

MINNESOTA DEPARTMENT OF PUBLIC SAFETY



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Bureau of Criminal Apprehension

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July 1, 2010

Sgt. Steven Johnson
Anoka County Sheriff's Office
Tri County Regional Forensic Laboratory
325 East Main Street
Anoka, MN 55303-2489

Re: Summary of an onsite visit to Tri County Regional Forensic Laboratory
Anoka – Sherburne – Wright Counties

BCA Forensic Scientists Dr. Edward Stern and Brent Nelson visited the Tri County Regional Forensic Laboratory located at 13301 Hanson Blvd NW in Andover, MN. The laboratory requested an outside assessment of their alcohol-testing program after a client raised a concern about urine alcohol results. Mr. Nelson and Dr. Stern met with Lieutenant Steve Johnson, Crime Laboratory Director, in the presence of Sergeant Andy Knotz, Quality Assurance Manager, Lead Forensic Scientist Steve Banning, and Forensic Scientist Miranda Thurmer.

Lt. Johnson advised that there was a concern by one of their clients regarding the reported alcohol result and the alcohol results obtained via preliminary breath test results (PBT). While there are explainable situations that would lead to discrepancies with a PBT result conducted roadside versus the evidential test performed such as mouth alcohol effects, possible slight matrix differences, calibration of the PBTs, as well as the time the tests were conducted, the concern raised by the client was taken very seriously. Testing and reporting of the alcohol results was suspended while the root cause of the discrepancies was investigated. This investigation in part consisted of an inquiry to the Bureau of Criminal Apprehension in regards to reporting parameters for alcohol results. It was initially thought the discrepancy involved the application of a conversion factor to convert the results that were obtained in a concentration of grams per 100 milliliters (g/100mls) to the Minnesota statutory value for urines of grams per 67 milliliters (g/67mls).

Review of the of the Quality Control results obtained from the analytical runs from 10/8/09 to 6/23/10 demonstrated acceptable performance across the various analytical levels of 0.05 g/100ml to 0.20 g/100mls. The R- Squared values obtained for all the calibration curves during this time period also demonstrated acceptable values. Also reviewed was the external proficiency performance from the samples provided from the College of American Pathologists (CAP) as well as the CTS proficiency exams. These results all

demonstrated this laboratory's ability to quantify alcohol within the acceptable parameters in accordance with these proficiency tests.

Evidence of quality assurance was also demonstrated by the documentation and maintenance of instrument performance checks, instrument and temperature maintenance logs, as well as the certificates of analysis of the reference standards used demonstrating traceability.

Their Quality Manual was also reviewed in part and states in Section 5.4.7.1 (pertaining to control of data, calculations and data checking) "Each laboratory section is responsible of developing and documenting procedures to ensure that the data is free from calculation errors and quality control measures are reviewed and evaluated before that data is reported." A review was conducted on their current procedure entitled "Alcohols by Headspace Gas Chromatography" Version 1, November 2009. A draft revision, version 2, also reviewed, contains a new section entitled "Calculations" which defines the application of the conversion factor to convert the urine alcohol results obtained in the concentration units of grams per 100 mls to grams per 67 mls. This proposed change to the procedure should help ensure that the urine alcohol result is converted properly to the units of concentration in accordance with the current statute requirements. It should be noted that even though this laboratory is not currently accredited under ISO 17025 standards, it contains the components of the key elements regarding customer service and quality of results.

The procedure "Preparation of Whole Blood and Urine Controls- version 1, Jan. 2010." was reviewed. This procedure defines the preparation of in house blood and urine controls. The procedure was found to be correct to produce the desired concentrations, however the urine control proportion resulted in a concentration expressed as grams per 100 mls not grams per 67 mls. It was recommended to either covert the expected value to grams per 67 mls or more appropriately change the procedure to target a urine alcohol of 0.08 grams per 67 mls.

The laboratory was challenged with three spiked urine alcohol specimens previously prepared and examined at the BCA Laboratory. These specimens were analyzed during the site visit and all produced acceptable results when the applicable conversion factor of 0.67 was applied.

The issue was that the urine alcohol results obtained in grams per 100 milliliters were not converted to grams per 67 milliliters in accordance with the statute. The documentation presented demonstrated this laboratory's ability to quantify alcohol. It is recommended that amended reports be issued for the urine alcohol results conducted during this time period. The amended urine alcohol results that were obtained in grams per 100 milliliters must have the applicable conversion factor of 0.67 applied to the value obtained.

Sincerely,

A handwritten signature in black ink, appearing to read 'Staci A. Bennett', written in a cursive style.

Staci A. Bennett
Toxicology Section Supervisor – BCA Laboratory

CC: Debra Springer – Assistant Laboratory Director