

STATE OF MINNESOTA  
COUNTY OF DAKOTA

DISTRICT COURT  
FIRST JUDICIAL DISTRICT

████████████████████

Court File No. ████████████████████

Petitioner,

**FINDINGS OF FACT,  
CONCLUSIONS OF LAW,  
AND ORDER**

vs.

Commissioner of Public Safety,  
Respondent.

The above-entitled matter came on for Implied Consent hearing before the Honorable Arlene Perkkio on September 27, 2016 at the Dakota County Courthouse, Apple Valley, MN.

Attorney Charles A. Ramsay appeared on behalf of Petitioner, ████████████████████ Cory Monnens, Assistant Minnesota Attorney General, appeared on behalf of Respondent, the Commissioner of Public Safety.

The issues before the court are:

1. Has Respondent met its burden to prove Petitioner had an alcohol concentration of 0.08 or more at the time of testing (Minn. Stat. §169A.53, subd. 3(b)(8)(i)); and
2. Were the test results in this case accurately evaluated by Respondent in the decision to revoke Petitioner's driver's license (Minn. Stat. §169A.53, subd. 3(b)(10).
3. All other issues were waived.

FILED FIRST JUDICIAL DISTRICT  
DAKOTA COUNTY, Court Administrator

NOV 10 2016

Now, therefore, based upon all the files, records, and proceedings herein, the Court makes the following:

### **FINDINGS OF FACT**

1. On July 11, 2015, Officer Wubben of the Lakeville police department arrested Petitioner for driving under the influence in violation of MN. Stat. § 169A.20 subd 1 (1).
2. Officer Wubben transported Petitioner to the Lakeville Police Department and read Petitioner the Minnesota Implied Consent Advisory.
3. Petitioner agreed to submit to a breath test using a DMT DataMaster.
4. Officer Wubben, a certified DataMaster DMT operator, administered the breath test to Petitioner after performing a proper observation period.
5. The DataMaster DMT did not malfunction before administration of Petitioner's test; all diagnostic checks passed and Officer Wubben observed no problems with the administration of the test.
6. Petitioner provided two adequate breath samples for measurement by the DataMaster DMT, registering alcohol concentrations of 0.085 and 0.084. The mean value of these results is 0.0845. David Edin, a forensic toxicologist with the Minnesota Bureau of Criminal Apprehension (BCA) Breath Calibration Laboratory, testified regarding the foundational reliability and the general validity, reliability, and accuracy of Petitioner's breath test.
7. A large volume of scientific treatises and authorities were presented to the Court through the testimony of Mr. Edin. The Court finds that each of them reflect the consensus in the scientific community and are reliable authorities with respect to the scientific reporting of measurement results like the results at issue in this case. This includes:
  - a. ISO, General requirements for the competence of testing and calibration laboratories,

International Organization for Standardization and International Electrotechnical Commission (ISO/IEC) 17025:2005 (May 15, 2005);

- b. ISO, Guidance for the use of repeatability, reproducibility and trueness estimates in measurement uncertainty estimation, International Organization for Standardization and International Electrotechnical Commission (ISO/IEC) 17025:21748 (November 1, 2010);
  - c. Guidance document establishing rules on the expression of measurement uncertainty. Evaluation of measurement data - Guide to the expression of uncertainty in measurement (GUM) JCGM 100:2008;
  - d. VIM, International Vocabulary of Metrology -Basic and General Concepts and Associated Terms (VIM 3rd Ed.) JCGM 200:2012;
  - e. National Academy of Sciences Report from the Comm. on Identifying the Needs of the Forensic Sci. Cmty., Nat'l Research Council, Strengthening Forensic Science in the United States: A Path Forward 8, 53 (2009);
8. All measurements are estimates; some estimates are better than others, but all estimates are complete only when accurately accompanied by data establishing how uncertain the final measurement is.
  9. Since it is impossible to know the true value (or "measurand") of Petitioner's breath alcohol concentration at the time of testing, the Court will evaluate the measurement estimates provided by the DataMaster DMT and determine if they are sufficiently accurate for Respondent to meet its statutory burden.
  10. Bias, also known as "systemic error," will routinely skew a given instrument's results in a relatively consistent manner, either too high or too low.
  11. It is the consensus of the scientific community that any measurement must be adjusted for bias, except in rare cases not applicable to situations like the present case - cases where the bias is "significant" and where the final results are being compared to a very specific

statutory threshold.

12. Measurement uncertainty, also known as "random error," will routinely skew a given instrument's results in a random fashion; here, random error is reflected in the range of values that are likely to include the "true value" of Petitioner's breath alcohol concentration at the time of this breath test.

### **Bias (Systemic Error)**

13. The BCA evaluated the level of bias affecting DataMaster DMTs in Minnesota, using two years' worth of data collected from the entire fleet of machines.
14. Mr. Edin testified the BCA uses a figure in its calculations that it labels the "maximum observed bias" in its fleet. That this figure is .005.
15. Mr. Edin also admitted in his testimony the BCA has actually observed bias as high as .008.
16. The BCA has not calculated the bias (systemic error) impacting the measurement results for the particular machine used to measure Petitioner's breath alcohol concentration.
17. The BCA is the only organization with access to such data and the ability to make this calculation.
18. The consensus in the scientific community is all measurement results affected by significant bias must be adjusted for said bias. After adjusting for said bias, the reported results can then be presented as a range of values that are likely to contain the unknown and unknowable "measureand" ("true value").
19. The BCA determined the formula for the uncertainty calculation by hiring an expert statistician, Rod Gullberg. The BCA followed all of Mr. Gullberg's recommendations in calculating uncertainty of measurement for breath test results.
20. Mr. Edin was unable to read or explain the calculations used by Mr. Gullberg.
21. Mr. Gullberg did not testify at the hearing.
22. The BCA practice is contrary to generally accepted scientific principles.

23. The BCA was unable to provide this Court with the information necessary to properly adjust Petitioner's breath test results to account for any bias; instead, Mr. Edin testified the BCA has adopted a practice of masking the bias that affects these test results in two ways:
  - a. The bias that affects each individual DataMaster DMT is averaged out by the BCA; rather than accurately reporting bias, the BCA only reports the average bias value for an entire fleet of instruments;
  - b. The bias that affects these test results is not used to adjust the result in any meaningful way; instead of adjusting the results, the BCA has adopted a practice of simply "rolling" concerns about bias into their overall "uncertainty budget" (the range of "random errors" that affect all test results).
24. These practices effectively present this Court with insufficient evidence to accurately evaluate these test results in comparison with the 0.08 legal threshold, requiring speculation and guesswork where precision and accuracy are mandated.

#### **Uncertainty of Measurement (Random Error)**

25. Mr. Edin credibly testified the scientific community agrees that "margin of error" is not a scientific term and is distinct from "measurement uncertainty."
26. Mr. Edin testified this test result necessarily includes a range of values that could contain the "true value" of Petitioner's breath alcohol concentration. In this case, that range of values starts at 0.0745 (below the legal limit of 0.08) to 0.0945 (above the legal limit).

#### **CONCLUSIONS OF LAW**

1. MN. Stat. § 169A.52 states a person's license shall be revoked when a chemical test indicates the individual was driving an automobile with an alcohol concentration of 0.08 or more.
2. MN. Stat. § 169A.53, subd.3(b)(8)(i) allows a Petitioner to challenge whether the test

indicated a test result of 0.08 or more, and Minn. Stat. § 169A.53, subd.3(b)(10) allows a Petitioner to challenge whether the testing method was valid, reliable, and accurately evaluated.

3. Petitioner's challenge, which is based on metrological grounds, falls within the defenses available in an Implied Consent hearing, and is distinct from all prior case law involving "margin of error."
4. The party offering a chemical test must establish a prima facie case the test is reliable and the procedure used conformed to requirements that ensure reliability.
5. MN. Stat. §634.16 provides when a breath test is administered by a Certified DMT Operator the result is admissible in an Implied Consent proceeding "without antecedent expert testimony that an infrared or other approved breath-testing instrument provides a trustworthy and reliable measure of the alcohol in the breath." While this statute satisfies the required prima facie showing under the rules of evidence, it does not make the tests unassailable. *Bond v. Comm 'r of Pub. Safety*, 570 N.W.2d 804, 807 (Minn.Ct.App.1997).
6. MN. Stat. § 169A.53, subd.3(b)(10) provides a Petitioner may still challenge whether the test results were "accurately evaluated."
7. In light of these two conclusions, the Court turns to the evidence presented in this case, and further concludes that Respondent has failed to meet its burden to prove by a preponderance of the evidence that Petitioner's alcohol concentration was 0.08 or more.
8. The BCA acknowledges that they do not know Petitioner's true alcohol concentration, only that this value lies somewhere within the range of 0.0745 to 0.0945. There is insufficient credible, reliable evidence to evaluate the accuracy of the test result and what role bias played in the final result.
9. While the BCA has not calculated the bias for the machine in question here, bias has been calculated on a fleet-wide basis. While this practice runs contrary to established principles

that are generally accepted in the scientific community, it is also true the limited bias information presented to the Court supports rescission of Petitioner's license revocation. When taking into account the actual maximum observed bias in Minnesota's fleet of DataMaster DMTs (.008), bias alone (without even considering random error) could have masked the fact that Petitioner's actual alcohol concentration was as low as 0.0765.

10. Respondent presented no evidence allowing this Court to rule out the fact the machine that tested Petitioner was affected by this maximum bias value. This is entirely independent of further concerns raised by random error, and instead is premised upon the failure to present this Court with sufficient, credible evidence that would assist the Court in accurately evaluating these breath test results.
11. Notwithstanding the BCA's treatment of instrument bias when reporting results in a courtroom, which is contrary to the generally accepted practices in the relevant scientific community, even the minimal information prepared by the BCA is not being reported to Minnesotans who are actually being tested. Thus, drivers like Petitioner are simply being presented with a raw number that implies they are absolutely over the legal limit of 0.08, without being told (at a minimum) that there is a likelihood that their true alcohol concentration is actually as low as 0.0745 or as high as .0945.
12. The Court will not guess between the two nor accept a possible average.
13. This may make less of a difference in a criminal prosecution for driving while impaired, but is of paramount importance in a proceeding under the Implied Consent law. Accordingly, the revocation of Petitioner's license must be rescinded.

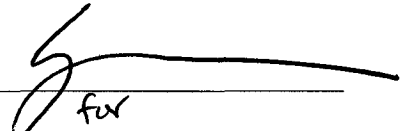
**ORDER**

1. Based on the foregoing, the revocation of Petitioner's driving privileges are hereby **RESCINDED**.

DATED:

11/10/16

BY THE COURT:

  
\_\_\_\_\_  
for  
Arlene M. Asencio Perkkio  
Judge of District Court



SUBJECT TEST

State of Minnesota  
 DataMaster DMT: 100550  
 Version: 208.206.205

Audit ID: 180550-626  
 Date: 07/11/2015  
 Time: 01:18:01  
 Location: Lakeville Police Department

SUBJECT

Name: [REDACTED]  
 License Number: [REDACTED]  
 State Of Issue: MN  
 DOB: 02/01/1981  
 Height: 5' 8" Weight: 170  
 Gender: M

OPERATOR

Name: BRAD WUBBEN  
 Certificate Number: 8969  
 Department: LAKEVILLE POLICE DEPT

ARRESTING OFFICER

Name: BRAD WUBBEN  
 Arresting Department: LAKEVILLE POLICE DEPT  
 Department ORI: MN0191100  
 County: SAKOTA  
 Type Of Test: TRAFFIC  
 Case Number / ICR Number: 15002723  
 Commercial Vehicle: N  
 Observation Start Time: 1:03 AM  
 Observed By: WUBBEN 4866

CONTROL INFORMATION

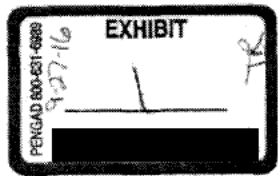
Lot Number: 21913080A6  
 Control Target: 0.077  
 Expiration: 09/01/2015

DIAGNOSTIC CHECK	PASSED	01:18
AIR BLANK	0.000	01:20
SUBJECT SAMPLE	Vol=3.82	01:20
IR = 0.085		
AIR BLANK	0.000	01:21
CONTROL SAMPLE		01:21
IR = 0.074		
AIR BLANK	0.000	01:24
SUBJECT SAMPLE	Vol=4.73	01:24
IR = 0.084		
AIR BLANK	0.000	01:25

\*\*\*\*\*  
 REPORTED VALUE IN g/210L 0.08 01:24  
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REMARKS:

had to restart obs period after burp  
 1st breath deep steady and strong  
 2nd breath deep steady and strong  
 NO BBV after second obs period



Operator Signature

