IN THE UNITED STATES COURT OF APPEALS
FOR THE ARMED FORCES

UNITED STATES, Appellee	)	ANSWER ON BEHALF OF APPELLEE
v.	)	Crim.App. Dkt. No. 201700318
Nicholas S. BAAS, Corporal (E-4) U.S. Marine Corps Appellant	)	USCA Dkt. No. 19-0377/MC

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UNIFORM CODE OF MILITARY JUSTICE (UCMJ), 10 U.S.C. §§ 801–946:

REGULATIONS, RULES, OTHER SOURCES

Issues Presented

I.

DID ADMISSION OF AN ALLEGEDLY POSITIVE DIATHERIX LABORATORIES TEST FOR GONORHEA, WITHOUT TESTIMONY AT TRIAL OF ANY WITNESS FROM DIATHERIX, VIOLATE THE SIXTH AMENDMENT CONFRONTATION CLAUSE?

II.

DID THE LOWER COURT ABUSE ITS DISCRETION IN ADMITTING AN ALLEGED POSITIVE DIATHERIX TEST RESULT FOR GONORRHEA IN A CHILD'S RECTAL SWAB—WHERE DIATHERIX FAILED TO FOLLOW ITS OWN PROCEDURES AND THE RESULT WAS OF NEAR ZERO PROBATIVE VALUE?

Statement of Statutory Jurisdiction

The Navy-Marine Corps Court of Criminal Appeals had jurisdiction pursuant to Article 66, Uniform Code of Military Justice (UCMJ), 10 U.S.C. § 866 (2016), because Appellee's approved sentence included a dishonorable discharge and one year or more of confinement. This Court has jurisdiction over this case pursuant to Article 67(a)(3), UCMJ, 10 U.S.C. § 867(a)(3) (2016).

Statement of the Case

A panel of members with enlisted representation sitting as a general court-martial convicted Appellant, contrary to his pleas, of conspiracy, false official statement, two Specifications of rape of a child, two Specifications of producing child pornography, and two Specifications of distributing child pornography, in

violation of Articles 81, 107, 120b, 134, UCMJ, 10 U.S.C. §§ 881, 907, 920b, 934 (2016). The Members sentenced Appellant to fifteen years of confinement, reduction to pay grade E-1, forfeiture of all pay and allowances, and a dishonorable discharge. The Convening Authority approved the sentence as adjudged and, except for the dishonorable discharge, ordered the sentence executed.

The Record of Trial was docketed with the lower court on October 25, 2017. The lower court held oral argument on March 1, 2019. On April 15, 2019, the lower court affirmed the findings and the sentence. On May 15, 2019, Appellant requested reconsideration, which the lower court denied on May 17, 2019.

Appellant petitioned this Court for review on July 15, 2019, and Appellant filed a supplement on August 23, 2019. This Court granted review on October 31, 2019. Appellant filed his Brief and the Joint Appendix on December 27, 2019. On January 28, 2020, Appellant filed a Corrected Brief.

Statement of Facts

A. The United States charged Appellant with repeatedly raping his infant son, G.B., and live-streaming those rapes to "Hailey Burtnett."

The United States charged Appellant with conspiring with "Hailey Burtnett"[2] to: (1) rape his infant son, G.B., and (2) produce and distribute child

[2] Appellant told investigators that "Hailey" was a friend in Florida. (JA 1917–18.) But law enforcement could not locate her. (JA 290.) Forensic analysis showed IP addresses for "Hailey" in Spain, France, Iceland, and Germany. (JA 406.)

pornography. (Charge Sheet, Oct. 21, 2016.) The United States also charged Appellant with raping his son on three occasions in 2016—March 29, May 2, and May 15—and with producing and distributing child pornography on those same dates. (*Id.*) Finally, the United States charged Appellant with making a false official statement to Naval Criminal Investigative Service (NCIS) agents by stating that "he committed the acts described in a Skype conversation on a green teddy bear . . . which statement was false in that he committed those acts on G.B." (*Id.*)

B. Appellant moved to exclude testimony and evidence regarding the Diatherix Report on the basis of *Daubert* and Mil. R. Evid. 702. After hearing argument, the Military Judge denied Appellant's Motion.

Appellant moved to exclude testimony and evidence regarding the results of the Diatherix Test, which showed that G.B. had screened positive for gonorrhea, arguing that the test did not rest on a reliable scientific methodology as required by Mil. R. Evid. 702 and *Daubert v. Merrell-Dow Pharms.*, 509 U.S. 579 (1993). (JA 1438–78.) The United States opposed. (JA 1805–68.)

1. The Military Judge considered voluminous documentary evidence and testimony from three expert witnesses.

Appellant presented, *inter alia*, scientific articles and prior testimony from Dr. Hammerschlag, a defense expert witness in the field of Sexually Transmitted Infection (STI) diagnosis. (JA 1479–1632.) He also presented various guidelines issued by the Center for Disease Control related to STI treatment. (*Id.* at 1493–1631, 1761–1781.)

The United States presented the report of Dr. Hobbs, an expert in microbiology—unaffiliated with Diatherix—who reviewed Diatherix's testing validation data. (JA 1865–68.)

The Military Judge conducted a lengthy *Daubert* hearing. (JA 116–223.) Dr. Stalons, an expert in microbiology and the director of the clinical laboratory at Diatherix, and Dr. Hobbs testified for the United States. (JA 119–90.) Dr. Stalons testified that although Diatherix does not ordinarily conduct forensic testing, the science behind Diatherix's testing procedures would not have changed even had they been used for forensic testing. (JA 146.)

Dr. Hamerschlag, the Defense expert, also testified. (JA 191–223.)

2. The Military Judge denied Appellant's Motion in a written Ruling, making Findings of Fact and Conclusions of Law.

a. The Military Judge's Findings of Fact.

The Military Judge made the following pertinent Findings of Fact:

> b) G.B.[] . . . was approximately 19–21 months old during the [charged] time period. . . .
>
> d) During [Appellant's] 16 June 2016 interrogation with NCIS he stated that he had tested positive for gonorrhea. Prior to that interrogation, on 19 May 2016, [Appellant] had tested positive for chlamydia and gonorrhea . . . .
>
> e) On 17 June 2016, upon learning that [Appellant] had gonorrhea, G.B.'s mother took [G.B.] to Coastal Children's Clinic-Havelock, a civilian facility, to see his regular pediatrician, Dr. [] Kafer. Dr. Kafer took a rectal swab from G.B. and in accordance with her clinic's

procedure, sent the swab to Diatherix for testing. On 18 June 2016, Diatherix reported that G.B. had tested positive for gonorrhea.

f) Since October 2015, Diatherix had been fully accredited by the American College of Pathologists [CAP] and certified in compliance with the federal Clinical Laboratory Improvement Amendments [CLIA] for testing in the subspecialties of Bacteriology, Mycology, Parasitology, and Virology. . . .

h) Diatherix uses a procedure called Target Enriched Multiplex Polmerase Chain Reaction [hereinafter TEM-PCR] . . . TEM-PCR is a type of [Nucleic Acid Amplification Test (NAAT)], used to detect a particular bacterium in a specimen. . . .

l) CAP periodically sends Diatherix "blind" samples to test for their certification requirements. . . . Dr. Stalons testified that Diatherix has a 99% accuracy rate (proficiency in reporting the correct results) for all testing and a 100% accuracy rate for the particular gonorrhea target tested in this case. . . .

n) Diatherix normally does not conduct testing for forensic purposes. . . .

p) Diatherix's TEM-PCR test has never been admitted in court, and has not been peer-reviewed. . . .

q) The Center for Disease Control [CDC] generally recommends the use of NAATs to detect gonorrhea. However, the CDC does not recommend NAATs for use in pre-pubescent boys, such as G.B. . . .

r) Diatherix's TEM-CR has not been cleared for use by the Federal Drug Administration (FDA) . . . .

t–u) Dr. Hobbs was retained by the government to review [a lab summary of] the Diatherix test and opine on its reliability. She [is]. . . an expert in the area of microbiology . . . [She] reported that Diatherix's test accuracy [did the test get the right result against a sample] was 94.6%. The precision standard [ability to produce the same results] was 99.7% . . . .

x) Dr. Hobbs concluded that the positive gonorrhea result "from a rectal swab obtained using the Diatherix laboratory developed test is substantially more likely to indicate the presence of … [gonorrhea] in the sample than not." She further testified that the test produced "scientifically valid results." . . .

aa) Dr. Hammerschlag testified to the "positive predictive value" [PPV] of gonorrhea testing. The PPV is a confidence factor for the results of a particular sample from a particular population. Basically, when the sample tested is from a population where the particular disease is more prevalent (i.e. sexually active adults, sampled taken from STI clinics, etc . . .) the more confidence one may have in a positive result . . . .

bb) . . . Dr. Hammerschlag testified that "because the prevalence of rectal infection with gonorrhea in … boys, is probably less than 1% … the positive predictive value [PPV] can be 50% or lower." Which means that there is a 50% likelihood of a false positive. During [a later 39(a) session], Dr. Hammerschlag testified again that the prevalence rate of rectal infection in male children is at or near 1%. However, this time Dr. Hammerschlag testified that the positive predictive value was 30%; meaning a 70% likelihood of a false positive. . . .

dd) Dr. Hobbs. . . testified that a NAAT is not the ideal test to run for pediatric STI detection due to the PPV and the likelihood for a false positive when testing pre-pubescent children for STIs . . . she attached no quantitative measure, but reported that, "the resulting uncertainty about the likelihood of false positive results in a rectal swab from a young child represent significant concerns." . . .

ff) Upon learning of the results, Dr. [] Kafer , G.B.'s pediatrician who initially took the sample, referred G.B. to the Carolina East Medical Center [CEMC] to have a culture test performed. She did this because Diatherix [performed] a NAAT, "which is much more sensitive test than a culture, but is possible to have a false positive." . . . However, for various reasons a culture test was not able to be performed. CEMC did note that G.B. had red blood cells in his urine. This, in addition to the Diatherix test, indicated to [CEMC] that G.B. had gonorrhea. CEMC then treated G.B. for gonorrhea. Once treated for gonorrhea, the infection is no longer present in the patient . . . .

> gg) Dr. Hobbs testified that the Diatherix test . . . "has comparable performance characteristics to FDA-cleared NAATs for detection of . . . [gonorrhea] in routine clinical specimens. The date [of Diatherix's validation testing in June 2016 and January 2017] demonstrating precision, accuracy, and analytical sensitivity pose no cause for concern. None of the commercially available NAATs is validated by the manufacturer for use with extra genital specimens such as rectal swabs, and the validation data demonstrating good sensitivity of the test to detect . . . [gonorrhea] in rectal swabs were a particular strength of the lab summary."

(JA 1891–96.)

Diatherix's "Client Services Manual" required a "preapproval" prior to testing any rectal swab submission. (JA 144.) No preapproval occurred with G.B.'s sample. (JA 139.) Diatherix's Client Services Manual was never introduced as evidence on the Motion.

b. The Military Judge's Conclusions of Law.

Citing Mil. R. Evid. 702, the six factors articulated in *United States v. Houser*, 36 M.J. 392 (C.M.A. 1993), and the four factors articulated in *Daubert*, the Military Judge found that "the Diatherix test is a reliable test based upon scientific principles and the members are best situated to determine the appropriate weight it should be given." (JA 1900.) He found that the science behind the Diatherix test "can and has been tested for its accuracy, precision, sensitivity, and specificity as required by CAP/CLIA," weighing in favor of admission. (JA 1899.)

The Military Judge concluded "the error rate for the TCM-PCR is acceptable" based on Dr. Stalons's testimony of "100% accuracy rate" and Dr. Hobb's testimony that the results are "scientifically valid." (JA 1899–900.) The Military Judge found that "the likelihood of a false positive associated with the testing population does not undermine the scientific principles upon which the test is based." (JA 1900.) Citing *United States v. Sanchez*, 65 M.J. 145 (C.A.A.F. 2007), the Military Judge found that "the existence of an error rate or disagreement over what that rate may be does not render the test inadmissible." (JA 1900.) He denied the *Daubert* Motion. (JA 1901.)

He later denied Appellant's motion to reconsider the *Daubert* Ruling, in which Appellant cited an additional expert's opinion. (JA 230–34, 1902–08.)

C. Over objection, the Military Judge pre-admitted the Diatherix Report as a non-testimonial record of a regularly conducted activity.

The United States moved to pre-admit G.B.'s medical records, which included an attestation certificate from G.B.'s pediatrician as well as the results of the Diatherix Test, into evidence as records of a regularly conducted activity. (JA 242, 389; *see also* JA 544–50.) Appellant objected based on "[f]oundation, confrontation, hearsay, relevance, and [Mil. R. Evid.] 403." (JA 242.)

The Military Judge asked Trial Counsel whether he still intended to call "someone from Diatherix." (JA 243.) Trial Counsel answered no, explaining that

"the labs were sent out by a clinician and the results were contained in . . . [G.B.'s] medical record." (JA 243.)

The Military Judge overruled Appellant's objections, ruling: (1) "the attestation certificate [will] self authenticate the documents [and] will suffice for its foundation," (2) "the documents are relevant to the extent that they show the diagnosis . . . of GB," (3) "the chain of custody is not required for a business record or a record from regularly conducted activity," (4) the Diatherix results were non-testimonial because they were "not made with an eye toward litigation," and (5) "as discussed at length above and at other rulings[,] the probative value . . . [was] not substantially outweighed by the danger of unfair prejudice." (JA 246.) The Military Judge principally relied on three facts: (1) after learning about sexual acts being performed on her son, G.B.'s mother "took [G.B.] not to the police, but to her primary pediatrician," (2) that the pediatrician "sent the sample to a civilian lab," and (3) "Diatherix did not retain the sample and the sample was not processed via a forensic protocol." (JA 246.)

D. During trial, the United States presented Appellant's Skype messages, his interrogations, and G.B.'s medical records. Appellant presented testimony from a single expert witness and argued that his messages were fantasy and actually referenced his son's teddy bear.

1. The Skype conversation with "Hailey" from August 2015 demonstrates that G.B. was the subject of the messages.

Appellant contacted "Hailey Burtnett" via Skype text message in August 2015. (JA 898–99.) Appellant quickly confirmed that he lived with his son who was "12 months old," and he later sent a photograph of G.B.:

(JA 414–16, 900–01, 931.) Appellant conversed with "Hailey" until she asked Appellant to call her so she could see G.B. (JA 901.)

Appellant then turned on his camera, beginning a nearly fifty-eight-minute streaming video call with "Hailey." (JA 415–16, 930.) While Appellant streamed video to "Hailey," they engaged in a simultaneous text message conversation

within the Skype application, in which "Hailey" stated that G.B. "[did] not look tired" and that he looked like Appellant. (JA 903–03.)

Their conversation turned sexual and included G.B. (JA 902–09.) Among other things, "Hailey" (1) asked if G.B. "like[d] being naked," (2) stated, "i think he will get hard. will he do it to u," and (3) asked "will he suck it some." (JA 906, 908–09.)

"Hailey" and Appellant later discussed sexual activities solely involving Appellant. (JA 910–14.) They then returned their attention to G.B.:

> Hailey: see if u can get him a little hard with it. show me. put yoru fingers around it. see if u can get him hard
>
> Appellant: He wants juice
>
> Hailey: get him some. and come back . . . show him. he has a big dick . . . sit him on your lap while he drinks. and rub him . . . slide him around on yoru dick. yes. on his butt crack. yes. move the cup . . . turn him other way rub his dick on u. more lotion . . . suck him a little. go soft and slow . . . show him one more time. just try. to make him suck u a little. just a little. in his mouth. I cnat see. move the cam down . . . .
>
> Hailey: rub yoru dick on him. yes. keep oging. yes. cum now. baby. cum on him. on his tummy. yes . . . yoru so much fun. did u like that . . . .
>
> Appellant: Except for the baby thing . . . Baby puked brb cleaning

(JA 915–26.)

2. The Skype messages with "Hailey" in support of the Charges from March to May of 2016 detail Appellant's rapes of G.B.

On March 25, 2016, Appellant downloaded the Skype application onto a second phone and immediately connected with "Hailey." (JA 407–08, 582, 778.) The two then engaged in a text message conversation within the Skype application, without the video on, in which they discussed sexual matters and if "Hailey" could see G.B. again. (JA 555–58, 582–88, 776–91.)

During that conversation, Appellant stated he and G.B.—who was "[a]lmost 2"—lived at his house, but that "[G.B.] is at his mom's house right now." (JA 555, 583–84, 777.) He also told "Hailey" that he had "sucked" G.B. once since the "last time [Appellant] did it [for "Hailey"]," and that G.B. got "a little" hard during that encounter. (JA 557–58, 600–01, 790–91.) Appellant also promised that he would let "Hailey" see G.B. the following night. (JA 555, 584–86, 779.)

Appellant did not get G.B. back the next day because "his mom want[ed] to keep him for a couple more days." (JA 558, 606, 794–95.) When "Hailey" expressed disappointment at being unable to see G.B., Appellant indicated he would show G.B. to "Hailey" again soon. (JA 558, 606–07, 794–95.)

During a subsequent Skype text message conversation on March 28, 2016, Appellant acknowledged he was with G.B. and noted that if "Hailey" wanted "to play[,] it need[ed] to be soon." (JA 558–59, 607–08, 795–797.) The next day, Appellant mentioned that he had "just got gone done feeding [G.B.]," and, when

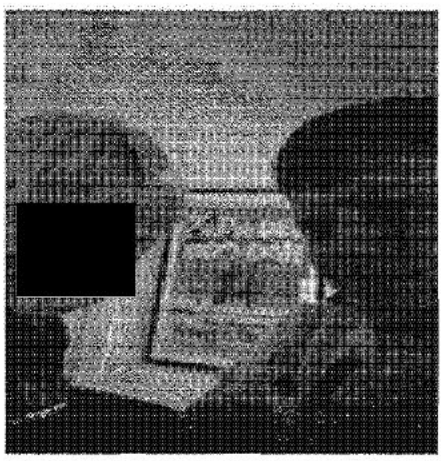
"Hailey" asked to see G.B., Appellant initiated a streaming video call on the Skype application. (JA 559, 600–11, 795–97, 928.) That streaming video call lasted for about forty minutes. (JA 408–09, 611–32, 928.)

During this streaming video call, Appellant and "Hailey" engaged in a simultaneous Skype text message conversation. (JA 611–32, 928.) "Hailey" asked if Appellant was "in the mood. to do it," and Appellant affirmed that he was, acknowledged that G.B. had "already ate," and stated that he might be able to get G.B. "hard" this time. (JA 559, 613–14, 798–99.) Eventually, Appellant got G.B. out of his chair, and "Hailey" directed him:

> Hailey: move the cam over. so I can see. nice. lower the cam some . . . Get him to take out his tounge. tounge him . . . touch tounges. kiss his chest. yes. nice . . . go lower. on him. diaber off. show him. is he bigger . . . he is bigger. kiss him. his dick . . . let him get hard. Goslowly . . . he is getting hard. up and down . . . he is getting hard . . . wow. look how hard he gets. now. lick his balls. his little balls. put him all in your mouth. balls and dick. will he lick u
>
> Appellant: Maybe
>
> Hailey: show me how hard u are . . . let him play with it . . . sit him on u . . . lay on you back lay hi on u. so u can lick his ass. and suck his dick a little. yes . . . lotion on yoru dick. rub hs dick too. with the ltion . . . on his ass a little . . . he likes it . . . show his ass a little . . . slide your finger in a ltitle. ohh yes . . . use the tip of yoru dick a ltitle. just a little . . . sit up and turn him around. ohh yes . . .
>
> Appellant: Oh my god lol . . . I kinda came

(JA 559–61, 615–29, 800–11.) The streaming video call abruptly ended. (JA 632.) Appellant and "Hailey" immediately started a second video call, lasting over five minutes. (JA 632, 928.) The conversation continued with simultaneous video, and "Hailey" directed Appellant to "move the cam down some. on his hole. rub it on his hole" and to "go in him a little." (JA 562, 632–35, 813–15.)

In April 2016, Appellant discussed "Hailey" watching him and another woman having sex. (JA 566, 666–68, 832–41.) "Hailey" asked Appellant if the other woman knew about their interactions with G.B., and "Hailey" expressed a desire to "get [G.B.] to dry cum." (JA 566–68, 667–68, 833.) At one point, "Hailey" asked if G.B. was home; Appellant confirmed he was by sending a photograph of himself and G.B.:



(JA 394, 412, 568, 685–86, 841–42, 929.) Moments later, they discussed G.B.'s need to take a bath, and Appellant stated that G.B.'s mother was "carrying [G.B.] to the bathroom as we speak." (JA 568, 687–88, 842–43.)

On May 2–3, 2016, "Hailey" again instructed Appellant to sexually abuse G.B., but one of Appellant's Marines came over and Appellant had to put G.B. to sleep. (JA 570–72, 707–20, 854–55.) After Appellant returned, "Hailey" pressured Appellant to take G.B. to Appellant's room and continue the abuse. (JA 572, 720–21, 864–65.) Appellant grew frustrated, eventually stating, "No woman I'm not moving my sleeping child." (JA 572, 720–21, 864–65.)

Days later, "Hailey" expressed a desire to engage in further sexual activity via Skype, and the two discussed G.B.'s availability. (JA 573–74, 724–38, 867–870.) Appellant told "Hailey" that there would be "no [G.B.] today" because he was "asleep." (JA 573, 727, 868–69.) Though "Hailey" persisted—telling Appellant that "we can wake him up happy"—Appellant declined because "[G.B.] will be mad," and noted that if "Hailey" wanted to "make [Appellant] cum," she would have to "do it without [G.B.] today." (JA 573, 728–29, 869–70.)

On May 15, 2016, Appellant streamed video to "Hailey" for over twenty-seven minutes. (JA 411–12, 575–77, 744–54, 928.) Simultaneous with the streaming video call, "Hailey" directed Appellant, via Skype text message, as follows:

> Hailey: where is he . . . can u take off your shirt. his too. sexy baby. sit on the sofa with him . . . take off his shorts. your shorts off. then his diaper off. yes . . . try to get it in his mouth some. tell him to open his mouth up wider . . . put him on your chest. so you can suck him a little. yes . . . lay him down . . . lick his balls. pull his legs up some. show his

> butt some . . . lick lower . . . slide yoru tounge in a little . . . rub the ltion on his dick . . . then use your finger in his ass very tlly. slowly. suck him wile u do it . . . 69 him . . .

(JA 575–77, 744–54, 879–86.) The call then ended. (JA 757.) The two immediately began another streaming video call, during which "Hailey" directed Appellant to "use ltoin . . . but it on his butthole a ltitle." (JA 577, 755–58, 887–88, 928.)

3. Appellant claimed during his interrogations that all references to G.B. were actually to G.B.'s teddy bear. Appellant also admitted he had gonorrhea.

The United States presented Appellant's two interrogations, during which he claimed that all references to G.B. in his Skype messages actually referred to his son's teddy bear. (JA 286, 1914–15, 1933, 1943–45.) Appellant also told investigators that he contracted gonorrhea in April or May of 2016. (JA 1922.)

4. The United States presented Appellant's and G.B.'s positive gonorrhea results.

The United States presented Appellant's positive gonorrhea result from May 19, 2016. (JA 353–54, 538–43.) The United States also presented G.B.'s medical records—including the Diatherix Report—showing that in June 2016, G.B. tested positive for rectal gonorrhea. (JA 243–46, 544–50.)

5. Appellant presented expert testimony in his case-in-chief attacking the reliability of the Diatherix Report.

Dr. Hamerschlag testified for Appellant, providing her opinion of the Diatherix Report. (JA 433–86.) Dr. Hamerschlag read from the CDC guidelines

and noted that she believed: (1) there should have been further testing, (JA 450); (2) the positive predictive value (PPV) of the test was "essentially zero" and "you'd be very lucky if it was 30 percent," (JA 466–69, 479).

In rebuttal, the United States presented testimony from Dr. Hobbs. (JA 487–512.) She agreed that more should have been done to confirm the test, but she noted that the prevalence rate determines the PPV of the test. (JA 495–96.) She further testified that, in this case, there was a "potential exposure from an infected person" which "[i]n [her] mind, raised the prevalence . . . in [the relevant] population to the point where, combined with the performance characteristics of the test, made it not unlikely that this was a true positive." (JA 494–95.)

6. During its closing arguments, the United States emphasized the importance of Appellant's Skype messages. Appellant argued the Skype messages represented a mere fantasy.

During closing arguments, Trial Counsel read from the text messages, describing their importance to Appellant's guilt. (JA 514–24.) Regarding the Diatherix Report, Trial Counsel stated: "This test is nothing more than a screening test. It's some evidence—some additional evidence for you to consider. And the case does not rise or fall on gonorrhea. It is one piece of the puzzle." (JA 518.)

Trial Defense Counsel argued that the United States had not "eliminate[d] all reasonable doubt" and that the Diatherix Report was unreliable, citing Dr. Hammerschlag's opinion that the test had a low PPV and that "there's a seventy

percent chance to a hundred percent chance that [the Diatherix Report reflects] a false positive." (JA 525, 532.)

In rebuttal, Trial Counsel argued that the Members "don't need the gonorrhea evidence to find beyond a reasonable doubt that [Appellant] raped his son[,]" noting that the test "corroborates the overwhelming digital forensic evidence . . . in this case." (JA 534.)

E. The Members convicted Appellant of raping his child and sentenced him to fifteen years of confinement and a dishonorable discharge.

The Members found Appellant guilty of the sole Specification of Charge I (False Official Statement), Specifications One and Three of Charge II (Rape of a Child), Specifications One, Two, Five, and Six of Charge III (Production and Distribution of Child Pornography), and of the Additional Charge (Conspiracy). (JA 537.) They found Appellant not guilty of Specification Two of Charge II, and Specifications Three and Four of Charge III—all related to events on May 2, 2016. (JA 537.)

The Members sentenced Appellant to a reduction to the grade of E-1, forfeiture of all pay and allowances, confinement for fifteen years, and a dishonorable discharge.

Argument

I.

THE DIATHERIX REPORT WAS NON-TESTIMONIAL BECAUSE IT WAS CREATED FOR THE PURPOSE OF MEDICAL TREATMENT AND WAS ADMITTED AS A RECORD OF A REGULARLY CONDUCTED ACTIVITY—A NON-TESTIMONIAL EXCEPTION TO HEARSAY SINCE THE FOUNDING. THE MILITARY JUDGE'S DECISION TO ADMIT THE REPORT WITHOUT TESTIMONY FROM DIATHERIX WAS THEREFORE NOT AN ABUSE OF DISCRETION.

A. Standard of review.

This Court reviews *de novo* a question of whether statements are testimonial for purposes of the Sixth Amendment. *United States v. Squire*, 72 M.J. 285, 288 (C.A.A.F. 2013).

B. The Confrontation Clause prohibits admission of out-of-court statements made with the primary purpose of substituting for trial testimony.

1. The Confrontation Clause seeks to exclude *ex parte* statements made with an eye toward trial.

The "principal evil at which the Confrontation Clause was directed was the . . . use of *ex parte* examinations as evidence against the accused." *Crawford v. Washington*, 541 U.S. 36, 50 (2004). As such, the Confrontation Clause prohibits introducing "testimonial statements" unless the witness is "unavailable to testify, and the defendant had . . . a prior opportunity for cross-examination." *Ohio v. Clark*, 135 S. Ct. 2173, 2179 (2015) (quoting *Crawford*, 541 U.S. at 54).

"'[W]itnesses,' under the Confrontation Clause, are those 'who bear testimony,'" and testimony constitutes "'a solemn declaration or affirmation *made for the purpose* of establishing or proving some fact.'" *Crawford*, 541 U.S. at 51 (emphasis added). But "[o]nly statements of this sort[—that is, those where 'the primary purpose of the interrogation is to establish or prove past events potentially relevant to later criminal prosecution'—]can cause the declarant to be a 'witness' within the meaning of the Confrontation Clause." *Davis v. Washington*, 547 U.S. 813, 821–22 (2006) (citing *Crawford*, 541 U.S. at 51); *see also United States v. Jones*, 78 M.J. 37, 44–45 (C.A.A.F. 2018) (statement is "testimonial, because the primary purpose of the . . . interrogation . . . was to ascertain facts relevant to a later prosecution"). Where the "primary purpose" of a statement is not testimonial, "the admissibility of [that] statement is the concern of state and federal rules of evidence, not the Confrontation Clause." *Clark*, 135 S. Ct. at 2180 (internal quotations omitted).

2. Laboratory reports that are created with an eye to trial and not for a medical purpose are testimonial.

Laboratory reports that are created specifically to serve as evidence in criminal proceedings are testimonial. *Melendez-Diaz v. Mass.*, 557 U.S. 305, 310 (2009). Such reports "fall within the 'core class of testimonial statements'" that have long been subject to the Confrontation Clause. *Id.* This is the case no matter

whether the report is "sworn" or certified; the key is the purpose for which the statement is offered. *Bullcoming v. New Mexico*, 564 U.S. 647, 661, 664 (2011).

3. Laboratory reports made for medical treatment are non-testimonial, and this primary purpose is not undermined either by later involvement of law enforcement or a patient's age.

Laboratory reports made for the purpose of medical treatment are not subject to the Confrontation Clause. *See Melendez-Diaz*, 557 U.S. at 312 n.2 ("[M]edical reports created for treatment purposes . . . would not be testimonial under our decision today."); *see also Michigan v. Bryant*, 562 U.S. 344, 362 n.9 (2011) (noting "records of regularly conducted activity" as one of the categories of "statements [that] are, by their nature, made for a purpose other than use in a prosecution"); *cf. Giles v. California*, 554 U.S. 353, 376 (2008) ("[S]tatements to physicians in the course of receiving treatment would be excluded, if at all, only by hearsay rules.").

In *Squire*, this Court recognized the primary purpose of a medical statement was not influenced by the inevitable involvement of law enforcement. *Squire*, 72 M.J. at 288. There, the Court held a child sexual abuse victim's statements—to a doctor, who was a "mandatory reporter" and therefore "aware of the possible law enforcement related consequences"—were non-testimonial because they were made for a medical purpose. *Id.* at 291. That the examination was "likely" to be used at trial did not belie the statements' medical purpose. *Id.* at 290.

So too in *Sanders v. Commonwealth*. There, the Supreme Court of Virginia recognized that a patient's age does not alter the non-testimonial nature of a diagnosis that might otherwise signal impending prosecution. *See Sanders v. Commonwealth*, 711 S.E.2d 213, 219–20 (Va. 2011). The court rejected an argument that diagnosis of a victim, who was under the age of thirteen, was testimonial because an independent laboratory should reasonably suspect samples taken from a child victim of sexual abuse would be used at a later trial. *Id.* The court noted that: (1) the independent laboratory only conducted testing on samples submitted by a medical clinic; (2) the challenged laboratory was not "a crime laboratory testing for narcotics or DNA"; and (3) there are "any number of typically non-prosecutorial reasons to test urine and vaginal discharge." *Id.* at 220.

C. The Military Judge did not abuse his discretion by admitting the Diatherix Report. The Diatherix Report was non-testimonial for two reasons: (1) Dr. Kafer requested the Report for the purpose of medical treatment; and (2) the Military Judge correctly admitted the Report as a record of a regularly conducted activity. Thus, the Confrontation Clause did not apply.

1. Three points demonstrate that the Diatherix Report was created for a medical purpose and is therefore not testimonial.

a. First, the Diatherix Report was requested and produced to identify and treat any sexually transmitted infections that G.B. might have contracted. This was a medical purpose.

Even more so than in *Squire*, and like *Sanders*, the primary purpose of the admitted "statement"—the Diatherix Report—was medical diagnosis. The tested

sample was submitted by G.B.'s primary pediatrician[3] after she examined G.B. "for health reasons, and not for the purpose of any criminal investigation or prosecution." (JA 972.) This is confirmed by the fact that, upon receiving the test results, Dr. Kafer immediately coordinated a hospital visit for G.B. in order for him to undergo confirmatory testing and treatment. (JA 330.)

Moreover, the Diatherix Report was generated by a private, non-forensic laboratory and was provided to a private medical facility—all without any law enforcement involvement. This medically-driven exchange distinguishes Appellant's case from *Bullcoming* and *Melendez-Diaz*, and as recognized in *Clark*, involves statements to individuals "not principally charged with uncovering and prosecuting criminal behavior." *Clark*, 135 S. Ct. at 2182.

In sum, nothing indicates that "the intent of the [Diatherix Report] was to create an out-of-court substitute for in-court testimony rather than to facilitate the medical treatment of [G.B.]" *Cf. Squire*, 72 M.J. at 290 n.12; *see also Sanders*, 711 S.E.2d at 219 ("The fact that the [government] sought to use the laboratory report in a criminal prosecution does not change its nontestimonial character."). Appellant's claim therefore fails.

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[3] Appellant incorrectly alleges that the Military Judge abused his discretion by finding that Dr. Kafer was G.B.'s primary pediatrician. Coastal Children's Clinic was G.B.'s "normal pediatrician office," (JA 320, 331), and Dr. Kafer had personally "seen him once before," (JA 333). This finding of fact was not clearly erroneous and Appellant's belief otherwise is without merit.

b. Second, even assuming the Diatherix Report was solicited in part to confirm whether Appellant raped his infant son, G.B., the Report was still non-testimonial. Identification of an abuser in situations involving child sexual abuse is a recognized medical purpose.

Determining the identity of an abuser in situations involving child victims—especially where the putative offender is a family member—is widely recognized as a legitimate medical pursuit. *Cf., e.g.*, *United States v. Chaco*, 801 F. Supp. 2d 1200, 1211 (D.N.M. 2011) (noting that "the Tenth Circuit has joined the United States Courts of Appeals for the Fourth, Eighth, and Ninth Circuits in holding that statements made by a child to a physician which identify the sexual abuser as a member of the family or household are reasonably pertinent to diagnosis or treatment" (internal quotation marks and citations omitted)).

In *United States v. Peneaux*, for example, the Eighth Circuit recognized that doctors have an obligation to the "medical safety of the child," which includes "identification of the abuser." *United States v. Peneaux*, 432 F.3d 882, 894 (8th Cir. 2005) (discussing in context of statement for medical diagnosis or treatment exception to hearsay). The court emphasized that identification "may be relevant to prevent future occurrences of abuse," ultimately concluding that "statements . . . made to a physician seeking to give medical aid in the form of diagnosis or treatment . . . are presumptively nontestimonial." *Id.*

Here, even assuming Dr. Kafer had a hypothetical interest in determining whether Appellant raped his infant son, she was nonetheless acting in the medical interest of G.B. Similar to *Peneaux*, Dr. Kafer expressed concern with the chance of future abuse, noting that G.B. should have "no unsupervised visitation with the father until these allegations are resolved." (JA 549.) It is therefore reasonable to view the screening test as a collateral function of Dr. Kafer's legitimate medical obligation to ensure G.B. did not return to an abusive environment. *See Peneaux*, 432 F.3d at 894. Even more, as observed in *Squire*, Dr. Kafer's obligation to share information with law enforcement does not belie her primary purpose: the medical wellbeing of her infant patient, G.B. *See Squire*, 72 M.J. 290–91.

As such, Appellant's emphasis of Dr. Kafer's observation that a positive result would be "highly indicative of child abuse" is misplaced. (Appellant's Corrected Br. at 34, Jan. 28, 2020.) Even if this statement reflected a collateral justification for the screening test ordered by Dr. Kafer—a motive contradicted by the Record, (JA 972)—this would nonetheless qualify as a non-testimonial, medical pursuit.

c. Third, a reasonable laboratory technician at Diatherix would not have expected the Report to be used at trial. This confirms the primary purpose was, in fact, medical.

Consistent with Dr. Kafer's actual motivation for requesting the Diatherix Report—medical treatment of her patient, G.B.—a reasonable laboratory

technician at Diatherix would not have expected the Report was created with an eye toward trial. Diatherix was an independent medical laboratory that did not ordinarily perform forensic testing, (JA 139, 141; *see also* JA at 1893), and was unaware that the test would eventually be used in a forensic context, (JA 139–40). Had anyone been aware that the test would be used in a forensic setting, Diatherix could have preserved the sample for further testing and produced chain of custody documents. (JA 140–41, 247; *see also* JA at 1893.) Further, unlike *Bullcoming* or *Melendez-Diaz*, law enforcement had no involvement in the testing Diatherix performed. (JA 113, 321.) Diatherix ultimately generated the Report, as it had many times before, in response to a routine request from a civilian pediatrician seeking treatment for a pre-pubescent patient. (JA 348–49.)

Appellant's reliance on G.B.'s age is in this respect misplaced. As recognized in *Sanders*, G.B.'s age does not mandate that a reasonable lab technician would conclude the Report would be later used at trial. 711 S.E.2d at 219–20. The collaterally incriminating effect of the test results does not change the fact that Dr. Kafer requested, and Diatherix produced, the Report in order to diagnose and treat an infant child at risk for sexually transmitted infections. (JA 336.) To hold otherwise would render any incriminating information testimonial—a suggestion rejected by the Supreme Court in *Clark* and this Court in *Foerster*. *See Clark*, 135 S. Ct. at 2183 ("The logic of this argument . . . would lead to the

conclusion that virtually all out-of-court statements offered by the prosecution are testimonial. . . . We have never suggested, however, that the Confrontation Clause bars the introduction of all out-of-court statements that support the prosecution's case."); *United States v. Foerster*, 65 M.J. 120, 125 (C.A.A.F. 2007) (rejected notion that later use at a court-martial would transform a valid business record into a testimonial statement). Furthermore, nothing in the Record indicates that a lab technician actually viewed the final Report, which may have been automatically produced and transmitted after the raw, machine-generated data was reviewed and "released." (*See* JA 1347–48; *see also* Appellate Ex. XXV at 100.) Neither did any of the certified or signed paperwork, which lab technicians obviously possessed, bear G.B.'s biographical information. (JA 936–41.)

Moreover, Appellant's citations to *Porter* and *Manery* are inapt. (Appellant's Corrected Br. at 28–30, 32, Jan. 28, 2020.) Neither turned on inferences expected of reasonably shrewd laboratory technicians; both cases involved lab tests that were conducted at the direction of the Government and possessed no legitimate medical justification. *United States v. Porter*, 72 M.J. 335, 336 (C.A.A.F. 2013) (appellant's "commanding officer authorized a blood draw and urinalysis to search for evidence of drug use" and the "samples were turned over to the Criminal Investigation Command," who procured the testing); *Manery v. Commonwealth*, 492 S.W.3d 140, 146 (Ky. 2016) (noting "Manery was only

swabbed because he was suspected of performing illegal sexual acts on Jane," that "[t]he forensic testing was requested by law enforcement," and that "there was admittedly no medical purpose to the test"). This is far afield from the case at hand, which at no point involved law enforcement or any motive beyond medical treatment.

Ultimately, the Military Judge properly concluded the Diatherix Report was non-testimonial.

2. History confirms the non-testimonial nature of the Diatherix Report, which was offered and properly introduced as a regularly kept record—a non-testimonial exception to hearsay since the founding.

By the late Eighteenth century, regularly kept records—or "business records," as they were often known—was an established exception to hearsay. 5 John Henry Wigmore, *Evidence in Trials at Common Law* § 1518, at 426–28 (Chadbourne rev. ed. 1974). In fact, "[m]ost of the hearsay exceptions [in 1791] covered statements that by their nature were not testimonial." *Crawford*, 541 U.S. at 56 (specifically noting "business records" as one such example, and expressing doubt "that the Framers thought exceptions [to hearsay in 1791] would apply even to prior testimony," *i.e.*, testimonial statements). It is for this reason that "[n]either *Crawford* nor any of the cases that it has produced has mounted evidence that the adoption of the Confrontation Clause was understood to require exclusion of

evidence that was regularly admitted in criminal cases at the time of the founding." *Clark*, 135 S. Ct. at 2182.

This is consistent with the Supreme Court's observation that "application of the Confrontation Clause [is] ultimately [a] matter[] of federal constitutional law . . . not dictated by state or federal evidentiary rules." *Williams v. Illinois*, 567 U.S. 50, 105 (2012) (Thomas, J., concurring); *id.* at 132 (Kagan, Scalia, Ginsburg, and Sotomayor, JJ., dissenting) (agreeing that "the Confrontation Clause's protections are not coterminous with rules of evidence"). It has been long-recognized that records created for the purpose of litigation are not properly considered "business records" and may therefore qualify as testimonial. *See, e.g., Palmer v. Hoffman*, 318 U.S. 109, 115 (1943) (accident report did not qualify as business record because prepared in anticipation of litigation); *see also United States v. Harcrow*, 66 M.J. 154, 161–62 (C.A.A.F. 2008) (Ryan, J., concurring) ("[E]vidence is not admissible as a business record if it is made in anticipation of litigation."); *see generally* Manual for Courts-Martial, *United States*, para. 144d, at 27–40 (1969 rev. ed.) (same). Regularly kept records are "admissible absent confrontation[,] not because they qualify under an exception to the hearsay rules, but because . . . they are not testimonial." *See Melendez-Diaz*, 557 U.S. at 324; *see also Bryant*, 562 U.S. at 362 n.9 (noting business records as a category of "statements [that] are, by their nature, made for a purpose other than use in a prosecution").

United States v. Tearman is illustrative. There, consistent with over a decade of precedent,[5] this Court correctly focused on the "characteristics that distinguish documents prepared 'in the course of a regularly conducted business activity' from those prepared in anticipation of litigation' under M.R.E 803(6)." *United States v. Tearman*, 72 M.J. 54, 61 (C.A.A.F. 2013). The Court determined that chain-of-custody documents and review worksheets from the Navy's drug lab had "an administrative . . . rather than an evidentiary purpose" and concluded, *inter alia*, that business records not generated for trial are non-testimonial. *Id.*

Here, two points demonstrate that the Diatherix Report was a business record that, as in *Tearman*, falls outside the Confrontation Clause.

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[5] *Compare Foerster*, 65 M.J. at 123 (forgery affidavit was non-testimonial business record because (1) made without law enforcement involvement; (2) catalogued objective facts; and (3) primary purpose was not trial), *and United States v. Rankin*, 64 M.J. 348, 352 (C.A.A.F. 2007) (various unauthorized absence documents were non-testimonial business records because "the primary purpose . . . was not . . . 'to bring [a]ppellant to trial'"), *and United States v. Magyari*, 63 M.J. 123, 127 (C.A.A.F. 2006) (random urinalysis entries in the Drug Screening Lab database were non-testimonial), *with United States v. Sweeney*, 70 M.J. 296, 298 (C.A.A.F. 2011) (urinalysis documents were testimonial, despite admission as "business records," because created for litigation), *and United States v. Clayton*, 67 M.J. 283, 287 (C.A.A.F. 2009) (police report was testimonial despite admission as "business record" because (1) prepared during investigation; (2) involved more than routine cataloging of facts; and (3) translated "with an eye toward trial"), *and Harcrow*, 66 M.J. at 158 (lab reports were testimonial because created at request of sheriff after arresting appellant), *and United States v. Gardinier*, 65 M.J. 60, 66 (C.A.A.F. 2007) (forensic report, created at request of law enforcement for prosecution, was testimonial notwithstanding introduction as a "business record").

a. First, the Diatherix Report was offered and properly admitted as a business record. Appellant has never challenged this dispositive fact.

Among the enumerated examples of records of regularly conducted activities is a "record of . . . diagnosis." Mil. R. Evid. 803(6). This Court has held that "a document prepared by a third party is properly admitted as part of a second business entity's records if the second business integrated the document into its records and relied upon it in the ordinary course of its business." *United States v. Grant*, 56 M.J. 410, 414 (C.A.A.F. 2002). This has produced three requirements: "(1) the record must be procured by the second entity in the normal course of business; (2) the second entity must show that it relied on the record; and (3) there must be other circumstances indicating the trustworthiness of the document. *Foerster*, 65 M.J. at 125 (citing *Grant*, 56 M.J. at 414).

In *Grant*, this Court analyzed whether a military judge abused his discretion by admitting a urinalysis report, which was generated by a third-party laboratory and detected the presence of illegal drugs, as a business record. *Grant*, 56 M.J. at 414. The Court reviewed evidence that the hospital would regularly send samples to the third-party lab, that the results were always filed once received, and that "physicians rel[ied] on such results to be accurate" for treatment. *Id.* at 414–415. The Court also observed that physicians "reliance on the report sp[oke] directly to its trustworthiness," noting that "those responsible for conducting the test . . .

[were] aware than an incorrect result may lead to a patient's failure to receive proper medical treatment" and highlighting the absence of "evidence in the record that suggests the hospital had received false or erroneous results from [the lab] in the past." *Id.* at 415.

Here, Appellant has not—nor has he ever—challenged the Military Judge's ruling. Even so, as in *Grant*, the Military Judge correctly introduced the Diatherix Report as a record of a regularly conducted activity under Mil. R. Evid. 803(6).

i. The Diatherix Report was procured by Dr. Kafer in the ordinary course of business.

Neither at trial nor at any stage of his appeal has Appellant disputed that, similar to *Grant*, the Diatherix Report was procured by G.B.'s pediatrician, Dr. Kafer, from Diatherix in the normal course of business. (JA 544.) Dr. Kafer saw G.B. because of a concern that he had been raped and conducted a "typical abuse evaluation," which included a rectal swab for sexually transmitted infections that was sent to Diatherix—a lab that Dr. Kafer ordinarily used for similar tests. (JA 329, 348–49.) After testing, Diatherix provided the Report to Dr. Kafer and it was made a part of G.B.'s medical record as is ordinarily done at her office. (JA 544.)

This satisfied the first *Grant* requirement.

ii. Dr. Kafer relied on the Diatherix Report in rendering medical care.

Neither at trial nor at any stage of his appeal has Appellant disputed that, like *Grant*, Dr. Kafer relied on the Diatherix Report to render medical care. Dr. Kafer referred G.B. to a hospital for confirmatory testing and treatment as soon as she received the Report. (JA 320, 972.)

This satisfied the second *Grant* requirement.

iii. The Diatherix Report bore sufficient indicia of trustworthiness.

Finally, despite Appellant's *Daubert* challenge, Appellant has never challenged the indicia of trustworthiness surrounding the Diatherix Report—specifically as relates to business records. Diatherix, much like the lab in *Grant*, was well aware of the consequences that an incorrect result would produce. Dr. Stalons testified that Diatherix attempts to "minimize [the risk of false positives] in every way possible" and noted that Diatherix on a daily basis "caution[s] the clinicians" to appropriately consider the "relevance of . . . positive result[s]." (JA 158.) Also like *Grant*, "there is no evidence in the record that suggests [Dr. Kafer or Coastal Children's Clinic] had received false or erroneous results from [Diatherix] in the past." *Grant*, 56 M.J. at 415. In fact, Dr. Kafer testified that she used the Diatherix test precisely because it "is a good screening test" and noted

that she had previously used it for prepubescent children at risk of sexual abuse. (JA 347–49.)

This satisfied the third *Grant* requirement.

b. Second, nothing in the Record demonstrates that G.B.'s pediatrician requested or kept his medical records with an eye to trial.

In *Foerster*, this Court admitted a forgery affidavit as a business record despite the appellant's Confrontation Clause objection. 65 M.J. at 123. There, a soldier reported forged checks being used under his account and, at the request of his private bank, completed a sworn "forgery affidavit." *Id.* at 121. The Court noted that (1) the form was requested by the private bank without any participation of law enforcement, notwithstanding their later request for that form; (2) the form cataloged objective facts; and (3) the purpose of the document was to prevent against fraud and facilitate reimbursement. *Id.* at 123–24.

Like the bank in *Foerster*, Coastal Children's Clinic was a private company that requested production of a document during the ordinary course of business. (JA 933–34.) The Diatherix Report catalogued objective facts—namely, noting "DETECTED" if amplified DNA "fluoresce[d]" within computer-detected ranges—in order to provide medical service to a client, G.B. (*See, e.g.*, JA 133, 135, 544.) This, as in *Foerster*, belies any claim that the Report was requested or

maintained with anything but an eye to medical treatment—not trial. *Cf. Foerster*, 65 M.J. at 122.

The Diatherix Report was therefore a non-testimonial record solicited and kept for the sole purpose of medical treatment.

3. This Court should decline Appellant's invitation to rely on distinguishable cases.

a. Appellant's comparison to *Gardinier* is inapt because the Record here does not indicate law enforcement was at all involved in requesting or producing the Diatherix Report.

The facts of this case, contrary to Appellant's urging, are unlike *Gardinier*. (Appellant's Corrected Br. at 33–34, Jan. 28, 2020.) *Gardinier* involved a sexual assault nurse examiner who was not acting as a first responder and whose examination, which requested information far outside the scope of standard treatment, was arranged by the sheriff's department. 60 M.J. at 65–66. This, the court held, demonstrated that the report was created with an eye toward trial. *Id*.

Here, the investigating agent testified that law enforcement did not request the testing. (JA 113.) Law enforcement only became aware that the testing was done after speaking with Dr. Kafer after the test had been completed. (*See* JA 114.) Critically, Dr. Kafer ordered testing for G.B. "for health reasons, and not for the purpose of any criminal investigation or prosecution." (JA 972.) Thus, unlike *Gardinier*, Dr. Kafer filled the role of a "first responder" and the scope of her examination was limited to the treatment of her patient. *Cf.* 60 M.J. at 65–66.

Moreover, Appellant's attempt to characterize G.B.'s social worker as an arm of law enforcement fails. It is irrelevant that the investigating agent, in response to a question about note-keeping during trial, expressed a personal belief that he and Social Services are "both law-enforcement." (Appellant's Corrected Br. at 6, 33, Jan. 28, 2020.) Nor does it matter that the social worker may have told G.B.'s mother to visit with a pediatrician. *Compare* (JA 319) ("I took him to see the doctor and to get the examination like [Social Services] had asked me to do."), *with* (JA 363) ("[W]hen I met with [G.B.'s] mother she had already set up [the pediatrician] Appointment."). The social worker's job was to "come up with a care plan," (JA 362), and she neither directed anyone to preserve evidence nor sought to create any herself. As in *Clark*, Social Services did nothing more than assist a vulnerable child, and there was no indication that any action was motivated by the hope of prosecution. *Cf. Clark*, 135 S. Ct. at 2181.

Thus, Appellant's claim that "CPS and NCIS elicited testimonial hearsay to use against [Appellant]" is unfounded and should be rejected.

b. Appellant incorrectly claims that both Dr. Hobbs and Dr. Kafer served as "conduits" for testimonial hearsay. The Diatherix Report was non-testimonial.

As discussed in Section I.C.1–2, the Diatherix Report was non-testimonial. Appellant's claim that Dr. Kafer and Dr. Hobbs served as conduits for testimonial hearsay therefore fails. (Appellant's Corrected Br. at 35–36, Jan. 28, 2020.)

D. Regardless, even assuming error, admission of the Diatherix Report was harmless beyond a reasonable doubt.

1. Standard of review.

"Whether a constitutional error was harmless beyond a reasonable doubt is a question of law reviewed *de novo*." *Tearman*, 72 M.J. at 62 (citing *United States v. Savala*, 70 M.J. 70, 77 (C.A.A.F. 2011)).

2. Confrontation Clause violations are tested for harmlessness beyond a reasonable doubt under the *Van Arsdall* factors.

"Relief for Confrontation Clause errors will be granted only where they are not harmless beyond a reasonable doubt." *Tearman*, 72 M.J. at 62 (citing *Sweeney*, 70 M.J. at 306). This inquiry questions whether "there is a reasonable possibility that the evidence complained of might have contributed to the conviction." *United States v. Blazier*, 69 M.J. 218, 226–27 (C.A.A.F. 2010) (quoting *Chapman v. California*, 386 U.S. 18, 23 (1967)). Relevant factors in this analysis include: (1) the importance of the un-confronted testimony in the prosecution's case; (2) whether that testimony was cumulative; (3) the existence of corroborating evidence; (4) the extent of confrontation permitted; and (5) the strength of the prosecution's case. *Sweeney*, 70 M.J. at 306 (citing *Delaware v. Van Arsdall*, 475 U.S. 673, 684 (1986)).

Here, whereas only one of the *Van Arsdall* factors favors Appellant, a majority favor the United States. This demonstrates that any assumed prejudice

was harmless beyond a reasonable doubt. *Cf. Tearman*, 72 M.J. 54, 63 n.15 (noting that one factor can be "far outweighed by the other . . . *Van Arsdall* factors"). Appellant is due no relief.

a. The first *Van Arsdall* factor favors the United States. The Diatherix Report was not central to Appellant's prosecution.

In *Tearman*, the erroneously admitted testimonial portions of the drug lab report were *de minimis* to the prosecution's case. 72 M.J. at 62. The testifying expert made only passing reference to the testimonial portions and relied most heavily on the nontestimonial portions of the report. *Id*.

Here, the Diatherix Report represented a single page of evidence among hundreds of pages of exhibits and hours of recorded interrogations. *Compare* (JA 550), *with* (JA 544–71, 580–897.) Moreover, Trial Counsel told the Members multiple times that G.B.'s gonorrhea result was not necessary to convict Appellant, stating: (1) the test was only "one piece of the puzzle" showing Appellant's guilt; (2) the Members did not need the Diatherix Report to convict Appellant; and (3) the Diatherix Report corroborated the "overwhelming digital forensic evidence" in the case. (JA 518, 534.)

Appellant incorrectly suggests that the mixed findings demonstrates the centrality of the Diatherix Report. (Appellant's Corrected Br. at 36, 55–56, Jan. 28, 2020.) Appellant was diagnosed with gonorrhea on May 19, 2016, and he told

law enforcement that he might have contracted the sexually transmitted infection as early as April. (JA 538–43, 1956.) But the Members convicted Appellant of raping his son on two separate occasions—March 29 and May 14, 2016, which both preceded Appellant's diagnosis—and acquitted him of the alleged rape on May 2, 2016. This contradicts Appellant's theory that "the [M]embers only convicted [Appellant] of the two dates where the Skype messages *and* the Diatherix NAAT positive[] suggested penile-anal penetration." (Appellant's Corrected Br. at 21, Jan. 28, 2020.) The Members' mixed findings reflect nothing more than a close reading of Appellant's criminal autobiography. (JA 554–926.)

This factor favors the United States.

b. The second *Van Arsdall* factor favors Appellant. The Diatherix Report was not cumulative of other testimony.

The Diatherix Report was not cumulative of other testimony. This factor favors Appellant.

c. The third *Van Arsdall* factor favors the United States. The Diatherix Report was corroborated by other evidence in G.B.'s medical record.

Doctors at the hospital that treated G.B. noted that he had "red blood cells in his urine[,]" which—in addition to the Diatherix Report—"indicated to them that G.B. indeed had gonorrhea." (JA 957, 1656, 1896.) This independently corroborated the substance of the Diatherix Report.

This factor favors the United States.

d. The fourth *Van Arsdall* factor is neutral. Submission of the Diatherix Report precluded cross-examination of lab technicians. But Appellant was able to, and chose to, introduce evidence on the perceived reliability of the test.

In *United States v. Jasper*, this Court found a constitutional violation where the military judge erroneously prevented the appellant from using the victim's statements to impeach her credibility. *United States v. Jasper*, 72 M.J. 276, 281–82 (C.A.A.F. 2013). Analyzing for prejudice under the *Van Arsdall* factors, the Court considered the extent of cross-examination permitted despite the constitutional error. *Id.* at 283. The Court highlighted the fact that the appellant's defense turned on the credibility of the victim and that "[t]he military judge's ruling prevented [a]ppellant from using a critical piece of exculpatory evidence . . . which, in turn, could have . . . affected the panel's findings." *Id.*

Here, however, Appellant was not so deprived. While Appellant was prevented from impeaching the reliability of the Diatherix Report with regard to whether G.B.'s sample was tested properly at the lab, the obvious thrust of Appellant's case was not that the lab improperly handled G.B.'s sample but instead that the science was "unreliable." Appellant's entire case in chief was spent attempting to impeach the reliability of the Diatherix Report. (JA 433–86.) Unlike *Jasper*, Appellant was still able to pursue his "theory of the case" and, in so doing, was not completely deprived of his ability to confront the evidence.

As such, this factor is neutral.

e. The fifth *Van Arsdall* factor favors the United States. The Skype messages and implausible defense provided overwhelming evidence that Appellant raped his son.

Two points demonstrate the strength of the United States' case. First, Appellant's Skype messages provided overwhelming, graphic evidence that he raped and sexually abused his infant son. (JA 554–897.) The contemporaneous nature of these messages was demonstrated by the coordinate video calls with "Hailey," (JA 927–28), and further showcased Appellant's indisputable guilt.

Second, Appellant's defense was implausible, uncorroborated, and in some respects irrelevant. For one, Appellant stressed the lack of child pornography found on his electronic devices—a fact not necessary for any conviction. (JA 526.) Appellant also claimed that he performed the graphic sex acts on his son's teddy bear, but this was directly contradicted by his own messages, which (1) repeatedly used G.B.'s name; (2) precisely described the anatomy of a small, male child; (3) contemporaneously memorialized Appellant orally and anally sodomizing G.B.; (4) at points demonstrated frustration over requests that Appellant disturb his "sleeping child" to continue the abuse, (JA 572, 720–21, 864–65); (5) contained two photographs of G.B. that were solicited by "Hailey" during their conversation, (JA 929, 931); and (6) at no point discussed or alluded to a teddy bear. Neither were any seminal fluids found on the teddy bear when it was tested. (JA 374–75.)

This factor, too, favors the United States.

II.

THE MILITARY JUDGE DID NOT ABUSE HIS DISCRETION BY ADMITTING THE DIATHERIX REPORT. *DAUBERT*, *HOUSER*, AND THEIR PROGENY GOVERN ADMISSIBILITY OF EXPERT TESTIMONY, AND APPELLANT'S ARGUMENT IS MOOT BECAUSE THE UNITED STATES ADMITTED THE DIATHERIX REPORT AS A BUSINESS RECORD. MOREOVER, EVEN ASSUMING ERROR, APPELLANT WAS NOT PREJUDICED.

A. Standard of review.

A decision to admit or exclude evidence is reviewed for an abuse of discretion. *United States v. Harrow*, 65 M.J. 190, 199 (C.A.A.F. 2007).

B. *Daubert*, *Houser*, and Mil. R. Evid. 702 govern expert testimony—not documentary evidence.

1. Expert testimony is subject to different standards than traditional evidence.

Expert testimony is subject to particular requirements in part because "[u]nlike an ordinary witness[,] . . . an expert is permitted wide latitude to offer opinions, including those that are not based on firsthand knowledge or observation." *Daubert*, 509 U.S. at 592; *accord* Mil. R. Evid. 702. It is on this basis that courts have sought clear standards for the admission of expert testimony. *See generally Daubert*, 509 U.S. at 580 ("We granted certiorari . . . in light of sharp divisions among the courts regarding the proper standard for the admission of expert testimony."); *Houser*, 36 M.J. at 393 (compiling factors for consideration, pre-*Daubert*). But none of these cases created a standard for the

admission of physical evidence. *Daubert*, *Houser*, and their progeny involved in-court expert testimony alone.

2. Both State and Federal Courts have recognized the difference between standards of admissibility for expert testimony and documentary evidence.

In *Christopher Phelps & Assocs., LLC v. Galloway*, for example, the Fourth Circuit without pause rejected the invocation of *Daubert* to challenge admission of a tax assessment, which was offered to prove the value of a property. *Christopher Phelps & Assocs., LLC v. Galloway*, 492 F.3d 532, 542 (4th Cir. 2007). The court rejected the appellant's proposed analysis, noting that the document "could appropriately have been admitted under the agency records exception to the hearsay rule." *Id.*

Similarly, in *State v. Robinson*, the Supreme Court of Nebraska held that it was not error to admit cellular location records without a *Daubert* inquiry. *State v. Robinson*, 724 N.W.2d 35, 67–69 (Neb. 2006). The court rejected the appellant's claim as "suspect because [his] *Daubert* objection was made, not to expert opinion testimony, but to business records." *Id.* at 68. "[I]f no expert opinion is tendered," the court held, "there is no basis for a *Daubert* inquiry." *Id.*

3. Appellant misreads this Court's precedent to suggest that *Daubert* applies to both "scientific testimony and evidence." But these cases exclusively involved expert testimony—not documentary evidence—and the phrasing was colloquial.

In *United States v. Henning*, for example, this Court concluded that the military judge "did not abuse his discretion in excluding the DNA *testimony and evidence*." *United States v. Henning*, 75 M.J. 187, 187 (C.A.A.F. 2016) (emphasis added). The Court reiterated this phrase in its recitation of the law, noting that "[b]oth the *Houser* and *Daubert* decisions provide expanded factors to consider in admitting expert *testimony and evidence*." *Id.* (emphasis added).

But both *Houser* and *Henning* dealt with expert testimony alone. The military judge in *Henning* granted a defense motion to exclude expert testimony, *United States v. Henning*, No. 20150410, 2015 CCA LEXIS 376, at *2 (A. Ct. Crim. App. Sept. 3, 2015) ("The defense moved to 'prohibit the government from offering any expert testimony concerning [the appellant] being a possible contributor of genetic material . . . .'"), *overruled by* 75 M.J. at 188, and the military judge in *Houser* overruled the same, *Houser*, 36 M.J. at 393. This Court has never held that *Henning*'s use the word "evidence" *sub silencio* extended *Daubert* or *Houser* beyond their facts, nor should the Court do so when none of these cases involved anything but expert testimony.

Appellant misplaces his reliance on the term "testimony and evidence," which is nothing more than a colloquialism.

4. This colloquialism appears to have originated in *Daubert*, which also only contemplated expert testimony at trial.

In *Daubert*, the Supreme Court noted that "the trial judge must ensure that any and all scientific *testimony or evidence* admitted is not only relevant, but reliable." 509 U.S. at 589 (emphasis added). But the Court granted certiorari to address "sharp divisions . . . regarding the proper standard for the admission of expert testimony," and the question presented involved expert testimony alone. *Id.* at 582, 585. On this backdrop, the term "scientific testimony or evidence" clearly did not identify different categories of *Daubert* material but instead reflected an imprecise colloquialism. This much is evident in *Daubert's* discussion of Fed. R. Evid. 702—entitled, "Testimony by Expert Witnesses"—which was noted to "require[] that the *evidence or testimony* 'assist the trier of fact to understand the evidence or to determine a fact in issue.'" *Id.* at 591 (emphasis added).

Later cases citing *Daubert* confirm this reality. In *Kumho Tire Co. v. Carmichael*, for example, the Court explained that *Daubert* "focused upon the admissibility of scientific expert testimony" without any coordinate mention of evidence. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999). The Court also omitted *Daubert*'s colloquialism and predicated its holding on the actual foundation of *Daubert*: expert testimony. *Id.* at 141 ("*Daubert*'s general holding . . . applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge.").

C. The Military Judge did not admit the Diatherix Report under *Daubert*. Appellant's challenge is moot.

1. Appellant suggests that the Military Judge should have excluded the Diatherix Report on the basis of *Daubert*. But none of Appellant's cited cases hold or suggest *Daubert* applies to documentary evidence.

Of Appellant's fifteen citations involving *Daubert*, only one non-binding case—*State v. Porter*—might have involved documentary evidence. But even the most generous reading of *Porter* does not counsel any pause because, as the opinion recognizes, states create and maintain their own evidentiary standards. *State v. Porter*, 698 A.2d 739, 746 (Conn. 1997) ("We now address the question of the proper standard for . . . scientific evidence in this state."); *see also, e.g.*, *Kinder v. Bowersox*, 272 F.3d 532, 545 n.9 (8th Cir. 2001) ("*Daubert* does not bind the states, which are free to formulate their own rules of evidence . . . ."). Every other case Appellant cites unmistakably applied *Daubert* to expert testimony at trial,[6] not physical evidence. (*See* Appellant's Corrected Br. at 37–56, Jan. 28, 2020).

[6] *General Electric v. Joiner*, 522 U.S. 136, 138–39 (1997) (expert testimony); *Henning*, 75 M.J. at 187 (same); *United States v. Flesher*, 73 M.J. 303, 306 (C.A.A.F. 2014) (same); *United States v. Sanchez*, 65 M.J. 145, 146 (C.A.A.F. 2007) (same); *United States v. Semrau*, 693 F.3d 510, 523 (6th Cir. 2012) (same); *Blue Dane Simmental Corp. v. Am. Simmental Ass'n*, 178 F.3d 1035, 1039 (8th Cir. 1999) (same); *United States v. Holt*, 46 M.J. 853, 856 (N-M. Ct. Crim. App. 1997) (same); *United States v. Hill*, 41 M.J. 596, 597 (A. Ct. Crim. App. 1994) (same); *Osman v. Lin*, 147 A.3d 864, 866 (N.H. 2016) (same); *United States v. Griffin*, No. 32229, 1997 CCA LEXIS 441, at *2 (A.F. Ct. Crim. App. Aug. 11, 1997) (same), *aff'd in part*, 50 M.J. 278 (C.A.A.F. 1999).

Appellant cites no case to support the notion that *Daubert*, *Houser*, or Mil. R. Evid. 702 governs the admission of a non-testimonial record of a regularly conducted activity. Neither is the United States aware of any such precedent.

2. The Military Judge did not abuse his discretion by admitting the Diatherix Report as a record of a regularly conducted activity.

As discussed in Section I.C.2.a, the Military Judge did not abuse his discretion by admitting the Diatherix Report as a record of a regularly conducted activity. Each of the *Grant* factors was met, and the Military Judge's conclusion was sound. *See supra* Section I.C.2.a. Appellant has never challenged this ruling.

3. Appellant's argument is moot.

Appellant focuses on the pre-trial *Daubert* Ruling in a misguided attempt to challenge the introduction of a non-testimonial business record. This misses the mark. Records of regularly conducted activities and expert testimony are different types of evidence and are governed by different legal standards. *See supra* Section II.B. Moreover, the Military Judge's pre-trial *Daubert* Ruling was mooted by the actual basis for admitting the Diatherix Report. *Cf. Rowland v. Novartis Pharm. Corp.*, 9 F. Supp. 3d 553, 557 n.4 (W.D. Pa. 2014) (holding that "any *Daubert* motions related to testimony will be denied as moot" where "[the expert] will not be called to testify").

Trial Defense Counsel requested the *Daubert* hearing on the assumption that the United States would introduce the substance of the Diatherix Report through an

expert witness. (JA 1439.) The Military Judge heard pre-trial argument on the Motion—which embraced the *Daubert-Henning* colloquialism and argued for exclusion of testimony (*i.e.*, "evidence") regarding the Diatherix Report—in the interest of avoiding mid-trial delay. (JA 116–17.) It was not until Trial Counsel actually introduced the Diatherix Report that it became clear the United States would not rely upon expert testimony to prosecute Appellant's case. (JA 243.) The United States offered, and the Military Judge properly accepted, the Diatherix Report as a record of a regularly conducted activity. (JA 244–45.)

Appellant has never once challenged this ruling. Instead, Appellant continues to inappropriately relitigate the Military Judge's *Daubert* Ruling. But "review for error is properly based on a military judge's disposition of the motion submitted to him or her—not on the motion that appellate defense counsel now wishes trial defense counsel had submitted." *United States v. Carpenter*, 77 M.J. 285, 289 (C.A.A.F. 2018). Appellant's challenge is moot, and this Court should not permit Appellant to reframe the issue granted or engage in remedial briefing.[8]

[8] Civilian "courts have consistently concluded that the failure . . . to include an issue or argument in the opening brief will be deemed a waiver." *Carbino v. West*, 168 F.3d 32, 34 (Fed. Cir. 1999). This has been understood to bar both arguments that are omitted, *see, e.g.*, *United States v. Jenkins*, 904 F.2d 549, 554 n.3 (10th Cir. 1990) (raised for first time in reply brief), and those that are poorly developed, *see, e.g.*, *United States v. Combs*, 218 F. App'x. 483, 488 (6th Cir. 2007) (waived because arguments raised in a "perfunctory manner without any development"). Although the Federal Rules of Appellate Procedure are not binding on this Court, the United States would respectfully encourage a similar approach.

D. If this Court for the first time extends *Daubert* and *Houser* to non-testimonial business records, no relief is due because: (1) this Court is not an appropriate place to relitigate a *Daubert* motion; (2) the Military Judge properly conducted his *Daubert* inquiry and extensive written Findings of Fact and Conclusions of Law are due significant deference; and (3) even assuming error, *arguendo*, Appellant has no claim of prejudice.

In *Daubert*, the Supreme Court announced an evidentiary "gatekeeping role" for a trial judge to ensure that expert testimony is both relevant and reliable. *Daubert*, 509 U.S. at 589, 597. A military judge possesses "a great deal of flexibility in his or her gatekeeping role." *Henning*, 75 M.J. at 191 (internal quotation marks omitted); *Sanchez*, 65 M.J. at 149. As long as the *Daubert* framework is properly followed, this Court cannot overturn the Ruling unless "manifestly erroneous." *Henning*, 75 M.J. at 191; *Sanchez*, 65 M.J. at 149.

The "gatekeeping role" is "not intended to serve as a replacement for the adversary system, and . . . the rejection of expert testimony is the exception rather than the rule." *Lipitor (Atorvastatin Calcium) Mktg. v. Pfizer, Inc.*, 892 F.3d 624, 631 (4th Cir. 2018) (internal citations omitted). "That experts might dispute some particularities of [a] testing protocol or suggest ways that it could have been improved, or that [some scientists] might harbor policy concerns about the feasibility of [a test], or deem it prudent to have independent corroboration . . . even considered in the aggregate, are insufficient bases upon which to exclude the results" of a test. *United States v. Bush*, 47 M.J. 305, 311–12 (C.A.A.F. 1997).

1. Per *United States v. Bush*, this Court is not an appropriate place to relitigate Appellant's *Daubert* motion.

In *Bush*, this Court made clear that "[a]n appellate court of law is not an appropriate place to relitigate a motion to admit expert testimony under Mil. R. Evid. 702." *Id.* at 311 (citation omitted). The appellant did not claim "the military judge relied on an incorrect principle of law" but instead framed his disagreement under the *Daubert* factors—arguing among other things that there was "insufficient peer review" and "no evidence . . . showing an error rate." *Id.* But this amounted to little more than an invitation to relitigate the original motion to admit expert testimony, which the Court refused. *Id.* "[D]isagreement between experts . . . do[es] not dictate . . . exclu[sion]," the Court concluded, and "[a] vigorous forensic dialogue between both experts was aptly engaged before the triers of fact." *Id.* at 311–12. The Court therefore rejected the appellant's request to "determine *de novo*" the reliability of expert testimony regarding hair analysis. *Id*. at 311.

Here, like *Bush*, Appellant seeks *de novo* review of the Military Judge's determination and, in doing so, devotes a quarter of his brief to reasserting his twice-rejected arguments, which factor-by-factor attack the reliability of the Diatherix Report. (Appellant's Corrected Br. at 37–56, Jan. 28, 2020.) Appellant recites facts for each *Daubert* factor not explicitly mentioned in the eleven-page Ruling—none of which is dispositive to reliability—in an attempt to show an

abuse of discretion under a test that, by its own terms, is "not . . . a definitive checklist." *Daubert*, 509 U.S. at 593; *see also Kumho Tire*, 526 U.S. at 150–51.

Moreover, the danger of Appellant's invitation to relitigate the Military Judge's well-reasoned *Daubert* Ruling—without the benefit of experts—is best captured by his own example, which bears no insight to the case at bar. Unlike the ratio of blue to green cars in Appellant's hypothetical city, the rate of gonorrhea in the relevant population is unknown. (JA 143, 1899–1900.) It is for this reason that no witness at trial could accurately state the likelihood of a false positive—a figure that is different than the test's known sensitivity and specificity, which respectively account for the "true positive" and "true negative" rates. (*See* JA 143, 158, 177, 179–82, 218, 1895–96, 1899–1900.) In fact, contrary to Appellant's urging, the relevant comparative population for G.B.'s sample is "children who have potentially been exposed [rectally] by an individual who is actually infected with . . . gonorrhea," not the general population of "prepubescent boys." *Compare* (JA 493), *with* (Appellant's Corrected Br. at 45–49, Jan. 29, 2020.) Yet Appellant combines various estimates of the prevalence rate, which not one witness could definitively state at trial, to "calculate" a PPV that supports the narrative that Diatherix's test was less accurate than a "coin flip." (Appellant's Corrected Br. at 2, 53, Jan. 28, 2019.) This Court should not join Appellant's venture.

Ultimately, this Court need not dwell on epidemiological statistics and can instead rely on *Bush* to reject Appellant's third attempt to litigate his misplaced *Daubert* challenge. *Bush*, 47 M.J. at 311.

2. The Military Judge did not abuse his discretion by denying Appellant's *Daubert* Motion. The Military Judge properly conducted his analysis in a detailed written Ruling and is therefore due significant deference.

Under *Daubert*, a military judge may consider: (1) whether the theory can be or has been tested; (2) peer review and publication; (3) the known or potential rate of error and the standards controlling the technique's operation; and (4) general acceptance in the particular scientific field. *See Sanchez*, 65 M.J. at 149. *But see Henning*, 75 M.J. at 191 n.15 (stating that, under *Daubert*, a military judge "must determine" the factors). These factors are "meant to be helpful, not definitive," and do not represent a "checklist or test" and "do not all necessarily apply even in every instance in which the reliability of scientific testimony is challenged." *Daubert*, 509 U.S. at 592–93; *Kumho Tire*, 526 U.S. at 150–51.

In practice, application of these factors entitles a military judge to significant deference on appeal. *Henning*, 75 M.J. at 191; *see also Sanchez*, 65 M.J. at 149. This Court cannot overturn such a Ruling unless it is "manifestly erroneous." *Henning*, 75 M.J. at 191; *see also Sanchez*, 65 M.J. at 149. This incredible deference is echoed in Appellant's Brief, which fails to cite a single case where this Court overruled the product of a *Daubert* hearing. *Compare Flesher*, 73 M.J.

at 313 (no hearing, reversal), *and Henning*, 75 M.J. at 187 (hearing, affirmance), *and Sanchez*, 65 M.J. at 146 (hearing, affirmance); *see generally* (Appellant's Corrected Br. at 37–56, Jan. 28, 2020.)

Here, the Military Judge applied the relevant *Daubert* factors, thoughtfully analyzed the available evidence, and ruled within the reasonable range of choices. (JA 1891–1901.) Appellant's disagreement with the Military Judge's exercise of discretion does not render his Ruling "manifestly erroneous." *Cf. Sanchez*, 65 M.J. at 149. Appellant's arguments therefore fail.

3. Even assuming error, Appellant was not prejudiced. Appellant's Skype messages and implausible defense provide overwhelming evidence of guilt.

This Court weighs four factors to determine whether a non-constitutional error substantially influenced the members' verdict: (a) the strength of the Government's case; (b) the strength of the defense's case; (c) the materiality of the evidence in question; and (d) the quality of the evidence in question. *Flesher*, 73 M.J. at 317–18. Of note, "[w]hen a 'fact was already obvious from . . . testimony at trial' and the evidence in question 'would not have provided any new ammunition,' an error is likely to be harmless." *United States v. Yammine*, 69 M.J. 70, 78 (C.A.A.F. 2010) (internal citations omitted).

Here, because any assumed error was harmless under the constitutional standard—*see supra* Section I.D.2 (discussing harmlessness under the *Van Arsdall*

factors)—the same holds true under the non-constitutional standard. The Government's case was overwhelmingly strong, Appellant's case was implausible and uncorroborated, the Diatherix Report was not material, and the quality of the evidence in question was considered by the members. Appellant is due no relief.

Conclusion

The United States respectfully requests that this Court affirm.

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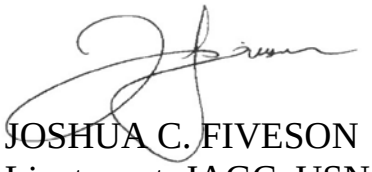

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United States v. Henning

United States Army Court of Criminal Appeals

September 3, 2015, Decided

ARMY MISC 20150410

Reporter
2015 CCA LEXIS 376 *

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

Notice: NOT FOR PUBLICATION

Subsequent History: Motion granted by United States v. Henning, 75 M.J. 49, 2015 CAAF LEXIS 831 (C.A.A.F., 2015)

Stay granted by, Motion granted by United States v. Henning, 2015 CAAF LEXIS 1074 (C.A.A.F., Nov. 24, 2015)

Reversed by United States v. Henning, 2016 CAAF LEXIS 236 (C.A.A.F., Mar. 22, 2016)

Prior History: [*1] Headquarters, Combined Arms Center & Fort Leavenworth. Charles L. Pritchard, Jr., Military Judge.

Core Terms

alleles, military, statistical, dropout, contributor, guidelines, profile, formula, calculation, underwear, match, genetic material, loci, testing, scientific, reliable, expert testimony, gatekeeper, recovered, peaks, ratio, male, abuse of discretion, Laboratory

Case Summary

Overview
HOLDINGS: [1]-A military judge abused his discretion during a commissioned officer's trial on a charge of rape when he found that testimony provided by an employee at the Kansas City Police Crime Laboratory ("KCPCL") who conducted DNA testing on genetic material that was found on the alleged victim's underwear had to be excluded because it was unreliable and unfairly prejudicial; [2]-The judge erred when found that the "alleles present statistic"

formula utilized by the KCPCL was expressly precluded by the Scientific Working Group on DNA Analysis Methods guidelines, and the employee's testimony that the officer could not be excluded as a potential contributor because his DNA was consistent with the DNA she analyzed and only 1 in 220 people had the markers she found was admissible but could be attacked on cross-examination.

Outcome
The court of criminal appeals set aside the military judge's ruling excluding evidence that the officer was a possible contributor to the genetic material recovered from the alleged victim's underwear and returned the record to the military judge for action that was consistent with the court's decision.

LexisNexis® Headnotes

Military & Veterans Law > ... > Courts Martial > Trial Procedures > Appeal by United States

Military & Veterans Law > ... > Courts Martial > Evidence > Evidentiary Rulings

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

Military & Veterans Law > Military Justice > Judicial Review > Standards of Review

HN1[] **Trial Procedures, Appeal by United States**

On appeal for a military judge's ruling granting a motion to exclude expert testimony, the United States Army Court of Criminal Appeals reviews de novo the question of whether the military judge properly performed the required gatekeeping function of Mil. R. Evid. 702, Manual Courts-Martial and properly followed the Daubert framework. The decision by a military judge to exclude expert testimony is reviewed for an abuse of discretion. 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. Additionally, an abuse of discretion exists where reasons or rulings of a military judge are clearly untenable and deprive a party of a substantial right such as to amount to a denial of justice. When a case comes to the Army Court of Criminal Appeals by way of a Government appeal under Unif. Code Mil. Justice art. 62, 10 U.S.C.S. § 862, the court is limited to reviewing the military judge's decision only with respect to matters of law and is bound by the military judge's findings of fact unless they were clearly erroneous. The court cannot find its own facts or substitute its own interpretation of the facts.

Military & Veterans Law > ... > Courts Martial > Evidence > Evidentiary Rulings

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

Military & Veterans Law > Military Justice > Judicial Review > Standards of Review

HN2[] **Evidence, Evidentiary Rulings**

The United States Army Court of Criminal Appeals 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 a trial ruling was manifestly erroneous. Likewise, 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 is a military judge required to admit opinion evidence which is connected to existing data only by the ipse dixit of the expert.

Evidence > Admissibility > Expert Witnesses > Daubert Standard

HN3[] **Expert Witnesses, Daubert Standard**

The standard the United States Supreme Court established in Daubert v. Merrell Dow Pharms. is clear: the inquiry envisioned by Fed. R. Evid. 702 is 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.

Evidence > Admissibility > Expert Witnesses > Daubert Standard

Military & Veterans Law > ... > Courts Martial > Evidence > Evidentiary Rulings

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

HN4[] **Expert Witnesses, Daubert Standard**

In United States v. Sanchez, the United States Court of Appeals for the Armed Forces addressed a scenario where experts in the field differed in their interpretation of the underlying facts and how much weight, if any, should have been given to those facts in deriving an opinion, and the court's decision makes it 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 the United States Supreme Court's decision in Daubert v. Merrell Dow Pharms. Furthermore, a review of the caselaw after Daubert shows that the rejection of expert testimony is the exception rather than the rule. A trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system. As the Supreme Court stated in Daubert, 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.

Evidence > Admissibility > Expert Witnesses > Helpfulness

Military & Veterans Law > ... > Courts Martial > Evidence > Evidentiary Rulings

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

HN5[] **Expert Witnesses, Helpfulness**

A trial judge certainly can and should form an opinion as to the reliability of differing scientific approaches when performing his role as gatekeeper.

Evidence > Admissibility > Expert Witnesses

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

HN6[] **Admissibility, Expert Witnesses**

Nothing in the precedents of the United States Supreme Court or the United States Court of Appeals for the Armed Forces 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.

Evidence > ... > Scientific Evidence > Bodily Evidence > DNA

HN7[] **Bodily Evidence, DNA**

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.

Evidence > Admissibility > Scientific Evidence > General Overview

Military & Veterans Law > ... > Courts Martial > Evidence > Admissibility of Evidence

Evidence > Admissibility > Expert Witnesses > Helpfulness

Military & Veterans Law > ... > Trial Procedures > Witnesses > Expert Testimony

HN8[] **Admissibility, Scientific Evidence**

A 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.

Counsel: 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).

Judges: Before COOK[1], HAIGHT, and WEIS[2], Appellate Military Judges. Senior Judge COOK and Judge WEIS concur.

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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.

Opinion by: HAIGHT

Opinion

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 recovered from the underwear SLN wore the evening in question. The Kansas City Police Crime Laboratory (KCPCL) conducted deoxyribonucleic acid (DNA) testing [*2] 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, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (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 [*3] 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.

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[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 [*4] 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 [*5] 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 [*6] 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 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 [*7] 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 [*8] 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."

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[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.

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 [*9] 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 [*10] 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 [*11] 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

HN1[] 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; [*12] 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 [*13] 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 [*14] 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

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[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.

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 [*15] 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 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. ***HN2***[⬆] We may not apply a review more "stringent" than abuse of discretion to a trial court's [*16] 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, 118 S. Ct. 512, 139 L. Ed. 2d 508 (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. ***HN3***[⬆] *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. [*17] 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. ***HN4***[⬆] 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 [*18] [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, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999)).

HN5[⬆] 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 [*19] 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 [*20] 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*. ***HN6***[⬆] "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 [*21] 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 [*22] 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 [*23] of genetic material found at the scene of the alleged crime to indeed be prejudicial, but not even remotely unfairly so. ***HN7***[] 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

HN8[] "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 [*24] 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.
