UNITED STATES ARMY TRIAL JUDICIARY
FOURTH JUDICIAL CIRCUIT

UNITED STATES	)	
v.	)	
	)	REQUEST FOR CONTINUANCE
MAJ Eric B. Smith	)	(SUPPLEMENTAL SUBMISSION)
Headquarters and Headquarters Company,	)	
Troop Command,	)	
Madigan Health Care System,	)	
Tacoma, WA 98433	)	12 September 2012

1. The following proffers and argument are offered to the Court is supplement to the Defense request for continuance submitted 5 September 2012.

BACKGROUND

2. The Charge in this case was preferred on 18 November 2011. Following a series of delays, the Article 32 hearing was held on 19 March 2012. On 23 February 2012 the General Court-Martial Convening Authority (GCMCA) denied the Defense request for appointment of an expert consultant in toxicology and offered COL (Ret.) Ronald Shippee as an "adequate substitute." On 19 March 2012, COL (Ret.) Shippee contacted the Defense and noted, in part, that "...the leadership here has decided that it is a conflict of interest for us to serve the defense when it involves a result from one of the DoD labs because we serve as quality control inspectors for the labs and they feel that is a conflict of interest." (The Defense had other communications with COL (Ret.) Shippee which remain protected by Military Rule of Evidence 502.)

3. The Defense re-submitted its request for the appointment of Dr. Lawrence Lavine as an expert consultant in toxicology on 19 March 2012. This request for reconsideration was approved on/about 24 May 2012; the employment contract for Dr. Lavine was completed on 18 July 2012, though neither Dr. Lavine nor the Defense was notified that this was done until on/about 8 August 2012. An initial delay in docketing of this case was necessary because of the long delay in approval and contracting of the Defense expert consultant.

4. In consultation with Dr. Lavine, the Defense submitted a request for supplemental discovery on 13 August 2012.

5. The Government provided an initial response to this discovery request on 16 August, indicating that the requested materials had been requested Tripler Army Medical Center (TAMC) and would provided as soon as received. The Government only denied one category of documents requested ("records [from TAMC Forensic Drug Testing Laboratory] of internal and external communication related to this case, including copies of faxes, telephone record logs,

internal correspondence, or any other records"). Responsive documents were provided from TAMC and forwarded to the Defense; these were received by FedEx on 31 August 2012.

6. All told, the Government has denied production or offered only on-site review of documents at TAMC for twelve (12) categories of records (paragraph references are to the Defense Supplemental Discovery Request, 13 August 2012):

- 1.c.(7) The training records of standard complement as well as training records of temporary replacements.

- 1.c.(13) Statement of Qualifications or résumé for each analyst with responsibility for the subject testing (including preparation technicians and technical reviewers)[this includes all temporary personnel utilized during this particular sample acquisition and testing].

- 1.c.(14) Internal and external proficiency results (actual and reported results, and all relevant records, data, and correspondence) for each analyst and each method used on the subject case, for five years surrounding testing (unless the analyst has been conducting the subject testing at the laboratory for less than five years).

- 1.c.(15) Records demonstrating the qualifications of the responsible analyst(s) and technical reviewer in this case; include a copy of employment applications, academic transcripts, disciplinary files, training records, and personnel files (redaction of personal information from requested records is acceptable).

- 1.c. (17) Records of internal and external communication related to the this case, including copies of faxes, telephone record logs, internal correspondence, or any other records. (Denied)

- 1.d. (1) Records from validation studies for each method used to analyze evidence (i.e., copy of the complete validation file, including assumptions, data, results, and conclusions); if the laboratory relies on external validation, provide a reference, and a copy of the empirical verification data generated by the laboratory.

- 1.d.(7) Source, preparation and usage records demonstrating traceability and shelf life for standard materials and solutions used for calibration and quality control (including unique identifications, origins, dates and details of preparation and use, composition and concentration of prepared materials, supplier certifications, shelf lives of parent and stock solutions).

- 1.d.(8) Documentation of the laboratory's storage conditions for the standards and controls used in the subject casework, for the period from the initial date of receipt through the date of the subject analysis; include a procedure describing practices for storing standards and controls; include a description of the materials that are collocated with standards and with unknown samples.

- 1.d.(9) Contemporaneous records documenting preparation of all solutions, standards, and controls used in the batch in which the subject case sample was tested.

- 1.d.(10) Records documenting the verification of the standards and controls used in the batch in which the subject case sample was tested; for both purchased and prepared solutions, provide verification data for testing performed prior to use.

- 1.d.(12) Source, preparation, and usage records for reagents and materials used during testing.

- 1.d.(14) Raw and processed data for each batch that included case and associated QC samples, including all data excluded by analyst. In addition to hard copies of data, a read-only copy of the electronic data is requested.

PURPOSE AND RELEVANCE OF THE REQUESTED MATERIALS

7. The Government conceded the relevance and necessity of the requested materials in its responses to the Defense request and did not request relief from production in accordance with Rule for Court-Martial 703(f)(4)(C).

8. The requested information represents "basic literacy" in the evaluation of laboratory practice and procedures and represent the basic standards of forensic science. The basic rationale for these requests is grounded in the 2009 report by the National Research Counsel, *Strengthening Forensic Science in the United States: A path forward.*" This report was highly critical of forensic science in the United States and recommended that all federal labs be inspected and accredited by The American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB).

9. The fundamental principle in forensic work is that science should be verifiable and the procedures used and training of employees (from mail handlers to technicians and scientist) are necessary to evaluate the quality of the resultant science.

a. 1.c.(7) and 1.c.(13). Everyone in a laboratory who touches a sample needs to be qualified to do their job. That is because every single person who touches a sample can do their work right, or they can cause problems. And problems in handling or storing, or analyzing a sample can mean that the results are not reliable. Just like you have to have a driver's license to drive a car, in most states, you have to have a permit or a certificate to show that you are allowed to analyze a toxicological sample. The person who analyzes a forensic urine sample must have a valid permit or certification of employment such that they are indeed qualified to test a sample. And just like a driver's license can be revoked, an analyst's permit/employment certification can be revoked. If an analyst's permit isn't current and valid, their work isn't allowed. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

b. 1.c.(14). The people who analyze urine toxicological samples are required to analyze proficiency samples every year. These proficiency samples are prepared by someone else in the lab (internal proficiency samples) or they are purchased from an outside company (external proficiency samples). In either case, the people who made the samples know how much cocaine is in them, but the analyst who has to run them doesn't know the right answer (this is called "blind" samples; the right answer is "blind" to the analyst). The analyst isn't supposed to do anything special to improve their chances of getting the right answer (say, running the sample on two different instruments); they are supposed to run these proficiency samples the same way they run the everyday urine samples. If an analyst always gets the right answer on proficiency samples, it can show that they are capable of getting the right answer. However, labs do better on tests than they do on real world samples. When a lab knows that a sample is a proficiency sample, and not just a regular old urine sample, their work is better. There have been lots of studies that have shown that labs do worse on proficiency samples if the samples are "double blind." In double blind studies, the proficiency samples come into the lab just like their regular samples, and neither the lab nor the analyst knows that they are anything except a normal sample. When a lab doesn't know they are being tested, their results are worse. Even if an analyst has failed a proficiency sample, you wouldn't necessarily know it if the lab only reports a summary of overall performance. This is because under many proficiency schemes and state-run programs, an analyst's first proficiency failure doesn't count. This is why you need ALL the proficiency records to understand how an analyst has really performed. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

c. 1.c.(15) Some of the people who test urine samples aren't really scientists. They may have learned how to push the buttons to operate the GC instrument, but they don't have the scientific training and experience to understand how the method works. Often, particularly for people who majored in something other than chemistry (e.g., there are a LOT of biology majors trying to do chemistry in forensic labs, and you can get a biology degree without taking more than an introductory chemistry class) they may never have even seen a GC instrument during their college studies, much less learned the theory behind chromatography. And some of the people working in forensic labs did poorly in college. Laboratory auditors look at whether there is evidence that the people who work in a lab are qualified for the work they are doing. One of the important ways of doing this is to look at their personnel records. Some lab workers have lied about having a degree. Some lab workers have been disciplined for poor performance or unethical behavior. Some lab workers have not completed required training. Unless the records prove that an analyst is qualified, the fact that they were hired to do the job doesn't prove anything. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

e. 1.c. (17) People who analyze urine samples sometimes make their decisions about how or when to analyze a certain sample after they get advice or requests from some outside source. Any communication that influences the analyst is part of the complete picture of what happened to the sample, and why it happened. Analysts who have problems when they are running samples sometimes contact their supervisor to ask for advice. Sometimes, this kind of a record is the only hint that the first time they ran a sample, it didn't work.The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

f. 1.d. (1) External validation studies were provided for the unknowns from AFMES, however, the concentrations of the unknowns were not so provided. We need to know the concentrations as, if the concentrations were so high that a "blind man" could read them, and then this is not an appropriate validation system. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

g. 1.d.(7) This is a long list of items that describe the nitty-gritty detail of the day to day workings of an analytical laboratory. Basically, these items are used to prove whether the calibrators (the solutions that are used to calibrate the instrument) and the controls (the quality control solutions that are used to check whether or not the method is working) were OK when they were used. For Cocaine and Benzoylecgonine (BZE) calibrators and controls, it can be tricky to be sure that these solutions are good when you use them. Even if you buy the highest quality standard solutions, the lab still has to prove (with traceability records) that they stored them the right way (in the dark and at 4 degrees Centigrade), used them within their shelf life (just like we rely on the expiration date to avoid drinking spoiled milk, we rely on the manufacturer's shelf life to avoid using spoiled standards), and prepared them the right way (making very careful dilutions using calibrated volumetric glassware). And a word about the word: traceability. It simply means that the lab has the records to prove, in detail, that everything they used was proper when they used it. Traceability isn't something that a lab can choose to ignore. It is required by quality standards and accrediting agencies. When you hear on the news that they recalled a batch of ground beef or a bunch of lettuce, you might wonder how they know which states got all the tainted groceries. Their manufacturing is traceable, by lot. If a big lot or batch of hamburger is tested and found to have E. coli in it, then they can use the lot number to know all the affected packages. In much the same way, if a reference material is found to be a problem, we can trace it through its lot number. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

h. 1.d.(8) During analysis of a typical urine sample, a laboratory uses a large number of standards and controls. These solutions contain compounds and chemicals at different

concentrations, and these solutions MUST be of known purity in order for their analysis to be reliable. Many of these solutions are not stable. This means that we have to be very careful to store and use these solutions under carefully controlled conditions. If a container is open to the air, liquids will evaporate, and vaporize into the air, leaving the solution with a concentration other than that with which was started. Or microbes can get into the sample (the same way they get into soy milk after you open the carton) and cause fermentation. And after a shelf life has expired, we should not use a solution; just like we should not feed our children milk that is past its expiration date. The manufacturers of reference materials specify their storage and use conditions. They set conditions for temperature (stored under refrigeration), storage conditions (protect from exposure to light), and shelf life (the unopened containers are given an expiration date). Because the standards and controls are so critically important to the reliability of results, we shouldn't just assume that a lab stored and used them the way they were supposed to. If the lab didn't store these solutions properly, their concentrations aren't reliable, and the results of the analyses that used them aren't reliable. To calibrate the instrument, a lab may use three to five solutions of cocaine and BZE, with each solution having a different concentration. And a lab may use three to six different controls samples during an analysis. A lab should be able to prove that each and every one of these solutions was properly stored during the entire time it was in the lab, and they should be able to prove that each and every solution was used within its shelf life. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

i. 1.d.(9) Laboratories often prepare dilute solutions from concentrated standards. The details of how they made their dilution should always be documented. For example, it should describe how 250 microliters of a 1000 mg/l stock solution was pipetted into a 1.00 liter volumetric flask and diluted to volume. When a lab writes this down, it is like showing your work in a math class (What math teacher would give a student an "A" for just putting down an answer without proof?). Just like showing your work helps you find problems; this makes it possible to tell when a lab made a calculation error. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

j. 1.d.(10) and 1.d.(12) Before you use a new lot of a reference material, quality standards (the national consensus rules for laboratories) say that you must test the reference material to be sure it is acceptable. This is because reference materials are so important to the reliability of results, that we have to be sure that they are correct before we use them. We should never just assume that the reference material is OK; if we test it then the verification data can prove that it was OK. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

k. 1.d.(14) Raw data are the data generated by the instrument for the entire analytical batch. And this should include a detailed description of the instrument operating conditions (things like how hot was the oven, how much sample was injected, and how much gas was flowing through the instrument). Without being able to see the raw data, there is absolutely no way of knowing where in the world a laboratory got their results. Sometimes, labs don't want to provide the data for all the samples in a batch. Scientifically, this doesn't make any sense. When we batch samples together, we are taking advantage of the fact that the performance of the method on known samples from the batch should be similar to the performance of the method on unknown samples. This is because as much as possible; all the samples in the batch are processed using the same methods, and the same reagents, by the same analyst, using the same instrument, operating under the same conditions. If there are problems with one of the samples in the batch, we have to review the data carefully to see whether the other samples were also affected. This is why within the lab, data reviews are done for the entire batch. And this is why a lab should provide ALL the data from the batch for review. The requested records/information are necessary for the Defense expert consultant to formulate a fully-informed opinion and offer necessary advice to the Defense. Further, it may be the basis of cross-examination of government witnesses and recognition of a need for expert witness testimony for the Defense.

ENCLOSED MATERIALS

- Defense Request for Supplemental Discovery (13 August 2012)
- Government Response to Defense Request for Supplemental Discovery (16 August 2012)
- Laboratory Information Regarding Supplemental Request for Discovery, excerpt (dated 20 August 2012; received 31 August 2012)

CONCLUSION

10. The Government did not deny production for the vast majority of the requested materials. They are relevant and necessary to MAJ Smith's preparation for trial and failure to grant the requested continuance in order to have reasonable opportunity to "inspect" these materials will materially prejudice MAJ Smith's preparation for trial.

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MAJ, JA
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