IN THE UNITED STATES COURT OF APPEALS
FOR THE ARMED FORCES

UNITED STATES, Appellee	)	SUPPLEMENT TO PETITION FOR GRANT OF REVIEW
v.	)	Crim. App. No. 20150410
Major (O-4) **ANTIWAN M. HENNING,** United States Army, Appellant	)	USCA Dkt. No. 16-0026/AR

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INDEX

TABLE OF CASES, STATUTES, AND OTHER AUTHORITIES

Case Law

Supreme Court

Court of Appeals for the Armed Forces

Court of Military Appeals

Uniform Code of Military Justice

Other Authorities

Military Rules of Evidence

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TO THE JUDGES OF THE UNITED STATES COURT OF APPEALS
FOR THE ARMED FORCES:

Issue Presented

WHETHER THE ARMY COURT APPLIED THE WRONG STANDARD OF REVIEW TO THIS ARTICLE 62, UCMJ, APPEAL WHEN IT FOUND THE MILITARY JUDGE MADE ERRORNEOUS FINDINGS OF FACT AND ERRONEOUS CONCLUSIONS OF LAW.

Statement of Statutory Jurisdiction

The Army Court of Criminal Appeals (Army Court) had jurisdiction over this matter pursuant to Article 62, Uniform Code of Military Justice, 10 U.S.C. § 862 (2012) [hereinafter UCMJ]. This Honorable Court has jurisdiction over this matter under Article 67(a)(3), UCMJ, 10 U.S.C. § 867(a)(3) (2012).

Statement of the Case

On April 29, 2015, the military judge granted a defense motion to prohibit the government from presenting expert testimony regarding a deoxyribonucleic acid (DNA) test performed on Mrs. SN's underwear. (App. Ex. XII). On May 1, 2015, the

government provided the military judge with a "Notice of Appeal Pursuant to R.C.M. 908." (App. Ex. XIII). On September 3, 2015, the Army Court granted the government's appeal under Article 62, UCMJ, vacated the military judge's April 29, 2015 ruling, and found the military judge abused his discretion in ruling to exclude the DNA evidence. (Appendix).

Statement of Facts

The charges stem from an alleged incident occurring on September 7, 2013. Major (MAJ) Henning is alleged to have entered Mrs. SN's bedroom while she was asleep in bed next to her husband, first performed oral sex on her, moved her to the floor, and raped her, all while her husband slept.

The following facts were found by the military judge: Ms. Hanna, a Forensic Specialist at the Kansas City Police Criminal Laboratory (KCPCL), tested Mrs. SN's underwear for the presence of DNA and compared it to MAJ Henning's DNA sample. (R. at 17-18, 42). KCPCL concluded MAJ Henning was included as a potential contributor to the DNA found in the underwear and that 1 in 220 unrelated people would have the same alleles in the same loci as the evidentiary DNA profile. (R. at 43, 43; App. Ex. XI, Encl. 1, p. 3).

The military judge also found the Scientific Working Group on DNA Analysis Methods (SWGDAM) is a group that develops and publishes documents to provide guidance for the DNA scientific

community and is the definitive authority on reliable procedures for forensic DNA analysis. (R. at 20, 67, 85). In January 2010, SWGDAM published Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Laboratories (hereinafter Guidelines). (App. Ex. VIII, Encl. 1). While the Guidelines are not mandates and use permissive language, portions contain language that appears mandatory. (R. at 66-67). Specifically, the Guidelines state that Random Match Probability (RMP) is only used when a single contributor or a known number of multiple contributors is assumed and one can account for allelic dropout. (R. at 21-22, 55; App. Ex. VIII, Encl. 1, para. 4.2). The Combined Probability of Exclusion or Inclusion (CPE/I) analysis is used when no assumptions are made regarding the number of contributors to a sample and where allelic dropout is not a possibility. (R. at 56; App. Ex. VIII, Encl. 1). Mr. Hummel, the Chief Criminalist of the DNA Biology Section of the KCPCL, explained that the Guidelines contain "suggested practices" for labs to use to ensure their own practices are not "out of line with the community." (R. at 86).

The military judge found that the Guidelines state that "typing results used for statistical analysis must be derived from evidentiary items and not known samples. This precludes combining multiple CPE and RMP results for the same mixture component of an evidentiary sample." (App. Ex. XII). The

military judge also found the Guidelines explain that "CPI and RMP cannot be multiplied across loci in the statistical analysis of an individual DNA profile because they rely upon different fundamental assumptions about the number of contributors to the mixture." (App. Ex. XII). Further, the Guidelines state these methods "cannot be combined into one calculation." (App. Ex. XII; App. Ex. VIII, Encl. 1, para. 4.2).

The military judge concluded KCPCL used a statistical calculation precluded by the Guidelines because KCPCL assumed there were an unknown number of contributors to the minor DNA sample and accounted for the possibility of allelic dropout, invoking the underlying assumptions in the CPE/I and RMP statistical analyses. (R. at 18-19, 76; App. Ex. XII). Personnel from KCPCL called this analysis a "modified unrestricted RMP" and "alleles present" analysis. (R. at 19, 21-23, 43, 101). Ms. Hanna claimed that a potential contributor to the minor profile would have all five alleles as detected in the evidentiary sample. (R. at 43). She then compared that information with a Federal Bureau of Investigations (FBI) database. (R. at 44, 46). Using those profile frequencies, Ms. Hanna contrived a probability statistic without assuming how many contributors contributed to the minimal minor profile of five alleles. (R. at 46-47).

Mr. Hummel stated that the statistical formula they used was not one created by KCPCL, is accepted in the scientific community, and both accreditors and auditors have examined the formula and continually accredit the lab. (R. at 81, 89, 101-102.) The military judge found that although KCPCL had used this formula for fifteen years, the government provided no other evidence beyond Mr. Hummel's bald assertion that the formula was accepted in the scientific community. (R. at 102).

The military judge found that the amount of male DNA used in the testing process was three to four human cells, an "exceedingly small quantity." (R. at 64; App. Ex. XII). The military judge relied upon the testimony of Dr. Krane, a defense witness, who testified this was "the most difficult sample that could be interpreted" given the small quantity of DNA and the possibility of allelic dropout or drop-in. (R. at 55, 59). Dr. Krane explained that those factors, in addition to the potential of transfer contamination, raise "serious questions as to [the results'] reliability . . . ." (R. at 64).

Those additional facts necessary for a resolution of the assigned errors can be found in the argument below.

Summary of Argument

The Army Court improperly applied a de novo standard of review to this Article 62, UCMJ, appeal. The Army Court also impermissibly found facts to support its overall conclusion.

The military judge's seven page ruling was written after conducting a nearly four-hour Article 39a, UCMJ hearing with three DNA experts. The military judge heavily participated throughout the hearing, asking each expert numerous questions. The military judge methodically laid out his findings of facts, the applicable law, and his conclusions.

Nonetheless, the Army Court, engaging in its own independent factual review, determined the military judge made two erroneous findings of fact. However, the Army Court is wrong in both instances. Simply put, the Army Court overlooked the essence of the military judge's finding-- KCPCL's formula was not accepted in the scientific community. The government offered no evidence of peer reviewed journals discussing the formula nor did they offer evidence that other labs or professional organizations use and apply the alleles present statistic. In any event, the military judge's Mil. R. Evid. 403 balancing test was amply supported by the record. He ably articulated why the low probative value of the evidence was outweighed by the danger of unfair prejudice.

Reasons for Granting Review

Rather than applying the appropriate abuse of discretion standard, the Army Court applied a standard akin to de novo review and concluded the military judge abused his discretion. The Army Court compounded its error by making several

impermissible findings of fact. The Army Court has no fact-finding power in an Article 62 appeal. While paying lip service to the appropriate legal standards and the limitations of an Article 62, UCMJ appeal, failed to adhere to those standards.

The Army Court also inappropriately conducted its own Mil. R. Evid. 403 balancing test, failing to even evaluate whether the military judge's analysis was reasonable. Indeed, the opening sentence of the Army Court's opinion appears to agree with the military judge's Mil. R. Evid. 403 assessment, declaring "the science involved in this government appeal is beyond the ken of even relatively experienced jurists, as well as the typical layperson." (Appendix at 1). Yet, the Army Court concluded this evidence was not too complicated for a panel to understand. (Appendix at 10). The Army Court opinion's internal inconsistencies illustrate it missed the true issue in the case: whether the formula applied by KCPCL satisfies the standards of *Houser* and *Daubert*.

Error and Argument

WHETHER THE ARMY COURT APPLIED THE WRONG STANDARD OF REVIEW TO THIS ARTICLE 62, UCMJ, APPEAL WHEN IT FOUND THE MILITARY JUDGE MADE ERRORNEOUS FINDINGS OF FACT AND ERRONEOUS CONCLUSIONS OF LAW.

Standard of Review

"In an Article 62, UCMJ, appeal, this Court reviews the military judge's decision directly and reviews the evidence in the light most favorable to the party which prevailed below." *United States v. Buford*, 74 M.J. 98, 100 (C.A.A.F. 2015). (citing *Unites States v. Baker*, 70 M.J. 283, 287-88 (C.A.A.F. 2011)).

Article 62, UCMJ provides the authority of the service courts to hear cases on appeal by the United States "with respect to matters of law." Article 62(b), UCMJ, 10 U.S.C. § 862(b) (2012). A service court has no authority to find facts in an Article 62, UCMJ, appeal. *Baker*, 70 M.J. at 290. The Army Court was "bound by the military judge's findings of fact unless they were clearly erroneous." *United States v. Cossio*, 64 M.J. 254, 256 (C.A.A.F. 2007). Moreover, the Army Court could not "substitute its own interpretation of the facts." *Id.*

A military judge must perform gatekeeping functions to prevent the admission of unreliable expert testimony. *United States v. Billings*, 61 M.J. 163, 167 (C.A.A.F. 2005). Service

courts review a military judge's decision to admit or exclude expert testimony for an abuse of discretion. *United States v. Sanchez*, 65 M.J. 145, 148 (C.A.A.F. 2007). Service courts review whether a military judge correctly followed the *Daubert* framework de novo. *United States v. Flesher*, 73 M.J. 303, 311 (C.A.A.F. 2014). If a court concludes the military judge followed the *Daubert* framework, it cannot "overturn the ruling unless it is manifestly erroneous." *United States v. Griffin*, 50 M.J. 278, 285 (C.A.A.F. 1999).

Under the abuse of discretion standard, service courts must "determine whether the military judge's findings of fact are clearly erroneous or his conclusions of law are incorrect." *Baker*, 70 M.J. at 291. "A military judge abuses his discretion when (1) the findings of fact upon which he predicates his ruling are not supported by the evidence of record; (2) if incorrect legal principles were used; or (3) if his application of the correct legal principles to the facts is clearly unreasonable." *United States v. Ellis*, 68 M.J. 341, 344 (C.A.A.F. 2010).

"The abuse of discretion standard requires more than a mere difference of opinion." *Baker*, 70 M.J. at 291. "The military judge's decision warrants reversal only if it was arbitrary, fanciful, clearly unreasonable, or clearly erroneous." *Id.* "When judicial action is taken in a discretionary matter, such

action cannot be set aside by a reviewing court unless it has a definite and firm conviction that the court below committed a clear error of judgment in the conclusion it reached." *Ellis*, 68 M.J. at 344.

Law

The expert testimony of Ms. Hanna is not admissible unless the government, as the proponent of the evidence, establishes each of the following six factors: (1) the qualifications of the expert; (2) the subject matter of the expert testimony; (3) the basis for the expert testimony; (4) the legal relevance of the evidence; (5) the reliability of evidence; and (6) whether the probative value of the testimony outweighs other considerations. *United States v. Houser*, 36 M.J. 392, 397 (C.M.A. 1993).

After this Court's opinion in *Houser*, in *Daubert* the Supreme Court created a non-exhaustive list of six factors for a military judge to consider in determining the legal relevance and the reliability of the evidence. *Griffin*, 50 M.J. at 284. Those six factors are: (1) whether the theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether there is a known or potential error rate; (4) the existence and maintenance of standards controlling the technique's operation; (5) the degree of acceptance within the relevant scientific community; and (6) whether the probative value of the evidence

is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury. *Daubert v. Merrel Dow Pharms.*, 509 U.S. 579, 593-595 (1993).

The first four *Houser* factors are not in dispute. The military judge properly concluded they were satisfied. The Army Court did not disagree. Only the last two factors remain at issue. As the military judge found, the most significant question involves the fifth factor--"the reliability of the formula KCPCL applied to the DNA test results in order to conclude that the Accused was a possible contributor to the genetic material . . . ." (App. Ex. XII, p. 5).[1] Once the military judge concluded the evidence was not reliable, he nevertheless also whether the probative value was outweighed by unfair prejudice. The military judge found that even if it was assumed the evidence was reliable, the danger of unfair prejudice substantially outweighs the probative value. (App. Ex. XII, p. 6).

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[1] The military judge found KCPCL's formula was testable and subject to peer review. The factors the military judge rested his ruling on were whether or not KCPCL's formula was accepted within the scientific community, whether there was an error rate, and whether the probative value of the evidence is substantially outweighed by the danger of unfair prejudice.

Argument

The Army Court erred in overturning the military judge. The military judge did not abuse his discretion when he excluded evidence that MAJ Henning was a possible contributor to the DNA mixture found in Mrs. SN's underwear. Every finding of fact made by the military judge is supported by the record. The military judge applied the correct legal principles, and his application of those legal principles to the facts of this case was not clearly unreasonable or manifestly erroneous.

1. Every finding of fact made by the military judge is supported by the record.

The Army Court found the military judge abused his discretion when he made two erroneous findings of fact: (1) the alleles present statistic is precluded by the guidelines and (2) KCPCL did not conclude whether allelic dropout occurred. (Appendix at 7).[2] However, both of these findings are supported by the record.

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[2] The Army Court found that "Dr. Krane did not dispute that the minor profile derived from the genetic information . . . accurately reflected the presence of those five alleles at those four loci." (Appendix at 3). This impermissible finding is not supported by the record. Dr. Krane specifically discussed whether the potential stutter peaks should be included as allelic peaks in this sample and whether the major contributor's peaks are hiding a minor contributor's peaks, leaving one with "questions about where minor contributor alleles are present. . . ." (R. at 59, 74-5).

First, there was ample evidence to support the military judge's determination that the formula applied by KCPCL was precluded by the guidelines. The Army Court relied upon two pieces of information: (1) the audits KCPCL has undergone in the past; (2) Ms. Hanna's testimony that KCPCL modified an RMP calculation. (Appendix at 7).

However, this ignores the other contrary evidence the military judge found compelling. Dr. Krane found fault with how KCPCL applied the formula it contrived. (R. at 79). Specifically, Dr. Krane testified KCCL applied the formula in an improper way, in what he described as a "mixed bag where in some circumstances they're using equations that are for unknown number as contributors where dropout hasn't occurred, and in other loci they're using a set of equations for a known number of contributors where dropout may have occurred." (R. at 79). The military judge also relied on the Guidelines, which he found "preclude the combination of CPE/I and RMP calculations in a given sample. . . ." (App. Ex. XII, pg. 5).

The Army Court ignored these record based determinations. Rather than reviewing the record to determine whether there was evidence to support the military judge's finding, the Army Court engaged in its own independent analysis, indeed as it admits in its opening sentence in its opinion. The Army Court made its own finding that KCPCL "did not mix preset and firm RMP and

CPE/I formulae." (Appendix at 7). Thus, like in *Baker*, the Army Court exceeded the bounds of an Article 62 appeal.

The Army Court also improperly substituted its own interpretation of the facts when it concluded that "[b]ased upon its collective expertise and judgment and in accordance with the SWGDAM guidelines, [KCPCL] incorporated . . . an alleles present statistic." (Appendix at 7). This ignores Dr. Krane's testimony that neither the Guidelines nor peer reviewed literature tell how to interpret a sample where there are an unknown number of contributors and the possibility of drop-out. (R. at 77). It also ignores the military judge's reasonable observation that this formula has been used by KCPCL for fifteen years, but "has never made it into (much less mentioned by) the SWGDAM Guidelines." (App. Ex. XII, pg. 5).

The Army Court also overlooked the government's failure to carry its burden--to provide any evidence, other than KCPCL's self-serving claim that it did not create the formula and had been audited, to show the reliability of the formula and the its acceptance in the scientific community. The Army Court relied on the audits to conclude the formula is "at worst" shaky science and not junk science. (Appendix at 9). But nothing in those audits indicates an acceptance of the methodology employed by KCPL. And the government did not produce peer reviewed literature, studies where this formula was used, the number of

labs who utilize the formula, the origins of the formula, or the proper application of the formula. Therefore, it was well within the military judge's discretion to find the formula was not accepted within the scientific community and not reliable.

Second, the Army Court erred when it found the military judge's finding that KCPCL did not conclude "whether allelic dropout had occurred in the sample" was clearly erroneous. Dr. Krane testified regarding KCPCL's "mixed bag" approach to the sample and stated "in this particular case there's nothing to be said other than possibility of dropout or a possibility of drop-in." (R. at 73). While KCPCL's alleles present statistic assumes dropout, the application of that statistic to this sample seems to conflict with a dropout assumption and lead one to question whether Ms. Hanna actually assumed dropout in this sample. But that is beside the point. Again, rather than reviewing the record to determine whether the military judge abused his discretion, the Army Court substituted its own interpretation of the facts for that of the military judge.

2. The military judge applied the correct legal principles.

In addition to citing to and applying the six *Houser* factors and six *Daubert* factors, the military judge correctly analyzed the interrelationship between those two precedents by carrying out his gatekeeping function by tying his inquiry to the facts of this case. Further, the military judge accurately

recognized his role as gatekeeper. The military judge's ruling clearly and methodically applied the applicable law and legal principles regarding the admission of expert testimony. (App. Ex. XII, p. 4-5).

3. The military judge's application of the legal principles to the facts of this case are not clearly unreasonable.

The military judge's decision in this case should have been due great deference from the Army Court. "[W]here the military judge places on the record his analysis and application of the law to the facts, deference is clearly warranted." *Flesher*, 73 M.J. at 313. The converse is also true. "[W]hen a military judge does not hold a Daubert hearing and does not address the Houser factors in some manner, we will generally show less deference to that military judge's decisions." *Id.* at 313. Unlike the military judge in *Flesher*, the military judge here approached his ruling in a methodical manner. *Id.* at 311. He clearly laid out the facts in the record, articulated the legal principles he used, and then thoroughly explained how he applied those principles to the facts. Appropriately, the military judge emphasized the *Daubert* factors he found were not satisfied.

The Army Court nevertheless found the military judge abused his discretion when he concluded KCPCL's formula was not reliable. (Appendix at 8). The Army Court started with a false

premise; that the experts here disagreed only "on what is to be concluded from [the] data." (Appendix at 8). However, the issue was not whether the conclusion an expert may reach was correct or not, nor was it about what the data means. Rather, the issue the military judge addressed was whether the statistical formula applied by KCPCL is scientifically reliable.

The Army Court, relying upon *United States v. Sanchez*, 65 M.J. 145, 151 (C.A.A.F. 2007), found this case is just a battle of the experts where two experts "differ in their interpretation of the underlying facts and how much weight, if any, should be given to those facts in deriving an opinion." (Appendix at 9). But *Sanchez* does not apply to this case. First, *Sanchez* did not involve an Article 62 appeal, and as is apparent from its opinion, the Army Court did not recognize the different burden of proof applicable in *Sanchez*.

In *Sanchez*, the issue was how much weight the expert gave to anogential findings to conclude whether or not a child was sexually abused. *Id.* at 151-52. Here, Dr. Krane testified that the formulas in the Guidelines were not applied appropriately by KCPCL and that there is nothing in peer reviewed literature which would aid in interpreting this sample. (R. at 55, 77). Dr. Krane also explained that while there is emerging scientific research on how to asses the type of sample in the case, approach is not yet accepted in the scientific community and "it

goes beyond what it is the lab has used here. . . ." (R. at 78). This case involves more than a conclusion an expert can derive from the data, but whether the formula used is reliable.

The Army Court also found the 1 in 220 ratio was supported not only by the testimony of Ms. Hanna, but "is connected by a long-used, reproducible, announced, audited, and written formula." (Appendix at 8). This may be true if the only requirement for establishing the scientific reliability of a method is reliance upon the originator (nee benefactor) of that methodology. But that is simply not how it works. Instead, the proponent bears a burden to establish the reliability of the formula. Put simply, the government failed to do so in this case.

The Army Court conjectured the military judge "became his own expert, conducted his own analysis of the evidentiary DNA data and application of the SWGDAM guidelines in a manner not addressed by any of the experts, and consequently impermissibly assumed a role far different than that of gatekeeper." (Appendix at 9-10). However, using the facts in evidence, to include the Guidelines, the military judge made his determination as the gatekeeper. Nothing limited the military judge to merely adopting the testimony of one expert; he was free to draw all reasonable inferences from the evidence admitted. He was also free to apply the evidence to KCPCL's

formula in order to question its reliability-which is exactly what the military judge did here. (App. Ex. XII, pg. 6).[3]

The military judge also concluded "the government provided no evidence of error rates with regard to KCPCL's formula or what the statistical cutoff is for inclusion as a possible contributor . . . ." (App. Ex. XII at 6). The Army Court noted that nothing requires "a military judge either exclude or admit expert testimony because it is based in part on an interpretation of facts for which there is no known error rate. . . ." (Appendix at 10)(*quoting Sanchez*, 65 M.J. at 151). This is true in itself, but how did the Army Court apply this maxim? It found that the military judge erred in excluding and not admitting the evidence, which the Army Court deemed to be the proper call under the circumstances! In other words, the Army Court believes the error rate of minimal significance; the military judge found it significant. This is a difference of opinion, not an abuse of discretion. There was no evidence of an error rate or statistical cutoff, but the military judge did

[3] In combing through the military judge's findings, the Army Court teased out one determination in particular to criticize. The Army Court found that none of the experts "testified consistent with the military judge's base premise" that if you assume two contributors to the sample, then MAJ Henning could not have contributed all five alleles detected. (Appendix at 9). While it is true the experts did not state this expressly, logically the military judge's thinking makes sense based on the Guidelines and the evidence.

not base his decision to exclude the testimony on those factors alone.

As the first sentence of its opinion telegraphed, the Army Court erred when it reviewed the military judge's conclusions using a standard more stringent than an abuse of discretion. The Army Court did not address whether the military judge's conclusions were within an acceptable range of conclusions. Instead, the Army Court made its own conclusions based on a mere difference of opinion.

4. The military judge did not abuse his discretion when he concluded even if KCPCL's formula was reliable, the probative value of the evidence is substantially outweighed by the danger of unfair prejudice, misleading the panel members, and a waste of time.

The Army Court found the military judge's balancing test was "manifestly erroneous," and conducted its own Mil. R. Evid. 403 balancing test by doing a de novo review of the evidence.

First, the Army Court disagreed with the military judge's finding that the probative value of the statistical conclusion of 1 in 220 people was "minimal." (Appendix at 10). The military judge recognized the inclusion of MAJ Henning as a possible contributor was probative, but the small sample, the detection of only five alleles in a minimal minor profile, and the potential of allelic drop-out or drop-in, greatly reduced the probative value of the evidence. (App. Ex. XII, pg. 6). The military judge erred on the side of exclusion.

The Army Court did not determine whether assigning low probative value to this evidence was within an acceptable range of conclusions. Instead, the Army Court disagreed with the military judge and found the evidence "highly probative." (Appendix at 10). In determining probative value, the Army Court stated "the most favorable conclusion the defense could have hoped for was that comparison of MAJ Henning's DNA to the minor profile was either inconclusive or uninterpretable." (Appendix at 10). The Army Court also cited that the other males were excluded as possible contributors, making the evidence "highly probative." (Appendix at 10). The Army Court erred on the side of inclusion.

But that is not the proper analysis. The question is whether the military judge abused his discretion. He did not. Evidence in the record, and compelling evidence at that, supports the military judge's decision the danger of unfair prejudice of the evidence outweighs its admission. First, the Army Court's criticisms of the military judge are rebutted by Dr. Krane. Dr. Krane testified that it is possible MAJ Henning could also be excluded as a contributor. (R. at 57). While Dr. Krane and KCPCL had different opinions on whether or not a statistical analysis could be done on the sample, Dr. Krane stated the statistical significance of KCPCL's ratio was "very weak." (R. at 63).

Second, the Army Court found the military judge erred when he concluded the evidence would "be a mini-trial within the trial, with multiple experts being called and recalled to rebut one another on a highly technical issue the panel members will likely have a difficult time understanding." (App. Ex. XII at 6; Appendix at 10). But the Army Court expressed that very opinion, albeit in a slightly different gloss, in the opening lines of its opinion. As the Army Court wrote, "the science involved in this government appeal is beyond the ken of even relatively experienced jurists, as well as the typical layperson. . . ." (Appendix at 1). Yet, the Army Court contradicts itself when conducting the balancing test, finding the military judge's "view 'seems to us to be overly pessimistic about the capabilities of the jury and the adversary system generally.'" (Appendix at 10). (quoting *Daubert*, 509 U.S. at 596). These two odd contradictions do nothing to indicate the military judge abused his discretion, let alone rebut the military judge's concern regarding the creation of a mini-trial and the resulting unfair prejudice.

Third, the Army Court found the military judge's application of the statistical ratio of 1 in 220 to the population of Weston, Missouri to conflict with the military judge's finding that the probative value of the evidence was low. However, these statements are not in conflict. The

military judge explained the statistical analysis is so complicated and difficult for a panel to understand, that the statistic alone could lead a panel to view the evidence as "significant" merely due to its technical nature, especially given the population of Weston, Missouri. (App. Ex. XII at 6).

Rather than reviewing the military judge's balancing test for an abuse of discretion, the Army Court overstepped its authority under Article 62, UCMJ, and conducted its own balancing test.

Conclusion

Wherefore, MAJ Henning requests that this Honorable Court grant his petition for review.

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CERTIFICATE OF FILING AND SERVICE

I certify that a copy of the forgoing in the case of United States v. Henning, Crim. App. Dkt. No. 20150410, Dkt. No. 16-0026/AR, was delivered to the Court and Government Appellate Division on October 13, 2015.

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APPENDIX

UNITED STATES ARMY COURT OF CRIMINAL APPEALS

Before
COOK[1], HAIGHT, and WEIS[2]
Appellate Military Judges

UNITED STATES, Appellant
v.
Major ANTIWAN M. HENNING
United States Army, Appellee

ARMY MISC 20150410

Headquarters, Combined Arms Center & Fort Leavenworth
Charles L. Pritchard, Jr., Military Judge

For Appellee: Captain Jennifer K. Beerman, JA (argued); Lieutenant Colonel Jonathan F. Potter, JA; Major Aaron R. Inkenbrandt, JA; Captain Jennifer K. Beerman, JA (on brief).

For Appellant: Captain Jihan Walker, JA (argued); Major A.G. Courie III, JA; Major Janae M. Lepir, JA; Captain Jihan Walker, JA (on brief).

3 September 2015

MEMORANDUM OPINION AND ACTION ON APPEAL
BY THE UNITED STATES FILED PURSUANT TO
ARTICLE 62, UNIFORM CODE OF MILITARY JUSTICE

HAIGHT, Judge:

BACKGROUND

Although the science involved in this government appeal is beyond the ken of even relatively experienced jurists, as well as the typical layperson, the facts are simple.

The alleged victim, SLN, reported that appellee raped her. Major (MAJ) Henning denied any and all sexual contact with SLN. Genetic material was

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[1] Senior Judge COOK took final action in this case prior to his departure from the court and retirement.

[2] Judge WEIS took final action in this case while on active duty.

recovered from the underwear SLN wore the evening in question. The Kansas City Police Crime Laboratory (KCPCL) conducted deoxyribonucleic acid (DNA) testing on that genetic material. After testing and analysis, the KCPCL reported that MAJ Henning could not be excluded as a potential minor contributor to the tested sample. Furthermore, the KCPCL is of the opinion that approximately 1 in 220 unrelated individuals in the general population would be a match to the minor contributor's profile. Major Henning was charged with the rape of, and other sexual crimes against, SLN.

The defense moved to "prohibit the government from offering any expert testimony concerning MAJ Henning being a possible contributor of genetic material recovered from the underwear of [SLN]." The defense asserted that the DNA analysis conducted by the KCPCL and which the government seeks to introduce "does not meet the requirements for expert testimony established by [Military Rule of Evidence] 702, *United States v. Houser* [36 M.J. 392 (C.M.A. 1993)], and *Daubert v. Merrell Dow* [*Pharms.*, 509 U.S. 579 (1993)]." After an Article 39(a) session, the military judge granted the defense motion and ruled that "[e]vidence that [MAJ Henning] is a possible contributor to the genetic material recovered from [SLN]'s underwear is excluded." The government, pursuant to Rule for Courts-Martial [hereinafter R.C.M.] 908 and Article 62, UCMJ, appeals the decision of the military judge.

After oral argument and consideration of the government appeal, we find the military judge abused his discretion in his ruling to exclude.

ARTICLE 39(a), UCMJ, HEARING

For purposes of this motion, the defense called Ms. Jessica Hanna, the KCPCL employee who conducted the DNA testing in this case. From a sample identified during serological screening of SLN's underwear, Ms. Hanna extracted DNA, amplified and analyzed that DNA, and was able to identify a "major profile" from a female as well as a "minor profile" from a male. This minor profile or genetic information revealed "five alleles at four different locations [loci]." Major Henning's DNA also has those same five alleles at those same four loci. Therefore, he cannot be excluded as a potential contributor.[3] Then, Ms. Hanna applied a statistical formula labeled an "alleles present statistic" in order to determine the weight of Major Henning's DNA match or, in other words, the frequency of those in the general population with DNA that could possibly match the minor profile. The calculated frequency was 1 in 220.

[3] This is particularly pertinent as, according to KCPCL, the two other males present in SLN's home on the night in question were both excluded after comparison to the DNA profile.

The defense also called Dr. Krane, an expert in the field. While having significant concerns with the KCPCL's calculated ratio of 1 in 220, Dr. Krane acknowledged that it was "factually correct" that Major Henning's genetic information does match the minor profile to the extent that the profile only revealed five alleles at four loci. In other words, Dr. Krane confirmed that Major Henning's DNA does, in fact, have those same identified five alleles at those four identified specific loci. Furthermore, Dr. Krane did not dispute that the minor profile derived from the genetic information recovered from the sample found in SLN's underwear accurately reflected the presence of those five alleles at those four loci. Therefore, Dr. Krane did not question any of the scientific testing performed or the resulting data; his critique dealt with the appropriate statistical significance that should be attached to those results.

Dr. Krane identified various bases for his overall concern. First, the minor profile at issue was derived from an exceedingly small amount of DNA. Second, similar to the first basis, five points of comparison does not provide much information concerning the other points where Henning's DNA might not match. Third, the KCPCL's "alleles present statistic" assumes allelic dropout,[4] because if allelic dropout had not occurred, then Major Henning would effectively be excluded. But, Dr. Krane later acknowledged twice that "the less template DNA that you start with, the more likely locus dropout and allelic dropout there will be." Fourth, as the statistical analysis was applied to a "minor profile" with low peaks, as opposed to a "major profile" with high peaks, the interpretation thereof must not only account for allelic dropout and drop-in but also take into consideration "stutter peaks" and how those stutters could possibly be allelic peaks of a "minor contributor." For this instance, Dr. Krane testified that the 1 in 220 statistic is "very weak by DNA profiling standards . . . but that number would have been less impressive still if those stutter peaks had been added into the calculation." Finally, Dr. Krane is of the opinion that in scenarios such as the present, where there is a combination of the two factors of "unknown number of contributors" and "possible or assumed allelic dropout," "then all bets are off" and the safer course of action would be to report the findings as "inconclusive."

Succinctly, when asked what conclusions could be drawn from the results of the KCPCL's DNA testing in this case, Dr. Krane stated:

> What I would prefer to say is that there are essentially three ways that one might look at such a circumstance. If an individual has two alleles and yet only one is observed at that locus in an evidence sample, one might conclude that the individual cannot be excluded because dropout

[4] Allelic dropout is the failure to detect an allele within a sample or failure to amplify an allele during the polymerase chain reaction process.

> had occurred. Another is that the individual -- another possible conclusion is that the individual is actually excluded because dropout did not occur, and a third conclusion might be to refrain from drawing a conclusion and say that we can't say if dropout or what the likelihood that dropout has or has not occurred is, therefore, since we can't decide which of those two possibilities is most likely or how to capture that into some sort of statistic it's simply safest to walk away and say that we don't care to draw a conclusion at all.

The government called Mr. Scott Hummel, the Chief Criminalist of the DNA Biology Section at the KCPCL. In that capacity, he is responsible for quality assurance at the lab. Generally, the KCPCL is accredited by the American Society of Crime Lab Directors, Laboratory Accreditation Board and is also externally audited to ensure its personnel, policies, and procedures are in accordance with the Scientific Working Group on DNA Analysis Methods (SWGDAM) guidelines, the FBI-issued quality assurance standards, as well as the international standards used by the scientific community "not in just this country, but across the world." Specifically, the KCPCL is currently accredited, and all of its "statistical formulas, equations, guidelines," to include the "alleles present statistic," along with particular case files in which such equations were used were provided to and reviewed by the accrediting body.

Mr. Hummel defended the formula used in this case. He explained the formula, which accounts for an unknown number of contributors and allelic dropout, is a "modification of an unrestricted random match probability" and does not violate SWGDAM guidelines. To the contrary, according to Mr. Hummel, this "possible permutation or calculation" is actually contemplated by or alluded to in those guidelines. Furthermore, Mr. Hummel testified that the KCPCL's analysis does consider and take into account "stutter peaks" and their possible interplay with "minor contributor allelic peaks."

Dr. Krane was recalled. He was specifically asked if the KCPCL's formulas are "somehow not following the SWGDAM guidelines," to which he responded, "I think it would be best to say I'm saying something a little bit different. I'm saying that they're not being applied appropriately. The formulas in their operating procedures and their interpretation guidelines are clearly consistent with and derived from the SWGDAM guidelines."

THE MILITARY JUDGE'S RULING

Faced with a classic battle of the experts, the military judge granted the defense motion and excluded "[e]vidence that the Accused is a possible contributor

to the genetic material recovered from Mrs. [SLN]'s underwear." The military judge found, *inter alia*, as fact:

1. "The Accused's DNA matched five alleles at four loci in the minimal minor profile from the underwear."
2. "SWGDAM is the definitive authority on reliable procedures and methods for forensic DNA testing and analysis."
3. "The SWGDAM Guidelines are mostly that: guidelines."
4. "The Guidelines clearly state that RMP [Random Match Probability statistical calculations] and CPE/I [Combined Probability of Exclusion or Inclusion statistical calculations] are incompatible with each other.
5. "KCPCL used a statistical calculation in this case that does precisely what the Guidelines state is 'precluded,'" that is, a combination of RMP and CPE/I.
6. "The amount of human, male DNA used in the testing process in this case that resulted in the conclusion that the Accused was included as a potential contributor to the genetic material in Mrs. [SLN]'s underwear was the equivalent to three or four human cells."
7. In accordance with Dr. Krane's testimony, "because this was an exceedingly small quantity," "because of the possibility of allelic dropout or drop-in (e.g., through contamination)," and because this was a minimal minor sample, this was "the most difficult sample that could be interpreted."
8. "Ms. Hanna did not conclude, one way or another, whether allelic dropout had occurred in the sample."

After reciting the law and standards pertaining to the admission of expert testimony and his role as gatekeeper, the military judge then concluded:

1. "There is no real argument about the first four *Houser* [36 M.J. 392] factors in this case: they are satisfied."
2. "KCPCL's testing procedures (i.e., the extraction of DNA from an evidentiary sample and the identification therefrom of a constellation of specific alleles at specific loci) are not in question; they are reliable under a *Daubert* analysis."
3. "However ... the 'modified' formula KCPCL applied to draw conclusions about potential contributors in this case" was not shown to be reliable.
4. The KCPCL's "formula has never made it into (much less mentioned by) the SWGDAM Guidelines" and "appears wholly contradictory" to the guidelines as they "reject KCPCL's approach."
5. The "Guidelines preclude the combination of CPE/I and RMP calculations in a given sample."
6. An apparent flaw with the KCPCL's formula is "if you assume two contributors to the sample in this case, then the Accused could not have

contributed all five of the alleles detected; the second person would have had to contribute at least one of the alleles (and possibly more). This is true regardless whether allelic dropout had occurred."

7. The formula the KCPCL used did not rely on a conclusive determination whether allelic dropout had occurred.
8. "This battle of the experts would certainly be a mini-trial within the trial, with multiple experts being called and recalled to rebut one another on a highly technical issue the panel members will likely have a difficult time understanding."
9. "Using the 1 in 220 statistic, in a population as small as Weston, Missouri (1,641 in the 2010 census (citation omitted)), only 7 people could be contributors to the genetic material in Mrs. [SLN]'s underwear."
10. Because the "Government is sure to point out that of those seven possible people, only one was in Mrs. [SLN]'s house, . . . the probative value is substantially outweighed by the danger of unfair prejudice, misleading the panel members, and waste of time."

LAW AND DISCUSSION

On appeal, "[w]e review de novo the question of whether the military judge properly performed the required gatekeeping function of [Military Rule of Evidence] 702" and "'properly followed the *Daubert* framework.'" *United States v. Flesher*, 73 M.J. 303, 311 (C.A.A.F. 2014) (citing *United States v. Griffin*, 50 M.J. 278, 284 (C.A.A.F. 1999)). However, the decision by the military judge to exclude expert testimony is reviewed for an abuse of discretion. *United States v. Sanchez*, 65 M.J. 145, 148 (C.A.A.F. 2007). "A military judge abuses his discretion when: (1) the findings of fact upon which he predicates his ruling are not supported by the evidence of record; (2) if incorrect legal principles were used; or (3) if his application of the correct legal principles to the facts is clearly unreasonable." *United States v. Ellis*, 68 M.J. 341, 344 (C.A.A.F. 2010). Additionally, "[a]n abuse of discretion exists where reasons or rulings of the military judge are clearly untenable and . . . deprive a party of a substantial right such as to amount to a denial of justice." *United States v. Travers*, 25 M.J. 61, 62 (C.M.A. 1987) (internal quotation marks and citations omitted); *see also Flesher*, 73 M.J. at 311. Also, because this case came to this court by way of a government appeal under Article 62, UCMJ, we are limited to reviewing the military judge's decision only with respect to matters of law and are bound by the military judge's findings of fact unless they were clearly erroneous. We cannot find our own facts or substitute our own interpretation of the facts. *United States v. Cossio*, 64 M.J. 254, 256 (C.A.A.F. 2007) (citing *United States v. Mizgala*, 61 M.J. 122, 127 (C.A.A.F. 2005)).

We determine the military judge made two clearly erroneous findings of fact as well as multiple erroneous conclusions when applying the law and acting in his gatekeeper role.

Military Judge's Findings of Fact

The military judge found, as fact, that the "alleles present statistic" formula utilized by the KCPCL is expressly precluded by the SWGDAM guidelines. This finding is in error. First, as everybody agreed, to include the military judge, the male minor DNA profile was derived from an exceedingly small sample. Page 1 of the SWGDAM guidelines reads, "Some aspects of these guidelines may be applicable to low level DNA samples." This prolonged caveat continues, "Due to the multiplicity of forensic sample types and the potential complexity of DNA typing results, it is impractical and infeasible to cover every aspect of DNA interpretation by a preset rule." In fact, laboratories are encouraged to use their professional judgment, expertise, and experience to review their standard operating procedures, update their procedures as needed, and utilize written procedures for interpretation of analytical results.

That is precisely what the KCPCL has done. Based upon its collective expertise and judgment and in accordance with SWGDAM guidelines, it has incorporated in its DNA Analytical Procedure Manual an "alleles present statistic." This formula "accounts for allelic drop-out and makes no assumption regarding the number of contributors."[5]

The aforementioned formula has been used by the KCPCL for 15 years, and the KCPCL, along with its manuals, procedures, and written methods of statistical calculations, has been audited and inspected "about ten different times" to ensure it is not running afoul of the SWGDAM guidelines or the FBI's Quality Assurance Standards for Forensic DNA Testing Laboratories. Finally, paragraph 4.1 of the SWGDAM guidelines mandates, "The laboratory must perform statistical analysis in support of any inclusion that is determined to be relevant in the context of a case, irrespective of the number of alleles detected and the quantitative value of the statistical analysis." The KCPCL did not mix preset and firm RMP and CPE/I formulae. It modified an RMP calculation in accordance with their assumptions, as is its scientific prerogative. Other scientists may feel it "safer" to do otherwise, but that does not mean the formula is expressly forbidden by the applicable guidelines.

The military judge also found, "Ms. Hanna did not conclude, one way or another, whether allelic dropout had occurred in the sample." This finding and its corresponding conclusion are clearly erroneous and unsupported by the record. When statistically analyzing the minor profile, the KCPCL assumed allelic dropout and then necessarily concluded that this dropout occurred when reporting the frequency ratio. Both of the witnesses from the KCPCL testified clearly and repeatedly that the "alleles present statistic" accounts for allelic dropout and is

[5] The "alleles present statistic" is the calculation of the alleles present at each genetic location accounting for possible drop-out of the sister allele in a genotype.

utilized in those scenarios where allelic dropout is assumed. In fact, one of Dr. Krane's main criticisms of the KCPCL's analysis in this case is that it was premised upon the assumption and conclusion that allelic dropout had, in fact, occurred. Dr. Krane explained that "[Ms. Hanna]'s statistic is predicated on the fact that dropout did occur. Her inclusion of Major Henning as a possible contributor is predicated on the idea that dropout must have occurred. . . . If dropout had not occurred . . . then Major Henning is actually excluded as a possible contributor."

Military Judge's Conclusions of Law

The military judge concluded the government had not shown the statistical evaluation applied by the KCPCL in this case to be "reliable." In determining that the military judge abused his discretion in so concluding, we do not do so lightly. We may not apply a review more "stringent" than abuse of discretion to a trial court's decision to receive or exclude evidence and similarly may not reverse unless the trial ruling was "manifestly erroneous." *GE v. Joiner*, 522 U.S. 136, 142-43 (1997). Likewise, we acknowledge a "court of appeals applying 'abuse of discretion' review to such rulings may not categorically distinguish between rulings allowing expert testimony and rulings which disallow it," nor was the military judge required "to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert." *Id.* at 142, 146. That said, we find the military judge's exclusion of any and all evidence that MAJ Henning is a possible contributor to the genetic material recovered from SLN's underwear was manifestly erroneous.

In this case, both parties present experts who agree on the underlying science of DNA extraction, matching, and comparison and also agree on the underlying data that was generated, that is, five alleles present at four loci. They disagree, however, on what is to be concluded from that data. *Daubert* is clear:

> The inquiry envisioned by [Federal Rule of Evidence] 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity -- and thus the evidentiary relevance and reliability -- of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.

Daubert, 509 U.S. at 594-95. The proffered frequency ratio of 1 in 220 is not connected to the presence of those specific five alleles at those specific four loci by the *ipse dixit* of Ms. Hanna; rather, it is connected by a long-used, reproducible, announced, audited, and written formula.

In excluding evidence of the statistical significance of the matching minor profile, the military judge expressly adopted Dr. Krane's conclusion that this would

be attaching weight to an "exceedingly small quantity" and is "the most difficult sample that could be interpreted." Dr. Krane did not testify that no conclusions could be drawn from the minor profile; he testified it would be "safer" to not draw any conclusions from such a profile. Our superior court has addressed a scenario where experts in the field differ in their interpretation of the underlying facts and how much weight, if any, should be given to those facts in deriving an opinion. *See Sanchez*, 65 M.J. at 151. In that case, it is made clear that any requirement that experts agree on a certain interpretation "would be at odds with the liberal admissibility standards of the federal [and military] rules and the express teachings of *Daubert*." *Id.* at 152 (quoting *Amorgianos v. Amtrak*, 303 F.3d 256, 267 (2d. Cir. 2002)). Furthermore,

> A review of the caselaw after *Daubert* shows that the rejection of expert testimony is the exception rather than the rule . . . . The trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system. As the Court in *Daubert* stated: "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."

United States v. Billings, 61 M.J. 163, 169 (C.A.A.F. 2005) (citation omitted). At worst, the KCPCL's approach was *shaky* science; it was definitely not *junk* science and should not be excluded. *See Sanchez*, 65 M.J. at 153 (citing *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999)).

A trial judge certainly can and should form an opinion as to the reliability of differing scientific approaches when performing his role as gatekeeper. However, here, the military judge overstepped his bounds and conducted his own scientific analysis and statistical evaluation. In the "*Conclusions*" portion of his ruling, the military judge points out his perceived flaws in the KCPCL's formula and then proceeds to discuss the possibilities of heterozygous or homozygous alleles at various loci and how those eventualities would potentially impact the appropriate statistical approach. The problem lies in his statement, "First, if you assume two contributors to the sample in this case, then the Accused could not have contributed all five of the alleles detected; the second person would have had to contribute at least one of the alleles (and possibly more). This is true regardless whether allelic dropout had occurred." Not only do we question the scientific and mathematical validity of the above statement, it is wholly unsupported in the record. None of the experts testified consistent with the military judge's base premise. Accordingly, we are left with the distinct impression that in this battle of the experts, the military judge became his own expert, conducted his own analysis of the evidentiary DNA data and application of the SWGDAM guidelines in a manner not addressed by any

of the experts, and consequently impermissibly assumed a role far different than that of gatekeeper.

In the same portion of his ruling, the military judge criticized the government for providing "no evidence of error rates with regard to KCPCL's formula or what the statistical cutoff is for inclusion as a possible contributor (e.g., is 1 in 100,000 a permissible statistic to be included?)." Regardless of the obvious observations that a pure numerical cutoff line would, by definition, go to the weight of a factual finding as opposed to its validity or admissibility and that a statistical cutoff is a distinct concept from an error rate, we again look to *Sanchez*. "Nothing in the precedents of the Supreme Court or this Court requires that a military judge either exclude or admit expert testimony because it is based in part on an interpretation of facts for which there is no known error rate or where experts in the field differ in whether to give, and if so how much, weight to a particular fact." *Sanchez*, 65 M.J. at 151.

We now turn to the military judge's Military Rule of Evidence 403 balancing in which he found the probative value of the KCPCL's "statistical conclusion" is "substantially outweighed by the danger of unfair prejudice, misleading the panel members, and waste of time." We find three parts of his balancing to be manifestly erroneous.

First, the military judge found the probative value of the statistical conclusion, the 1 in 220 ratio, to be minimal. There is a disconnect between the concerns the military judge harbored with respect to the reliability of the KCPCL's formula and his blanket exclusion of evidence that MAJ Henning is a *possible* contributor to the discovered genetic material. In accordance with the options found in the SWGDAM guidelines and in line with Dr. Krane's suggestion, the most favorable conclusion the defense could have hoped for was that comparison of MAJ Henning's DNA to the minor profile was either inconclusive or uninterpretable. But, even in that event, because per SWGDAM, "statistical analysis is not required for exclusionary conclusions," that would still potentially leave evidence that the other males in the house that night in question are excluded as contributors to the male minor profile found in SLN's underwear. In other words, in this case, the importance of the numerical ratio may be relatively minimal. But, in light of the categorical exclusion of other potential suspects, any evidence that MAJ Henning is a possible contributor, even to a small degree, would still be highly probative.

Second, the military judge concludes this "battle of the experts would certainly be a mini-trial within the trial, with multiple experts called and recalled to rebut one another on a highly technical issue the panel members will likely have a difficult time understanding." We echo the Supreme Court in that this view "seems to us to be overly pessimistic about the capabilities of the jury and of the adversary system generally. Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate

means of attacking shaky but admissible evidence." *Daubert*, 509 U.S. at 596. The questions of whether SLN was assaulted and by whom do not constitute the subjects of any "mini-trial;" rather, they are the very essence of *the* trial.

Third, inconsistent with his prior conclusion that the probative value of the KCPCL's "resulting statistical conclusion" is minimal, the military judge then applied the 1 in 220 ratio against the population of the city where the alleged crime occurred and concluded that his calculation that only seven people in that city could be contributors is a significant and unfairly prejudicial statistic. The military judge observed, "The Government is sure to point out that of those seven possible people, only one was in Mrs. [SLN]'s house." In this case, we find that evidence that an accused's DNA possibly matches that of genetic material found at the scene of the alleged crime to indeed be prejudicial, but not even remotely unfairly so. Once a proper foundation is laid, not only is DNA testing sufficiently reliable and admissible, but evidence of statistical probabilities of an alleged match is admissible as well. *See United States v. Allison*, 63 M.J. 365 (C.A.A.F. 2006).

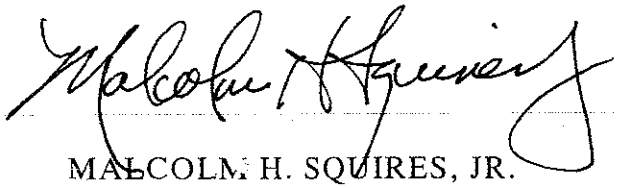
CONCLUSION

"The military judge's role as evidentiary gatekeeper does not require him to admit only evidence that he personally finds correct and persuasive and to exclude that which he finds incorrect or unpersuasive. Rather, the judge's role is to screen all evidence for minimum standards of admissibility and to let the factfinder determine which evidence is more persuasive." *United States v. Kaspers*, 47 M.J. 176, 178 (C.A.A.F. 1997). We possess, as a reviewing court, "a definite and firm conviction that the [military judge] committed a clear error of judgment in the conclusion [he] reached upon a weighing of the relevant factors" and thus find an abuse of discretion. *See Houser*, 36 M.J. at 397 (quoting Magruder, J, *The New York Law Journal* at 4, col. 2 (March 1, 1962), quoted in *Quote It II: A Dictionary of Memorable Legal Quotations* 2 (1988)).

The appeal of the United States pursuant to Article 62, UCMJ, is granted. The ruling of the military judge to exclude evidence that MAJ Henning is a possible contributor to the genetic material recovered from SLN's underwear on the bases that the KCPCL's formula and its application in this case are unreliable and unfairly prejudicial is set aside. The record will be returned to the military judge for action not inconsistent with this opinion

Senior Judge COOK and Judge WEIS concur.

FOR THE COURT:



MALCOLM H. SQUIRES, JR.
Clerk of Court