

## Oral Fluid Testing Comes to Alaska

The practice of testing oral fluid (saliva and other fluid secreted by glands in the mouth) for drugs of abuse has been established as a viable method of drug detection for a number of years. The advantages to oral fluid testing is that the tests are convenient to administer, non-invasive, oral fluid cannot be adulterated, and drugs present in oral fluid are also present in the brain, as is the case for drugs found in blood. The disadvantage to oral fluid testing is that the drugs are present in such low amounts that designing an accurate and reliable testing method is difficult and there have been a number of systems marketed that have not been acceptable for law enforcement use in the United States. The Drager Safety Corporation has recently produced an oral fluid testing system that shows great promise and with the generous assistance of the Alaska Highway Safety Office, Palmer Police Department, Fairbanks Police Department, the Alaska State Troopers, the Department of Corrections, and the Alaska State Crime Lab, a pilot project was launched a week ago with the purpose of testing the effectiveness and usability of the Drager Oral Fluid Testing System, the Drager DrugTest® 5000. The advantages of the Drager DrugTest® 5000 are noticeable to the user immediately. A cassette is used to collect the oral fluid specimen. This cassette is easy and comfortable to hold. A fluid collecting medium extends at a 90-degree angle from the cassette.



When enough oral fluid has been

collected, the base of the fluid collector turns blue. This design feature takes the guesswork out of oral fluid collection; insufficient sampling has historically been a problem for this method and with the DrugTest® 5000, is not a concern.



After the oral fluid specimen is collected, the cassette is manually inserted into the reader, or analyzer. No further handling or preparation of the oral fluid sample is required of the operator;



this design feature avoids inadvertent mishandling or contamination of the specimen and also shortens the time to determine results. After the cassette is inserted into the analyzer, the operator inserts a buffer solution cartridge into another opening in the analyzer.

The oral fluid collected travels to the horizontal surface of the cassette that has been inoculated with antibodies for a standard 6-panel immunoassay suite: (AMP-MAMP-COC-OPI-BZO) and (THC), drugs better-known as amphetamines, MDMA or Ecstasy™, cocaine, morphine, diazepam, or Valium™, and THC, the active agent in marijuana. The buffer solutions from the cartridge inserted by the operator flushes the oral fluid sample over the antibodies where any drug present reacts in a manner that will be detected by analyzer.



The analyzer has an interactive data-entry feature the operator can use to make unique records of subject tests. Once the operator has initiated a test after inserting the testing cassette and also the buffer cartridge in the analyzer,

he or she will wait for five minutes to see if there is any drug in the (AMP-MAMP-COC-OPI-BZO) series present and



five more minutes to see if THC is present. The test results display on the analyzer screen and can be downloaded immediately or later to an Excel spreadsheet using a USB connector

to a computer from the analyzer.

Dräger Safety Corporation demonstrated the Dräger DrugTest® 5000 at the annual meeting of the International Association for Chemical Testing (IACT) meeting in Tempe, AZ in 2008. Jeanne Swartz, AK DRE Coordinator decided to assess the interest in this kind of device and sent out messages to all the AK DREs. The response from the DRE community was heartening; there was universal interest in the potential for this kind of tool. In order to maximize the value to the AK public service community, Jeanne engaged the interest of the Probation Officers at the direction of Rebecca Brunger.

Jeanne decided to set up two pilot project stations, one in Palmer, hosted by Palmer Police Dept., and one in Fairbanks, hosted by Fairbanks Police Dept. These locations were chosen, because there is a relatively large concentration of DRE officers in these areas, the locations were close to a Pre-Trial facility where DUI processing is performed and were relatively self-contained. All DREs who had the interest and all Probation Officers who had the interest would be able to use the Dräger DrugTest® 5000 during the months of December, 2008 – April, 2009. Any subject, whether under arrest for DUI or other charge or any person overseen by a Probation Officer

could be tested – the DUI suspects would submit voluntary specimens, and the results of their oral fluid tests would be compared to urinalyses results (Probation) or blood toxicology results (DUI). At the end of four months, the accuracy and reliability of the oral testing method would be compared to the two other, established methods of testing for drugs to assess the reliability of the method. Subject data would be collected, but not used for criminal investigative purposes; subjects would be identified only by first name, last initial and date of birth, so as to have a means to cross-correlate the different testing methods with the oral fluid method. Once per month, a designated officer, Ofc. Steen, Palmer Police Dept. and Ofc. Rigdon, Fairbanks Police Dept. will download data from the analyzers and transmit it to Karen Blasi of Dräger Safety and Jeanne Swartz.

Dräger Safety generously donated the use of the analyzers and underwrote the cost of the first group of cassettes; the Alaska Highway Safety Office provided funding for the rest of the cost of the cassettes.



On Monday, December 1, 2008, Karen Blasi and Fred Schellert of Dräger Safety traveled to Anchorage to demonstrate the Dräger DrugTest®

5000 in Palmer on December 2. Jeanne Swartz went with them and was supposed to be their guide, but she promptly lost them in traffic. Karen and Fred pluckily traveled unguided to Palmer, undeterred by the subzero temperatures and unfamiliar surroundings and arrived at the training

location to find nobody there! But soon Ofc. Steen and Sgt. Trp. David Bower, AST/Palmer, and Sgt. Troy Shuey, AST/Mat-Su West arrived for the training session. This went smoothly and everyone left with the knowledge they needed to perform testing. Both Ofc. Steen and Sgt. Shuey collected samples of known or suspected drug-impaired subjects to use as test samples, but unfortunately these



did not work; presumably because not enough oral fluid was collected. Before the training, neither officer knew about the color change indicating sufficient sample.

Karen and Fred drove back to Anchorage and caught a plane to Fairbanks where to prepare for the training at Fairbanks Police Dept. on Wednesday, Dec 3. They quickly saw that Palmer was balmy with lots of daylight compared to Fairbanks. The dismal weather conditions were offset by the enthusiasm of the DRE and Probation Officers in attendance for the training. Present were FPD Lt. Matt Soden, FPD Ofcs. BC Rigdon and Ron Dupee, UAF PD Ofc. Kyle Carrington and a number of Fairbanks Probation Officers. Again, the training went smoothly. In Fairbanks, Karen and Fred revealed an exciting feature of the Drager DrugTest® 5000, a Surface Screening addition to the basic oral fluid collection kit. For the Surface

a surface with a Tip", buffer



Screening, suspicious is wiped special "Q-Tip" added to a solution and then processed through the analyzer in a manner similar to an oral

fluid sample; results for the 6-panel series will be displayed in a similar manner on the analyzer display. This was of particular interest to both the Probation and Police officers.

One day later, Ofc. Dupee collected an oral fluid specimen from a subject arrested for DUI and developed this sample, showing the subject's oral fluid positive for THC.

The next week Ofc. Steen reported of this new testing capability in a training given to Mat-Su Valley high school vice-principals. They all had very keen interest; due to the rapid results and non-invasive nature of the testing process, it would be a very promising tool to assess juvenile drug involvement.

