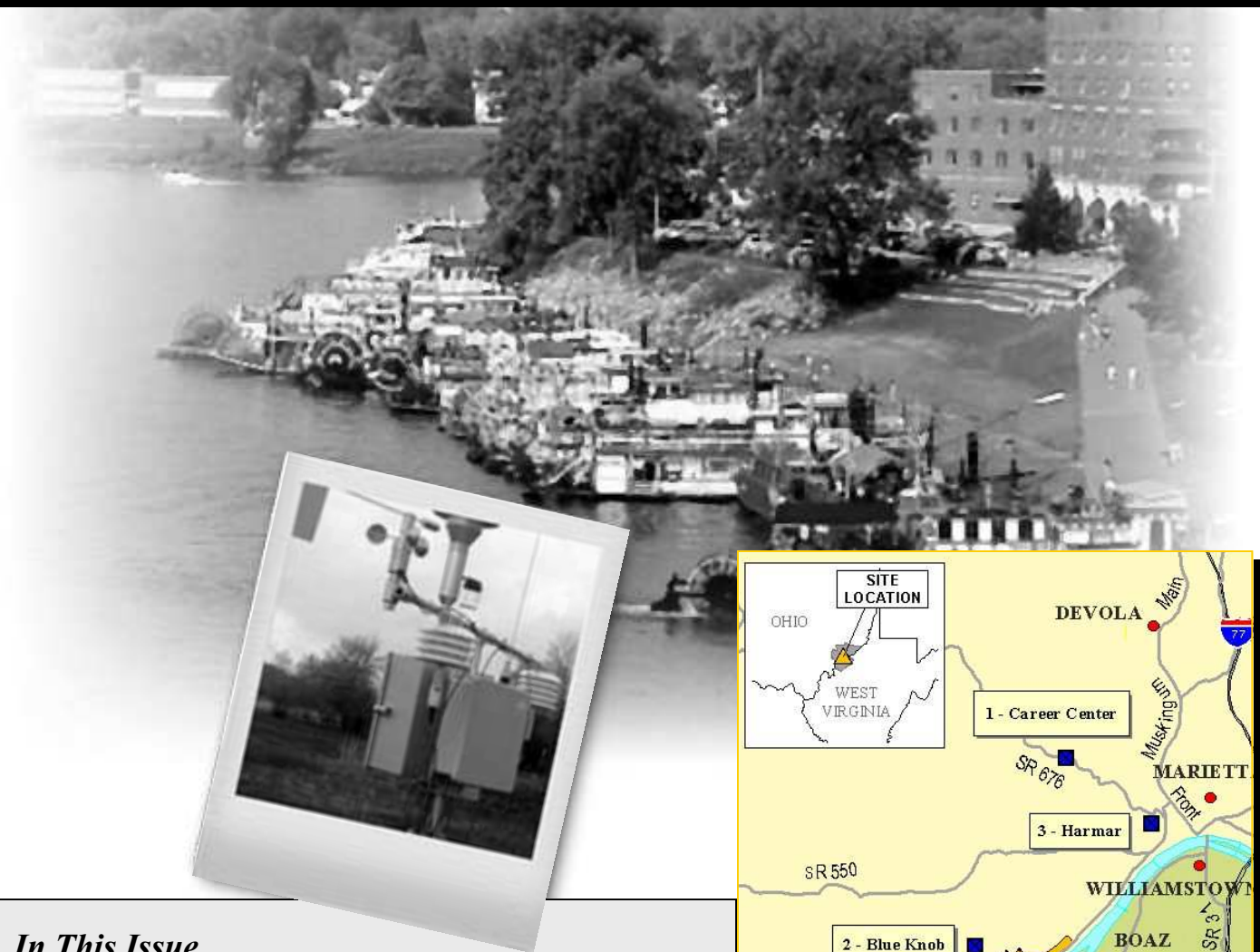
Marietta Air Emissions News

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY



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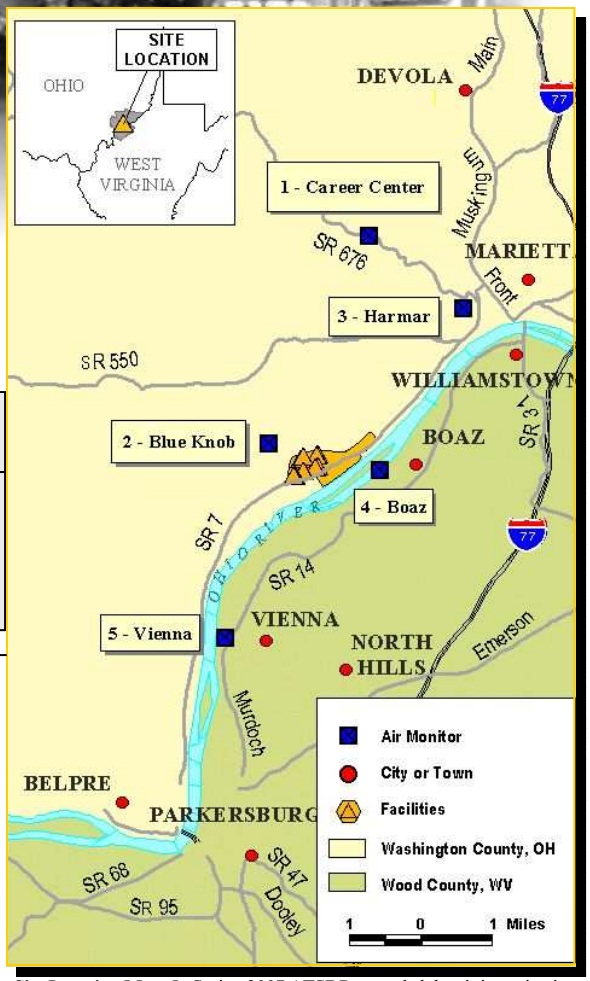
ATSDR Launches New Website

The Agency for Toxic Substances and Disease Registry (ATSDR) created a website for the Marietta Air Emissions Site in Washington County, OH. It explains: WHO are our partners; WHAT we have done; WHEN we did them; WHERE we are working; and HOW we use the data to guide our work. ATSDR invites you to browse the website at: http://www.atsdr.cdc.gov/sites/washington_marietta/index.html. Come back often to get the latest ATSDR site news.



Site Location Map: In Spring 2007 ATSDR extended the air investigation to include three new monitor sites, in addition to two existing rural locations in Warren Township, Washington County, Ohio. The new monitors are located in Marietta, Ohio and Boaz and Vienna, West Virginia.

Site History

U.S. EPA staff auditing one of the air monitors used in this investigation.

Areas of impact around the former Union Carbide Complex as estimated by the ATSDR Air Model.

Ohio EPA staff collect samples from a monitor.

On May 22, 2000, United States Senator Mike DeWine (Ohio) petitioned the Agency for Toxic Substances and Disease Registry (ATSDR) to determine whether air pollution was affecting the health of Marietta, Washington County, Ohio residents.

At ATSDR-sponsored community meetings in 2002, concerns focused on the facilities at the former Union Carbide complex. The facilities currently include Eramet Marietta, Eveready Battery, Solvay, and Chevron Oil. The residents were concerned about each facility, but believed Eramet Marietta was releasing the most air pollution.

To find out whether residents were exposed to elevated levels of chemicals in the air, ATSDR began by looking at existing outdoor air data. One monitor was collecting data at the Washington County Career Center (WCCC), about 4 miles from the complex. After finding that single monitoring station did not provide much data, ATSDR asked the Ohio Environmental Protection Agency (Ohio EPA) to collect additional data.

In 2003, ATSDR worked with Ohio EPA to decide where to locate an additional air monitor. Using air monitors to identify those chemicals present in the air and at what levels they are present is known as an *air investigation*.

The information ATSDR obtained from the air investigation revealed higher than normal airborne amounts of some metals. In 2004, ATSDR decided to put another monitor in the community to determine whether higher levels of metals could be found in the air closer to the complex. To decide where the air monitor should be located, ATSDR generated an *air model*.

Air modeling uses math and computer programs to learn how weather, wind, and soil might move a chemical in the air. This model also helps to *predict* the amount of the chemical that could be present at locations downwind from the contamination source (or *emission* source). When the air model was finished in 2004, it showed that the amount of *manganese* in the air could be higher in some parts of the community than in others. The areas with higher projected amounts manganese in the air are the areas where ATSDR decided to locate the extra monitor. It was installed on Blue Knob Road (BKR) and began collecting data in late 2004. That monitor found higher amounts of metals than the one at WCCC. It also showed that the amounts were very close to those predicted by the air model.

During the air investigation, the community asked for a community health study. ATSDR responded that before a health study decision could be made, good air data had to show that the community was exposed to higher than normal amounts of manganese in the air. To help get good air data, ATSDR added three more air monitors around the former Union Carbide complex. The additional monitors have been collecting air data since April 2007. They will continue to collect data through March of 2008. In addition to looking for manganese, the air samples will also detect any other metals in the air. The data will not only determine whether a health study is needed—it will also help ATSDR decide where to look for health effects in community residents.

2007 Extended Air Investigation

In 2007, ATSDR used the manganese air models to select three new air monitor locations in a broader investigation in Washington County, OH and Wood County, WV. This investigation was needed to see if other communities were being impacted by manganese emissions, too.

What Air Monitor Data Tells You

Lots of things can change over the year. Wind and rainfall can vary by season. Manganese emissions may be higher some months than others because of changes in the amount of alloys (mixture of metals) being made. This is why ATSDR plans to collect 12 months of air monitoring data in each community. ATSDR is monitoring long enough to make sure that we know a true yearly average. ATSDR wants to make sure that public health decisions are made on the best available data that we can provide.

ATSDR now has data for the first three months of monitoring. The table in Page 3 includes results for the first to third months (April-June) of the latest air investigation.

This preliminary data has been collected over a short time. It should not be used to make decisions about the usual air levels of manganese in a community.

A Publication of

The Agency for Toxic Substances and Disease Registry

ATSDR is a federal public health agency of the U.S. Department of Health and Human Services. ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances.

Questions?

If you have questions, please do not hesitate to contact CDC Info toll free at 1-888-422-8737, select option 2. When the operator answers, reference the "Marietta Air Emissions" site and ask for the following staff. An operator will transfer your call.

- For questions about chemical exposures: Michelle Colledge (ATSDR Region 5)
- For health-related questions: Stephanie Davis (ATSDR, Division of Health Studies)

QUARTER 1– AVERAGE AIR LEVEL , µg/m^3
(April, May, June 2007)*†

METAL	CAREER CENTER AIR MONITOR WARREN TOWNSHIP, OH	HARMAR VILLAGE AIR MONITOR MARIETTA, OH	BOAZ AIR MONITOR BOAZ, WV	VIENNA AIR MONITOR VIENNA, WV
ARSENIC	0.00061 (0.00042, 0.00074, 0.00066)	0.00083 (0.00057, 0.0010, 0.00093)	0.0010 (0.00069, 0.0012, 0.0012)	0.0011 (0.0011, 0.0014, 0.00092)
BERYLLIUM	BDL	BDL	BDL	BDL
CADMIUM	0.00016 (0.00014, 0.00014, 0.00019)	0.00023 (0.0002, 0.00034, 0.00016)	0.00091 (0.00032, 0.0013, 0.0011)	0.0010 (0.0002, 0.0017, 0.0011)
CHROMIUM	BDL	BDL	BDL	BDL
LEAD	0.0034 (0.0028, 0.0040, 0.0033)	0.0042 (0.0042, 0.0049, 0.0036)	0.0046 (0.0050, 0.0041, 0.0048)	0.0051 (0.0049, 0.0055, 0.0049)
MANGANESE	0.036 (0.032, 0.044, 0.031)	0.071 (0.12, 0.059, 0.035)	0.14 (0.25, 0.046, 0.13)	0.22 (0.13, 0.33, 0.20)
NICKEL	BDL	BDL	BDL	BDL
ZINC	0.021 (0.015, 0.029, 0.018)	0.023 (0.026, 0.020, 0.023)	0.026 (0.027, 0.022, 0.029)	0.034 (0.026, 0.035, 0.040)

- ***Concentrations in parentheses are ordered (April, May, and June)***
- ***†BDL= Below the detection limit of the analytical method***