

TRACE ATMOSPHERIC GAS ANALYZER

The Trace Atmospheric Gas Analyzer (TAGA) is a self-contained mobile laboratory capable of real-time sampling and analysis in the low parts per billion level of outdoor or indoor air or emissions from various environmental sources and concerns. In addition, the TAGA has specialized sampling equipment for measuring air and at remote locations. The TAGA unit can be staged at the Region 6 Environmental Services Branch Laboratory –see photo of unit at Houston--and is available to service sites in the western regions (Regions 6,7,and 8) or elsewhere as directed by the National Environmental Response Team (ERT) based at Edison, NJ.

Some of the uses for the TAGA in Region 6 have included real-time emission studies of Superfund and Brownfield sites. The air monitoring and analysis instruments aboard the TAGA insure that such site assessments and investigations are done in a safe manner and that airborne contamination from sites is identified and tracked. The TAGA can be used in cleanup, removal, and remediation efforts to track their progress and to monitor air emissions from such waste disposal sites and operations to ensure that the emissions are within acceptable limits. Investigations of uncontrolled releases from chemical spills, unknown or suspected sources of “bad” odors such as nearby chemical or refinery plant operations, indoor airborne contaminants (such as misapplied pesticides) are other examples of uses of the TAGA. The TAGA unit has also been extensively used for homeland security events as described below.

After the events of September 11, 2001, the TAGA unit responded to both the World Trade Center and to the anthrax attacks in the Washington, DC and other areas. In the these anthrax events, the TAGA was used real-time to monitor clean up efforts for anthrax by analyzing chlorine dioxide (a bleach) in the ambient air near the facilities. The low detection limit for the bleach material using the TAGA analyzer was more than sufficient to meet the action limit for the project (25 parts per billion by volume for 15 minutes at a location).

The TAGA unit mobile laboratory can also carry equipment for various types of air sampling (evacuated canisters, bucket or so-called citizen air samplers, special sampling bags, resin beds, etc.) for sampling and capture of emissions from various environmental sources for fixed laboratory analysis or with the TAGA itself. This sampling and analysis ability in either real-time or by fixed laboratory or off-line further increases the versatility, scope, range and quality assurance of the sampling and analysis plans.