

EPCAMR



Eastern PA Coalition for Abandoned Mine Reclamation

Michael A. Hewitt, *Program Manager*

101 South Main Street

Ashley, PA 18706

Fax & Main Line: (570) 371-3522

E-mail: hardcoal@epcamr.org

Website: www.epcamr.org

May 2012 Progress Report

Highlights:

- Completed Espy Run Treatment System Sampling Report and AMD Treat on 2 discharges.
- EPCAMR staff constructed a solar kiln, discovered and processed a new color of iron oxide pigment, lead 2 tie dye workshops and solar energy demo for students, and participated in 2 AMR Conference Calls and a stream cleanup.
- EPCAMR staff sampled 16 boreholes in the Lackawanna Valley, 26 in the Wyoming Valley. Measured flow on 6 discharges. Updated 2 GIS datasets, conducted field verification visit near Rausch Creek and completed a snapshot sampling of 5 treatment systems for Datashed. Researched Sulfates Water Quality Test Kits for possible future purchase.
- Added an registration and program page to www.treatminewater.com, updated www.datashed.org, www.epcamr.org and added new items to the EPCAMR store. Administered the EPCAMR facebook page and Google Apps for Nonprofits account.

Education and Outreach:

- Ordered test bottles and pre-acidified test vials from Mahaffey Labs in preparation for AMD Treatment System Snapshot sampling for Datashed. [SRI]
- Added desired fish shocking points to a map for the Solomon Creek Watershed and sent to Trout Unlimited for approval and planning purposes. [TU]
- EPCAMR staff participated in two conference calls to sort out details of the upcoming AMR Conference in August.
- Participated in a photo-shoot along the Lackawanna River near the Old Forge Borehole (OFBH) for Happenings Magazine. They wanted to feature "yours truly" as a Green Leader in their June 2012 edition.
- EPCAMR staff participated in a news op and photo-shoot related to the use of AMD for the gas industry by the Times Leader. Took the photographer to the South Wilkes-Barre Boreholes and the Buttonwood Shaft, both discharges to Solomon Creek.
- Participated in a Lackawanna River Cleanup. The Lackawanna River Corridor Association (LRCA) and volunteers met at the Olive Street Bridge in Scranton to cleanup along the levee and then moved to Sweeney Beach to cleanup that site in preparation for the upcoming regatta boat race.
- Created EPCAMR Program Manager monthly report for the previous month, gathered other staff reports, posted them to www.epcamr.org and sent to PA Department of Environmental Protection (DEP) 319 Nonpoint source (NPS) program staff. Aided executive director in preparing the reimbursement and sent to 319 program staff.
- Updated the EPCAMR Board Meeting Page on www.epcamr.org to reflect the upcoming board meeting.
- Put some finishing touches on the Solar Kiln for 2 tie dye workshops with Wilkes-Barre Area School District's Plains-Solomon School students. Took some of the newly created Silverbrook

Purple Iron/Manganese Oxide Pigment to demonstrate the different color that the Manganese gives the pigment and dyes the shirts. The kiln was loaded it in my truck and taken on the second day to demonstrate how solar power was being used to dry the iron oxide pigment and a 45 watt solar panel was powering a fan to drive off the water vapor. The panel also charged a battery, a cell phone and powered lights. [PPL]

- EPCAMR staff prepared for and hosted the EPCAMR 2nd Quarterly Board Meeting in the Earth Conservancy (EC) Conference Room.
- Met with Susquehanna River Basin staffer, Tom Clark, to discuss work progress with the Anthracite Strategy. [SRBC] Then a trip to the LRCA office to discuss progress on the Qualified Hydrologic Unit Plan (QHUP) for the Lower Lackawanna River, followed by stops at the OFBH and Duryea Outfall AMD Discharges to sample chemistry and calculate flow. [LRCA] On the way back home we sampled chemistry and calculated flow on the Butler Tunnel AMD Discharge in Pittston. [SRBC]
- Traveled to LRCA Office to meet with LRCA Staff and Wavaco Energy to talk about Diamond Plate Technology to remove pollutants from water. The technology is self cleaning by reversing polarity, but seems to be geared toward the frac water industry. We asked about removing iron and the scale of our discharges, but it seemed that it was for smaller amounts of water and different chemistry containing organics. Metal laden discharges are usually loaded with inorganic pollution. The nice thing was that the treatment could be easily assembled and quickly disassembled on site.

Technical Assistance:

- Researched Sulfates Test Kit from HACH, since this seems to be a limiting factor for AMD use in the gas industry. The SF-1 turbidimetric kits use a graduated cylinder to measure the cloudiness with “secchi disk” like stick. They can measure from 50 to 200 mg/L and a kit costs about \$70 to \$80.
- Processed Iron/Manganese Oxide Pigment from the Silverbrook Discharge and posted it on the www.epcamr.org online store as another color to choose from when ordering.
- Aided EPCAMR Intern as she continues to process I-528 cross sections and basemap files through the scripting process. Once completed, we worked on correlating the borehole locations and vein thickness information from I-602 maps. Perhaps Mike Dunn’s “Basin Approach” will work best when modeling the information in earthVision, especially since there are repeats of veins in the stratigraphic sequence in the Hechserville Valley due to a slip fault that dives under itself. Thickness applied to the Buck Mountain Vein as a test [SRBC]
- Checked the desiccant on the transducer at the OFBH and downloaded data from it twice this month as suggested by the manufacturer. Changed the desiccant since a few of the pellets were beginning to turn purple, but this could have probably waited until about ½ of the pellets were purple. It will be a learning game to find out how long the drying agent will last, but we do not want to take the chance of letting the vented cable fill up with water like it did when the transducers were placed directly into the borehole. Took flow at the OFBH and the Duryea Outfall as well. Uploaded this data to a spreadsheet for analysis and shared with project partners. [LRCA]
- Studied the OFBH as built designs to determine if the dissipation chamber, the manhole or the rock cut channel could be causing a constriction dam to make the borehole discharge elevation in the rock cut channel behave differently from an open channel, the typical parameters for a stilling well and transducer setup. It seems that there is a constriction caused by a 4’ square gate valve entrance into the manhole and a 5’ x 7’ rectangular exit from the manhole into the rock cut channel, but both are at the bottom and would not act as a dam. However, at times of higher flows, the water goes above the top of the gate valve in the dissipation chamber and could have an effect of lowering the water level? Also, since the exit of the rock cut channel is ~2’ lower than the entrance of the water, at times when the river is up, back pressure can be built up in the rock cut channel and may affect the elevation of the water. If the river levels build

up high enough, the access slot cut into the rock cut channel could also be inundated with river water. Having these limitations in mind may help explain any unexpected readings. [LRCA]

- Created an ISO file of the AMD an EPIC Tale and AMD Treatment Videos produced by WPCAMR. The ISO file saves the videos in a format that is easy to burn to a DVD on demand.
- EPCAMR staff traveled around the Lackawanna Valley to conduct water level monitoring of 15 boreholes related to the Scranton Metropolitan Mine Pool. Monitored the Jermyn borehole as well which is connected to the Jermyn Mine Pool. Also monitored flow at the OFBH and Duryea Breach discharges. Added data to a spreadsheet and e-mailed to partners. [LRCA]
- Downloaded the newest state GIS data from www.pasda.psu.edu in preparation to make the 2012 Reclaimed Abandoned Mine Land Inventory (RAMLIS) CD Tool.
- Created a final report for the Espy Run Treatment System sampling work by EPCAMR staff for EC. Created an invoice for the time spent on the initiative. Met with EC staff to discuss some minor changes in the report and discrepancies in background chemistry from a previous report. It is our theory that something has changed in the mine pool complex to almost double the flow and slightly alter the chemistry (increased iron and reduced acidity) from what was reported in the last decade, however the newly revamped Espy Run Treatment System seems to be keeping up well with the changes. [EC]
- Uploaded Espy Run sampling data to www.datashed.org. [SRI]
- Created and shared Watershed Priorities maps and statistics with the director of the PA Department of Environmental Protection's Bureau of Conservation and Reclamation (PADEP BCR), Glenn Rider at the Rachael Carson State Office Building in Harrisburg. The meeting was one of many scheduled with the new bureaus stakeholders to explain the changes and get some feedback as to what EPCAMR would like to see in the future from the PA DEP BCR.
- Added a Registration Page linked to EPCAMR store items and a draft Program Page with a list of speakers chosen by the committee to www.treatminewater.com. Added registration items to the store at www.epcamr.org including regular registration, non-profit registration, pre-conference tour, and 3 levels of exhibit space to aide potential conference attendees in the registration process.
- Traveled to the Catawissa Watershed to sample chemistry and calculate flow on the Oneida #1, Oneida #3 and Audenreid AMD Discharge Treatment Systems for www.datashed.org. Traveled to the Nanticoke Creek Watershed to sample the Espy Run Treatment System and (the next day) traveled to the Lackawanna Watershed to sample the Aylesworth Creek Treatment System as well. The sampling took approximately 2 hours per site (not including travel). [SRI]
- Took a trip to the Rausch Creek Watershed to field verify the location, gather chemistry and calculate flow of several discharges including the Valley View Tunnel and Markson discharges that are combined into Rausch Creek, conveyed through "the gap" and treated with an active treatment plant. The Rausch Creek Treatment Plant treats a maximum flow of 16 CFS. The Valley View Tunnel alone (largest flow discharge) was 9.58 CFS. All the water combined flowing through "the gap" was 24.77 CFS, which exceeds the capacity of the 1970's style treatment plant. Also went on a hike up the mountain to find the East Brookside Shaft and attempt to get a depth to water reading. The shaft was capped with a 45 degree angle reinforced concrete cap, but a monitoring hole was left. The water was more than 300' deep (the extent of our equipment) and the tape became stuck (and slightly damaged) upon removal. SRBC plans to purchase a 750' cable style water level meter and retry. [SRBC]
- Completed Treatment System cost estimates based on flow and chemistry (loading) for active and passive type treatment systems using AMD Treat for the Green Mountain Tunnel and the Catawissa Tunnel Discharges to the Catawissa Creek Headwaters. [PEC]
- Traveled around the Wyoming Valley to monitor water levels in 26 boreholes in the Wyoming Valley. Calculated flow for the Glen Lyon Discharge, Buttonwood Discharge, South Wilkes-Barre Boreholes and pipe full measurements on the Askam Borehole Discharge to calculate the amount of mine water flowing [SRBC].

[] - Denotes funding source where applicable.