

Draft ARSG MEETING Summary

June 21, 2012

ATTENDEES: Peter Butler, Warren Rider, Steve Fearn, Kay Zillich, Larry Perino, Tom Schillaci, Steve Way, Allen Sorenson, Darlene Marcus, John Ferguson, Ray Ferguson, Craig Gander, Lisa Richardson

ANNOUNCEMENTS:

- Congressman Scott Tipton and his staff toured several historical mine sites in Cement Creek with Peter and Steve along with Dale Rodebaugh from the Durango Herald. Everyone on the tour felt that the congressman really understood what ARSG is trying to do and why some type of resolution to the Good Samaritan liability issue is important.
- Mine closure work in Arrastra Gulch above Silver Lake is scheduled to start in late June. There is a pre-bid tour of a Sunnyside stope closure north of Lake Emma on June 28.

Updates

1. Koehler: Kirstin sent an email that she sampled the Koehler on 6/11/12. There was 1-2 gpm of water about 75 ft. below the bulkhead that seemed to be mine pool water. There was 20-30 gpm at the portal which appears to be almost all groundwater from snowmelt. She didn't check to see if there is still any bubbling at the base of the bulkhead. Bruce Stover checked the pressure at the bulkhead earlier in the month and found that it was 62 psi instead of the 50 psi it had been before the grouting.
2. EPA May data sampling: EPA took water samples the 15th and 16th of May in upper Cement Creek and the gages. We have the data back but haven't had a chance to work through it.
3. Addition of limestone sand to Cement Creek: There was some discussion about testing the impact of adding limestone to Cement Creek by running a small amount of Cement Creek water down the lower end of the Elk Tunnel limestone treatment channel. That initiated discussion about maintenance of the Elk Tunnel passive treatment system. The settling ponds are pretty much full of sludge. Kay and Lisa recently waded into the muck to pull a number of plants from the ponds by hand. Several suggestions for cleaning the ponds were made.
4. Investigations for in situ treatment for Mogul: It doesn't appear that there have been any more discussions between Todd Hennis and EPA and CDPHE regarding concerns Todd had about more investigations on his properties. Todd apparently was out of the country, so hopefully we will learn more at the next meeting.
5. Red & Bonita: DRMS and EPA's contractor entered the Red and Bonita. The tunnel was fairly level with some slight ups and downs potentially indicating that little water was encountered when it was driven. Otherwise it would have been driven upslope for drainage. The old map of mine workings for the Red & Bonita is inaccurate. The tunnel goes due east and there were a couple of short adits driven to the south. Little water came from the adits. The investigative party went back about 700 feet, stopping before they found the main source of water. They were disturbing more sludge than the bag system outside the entrance could handle. A settling pond outside the entrance is going to be needed to handle the sludge before people can investigate further. The first 700 feet of the tunnel appears to have tight rock and is in very good shape.

Main Topics

1. Data Validation: Peter, Bill and Larry are still working with the data. A72 and CC48 are essentially done. The main issues revolve around reporting limits by different labs. Some labs only report values that are several times higher than detection limits to minimize uncertainty in the values. Others report all values above detection limits, but those values close to the limits may not be as precise.

Generally, when the data is below the reporting limit, most people assign a value for calculations to that sample that is midway between the reporting limit and zero. But in some cases, mostly for lead and cadmium and sometimes copper, the midway value is above the water quality standard. Thus, by using that midway point, one may show an exceedance of the standard that may not exist. At this point we are not using data that is below the reporting limit where one half of the reporting limit could exceed the standard. The data is not being removed from the database. It is highlighted with a ~~strikeout~~. We hope to have a draft data validation report for the next meeting.

2. Responses to RFP for testing treatment technologies: BLM did get a proposal that meets almost all of the criteria in the RFP. After some discussion, Kay said she thought BLM will move forward with a contract although she wanted to talk to the company about extending that amount of time the technology would be tested.
3. Use of BLM contractor: Nothing new to report.
4. Support for video: Tom Schillaci is applying for a grant to update the Good Samaritan video and asked for the group's support. The group said it would do so.
5. Creative ways to find new technologies: Peter and Steve described an interesting idea from Bill Simon. For years, engineers have been trying to find a relatively inexpensive way to treat acid mine drainage. Maybe we need to get people in other technical fields who generally do not work on mining issues interested to provide different perspectives and talents. There is a website, <http://www.innocentive.com/> initially set up by a pharmaceutical company, to get problem solvers from around the world to work on very specific problems. A detailed statement of the problem is posted on the web along with a financial reward for anyone who can come up with a viable solution. The difficulty is of course how to structure the problem and define what constitutes a viable solution. People were quite interested in the idea.
6. Good Samaritan activity: EPA has drafted a memo in response to a request from Senators Boxer, Bennett, and Udall describing what ways EPA may be able to reduce liability for Good Samaritans who treat mine drainage. The memo hasn't been released yet, and it's not clear if it will provide enough liability protection to entice Good Samaritans to do projects. However, it should define what EPA can and cannot do and may provide other potential directions that Good Samaritan legislation could take.
7. Total lead issues below Silverton: Previously, it appeared that dissolved lead concentrations exceeded water quality standards to protect aquatic life at A68, A72, and Baker Bridge. But while going through the data validation process, Peter said this might not be the case. Some of the data that has high reporting limits for dissolved lead may be inaccurate. However, total lead concentrations are occasionally very high at Baker Bridge and in Durango, and violate the water supply standard of 50 ug/l. The high values have been seen at peak flow for spring runoff and during substantial rain events in August.

Because sampling at Bakers Bridge and Durango occurs monthly, usually during the first week of each month, we do not have samples for a number of recent years at peak flow. Peak flow usually occurs in mid to late May. The samples that we do have indicate high total lead concentrations, especially at flows over 4,000 cfs in Durango. A load analysis shows that most of the lead comes from between A72

and Bakers Bridge. What is not known is if the lead comes from the upper Animas Basin initially and is deposited throughout the year and re-mobilized during high flow, or if there is some other source of lead.

We also have data indicating high total lead concentrations below the Animas Canyon during monsoon rain events. One sample was 350 ug/l at Bakers Bridge. It is hard to do a load analysis for these events unless samples are taken at the right times at A72 and sampling locations below to try to catch the same parcel of water. While the flows jump at the gages with the rainfall, they are generally 700 – 1500 cfs at Durango, well below the flows for spring runoff.