

# ARSG MEETING SUMMARY

## April 17, 2013

ATTENDEES: Peter Butler, Bill Simon, Gene Larson, Larry Perino, Ray Ferguson, Jen Beck, Ty Churchwell, Kirstin Brown, Craig Gander, Scott Schultz, Lisa Richardson.

### Updates

1. Bullion King Mine Waste Remediation project – WQCC approved 319 funding for this project. It could get cut because of the Sequester, but we don't think that is too likely. Bill is working on a more detailed project plan. Unfortunately, funding will not be available until fall, and it would be helpful to do preparatory work this summer to have everything ready to go in the summer of 2014. We are still trying to determine how to finance this summer's activities.
2. Carbon Lakes mine waste – We had more discussion about what to do with the 1200 cubic yards of mine waste still on the ground at Carbon Lakes. We didn't quite have enough funds to deal with all of the waste when we hauled off the main dump a number of years ago. Larry suggested we mix it with concrete and put it in the Carbon Lakes shaft. People think that might work well. DRMS has some funds that could potentially be used for disposal of the waste this summer.
3. Addition of Limestone Sand to Cement Creek. Craig Gander did quite a bit of work preparing a plan for pilot testing the efficacy of adding lime sand to Cement Creek. The technical workgroup had already discussed his plan at its last meeting. He had included a water sampling program, but the group felt there needs to be a sampling program for sediment moving downstream as well. Kay said that an ECA needs to be prepared in order to do the pilot testing under BLM's authority. Because there will be more characterization work of the fish and wildlife in the Animas River late this summer or fall by EPA, the pilot testing would not occur any sooner than 2014.
4. InnoCentive proposal – Peter informed the group that InnoCentive was pulling the Brainstorm Challenge program in two days. (He had previously notified the technical workgroup a week ahead of time of the ending of the program.) The Brainstorm Challenge was a much less expensive option for posting a challenge, and we had the money and a draft challenge to post. The downside is that a Brainstorm is very wide open and responses would not be very specific. The group had a long discussion weighing pros and cons of posting the draft challenge in the next two days. In the end the group decided to not post the challenge and to save the money for what is known as a Premium Challenge which we hope we can acquire enough funds to post. Probably the biggest concern was evaluating the responses from the Brainstorm Challenge. There was a question as to how to evaluate the responses and who was going to do it. The evaluation process would have begun in late May and would need to have been completed by late June. It wasn't clear who might have the time over that month to do the evaluations, especially if we got a lot of responses.
5. Potential additional River Watch Sampling (upper Cement Creek) – We skipped this topic due to facilitator error.
6. Mercury in the Basin – Bill has recently reviewed mercury readings in the Animas Basin. There are very few water samples above detection limits. The highest are around the Lark in Prospect Gulch, 17 and 36 ppb. Several other adits were below 5 ppb. In streams where there is aquatic life, some samples have reached .59 ppb, including around Durango. We do not see any consistent reading above detection limits. Generally, we don't think this is a priority issue at this time.

7. Silverton student project – The 8<sup>th</sup> grade class from the Silverton School along with their teacher, Kevin deKay, came to give a presentation. Two girls had done a science project which has gotten them to the state level at the Science Fair. It looks at the statistical relationship between air temperature and pH in Cement Creek. They found a positive correlation. The girls and the group had a lively discussion about next steps and how they might improve their work.
8. Watershed Plan update – The Watershed Plan needs to be updated by the end of May. All the data spreadsheets for the four gages will be incorporated into the update. We will have a draft update for the May ARSG meeting.

## **Main Topics**

1. UAA for Arrastra Gulch – Bill has pulled together all the data we have for Arrastra Gulch and there is quite a bit although most of it is 8 – 10 years old. There is sampling throughout the watershed including draining mines. Macro-invertebrates have been sampled throughout the length of the stream. In addition, WQCD collected water samples at the mouth of Arrastra in 2010 and 2011. These samples are very similar to samples taken ten years ago, and there has been no activity in the basin over the past decade, so we believe our older data is still a valid representation of the basin. We will discuss with WQCD about data needs they think we may have.
2. pHoam Technology – The presenters had logistical issues in getting to Silverton. They will present to the technical workgroup on May 1.

### Potentially For May:

Red & Bonita update  
Innocentive update  
Watershed Plan update  
Arrastra Gulch  
Good Samaritan updates  
Community Update

## **Technical Workgroup Meeting Summary**

May 1, 2013

Attendees: Peter Butler, Ray Ferguson, Chris Peltz, Kirstin Brown, Chuck Wanner, Jennifer Beck, Kay Zillich, Eric Kern, Jacob Waples, John Ferguson, Steve Fearn, Bill Simon. On the phone: Jason Willis, Rich Palladino, Brian Masloff.

The technical workgroup met in Durango at the Public Lands Center (thanks to Kay) and discussed three topics. First, we discussed types of information we'd like to have if we conduct a pilot study of adding limestone sand to Cement Creek next summer. Kay put together a list of issues and a list of different types of monitoring the group might want to consider. Those lists helped focus the discussion.

Some of the thoughts and issues discussed were:

what should the target water quality be in Cement Creek,

would the sand affect the geomorphology of Cement Creek,

what exactly is the orange coating on the rocks (what chemical and biological constituents),

is monitoring Cement Creek at a number of locations necessary given that we are really interested in the impacts of aquatic life downstream in the Animas,

is it possible to monitor deposition on the rocks when it will vary throughout the year with changes in pH and flow,  
will the potential increase in sediment loading in the Animas be measurable considering how much sediment the Animas already carries,  
should we use some surrogate for measuring sediment loading like Total Suspended Solids or Turbidity,  
should we be monitoring for these surrogates now,  
would an auto-sampler for water quality make sense during the pilot study instead of sending people out to collect samples every day,  
is this type of “treatment” going to be understandable and acceptable to the general public,  
it might be helpful to monitor macro-invertebrates, especially the ratio of grazers versus predators.

We still have quite a bit of time to work through these issues. Kay is going to check with U.S. Fish and Wildlife Service to see what monitoring parameters they plan to collect for EPA in the Animas Canyon this fall.

The second topic discussed was evaluation of treatment technologies, especially with regard to a potential InnoCentive Challenge. Bill put together a short memo developing criteria for evaluation. The group discussed the amount of work that potentially could be involved in evaluation and how to spread that workload around so that it didn't all fall on a small number of people. We would also like to bring in some other technical experts from outside of our group for evaluation, but need to be sure we are not asking too much from them. Bill listed some quantitative criteria in the memo and as homework for the next meeting, asked everyone to think of ways to improve the listed criteria. If you are interested in evaluation of different technologies, please contact Bill to get his memo.

The third topic was a presentation and discussion about pHoam, a technology being jointly developed by Golder Associates and Aerix (formally known as Cellular Concrete Solutions). Eric Kern and Jacob Waples from Golder and Rich Palladino and Brian Masloff from Aerix made the presentation.

pHoam is being developed as a delivery agent for adding different amendments to mine waste for remediation. Having done a number of bench scale tests, the developers want to test it on some small dumps to see how well the foam can be distributed in an actual on-the-ground setting. DRMS has a small amount of funding available only this year that could be used to cover some of the testing costs. The developers will cover a lot of their own costs.

The group discussed a number of potential sites that could be suitable for a test. Golder will come back in a few weeks when the snow has melted to look at sites. There is certainly potential that this technology could be very useful if it works as hoped. Peter will get a copy of the powerpoint presentation shown at the meeting. Please contact him if you want a copy.