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The Monitor

The Newsletter of the ETV Advanced Monitoring Systems (AMS) Pilot

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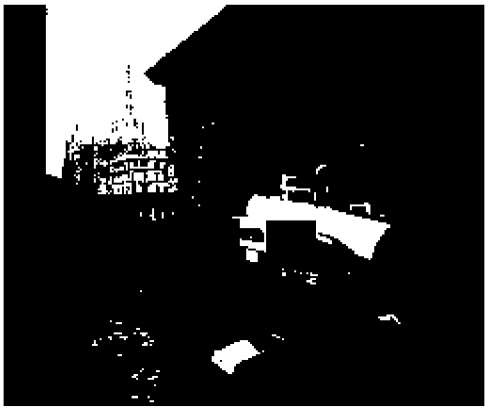
AIL Systems, Inc.'s RAM 2000

Boreal Laser's Gas Finder 2.0



Opsis Inc.'s AR-500 series

Next Test: Optical Open-Path Monitors

Beginning this month, the AMS pilot will be verifying commercially available optical open-path monitors from four companies. The test will be conducted at field locations selected to accommodate participating companies and will continue into March.

Companies whose monitors are scheduled for testing during January, February, and March are:

- AIL Systems, Inc. Contacts: Ruby Pritchard or William Walter 455 Commack Road, Deer Park, NY 11729-4591; phone 800-264-7477; e-mail wwalter@ail.com; web www.ail.com
- Boreal Laser Contact: Jim Bauer 13, 51127 RR 255; Spruce Grove, Alberta, Canada T7Y1A8; phone 780-987-4382; e-mail jbauer@boreal-laser.com; web www.boreal-laser.com
- Opsis, Inc. Contact: Paul Stenberg 1165 Lindavista Drive, Suite 112 San Marcos, CA 92069; phone 619-752-3005; e-mail paulsf86@prodigy.net; web www.opsis.se
- ThermoEnvironmental Contact: Dr. Dirk Appel 8 West Forge Parkway; Franklin, MA 02038-3136; phone 508-520-0430; e-mail dappel@thermoei.com; web www.thermoei.com

Optical open-path monitors are used at facilities concerned about the concentrations of volatile organic or inorganic pollutants emitted into the air. These instruments continuously monitor target compounds over path lengths from tens to thousands of meters and provide early warning of potential noncompliance conditions or emergency release situations. In contrast, "grab sample" analysis by standard methods takes more time, addresses only a single point in space, and is non-continuous.

The monitors to be tested rely on a light source (ultraviolet, visible, or infrared) and a detector that, used together, identify and quantify the levels of targeted chemicals in the atmosphere. Testing involves challenging these monitors with gas samples under realistic operating conditions.

See next page for additional information.

The AMS pilot is one of 12 pilots in the U.S. Environmental Protection Agency's Environmental Technology Verification Program. ETV was established to accelerate the development and commercialization of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permitters with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail lathamh@battelle.org.

ThermoEnvironmental's DOAS 2000

Vendors Invited To Join Test

The AMS pilot is considering conducting a verification test for portable, on-board devices that monitor emissions from vehicle tailpipes while the vehicle is on the road. These instruments can be placed in the vehicle to perform the test, in contrast to the current practice of operating the vehicle on a stationary dynamometer.

On-board emission monitors offer the potential for more realistic emission measurements than can be obtained from dynamometer testing in a laboratory. Interested vendors should contact Tom Kelly at Battelle (phone 614-424-3495 or e-mail kellyt@battelle.org).

Upcoming Events

March 9-10, 2000
Meeting of AMS Pilot's Air Stakeholder Committee, Denver, CO

March 23-24, 2000
Meeting of AMS Pilot's Water Stakeholder Committee, Charleston, SC

March 12-17, 2000
PITTCON©00, New Orleans, LA

June 18-22, 2000
A&WMA 93rd Annual Meeting & Exhibition, Salt Lake City, UT

Optical Open-Path Monitor Performance Characteristics to be Verified

Performance characteristics to be verified during the test of optical open-path monitors include:

- Detection limit
- Concentration linearity
- Accuracy
- Precision
- Interference effects.

The test procedures will involve providing a range of known concentrations of various target compounds to each monitor. Measurements will be made with different path lengths (the distance the light travels from the monitor's light source to its detector), integration times, source intensities, and numbers of replicated measurements to assess the verification factors listed above.

Testing will take three days and will require each participating vendor's technology to detect three different compounds. For example, for the Fourier Transform Infrared (FTIR) monitors, testing for tetrachloroethylene will take place on day one, cyclohexane on day two, and ethylene on day three.

The test/QA plan, which provides details of the testing procedures for the optical open-path monitors, is available on the ETV web site at http://www.epa.gov/etv/test_plan.htm#07.

Note to Vendors

For additional information about upcoming verification tests, please contact the following Battelle staff:

General information about all AMS verification tests–Tom Kelly, 614-424-3495 or kellyt@battelle.org.

On-line turbidimeters, fine particulate monitors, portable water analyzers–Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Optical open-path monitors–Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Visit the AMS pilot on the Web at http://www.epa.gov/etv/07/07_main.htm.