

### Revamped Treatment System Up and Working Well

Now that the repairs to the treatment system are complete, it is beginning to function properly again. The most recent sampling by the DEP provided the following results:

**Water Quality @ Vintondale Treatment System - June 15, 2004**

Sample Location	Flow (GPM)	pH	Alkalinity to pH 4.5 (mg/l as CaCO <sub>3</sub> )	Acidity to pH 8.2 (mg/l as CaCO <sub>3</sub> )	Fe (mg/l)	Mn (mg/l)	Al (mg/l)	Sulfate (mg/l)	Suspended Solids (mg/l)
Pond 1 Inflow	75	2.8	0	303	15.6	2.35	26.3	603	< 3.0
Pond 1 Outflow	65	3.1	0	250	11.9	2.10	21.2	573	8.0
Pond 2 Outflow	70	3.1	0	238	10.6	2.03	20.4	553	< 3.0
Pond 3 Outflow	93	3.1	0	202	9.67	2.23	23.0	502	< 3.0
Pond 4 Outflow	90	3.2	0	199	6.72	2.08	18.3	532	6.0
Pond 5 Outflow	--	6.5	79	negative	14.7	2.57	3.70	546	18.0
Pond 6 Outflow	35	6.1	15	36	3.47	2.57	< 0.50	593	12.0
Final Discharge	49	4.0	3	39	1.06	2.38	4.52	475	< 3.0

These results clearly show the remarkable success of the treatment system, even before we have a good stand of cattails in ponds 2, 3, and 4. Our water is coming from Mine #3 with a pH of 2.8 and lots of iron and aluminum. By the time that same water exits the treatment system, we have a pH of 6.1 with minimal iron and virtually no aluminum. We are looking forward to ongoing monitoring of the treatment system to demonstrate the impact of better vegetative cover in the initial wetland treatment cells.

The pH drop between the exit from Pond 5 and the exit from Pond 6 is the result of the oxidation (and precipitation) of ferrous iron. This is illustrated by the difference in the iron concentration between the two samples, and the changes in alkalinity and acidity.

Samples taken in the constructed wetlands below the treatment system show an increase in acidity, indicating that ground water is percolating through the refuse that remains on the site. The lower pH is the result of slightly acidic water that is further acidified by contact with the refuse. The best way to mitigate this effect is to establish a good stand of vegetation on the site. As more water is used by the plants, less is available to react with the refuse. AMD&ART has already placed topsoil and seed on all the surrounding slopes, and a good stand of grass should soon help to mitigate the acidity increase. It is also worth noting that although the pH is lower in the wetlands, the iron and aluminum from the Mine #3 Discharge are being deposited in the settling ponds and wetlands, not in Blacklick Creek. This is a significant victory in the attempt to restore the water quality of the South Branch.



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## Litmus Garden Gets Wired

AMD&ART designed a litmus garden adjacent to the passive treatment system to visually reflect the improvement of the water quality through the treatment process by the fall foliage colors of the trees and shrubs. At the beginning of our treatment system the trees were selected for red and deep orange fall foliage that transition to a silvery blue and green at the end of the treatment system. Work is still being done on the Litmus Garden, replacing the trees and shrubs that did not survive the first planting and wiring to protect from foraging deer. Hanchar's Superior Trees provided the new trees and shrubs with a guarantee to ensure the survival of our Litmus Garden. On the hillside opposite the Ghost Town Trail, we will soon be doing an inventory of our Litmus Garden plan and raising the dollars to replant there as well.

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## Greener Pastures in Sight

The Office of Surface Mining provided AMD&ART with a grant that has improved and enhanced our treatment system and site. Dr. Dick Lee of Recycled Soil Manufacturing Technology (RSMT) assisted in the restoration of the AMD&ART Vintondale site with manufactured soil. Specific blended soil was used to plant the shrubs and trees of the Litmus Garden, for construction of the seven acres of wetlands for final treatment of neutralized AMD discharge and for constructing athletic fields for the recreation park. The Greystone Boys helped to spread the soil over the remaining exposed refuse on the site before it was seeded and mulched. Hutchinson Excavating subcontracted Ron's Seeding for the seeding of the site. Waste Management contributed to many of the expenses for the seeding of the site. AMD&ART thanks you again for your contributions.

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Above: Wired trees in the AMD&ART Litmus Garden.  
Below: Sketch of the artistic design for the mock portal.



## The Next Big Thing

Now since construction on the site has been completed, more artistic pieces can now be created. Already Brenda Cassol-Turous donated a Shuttle Cart, Joy S6E, that has been placed on the right side of the portal area, the old entrance of Mine #6. At the portal itself, we will recreate the original portal frame and etch an image of men changing shift from a 1938 film shot by Julius Morey and donated to AMD&ART by his daughter Amy Gorman. The finished portal will measure 10 feet across the top, 12 feet across the bottom, and 6 feet high. Linda Lucero is the artist etching the stone.

Across from the portal The Great Map Project is also underway. Jessica Gordon Liddell is creating a mosaic map drawn from the original 1928 Sanborn map of the site. In addition, former AMD&ART AmeriCorps Member, Dana Serovy is working with Allan Comp to develop information for a series of etched tiles that will frame the mosaic map. A subcontractor obtained through Eugene Hutchinson of Hutchinson Excavating has already laid the concrete for this work. Watch for installation this fall!



## OSM/VISTA Northern Coalfields Rendezvous

AMD&ART recently hosted the OSM/VISTA Northern Coalfields Rendezvous at the park in Vintondale and at the Bottleworks in Johnstown. AMD&ART was joined by many watershed organizations for training. T Allan Comp the OSM/VISTA Watershed Team Coordinator, Judith Russell the State Director from the West Virginia VISTA Office, and Amy Stout OSM/VISTA Leader instructed the two-day training event. Training started with a tour of the AMD&ART Park and introductions. The afternoon training included VISTA presentations from Cindy Wigger of AMD&ART Johnstown PA, Anne Daymut of Blackleggs Creek Watershed Association Clarksburg PA, and Ben Mack of Friends of the Cheat Kingwood WV, Kellee Gomola of Youghiogheny River Watershed Association McHenry MD, and Melissa O'Neal of George's Creek Watershed Association Lonaconing MD. The second day of training continued with VISTA presentations from Brian Chalfant of Greater Redstone Clearwater Initiative Uniontown PA, Kelly Richardson of Six Mile Run Area Watershed Committee Six Mile Run PA who was joined by supervisor Bernie Hoffnar, Ilona Volkner of North Fork Watershed Project Thomas WV, Robert Hughes and Mike Hewitt of EPCAMR Shavertown PA, and Jim Mahrer of Eastern Coal Regional Roundtable Charleston WV. Brian Bausley an intern for the OSM/VISTA Watershed Team also presented on his work with the OSM/VISTA Watershed Team website. Bonnie Shawyer of Potomac Headwaters RC&D Martinsburg WV also joined the training. Each organization gave a brief explanation of the watershed that they are currently working and OSM/VISTA Watershed Team issues were addressed. AMD&ART would like to thank all organizations that attended. Good Luck with your watershed work!



The OSM/VISTA 2004 AmeriCorps that attended the Northern Coalfields Rendezvous. Backrow: Brian Chalfant, Jim Mahrer, Ben Mack, Melissa O'Neal, Dr. Judith Russell. Front Row: Dr. T Allan Comp, Kellee Gomola, Ilona Volkner, Kelly Richardson, Bonnie Shawyer, Amy Stout, and Cindy Wigger.

## New Spirit

AMD&ART is pleased to welcome it's newest member Nicki Slagle. Nicki is a graduate of Penn State majoring in Landscape Architecture. She has accepted a summer internship with AMD&ART and will work to complete the Nature Trail, fully develop the Litmus Garden and Wetlands Planting Plan, and create signage for entry in to AMD&ART Park. In the fall she will become our AmeriCorps Site Coordinator and finish work on the Portal and Platform design and winning competition design. She is also going to create an arbortum of native plants found on site around the church.



Above: AmeriCorps Member Nicki Slagle, AMD&ART's new Intern and Site Coordinator.



## "Tech Students Go Bats"

Recently Portage's Manufacturing Technology class of 2003-2004 constructed 10 Bat Boxes to enhance the AMD&ART Park wetlands habitat. The Manufacturing Technology class built the boxes in school and Portage High School volunteers came out to site and constructed the 20ft poles that each hold two bat boxes. The bat boxes were attached to each pole by Eugene Hutchinson and erected throughout the wetlands. The bat boxes are already up on site with hopes of new inhabitants next fall.

AMD&ART extends special thanks to the teachers and students from Portage High School and to Eugene Hutchinson for their work on these bat boxes to make this part of the AMD&ART Park possible.



Above: Four bat boxes built by Portage High School Manufacturing Technology Class of 2004.

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T. Allan Comp, *Founder*

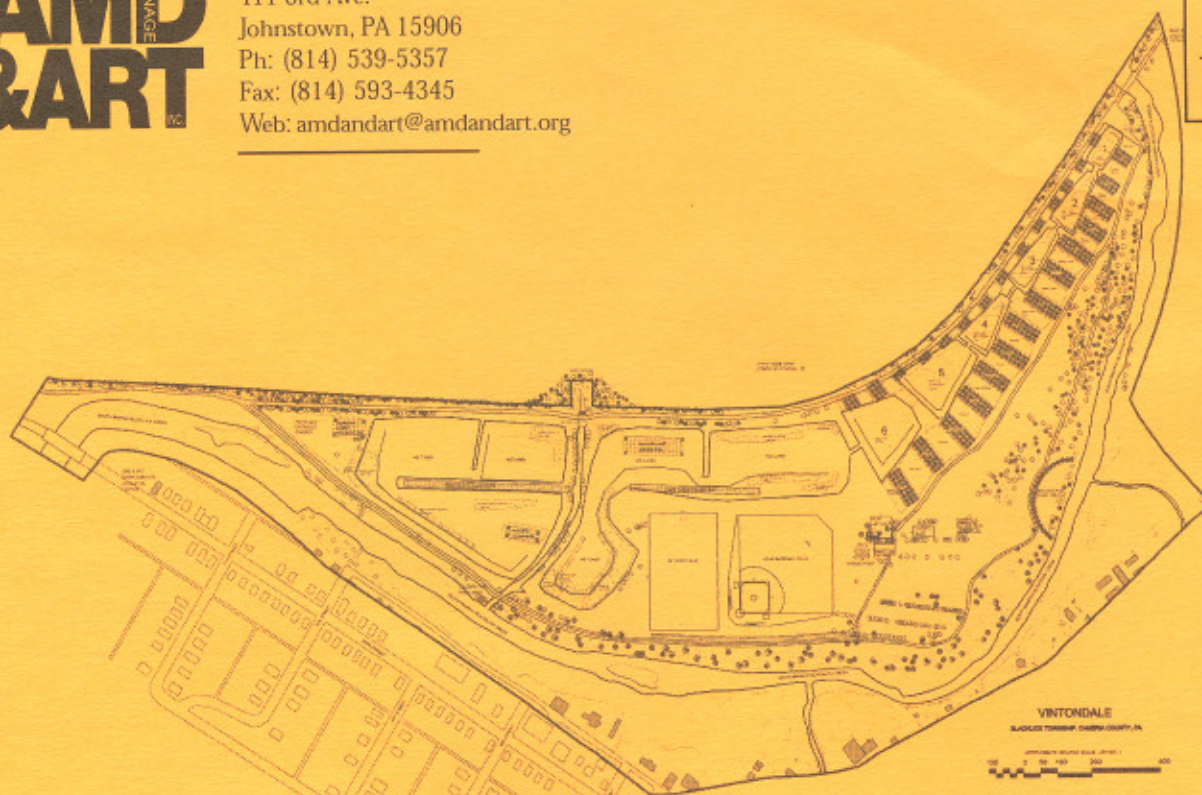
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## Vintondale's AMD&ART Park

Vintondale, Pennsylvania

1. Acid Mine Drainage Treatment System
2. Native Plant "Litmus Garden"
3. Recreation Area
4. "History Wetlands"

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