



## The 'Hound' Can Sniff

**A** bus driver transporting high school students thought he smelled marijuana. He stopped the bus, secured it, and called school administrators, who alerted the South Texas Specialized Crimes and Narcotics Task Force. Although no marijuana was found, using Hound™ “drug sniffer” technology, officers immediately determined that two pills found on the bus were an illicit substance, allowing the school to resolve the problem immediately instead of waiting weeks for a laboratory analysis.

Since November 2003, the South Texas Task Force has been field testing the Hound system for Sandia National Laboratories. In addition to the school bus incident, the Hound system has saved time, lives, and money on numerous occasions, according to Task Force Commander Jaime Garza.

“Ever since 9/11 we have become more aware of what is being transported along the highway,” says Garza, whose task force operates out of Kingsville, approximately 40 miles south of Corpus Christi. In 2003, the task force approached the Border Research and Technology Center (BRTC), part of the National Institute of Justice’s National Law Enforcement and Corrections Technology Center system, in search of advanced drug detection technology.

According to Director Chris Aldridge, BRTC responded by facilitating the transfer to the task force of the Hound system, a front-end sample collector and preconcentrator technology that Sandia developed for use with commercial off-the-shelf drug and explosives detectors. Sandia loaned the equipment to the South Texas task force in exchange for feedback on the system’s operation; Sandia also trained the task force and was available for troubleshooting any problems.

The task force has had plenty of opportunities to test the Hound technology. “In southern Texas we have heat, humidity, and everything else working against us. It’s a good place to test technology, because this is a tough

climate,” Garza says. He explains that the task force tries to circumvent heavy traffic in cocaine, heroin, and other hard drugs; it also combats increasing amounts of methamphetamines and their precursors. The South Texas task force operates in a busy area along Highway 77, where the Hound system has played a key role in handling a variety of incidents, such as—

- Identifying liquid and crystal methamphetamine after a routine traffic stop by local law enforcement in summer 2004. The technology not only enabled officers to make a multimillion-dollar seizure, it may have also saved lives because quick identification of the presence of meth enabled officers to immediately treat the incident as a HazMat situation.
- Clearing a tanker truck that had arrived at a nearby military base without the proper inspection seals on its cargo. The technology did not identify the presence of any chemical or explosive substances on the truck, allowing delivery to proceed.
- Locating traces of gunpowder on a decomposing corpse, helping the Texas Rangers with an investigation.

### HOW BIG IS THAT?

**Q:** The commercial detector used in the Hound™ system is capable of detecting narcotics in nanogram concentrations (including residue left in fingerprints). So just how big, or rather, how small is a nanogram?

**A:** The answer: A nanogram weighs a billion times less than 1 gram. This is equivalent to almost a trillion times less than a pound.

The sample collection and preconcentration technology is a miniaturized version of technology originally developed for the U.S. Transportation Security Administration (formerly the Federal Aviation Administration). It collects samples by drawing in vapor from the airspace very close to the suspicious object or area; an operator may also swipe a suspicious area to collect a sample. The commercial detector is capable of detecting narcotics in nanogram concentrations (including the residue left in fingerprints). Sandia describes the Hound system as portable, inexpensive, fast, and easy to operate, with a low false alarm rate.

Garza makes it clear that the Hound system is used only with probable cause, and that it is just one tool of many used by his officers. Those other tools include drug-sniffing dogs and a combination of “instinct, experience, and knowledge.”

***For more information about the Hound system or other technology initiatives of the Border Research and Technology Center and its technology partner, Sandia National Laboratories, call 888-656-2782 or e-mail [info@brtc.nleetc.org](mailto:info@brtc.nleetc.org).***



This article was reprinted from the Fall 2005 edition of *TechBeat*, the award-winning quarterly newsmagazine of the National Law Enforcement and Corrections Technology Center system, a program of the National Institute of Justice under Cooperative Agreement #2005-MU-CX-K077, awarded by the U.S. Department of Justice.

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