

ARSG MEETING Summary

June 20, 2013

ATTENDEES: Peter Butler, Doug Jamison, Kirstin Brown, Paul Nazaryk, Lisa Richardson, Scott Schultz, Craig Gander, Steve Fearn, Steve Wharton, Peggy Linn, Mike Holmes, Ray Ferguson, Larry Perino, Greg Etter, Rob Runkel, Chase Olivarius-McAllister, Brent Lewis, Jason Willis, Ty Churchwell, Jennifer Beck, Jim Bush, Darlene Marcus, Bill Simon, Todd Hennis.

Note: we did not develop meeting notes for the Community Update meeting held in the evening of the 20th because most of the information presented has already been discussed at previous ARSG meetings. However, there were a few new bits of information which have been incorporated in the notes below.

ANNOUNCEMENTS:

An updated version of the Upper Animas River Watershed Plan was submitted to the Water Quality Control Division. This is the first update since the plan was developed in 2004. It was completed under a 319 grant which included the gage data analysis done over the past year. Bill Simon did the original plan and Peter Butler did most of the updates.

Congressman Scott Tipton's staff described efforts to introduce Good Samaritan legislation in the House of Representatives. He is looking at a bill similar to Senator Udall's previous legislation.

Bill Simon completed the final reports for a number of 319 grants that had been combined. Those grants are now closed out. Developing the final reports was a substantial undertaking.

Updates

1. Bullion King Mine Waste Remediation project – There is potentially some funding available through CDPHE to do some characterization work on the Bullion King this summer. This would be very beneficial since the 319 funding for doing the remediation will not be available until fall and that would be too late to do any work at the site.
2. Carbon Lakes mine waste, Silver Ledge - pHoam potential – Golder and Associates looked at these sites and the Yukon. They thought it may be best to test the foam on Yukon mine waste first since it is quite coarse, and the foam may move through it easier. We will hear more about this project at future meetings.
3. Clipper Remediation update – Earlier in the day, Larry, Kay, Kirstin, and Bill visited the Clipper mine waste site high in Eureka Gulch to discuss remediation options. The site is on the ARSG priority list and DRMS is planning a mine closure at the site which could possibly be combined with remediation. The site has some difficult aspects for remediation because it is above timberline, little topsoil exists in the area, no direct road access, and any potential access might need to cross a wetland on BLM land. Given these different issues, several people questioned whether the remediation would be worth the effort. Under consideration are some partial, less disruptive, in-situ remediation techniques that might be appropriate for this site.
4. Red & Bonita update – EPA is hoping to go into the R & B this July. Last fall they constructed holding ponds to catch sludge that will be disturbed when people enter the mine. The ponds were constructed on Todd Hennis's land across the county road from the R & B. Before allowing use of the ponds, Todd wants certain actions or conditions met by EPA that have not been fully worked out.

5. Innocentive update – Funding keeps trickling in, largely due to the efforts of Greg Etter with Sunnyside Gold. (After the afternoon meeting, the coordinating committee decided to have a technical group meeting in Durango focused on the Innocentive initiative instead of a regular July ARSG meeting on July 18th.)
6. Potential additional River Watch Sampling (upper Cement Creek) – Up until now, there has not been strong support for an additional River Watch site, nor is there an identifiable funding source for it.

Main Topics

7. Toxicity Results from EPA testing – This topic was delayed for a future meeting.
8. USGS Cement Creek Modeling update – The bulk of the afternoon meeting was spent on this topic. Rob Runkel of USGS gave a very detailed description of the process he is using to develop a hydro-geochemical model of Cement Creek during low flow conditions. Rob thoroughly described how he has worked with flow, pH, metal concentration and load data to minimize errors associated with data use as much as possible before starting the modeling process. So far he has developed the model from the headwaters down to the mouth of Cement Creek and plans to extend it down to A72 below Silverton. He has started to play some “what if” scenarios such as if one removes the Red & Bonita from the system, what happens to metal loading and pH as one goes downstream. Peter suggested that he look at using the water quality and quantity discharged from the Sunnyside treatment plant in 1999 – 2001 (when they were treating Cement Creek) as a starting point for the model at CC-18 to see if the model can replicate the metal concentrations seen during that time period at the Cement Creek gage (CC48) during that time period.
9. Treating Cement Creek to reduce mine site liabilities – Peter displayed some basic calculations regarding the cost of treating Cement Creek to offset metal loading from small drainages on the ARSG priority list. He used the cost of treatment figures from last year’s conceptual cost of treatment study funded by Sunnyside Gold.

Focusing on zinc, he found that to offset a drainage like the Anglo-Saxon by adding incremental capacity to a plant treating Cement Creek at Gladstone (CC-18) would be substantially cheaper than treating the Anglo-Saxon itself with some sort of passive treatment. However, if one were treating Cement Creek at CC-18 to capture zinc coming from the four main drainages (Red & Bonita, Gold King, American Tunnel, and Mogul), there may not be any additional zinc left in the creek at low flow to offset other drainages in the basin.

If one were to set up a treatment plant halfway down the Cement Creek drainage at Ohio Gulch, there is plenty of zinc available to offset zinc loading from all the priority ARSG sites. Unfortunately, the zinc concentrations at this point in the creek are so much lower than at CC-18, the cost of treatment would be 2.5 times higher. Peter still wants to look at this overall issue more closely.

Additional items: (1.) Peter also discussed the last appendix in the Sunnyside Report where the consultant titrated Cement Creek water with lime to raise the pH. The appendix demonstrates that to raise Cement Creek water pH from 3.7 to 9.0, two thirds of the lime is utilized to raise the pH from 3.7 to 6.0. This is an important consideration when looking at the cost of a technology such as electro-coagulation where the pH may need to be raised to 6.0 before the technology can be used.

(2.) Also, Jim Bush with CH2M Hill briefly discussed research in using left over sugarcane waste (stalks) as a medium for catching metals in acid mine drainage. This is a type of “tea bag” approach that

could be useful for treating smaller drainages. We may get a fuller presentation on the research in the coming months.

(3.) At the evening meeting, Steve Wharton with EPA, described how EPA is using money from a settlement with Standard Metals (or an insurance company thereof) to fund their on-going work in the Animas Basin. Because Upper Cement Creek is not a CERCLA site, both EPA and CDPHE don't have dedicated funding for doing any extensive work in the Basin. They are concerned about where future funding may come from for them to continue to participate in this collaborative process.

Potentially topics For August:

Red & Bonita update

Other mine waste remediation updates

Innocentive update

Arrastra Gulch Assessment

Avivid testing results