

ARSG MEETING SUMMARY

8/23/12

ATTENDEES: Peter Butler, John Ferguson, Ray Ferguson, Kirstin Brown, Mike Dunn, Kristin Brown, Larry Perino, Brad Dodd, Steve Fearn, Warren Rider, Peggy Linn, Jennifer Lane, Steve Wharton, Lisa Richardson, Dan Randolph

ANNOUNCEMENTS:

- Four Corners River Health Workshop is on Oct. 16-17 in Farmington. There will be discussion of projects going on throughout the Four Corners region. ARSG will be doing some type of presentation
- The 2012 Sustaining Colorado Watersheds Conference will be held Oct. 9-11 in Avon.

Updates

1. BHP-Billiton Community Fund: ARSG will submit a proposal for additional funding to update the Animas River Watershed plan. A lot of the data analysis we are currently doing will be incorporated in that plan.
2. Koehler water sampling: Kirstin took samples at the Koehler in June and then Steve and Kirstin went in and took more samples in July. So far, the results are very encouraging. There is only a gallon or two per minute of concentrated acid mine drainage seeping around the grout curtain and bulkhead. Closer to the portal near surface groundwater seeps in, but it does not have a really low pH or high concentrations of metals. We still need some more time to evaluate how effective the project has been.
3. Evelyn sampling: Kirstin said that they (BLM, DRMS, and MSI) are testing different mediums in a lab to try in the Evelyn pill box. They've used different mixes of Baxol with Bio Char, sand, and gravel. In the lab it removes a very high percentage of metals.
4. 3-D model of mine workings: Kirstin Brown (DRMS) and Mike Dunn and Kristin Brown (OSM) described the efforts that went into building the 3-D model. Mike has spent a great deal of time tracking down mine maps from different archives, and he described how difficult it was to tie the maps into surveyed points on the ground. Kirstin has spent a great deal of time generating the computer model. One of the biggest remaining issues with the model is trying to understand where different faults zones are and how easily they transmit water. Those are key factors in understanding the hydrology in the mountain.
5. Investigations for in situ treatment for Mogul: Todd Hennis couldn't attend the meeting, so there was no discussion of the Mogul. Todd did say in an email to Peter that for the next meeting, he would bring maps "with the Gold King drillholes from the extension of 7 level (1,000 feet further in than DRMS shows) and the ore geology of the 2150 level of Sunnyside."
6. Red & Bonita: Several people expressed frustration that EPA appears to have no plans to facilitate further exploration of the Red & Bonita. Working with EPA, DRMS went underground about 700 feet early in the summer, but the sludge got almost hip deep and the disturbed sludge coming out the portal was too much for the filter bag system to handle. They did not find the source of water. Finding the water source is important for several reasons. It would help us better understand the hydrology and geological features of the mountain. It may be possible to either stop the source of water through grouting or possibly separate the water if some of it is of better quality.

7. Data Validation. The process is almost complete. Nothing has been discovered that really changes any of the graphs that were shown to the group in the spring.
8. BLM technology testing project. A sampling plan for testing the electrochemical technology from Water Waste Management Inc. was circulated via email right before the meeting. People hadn't really had a chance to look at it, although the group did identify a few questions. BLM wants any comments on the plan from people. Bill Simon had several issues he wanted to discuss with them. The test will begin right after Labor Day.
9. Maintenance on Elk Tunnel. Sludge from the ponds at the Elk Tunnel was dug out by hand and put on the hillside to dry. It will then later be collected. It took a lot of man-hours.

Main Topics

1. Innocentive website proposal – Bill has had further discussions with the Innocentive website people. There are around 270,000 registered “solvers” who view problems posted on the site. One issue is that some of the problems receive numerous solutions and then the presenter of the problem has to evaluate the solutions. That's a process we may not want to undertake. One potential problem that Bill suggested could be posted is if there is a more efficient way to de-water sludge.
2. Potential 319 proposals – Columbus Mine, Bullion King Dump, Carbon Lakes Reveg. Demo. Bill handed out brief summaries of three potential 319 projects for which ARSG may apply for funds this fall. DRMS investigated adits around the Columbus Mine near Animas Forks and determined that they were not connected to the Columbus. This project would consist of two phases. The first phase would be the determination if a bulkhead is feasible and if it would substantially reduce metal loading. The second would be installation of a bulkhead. The goal of the project is reduce metal loading to the Animas River above Cement Creek to improve the fishery between Maggie Gulch and Cement Creek.

The Bullion King Dump is the last remaining high priority mine dump in Mineral Creek. It is fairly big and remediation could be expensive. Bill has already worked up a lot of details on this project. This project may finally get us to the point where Mineral Creek TMDL's for zinc and copper are met.

The Carbon Lakes Revegetation Demo is a small 319 project which would demonstrate ways to get vegetation to take on difficult sites that have soils with low pH and high metal concentrations. This has been a particular problem at the Carbon Lakes Dump remediation site.

3. Follow up from Sunnyside Reports and Prof. Figueroa presentations. There was some discussion stemming from the presentations made last month. For example, Prof. Figueroa had talked about the difficulties of in situ treatment of a mine pool where water is flowing in and out and access is limited so you don't know if you are getting good mixing. She said that in situ treatment of open mine pool where there is little turn over of water is much easier to treat. This made some people less enthusiastic about trying in situ treatment of the Mogul.

Sunnyside's report on the costs of treating the main mine drainages on Cement Creek spurred some discussion. Peter suggested that maybe we should be looking more broadly at issues in the Upper Animas Basin. Perhaps we build additional treatment capacity for treating the creek and use it to offset metal loading from our other priority mine drainage sites. Adding an incremental amount of treatment might be less expensive and more feasible than trying to passively treat a number of smaller sites for which we don't have liability protection to do so anyway (no Good Samaritan protection). To facilitate this extra metal removal, a treatment plant might have to be moved downstream, perhaps below Prospect Gulch. There may not be enough metals in Cement Creek above the confluence with South Cement

Creek to provide enough of an offset. BLM might be interested in this concept since they have other mine drainages to consider outside the American Tunnel. Potentially, they could pay for increased treatment of creek water to manage the liability they have regarding draining mines on BLM property.

If an offset program could be extended outside to Cement Creek, it could provide a good rationale for using the ASARCO Trust funds in Cement Creek since there is one priority mine drainage above Silver Lake on ASARCO property. The offset program could potentially be extended to new mines as well. For example, if a new mine were opened in Prospect Gulch that had drainage, the operator could pay for extra treatment at a centralized treatment facility instead of treating drainage right at the mine. Peter noted that from a regulatory prospective, the offset program might be accomplished under a "control" regulation for which there are several in the state for managing phosphorous on a basin scale. Of course, some entity would need to be responsible for the treatment plant and compliance under a control regulation, but if any type of treatment plant is constructed in Cement Creek, some entity is going to have to be responsible for its operation.

4. EPA data maps from May sampling. The group looked at maps provided by EPA from the May sampling event in Cement Creek. (These maps have been sent out previously via email. Let Peter know if you need an electronic version.) The maps are particularly useful because they have both concentrations and loads together at each site. Peter noted that the sum of the zinc loads from Cement Creek and South Cement Creek above the confluence and the zinc load just below the confluence indicated there was a large zinc source in the lower Gladstone area. Most people thought there is no large source, and there was probably a problem in estimating flows that caused the discrepancy.
5. Other EPA notes. First, Jennifer Lane who has been a community liaison for EPA is passing her duties on to Peggy Linn. Peggy was worked a lot with Mike Holmes in Creede and Clear Creek. Second, Steve Wharton said that Sunnyside has requested a meeting with EPA to discuss liability issues. The meeting was held in Denver in early August with BLM and CDPHE. It was mutually agreed that EPA would send a letter to Sunnyside requesting information they would normally ask a company under a CERCLA action except there would not be a component demanding a response from Sunnyside. In turn, Sunnyside would send a letter to EPA requesting information about EPA's role regarding the Consent decree between Sunnyside and CDPHE.