

Draeger Operator Script

1. After the defendant agreed to take the breath test, what breath test instrument did you use?
2. Did you complete the Draeger 9610 Operator training prior to using this instrument?
3. At the time of the test, were you certified to operate the Draeger 9510 and possess an operator card issued by the State Toxicologist?
4. Are you familiar with all the requirements for proper administration of breath tests?
5. In administering the breath test to the defendant, did you follow all those requirements?
 - a. Specifically, is the Draeger Alcotest 9510 breath test instrument approved by the state toxicologist for use in Washington State?
 - b. Did you confirm the defendant had no foreign objects in his mouth prior to the start of the observation period?
 - c. During the observation period did you confirm the defendant did not eat, drink, smoke, or vomit during the 15 minutes prior to administration of the test?
 - d. Did you confirm that the 9510 does **not** use a liquid external simulator solution?
(Would need to check temperature of solution if liquid is used)
 - e. Did the internal standard test result in a "Verified" message?
 - f. Did the external dry gas test result lay, as required, between .072 and .088?
 - g. Did all blank tests give .000 results?
6. Are all these facts documented on the defendant's breath test ticket?
7. I'm showing you Exhibit 1. What is that?
8. Move to admit Exhibit 1-the defendant's breath test results.

Move to Publish Exhibit 1
9. Please read for the jury the Defendant's breath test results as shown by Exhibit 1.

DUI DIRECT EXAMINATION – BAC CASE – DRAEGER 9510

(TSRP Program – Revised by MFG 10/2015)

QUESTIONS FOR THE TECHNICIAN

1. Please state your full name, and spell your last name
2. What is your occupation
3. Describe your background and any specialized training you received to be a trooper.
4. How long have you been a trooper?
5. What is your current assignment?
6. What does being a Breath Test Technician involve?
7. Did you receive specialized training to be a Trooper Technician? What was that?
- 8. Are you familiar with the breath test instrument “Draeger Alcotest 9510” or “9510”?**
9. Did you receive specialized training on the 9510 instrument?
10. What specialized training did you receive on this instrument?
11. Were you certified as a Trooper Technician on the 9510 by the State Toxicologist.
12. What is the role of the State Toxicologist in the chemical testing program for WA?
13. Who is the Washington State Toxicologist?
14. Is the 9510 on the National Highway Traffic Safety Administration's conforming products list?
15. What does it mean that the device is “listed” on the NHTSA Conforming Products list?
16. Is Washington the only jurisdiction relying on the Draeger 9510 in its breath test program?

17. Is the 9510 used in other countries?
18. Has the device undergone any testing for use internationally?
19. In addition to NHTSA and international testing, did Washington State also test the device for accuracy and reliability?
20. Did you participate in that validation testing? (What did that involve?)
21. Has the 9510 specifically been approved by the Washington State Toxicologist as a device to measure a person's breath alcohol level?

The Analysis

22. How many different methods of analysis does the 9510 employ to test breath samples?
23. Please summarize the theory of "InfraRed spectroscopy."

Demonstrative Exhibit: IR Spectrum of breath

24. Has the IR technique for breath analysis been used previously?
25. How is that theory applied in the 9510 to identify and quantify alcohol in breath?
26. Could you summarize the major components of the 9510 breath test instrument?

Demonstrative: Overview of 9510 Components

27. Would you provide an overview for how the IR analysis works in the 9510?

Demonstrative Exhibit: Cuvette

28. Can you provide a visual illustrating how the 9510 identifies alcohol in breath?

Demonstrative Exhibit: Absorption of breath

Demonstrative Exhibit: Absorption of Ethanol

29. Is IR analysis accepted in the scientific community as an accurate reliable method for identifying and quantifying alcohol in breath?

30. In addition to IR analysis, you mentioned a second method of analysis: EC. Could you please summarize the basic theory of "Electro Chemical" analysis

Demonstrative Exhibit: EC Theory

31. How is that theory employed in the 9510.

Demonstrative Exhibit: Fuel Cell of the 9510

32. Is EC analysis accepted in the scientific community as an accurate and reliable method for detection and quantification of alcohol in breath?
33. Are both of these methods (IR & EC) employed by laboratories and agencies around the U.S. and in the international community?

TECHNICIAN AS CUSTODIAN OF THE RECORDS

34. Does the Washington State Patrol maintain records for all its breath test instruments and the tests done on those instruments?
35. What types of records does the Impaired Driving Section of WSP maintain? (QAP, Repair, Gas Solutions, QAP solutions, tests, etc.)
36. Are these records prepared at or near to the time when the actions occur?
37. Is anything done to insure the records are accurate?
38. After creating these records, how are they secured from tampering?
39. Are all these records relied upon by the WSP in the regular course of business?
40. As a part of your regular duties, are you a custodian of these records?
41. At my request, did you review the records for Instrument # _____?
42. From your review of all the documents in this case and your own involvement, did this instrument meet all requirements for providing an accurate reliable breath analysis?
43. As part of the Quality Assurance Process for the 9510, what did you do to insure the device can properly identify and measure the alcohol in breath?
44. Please examine **Exhibit 2**. What is this?
45. Is Exhibit 2 an accurate copy of the Calibration performed on the instrument used in this case?

Move to publish

46. Alternative 1: Using Exhibit 2, please describe for the jury the calibration process the 9510 underwent prior to its use in this case.

Exhibit 2

47. Alternative 2:

- a. Is Exhibit 2 the calibration cert for instrument #____, the one used in this case?
- b. I see four columns, why are there different columns?
- c. How many tests are run for each external solution concentration control?
- d. Who prepares these external simulator solution controls?
- e. Were these controls verified as accurate and reliable? (How do you know?)
- f. How do you know if the results meet the criteria for accuracy and reliability?

Diagram: Accuracy & Reliability

- g. What does it mean that the Bia% is negative?
- h. So at the .08 level, what is the effect of the negative Bias?

48. At the end of the Calibration process, was your work and your calculations reviewed?

49. Following that review, was the 9510 in this case certified for field use?

50. Was that QA procedure done less than one year prior the test in this case?

51. What does certification through quality assurance procedure establish?(accurate/reliable)

52. Has your quality assurance process been audited by an International accrediting body with the purpose of assuring that your program meets high scientific standards in alcohol testing?

53. Is the Breath Alcohol Calibration Program for the WSP accredited? Since when?

54. Worldwide, how many other breath testing programs run accredited programs?

55. What does that accreditation mean for your Quality Assurance program?

56. In your opinion, was the 9510 breath test device in this case providing accurate reliable breath test results?

57. Using **Exhibit 1**, the breath test ticket, please explain each of the steps the breath test instrument follows to achieve an accurate reliable test.

(Use diagram of Example test to explain 10 step process).

- 1) Data entry (Does Data entry affect analysis in any way?)
- 2) First blank test (What purpose does this step serve?)
- 3) Internal Standard Check (What purpose does this step serve?)
- 4) Subject's first breath test IR___ EC___ g/210 L
- 5) Second blank test
- 6) External standard test (0.072 - 0.088) (What purpose does this step serve?)
- 7) Third blank test
- 8) Subject's second breath test IR___ EC___ g/210 L
- 9) Fourth blank test
- 10) Printout

58. Is it unusual to get slightly different results on the two samples?

59. What factors influence the test result from separate samples? (time, pressure, volume)

60. What is the maximum allowed difference allowed between sample results?

61. Do the results in this case meet those criteria?

62. Do the results here meet all requirements established by the State Toxicologist for accuracy and reliability?

63. After reviewing the documents in this case, and assuming a certified operator followed the established procedure in administering the test, do you have an opinion as to the accuracy and reliability of the test results indicated on Exhibit # 1?

64. What is your opinion?

Move to Admit Exhibit # _____

65. What are the results of the first breath sample from the defendant?

66. What are the results of the second breath sample from the defendant?

No Further questions for the Witness Your Honor.

(OPTIONAL) EXTERNAL SIMULATOR GAS

67. Does WSP maintain records of the external simulator gas used in each sample test?

68. Are you also the custodian of those records?

69. From your records, can you determine if the external standard simulator solution in this case complies with the state toxicologist's requirements for use?

70. From which lab does the WSP obtain its external compressed gas standards?

71. Is that lab accredited by an independent testing laboratory to provide accurate reliable gas standards according to standards published by the International Standards Organization?

72. In what form is the external standard gas delivered to WSP?

73. Is that a stable way to maintain compressed gas standards?

74. After its delivery, how is it maintained by WSP?

75. Is this consistent with good scientific practice?

76. Does the lab producing the gas provide documents to establish the accuracy and reliability of the compressed gas standards?

77. Are these types of certification documents regularly relied upon by other similarly situated technicians and professionals who regularly work with complex scientific instruments and chemical analysis?
78. If the gas were NOT properly prepared by the manufacturer to the specifications required by the state toxicologist, would that be detected prior to the result in any breath test?
79. Is the external gas simulator subject to changes in pressure?
80. How do you check the 9510 to insure it is correctly measuring barometric pressure?
81. How can you verify the barometer checking the barometer in the 9510 was in proper working order?
82. Were both barometers in this case verified to be in proper working order?
83. What is your opinion as to whether the external standard gas in this case was properly prepared and utilized in this case?

OPTIONAL – MEASUREMENT UNCERTAINTY

1. Are breath alcohol measurements perfect?
2. Do all measurement results have a certain level of uncertainty?
3. Briefly, what is meant by the concept of measurement uncertainty?
4. Is it a problem that breath alcohol measurement results have uncertainty?
5. Why not? (because we can estimate it, evaluate impact, insure it is minimal)
6. Have you examined the measurement uncertainty associated with this breath test?
7. Showing you Exhibit ____, what is that?
8. From that table, what is the confidence interval, with a 99% confidence, in this particular test?
9. Is this calculation a conservative estimate?
(Yes, this is a very conservative estimate that includes a worst-case analysis from state-wide data and every conceivable scenario—even those we know did not occur here).
10. What precisely does this confidence interval calculation approximate?
(This approximates the range of values that might be found in a hypothetical human lung with this average BrAC result—as shown by data collected over a year period and using all BrAC results from all instruments, all operators, all solutions, and all

- defendants. Variation includes seasons, time, temperature, atmospheric pressure, operator, sample size, Defendant's race/age/ gender/ physical condition/health,
11. If, instead of approximating the variation of the human lung, we chose to estimate just the random error associated with the breath test instrument, what range of variation can you establish? (based upon data from the internal tests on this instrument using the known value of the quartz plate—the result of variation in from breath analysis is limited to .001 (one ten-thousandths of the value measured)).