

NOTES SUMMARY
AMP development working group meeting
02/10/11

- I. Walnut Creek Drainage
- a. FC-1 – seeps in this area?
 - o No significant seeps. There will always be some seeps as the area is on top of the Laramie formation, there is a low spot on top of the Mesa from the borrow material removed during cleanup that was filled.
 - b. FC-2 – review of data for: GW 37505, 37405, 37705, 20705, 20505, 20205, 42505. Data from GW wells and how they contribute.
 - o 37 wells – no changes, below Pu standard and no significant nitrate.
 - o 20 wells, fairly consistent, 20205 most interesting – increasing trend in U, concentrations below threshold, some VOCs since before closure, some carbon tet.
 - o 42505 – AOC well, nothing remarkable, very low results, nothing special.
 - o Question – 771 wells, how long for groundwater to move from basements to wells? Can't really tell, 20205 is carbon tet well, estimate 5 feet per year flow rate, not showing much
 - c. SW018 VOCs, why not Pu/Am?
 - o Used as an investigative location for source evaluation, sample more to “not find than find”, collected for 3 years, then exit strategy of no analysis if no hits at the downstream POEs. Currently take samples and hold for 6 months, but don't analyze any longer. (Pu/Am analysis was not required by RFLMA Attachment 2.).

Broomfield question – looking for a written response on what happens if a hit.

- o Get into RFLMA response.
- d. FC-3-Discussion of current non-RFLMA sampling
- Review of non-RFLMA sampling per Contact Record 2010-03. What is the basis for not sampling Pu at SW093 or LANL?
 - o Pu and LANL already done at SW093
- e. Review of what the non-RFLMA data reflects for this past year.
- o North Walnut creek – nitrate shows a lot of variability, U – bounces up and down, similar variability pre and post closure
 - o South Walnut – downward trend for U as you go down stream
 - o LANL analysis – do it when you have some U event you want to evaluate. It is a way to tell if a known source area is contributing.

II. Sampling during flow-through

- a. When will the valve be opened?
 - o Depends on NEPA decision from DOE. If a FONSI is issued, some time after that if DOE determines they are ready.
 - o Sample pre-release? Yes, pre-discharge sampling.

- Process? Pre-discharge sample; open valve; approximately two weeks at lower flow (300 gpm) to bring dam levels down; continue automatic flow-paced sampling at POCs; continue monitoring at Indiana POCs just like doing now.
- What triggers closing valve if there is an exceedance? Normal RFLMA process – consult with RFLMA Parties and make determination of next step
- Sample results turnaround? 28 days normal; can request shorter turnaround but increased costs. Pu/Am cannot be done faster than about 1 week.
- Broomfield - concerned that it will be months before data is validated. DOE – If see results of interest, can accelerate normal validation process – can get validation in a day or two.

Question and related discussion – If there is an exceedance upstream will you close the valve – for example a 1-time grab sample?

Answer – No, but would close the valve if there is an exceedance at a RFLMA POC and consultation with RFLMA Parties determines closing the valve is the right thing to do.

Broomfield – there is a public perception that if you have an exceedance, how can you not close the valve and let it go downstream – we need a trigger that would close the valve at any exceedance.

DOE – an isolated hit upstream is not an indication of a threat to surface water quality, not a threat to drinking water supplies.

Broomfield – water on site has to meet all use standards.

DOE – yes, this is a remedial action objective of the CAD/ROD – will take time to achieve RAO.

Westminster – perhaps the response to an upstream exceedance at a POE would be to crank up the time frame for turn-around of POC samples.

DOE – It is a wrong message to send to close the valve as a first response. It (closing) is one response that would be based on the threat to water quality and what the data says.

Broomfield – It seems very simple to shut the valve, rather than assuming it is a drastic measure.

DOE – It is drastic if it is based on a single grab sample. The water from the site is not used for consumption. The point is to not overreact because that can send the wrong message, and the regulators have the choice to close the valves anyway. The message is, the dams are not needed for protection, and also all downstream drinking water is protected already. We would not see an impact from only one hit. The standards are based on long term exposure.

Broomfield – Take it to a middle ground?

CDPHE – It might rise to a level where that (closing the valve) would be the logical move upon evaluation of mitigating actions, it's on the list of responses to consider.

Broomfield – We want to know what process will be when there is an exceedance, what will make DOE close the valve?

DOE – Trending, level of exceedance (out of expected variability), consultation with the agencies, what other steps should be taken (based on what ongoing data shows). We need to base closure on a sampling protocol. But if the numbers are continuously high, it would represent an issue and would justify closing the valves to evaluate.

Broomfield – How will you collect nitrate samples at the POCs?

DOE – Presently grab samples. We are looking at use of flow paced automated sampling for 7 days (based on the hold time for nitrate) or could continue to use grabs. Could start a comparison of collection methods in the spring.

- Broomfield - how often will the data be reviewed, trended, evaluated?
DOE – will work with you to determine process/timing. Depends on what/how long it takes to collect enough data.
- Broomfield – what are the key objectives for non-RFLMA monitoring?
DOE – CR 2010-03 provides the objectives, want to understand the ambient conditions for uranium; SPPTS influence on nitrate, uranium; precipitation runoff, performance criteria for remedy – revegetation, removal, etc. AMP process DQOs, triggers. What is the fate of nitrate in the stream reaches. Could be site specific or segment specific standards. Noted that Great Western Reservoir has agricultural standards, while water supply standard at Rocky Flats. DOE will distribute the citation prior to the next meeting.

b. Volume of terminal ponds at 10 percent of capacity?

- A-4 = 3.3 mill gal
- B-5 = 2.47 mil gal
- C-2 = 2.31 mil gal

Westminster – what do you mean when you say you'll open the valves “when ready?”

DOE – need a FONSI; pre-discharge sample; field practicalities, i.e. if installing new flumes; vegetation status, will discuss with the AMP group.

Major storm events, etc.

- Similar response at Walnut and Woman Creeks
- Different concerns/contamination

III. Annual costs to maintain terminal ponds and Present Landfill pond

- Current cost figures were distributed at the meeting and will be attached to this notes document.
- Broomfield still wants to see a contingency plan for the PLF pond in flow-through. Broomfield said they don't believe in dilution, or letting contaminated water flow off site.

Next meeting – 1 p.m. Thursday, Feb. 17, 2011 at the Rocky Flats Site office

- Topics to be discussed
 - Evaluation steps
 - Data communication
 - How long AMP monitoring will be conducted/exit strategy
 - Ecological improvements/changes that will result from flow-through/dam breach

The table below provides the most current estimates based on actual cost since closure. The estimated dollars shown are in 2010 dollars and are not adjusted for inflation.

Rocky Flats Pond Operation Estimate 2010 - 2022

Activity	FY 10 budget	FY 11 budget	FY 12 through FY 19 budget (cost per year)	FY 20 budget	FY 21 budget	FY 22 budget
Pond Operations	\$33,000	\$26,000	\$23,000	\$9,000	\$0	\$0
Water Lease Reporting	\$8,000	\$8,000	\$6,000	\$3,000	\$3,000	\$0
Dam Monitoring and Maintenance	\$71,000	\$57,000	\$54,000	\$18,000	\$0	\$0
Total	\$112,000	\$91,000	\$83,000	\$30,000	\$3,000	\$0

Note: This projection of dam operation and maintenance costs is in FY 10 dollars (rounded to the nearest thousand).

For budgeting purposes the projection includes operation of dams A-4, B-5, and C-2 until 2020. Costs would be lower for 2018-2020 if dams are breached.

Budget assumes breaching of dams PLF and A-3 in 2011.

Although the dams allow surface water to be held, the continued operation and maintenance of the earthen dams and management of the retained water also entails uncertainty related to amounts of runoff, timing of high precipitation events, need to discharge for dam safety, and possible need for repairs based on the results of dam

inspections and stability monitoring. In particular the cost of major repairs to the dams is not included in these estimates.