COU) to evaluate whether monitoring of an area or plume can cease. Seven treatment system locations are monitored semiannually and two are monitored quarterly.

John reported that this quarter was a heavy sampling period with all wells, including the biennial Evaluation wells, being monitored. The results were generally consistent with previous data with the exception of AOC well 10304. At this well, which monitors groundwater downgradient of 903 Pad/Ryan's Pit Plume, there was elevated trichloroethene (TCE) in the second quarter sample (26 ug/L; RFLMA standard is 2.5 ug/L.) If TCE is above 2.5 ug/L in the sample collected in the fourth quarter 2018, it will be reportable for TCE. TCE was reportable from the fourth quarter of 2015 through the second quarter of 2017. The result in the fourth quarter 2017 was 2.3ug/L. Wet conditions were predicted to cause this, and it may still reflect waning effects of a very wet spring 2015.

The groundwater treatment systems continue to remove contaminants with the East Trenches Plume Treatment System (ETPTS) effluent below applicable standards. This applies to water from Mound Site Plume Collection System (MSPCS) as well as East Trenches Plume groundwater. The Solar Ponds Plume Treatment System (SPPTS) effluent was below applicable RFLMA standards for nitrate. Uranium concentrations were reduced but were above the RFLMA target. Data will be evaluated and discussed as part of the 2018 annual report. MSPCS and ETPTS received routine maintenance. At SPPTS, routine maintenance was performed. A new valve on the effluent line was added to simplify maintenance. An effluent pump in the nitrate treatment component was replaced with a higher flow model. The subcontracted uranium treatment evaluation was completed. The associated test infrastructure was removed, and DOE is considering a path forward. Routine maintenance at all systems included annual inspection of solar/battery facilities. Items were replaced as needed.

Lisa Morzel asked if other elements were looked for in groundwater at AOC well 10304. John responded that he was not certain. David Allen asked if DOE continued to take surface water samples from the Woman Creek location near AOC well 10304. John stated that samples were last taken in the fourth quarter of 2017. No surface water samples have been taken from that location since. Shelley Stanley asked what the subcontractors studying uranium treatment at the SPPTS evaluated. John responded that they evaluated numerous approaches including ion exchange resin, electro coagulation, and phosphorus additives, testing approaches both upstream and downstream of the lagoon. Shelley asked if the report will be available to the Stewardship Council. John responded that he did not know.

Public Comment: None

Site Operations, Jeremy Wehner

Jeremy reported that the RFLMA annual inspection was conducted on April 5, 2018. The scope includes inspection of the site and monitoring for evidence of significant erosion and violation of institutional controls. DOE verified that the restrictive notice for the COU remains in the Administrative Record and on file with Jefferson County. No evidence of institutional or physical controls violations were found. Debris and trash were picked up or subsequently removed. A couple of areas showed minor

depressions, but none required immediate action. The quarterly inspection of signs was completed on May 21; no problems were observed with the signs.

At the OLF, three monthly inspections were completed. One weather related inspection was completed. Some minor erosion occurred, and maintenance was completed. Eight settlement monuments were surveyed on June 7, and vertical settling at each monument was within limits. At Seep 10 siphon, approximately 475,000 gallons were diverted by the end of June. Seep 2/3 collector pipe was maintained. At the groundwater intercept wells, 166,000 gallons were diverted by the end of May. As part of the OLF monthly inspections, the East Subsurface Drain was inspected. The temporary groundwater intercept system was restarted for the spring and summer, but because of generator maintenance, it was not operated in June.

At the PLF, a combined quarterly and weather-related inspection was done. The PLF is in good condition, and no maintenance was required. At former building areas 371/374, 771, 881, and 991, a weather-related inspection was conducted following a rain event. A second quarter inspection was conducted for erosion and subsidence. No new issues were found.

At the North Walnut Creek Slump, a geotechnical data report was completed, and a geotechnical evaluation was started. Data was collected from fifteen piezometers and three inclinometers. Slump monitoring points were surveyed in April, May and June. The month-to-month movement accelerated between May 1 and June 7 readings with vertical movements ranging from 0.14 foot to 0.44 foot for the period. The crack was bladed, filled, and tamped in July to limit direct water infiltration. No maintenance was conducted on the roads. Repair and maintenance of site roads are being planned for fall to include grading, scarifying as necessary, moisture condition, compact, and repair damaged sections. Imported road base will be used as necessary.

Lisa Morzel asked where the depressions were located. Jeremy responded they are at former Building 371. Sandy Pennington asked where the seep comes from. Jeremy responded that the water infiltrates on the pediment and generally travels west to east, but near the OLF hillside some of the groundwater travels south and is collected by gravel bedding from an old stormwater line that was terminated near Seep 10 at closure. The remainder of that trench to the east of Seep 10 was backfilled with clay at closure, so the water in the bedding comes to the surface. Groundwater flow also comes to Seep 2/3 from the pediment.

David Allen requested confirmation that the water collected in the pipes at the groundwater intercept was pumped out, and that the water at Seep 10 was from groundwater collected in gravel around the pipe. Shelley Stanley asked when the diversion of the 475,000 gal. of water started. Jeremy stated it started around April 20th. Sandy Pennington asked where she could find the analysis of the contaminants. Jeremy stated there was no analysis of that water at that location. Jeremy stated that the water at Seep 10 and Seep 2/3 already comes to the surface, but it is now captured and diverted in the pipe instead of traveling along the ground surface.

Lisa Morzel and David Allen both asked that with the water traveling from west to east, from the perimeter channel to Woman Creek, what is the comparison of the water going in to the water coming out. Jeremy responded that there is no testing of that, that data from the wells show VOCs well below standard. David Allen stated that this is an opportunity for creating additional data points to at least reconfirm data and test Seep 10 before it moves downstream.

Lisa Morzel asked why chemical analysis is not being done, that the community is concerned about safety, and that DOE should be doing everything it can to reassure the public. Cindy Domenico stated that it would be nice to have scientific double checks. Kim Griffiths asked what is the mechanism to request additional testing.

Kim Groom asked why the DOE does not conduct Seep 10 testing. Jeremy responded that there is no scientific reason to do so. The concentrations in the wells currently monitoring the OLF show nothing or significantly below base measurements both historically and more recently. David Allen stated that based on natural flow, there is 500,000 gallons of water in this area, which is a big difference from the closing date of Rocky Flats. The additional water presents a good opportunity to conduct more testing.

George responded that per RFLMA the surface water is monitored in Woman Creek downstream of the OLF at GS59.

Following further discussion of various ways to communicate with DOE regarding the members' concerns, the members agreed to address this issue at the appropriate time in the meeting.

Public Comment: None

Ecology, Jody Nelson

Jody stated that the following activities were completed: weed mapping, spot control of small weed infestations, wetland water level monitoring, nest box surveys, prairie dog survey, installation of tree cages around woody plants, and providing assistance to the USFWS with Preble's mouse trapping efforts.

Jeannette Hillery asked if any Preble's mice were found. Jody said none were found.

Public Comment: Lynn Segal asked about the prairie dog colony, and whether there are any prairie dogs in the COU. Jody said there are none.

New Member Interviews and Selection: The Board interviewed the following three candidates for the two non-governmental seats on the Stewardship Council. The following is a summary of that discussion.

Murph Widdowfield, President of the Rocky Flats Cold War Museum: Murph started by explain that the Cold War Museum was founded in 2001 to save the history of Rocky Flats and to collect artifacts (which are now in storage.) He stated that the members of the Cold War Museum have a very strong foundation on the history of the site, cleanup, and monitoring activities. The Cold War Museum is committed to tell the complete story of Rocky Flats. The Board members of the Cold War Museum give talks and programs each year to schools and civic groups about Rocky Flats and the museum development. They want to monitor Rocky Flats long-term stewardship issues that arise on the Stewardship Council and also provide information to the public through on-line resources and personal outreach.

Kim Griffiths: Kim was appointed to a one-year term starting at the February 2018 meeting. She stated she is a local resident with a distinct and important voice on the Stewardship Council. She has distributed a survey in surrounding neighborhoods to obtain opinions of Rocky Flats neighbors regarding the opening of the wildlife refuge. She has attended the Rocky Mountain Greenway open house to learn

more about their project. She feels she has learned much this first year and would like to continue to serve on the Stewardship Council.

Sasha Stiles: Sasha is a physician living in Superior. She stated that her expertise in the healthcare profession would be helpful to the Stewardship Council regarding potential future impact of any remaining contamination. She stated that as a medical scientist, her expertise would help the Stewardship Council interpret the epidemiological data, reports, and other information that will impact the community's health as it pertains to the mission of the Stewardship Council.

Stewardship Council members present then voted on their top two selections for non-governmental Stewardship Council seats. The results were:

Rocky Flats Cold War Museum, 8
Kim Griffiths, 9
Sasha Stiles, 3

The Rocky Flats Cold War Museum and Kim Griffiths were appointed to two-year terms.

Board Roundtable: Jeanette Hillary reminded everyone to vote on November 6th. Sandy Pennington and Cindy Domenico expressed their gratitude for their time serving on the Stewardship Council. Lisa Morzel commented that Boulder has been asked by some residents to withdraw from FLAP and to get its money back. Cindy Domenico stated that the FLAP message has to get out early and the story must be better told.

Kim Griffiths and Murph Widdowfield thanked the governments for their continued support. Roman Kohler informed the Board that Prudential Insurance presented its pension plan fund to the former RF employees. 41% of workers took a lump sum payout instead of an annuity.

Big Picture: Stewardship Council members continued their previous discussion regarding how to approach DOE with the members' concerns at the OLF, particularly regarding what some perceive as a lack of ongoing comprehensive testing by DOE. The members asked that the Stewardship Council, as the Local stakeholder Organization for Rocky Flats, forward their concerns to DOE. David said he would draft a letter for approval at the February 2019 meeting.

Lisa Morzel expressed concern about the financial health and future of the Rocky Flats Cold War Museum. She believes that there should be an in-depth discussion regarding the Museum. Sandy Pennington discussed that the CU archives has artifacts safely stored and the Cold War Museum may ask them to store its artifacts. Several Stewardship Council members discussed their concerns as to the safety and quality of the artifacts. In response to members' comments, Murph Widdowfield stated that his board is aware that the federal government will not assist with the establishment of a cold war museum. He is aware of other museums, first funded by the government, that must now seek private funding. Murph stated that he has contacted CU as well as a number of other institutions and agencies. Presently, the Cold War Museum board has a business plan with a goal of raising \$6 million.

The meeting was adjourned at 10:55 a.m.

Prepared by Sandy Thomas

7:43 AM
01/17/19

Rocky Flats Stewardship Council
Check Detail 2019
October 15, 2018 through January 17, 2019

| Type | Num | Date | Name | Account | Paid Amount | Original Amount |
|-----------------|------------------|------------|---------------------------|-------------------------------|-------------|-----------------|
| Check | | 11/28/2018 | | CASH-Wells Fargo-Operating | | -3.50 |
| | | | | Admin Services-Misc Services | -3.50 | 3.50 |
| TOTAL | | | | | -3.50 | 3.50 |
| Check | 1949 | 11/08/2018 | Century Link | CASH-Wells Fargo-Operating | | -26.39 |
| | | | | Telecommunications | -26.39 | 26.39 |
| TOTAL | | | | | -26.39 | 26.39 |
| Bill Pmt -Check | 1950 | 11/08/2018 | Blue Sky Bistro | CASH-Wells Fargo-Operating | | -300.00 |
| Bill | 3241 | 10/29/2018 | | Misc Expense-Local Government | -300.00 | 300.00 |
| TOTAL | | | | | -300.00 | 300.00 |
| Bill Pmt -Check | 1951 | 11/08/2018 | Crescent Strategies, LLC | CASH-Wells Fargo-Operating | | -8,631.94 |
| Bill | 10/31/18 Billing | 10/31/2018 | | Personnel - Contract | -7,750.00 | 7,750.00 |
| | | | | TRAVEL-Local | -77.39 | 77.39 |
| | | | | Postage | -15.99 | 15.99 |
| | | | | Telecommunications | -136.16 | 136.16 |
| | | | | TRAVEL-Out of State | -327.40 | 327.40 |
| | | | | Subscriptions/Memberships | -325.00 | 325.00 |
| TOTAL | | | | | -8,631.94 | 8,631.94 |
| Bill Pmt -Check | 1952 | 11/08/2018 | Jennifer A. Bohn | CASH-Wells Fargo-Operating | | -427.50 |
| Bill | 18-58 | 10/31/2018 | | Accounting Fees | -427.50 | 427.50 |
| TOTAL | | | | | -427.50 | 427.50 |
| Bill Pmt -Check | 1953 | 11/08/2018 | Seter & Vander Wall, P.C. | CASH-Wells Fargo-Operating | | -2,626.84 |
| Bill | 77359 | 10/31/2018 | | Attorney Fees | -2,626.84 | 2,626.84 |
| TOTAL | | | | | -2,626.84 | 2,626.84 |
| Check | 1954 | 12/04/2018 | Century Link | CASH-Wells Fargo-Operating | | -29.22 |
| | | | | Telecommunications | -29.22 | 29.22 |
| TOTAL | | | | | -29.22 | 29.22 |
| Bill Pmt -Check | 1955 | 12/04/2018 | Jennifer A. Bohn | CASH-Wells Fargo-Operating | | -228.00 |
| Bill | 18-75 | 11/30/2018 | | Accounting Fees | -228.00 | 228.00 |
| TOTAL | | | | | -228.00 | 228.00 |
| Bill Pmt -Check | 1956 | 12/04/2018 | Crescent Strategies, LLC | CASH-Wells Fargo-Operating | | -9,028.70 |
| Bill | 11/30/18 Billing | 11/30/2018 | | Personnel - Contract | -7,750.00 | 7,750.00 |
| | | | | TRAVEL-Local | -150.42 | 150.42 |
| | | | | Postage | -15.99 | 15.99 |
| | | | | Telecommunications | -136.16 | 136.16 |
| | | | | TRAVEL-Out of State | -976.13 | 976.13 |
| TOTAL | | | | | -9,028.70 | 9,028.70 |
| Bill Pmt -Check | 1957 | 12/04/2018 | Cassandra Thomas | CASH-Wells Fargo-Operating | | -500.00 |
| Bill | 12/1/18 Email | 10/31/2018 | | Personnel - Contract | -500.00 | 500.00 |
| TOTAL | | | | | -500.00 | 500.00 |
| Check | 1958 | 01/05/2019 | Century Link | CASH-Wells Fargo-Operating | | -26.62 |
| | | | | Telecommunications | -26.62 | 26.62 |
| TOTAL | | | | | -26.62 | 26.62 |

7:43 AM
01/17/19

Rocky Flats Stewardship Council
Check Detail 2019
October 15, 2018 through January 17, 2019

| Type | Num | Date | Name | Account | Paid Amount | Original Amount |
|-----------------|------------------|------------|---------------------------|----------------------------|-------------|-----------------|
| Bill Pmt -Check | 1959 | 01/05/2019 | Crescent Strategies, LLC | CASH-Wells Fargo-Operating | | -8,272.09 |
| Bill | 12/31/18 Billing | 12/31/2018 | | Personnel - Contract | -7,750.00 | 7,750.00 |
| | | | | TRAVEL-Local | -23.44 | 23.44 |
| | | | | Postage | -353.99 | 353.99 |
| | | | | Telecommunications | -144.66 | 144.66 |
| TOTAL | | | | | -8,272.09 | 8,272.09 |
| Bill Pmt -Check | 1960 | 01/05/2019 | Jennifer A. Bohn | CASH-Wells Fargo-Operating | | -114.00 |
| Bill | 18-86 | 12/31/2018 | | Accounting Fees | -114.00 | 114.00 |
| TOTAL | | | | | -114.00 | 114.00 |
| Bill Pmt -Check | 1961 | 01/05/2019 | Seter & Vander Wall, P.C. | CASH-Wells Fargo-Operating | | -1,403.55 |
| Bill | 77530 | 11/30/2018 | | Attorney Fees | -1,403.55 | 1,403.55 |
| TOTAL | | | | | -1,403.55 | 1,403.55 |

DOE Quarterly Report

- Cover memo
- Selection of quarterly report

ROCKY FLATS STEWARDSHIP COUNCIL

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www.rockyflatssc.org

(303) 412-1200

Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

MEMORANDUM

TO: Stewardship Council Board
FROM: Rik Getty
SUBJECT: DOE Quarterly Report Briefing – 3rd quarter 2018
DATE: January 17, 2019

DOE's third quarter 2018 (July - September) report is found at:

https://www.lm.doe.gov/Rocky_Flats/3Q18_RFS.pdf Attached are selections from the report, including monitoring results (as represented on graphs) for plutonium, americium, uranium and nitrate measured at surface water monitoring compliance points WOMPOC and WALPOC, and surface water points of evaluation G10, SW027, and SW093.

Executive Summary – The following are highlights from the third quarter:

- Present Landfill: No issues were reported.
- Original Landfill: In addition to the monthly inspections, DOE conducted a weather-related inspection on September 6.
 - The Seep 10 siphon was operational during this period, and by the end of September had conveyed approximately 720,000 gallons since startup in April 2018.
 - The temporary groundwater intercept system was restarted on April 3 after being shut down for the winter. Subsequently, the system shut off on May 28 due to mechanical problems with the generator. The system was restarted on August 10 and was operated for the remainder of the quarter, conveying approximately 180,000 gallons of water through the end of the quarter.
- Groundwater Treatment Systems: Routine maintenance was performed. No problems were observed.
- Water Quality Monitoring: The water monitoring results met the targeted monitoring objectives. A total of three flow-paced composite samples, two surface water grab samples, and 10 groundwater samples were collected.
 - Due to dry conditions at RFLMA point of compliance (POC) location WALPOC (Walnut Creek), the composite sample remains in progress and no data are available for the quarter.
 - At POC location WOMPOC (Woman Creek), there was no flow during the quarter.
 - Due to dry conditions at point of evaluation locations GS10 (South Walnut Creek), SW027 (South Interceptor Ditch in the Woman Creek drainage), and SW093 (North Walnut Creek), composite samples are in progress and no data are available for this quarter.
 - Groundwater monitoring data presented in this quarterly report will be evaluated as part of the 2018 annual report.

**Rocky Flats Site, Colorado,
Quarterly Report of
Site Surveillance and
Maintenance Activities
Third Quarter
Calendar Year 2018**

January 2019



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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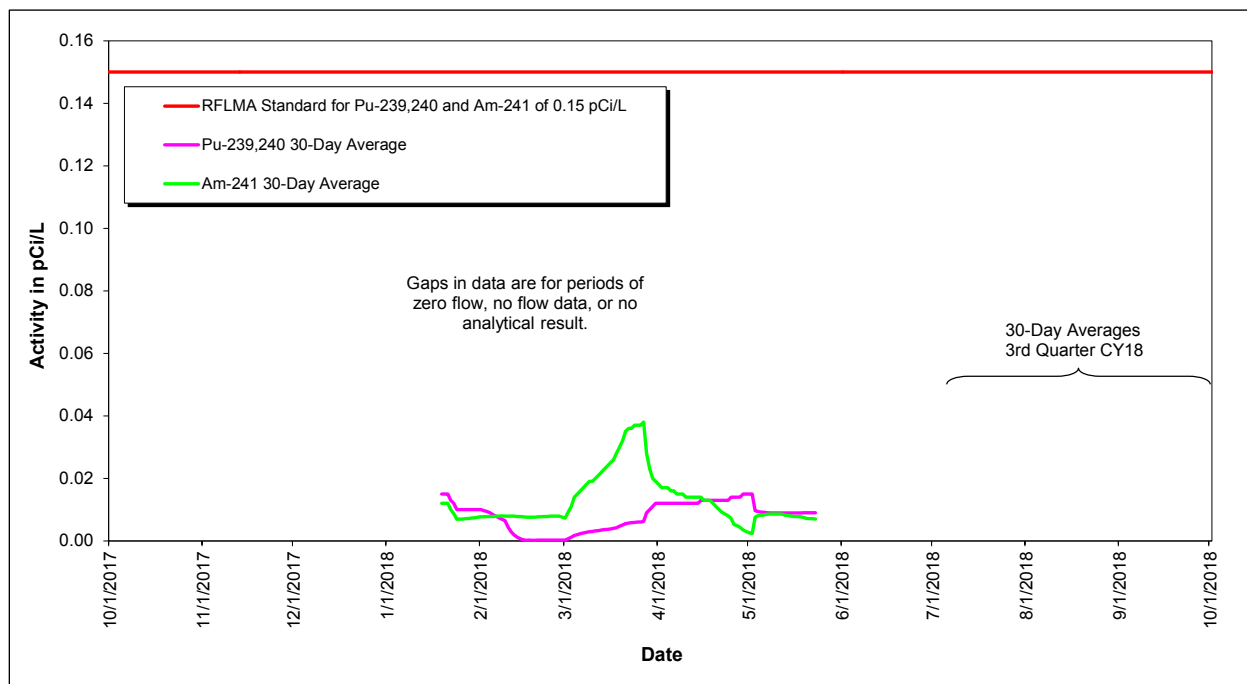
| | |
|------------|--|
| Appendix A | Landfill Inspection Forms and Survey Data |
| Appendix B | Analytical Results for Water Samples—Third Quarter CY 2018 |

Abbreviations

| | |
|--------------|--|
| Am | americium |
| AMP | Adaptive Management Plan |
| AOC | Area of Concern |
| BMP | best management practice |
| CAD/ROD | Corrective Action Decision/Record of Decision |
| CDPHE | Colorado Department of Public Health and Environment |
| COU | Central Operable Unit |
| CY | calendar year |
| DOE | U.S. Department of Energy |
| EPA | U.S. Environmental Protection Agency |
| EPC | East Perimeter Channel |
| ESSD | East Subsurface Drain |
| ETPTS | East Trenches Plume Treatment System |
| ICs | institutional controls |
| ITS | Interceptor Trench System |
| ITSS | Interceptor Trench System Sump |
| LM | Office of Legacy Management |
| µg/L or ug/L | micrograms per liter |
| mg/L | milligrams per liter |
| MSPCS | Mound Site Plume Collection System |
| N | nitrogen |
| NWCS | North Walnut Creek Slump |
| OLF | Original Landfill |
| pCi/L | picocuries per liter |
| PLF | Present Landfill |
| PLFTS | Present Landfill Treatment System |
| PMJM | Preble's meadow jumping mouse |
| POC | point of compliance |
| POE | point of evaluation |
| Pu | plutonium |
| RCRA | Resource Conservation and Recovery Act |
| RFLMA | <i>Rocky Flats Legacy Management Agreement</i> |
| RFSOG | <i>Rocky Flats Site, Colorado, Site Operations Guide</i> |
| SPPTS | Solar Ponds Plume Treatment System |
| USFWS | U.S. Fish and Wildlife Service |

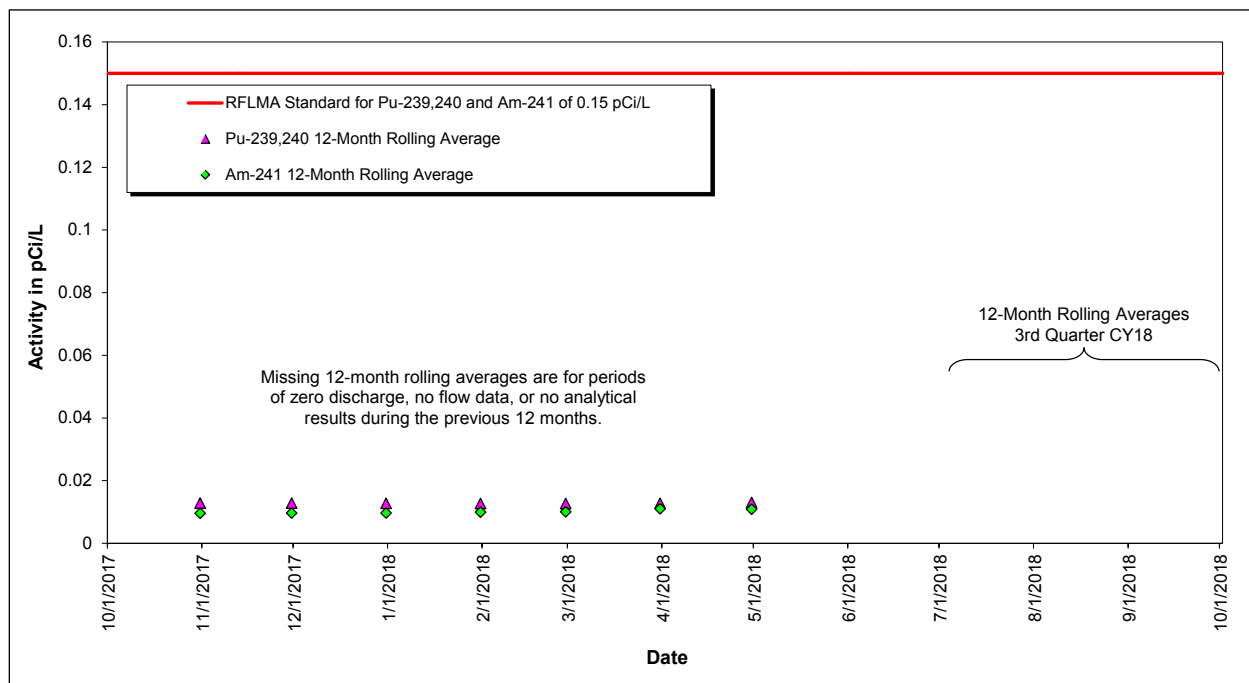
3.1.2.1 Monitoring Location WALPOC

Monitoring location WALPOC is on Walnut Creek at the eastern COU boundary. Figure 2 through Figure 5 show no occurrences of reportable conditions for 12-month rolling or 30-day averages through 5/23/2018 for americium and plutonium (in pCi/L) or nitrate + nitrite as nitrogen (in milligrams per liter [mg/L]). The composite sample started on 5/24/2018 is still in progress. The methods for calculating the 30-day and 12-month rolling averages are detailed in the annual report.



Note: The composite sample started on 5/24/2018 is still in progress.

*Figure 2. Volume-Weighted 30-Day Average Plutonium and Americium Activities at WALPOC:
Year Ending Third Quarter CY 2018*



Note: The composite sample started on 5/24/2018 is still in progress.

Figure 3. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at WALPOC: Year Ending Third Quarter CY 2018

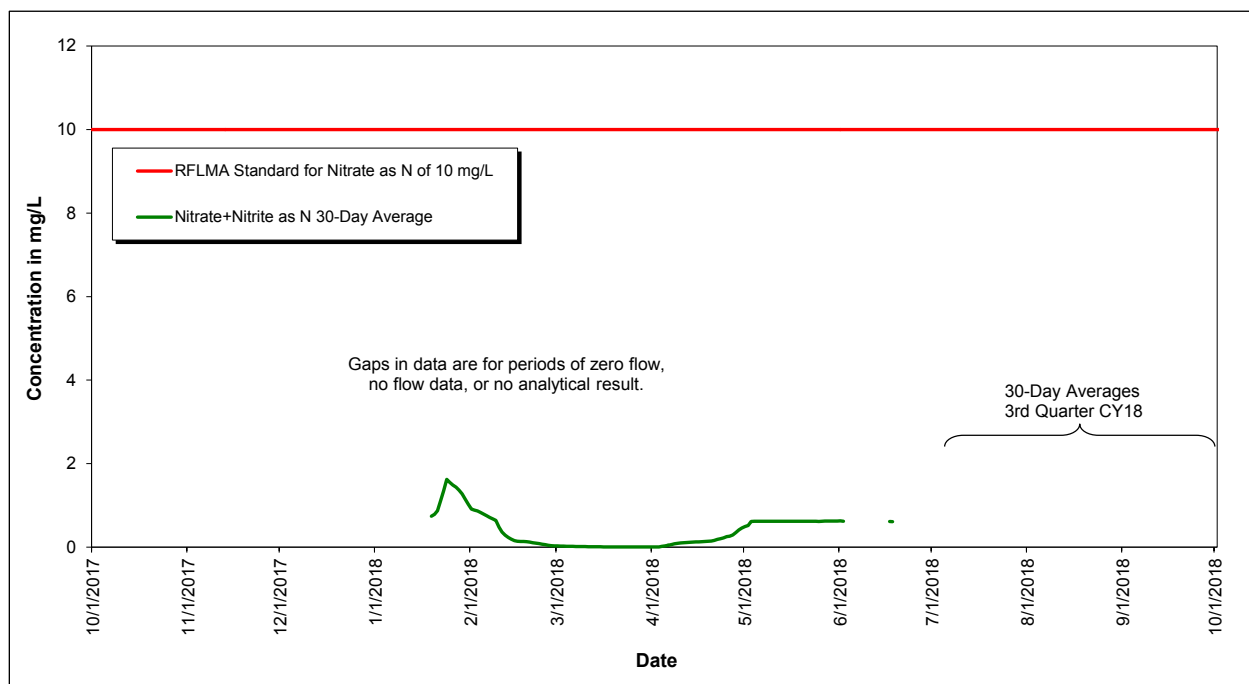


Figure 4. Volume-Weighted 30-Day Average Nitrate + Nitrite as Nitrogen Concentrations at WALPOC: Year Ending Third Quarter CY 2018

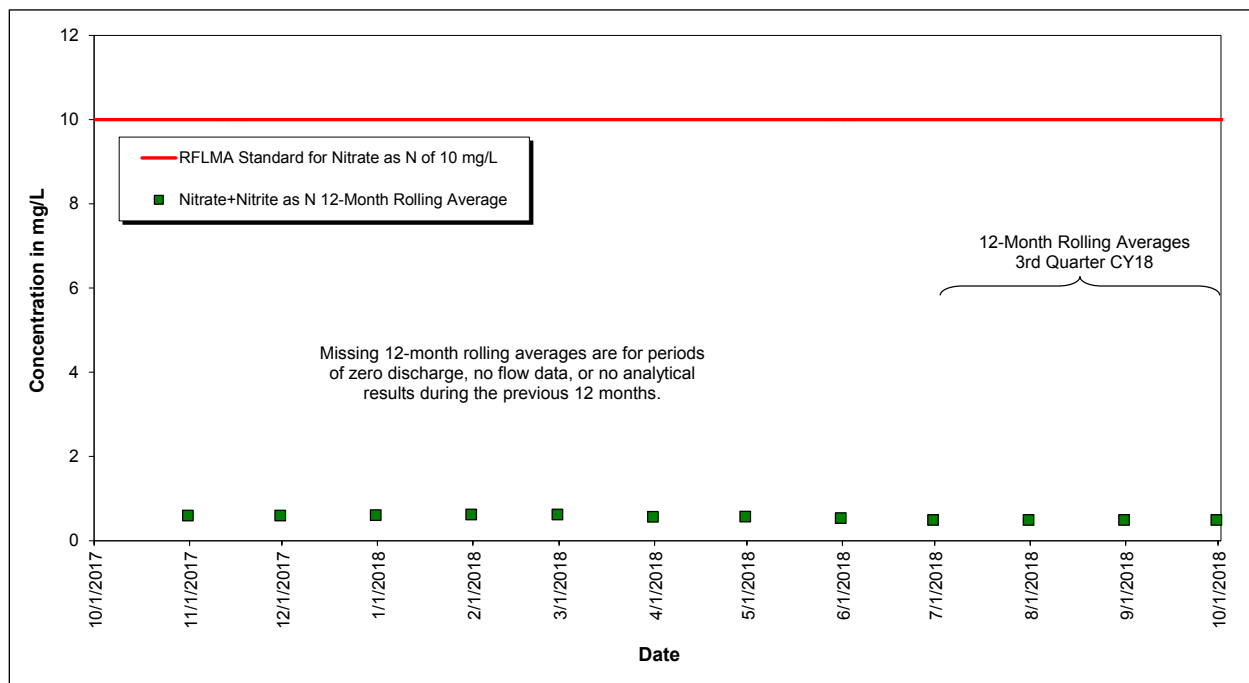
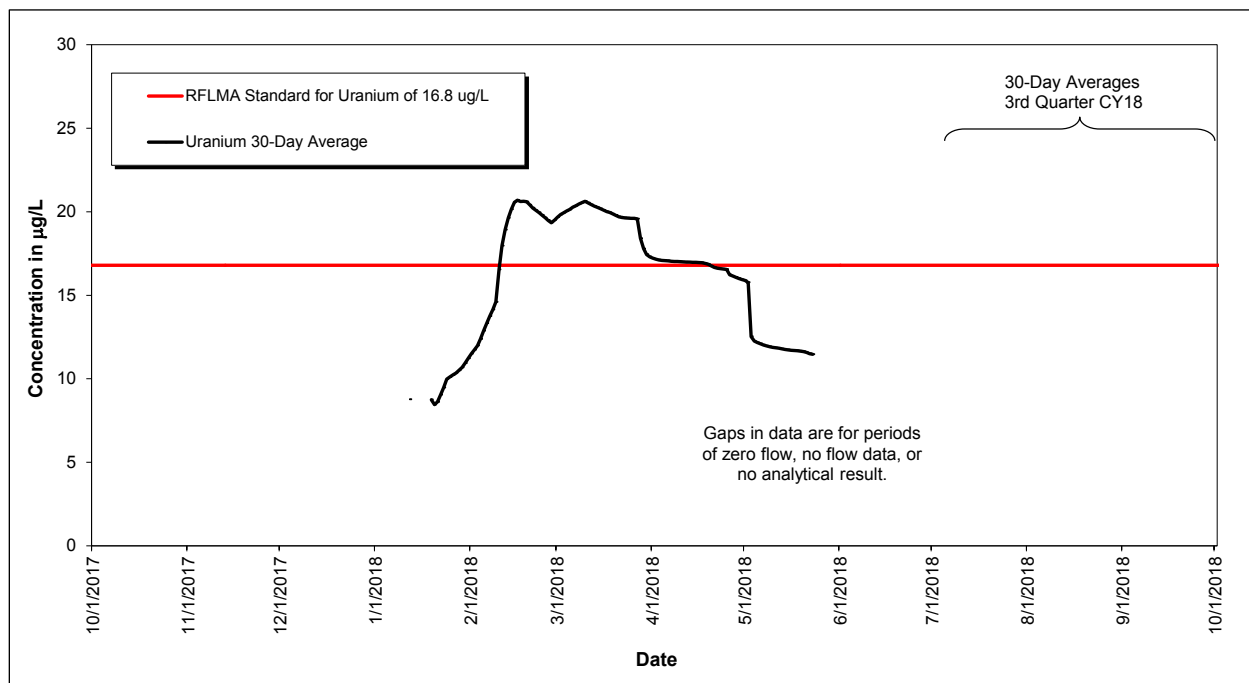


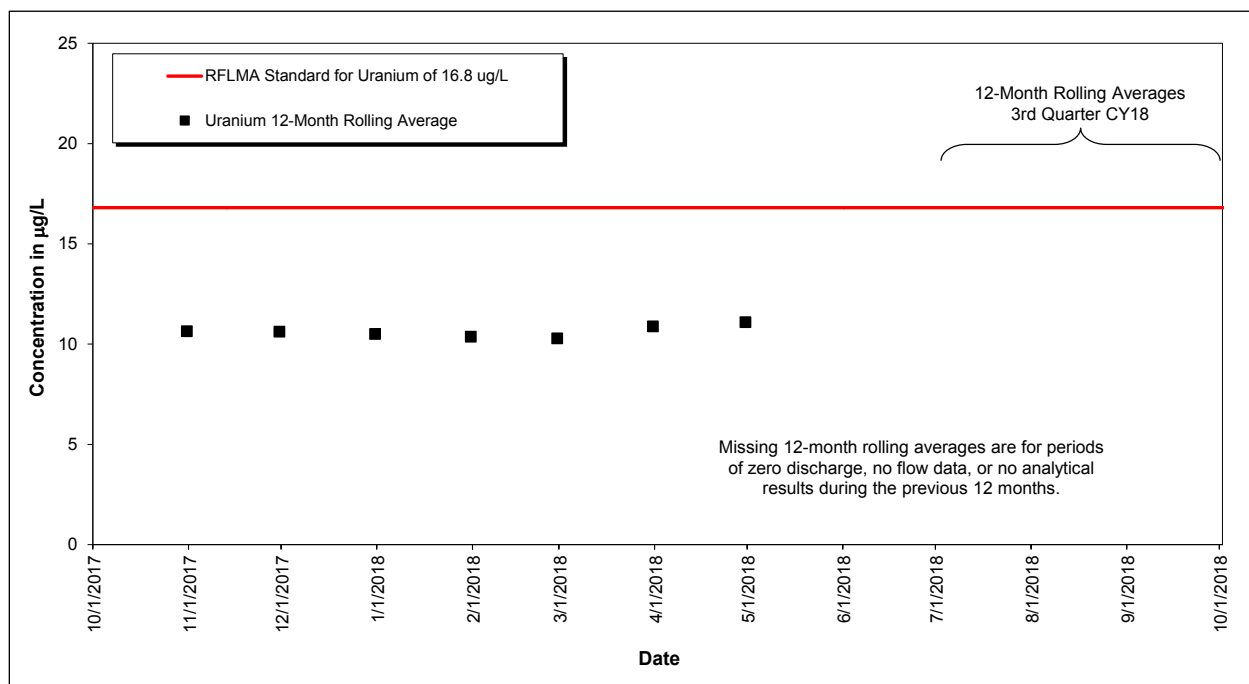
Figure 5. Volume-Weighted 12-Month Rolling Average Nitrate + Nitrite as Nitrogen Concentrations at WALPOC: Year Ending Third Quarter CY 2018

Figure 6 shows that the 30-day average for uranium exceeded the RFLMA standard of 16.8 micrograms per liter ($\mu\text{g/L}$) during the first quarter, triggering a reportable condition and consultation with the regulatory agencies under the RFLMA. As of April 20, 2018, the 30-day average for uranium at WALPOC is no longer reportable. The 12-month rolling average remains below the RFLMA water-quality standard for uranium (Figure 7).



Note: The composite sample started on 5/24/2018 is still in progress.

*Figure 6. Volume-Weighted 30-Day Average Uranium Concentrations at WALPOC:
Year Ending Third Quarter CY 2018*



Note: The composite sample started on 5/24/2018 is still in progress.

*Figure 7. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at WALPOC:
Year Ending Third Quarter CY 2018*

3.1.2.2 Monitoring Location WOMPOC

Monitoring location WOMPOC is on Woman Creek at the eastern COU boundary. During the third quarter, there was no flow at WOMPOC and no samples were collected. Figure 8 through Figure 11 show no occurrences of a reportable condition for 12-month rolling or 30-day averages for the quarter. The methods for calculating the 30-day and 12-month rolling averages are detailed in the annual report.

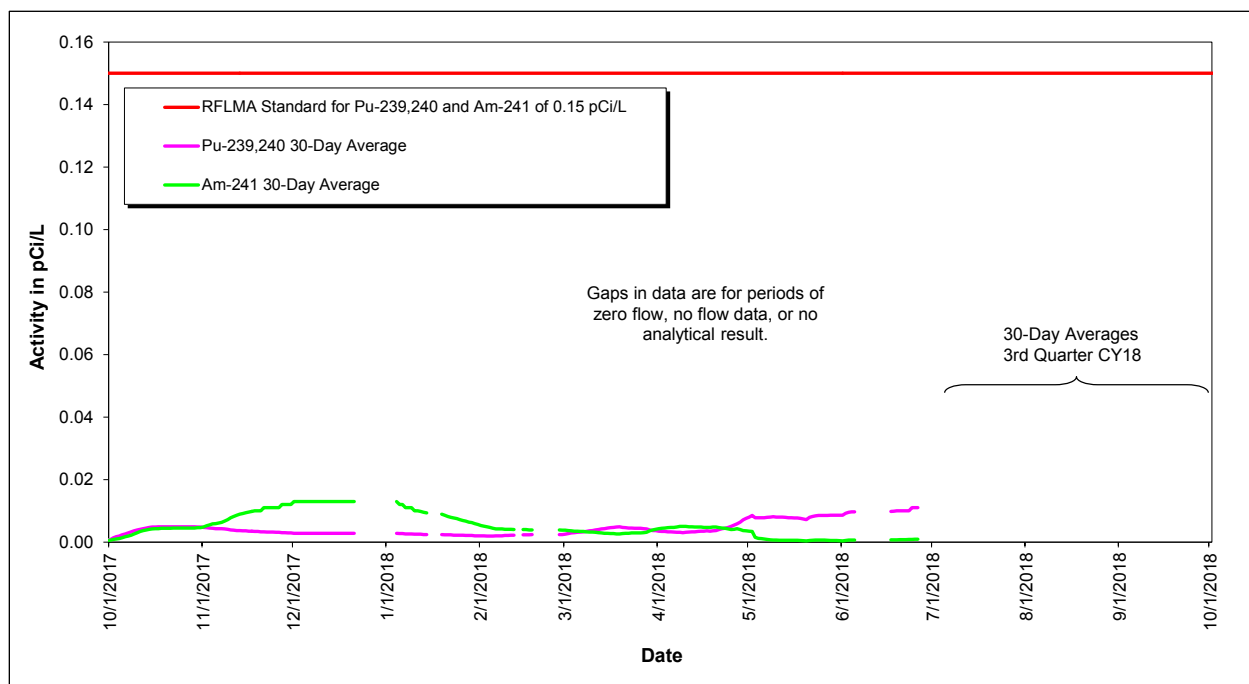


Figure 8. Volume-Weighted 30-Day Average Plutonium and Americium Activities at WOMPOC: Year Ending Third Quarter CY 2018

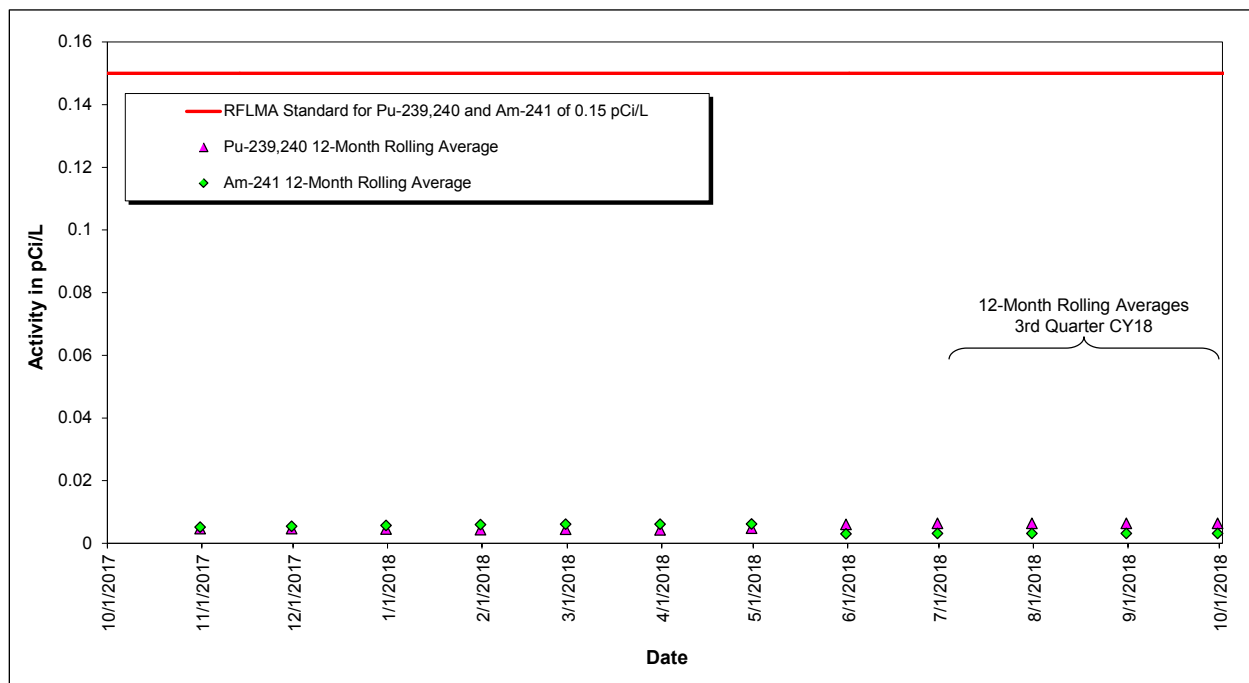


Figure 9. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at WOMPOC: Year Ending Third Quarter CY 2018

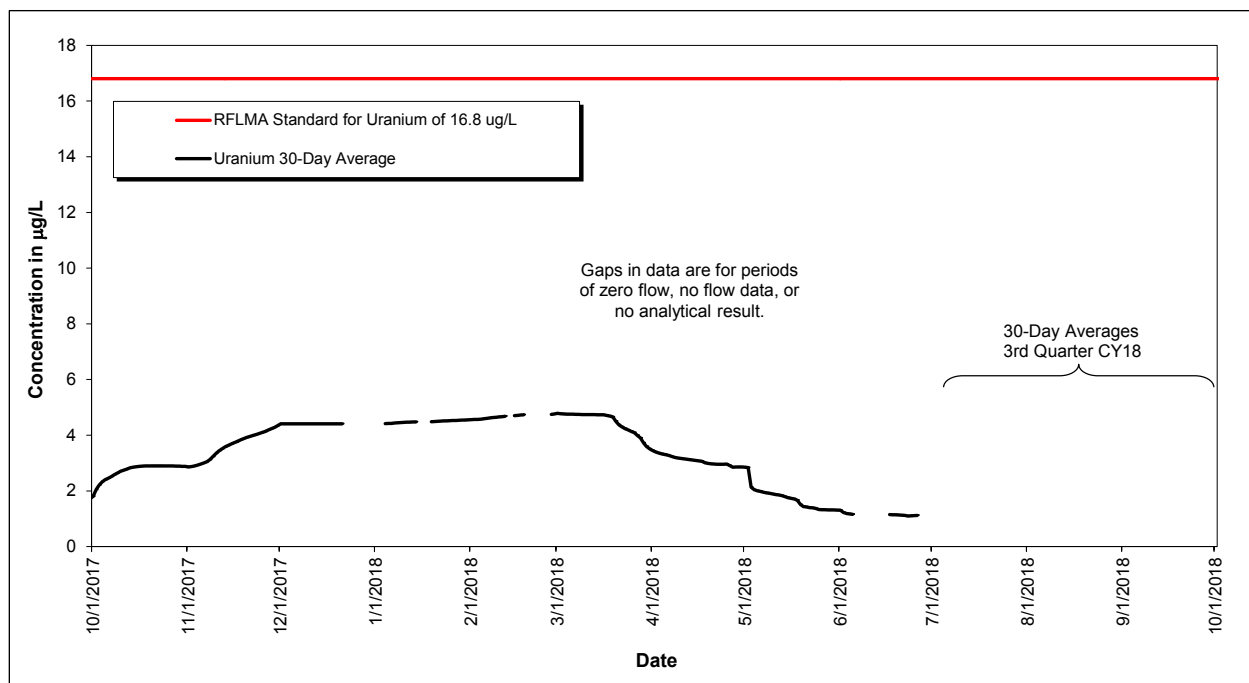


Figure 10. Volume-Weighted 30-Day Average Uranium Concentrations at WOMPOC: Year Ending Third Quarter CY 2018

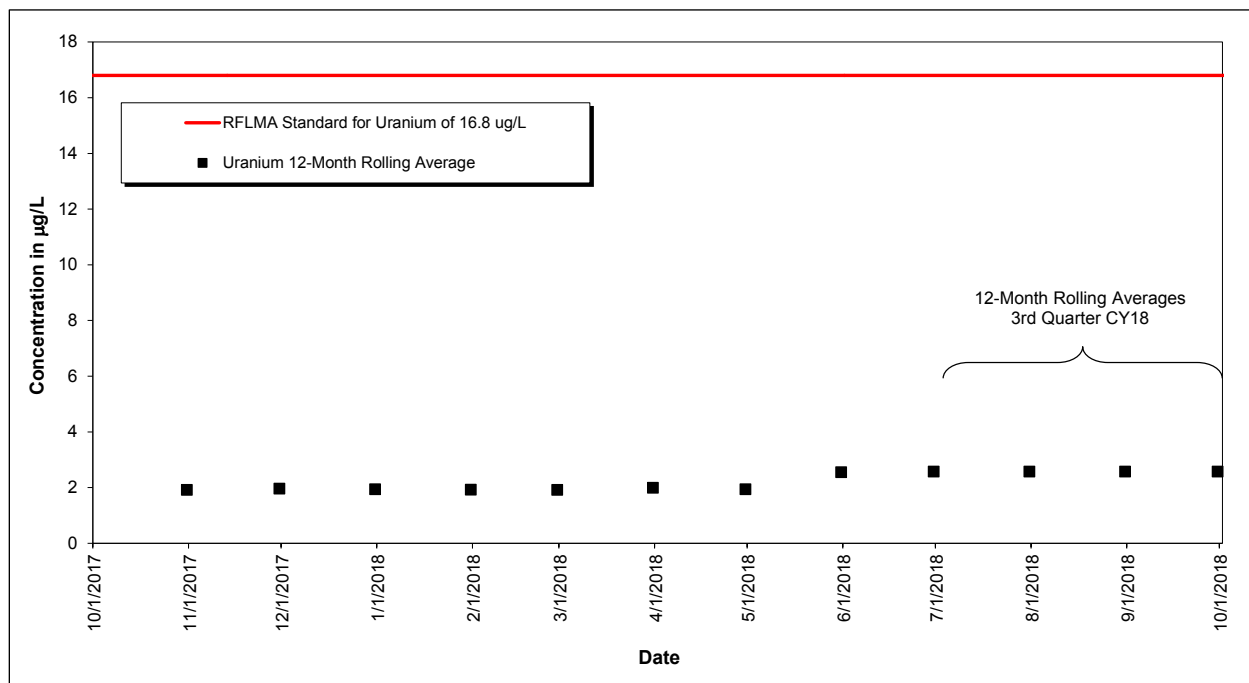


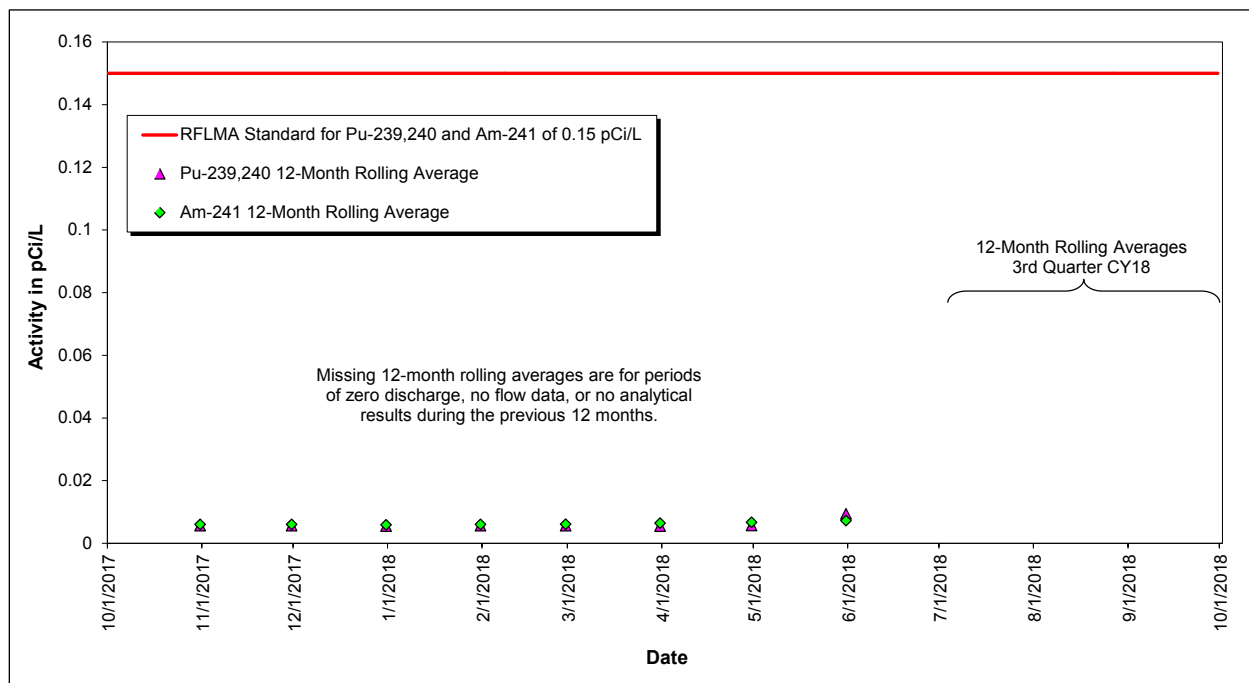
Figure 11. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at WOMPOC: Year Ending Third Quarter CY 2018

3.1.3 POE Monitoring

The following sections include summary plots showing the applicable 12-month rolling averages for the POE analytes.

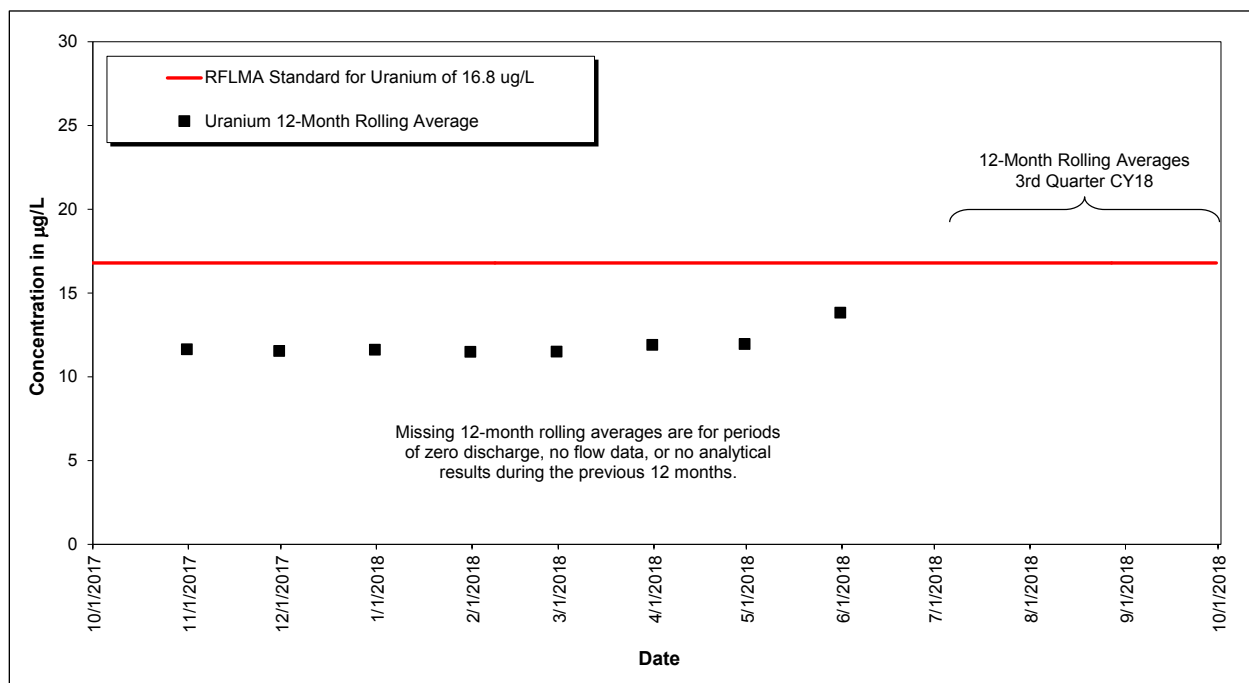
3.1.3.1 Monitoring Location GS10

Monitoring location GS10 is on South Walnut Creek just upstream of the B-Series ponds. Figure 12 and Figure 13 show no occurrences of a reportable condition for 12-month rolling averages for plutonium, americium, or uranium values through 6/10/2018. The composite sample started on 6/11/2018 is still in progress. The method for calculating the 12-month rolling averages is detailed in the annual report.



Note: The composite sample started on 6/11/2018 is still in progress.

Figure 12. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at GS10: Year Ending Third Quarter CY 2018

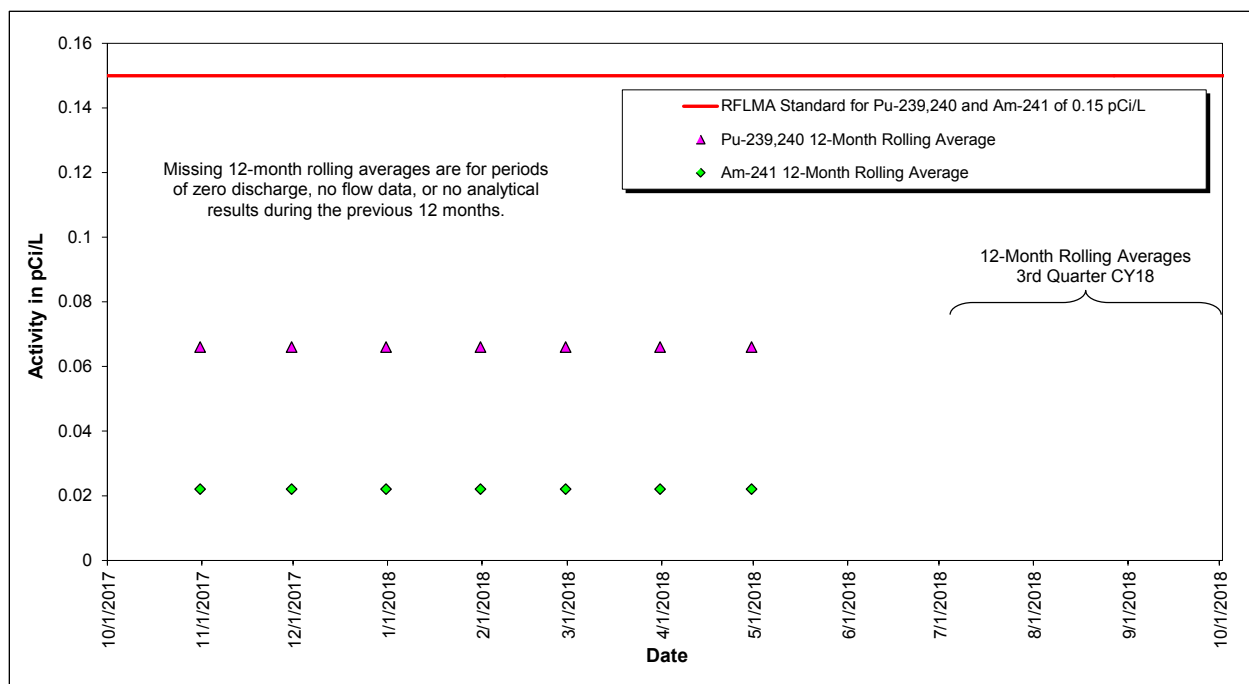


Note: The composite sample started on 6/11/2018 is still in progress.

Figure 13. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at GS10: Year Ending Third Quarter CY 2018

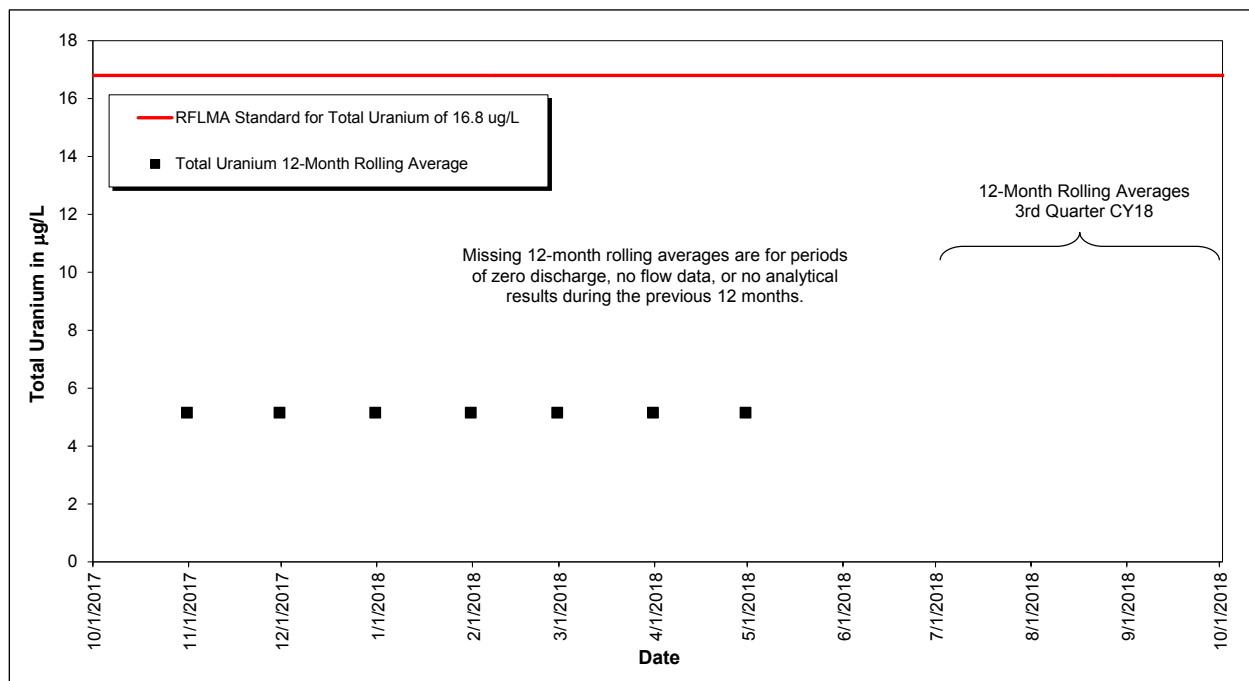
3.1.3.2 Monitoring Location SW027

Monitoring location SW027 is at the end of the South Interceptor Ditch at the inlet to Pond C-2. Figure 14 and Figure 15 show no occurrences of a reportable condition for 12-month rolling averages for plutonium, americium, and uranium values through 5/3/2018. The composite sample started on 5/4/2018 is still in progress. The method for calculating the 12-month rolling averages is detailed in the annual report.



Note: The composite sample started on 5/4/2018 is still in progress.

Figure 14. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW027: Year Ending Third Quarter CY 2018

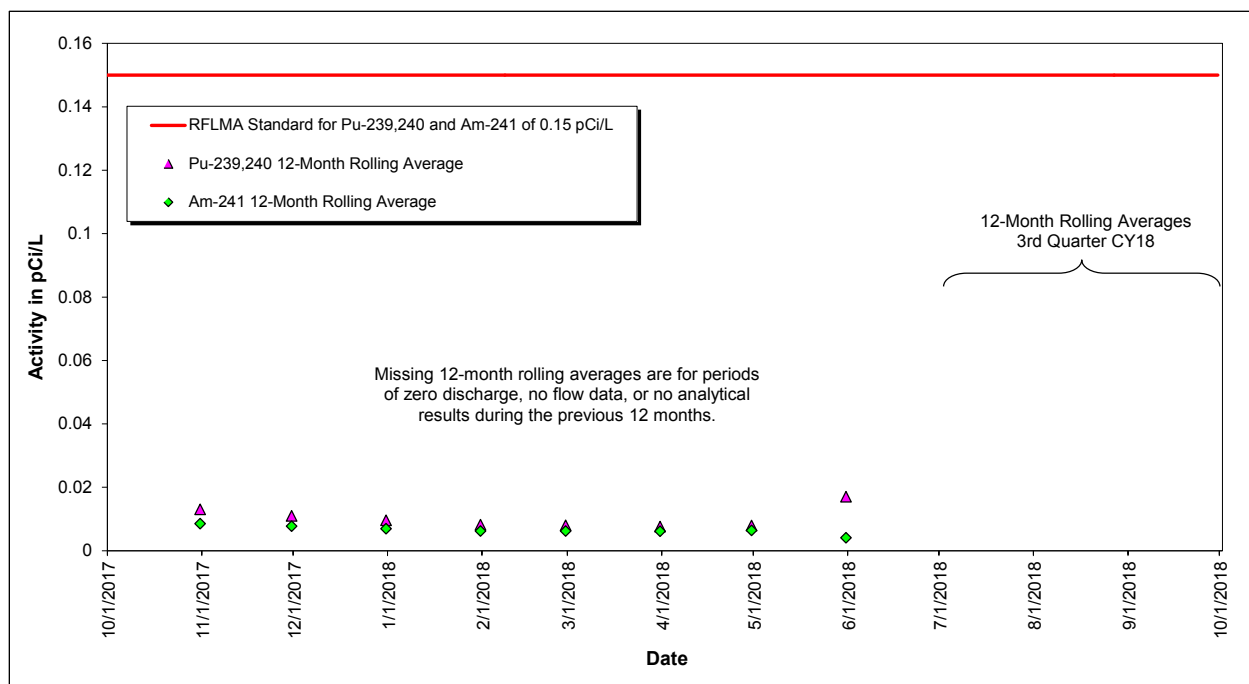


Note: The composite sample started on 5/4/2018 is still in progress.

Figure 15. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at SW027: Year Ending Third Quarter CY 2018

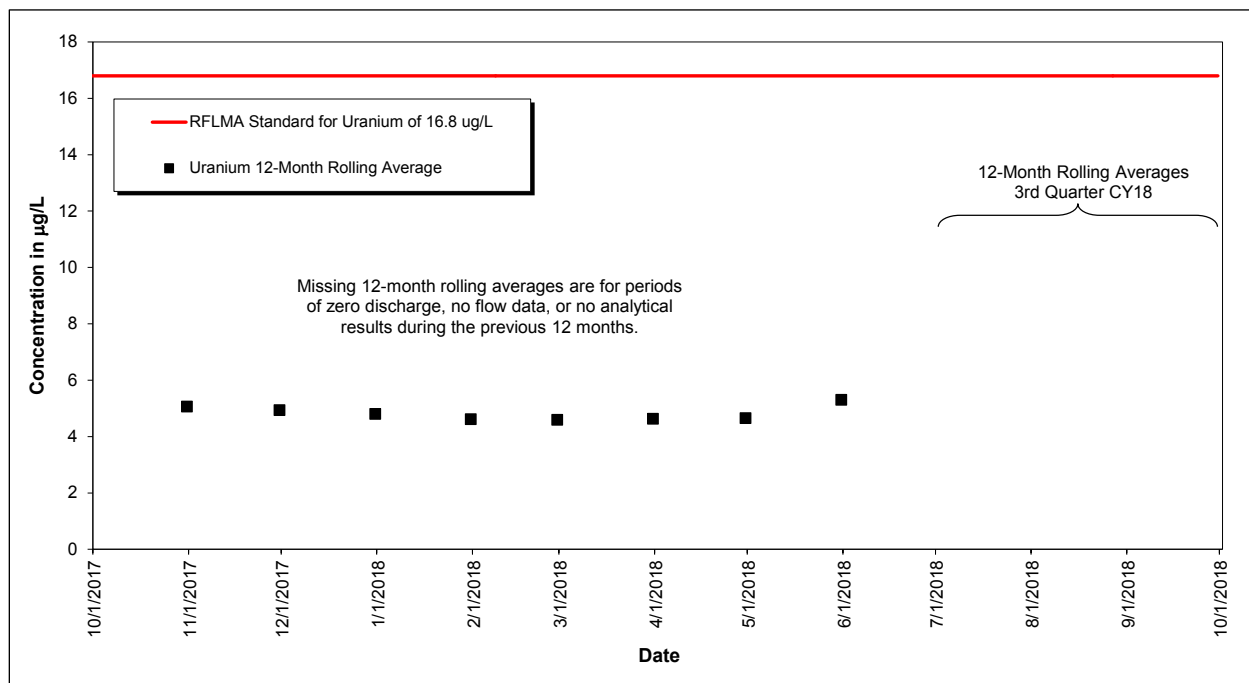
3.1.3.3 Monitoring Location SW093

Monitoring location SW093 is on North Walnut Creek, 1300 feet upstream of former Pond A-1. Figure 16 and Figure 17 show no occurrences of a reportable condition for 12-month rolling averages for plutonium, americium, or uranium values through 6/10/2018. The composite sample started on 6/11/2018 is still in progress. The method for calculating the 12-month rolling averages is detailed in the annual report.



Note: The composite sample started on 6/11/2018 is still in progress.

Figure 16. Volume-Weighted 12-Month Rolling Average Plutonium and Americium Activities at SW093: Year Ending Third Quarter CY 2018



Note: The composite sample started on 6/11/2018 is still in progress.

*Figure 17. Volume-Weighted 12-Month Rolling Average Uranium Concentrations at SW093:
Year Ending Third Quarter CY 2018*

3.1.4 AOC Wells and Surface Water Support Location SW018

None of the AOC wells or surface water support location SW018 was scheduled for RFLMA monitoring in the third quarter of CY 2018.

3.1.5 Sentinel Wells

None of the Sentinel wells were scheduled for RFLMA monitoring in the third quarter of CY 2018.

3.1.6 Evaluation Wells

None of the Evaluation wells were scheduled for RFLMA monitoring in the third quarter of CY 2018.

3.1.7 PLF Monitoring

The six RCRA wells at the PLF were sampled during the third quarter of CY 2018. Analytical results (Appendix B) were generally consistent with those of past samples and will be discussed and statistically evaluated as part of the annual report for CY 2018. Section 3.1.9.4 discusses monitoring at the PLF.

Appendix

- Meeting Protocols
- Acronym List

ROCKY FLATS STEWARDSHIP COUNCIL

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Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders

Rocky Flats Stewardship Council – Meeting Overview and Protocols

The central purpose of the meeting of the Rocky Flats Stewardship Council Board of Directors is for the Board and public to learn about current site activities and monitoring results, to be briefed on any issues or challenges DOE and the regulatory agencies are facing, and other issues that come before the Board. The Board reserves time at each meeting to address governance-related issues. Those issues are identified in the meeting agenda, and could include the budget, work plan, minutes, and related items.

All meetings of the Board of Directors are open to the public. From time-to-time, and in accordance with § 24-6-402(4), Colorado Revised Statutes, the Board may go into executive session. Public notice of the executive session is provided in the meeting agenda.

Public Engagement Protocols: Time is allotted at each meeting for the public to address the Board of Directors and presenters. The following procedures apply to all meetings of the Board of Directors. The Chair reserves the right to modify these procedures.

1. **Public comment periods:** The public comment periods are identified on the meeting agenda. The goal is to have two public comment periods—one near the start of the meeting and another near the end. The public comment periods are not a Q&A with the Board.
2. **Time limit:** The Board requests that comments be to the point. If individual comments are too long and/or if there are a number of people who wish to speak, the Chair reserves the right to enact a time limit.
3. **Additional public comment:** As time allows, and as called on by the Chair, the public is allowed to ask questions or express an opinion during presentations. The Board will have the first opportunity to ask questions or make comments.

No personal attacks: All people speaking at the meeting must refrain from personal attacks and address the issues at hand.

Public Comment on Stewardship Council Website: The Stewardship Council website includes a section for public comment. To have your comment posted, you must email a copy of your comments to David Abelson (dabelson@rockyflatssc.org).

Noise: In order to help reduce background noise, sidebar and backroom conversations should be taken into the hall.

To be added to the Stewardship Council's email distribution list, please email David Abelson (dabelson@rockyflatssc.org).

| Acronym or Term | Means | Definition |
|-----------------|-------------------------------|---|
| Alpha Radiation | | A type of radiation that is not very penetrating and can be blocked by materials such as human skin or paper. Alpha radiation presents its greatest risk when it gets inside the human body, such as when a particle of alpha emitting material is inhaled into the lungs. Plutonium, the radioactive material of greatest concern at Rocky Flats, produces this type of radiation. |
| Am | americium | A man-made radioactive element which is often associated with plutonium. In a mass of Pu, Am increases in concentration over time which can pose personnel handling issues since Am is a gamma radiation-emitter which penetrates many types of protective shielding. During the production era at Rocky Flats, Am was chemically separated from Pu to reduce personnel exposures. |
| AME | Actinide Migration Evaluation | An exhaustive years-long study by independent researchers who studied how actinides such as Pu, Am, and U move through the soil and water at Rocky Flats |
| AMP | Adaptive Management Plan | Additional analyses that DOE is performing beyond the normal environmental assessment for breaching the remaining site dams. |
| AOC well | Area of Concern well | A particular type of groundwater well |
| B | boron | Boron has been found in some surface water and groundwater samples at the site |
| Be | beryllium | A very strong and lightweight metal that was used at Rocky Flats in the manufacture of nuclear weapons. Exposure to beryllium is now known to cause respiratory disease in those persons sensitive to it |
| Beta Radiation | | A type of radiation more penetrating than alpha and hence requires more shielding. Some forms of uranium emit beta radiation. |

Rocky Flats Acronym List
 Prepared by Rik Getty, Rocky Flat Stewardship Council
 October 2014

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| BMP | best management practice | A term used to describe actions taken by DOE that are not required by regulation but warrant action. |
| BZ | Buffer Zone | The majority of the Rocky Flats site was open land that was added to provide a "buffer" between the neighboring communities and the industrial portion of the site. The buffer zone was approximately 6,000 acres. Most of the buffer zone lands now make up the Rocky Flats National Wildlife Refuge. |
| CAD/ROD | corrective action decision/record of decision | The complete final plan for cleanup and closure for Rocky Flats. The Federal/State laws that governed the cleanup at Rocky Flats required a document of this sort. |
| CCP | Comprehensive Conservation Plan | The refuge plan adopted by the U.S. Fish and Wildlife Service in 2007. |
| CDPHE | Colorado Department of Public Health and Environment | State agency that regulates the site. |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act | Federal legislation that governs site cleanup. Also known as the Superfund Act |
| cfs | cubic feet per second | A volumetric measure of water flow. |
| COC | Contaminant of Concern | A hazardous or radioactive substance that is present at the site. |
| COU | Central Operable Unit | A CERCLA term used to describe the DOE-retained lands, about 1,500 acres comprised mainly of the former Industrial Area where remediation occurred |
| CR | Contact Record | A regulatory procedure where CDPHE reviews a proposed action by DOE and either approves the proposal as is or requires changes to the proposal before approval. CRs apply to a wide range of activities performed by DOE. After approval the CR is posted on the DOE-LM website and the public is notified via email. |
| Cr | chromium | Potentially toxic metal used at the site. |
| CRA | comprehensive risk assessment | A complicated series of analyses detailing human health risks and risks to the environment (flora and fauna). |

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| D&D | decontamination and decommissioning | The process of cleaning up and tearing down buildings and other structures. |
| DG | discharge gallery | This is where the treated effluent of the SPPTS empties into North Walnut Creek. |
| DOE | U.S. Department of Energy | The federal agency that manages portions of Rocky Flats. The site office is the Office of Legacy Management (LM). |
| EA | environmental assessment | Required by NEPA (see below) when a federal agency proposes an action that could impact the environment. The agency is responsible for conducting the analysis to determine what, if any, impacts to the environment might occur due to a proposed action. |
| EIS | environmental impact statement | A complex evaluation that is undertaken by a government agency when it is determined that a proposed action by the agency may have significant impacts to the environment. |
| EPA | U.S. Environmental Protection Agency | The federal regulatory agency for the site. |
| EEOICPA | energy employees occupational illness compensation program act | This act was passed by Congress in 2000 to compensate sick nuclear weapons workers and certain survivors. Unfortunately the program has been fraught with difficulties in getting benefits to these workers over the years. |
| ETPTS | east trenches plume treatment system | The treatment system near the location of the east waste disposal trenches which treats groundwater contaminated with organic solvents emanating from the trenches. Treated effluent flows into South Walnut Creek. |
| FC | functional channel | Man-made stream channels constructed during cleanup to help direct water flow. |
| FACA | Federal Advisory Committee Act | This federal law regulated federal advisory boards. The law requires balanced membership and open meetings with published Federal Register meeting dates. |
| Gamma Radiation | | This type of radiation is very penetrating and requires heavy shielding to keep it from exposing people. Am is a strong gamma emitter. |
| GAO | Government Accountability Office | Congressional office which reports to Congress. The GAO did 2 investigations of |

Rocky Flats Acronym List
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| | | Rocky Flats relating to the ability to close the site for a certain dollar amount and on a certain time schedule. The first study was not optimistic while the second was very positive. |
| g | gram | metric unit of weight |
| gpm | gallons per minute | A volumetric measure of water flow in the site's groundwater treatment systems and other locations. |
| GWIS | groundwater intercept system | Refers to a below ground system that directs contaminated groundwater toward the Solar Ponds and East Trenches treatment systems. |
| IA | Industrial Area | Refers to the central core of Rocky Flats where all production activities took place. The IA was roughly 350 of the total 6,500 acres at the site. |
| IC | Institutional Control | ICs are physical and legal controls geared towards ensuring the cleanup remedies remain in place and remain effective. |
| IGA | intergovernmental agreement | A cooperative agreement between local governments which sets up the framework of the Stewardship Council. |
| IHSS | Individual Hazardous Substance Site | A name given during cleanup to a discrete area of known or suspected contamination. There were over two hundred such sites at Rocky Flats. |
| ITPH | interceptor trench pump house | The location where contaminated groundwater collected by the interceptor trench is pumped to either the Solar Ponds and East Trenches treatment systems |
| L | liter | Metric measure of volume, a liter is slightly larger than a quart. |
| LANL | Los Alamos National Laboratory | One of the US government's premier research institutions located near Santa Fe, NM. LANL is continuing to conduct highly specialized water analysis for Rocky Flats. Using sophisticated techniques LANL is able to determine the percentages of both naturally-occurring and man-made uranium which helps to inform water quality decisions. |
| LHSU | lower hydrostratigraphic unit | Hydrogeology term for deep unweathered bedrock which is hydraulically isolated from the upper hydrostratigraphic unit (see |

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| | | UHSU). Data shows that site contaminants have not contaminated the LHSU. |
| LM | Legacy Management | DOE office responsible for overseeing activities at closed sites. |
| LMPIP | Legacy Management Public Involvement Plan | This plan follows DOE and EPA guidance on public participation and outlines the methods of public involvement and communication used to inform the public of site conditions and activities. It was previously known as the Post-Closure Public Involvement Plan (PCPIP). |
| M&M | monitoring and maintenance | Refers to ongoing activities at Rocky Flats. |
| MOU | Memorandum of Understanding | MOU refers to the formal agreement between EPA and CDPHE which provides that CDPHE is the lead post-closure regulator with EPA providing assistance when needed. |
| MSPTS | Mound site plume treatment system | The treatment system for treating groundwater contaminated with organic solvents which emanates from the Mound site where waste barrels were buried. Treated effluent flows into South Walnut Creek. |
| NEPA | National Environmental Policy Act | Federal legislation that requires the federal government to perform analyses of environmental consequences of major projects or activities. |
| nitrate | | Contaminant of concern found in the North Walnut Creek drainage derived from Solar Ponds wastes. Nitrates are very soluble in water and move readily through the aquatic environment |
| Np | neptunium | A man-made radioactive isotope that is found as a by-product of nuclear reactors and plutonium production. |
| NPL | National Priorities List | A listing of Superfund sites. The refuge lands were de-listed from the NPL while the DOE-retained lands are still on the NPL due to ongoing groundwater contamination and associated remediation activities. |
| OLF | Original Landfill | Hillside dumping area of about 20 acres which was used from 1951 to 1968. It underwent extensive remediation with the |

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| | | addition of a soil cap and groundwater monitoring locations. |
| OU | Operable Unit | A term given to large areas of the site where remediation was focused. |
| PCE | perchloroethylene | A volatile organic solvent used in past operations at the site. PCE is also found in environmental media as a breakdown product of other solvents. |
| pCi/g | picocuries per gram of soil | A unit of radioactivity measure. The soil cleanup standard at the site was 50 pCi/g of soil. |
| pCi/L | picocuries per liter of water | A water concentration measurement. The State of Colorado has a regulatory limit for Pu and Am which is 0.15 pCi/L of water. This standard is 100 times stricter than the EPA's national standard. |
| PLF | Present Landfill | Landfill constructed in 1968 to replace the OLF. During cleanup the PLF was closed under RCRA regulations with an extensive cap and monitoring system. |
| PMJM | Preble's Meadow Jumping Mouse | A species of mouse found along the Front Range that is on the endangered species list. There are several areas in the Refuge and COU that provide an adequate habitat for the mouse, usually found in drainages. Any operations that are planned in potential mouse habitat are strictly controlled. |
| POC | Point of Compliance (surface water) | A surface water site that is monitored and must be found to be in compliance with federal and state standards for hazardous constituents. Violations of water quality standards at the points of compliance could result in DOE receiving financial penalties. |
| POE | Point of Evaluation (surface water) | These are locations at Rocky Flats at which surface water is monitored for water quality. There are no financial penalties associated with water quality exceedances at these locations, but the site may be required to develop a plan of action to improve the water quality. |
| POU | Peripheral Operable Unit | A CERCLA term used to describe the Wildlife Refuge lands of about 4,000 acres. |

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| Pu | plutonium | Plutonium is a metallic substance that was fabricated to form the core or "trigger" of a nuclear weapon. Formation of these triggers was the primary production mission of the Rocky Flats site. Pu-239 is the primary radioactive element of concern at the site. There are different forms of plutonium, called isotopes. Each isotope is known by a different number. Hence, there are plutonium 239, 238, 241 and others. |
| RCRA | Resource Conservation and Recovery Act | Federal law regulating hazardous waste. In Colorado, the EPA delegates CDPHE the authority to regulate hazardous wastes. |
| RFCA | Rocky Flats Cleanup Agreement | The regulatory agreement which governed cleanup activities. DOE, EPA, and CDPHE were signors. |
| RFCAB | Rocky Flats Citizen Advisory Board | This group was formed as part of DOE's site-specific advisory board network. They provided community feedback to DOE on a wide variety of Rocky Flats issues from 1993-2006. |
| RFCLOG | Rocky Flats Coalition of Local Governments | The predecessor organization of the Rocky Flats Stewardship Council |
| RFETS | Rocky Flats Environmental Technology Site | The moniker for the site during cleanup years. |
| RFLMA | Rocky Flats Legacy Management Agreement | The post-cleanup regulatory agreement between DOE, CDPHE, and EPA which governs site activities. The CDPHE takes lead regulator role, with support from EPA as required. |
| RFNWR | Rocky Flats National Wildlife Refuge | The approximate 4,000 acres which compose the wildlife refuge. |
| RFSOG | Rocky Flats Site Operations Guide | The nuts-and-bolt guide for post-closure site activities performed by DOE and its contractors. |
| SEP | Solar Evaporation Ponds | In the 1950's when the site's liquid waste treatment capability was surpassed by the liquid waste generation rate, the site resulted to transferring liquid wastes to open-air holding ponds where solar energy was utilized to evaporate and concentrate the waste. The original SEPs were not impermeable and substantial quantities of uranium and nitrates made their way into |

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| | | groundwater. As a result the solar ponds plume treatment system was necessary to treat the contaminated groundwater before it emerged as surface water in North Walnut Creek. |
| SPPTS | solar ponds plume treatment system | System used to treat groundwater contaminated with uranium and nitrates. The nitrates originate from the former solar evaporation ponds which had high levels of nitric acid. The uranium is primarily naturally-occurring with only a slight portion man-made. Effluent flows into North Walnut Creek |
| SVOCs | semi-volatile organic compounds | These compounds are not as volatile as the solvent VOCs. They tend to be similar to oils and tars. They are found in many environmental media at the site. One of the most common items to contain SVOCs is asphalt. |
| TCE | trichloroethylene | A volatile organic solvent used in past operations at the site. TCE is also found in environmental media as a breakdown product of other solvents. |
| U | uranium | Naturally occurring radioactive element. There were two primary isotopes of U used during production activities. The first was enriched U which contained a very high percentage (>90%) of U-235 which was used in nuclear weapons. The second isotope was U-238, also known as depleted uranium. This had various uses at the site and only had low levels of radioactivity. |
| UHSU | upper hydrostratigraphic unit | A hydrogeology term describing the surficial materials and weathered bedrock found at Rocky Flats. The UHSU is hydraulically isolated from the lower hydrostratigraphic unit (see LHSU). Groundwater in some UHSU areas of the site is contaminated with various contaminants of concern while groundwater in other UHSU areas is not impacted. All groundwater in the UHSU emerges to surface water before it leaves the site. |

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| USFWS | United States Fish & Wildlife Service | An agency within the US Department of the Interior that is responsible for maintaining the nation-wide system of wildlife refuges, among other duties. The regional office is responsible for the RFNWR. |
| VOC | volatile organic compound | These compounds include cleaning solvents that were used in the manufacturing operations at Rocky Flats. The VOCs used at Rocky Flats include carbon tetrachloride (often called carbon tet), trichloroethene (also called TCE), perchloroethylene (also called PCE), and methylene chloride. |
| WCRA | Woman Creek Reservoir Authority | This group is composed of the three local communities, the Cities of Westminster, Northglenn, and Thornton, who use Stanley Lake as part of their drinking water supply network. Water from the site used to flow through Woman Creek to Stanley Lake but the reservoir severed that connection. The Authority has an operations agreement with DOE to manage the Woman Creek Reservoir. |
| WQCC | Water Quality Control Commission | State board within CDPHE tasked with overseeing water quality issues throughout the state. DOE has petitioned the WQCC several times in the last few years regarding water quality issues. |
| ZVI | zero valent iron | A type of fine iron particles used to treat VOC's in the ETPTS and MSPTS. |