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Testimony of Janelle Portscheller

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Office of Attorney General Crime Laboratory Division

HB 1370

Chairman Ruby and members of the Transportation Committee. I am Janelle Portscheller, State Toxicologist and Toxicology Unit Technical Leader with the Office of Attorney General Crime Laboratory Division. I have been employed by the Office of Attorney General Crime Laboratory Division for 20 years. My job duties include overseeing the daily operations of the Toxicology Unit which includes the Biological and Breath Alcohol Sections. The Biological Section is responsible for analyzing specimens such as blood or urine for the presence of Alcohol-Volatiles, Carboxyhemoglobin, and Drugs. We serve the entire state, and our casework includes samples from law enforcement agencies for Impaired Driving; County Coroner & State Medical Examiner cases for unattended deaths and traffic fatalities; and Drug Facilitated Sexual Assaults. The Breath Alcohol Section is responsible for the selection of evidentiary and non-evidentiary breath alcohol instruments, the maintenance of the breath alcohol instruments, and the training and certification of law enforcement officers on the proper use of the breath alcohol instruments.

I'm testifying today in support of HB 1370. The Crime Laboratory Division was recently involved in a Pilot Project for an Oral Fluid Roadside Drug Screening Device, which began in

January of 2022 and ended in July of 2023. The Pilot Project was started by the Oral Fluid Technical Advisory Committee which included several state agencies. Today I would like to present the results on the evaluation of the SoToxa Roadside Oral Fluid Screening Device. I have passed out a handout with general information on oral fluid and additional information to review at your convenience.

Before jumping into the results, it is important to understand why oral fluid needs to be considered as an additional sample type to consider for drug impaired driving. Currently, there is not an equivalent device to evaluate drug use in breath samples. Although, there are some devices that are being developed that have the potential to detect Cannabis use in breath. Alcohol is not the only substance that can cause impairment while driving. Therefore, it is important to have an additional tool officers can use at roadside to help detect drug use.

Oral fluid can be collected in a non-invasive manner as compared to blood and there are no gender collection issues compared to urine. Oral fluid specimens can also be easily collected at roadside proximate to the time of driving. Detection of drugs in oral fluid likely represents recent drug use. The detection window for any drug depends on a variety of factors including the type of drug, route of administration, dose, history of use, and sensitivity of the testing method. It is important to note that the detection of a drug does not necessarily mean a person is impaired by a drug.

The analysis of oral fluid for the presence of drugs has been scientifically studied and has been used as a sample matrix in European countries for drug impaired driving since the early 2000s. In addition, oral fluid roadside screening devices have been evaluated and are in use in several other states as a tool to establish probable cause for impaired driving cases. The SoToxa device is currently in use in over 35 states and Canada.

Drugs enter the oral fluid rapidly for drugs that are smoked, inhaled, or snorted. Drugs that are orally ingested are first absorbed into the body and distributed to the blood. Once in the blood, drugs can cross membranes into the oral fluid. Drugs that are injected into the body can appear in the oral fluid within minutes.

The SoToxa device is a small hand-held device that can be used at roadside. The device contains a lateral flow immunoassay and operates on similar principles of a home pregnancy test or COVID test. An oral fluid sample is collected by the sample collection device. A test cartridge is inserted into the instrument and then the oral fluid collection device is inserted into the test cartridge. The device contains a camera, which reads the test results that are available within 5 minutes. The results for each panel are simply given as a positive or negative result. After the test, the oral fluid collection device and test cartridge are disposed, and the device internally stores the results of the test. In addition, there is an external printer that allows for the results to be printed from the device.

Use of the SoToxa device can help an officer establish probable cause and make an arrest in a drug impaired driving case. Once an arrest has been made, evidential samples of blood or urine will need to be collected and submitted to the Crime Laboratory Division for confirmation testing. The results obtained by the confirmation testing conducted by the Crime Laboratory Division are evidential and can be used in criminal charges. The results of the SoToxa test would not be used in criminal proceedings.

The test cartridge for the SoToxa device contains six test panels: Cocaine, Opiate, Methamphetamine, Cannabis, Benzodiazepine, and Amphetamine. While the device has limited test panels, the top 10 drugs the Crime Laboratory Division has detected for impaired driving cases from 2020 to 2023 were evaluated and found a high percent of the drugs can be detected with the SoToxa device (See handout page 13).

To evaluate the device, the SoToxa results were compared to evidential blood specimens for each case. Each of the six test panels was evaluated for sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy. As shown on page 16 of the handout, most test panels achieved sensitivity, specificity, PPV, NPV, and accuracy above 80%. However, there were a few exceptions:

- **Cocaine Test Panel**: The PPV was lower due to a limited number of cocaine-positive cases in the study. Cocaine is not commonly detected in ND drug impaired driving cases.
- **Amphetamine Test Panel**: Specificity and PPV were 71% and 70%, respectively. These lower values were due to several false positives, potentially caused by structurally similar drugs giving a positive result.
- **Benzodiazepine Test Panel**: Sensitivity was 50%, not because of a device limitation, but due to the poor transfer of benzodiazepines from the blood to oral fluid, which is characteristic of this drug class.

Also, on page 16 of the handout, the results in red text are from the much larger roadside oral fluid study conducted in Michigan. You can see the results obtained for each test panel by ND are very similar to the results obtained by Michigan.

Therefore, the Oral Fluid Technical Advisory Committee was very pleased with the outcomes of the Pilot Project. The committee recommends the use of the SoToxa Roadside Oral Fluid Drug Screening Device as an additional tool for officers to use at roadside to help detect drug impaired driving within North Dakota to keep our roadways safe.

Thank you for your attention, Chairman Ruby and Members of the Committee. I would be happy to answer any questions you have.