

ROCKY FLATS STEWARDSHIP COUNCIL

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

(303) 412-1200
(303) 600-7773 (f)

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
Steven Franks

MEMORANDUM

TO: Board of Directors
FROM: David Abelson
SUBJECT: Business Items – Additional information about the minutes
DATE: August 26, 2016

The attached minutes contain two comments that warrant additional information.

Public Comment – page 3: A citizen stated that because the Stewardship Council receives funding from the Department of Energy, the organization is “a DOE board that represented DOE interests.”

Additional information since the meeting: As a reminder, the Rocky Flats Stewardship Council has always been and remains an independent body, managed by an independent Board of Directors. The Stewardship Council is not, and has never been, a DOE board.

Annual Report, Surface Water Monitoring (page 11): There was discussion about the Rock Creek Drainage. One citizen stated in response to what constituents were present, “you name it.”

Additional information since the meeting: The final site closure documents, and specifically the Remedial Investigation/Feasibility Study (RI/FS), do not identify contaminants of concern in the Rock Creek Drainage Exposure Unit. This determination, which applies to both human and ecological receptors, was based on surface soil, subsurface soil, sediment, surface water and groundwater sampling for inorganics, organics and radionuclides. This information can be found in the Administrative Record: <http://www.lm.doe.gov/CERCLA/SiteSelector.aspx>

ROCKY FLATS STEWARDSHIP COUNCIL

Monday, June 6, 2016, 8:30 AM – 11:45 AM

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

Board members in attendance: Mark McGoff (Director, Arvada), Sandra McDonald (Alternate, Arvada), Lisa Morzel (Director, City of Boulder), Deb Gardner (Director, Boulder County), Mike Shelton (Director, Broomfield), Laura Weinberg (Director, Golden), Pat O'Connell (Alternate, Jefferson County), Shelley Stanley (Alternate, Northglenn), Joe Cirelli (Director, Superior), Jan Kulmann (Director, Thornton), Emily Hunt (Alternate, Thornton), Bruce Baker (Director, Westminster), Sharron Bird (Alternate, Westminster), Mary Fabisiak (Alternate, Westminster), Jeannette Hillery (Director, League of Women Voters), Sue Vaughan (Alternate, League of Women Voters), Roman Kohler (Rocky Flats Homesteaders), Arthur Widdowfield (Director, Rocky Flats Cold War Museum).

Stewardship Council staff members and consultants in attendance: David Abelson (Executive Director), Barb Vander Wall (Seter & Vander Wall, P.C), Rik Getty (Technical Program Manager), Erin Rogers (consultant).

Attendees: Eric Barnes (Wagner Barnes, Griggs), Scott Surovchak (DOE-LM), Bob Darr (Navarro), John Boylan (Navarro), Clay Carpenter (Navarro), George Squibb (Navarro), Kurt Franzen (Navarro), Linda Kaiser (Navarro), Carl Spreng (CDPHE), Vera Moritz (EPA), Shirley Garcia (City of Broomfield), Sandy Pennington (Superior Trustee), Trevor Bane (Rep. Polis), Stuart Feinhor (Rep. Polis), Susan Flack (Rocky Flats Museum), Ken Freiberg (Rocky Flats Museum), Bob Fiehweg (Fiehweg Environmental Consulting), Anne Fenerty (citizen), Larry Hankins (citizen), LeRoy Moore (Rocky Mountain Peace and Justice Center), W. Gale Biggs (citizen), Jon Lipsky (citizen), Ann Parker (citizen), Pat Mellen (citizen), Ted Ziegler (citizen), Kim Griffiths (citizen), Marian Whitney (citizen), Bonnie Graham Reed (citizen).

Convene/Agenda Review

Chair Lisa Morzel convened the meeting at 8:34 a.m. The first order of business was introductions of Board members and the audience. Lisa noted that the Executive Committee met on April 22 to review the agenda for this meeting. She also noted that approximately ten citizens attended the meeting. Lisa clarified that while these meetings were always open to the public, the purpose of the Executive Committee meetings was to review Board meeting agendas, and not engage in any policy decisions. She said that discussions related to the role of the Stewardship Council and related topics are discussed at full Board meetings.

Consent Agenda

The Board next addressed the consent agenda, which included approval of the minutes from the last meeting, as well as checks written since the last meeting. Mike Shelton moved to approve the April 2016 Board minutes and the checks. The motion was seconded by Jeanette Hillery. The motion to accept the minutes and checks passed 13-0.

Executive Director's Report

David Abelson began his update by providing some information about the Cook v Rockwell case which had just reached a settlement. This case had to do with the impact of Rocky Flats on property values for a specific area east and south of Rocky Flats. Only people who owned property as of June 7, 1989, are eligible for compensation. The suit originally included property values, as well as a request for medical monitoring. David explained that the medical monitoring claim was thrown out early in the process by the judge, as there was causal no nexus between Rocky Flats and health impacts off-site. David observed that this case had taken 26 years to resolve. He also noted that he had been subpoenaed in the early 2000s due to his work on the case as a congressional staffer. David explained that the Rocky Flats contractors that were named in the suit, Dow and Rockwell, were indemnified by their contracts with DOE. Therefore, the federal government (DOE) must actually pay the settlement. The settlement was for \$375 million, which came out to about \$15,000 per household. David explained that, although there had been new development in areas that were located within the lawsuit class, none of the new homeowners would be part of the settlement because of the date restrictions. David clarified that the lawsuit was not related to cleanup and there were no claims for physical harm, only the effect on property values.

David then brought up what he saw as an interesting nexus with the Cook case, which was a new health study around Rocky Flats by a group called the Rocky Flats Downwinders. He noted that the group's founder had applied to be on the Stewardship Council board. David said that the Downwinders website stated that no health studies had ever been done around Rocky Flats, but this statement is not accurate. The State Health Department had conducted an in-depth dose reconstruction study and found that the increased cancer risk due to exposure from Rocky Flats was 2.5 in one million. David noted that the Downwinder survey was a purely opt-in online survey. David noted he does not know what it takes for such a study to be statistically valid, and whether this survey would meet that standard. He also said he did not know if the researchers were also screening for other cancer risk factors. David said he wanted to flag this issue because it was creating the impression among some that there had been no past analysis of health effects around Rocky Flats. He said additional information about offsite health risks was a good thing, but that it needed to be scientifically sound and statistically valid.

Public Comment

Marian Whitney said she had lived downwind of Rocky Flats since the early 1960's. She began by thanking the Stewardship Council for its work. She said she would like to see a group like this for the Rocky Flats National Wildlife Refuge. Marian said she was planning to organize some informational meetings to explore trails to and from Rocky Flats, and that people were welcome to come share ideas. She said there was one important ground rule which was that people had to provide a source for any information they shared. She noted that she had not run across anyone who thought it would be wise to let a child to go onsite at Rocky Flats. She concluded by saying that she had a lot to learn about these issues.

Gale Biggs circulated a document to the Board. He said he wanted to remind the Stewardship Council that 25 years ago, CDPHE determined that the airborne pathway of plutonium was the

most dangerous, yet there was no longer any air monitoring at Rocky Flats. He also said that in 1974, Dr. Carl Johnson with the Jefferson County Health Department had wanted to measure contamination at Rocky Flats but was not allowed to. Instead, he took samples offsite at 25 locations, which had all been sampled by CDPHE as well. Dr. Biggs said that Johnson's concentration results were 44 times (some 100-285x) higher than CDPHE's, which used different sampling techniques. He said he had written five letters to EPA requesting that they establish airborne sampling at Rocky Flats. The responses noted that they were meeting the water and soil standards. Dr. Biggs reiterated that he believed air monitoring was the main problem.

Anne Fenerty said she had some questions regarding the Stewardship Council. She said that this was a DOE board that represented DOE interests, as they provide most of the funding. She noted that since the Stewardship Council was set up for no more than 14 members, it was difficult to get meaningful discussions.

Ted Ziegler said he was concerned about historical contamination in addition to plutonium. He noted the use of beryllium at the site and the risks for chronic disease. He said that the spraying of wastewater contributed to an enormous amount of beryllium and asbestos, which he said was just as toxic as plutonium. He said this needed to be independently tested. He said the area could not be considered safe until there was appropriate sampling.

Sandy Pennington introduced herself as a Trustee from the Town of Superior. She said that her first Rocky Flats meeting was in April. She was not happy with plans for a FLAP (Federal Lands Access Program) grant for the Rocky Flats National Wildlife Refuge. She said this plan was a change from what was found on the Greenway Commission website. She commended those who were taking these issues seriously. She noted that it appeared there was an agreement for additional testing before decisions are made, which was good. She noted that Stewardship Council members carried a great deal of weight on their local councils and boards. She asked everyone to be serious about sampling protocols so that the resulting data was unimpeachable. She also encouraged the Board seriously consider the matter of air testing, which she said was extremely critical because of future construction zone and visitors to the Refuge.

Bonnie Graham Reed spoke next and said that most people she had talked to did not know the history and believed that Rocky Flats was cleaned up. She pointed out that cleanup was in the central area of the site, and not in the buffer zone/Refuge areas. She said this should be public knowledge before people go out there, and it should also be on the signage. David Abelson offered some information that the USFWS went through a public process regarding language for signage at the Refuge. He said their language and analysis could be found on the USFWS website, as part of the step-down plan (part of CCP). Bonnie said that there should be signage offsite as well.

Receive Stewardship Council 2015 Financial Audit

Eric Barnes from Wagner, Barnes and Griggs was on hand to brief the Board on the results of the 2015 financial audit. He said that the Stewardship Council was not required by State law to seek an audit. Only budgets over \$750,000 were subject to this requirement, and the Stewardship

Council was well below this threshold. He commended the Board on its consistent position that an independent audit was important for demonstrating that the board and staff were managing the finances in accordance with applicable laws and regulations.

Mr. Barnes noted that the auditor's job was to review the financial statements and provide an opinion on whether the financial statements were materially correct. He went through a quick review of the report. On Page 1, he noted that the 'Opinion' of the auditors regarding the RFSC financial statements was that they do fairly represent the financial status of the Board. He added that this was an 'unmodified' opinion, meaning that there were no qualifiers added to the opinion. Mr. Barnes noted that the Stewardship Council's main revenue source was the grant from DOE, which accounted for about 90% of the budget. He said that if the grant were to go away, the Stewardship Council would have trouble continuing to operate. Mr. Barnes noted that the primary expense for the Board was the management contract/personnel. He referred to Page 5 which showed budget to actual expenses, and reflected that the Stewardship Council was below budget by about \$13,000. Mr. Barnes concluded by saying that no material problems were found, and that the Stewardship Council was found to be in compliance with all applicable laws and regulations. He added that the Board's accountant, Jennifer Bohn, and David Abelson had always done a great job with record keeping and answering his questions. He found them to be very open and accessible.

Roman Kohler moved to formally accept the audit. The motion was seconded by Joe Cirelli. The motion to accept the minutes and checks passed 13-0.

DOE Briefing on 2017 CERCLA Five-Year Review

CERCLA, one of the two federal laws guiding remediation activities of contaminated sites, requires that DOE review the remedies at Rocky Flats every five years. The remedies are all located within the Central Operable Unit (COU), which is not part of the Refuge. The broad purpose of the review is to ensure that the remediation goals are being met and that the remedies continue to protect human health and the environment. The last five-year review for Rocky Flats was completed in 2012.

David Ward (Navarro) was on hand to brief the Board on the status and plans for the 2017 Review. He said the process was just beginning. He began by reviewing the CERCLA history at Rocky Flats. He explained that several Remedial Action Objectives (RAOs) were established in the CERCLA decision document, called the Corrective Action Decision/Record of Decision (CAD/ROD) and then summarized each:

Groundwater RAO 1

- Meet groundwater quality standards at AOC wells
- Meet CWQCC surface water standards

Groundwater RAO 2

- Restore contaminated groundwater discharging directly to surface water as base flow, and that is a significant source of surface water, to its beneficial use of surface water

protection, wherever practicable in a reasonable timeframe. Compliance is measured at sentinel wells

- Prevent significant risk of adverse ecological effects

Groundwater RAO 3

- Prevent domestic and irrigation use of groundwater contaminated at levels above MCLs

Surface Water RAO

- Meet surface water quality standards

Soil RAO 1

- Prevent migration of contaminants to groundwater that would result in exceeding groundwater RAOs

Soil RAO 2

- Prevent migration of contaminants that would result in exceeding surface water RAOs

Soil RAO 3

- Prevent exposures that result in an unacceptable risk to the wildlife refuge worker
- Prevent significant risk of adverse ecological effects

David noted that the last Rocky Flats five-year review was the third one, and was completed in August 2012. That review can be found on the DOE-LM website at:

http://www.lm.doe.gov/Rocky_Flats/Regulations.aspx

The fourth five-year review must be completed by August 2017. DOE, as the CERCLA federal lead agency under the Superfund law, was responsible for conducting the Review. DOE-LM, the LM support contractor (Navarro), CDPHE, and EPA staff would comprise the review team. The review must follow EPA's Comprehensive Five-Year Review Guidance, dated June 2001. EPA guidance and other information can be found at:

<http://www.epa.gov/superfund/cleanup/postconstruction/5yr.htm>

David walked through the steps involved in the Review:

1. Notify the public -- Public notices issued when the review process begins and when the final report is released
2. Review key documents -- CAD/ROD and RAOs, monitoring and maintenance reports, new investigations, and technical memos
3. Assess protectiveness -- Review protectiveness
4. Review and analyze data -- Analyze contaminant data
5. Conduct interviews and site inspection -- May involve site workers, community members and Jefferson County to confirm environmental covenant
6. Write report -- Assess protectiveness of remedies

He said that the purpose of the five-year review was to determine whether the site remedy remained protective of human health and the environment. EPA will either concur with LM protectiveness determination or the agency may make an independent finding.

David explained that the review would address three questions to assess the protectiveness of a remedy:

Question A- Is the remedy functioning as intended? To answer this question, the review team will examine:

- The technical performance of the remedy against the RAOs
- Monitoring data
- System performance
- Operation and maintenance
- Effectiveness of physical and institutional controls

Question B - Are the exposure assumptions, toxicity data, cleanup levels, and RAOs still valid? To answer this questions, the review team will identify:

- If exposure scenarios have changed
- If toxicity factors or ARARs have changed
- If changes in exposure, toxicity factors/ARARs affect protectiveness of remedy
- If RAOs need updating

Question C - Has any other information come to light that could call into question the protectiveness of the remedy? To answer this question, the team will consider:

- Any new information not addressed or anticipated in the CAD/ROD that could call into question the protectiveness of the remedy (note: remedy selection decisions are not reopened, but are evaluated against new requirements, if any)

Once the review is complete, the protectiveness determination will be one of the following:

- Protective
- Protective in the short term
- Will be protective
- Protection deferred
- Not protective

David also reviewed the list of data sources that would be reviewed as part of the process:

- RFLMA 2012 through 2016 Annual Reports
 - The monitoring data set consists of validated data from January 1, 2012, through December 31, 2016
 - Data for monitoring locations specified in RFLMA will be used
- Site inspections – Annual RFLMA inspection results through March 2017 (expected date of next inspection) will be used
- The status of any issues or recommendations from previous five-year reviews will be reviewed and reported

The Rocky Flats Legacy Management Agreement (RFLMA) also specifies that certain evaluations be done as part of CERCLA periodic reviews. Besides the protectiveness questions, the scope will include:

- Reviewing whether new technologies may reduce the need to rely on institutional controls and recommending follow up
- Recommending continuing, discontinuing, or changing any remedy component
- Recommending changes to landfill inspection and monitoring frequencies

Finally, David shared the plans/requirements for ‘community involvement and notification’. These include:

- Publication of notice that a review is being conducted
- Post fact sheet on the Rocky Flats website
- Provide status at RFSC meetings
- Notify public when the review report is completed
- Submit the draft Fourth Five-Year Review Report to EPA for approval and CDPHE for concurrence around expected date of June 2017
- Publish Notice of Completion in August 2017

He said that the public has had, and continues to have, the opportunity to provide input through the Stewardship Council, and that public input associated with the Five-Year Review was being accepted currently through the following mechanisms:

Mail:

Rocky Flats Site Fourth Five-Year Review Comments
U.S. Department of Energy Office of Legacy Management
11025 Dover Street, Suite 1000
Westminster, CO 80021

Email:

rinfo@lm.doe.gov

Joe Cirelli began the questions by asking what it would take in the CERCLA review to determine that air monitoring should be added. David said that new information would be needed. He said that one of the seven RAO’s would have to be determined to not be met. Jeannette Hillery asked about soils that would be disturbed onsite causing emissions of contaminants, and whether there was anything under the soil RAO that could trigger an air quality issue. David said that anything involving disturbance of soil goes through a separate regulatory review. Lisa Morzel asked if sampling was done when soil was disturbed. David said that it was not, based on past data. Lisa noted that the exposure assumptions may change once people begin recreating in the Refuge. She challenged the assumption that there was no vertical movement of contaminants in soil, and advocated for air monitoring to allay public concerns.

David Abelson asked what the process was for determining whether exposure scenarios had changed. David Ward said that could not be answered before the evaluation. Mary Fabisiak asked if the Original Landfill (OLF) report was expected to be finalized before the Five-Year Review. David said he did not know. Deb Gardner referred back to the flood in September, 2013. She said that it created a circumstance where soil could have been disturbed in ways that brought contamination to the surface. David said that they would be looking at surface water and groundwater. Deb noted that the RAOs were 15 years old. She asked how the public could

recommend air monitoring and additional soil monitoring. Lisa Morzel asked where the dialogue with DOE about the Five-Year Review issues was supposed to take place, and whether they were expecting the Stewardship Council to accept and pass along comments. Sue Vaughan noted that it was clear that concerned individuals and groups would have to make some strong recommendations. She also noted that children were not part of the exposure scenario. Deb Gardner commented that it seemed like, despite what people were saying, DOE would do things the same way as it had for the last three reviews. She said that the public felt that this was insufficient, and that it did not ensure the remedy was protective. She added that unless the testing protocols were changed, they would not get information that would make the public feel safe.

Laura Weinberg said that the information in the presentation about the process seemed different than what they were hearing. She referred to Question B, which referenced looking at whether exposure assumptions were still valid. David Ward said that data would be evaluated against the seven RAOs, and if they were not being met, something would change. George Squibb explained that the results of surface water monitoring were indicative of the presence of contamination, and that this was used to infer whether there were impacts on other pathways. He emphasized that they were monitoring the pathway that presented the highest risk. Deb Gardner asked George if there was ever simultaneous air and water monitoring to prove that correlation. George said there was for a period of 15-20 years, including two-to-three years after closure. Scott Surovchak noted that this data was why the CAD/ROD focused on surface water quality. Mary Fabisiak asked whether the POC sample results in April indicated that there was some movement of plutonium and americium. George said that there were two results above the standard, although they were not confirmed by duplicate analyses, and they did not trigger a reportable condition.

Barb Vander Wall asked whether this meeting was the mechanism through which the parties were inviting comments for DOE to take into consideration and then address. She also asked if there would be a response to comments. David Ward said that comments would be included in the report, although they may not be responded to. Laura Weinberg asked for a timeline and a clarification of the Stewardship Council's role in terms of providing comments. David Abelson clarified that the Stewardship Council did not make recommendations as an entity, although one of its roles was to forward recommendations and opinions from constituents and citizens. He said that individual governments and Board members were free to make recommendations based on those affiliations. Lisa Morzel noted that in the past, cities and counties had written their own letters, which the Stewardship Council compiled and transmitted to DOE. Bob Darr said that public comment information would also be sent out via their email distribution, and posted on DOE's website. Lisa asked if there would be any news releases. Bob said that any general public notices had not been effective in the past, however members of the local media were included on the current distribution list. Joe Cirelli asked for Superior to receive copies of any letters prepared by other local governments. Deb Gardner asked for a timeframe for providing comments. David Ward said they were being collected currently.

Sandy Pennington encouraged the Board members to review the purpose of their organization. She said she understood it to be to serve as an intermediary between DOE and the public, and that since DOE did not plan to aggressively pursue public comment, she asked the Stewardship Council to host three-to-four public meetings. Ted Ziegler said that the 'no trespassing' signs had

been removed from the site, which he said was putting the ‘cart before the horse’. He said that DOE was looking for excuses to not do additional sampling, even though many in the public were requesting it and would continue to do so. Scott said that the signs Mr. Ziegler was referring to were taken down because DOE no longer had jurisdiction in those areas. He said that they were replaced by USFWS signs. Larry Hankins said that he served as a radiological technician at the site and that he saw the historical testing as phony. He said they were directed to test the same spot every time, and not given any freedom to sample where they felt they should. Gale Biggs brought up the issue of the size of plutonium particles not matching the capabilities of the samplers that were used onsite. Mike Shelton asked if that held true for water samples as well. George Squibb said that water sampling did not involve any filtration, so this concern would not apply. Jon Lipsky referred to Section 7 of RFLMA, regarding public participation, and said that in this case the public was being told they could review the report after it was completed. He said he had emailed Vera Moritz with EPA several times about this issue and had not received a response. Gale Biggs added that he had attempted to get meteorological information from the site, and had submitted a Freedom of Information Act request. He said he received a simple response months later that said the information did not exist.

Host DOE Annual Meeting

DOE was on hand to brief the Board regarding site activities for calendar year 2015. The full Annual Report was posted on the DOE website. Activities included surface water monitoring, groundwater monitoring, ecological monitoring, and site operations (inspections, maintenance, etc.). Chair Lisa Morzel asked Board members to raise their hand during the presentation only if they had a question, not a statement.

Surface Water Monitoring – George Squibb

George began by providing an update on surface water activities during the 4th quarter, as well as the 2015 calendar year. He began with a quick review of the overall monitoring requirements and a map of locations and monitoring sites.

At the Original Landfill (OLF), which is above Woman Creek, routine composite sampling during the year at downstream location GS59 showed that arsenic, lead, and selenium concentrations were above applicable RFLMA standards. This triggered increased sampling frequency (monthly) per RFLMA evaluation protocols. Subsequent monthly sample results were below the standard, and the sampling frequency reverted to quarterly. Similar concentrations were detected at upstream location GS05. Shelley Stanley asked what the source of the contaminants at GS59 was. George said it was probably naturally-occurring because it was also detected upstream of the landfill.

At the Present Landfill (PLF) treatment system, routine quarterly sampling during the year of the system effluent showed that arsenic, selenium, and vinyl chloride concentrations were above applicable RFLMA standards, triggering increased sampling frequency (monthly) per RFLMA evaluation protocols. Monthly arsenic and selenium sample results were below the standard and the sampling frequency reverted to quarterly. Vinyl chloride measured above the standard for three consecutive monthly samples, triggering sampling of surface water from the former PLF

pond area outfall to No Name Gulch (location NNG01). Vinyl chloride was not detected in surface water at the PLF pond area and sampling frequency at the system effluent reverted to quarterly. Lisa asked what the source of the vinyl chloride at the PLF was. George said it came from the landfill.

George moved on to Point of Evaluation (POE) Monitoring. At location SW027, 12-month rolling averages for plutonium and americium were reportable during 2015, and remain at reportable levels through February 29, 2016. RFLMA Contact Record (CR) 2015-05 was issued on July 8, 2015. Mitigating actions include enhancing upstream erosion controls. However, plutonium and americium are not reportable at the downstream POC (WOMPOC). George reported that all other RFLMA POE analyte concentrations, as well as all POC analyte concentrations, remained below reportable levels throughout 2015.

Shannon Bird asked if anything was done to try to remove the source at SW027. George said that would not be a normal response because of the concentrations they were seeing. He added that part of the remedy was erosion control. He said that if they saw something really significant, they would look at the removal option. Shelley asked if water from SW027 flowed into Pond C2. George said it did. He said that Pond C2 had about three feet of water, and runs in flow-through mode. Shelley asked if they were seeing any elevated plutonium or americium in Woman Creek at the site boundary, or GS31. George said that they did, however concentrations were lower than upstream. Bruce Baker stated that the site only monitors for migration of elements from the COU, and that anything that was occurring on the Refuge was unknown. George said that was true, but they had a great deal of historical data about Refuge lands. He said that points along the Indiana Street border were monitored until the fall of 2013. This water flows to Woman Creek Reservoir, and then sampled again. He said there were a lot of components to the monitoring system so they were able to understand what was happening. Ann Fenerty said that there was a huge floodplain in the Refuge, and that she was concerned that this area was not being monitored for contamination. George referred to a site map. He explained how water flows through drainages, and then comes back together. He said that the monitoring program took all of this into account. He explained that during the 2013 storm, Rocky Flats had much less precipitation than surrounding areas, and that most of the water flowing through the site came from offsite areas. He clarified that the way the water flows determines why and where they monitor, and that the drainages were very well defined.

Ted Ziegler asked which elements were monitored for. George said it was location-specific, based on historical records and knowledge. He said they focused on metals and VOCs in the landfills. Other monitoring points focused on plutonium, americium, and uranium. Beryllium was monitored at Points of Evaluation, however most of these were non-detects, as were almost all metals. George explained that they added a system in which a second water monitor would kick in when the other was full. He said these were installed at WALPOC, WOMPOC and SW027. Because SW027 was more dry, they set the master sampler at a slower pace. Shelley asked what would happen if these monitors were disrupted with logs or some other blockage. George said they would still get a sample, but it would not be collected in the way they wanted. Mary Fabisiak asked if split samples were done from the same bottle of water. George said they were. He added that the lab holds the samples for a couple months in case they want to go back and look at another sample. He said they needed to mix it well to get good plutonium or

americium samples. He noted that they have strict protocols so that the results would be technically-defensible. Sandy Pennington asked if they ever monitored Rock Creek. George said they did, and it showed that it was not impacted by the site in any significant way. Mike Shelton asked about groundwater on the east side of the site. John Boylan said that there used to be many wells in that area, but no contamination was found in them. George noted that they know where the contamination is, and that the current monitoring network looks at whether the plumes were changing. Jon Lipsky asked about effects in Rock Creek from the West Spray Fields. Scott Surovchak said this area fed into tributaries for Walnut Creek and that data did not show any effects. Jon said he disagreed. George asked what constituents he was referring to. Jon said ‘you name it’.

Groundwater Monitoring – John Boylan

John began by noting the quarter was a heavy sampling quarter per RFLMA monitoring requirements. Sampling locations included 10 RCRA wells, 27 sentinel wells, nine AOC wells, one surface water support location, and nine treatment system locations. Groundwater quality was generally consistent with previous results. Heavy spring precipitation continued to affect groundwater levels and treatment system flows, but the effects were waning. He added that all results were evaluated in the 2015 annual report.

4th quarter sampling identified a reportable condition for AOC Well 10304. Two consecutive routine samples contained TCE above the RFLMA level. 2nd quarter results were 15 µg/L (RFLMA value is 2.5 µg/L), and the 4th quarter was 72 µg/L. This reportable condition was documented in CR 2015-10, and had been anticipated in two major groundwater reports that documented closure conditions and decisions (Fate and transport modeling report, 2004 and Groundwater IM/IRA, 2005). The Contact Record response was to sample Woman Creek in the vicinity of the well to look for impacts to surface water quality. A sample collected in December at SW10200 showed no TCE detected. This location will be sampled each time well 10304 is sampled until that well is no longer reportable for TCE.

John moved on to a review of treatment system activities for the 4th quarter. He said that treatment system flows continued to decline after a wet spring, and more normal conditions were seen by the end of 2015

At the Mound Site Plume Treatment System (MSPTS), routine maintenance was conducted on the air stripper and other components. System reconfiguration was scheduled for mid-2016. At the East Trenches Plume Treatment System (ESPTS), activities included routine maintenance, adjusting timer settings, and monitoring of power levels. At the Solar Ponds Plume Treatment System (SPPTS), a contract was let for interim reconfiguration construction. This included emptying the original “Big Box” structure, and converting it to test a full-scale lagoon. Construction began in April 2016, and completion is expected in summer 2016.

John said that overall 2015 was an extremely wet year, resulting in abundant groundwater recharge. Water levels in some wells rose over 10 feet. Lisa asked how the higher groundwater levels compared with 2013. John said that this one was more significant. John showed a hydrograph that demonstrated how these well levels are tracked and analyzed. During 2015, all RFLMA-required monitoring and evaluations were performed. All AOC well data were below

RFLMA levels except for one location. Surface water support location results were consistent with previous OLF and PLF RCRA wells. Statistical evaluations were performed per RFLMA, and the results for 2015 were nearly identical to previous years. Concentrations of a few analytes were higher in downgradient groundwater than in upgradient groundwater. These are on an increasing trend, but below RFLMA levels. John also noted that several statistical conclusions may not be valid due to abundance of nondetects, estimated concentrations, and/or changes to detection limits. Sentinel wells were also evaluated for statistical trends, and the results were largely consistent with previous data

At the treatment systems, due to the precipitation, flows increased sharply. John said that they completed reconfiguring the ETPTS in January 2015, and found that ZVI was very effective at reducing load (as designed). The commercial air stripper was able to meet RFLMA targets.

In terms of plutonium and americium in groundwater, monitoring downgradient of former plutonium production facilities showed that every result was assigned a lab qualifier of “non-detect”. This was consistent with previous results.

High-resolution uranium analyses were conducted in 2015 to evaluate natural vs. anthropogenic uranium. 21 samples were submitted for this specialized analysis. They were taken from wells around the former Solar Evaporation Ponds, and surface water locations contributing to Walnut Creek location (WALPOC). They were collected to support continuing geochemistry study. Additional samples would be analyzed periodically to support this study and other data needs. Shelley asked where the data from the geochemistry study was being reported. John said the Lawrence Berkeley National Lab data was attached to the Annual Report. He said the geochemistry study was using standard RFLMA data, as well as some from the AMP. Shelley asked about the GEMS database. George said that was not used for compliance data. He added that they were transitioning to a new water quality software.

Shelley asked if they purged the wells and waited for recharge. John said it depended on the well behavior. He said that many go dry when a purge was attempted, but others allowed for that. She asked if they purged well 10304 that showed elevated TCE. John said he did not recall but would check. Bruce asked if they sampled for plutonium. John explained that there was no technical reason to sample for it, but it was done as a response to public concerns. Bruce stated that the contaminants tested in groundwater were less dangerous than those for surface water. John clarified that some of them were carcinogenic; however, most were metals or VOCs as opposed to radioactive materials.

Bonnie Graham Reed noted that it sounded like so much work was being done at the site and asked how many full time employees they had. Linda Kaiser said that there were about 14-15 full-time, with another 6-8 part-time. Ted Ziegler asked how many wells were monitored. John said that there were 88 in the RFLMA network.

Site Operations – Kurt Franzen

Kurt said that during quarterly sign inspections, all were found to be in good condition and noted that signs were a designated RFLMA physical control.

At the OLF, three monthly inspections were completed during the quarter. Also, one weather-related inspection occurred in October 2015 due to a precipitation event producing more than 1 inch of rain in a 24-hour period. Eight settlement monuments were monitored as well. Shelley asked what size the cracks were in the OLF. Kurt said they were two-six inches on top, and that it was more vertical than horizontal movement. Shelley also asked when the engineering report would be completed. Kurt said they were expecting it in December. A member of the audience asked who the geotechnical subcontractor was. Linda said it was Tetrattech.

At the PLF, one quarterly inspection and one weather-related inspection for precipitation events producing more than one inch of rain in a 24-hour period were performed. No issues were observed during inspections. They also completed the annual settlement monument survey.

Former building areas 371, 771, 881, and 991 were inspected, including one weather-related inspection in October 2015 due to a precipitation event producing more than one inch of rain in a 24-hour period. Cracking was observed and filled along the roadway near former building 771. No other movement was observed.

Kurt noted that DOE had put together some answers to common questions about OLF conditions and would provide this to the Stewardship Council.

Site ecology – John Boylan

John provided an update on the numerous ecology activities performed during the quarter.

Activities included:

- Herbicide applications (Milestone, Escort, Rodeo)
 - Approximately 339 acres treated: 194 – spring, 145 – fall
- Habitat Enhancement Project
 - 15 fourwing saltbush
 - 15 skunkbush
 - 15 Rocky Mountain juniper (these drowned and died; more were planted recently)
- Interseeding/revegetation
 - Approximately 10 acres
- Forb nurseries

Ecological Monitoring activities included:

- Revegetation monitoring
 - 11 areas monitored
 - All continue to meet success criteria
- PMJM mitigation monitoring
 - Habitat continues to establish
 - One area met success criteria in 2015
- Wetland mitigation monitoring
 - Wetlands continue to establish

Wildlife monitoring activities included:

- Prairie dog monitoring

- No active prairie dog towns within the COU
- Nest boxes
 - 14 of 21 boxes used in 2015 (house wrens, tree swallows)
- Active raptor nest observed in Woman Creek (red-tailed Hawks) and one attempted along Central Ave. (Swainson's Hawks)

Mary Fabisiak asked if there were any buried utilities along the former Central Avenue. John said there were manholes and sewers that were flushed and filled.

Public Comment

LeRoy Moore asked where he could find copies of the presentations. He was told that they were posted on the Rocky Flats DOE-LM website. He noted that he was not able to hear the presentations or discussions very well, and the presentation slides were hard to see. He suggested that they enlarge the projected presentation.

Big Picture Review

September 12, 2016

Potential Business Items

- Initial review of 2017 budget
- Initial review of 2017 work plan (language of mission statement/IGA)

Potential Briefing Items

- DOE quarterly update
- Actinide Migration

October 31, 2016

Potential Business Items

- Approve 2017 budget
- Approve 2017 work plan

Potential Briefing Items

- DOE quarterly update
- Briefing on soil sampling and air quality monitoring

Issues to watch:

- Original landfill
- Uranium exceedances
- Plutonium levels at SW027
- Groundwater treatment systems
- Plutonium movement in soil column

Board Roundtable – Big Picture/Additional Questions/Issue Identification

Lisa Morzel said that she encouraged the other local governments to provide input regarding the CERCLA 5-Year Review.

David Abelson noted that Bruce Baker had offered different venue for Stewardship Council meetings. Westview Recreation Center was in close proximity and has a room that was much larger. David and Mary Fabisiak visited, looked at various configurations and features, and came to the conclusion that none of the current issues with seating or sound issues would be any better than in the existing room.

Mark McGoff said that Arvada recently hosted the dedication of the Greenway Trail. Former Interior Secretary Salazar and the Governor were there along with the National Hiking Association, and other City representatives. He said it went well and that it was an impressive trail.

Mike Shelton said that Broomfield would be voting on the FLAP grant on the following Tuesday and that they would probably be asking for additional monitoring.

The meeting was adjourned at 11:45 a.m.

Respectfully submitted by Erin Rogers.