

Field Trip # 3: To Hamilton County Department of Environmental Services Labs

Date: July 22, 2009

Report Prepare By:

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The Hamilton County Department of Environmental Services (HCDOES) organized and conducted a field training meeting for RET teachers from the University of Cincinnati on Date: July 22, 2009. Mr. Keebler Holley, the educational specialist in the Solid Waste Management District, acted as the lead presenter in this training. Mr. Keebler Holley gave a brief overview on the organization of the Hamilton County EPA. He explained that there are two divisions within the EPA. The first is the solid waste management district and the second deals with air quality issues including writing and enforcing permits.

Ms. Holly Christman, Manager of the HCDOES Solid Waste District, explained the solid waste division of the HCDOES. She explained the history of this division and reviewed some statistics within the division. The solid waste division has determined that as of 2003, forty percent of waste is being recycled in the Cincinnati area. Of the materials that are put in the landfills, sixty percent of them could be recycled and almost half of that is paper. These numbers were astonishing to think about in terms of what we are currently accomplishing with our recycling efforts and what we could be doing in the future. Ms. Holly Christman also informed the teachers that Rumpke, the company that is hired to truck the waste, is undergoing a \$5.2 million upgrade to their system that includes high end machines that will be able to take all plastic containers for recycling. This will greatly increase the amount of material being recycled.

The sampling laboratories were visited by the teachers and the equipment they saw are shown in Figure 1.



Figure 1. Sampling Room Equipment

There are a lot of opportunities for schools and teachers at the HCDOES. One of the school programs they conduct is the Recycling Assist Program (RAP). This was started in 2005 and allows the EPA to provide boxes for classrooms to place their paper in order to be recycled. Along with paper, schools can recycle printers and computers, and schools are even beginning to compost. This fall (September, 2009) the RAP program will be adjusted slightly to evolve into a 2-tier program that will allow schools to either recycle with or without the educational component.

The EPA also has a grant available for Cincinnati schools that gives \$5,000 per year to schools which are able to develop a program focusing on reducing, reusing, and recycling. In order to be selected for this grant, the school must develop measurable objectives that are clear cut and sustainable. An example of a program that has taken advantage of this grant is Norwood View Elementary School which has developed a composting program.

In addition to these opportunities, the HCDOES also offers professional development programs which are eligible for graduate credit and classroom outreach programs. There is a large range of topics that can be covered in this outreach program, but some suggestions were the 3 R's (Reduce, Reuse, Recycle), paper making, and electricity. Another really neat program offered by the EPA is a community education program where adults can attend a composter master program that leads to certification.

After talking about the various programs the HCDOES offers, Mr. Keebler Holley introduced Ms. Kerri Castlen who shared information with the teachers on the air quality division of the HCDOES. She explained that the EPA has a 24 hour complaint hotline that currently gets about 400 complaints a year. Ms Kerri Castlin displayed and explained various tools that are used by the EPA to investigate complaints and odors that have been recorded. One of these tools is a mini thermo anemometer. This records the wind speed, wind direction, temperature, and humidity of an area. This information can be very useful in locating the source of a foul odor. Another tool that was explained was a RAE parts-per-billion surveyor. This can detect and measure small amounts of odors.

The air quality division of the HCDOES conducts ambient air sampling in four different counties in the Cincinnati area (Hamilton, Clermont, Warren, and Butler). These tests are conducted through the use of Roto Rod samplers that are located on the roof of the EPA building. They are also responsible for observation and validation of compliance for various air pollution sources in the area. Each day, the Air Quality Index is calculated, based on a National Standard. This index is mostly based on fine particulate matter and ozone. The equipment seen by the teachers for particulate measurements is shown in Figures 2 and air sampling equipment mounted on the roof top is shown in Figure 3.





Figure 2. Particulate Measuring Equipment



Figure 3. Air Quality Measuring Instruments on the Roof Top

After completing the session dedicated to air quality, Mr. Keebler Holley briefly described the youth council that is made up of four high school students who meet monthly and discuss environmental concerns and ways to work toward them. Again, this program is available to Cincinnati high school students.

This field training program was very informative and was a great resource for the middle and high school teachers in the room. There are a lot of programs that are available for Cincinnati teachers that really give the kids an opportunity to better learn about the serious issue of air quality in our environment today.